Release notes for ENDF/B Development photoat sublibrary

March 22, 2016

FAILURE SUMMARY

No FAILURES found!

ERROR SUMMARY

checkr A variable is outside the allowed ENDF range: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

checkr Missing a section in directory so your directory is messed up. This error will break everything else: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf,

photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 2-body reaction not in center-of-mass frame: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 Calculated and tabulated thresholds don't agree: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf,

photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 Energy range of data set does not match cross section range: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

prepro Negative cross section found: photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-100_Fm_000.endf,

WARNING SUMMARY

checkr A previous error halted parsing of the current section: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf,

photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 FIXME: Generic fudge unimplemented message: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf,

photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

fudge-4.0 generic warning message: photoat-001_H_000.endf, photoat-002_He_000.endf, photoat-003_Li_000.endf, photoat-004_Be_000.endf, photoat-005_B_000.endf, photoat-006_C_000.endf, photoat-007_N_000.endf, photoat-008_O_000.endf, photoat-009_F_000.endf, photoat-010_Ne_000.endf, photoat-011_Na_000.endf, photoat-012_Mg_000.endf, photoat-013_Al_000.endf, photoat-014_Si_000.endf, photoat-015_P_000.endf, photoat-016_S_000.endf, photoat-017_Cl_000.endf, photoat-018_Ar_000.endf, photoat-019_K_000.endf, photoat-020_Ca_000.endf, photoat-021_Sc_000.endf, photoat-022_Ti_000.endf, photoat-023_V_000.endf, photoat-024_Cr_000.endf, photoat-025_Mn_000.endf, photoat-026_Fe_000.endf, photoat-027_Co_000.endf, photoat-028_Ni_000.endf, photoat-029_Cu_000.endf, photoat-030_Zn_000.endf, photoat-031_Ga_000.endf, photoat-032_Ge_000.endf, photoat-033_As_000.endf, photoat-034_Se_000.endf, photoat-035_Br_000.endf, photoat-036_Kr_000.endf, photoat-037_Rb_000.endf, photoat-038_Sr_000.endf, photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

xsectplotter Encountered runtime warning in xsectplotter or Fudge or matplotlib: photoat-039_Y_000.endf, photoat-040_Zr_000.endf, photoat-041_Nb_000.endf, photoat-042_Mo_000.endf, photoat-043_Tc_000.endf, photoat-044_Ru_000.endf, photoat-045_Rh_000.endf, photoat-046_Pd_000.endf, photoat-047_Ag_000.endf, photoat-048_Cd_000.endf, photoat-049_In_000.endf, photoat-050_Sn_000.endf, photoat-051_Sb_000.endf, photoat-052_Te_000.endf, photoat-053_I_000.endf, photoat-054_Xe_000.endf, photoat-055_Cs_000.endf, photoat-056_Ba_000.endf, photoat-057_La_000.endf, photoat-058_Ce_000.endf, photoat-059_Pr_000.endf, photoat-060_Nd_000.endf, photoat-061_Pm_000.endf, photoat-062_Sm_000.endf, photoat-063_Eu_000.endf, photoat-064_Gd_000.endf, photoat-065_Tb_000.endf, photoat-066_Dy_000.endf, photoat-067_Ho_000.endf, photoat-068_Er_000.endf, photoat-069_Tm_000.endf, photoat-070_Yb_000.endf, photoat-071_Lu_000.endf, photoat-072_Hf_000.endf, photoat-073_Ta_000.endf, photoat-074_W_000.endf, photoat-075_Re_000.endf, photoat-076_Os_000.endf, photoat-077_Ir_000.endf, photoat-078_Pt_000.endf, photoat-079_Au_000.endf, photoat-080_Hg_000.endf, photoat-081_Tl_000.endf, photoat-082_Pb_000.endf, photoat-083_Bi_000.endf, photoat-084_Po_000.endf, photoat-085_At_000.endf, photoat-086_Rn_000.endf, photoat-087_Fr_000.endf, photoat-088_Ra_000.endf, photoat-089_Ac_000.endf, photoat-090_Th_000.endf, photoat-091_Pa_000.endf, photoat-092_U_000.endf, photoat-093_Np_000.endf, photoat-094_Pu_000.endf, photoat-095_Am_000.endf, photoat-096_Cm_000.endf, photoat-097_Bk_000.endf, photoat-098_Cf_000.endf, photoat-099_Es_000.endf, photoat-100_Fm_000.endf,

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 100, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 100, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      144 TO     157
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT= 100, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT= 100, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     144
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 100, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     159
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 100, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     379
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 100, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     504
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 100, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     545
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 100, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER     575
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     616
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     648
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER     677
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER     707
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER     741
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER     777
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER     846
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: H + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: H + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: H + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: H + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 5: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 6: pair product (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.11%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: H + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: H + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: H + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: H + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: H + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + H [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + H [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + H1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.61 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   summedReaction label 5: total / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    summedReaction label 6: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    summedReaction label 7: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.61 eV!
    ```

photoat-002_He_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 200, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 200, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      144 TO     157
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT= 200, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT= 200, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     144
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     159
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     374
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     488
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     529
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     560
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     603
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     636
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER     668
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER     701
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER     748
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER     796
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER     860
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: He + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: He + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: He + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: He + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 5: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: He + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: He + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: He + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: He + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: He + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + He [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + He [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + He1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.42 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   summedReaction label 5: total / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    summedReaction label 6: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

11. Calculated and tabulated thresholds don't agree
summedReaction label 7: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.42 eV!
```

photoat-003_Li_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT= 300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT= 300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      145 TO     159
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT= 300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT= 300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     145
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT= 300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     161
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT= 300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     465
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT= 300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     637
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT= 300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     678
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT= 300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     709
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     753
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     788
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER     852
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER     885
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER     925
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER     973
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1023
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1119
```

- `fudge-4.0` Warnings:
  1. generic warning message
     reaction label 0: Li + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```
  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Li + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```
  3. generic warning message
     reaction label 1: Li + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```
  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Li + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```
  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 6: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```
  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 8: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 96.40%
     ```

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Li + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```
  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Li + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```
  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Li + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Li + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Li + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Li [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Li [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Li1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59.85 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Li2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.5 eV!
```

10. Calculated and tabulated thresholds don't agree
    summedReaction label 6: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

11. Calculated and tabulated thresholds don't agree
    summedReaction label 7: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.5 eV!
```

photoat-004_Be_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT= 400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT= 400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      145 TO     159
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT= 400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT= 400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     145
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     161
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     455
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     619
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     660
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER     691
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER     736
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     771
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER     833
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER     865
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER     908
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER     957
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1007
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1098
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Be + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Be + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Be + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Be + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 6: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 8: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 93.96%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Be + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Be + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Be + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Be + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
   reaction label 1: Be + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Be [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Be [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Be1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 118.36 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Be2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.18 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    summedReaction label 6: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    summedReaction label 7: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.18 eV!
    ```

photoat-005_B_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 500, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 500, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
     ```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT= 500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT= 500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     147
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     165
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     561
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     767
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     808
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER     840
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER     886
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER     921
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1042
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1073
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1114
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1155
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1196
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1244
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1293
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1392
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: B + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: B + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: B + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: B + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 8: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 92.42%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: B + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: B + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: B + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: B + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: B + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + B [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + B [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + B1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 195.61 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + B2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.58 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + B2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.67 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + B2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.66 eV!
```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

13. Calculated and tabulated thresholds don't agree
    summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

14. Calculated and tabulated thresholds don't agree
summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.66 eV!
```

photoat-006_C_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT= 600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT= 600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT= 600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT= 600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     147
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     165
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     573
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     789
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     830
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT= 600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     862
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     908
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     944
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1067
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1097
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1138
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1181
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1224
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    1274
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1326
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1421
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: C + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: C + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: C + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: C + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 8: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 90.90%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: C + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: C + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: C + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: C + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: C + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + C [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + C [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + C1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 291.01 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + C2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.56 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + C2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.99 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + C2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.98 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

13. Calculated and tabulated thresholds don't agree
    summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.98 eV!
    ```

photoat-007_N_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 700, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 700, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT= 700, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT= 700, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     147
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 700, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 700, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     165
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 700, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 700, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     580
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     803
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     844
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     876
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     923
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     959
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1081
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1111
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1152
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                 RECORD NUMBER    1195
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    1239
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    1296
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1354
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1443
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: N + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: N + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: N + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: N + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 8: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.99%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 89.41%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: N + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: N + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: N + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: N + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: N + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + N [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + N [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + N1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 404.85 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + N2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.1 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + N2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.5 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + N2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.48 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

13. Calculated and tabulated thresholds don't agree
    summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.48 eV!
    ```

photoat-008_O_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 800, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 800, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT= 800, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT= 800, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     147
     ```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     165
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     585
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     806
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     847
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     879
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     926
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     962
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1094
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1124
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1165
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1209
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1254
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1311
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1370
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1459
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: O + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: O + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: O + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: O + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 8: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 87.94%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: O + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: O + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: O + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: O + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: O + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + O [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + O [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + O1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 537.28 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + O2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.23 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + O2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.19 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + O2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.15 eV!
```

12. Calculated and tabulated thresholds don't agree
summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

13. Calculated and tabulated thresholds don't agree
summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

14. Calculated and tabulated thresholds don't agree
summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.15 eV!
```

photoat-009_F_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT= 900, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT= 900, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT= 900, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT= 900, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     147
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 900, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     165
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 900, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     555
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 900, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     750
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 900, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     791
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT= 900, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     823
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT= 900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     870
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     906
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT= 900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1034
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1065
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1107
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1152
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1198
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1258
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1319
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT= 900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT= 900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1403
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: F + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: F + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: F + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: F + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 8: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 86.46%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: F + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: F + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: F + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: F + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: F + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + F [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + F [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + F1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 688.37 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + F2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.93 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + F2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.05 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + F2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.98 eV!
```

12. Calculated and tabulated thresholds don't agree
summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

13. Calculated and tabulated thresholds don't agree
summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

14. Calculated and tabulated thresholds don't agree
summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.98 eV!
```

photoat-010_Ne_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=1000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      147 TO     163
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=1000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     147
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     165
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     514
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     665
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     706
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     738
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     786
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     823
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER     952
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER     985
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1029
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1075
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    1121
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    1179
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1239
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1313
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ne + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ne + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ne + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ne + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 8: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 10: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 84.92%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ne + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ne + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ne + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ne + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ne + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ne [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ne [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ne1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 858.1799999999999 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ne2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 43.23 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ne2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.08 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ne2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19.96 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    summedReaction label 8: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

13. Calculated and tabulated thresholds don't agree
    summedReaction label 9: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    summedReaction label 10: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19.96 eV!
    ```

photoat-011_Na_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1100, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=1100, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      148 TO     165
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1100, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=1100, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     148
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1100, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1100, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     167
     ```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     634
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     836
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     877
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     909
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     957
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     994
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1195
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1227
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=23, MT=536 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=23, MT=536
       SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1267
    ```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=23, MT=537 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=23, MT=537
       SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1313
    ```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=23, MT=538 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=23, MT=538
       SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1359
    ```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=27, MT=502 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=27, MT=502
       SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1450
    ```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=27, MT=504 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=27, MT=504
       SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1511
    ```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=27, MT=505 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=27, MT=505
       SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1573
    ```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1100, MF=27, MT=506 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1100, MF=27, MT=506
       SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1694
    ```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Na + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Na + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Na + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Na + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 9: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 11: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 93.97%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Na + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Na + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Na + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Na + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Na + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Na [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Na [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Na1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1064. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Na2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 64.48 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Na2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.42 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Na2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.22 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Na3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.15 eV!
```

13. Calculated and tabulated thresholds don't agree
summedReaction label 9: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

14. Calculated and tabulated thresholds don't agree
summedReaction label 10: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.15 eV!
```

photoat-012_Mg_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=1200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      148 TO     165
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=1200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     148
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     167
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     597
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     784
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     825
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     857
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     905
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER     942
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1120
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1146
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1181
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1227
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1274
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    1366
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    1425
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    1485
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    1590
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: Mg + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Mg + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Mg + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Mg + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 9: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 11: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 84.87%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Mg + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Mg + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Mg + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Mg + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Mg + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Mg [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Mg [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Mg1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1294.5 eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Mg2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 89.45999999999999 eV!
     ```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Mg2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.55 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Mg2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.24 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Mg3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.89 eV!
```

13. Calculated and tabulated thresholds don't agree
summedReaction label 9: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

14. Calculated and tabulated thresholds don't agree
summedReaction label 10: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.89 eV!
```

photoat-013_Al_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=1300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=1300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=1300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     810
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1111
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1152
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1184
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1232
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1269
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1542
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1568
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1602
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1647
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1693
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1775
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1832
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1891
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1945
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2000
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2127
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Al + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Al + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Al + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Al + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 11: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 84.09%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Al + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
reaction label 0: Al + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Al + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Al + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Al + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Al [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Al [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Al1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1549.9 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Al2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 119.05 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Al2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 81.2 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Al2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 80.73 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Al3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.16 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Al3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.88 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Al3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.87 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

16. Calculated and tabulated thresholds don't agree
summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.87 eV!
```

photoat-014_Si_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=1400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=1400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=1400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=1400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     766
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1043
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1084
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1117
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1166
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1204
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1457
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1483
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1516
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1560
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1605
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1675
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1734
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1793
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1848
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1905
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2017
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Si + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Si + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Si + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Si + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 11: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.79%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Si + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Si + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Si + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Si + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Si + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Si [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Si [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Si1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1828.5 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Si2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 151.55 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Si2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 108.67 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Si2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 107.98 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Si3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.63 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Si3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.55 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Si3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.52 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

16. Calculated and tabulated thresholds don't agree
summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.52 eV!
```

photoat-015_P_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=1500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=1500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=1500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=1500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     709
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     957
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     998
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1031
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1080
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1118
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1339
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1364
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1397
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1438
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1482
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1536
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1595
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1656
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1710
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1765
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1866
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: P + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: P + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: P + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: P + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 11: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.19%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: P + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: P + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: P + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: P + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: P + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + P [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + P [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + P1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2130.4 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + P2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 187.15 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + P2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 139.14 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + P2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 138.18 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + P3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.21 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + P3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.380000000000001 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + P3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.33 eV!
```

15. Calculated and tabulated thresholds don't agree
    summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

16. Calculated and tabulated thresholds don't agree
    summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
    summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.33 eV!
```

photoat-016_S_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     689
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER     922
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     963
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     996
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1045
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1083
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1302
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1328
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1361
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                 RECORD NUMBER    1402
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                 RECORD NUMBER    1443
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                 RECORD NUMBER    1492
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                 RECORD NUMBER    1551
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    1612
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    1666
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1721
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1815
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: S + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: S + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: S + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: S + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 11: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 81.47%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: S + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: S + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: S + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: S + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: S + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + S [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + S [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + S1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2455.9 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + S2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 225.97 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + S2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 172.73 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + S2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 171.4 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + S3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.95 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + S3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.34 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + S3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.25 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

16. Calculated and tabulated thresholds don't agree
    summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
    summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.25 eV!
```

photoat-017_Cl_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1700, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1700, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1700, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1700, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     691
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     913
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER     954
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     987
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1036
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1073
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1306
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1331
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1366
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1408
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1450
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1496
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1556
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1618
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1673
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1729
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    1817
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Cl + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Cl + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Cl + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Cl + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 11: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 80.85%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Cl + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Cl + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Cl + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cl + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Cl + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Cl [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Cl [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Cl1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2804.9 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Cl2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 268.05 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Cl2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 209.48 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Cl2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 207.7 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Cl3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.84 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Cl3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.42 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Cl3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.29 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

16. Calculated and tabulated thresholds don't agree
    summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
    summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.29 eV!
```

photoat-018_Ar_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=1800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      150 TO     169
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=1800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     150
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     171
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     653
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER     852
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER     893
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER     926
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER     975
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1013
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1230
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1255
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1288
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1328
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1369
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                 RECORD NUMBER    1415
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                 RECORD NUMBER    1475
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    1537
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    1589
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    1643
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    1724
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ar + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ar + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Ar + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ar + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 11: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 13: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 80.35%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ar + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ar + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ar + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ar + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ar + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ar [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Ar [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ar1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3177.6 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ar2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 313.43 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ar2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 249.43 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ar2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 247.09 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ar3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.92 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ar3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.62 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ar3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.43 eV!
```

15. Calculated and tabulated thresholds don't agree
summedReaction label 11: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

16. Calculated and tabulated thresholds don't agree
summedReaction label 12: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

17. Calculated and tabulated thresholds don't agree
summedReaction label 13: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.43 eV!
```

photoat-019_K_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1900, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=1900, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      151 TO     171
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1900, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=1900, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     151
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1900, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1900, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     173
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1900, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1900, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     757
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1900, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1900, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1010
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1900, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1900, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1051
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1900, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1900, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1084
     ```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1133
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1171
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1436
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1461
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1494
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1528
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1562
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1602
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1659
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1716
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1794
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1848
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1904
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2048
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: K + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: K + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: K + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: K + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 12: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.85%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: K + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: K + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: K + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: K + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: K + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + K [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + K [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + K1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3583.3 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + K2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 371.16 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + K2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 301.65 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + K2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 298.64 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + K3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40.5 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + K3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.75 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + K3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.47 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + K4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.22 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    summedReaction label 12: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

17. Calculated and tabulated thresholds don't agree
summedReaction label 13: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.22 eV!
```

photoat-020_Ca_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=2000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      151 TO     171
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=2000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     151
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     173
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     757
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1022
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1063
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1096
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1146
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1184
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1439
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1463
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1493
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1529
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1566
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1603
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1653
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1703
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    1783
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    1838
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    1894
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2020
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ca + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Ca + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Ca + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ca + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 12: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 92.44%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ca + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ca + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ca + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ca + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Ca + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Ca [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Ca [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ca1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4015. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ca2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 434.11 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ca2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 359.04 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ca2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 355.2 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ca3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.16 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ca3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.01 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ca3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.6 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ca4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.45 eV!
```

16. Calculated and tabulated thresholds don't agree
    summedReaction label 12: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

17. Calculated and tabulated thresholds don't agree
    summedReaction label 13: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

18. Calculated and tabulated thresholds don't agree
    summedReaction label 14: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.45 eV!
```

photoat-021_Sc_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=2100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2100, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=2100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2100, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     836
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1126
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1167
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1200
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1250
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1288
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1592
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1616
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1646
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1683
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1720
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1756
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1805
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1855
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1905
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1956
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2035
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2088
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2142
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2271
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: Sc + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Sc + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Sc + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Sc + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 79.17%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Sc + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Sc + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Sc + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Sc + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Sc + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Sc [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Sc [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Sc1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4465.8 eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Sc2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 494.29 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Sc2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 413.68 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Sc2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 408.86 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Sc3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.91 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Sc3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 39.6 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Sc3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 39.06 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Sc3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.08 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Sc3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.04 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Sc4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.9 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.9 eV!
```

photoat-022_Ti_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=2200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=2200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     849
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1139
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1180
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1213
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1263
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1301
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1617
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1641
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1671
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1708
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1746
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1783
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1832
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1882
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1931
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1981
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2060
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2113
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2167
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2292
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Ti + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Ti + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Ti + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ti + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 94.95%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Ti + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Ti + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Ti + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Ti + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Ti + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Ti [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Ti [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ti1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4940.6 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ti2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 557.4400000000001 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ti2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 471.22 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ti2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 465.24 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ti3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.61 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ti3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.1 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ti3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 44.42 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ti3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.390000000000001 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Ti3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.34 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Ti4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.28 eV!
```

18. Calculated and tabulated thresholds don't agree
    summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
    summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
    summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.28 eV!
```

photoat-023_V_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=2300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=2300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     837
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1117
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1158
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1191
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1242
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1281
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1595
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1620
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1650
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1688
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1726
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1762
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1811
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1860
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1909
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1959
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2037
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2090
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2144
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2264
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: V + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: V + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: V + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: V + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 98.76%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: V + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: V + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: V + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: V + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: V + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + V [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + V [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + V1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5439.6 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + V2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 623.79 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + V2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 531.88 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + V2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 524.54 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + V3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 76.42 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + V3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.65 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + V3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.79 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + V3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.609999999999999 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + V3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.529999999999999 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + V4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.63 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.63 eV!
```

photoat-024_Cr_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=2400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=2400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     822
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1097
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1138
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1171
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1221
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1259
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1560
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1583
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1612
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1648
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1684
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1725
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1773
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1826
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1879
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1929
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2009
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2064
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2120
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2242
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Cr + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Cr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Cr + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Cr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 14: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 78.55%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Cr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Cr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Cr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Cr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Cr [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Cr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Cr1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5957.6 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Cr2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 687.34 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Cr2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 589.74 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Cr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 580.8099999999999 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Cr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 79.19 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Cr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 51.25 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Cr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.2 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Cr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.46 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Cr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.37 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Cr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.96 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.96 eV!
```

photoat-025_Mn_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=2500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=2500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     847
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1152
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1193
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1226
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1276
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1314
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1615
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1638
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1668
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1706
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1744
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1780
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1828
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1876
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1926
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    1976
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2052
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2105
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2160
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2283
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Mn + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Mn + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Mn + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Mn + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.83%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Mn + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Mn + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Mn + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Mn + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Mn + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Mn [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Mn [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Mn1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6510.9 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Mn2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 766.47 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Mn2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 662.97 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Mn2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 652.22 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Mn3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 92.58 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Mn3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 62.09 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Mn3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.78 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Mn3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.85 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Mn3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.72 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Mn4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.25 eV!
```

18. Calculated and tabulated thresholds don't agree
    summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.25 eV!
```

photoat-026_Fe_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=2600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=2600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     855
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1159
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1200
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1233
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1284
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1323
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1630
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1653
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1682
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1720
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1759
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1794
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1842
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1890
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1940
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1990
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2066
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2120
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2176
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2297
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Fe + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Fe + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Fe + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Fe + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 14: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.86%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Fe + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Fe + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Fe + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Fe + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Fe + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Fe [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Fe [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Fe1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7083.4 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Fe2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 842.96 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Fe2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 733.55 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Fe2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 720.6900000000001 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Fe3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 101.01 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Fe3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.04000000000001 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Fe3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 66.45 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Fe3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.91 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Fe3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.74 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Fe4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.53 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.53 eV!
```

photoat-027_Co_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=2700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=2700, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=2700, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     832
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1132
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1173
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1206
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=517 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=517
        SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1257
     ```

  8. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2700, MF=23, MT=522 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2700, MF=23, MT=522
        SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1296
     ```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1583
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1606
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1635
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1674
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1713
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1747
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1795
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1843
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1893
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1943
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2017
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2071
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2126
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2244
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.86%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Co + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Co + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Co + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Co + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Co + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Co [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Co [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Co1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7680.7 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Co2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 922.95 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Co2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 807.54 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Co2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 792.29 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Co3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 109.69 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Co3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 74.17 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Co3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 72.26000000000001 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Co3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.93 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Co3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.72 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Co4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!
```

photoat-028_Ni_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=2800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=2800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=2800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=2800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=2800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=2800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     848
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1144
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1185
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1218
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1269
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1308
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1618
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1641
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1670
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1709
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1749
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1783
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1830
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1877
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1927
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1977
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2051
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2107
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2165
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2282
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ni + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ni + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ni + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ni + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.86%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Ni + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Ni + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Ni + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Ni + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Ni + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Ni [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Ni [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Ni1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8302.799999999999 eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Ni2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1006.5 eV!
     ```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ni2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 884.98 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ni2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 867.02 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ni3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 118.64 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ni3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 80.48 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ni3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78.20999999999999 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ni3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.92 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ni3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.66 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ni4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.09 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.09 eV!
```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=2900, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=2900, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=2900, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=2900, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2900, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2900, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     820
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2900, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1101
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2900, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1142
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2900, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1175
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1226
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1265
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1559
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1582
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1611
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1649
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1688
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1725
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                RECORD NUMBER    1774
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                RECORD NUMBER    1823
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                RECORD NUMBER    1871
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    1919
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    1993
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2047
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2103
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2227
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Cu + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Cu + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Cu + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Cu + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 89.01%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Cu + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Cu + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Cu + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cu + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Cu + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Cu [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Cu [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Cu1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8943.200000000001 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Cu2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1086.1 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Cu2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 958.53 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Cu2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 937.49 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Cu3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 121.26 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Cu3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 80.5 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Cu3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 77.86 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Cu3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.09 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Cu3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.800000000000001 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Cu4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.11 eV!
```

18. Calculated and tabulated thresholds don't agree
    summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
    summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
    summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.11 eV!
```

photoat-030_Zn_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=3000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      153 TO     175
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=3000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     153
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=3000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     177
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     803
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1070
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1111
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1144
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1195
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1234
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1528
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1550
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1579
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1619
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1659
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1692
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1739
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1787
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1837
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1888
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    1962
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2017
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2073
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2181
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Zn + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Zn + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Zn + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Zn + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 14: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.83%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Zn + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Zn + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Zn + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Zn + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Zn + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Zn [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Zn [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Zn1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9622.4 eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Zn2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1184.4 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Zn2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1050.5 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Zn2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1026. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Zn3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 137.43 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Zn3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 93.73999999999999 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Zn3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 90.59 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Zn3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.85 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Zn3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.46 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Zn4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.609999999999999 eV!
```

18. Calculated and tabulated thresholds don't agree
summedReaction label 14: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

19. Calculated and tabulated thresholds don't agree
summedReaction label 15: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.609999999999999 eV!
```

photoat-031_Ga_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3100, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3100, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     983
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1384
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1425
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1459
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1511
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1550
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1889
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1912
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1941
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1981
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2021
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2054
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2098
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2143
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2193
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2246
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2314
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2366
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2419
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2473
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2528
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2680
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ga + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ga + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Ga + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Ga + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 76.41%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ga + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ga + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ga + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ga + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ga + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ga [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ga [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ga1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10331. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ga2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1290.7 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ga2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1150.4 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ga2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1122. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ga3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 157.75 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ga3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 111.01 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ga3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 107.28 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ga3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.37 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ga3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.87 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ga4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.69 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ga4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5. eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ga4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.88 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.88 eV!
```

photoat-032_Ge_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     963
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1334
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1375
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1409
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1461
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1500
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1846
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1869
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1897
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1935
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1974
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2007
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2049
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2090
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2143
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2198
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2264
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2317
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2371
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2426
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2482
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2620
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ge + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ge + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Ge + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Ge + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 76.23%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ge + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ge + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ge + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ge + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ge + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ge [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ge [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ge1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11067. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ge2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1402.3 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ge2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1255.4 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ge2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1222.8 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ge3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 179.25 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ge3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 129.38 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ge3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 124.98 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ge3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.82 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ge3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.19 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ge4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.78 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ge4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.5 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ge4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.29 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.29 eV!
```

photoat-033_As_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     905
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1242
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1283
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1317
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1369
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1408
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1734
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1757
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1785
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1823
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1855
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1889
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1931
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1972
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2025
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2078
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2141
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2194
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2248
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2302
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2358
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2484
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: As + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: As + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: As + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: As + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 75.93%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: As + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: As + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: As + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: As + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: As + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + As [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + As [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + As1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11829. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + As2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1519.2 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + As2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1365.7 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + As2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1328.3 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + As3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 202.02 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + As3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 148.95 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + As3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 143.78 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + As3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 51.32 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + As3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.55 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + As4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.86 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + As4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.119999999999999 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + As4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.81 eV!
```

photoat-034_Se_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=3400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=3400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     877
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1186
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1227
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1261
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1313
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1353
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1677
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1700
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1727
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1768
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1801
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1836
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1879
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1919
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1973
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2027
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2088
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2140
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2194
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2249
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2305
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2426
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: Se + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Se + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Se + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Se + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 16: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 75.71%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Se + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Se + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Se + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Se + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Se + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Se [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Se [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Se1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12619. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Se2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1641.5 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Se2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1481.2 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Se2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1438.6 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Se3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 226.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Se3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 169.77 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Se3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 163.71 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Se3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 64.91 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Se3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63.97 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Se4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.99 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Se4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.82 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Se4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.4 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.4 eV!
```

photoat-035_Br_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     878
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1176
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1217
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1251
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1303
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1343
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1675
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1698
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1726
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1764
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1795
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1830
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1869
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1909
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1961
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2014
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2071
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2124
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2178
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2232
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2288
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2403
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Br + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Br + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Br + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Br + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 75.44%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Br + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Br + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Br + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Br + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Br + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Br [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Br [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Br1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13435. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Br2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1769.2 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Br2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1602.1 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Br2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1553.6 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Br3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 251.49 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Br3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 191.82 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Br3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 184.78 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Br3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 79.59 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Br3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78.45 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Br4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.18 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Br4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.59 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Br4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.03 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.03 eV!
```

photoat-036_Kr_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=3600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      155 TO     179
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=3600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     155
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     181
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     812
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1052
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1093
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1127
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1179
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1219
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1546
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1569
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1597
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1638
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1670
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1705
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1743
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1783
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1836
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1889
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    1944
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    1997
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2052
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2103
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2156
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2249
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Kr + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Kr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Kr + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Kr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 16: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 18: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 75.20%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Kr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Kr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Kr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Kr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Kr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Kr [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Kr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Kr1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14280. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Kr2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1902.3 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Kr2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1728.3 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Kr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1673.4 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Kr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 278.17 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Kr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 215.12 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Kr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 206.96 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Kr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 95.34999999999999 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Kr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 93.98 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Kr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.44 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Kr4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.43 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Kr4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.72 eV!
```

20. Calculated and tabulated thresholds don't agree
summedReaction label 16: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.72 eV!
```

photoat-037_Rb_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      156 TO     181
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3700, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3700, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     156
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3700, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     183
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3700, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     889
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1186
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1227
```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1261
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1313
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1352
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1701
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1724
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1752
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1780
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1809
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1843
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1879
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1919
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1972
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2026
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2070
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2120
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2171
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2233
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2285
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2338
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2491
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: Rb + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Rb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Rb + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Rb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 17: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.95%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Rb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Rb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Rb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Rb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Rb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Rb [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Rb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Rb1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15159. eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Rb2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2048. eV!
     ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Rb2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1867.1 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Rb2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1805.1 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Rb3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 313.18 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Rb3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 246.69 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Rb3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 237.29 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Rb3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 119.2 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Rb3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 117.57 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Rb4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.72 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Rb4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.73 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Rb4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19.75 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Rb5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.02 eV!
    ```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.02 eV!
```

photoat-038_Sr_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      156 TO     181
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     156
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     183
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     864
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1161
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1202
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1236
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1288
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1328
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1653
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1676
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1703
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1731
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1760
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1790
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1826
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1863
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1917
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    1973
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2012
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2058
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                 RECORD NUMBER    2104
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2167
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2219
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2273
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2416
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Sr + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Sr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Sr + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Sr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 17: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.00%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Sr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Sr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Sr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Sr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Sr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Sr [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Sr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Sr1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16067. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Sr2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2200.1 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Sr2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2012.1 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Sr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1942.4 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Sr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 350.32 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Sr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 280.32 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Sr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 269.53 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Sr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 144.93 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Sr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 143.01 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Sr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 46.39 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Sr4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.47 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Sr4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.2 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Sr5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.1 eV!
```

21. Calculated and tabulated thresholds don't agree
summedReaction label 17: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.1 eV!
```

photoat-039_Y_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=3900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=3900, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=3900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=3900, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=3900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER     948
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1250
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1291
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1325
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1377
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1417
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=3900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1810
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1833
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1860
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1887
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1916
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1946
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1982
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2020
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2075
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2130
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=3900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2167
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2214
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2261
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2333
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2405
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2467
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2519
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2573
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=3900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=3900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2729
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 19: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 74.54%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Y + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Y + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Y + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Y + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Y + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Y [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Y [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Y1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.7e4 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Y2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2354.9 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Y2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2159.7 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Y2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2081.5 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Y3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 385.79 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Y3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 312.26 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Y3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 299.92 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Y3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 168.74 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Y3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 166.51 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Y4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.35 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Y4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.71 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Y4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.14 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Y4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.24 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Y4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.13 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Y5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.68 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.13 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-040_Zr_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=4000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=4000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     945
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1255
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1296
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1330
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1382
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1422
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1811
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1834
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1861
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1889
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1917
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1947
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1983
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2020
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2074
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2128
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2164
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2211
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2258
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2330
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2402
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2464
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2519
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2576
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2726
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Zr + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Zr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Zr + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Zr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 74.29%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Zr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Zr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Zr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Zr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Zr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Zr [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Zr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Zr1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17962. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Zr2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2514.6 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Zr2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2312.2 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Zr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2224.8 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Zr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 422.06 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Zr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 344.93 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Zr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 330.88 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Zr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 193.09 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Zr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 190.49 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Zr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59.96 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Zr4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.63 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Zr4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.74 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Zr4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.67 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Zr4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.52 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Zr5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.12 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.12 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
   Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-041_Nb_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=4100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4100, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=4100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4100, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     957
```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1263
```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1304
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1338
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1390
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1430
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1830
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1853
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1879
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1906
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1934
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1963
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2001
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2038
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2093
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2148
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2185
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2232
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2279
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2350
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2421
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2484
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2540
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2597
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2735
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Nb + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Nb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Nb + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Nb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 74.50%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Nb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Nb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Nb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Nb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Nb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Nb [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Nb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Nb1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18948. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Nb2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2676.3 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Nb2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2466.6 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Nb2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2369.1 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Nb3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 455.98 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Nb3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 375.22 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Nb3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 359.28 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Nb3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 214.82 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Nb3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 211.81 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Nb4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63.45 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Nb4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40.58 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Nb4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.36 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Nb4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.94 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Nb4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.76 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + Nb5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.73 eV!
    ```

23. Calculated and tabulated thresholds don't agree
    summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

24. Calculated and tabulated thresholds don't agree
    summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

25. Calculated and tabulated thresholds don't agree
    summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.73 eV!
    ```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=4200, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=4200, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=4200, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=4200, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4200, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4200, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1000
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4200, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1356
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4200, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1397
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4200, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1431
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1483
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1523
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                 RECORD NUMBER    1916
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                 RECORD NUMBER    1938
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                 RECORD NUMBER    1964
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                 RECORD NUMBER    1992
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                 RECORD NUMBER    2020
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                 RECORD NUMBER    2049
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2088
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2125
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2179
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2233
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2270
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2319
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2366
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2440
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                 RECORD NUMBER    2513
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2574
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2628
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2684
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2841
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Mo + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Mo + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Mo + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Mo + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.80%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Mo + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Mo + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Mo + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Mo + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Mo + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Mo [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Mo [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Mo1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19965. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Mo2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2846.5 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Mo2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2629.5 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Mo2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2521. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Mo3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 494.09 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Mo3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 409.64 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Mo3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 391.63 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Mo3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 240.45 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Mo3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 237. eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Mo4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 69.63 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Mo4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.07 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Mo4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 42.46 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Mo4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7. eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Mo4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.77 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + Mo5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.97 eV!
    ```

23. Calculated and tabulated thresholds don't agree
    summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

24. Calculated and tabulated thresholds don't agree
    summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

25. Calculated and tabulated thresholds don't agree
    summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.97 eV!
    ```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-043_Tc_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=4300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=4300, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=4300, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     187
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1002
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1364
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1405
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1439
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=517 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4300, MF=23, MT=517
        SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1491
     ```

  8. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1531
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1928
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1950
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1977
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2005
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2033
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2063
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2103
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2139
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2194
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2248
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2284
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2331
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2378
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2448
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2518
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2578
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2631
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2686
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2843
```

- `fudge-4.0` Warnings:

1. generic warning message
   reaction label 0: Tc + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Tc + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Tc + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Tc + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 19: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 88.65%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Tc + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Tc + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Tc + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Tc + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Tc + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Tc [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Tc [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Tc1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21012. eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Tc2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3022.4 eV!
     ```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Tc2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2797.9 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Tc2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2677.6 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Tc3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 533.42 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Tc3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 445.24 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Tc3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 424.95 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Tc3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 267.01 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Tc3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 263.07 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Tc4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 75.84999999999999 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Tc4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.6 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Tc4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 46.55 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Tc4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.07 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Tc4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.78 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Tc5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.19 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.19 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-044_Ru_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=4400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=4400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1012
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1374
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1415
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1449
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1501
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1541
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1946
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1968
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1994
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2022
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2050
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2079
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2119
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2155
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2209
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2263
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2299
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2346
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2393
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2462
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2532
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2592
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2644
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2697
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2849
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ru + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ru + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ru + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ru + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 19: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 92.57%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Ru + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ru + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ru + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ru + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ru + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ru [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ru [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ru1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 22087. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ru2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3203.9 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ru2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2971.8 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ru2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2838.7 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ru3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 574.03 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ru3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 482.06 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ru3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 459.29 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ru3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 294.53 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ru3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 290.05 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ru4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 82.14 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ru4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 54.19 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ru4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.66 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ru4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.15 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ru4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.789999999999999 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ru5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.38 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.38 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-045_Rh_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=4500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=4500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1027
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1402
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1443
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1477
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1529
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1569
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1975
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1998
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2024
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2051
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2079
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2108
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2148
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2185
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2238
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2292
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2328
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2374
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2421
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2493
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2562
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2622
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2674
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2727
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2876
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Rh + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Rh + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Rh + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Rh + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 19: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.98%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 95.13%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Rh + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Rh + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Rh + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Rh + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Rh + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Rh [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Rh [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Rh1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23191. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Rh2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3391.2 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Rh2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3151.5 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Rh2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3004.5 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Rh3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 615.95 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Rh3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 520.15 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Rh3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 494.66 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Rh3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 323.03 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Rh3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 317.96 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Rh4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 88.52 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Rh4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 58.84 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Rh4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 54.78 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Rh4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.24 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Rh4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.81 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Rh5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.56 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.56 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-046_Pd_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=4600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      157 TO     183
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=4600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     157
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     185
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     889
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1173
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1214
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1248
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1300
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1340
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1696
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1719
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1746
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1773
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1801
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1831
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1870
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1908
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    1960
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2013
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2051
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2097
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2143
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2211
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2281
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2334
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2388
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2504
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 18: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 20: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 72.94%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Pd + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Pd + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Pd + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Pd [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Pd [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Pd1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24321. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Pd2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3580. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Pd2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3332.6 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Pd2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3170.6 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Pd3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 654.9400000000001 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Pd3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 555.25 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Pd3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 526.8 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Pd3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 348.24 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Pd3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 342.51 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pd4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 91.01000000000001 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pd4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59.68 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pd4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55.09 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pd4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.140000000000001 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pd4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.67 eV!
```

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.67 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-047_Ag_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=4700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=4700, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4700, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1013
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1375
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1416
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1450
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1503
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1543
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1946
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1968
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1994
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2021
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2049
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2078
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2118
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2159
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2212
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2265
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2300
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2346
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2392
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2461
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2531
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2589
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2642
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2696
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    2839
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ag + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ag + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ag + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ag + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 19: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 97.79%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ag + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ag + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ag + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ag + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ag + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ag [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ag [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ag1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25489. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ag2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3783.4 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ag2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3528.1 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ag2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3350. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Ag3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 703.8 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Ag3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 600.1900000000001 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Ag3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 568.53 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Ag3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 382.99 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Ag3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 376.55 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Ag4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 101.61 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Ag4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.41 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Ag4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63.14 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Ag4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.47 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Ag4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.86 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + Ag5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.89 eV!
    ```

23. Calculated and tabulated thresholds don't agree
    summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

24. Calculated and tabulated thresholds don't agree
    summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

25. Calculated and tabulated thresholds don't agree
    summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.89 eV!
    ```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-048_Cd_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=4800, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=4800, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      158 TO     185
     ```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=4800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     158
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     187
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     981
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1315
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1356
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1390
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1443
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1483
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1883
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1905
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1931
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1957
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1984
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2013
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2055
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2097
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2148
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2200
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2233
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2279
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2324
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2395
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2468
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2529
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2582
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2637
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2767
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Cd + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Cd + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Cd + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Cd + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 19: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.30%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Cd + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Cd + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Cd + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Cd + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Cd + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Cd [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Cd [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Cd1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26688. eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Cd2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3994.1 eV!
     ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Cd2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3730.9 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Cd2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3535.4 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Cd3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 755.37 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Cd3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 647.79 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Cd3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 612.63 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Cd3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 420.06 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Cd3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 412.86 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Cd4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 113.36 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Cd4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78.22 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Cd4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 72.19 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Cd4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.71 eV!
    ```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Cd4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.97 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Cd5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.220000000000001 eV!
```

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.220000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-049_In_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=4900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4900, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=4900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4900, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1200
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1703
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1744
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1778
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1831
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1871
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2315
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2337
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2363
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2389
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2415
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2444
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2485
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2526
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2578
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2632
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2665
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2710
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2754
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2827
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2901
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2956
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3003
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    3051
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    3105
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    3160
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    3339
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: In + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: In + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: In + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: In + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 84.95%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: In + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: In + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: In + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: In + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: In + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + In [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + In [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + In1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27921. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + In2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4213.8 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + In2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3942.5 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + In2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3728.4 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + In3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 811.24 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + In3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 699.62 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + In3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 660.67 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + In3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 461.04 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + In3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 453. eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + In4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 127.9 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + In4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 90.77 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + In4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 83.87 eV!
    ```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + In4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.49 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + In4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.58 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + In5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.83 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + In5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.91 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + In5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.58 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.58 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-050_Sn_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=5000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=5000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1118
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1575
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1616
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1650
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1703
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1743
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2154
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2176
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2202
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2229
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2255
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2283
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2324
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2358
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2398
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2447
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2480
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2523
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2565
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2637
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2710
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2763
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2810
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2860
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2911
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2964
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3127
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Sn + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Sn + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Sn + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Sn + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 73.17%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Sn + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Sn + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Sn + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Sn + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Sn + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Sn [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Sn [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Sn1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29184. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Sn2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4440.3 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Sn2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4160.8 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Sn2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3926.8 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Sn3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 869.05 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Sn3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 753.36 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Sn3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 710.3200000000001 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Sn3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 503.57 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Sn3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 494.62 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Sn4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142.81 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Sn4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 103.64 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Sn4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 95.8 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Sn4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.49 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Sn4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.39 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Sn5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.39 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Sn5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.28 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Sn5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.77 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.77 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-051_Sb_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=5100, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=5100, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=5100, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=5100, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     160
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5100, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5100, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     191
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5100, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5100, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1083
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5100, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5100, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1494
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5100, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5100, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1535
     ```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1569
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1622
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1662
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2082
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2104
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2131
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2157
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2184
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2212
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2250
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2284
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2325
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2370
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2404
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2446
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2487
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2559
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2631
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2683
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2731
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2780
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2831
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2883
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3033
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 21: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.95%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Sb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Sb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Sb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Sb [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Sb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Sb1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30479. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Sb2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4673.7 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Sb2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4386. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Sb2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4130.5 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Sb3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 928.98 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Sb3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 809.16 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Sb3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 761.6900000000001 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Sb3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 547.79 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Sb3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 537.85 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Sb4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 158.27 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Sb4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 117.02 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Sb4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 108.12 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Sb4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.87 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Sb4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40.56 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Sb5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15.92 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Sb5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.73 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Sb5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.02 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.02 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-052_Te_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=5200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=5200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1026
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1405
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1446
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1480
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1533
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1573
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1961
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1983
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2009
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2035
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2062
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2090
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2126
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2159
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2198
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2242
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2276
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2316
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2357
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2427
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2498
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2549
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2597
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2647
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2698
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2751
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2888
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Te + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Te + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Te + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Te + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.79%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Te + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Te + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Te + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Te + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Te + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Te [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Te [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Te1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 31805. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Te2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4914.2 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Te2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4618.2 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Te2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4339.7 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Te3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 991.08 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Te3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 867.09 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Te3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 814.85 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Te3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 593.74 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Te3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 582.74 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Te4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 174.33 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Te4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 130.97 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Te4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 120.92 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Te4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.71 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Te4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.18 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Te5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18.45 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Te5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.23 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Te5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.31 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.31 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-053_I_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=5300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=5300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1017
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1371
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1412
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1446
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1499
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1539
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1947
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1969
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1995
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2021
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2047
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2075
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2109
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2143
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2183
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2228
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2263
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2303
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2340
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2410
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2479
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2528
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2577
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2627
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2680
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2734
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2879
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: I + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: I + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: I + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: I + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.59%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: I + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: I + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: I + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: I + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: I + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + I [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + I [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + I1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33164. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + I2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5161.9 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + I2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4857.5 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + I2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4554.5 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + I3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1055.4 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + I3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 927.2 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + I3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 869.8099999999999 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + I3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 641.46 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + I3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 629.3099999999999 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + I4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 191.04 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + I4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 145.53 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + I4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 134.21 eV!
    ```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + I4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.04 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + I4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 58.26 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + I5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21.01 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + I5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.77 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + I5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.630000000000001 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.630000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-054_Xe_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=5400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO     189
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=5400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER     945
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1253
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1294
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1328
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1381
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1421
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1800
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1821
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1847
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1873
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    1899
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    1927
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    1961
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    1994
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2034
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2071
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2106
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2146
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2182
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2244
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2308
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2356
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2404
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2454
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2507
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2561
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    2686
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Xe + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Xe + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Xe + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Xe + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 21: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.99%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.44%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Xe + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Xe + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Xe + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Xe + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Xe + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Xe [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Xe [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Xe1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34556. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Xe2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5416.9 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Xe2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5103.9 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Xe2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4774.7 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Xe3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1122. eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Xe3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 989.47 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Xe3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 926.5599999999999 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Xe3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 690.91 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Xe3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 677.52 eV!
    ```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Xe4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 208.37 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Xe4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 160.69 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Xe4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 147.98 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Xe4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 69.84 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Xe4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 67.78 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Xe5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.61 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Xe5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.35 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Xe5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.96 eV!
```

25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.96 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-055_Cs_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=5500, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=5500, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      161 TO     191
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=5500, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=5500, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     161
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5500, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5500, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     193
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5500, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5500, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1009
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5500, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5500, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1386
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5500, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5500, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1427
     ```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1461
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1514
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1554
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1926
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1948
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1973
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1998
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2024
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2051
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2082
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2115
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2154
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2193
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2226
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2264
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2303
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2363
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2420
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2462
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2509
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2557
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2605
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2656
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2709
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2887
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Cs + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Cs + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Cs + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Cs + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 22: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 24: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.96%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Cs + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
reaction label 0: Cs + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Cs + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cs + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Cs + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Cs [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Cs [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Cs1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35985. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Cs2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5684.9 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Cs2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5363.2 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Cs2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5006.1 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Cs3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1196.4 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Cs3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1059.5 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Cs3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 990.6799999999999 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Cs3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 747.7 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Cs3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 732.98 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Cs4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 231.86 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Cs4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 181.97 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Cs4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 167.76 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Cs4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 85.61 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Cs4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 83.23999999999999 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Cs5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30.97 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Cs5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18.27 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Cs5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.43 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Cs6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.69 eV!
```

26. Calculated and tabulated thresholds don't agree
summedReaction label 22: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

27. Calculated and tabulated thresholds don't agree
summedReaction label 23: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.69 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

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- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=5600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      161 TO     191
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=5600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     161
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     193
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1007
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1399
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1440
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1474
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1527
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1567
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1923
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1944
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1969
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1995
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2021
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2049
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2081
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2114
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2149
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2186
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2217
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2252
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2289
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2351
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2412
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2451
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2494
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2537
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2588
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2640
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2694
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2846
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ba + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ba + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ba + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ba + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 22: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.38%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ba + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ba + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ba + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ba + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ba + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ba [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ba [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ba1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 37449. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ba2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5960.8 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ba2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5630.3 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ba2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5243.4 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ba3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1273.4 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ba3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1132.2 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ba3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1057. eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ba3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 806.64 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ba3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 790.49 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ba4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 256.35 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ba4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 204.21 eV!
```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Ba4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 188.35 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Ba4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 102.16 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Ba4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 99.45999999999999 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + Ba5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.39 eV!
    ```

23. Calculated and tabulated thresholds don't agree
    reaction label 19: e- + Ba5p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.3 eV!
    ```

24. Calculated and tabulated thresholds don't agree
    reaction label 20: e- + Ba5p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 22. eV!
    ```

25. Calculated and tabulated thresholds don't agree
    reaction label 21: e- + Ba6s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.64 eV!
    ```

26. Calculated and tabulated thresholds don't agree
    summedReaction label 22: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

27. Calculated and tabulated thresholds don't agree
    summedReaction label 23: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

28. Calculated and tabulated thresholds don't agree
    summedReaction label 24: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.64 eV!
    ```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-057_La_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=5700, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=5700, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=5700, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=5700, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5700, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5700, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5700, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5700, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1056
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5700, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5700, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1447
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5700, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5700, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1488
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1522
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1576
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1617
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2021
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2042
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2068
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2093
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2119
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2147
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2179
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2211
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2246
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2282
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2313
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2348
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2385
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2443
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2502
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2540
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    2584
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                RECORD NUMBER    2628
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                RECORD NUMBER    2693
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                RECORD NUMBER    2758
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2808
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2863
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2919
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3105
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: La + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: La + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: La + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: La + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 24: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 70.71%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: La + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: La + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: La + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: La + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: La + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + La [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + La [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + La1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38943. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + La2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6241.8 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + La2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5902.5 eV!
    ```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + La2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5483.8 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + La3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1350.4 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + La3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1204.8 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + La3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1122.7 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + La3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 864.96 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + La3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 847.28 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + La4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 279.13 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + La4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 224.73 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + La4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 207.07 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + La4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 116.83 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + La4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 113.76 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + La5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 43.65 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + La5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.33 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + La5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.59 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + La5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.58 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + La5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.34 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + La6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.14 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.14 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=5800, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=5800, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=5800, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=5800, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5800, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5800, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1088
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5800, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1502
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5800, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1543
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=5800, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1577
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=5800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1631
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1672
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                 RECORD NUMBER    2082
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                 RECORD NUMBER    2104
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                 RECORD NUMBER    2130
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                 RECORD NUMBER    2155
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                 RECORD NUMBER    2181
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                 RECORD NUMBER    2209
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2240
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2272
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2305
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2339
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2370
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2404
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2440
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2500
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=5800, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2561
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2618
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2674
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2713
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    2756
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                RECORD NUMBER    2798
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2848
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2902
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2958
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    3138
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Ce + gamma [coherent] / Product: gamma (Error # 0): Warning

  ```
  WARNING: coherentScattering is not a valid distribution component for 2-body reaction
  ```

  2. FIXME: Generic fudge unimplemented message
  reaction label 0: Ce + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

  ```
  WARNING: Checking not yet implemented for pointwise type data
  ```

  3. generic warning message
  reaction label 1: Ce + gamma [incoherent] / Product: gamma (Error # 0): Warning

  ```
  WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
  ```

  4. FIXME: Generic fudge unimplemented message
  reaction label 1: Ce + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

  ```
  WARNING: Checking not yet implemented for piecewise type data
  ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
  summedReaction label 24: total (Error # 0): Sumrule

  ```
  WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
  ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
  summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

  ```
  WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.35%
  ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
  reaction label 0: Ce + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

  ```
  WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
  ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ce + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ce + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ce + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ce + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ce [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ce [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ce1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40456. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ce2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6513.3 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ce2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6165.3 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ce2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5712.8 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Ce3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1409.9 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Ce3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1259.9 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Ce3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1170.5 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Ce3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 905.49 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Ce3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 886.14 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Ce4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 285.01 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Ce4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 228.58 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Ce4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 209.35 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Ce4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 115.79 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Ce4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 112.44 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + Ce4f5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.85 eV!
    ```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ce4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.51 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ce5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.75 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ce5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.35 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ce5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.59 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ce6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.81 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.81 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-059_Pr_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=5900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5900, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=5900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5900, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1064
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1475
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1516
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1550
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=5900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1604
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1645
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2036
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2057
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2083
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2108
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2134
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2161
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2193
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2224
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2258
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2291
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2322
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2357
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2393
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2451
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2511
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2568
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2625
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2663
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2705
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2747
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2797
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2850
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2904
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3078
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Pr + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Pr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Pr + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Pr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 24: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 79.89%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Pr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
reaction label 0: Pr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Pr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Pr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Pr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Pr [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Pr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Pr1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 42010. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Pr2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6799.8 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Pr2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6442.9 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Pr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5954.4 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Pr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1480.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Pr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1325.7 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Pr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1228.4 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Pr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 955.98 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Pr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 934.86 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 299.25 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pr4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 240.64 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pr4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 219.56 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pr4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 122.28 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pr4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 118.59 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pr4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.65 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pr4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.24 eV!
```

24. Calculated and tabulated thresholds don't agree
    reaction label 20: e- + Pr5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 43.3 eV!
    ```

25. Calculated and tabulated thresholds don't agree
    reaction label 21: e- + Pr5p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.26 eV!
    ```

26. Calculated and tabulated thresholds don't agree
    reaction label 22: e- + Pr5p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.26 eV!
    ```

27. Calculated and tabulated thresholds don't agree
    reaction label 23: e- + Pr6s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.89 eV!
    ```

28. Calculated and tabulated thresholds don't agree
    summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
    ```

29. Calculated and tabulated thresholds don't agree
    summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
    ```

30. Calculated and tabulated thresholds don't agree
    summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.89 eV!
    ```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-060_Nd_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=6000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=6000, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=6000, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     197
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1074
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1472
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1513
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1547
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=517 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=6000, MF=23, MT=517
        SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1601
     ```

  8. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=6000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1642
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2054
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2075
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2100
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2125
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2150
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2177
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2208
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                RECORD NUMBER    2240
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                RECORD NUMBER    2274
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    2307
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2338
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2373
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2409
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2467
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2526
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6000, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2583
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2640
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2678
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    2719
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                RECORD NUMBER    2762
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                RECORD NUMBER    2811
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    2862
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    2914
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3084
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Nd + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Nd + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Nd + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Nd + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 24: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 78.86%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Nd + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Nd + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Nd + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Nd + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Nd + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Nd [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Nd [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Nd1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 43597. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Nd2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7093.3 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Nd2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6727.4 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Nd2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6200.7 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Nd3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1551.8 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Nd3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1392.8 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Nd3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1287.1 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Nd3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1007.3 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Nd3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 984.3200000000001 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Nd4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 313.58 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Nd4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 252.76 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Nd4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 229.72 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Nd4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 128.68 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Nd4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 124.62 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Nd4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.32 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Nd4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.85 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Nd5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 44.8 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Nd5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.12 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Nd5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.88 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Nd6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.96 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.96 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-061_Pm_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6100, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=6100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6100, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1072
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1482
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1523
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1557
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1611
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1652
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2050
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2072
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2097
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2122
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2147
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2174
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2205
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2236
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2270
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2303
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2333
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2368
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2403
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2461
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2519
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2577
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2635
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2673
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2715
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2758
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2807
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2862
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2918
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3089
```

- `fudge-4.0` Warnings:
  1. generic warning message
     reaction label 0: Pm + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```
  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Pm + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```
  3. generic warning message
     reaction label 1: Pm + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```
  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Pm + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```
  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 24: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```
  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 78.60%
     ```
- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Pm + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```
  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Pm + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```
  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Pm + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Pm + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Pm + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Pm [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Pm [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Pm1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45219. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Pm2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7394.1 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Pm2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7019.2 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Pm2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6451.9 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Pm3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1625.1 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Pm3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1461.6 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Pm3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1346.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Pm3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1059.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Pm3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1034.6 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pm4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 328.07 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pm4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 265.01 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pm4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 239.87 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pm4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 135.05 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pm4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 130.59 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pm4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.880000000000001 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pm4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.35 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Pm5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 46.27 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Pm5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.96 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Pm5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.46 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Pm6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.03 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.03 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-062_Sm_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=6200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1098
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1530
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1571
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1605
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1659
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1700
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2103
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2125
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2150
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2175
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2200
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2227
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2258
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2289
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2325
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2357
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2387
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2422
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2458
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2515
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2573
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2631
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2688
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2727
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2769
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2812
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2861
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2916
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2972
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3156
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Sm + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Sm + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Sm + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Sm + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 78.76%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Sm + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Sm + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Sm + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Sm + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Sm + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Sm [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Sm [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Sm1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 46876. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Sm2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7702.3 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Sm2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7318.2 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Sm2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6707.9 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Sm3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1700.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Sm3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1531.9 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Sm3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1407.7 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Sm3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1112.9 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Sm3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1085.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Sm4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 342.77 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Sm4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 277.43 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Sm4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 250.06 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Sm4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 141.4 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Sm4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 136.52 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Sm4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.369999999999999 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Sm4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.75 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Sm5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 47.74 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Sm5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.79 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Sm5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.02 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Sm6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.09 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.09 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-063_Eu_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=6300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=6300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1093
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1534
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1575
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1609
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1663
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1704
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2093
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2114
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2139
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2163
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2188
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2215
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2245
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2276
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2310
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    2342
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2372
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2406
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2441
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2497
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2554
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2611
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2668
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6300, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                 RECORD NUMBER    2706
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                 RECORD NUMBER    2748
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2792
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2841
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2893
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2946
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3132
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Eu + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Eu + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Eu + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Eu + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 79.18%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Eu + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Eu + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Eu + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Eu + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Eu + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Eu [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Eu [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Eu1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 48568. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Eu2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8018.1 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Eu2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7624.8 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Eu2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6968.8 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Eu3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1776.9 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Eu3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1604. eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Eu3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1469.6 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Eu3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1167.2 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Eu3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1137.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Eu4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 357.7 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Eu4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 290.05 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Eu4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 260.3 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Eu4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 147.76 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Eu4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142.44 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Eu4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.77 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Eu4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.08 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Eu5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.21 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Eu5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30.61 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Eu5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.56 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Eu6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.16 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.16 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-064_Gd_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=6400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=6400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1166
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1627
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1668
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1702
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1756
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1797
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2233
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2254
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2279
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2304
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2329
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2356
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2386
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2417
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2451
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2483
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2513
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2547
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2583
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2639
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2695
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2751
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2808
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2846
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6400, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2889
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2933
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2998
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3063
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3112
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3166
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3221
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3418
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Gd + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Gd + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Gd + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Gd + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 69.30%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Gd + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Gd + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Gd + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Gd + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Gd + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Gd [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Gd [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Gd1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50303. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Gd2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8349.799999999999 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Gd2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7947. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Gd2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7242.7 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Gd3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1864.6 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Gd3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1686.9 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Gd3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1541.8 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Gd3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1231.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Gd3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1199.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Gd4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 381.39 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Gd4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 311.3 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Gd4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 278.86 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Gd4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 162.16 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Gd4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 156.3 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Gd4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.03 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Gd4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.2 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Gd5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 54.66 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Gd5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.83 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Gd5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30.18 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Gd5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.19 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Gd5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.85 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Gd6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.71 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.85 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-065_Tb_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=6500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1096
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1548
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1589
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1623
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1677
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1718
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2098
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2119
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2144
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2168
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2193
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2221
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2251
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2281
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2314
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2346
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2376
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2411
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2446
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2502
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2559
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2616
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2674
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2713
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2756
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2801
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2848
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2901
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2955
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3145
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Tb + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Tb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Tb + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Tb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 24: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 80.38%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Tb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Tb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Tb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Tb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Tb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Tb [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Tb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Tb1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 52060. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Tb2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8673.1 eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Tb2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8260.9 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Tb2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7505.3 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Tb3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1935.8 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Tb3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1753.4 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Tb3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1596.8 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Tb3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1279. eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Tb3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1244.6 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Tb4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 388.39 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Tb4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 316. eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Tb4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 281.04 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Tb4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 160.59 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Tb4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 154.29 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Tb4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.39 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Tb4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.529999999999999 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Tb5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 52.17 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Tb5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.24 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Tb5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.59 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Tb6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.29 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.29 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-066_Dy_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=6600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1123
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1590
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1631
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1665
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1719
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1760
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2150
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2171
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2196
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2220
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2245
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2272
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2301
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2331
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2364
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2396
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2426
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2460
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2494
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2550
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2607
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2664
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2722
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2761
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2804
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2848
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2895
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2946
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2999
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3187
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Dy + gamma [coherent] / Product: gamma (Error # 0): Warning

  ```
  WARNING: coherentScattering is not a valid distribution component for 2-body reaction
  ```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Dy + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Dy + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Dy + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 81.09%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Dy + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Dy + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Dy + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Dy + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Dy + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Dy [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Dy [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Dy1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53861. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Dy2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9012.5 eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Dy2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8590.700000000001 eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Dy2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7781. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Dy3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2018.2 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Dy3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1830.9 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Dy3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1662.1 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Dy3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1336.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Dy3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1299.5 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Dy4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 404.2 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Dy4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 329.38 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Dy4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 291.56 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Dy4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 167.07 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Dy4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 160.24 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Dy4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.62 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Dy4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.66 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Dy5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.67 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Dy5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.06 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Dy5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.09 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Dy6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.35 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.35 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-067_Ho_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=6700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=6700, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6700, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=6700, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1114
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1572
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1613
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1647
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1701
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1742
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2133
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2154
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2177
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2201
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2226
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2253
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2282
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2312
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2345
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    2377
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2407
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2442
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2477
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2533
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2590
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2647
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2704
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6700, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                 RECORD NUMBER    2743
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                 RECORD NUMBER    2786
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2831
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2877
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2932
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2988
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3181
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ho + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ho + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Ho + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ho + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 81.83%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ho + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ho + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ho + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ho + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ho + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ho [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ho [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ho1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55699. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ho2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9360.200000000001 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ho2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8928.700000000001 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ho2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8061.7 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Ho3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2102.5 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Ho3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1910.4 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Ho3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1728.5 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Ho3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1395.2 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Ho3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1355.3 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ho4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 420.35 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ho4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 343.05 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ho4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 302.2 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ho4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 173.63 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ho4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 166.23 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ho4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.8 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ho4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.73 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ho5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55.19 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ho5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.89 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ho5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.58 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ho6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.42 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.42 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-068_Er_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=6800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=6800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1076
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1497
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1538
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1572
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1626
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1667
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=6800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2056
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2077
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2101
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2125
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2149
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2176
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2205
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2235
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2269
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2300
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2330
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2365
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2400
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2456
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2513
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2571
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2629
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2668
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                 RECORD NUMBER    2712
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2758
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2804
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2856
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2909
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=6800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3093
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.62%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Er + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Er + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Er + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Er [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Er [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Er1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 57574. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Er2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9716.200000000001 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Er2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9274.799999999999 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Er2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8347.4 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Er3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2188.9 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Er3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1991.8 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Er3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1796.2 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Er3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1455. eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Er3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1412. eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Er4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 436.85 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Er4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 357.04 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Er4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 312.97 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Er4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 180.25 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Er4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 172.26 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Er4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.94 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Er4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.76 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Er5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.73 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Er5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.73 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Er5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.06 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Er6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.48 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.48 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-069_Tm_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=6900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6900, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=6900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6900, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1112
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1554
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1595
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1629
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1683
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1724
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2131
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2152
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2176
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2200
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2224
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2250
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2280
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2310
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2343
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2374
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2404
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2438
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2472
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2528
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2584
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2641
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2699
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2738
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2782
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2828
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2874
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2927
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2982
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3165
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Tm + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Tm + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Tm + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Tm + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 24: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 83.40%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Tm + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Tm + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Tm + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Tm + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Tm + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Tm [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Tm [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Tm1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59488. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Tm2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10081. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Tm2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9629.4 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Tm2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8638.1 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Tm3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2277.4 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Tm3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2075.2 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Tm3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1865.1 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Tm3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1516. eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Tm3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1469.8 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Tm4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 453.73 eV!
```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Tm4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 371.37 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Tm4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 323.87 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Tm4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 186.95 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Tm4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 178.33 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Tm4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.03 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Tm4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.74 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Tm5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 58.3 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Tm5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.58 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Tm5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.54 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Tm6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.55 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.55 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-070_Yb_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=7000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO     195
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=7000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1082
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1496
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1537
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1571
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1625
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1666
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2071
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2092
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2117
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2141
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2165
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2192
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2222
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2253
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2286
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2318
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2348
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2382
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2416
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2472
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2528
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2586
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2644
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2683
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2727
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2773
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2825
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2880
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2936
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3095
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Yb + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Yb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Yb + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Yb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 24: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 84.21%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Yb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Yb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Yb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Yb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Yb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Yb [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Yb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Yb1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 61441. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Yb2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10454. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Yb2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9992.6 eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Yb2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8933.799999999999 eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Yb3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2368.1 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Yb3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2160.7 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Yb3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1935.2 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Yb3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1578.1 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Yb3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1528.5 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Yb4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 471. eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Yb4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 386.04 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Yb4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 334.92 eV!
    ```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Yb4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 193.73 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Yb4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 184.44 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Yb4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.09 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Yb4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.67 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Yb5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59.9 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Yb5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.44 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Yb5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30.01 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Yb6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.61 eV!
```

28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.61 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-071_Lu_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=7100, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=7100, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=7100, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=7100, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     165
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7100, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7100, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     201
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7100, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7100, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1174
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7100, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7100, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1635
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7100, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7100, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1676
     ```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1710
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1764
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1805
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2252
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2273
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2297
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2320
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2344
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2371
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2400
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2430
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2462
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2493
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2523
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2557
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2591
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2643
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2698
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2754
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2812
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2851
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2893
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2936
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3001
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    3066
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    3111
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3164
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3218
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3410
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Lu + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Lu + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Lu + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Lu + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 70.22%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Lu + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Lu + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Lu + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Lu + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Lu + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Lu [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Lu [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Lu1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63442. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Lu2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10845. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Lu2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10373. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Lu2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9243.200000000001 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Lu3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2470.5 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Lu3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2258. eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Lu3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2016.1 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Lu3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1650.8 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Lu3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1597.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Lu4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 497.85 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Lu4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 410.19 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Lu4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 355.05 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Lu4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 209.38 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Lu4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 199.32 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Lu4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18.96 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Lu4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.32 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Lu5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 66.34 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Lu5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.52 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Lu5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.22 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Lu5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.45 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Lu5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.03 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Lu6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.33 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.03 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-072_Hf_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=7200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=7200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1153
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1599
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1640
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1674
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1728
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1769
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2208
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2229
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2253
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2276
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2300
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2326
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2355
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2384
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2417
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2448
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2478
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2512
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2546
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2597
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2649
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2704
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2759
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2798
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7200, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                 RECORD NUMBER    2841
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                 RECORD NUMBER    2884
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                 RECORD NUMBER    2950
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    3016
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    3061
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3114
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3168
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3353
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Hf + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Hf + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Hf + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Hf + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 67.54%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Hf + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Hf + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Hf + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Hf + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Hf + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Hf [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Hf [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Hf1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 65482. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Hf2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11245. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Hf2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10763. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Hf2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9558.299999999999 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Hf3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2576. eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Hf3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2358.1 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Hf3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2099. eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Hf3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1725.5 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Hf3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1668.7 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Hf4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 525.6900000000001 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Hf4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 435.27 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Hf4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 375.82 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Hf4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 225.59 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Hf4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 214.71 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Hf4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.26 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Hf4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.4 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Hf5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 72.56 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Hf5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 46.34 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Hf5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.1 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Hf5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.75 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Hf5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.18 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Hf6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.86 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.18 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-073_Ta_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=7300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=7300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1088
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1482
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1523
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1557
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1612
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1654
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2077
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2097
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2121
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2145
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2169
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2195
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2223
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2252
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2285
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2316
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2346
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2379
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2413
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2463
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2513
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2569
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2625
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2663
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2707
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2751
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2817
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2884
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2929
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2983
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3038
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3206
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ta + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ta + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Ta + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Ta + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 67.32%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Ta + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ta + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ta + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ta + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Ta + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ta [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ta [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ta1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 67565. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ta2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11656. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ta2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11163. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ta2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9879.200000000001 eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ta3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2684.7 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ta3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2461.4 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ta3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2184.1 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ta3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1802.3 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ta3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1741.6 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ta4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 554.65 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ta4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 461.41 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ta4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 397.36 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ta4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 242.48 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ta4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 230.72 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ta4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 36.14 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ta4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.04 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ta5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78.81 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ta5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 51.15 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ta5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.89 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ta5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.01 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Ta5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.3 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Ta6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.31 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.3 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-074_W_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=7400, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=7400, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=7400, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=7400, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7400, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7400, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7400, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7400, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1037
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7400, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7400, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1373
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7400, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7400, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1414
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1449
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1504
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1546
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1977
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1998
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2022
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2046
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2070
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2096
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2125
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2155
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2187
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2218
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2248
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2281
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2315
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2362
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2410
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2467
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2524
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2562
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    2607
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                RECORD NUMBER    2652
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                RECORD NUMBER    2716
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7400, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2780
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2825
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2878
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2933
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3083
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: W + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: W + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: W + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: W + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 67.11%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: W + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: W + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: W + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: W + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: W + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + W [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + W [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + W1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 69689. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + W2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12077. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + W2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11573. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + W2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10206. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + W3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2796.5 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + W3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2567.8 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + W3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2271.2 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + W3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1881.1 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + W3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1816.2 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + W4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 584.7 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + W4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 488.61 eV!
    ```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + W4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 419.62 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + W4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 260.05 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + W4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 247.34 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + W4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.61 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + W4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 43.25 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + W5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 85.14 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + W5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.02 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + W5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.65 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + W5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.27 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + W5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.41 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + W6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.7 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.41 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-075_Re_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=7500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=7500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1066
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1445
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1486
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1521
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1576
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1618
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2037
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2057
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2081
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2105
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2128
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2155
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2184
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2213
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2245
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2276
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2305
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2338
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2371
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2418
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2465
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2523
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2580
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2617
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7500, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2662
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2706
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2769
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2832
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2877
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2929
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2983
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3133
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Re + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Re + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Re + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Re + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 66.83%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Re + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Re + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Re + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Re + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Re + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Re [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Re [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Re1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 71856. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Re2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12508. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Re2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11993. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Re2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10538. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Re3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2911.6 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Re3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2677.4 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Re3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2360.5 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Re3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1961.8 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Re3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1892.7 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Re4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 615.83 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Re4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 516.83 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Re4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 442.59 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Re4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 278.26 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Re4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 264.54 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Re4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55.64 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Re4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 52.99 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Re5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 91.56999999999999 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Re5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.97 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Re5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.4 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Re5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.52 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Re5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.5 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Re6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.06 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.06 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-076_Os_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=7600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=7600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1067
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1436
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1477
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1512
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1567
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1609
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2040
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2060
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2084
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2107
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2131
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2157
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2185
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2214
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2246
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2278
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2307
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2340
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2373
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2420
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2468
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2527
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2585
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2622
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2666
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2709
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2772
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2835
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2878
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2928
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2980
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3131
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Os + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Os + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Os + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Os + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 66.56%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Os + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Os + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Os + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Os + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Os + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Os [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Os [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Os1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 74066. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Os2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12950. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Os2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12424. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Os2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10877. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Os3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3030. eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Os3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2790.2 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Os3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2451.7 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Os3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2044.5 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Os3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1970.9 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Os4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 648.03 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Os4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 546.0700000000001 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Os4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 466.23 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Os4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 297.08 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Os4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 282.29 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Os4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 66.20999999999999 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Os4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63.26 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Os5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 98.12 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Os5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 66.01000000000001 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Os5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.15 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Os5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.79 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Os5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.6 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Os6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.390000000000001 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.390000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-077_Ir_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=7700, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=7700, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      164 TO     197
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=7700, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=7700, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     164
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7700, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7700, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     199
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7700, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7700, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1013
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7700, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7700, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1360
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7700, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7700, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1401
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1436
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1491
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1533
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1931
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    1952
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    1976
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    1999
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2022
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2048
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2077
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2106
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2139
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2170
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2198
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2231
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2264
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2310
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2358
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2415
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2472
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    2508
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    2552
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                RECORD NUMBER    2595
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                RECORD NUMBER    2658
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2722
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2771
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2822
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    2966
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [71 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ir + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ir + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

  3. generic warning message
     reaction label 1: Ir + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ir + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 25: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 27: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 66.35%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ir + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ir + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ir + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ir + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ir + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ir [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Ir [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ir1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 76314. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ir2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13396. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ir2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12859. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ir2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11214. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ir3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3145.7 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ir3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2900.2 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ir3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2539. eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ir3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2123.2 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ir3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2044.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ir4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 675.3200000000001 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ir4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 570.35 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ir4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 484.55 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ir4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 310.52 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ir4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 294.58 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ir4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 71.33 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ir4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.06 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ir5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 99.14 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ir5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 65.68000000000001 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ir5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 51.66 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ir5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.99 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Ir5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.79 eV!
```

29. Calculated and tabulated thresholds don't agree
summedReaction label 25: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.79 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-078_Pt_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=7800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=7800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=7800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=7800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1061
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1453
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1494
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1529
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1584
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1626
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2025
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2045
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2068
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2091
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2114
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2140
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2169
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2198
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2231
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2261
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2289
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2322
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2355
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2401
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2448
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2507
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2564
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2601
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7800, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                 RECORD NUMBER    2646
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                 RECORD NUMBER    2689
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                 RECORD NUMBER    2752
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    2815
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2858
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2907
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2957
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3116
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
  Linearize ENDF/B Cross Sections (LINEAR 2015-1)
  ------------------------------------------------------------------------------
  Retrieval Criteria-----------        MAT
  Monitor Mode-----------------        Off
  Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [72 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Pt + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Pt + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Pt + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Pt + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 66.54%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Pt + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Pt + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

3. Calculated and tabulated thresholds don't agree
reaction label 1: Pt + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
reaction label 1: Pt + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Pt + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Pt [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Pt [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Pt1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78615. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Pt2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13862. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Pt2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13313. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Pt2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11567. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Pt3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3273.2 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Pt3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3022. eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Pt3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2636.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Pt3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2212.4 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Pt3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2129. eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pt4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 712.21 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pt4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 604.1900000000001 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pt4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 512.04 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pt4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 333.1 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pt4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 315.96 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pt4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 85.48999999999999 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pt4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 81.87 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Pt5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 108.44 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Pt5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 73.34 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Pt5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 57.74 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Pt5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.02 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Pt5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.539999999999999 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Pt6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.07 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.07 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=7900, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=7900, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=7900, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=7900, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7900, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     201
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7900, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1069
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7900, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1443
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7900, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1484
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=7900, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1519
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=7900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1574
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1616
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=7900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2041
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2061
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2084
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2106
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2129
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2155
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2183
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2213
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2245
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2276
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2304
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2337
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2370
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2416
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2462
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2521
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2580
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2616
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2661
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2704
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2767
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2829
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=7900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    2873
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    2921
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    2970
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=7900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=7900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3123
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [72 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Au + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Au + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

  3. generic warning message
     reaction label 1: Au + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Au + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 26: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.51%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Au + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Au + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Au + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Au + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Au + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Au [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Au [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Au1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 80960. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Au2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14336. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Au2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13776. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Au2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11922. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Au3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3401.4 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Au3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3144.3 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Au3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2734. eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Au3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2300.7 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Au3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2212.2 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Au4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 747.4 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Au4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 636.28 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Au4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 537.39 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Au4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 353.48 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Au4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 335.05 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Au4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 97.37 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Au4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 93.39 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Au5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 115.23 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Au5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 78.55 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Au5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 61.37 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Au5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.16 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Au5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.46 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Au6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.300000000000001 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.300000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-080_Hg_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=8000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      165 TO     199
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=8000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     165
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=8000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     201
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1044
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1419
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1460
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1495
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1550
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1592
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    1993
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2013
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2036
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2059
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2083
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2108
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2136
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2165
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2197
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    2227
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2256
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2289
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2322
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2368
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2415
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2474
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2534
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2570
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2615
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2658
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2722
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2786
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2828
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    2878
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    2929
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3060
```

- `prepro` Errors:
  1. Negative cross section found
     0: Neg. Sig(E)

```
  Linearize ENDF/B Cross Sections (LINEAR 2015-1)
  ------------------------------------------------------------------------------
  Retrieval Criteria-----------        MAT
  Monitor Mode-----------------        Off
  Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [72 more lines]
```

- `fudge-4.0` Warnings:
  1. generic warning message
     reaction label 0: Hg + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Hg + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

  3. generic warning message
     reaction label 1: Hg + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Hg + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 26: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 28: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 68.83%
```

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Hg + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Hg + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Hg + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Hg + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Hg + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Hg [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Hg [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Hg1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 83353. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Hg2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14826. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Hg2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14254. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Hg2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12287. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Hg3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3536.8 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Hg3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3273.9 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Hg3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2836.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Hg3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2394.8 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Hg3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2300.8 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Hg4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 787.4400000000001 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Hg4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 673.17 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Hg4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 567.13 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Hg4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 378.21 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Hg4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 358.42 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Hg4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 113.5 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Hg4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 109.13 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Hg5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 125.73 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Hg5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 87.34 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Hg5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.3 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Hg5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15.98 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Hg5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.96 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Hg6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.550000000000001 eV!
```

30. Calculated and tabulated thresholds don't agree
summedReaction label 26: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

31. Calculated and tabulated thresholds don't agree
summedReaction label 27: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.550000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-081_Tl_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=8100, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=8100, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=8100, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=8100, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8100, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8100, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8100, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8100, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1289
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8100, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8100, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1845
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8100, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8100, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1886
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1921
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1976
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    2018
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2478
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2498
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2521
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2544
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2568
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2593
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2621
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2649
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2681
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2711
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2739
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2771
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2806
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2852
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2896
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2956
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    3016
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3051
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3095
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3138
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3203
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8100, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3267
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3308
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3353
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3397
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3448
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3501
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3696
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
--------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Tl + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Tl + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Tl + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Tl + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 28: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 66.07%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Tl + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Tl + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Tl + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Tl + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Tl + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Tl [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Tl [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Tl1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 85798. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Tl2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15330. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Tl2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14746. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Tl2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12660. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Tl3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3678.7 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Tl3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3409.7 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Tl3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2944.6 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Tl3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2493.7 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Tl3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2393.9 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Tl4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 831.4299999999999 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Tl4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 713.97 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Tl4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 600.3200000000001 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Tl4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 406.35 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Tl4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 385.13 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Tl4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 132.95 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Tl4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 128.16 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Tl5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 139.16 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Tl5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 99.03 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Tl5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 77.95999999999999 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Tl5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 22.4 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Tl5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.01 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Tl6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.36 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Tl6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.46 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Tl6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.3 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.3 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=8200, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=8200, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=8200, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=8200, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8200, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8200, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1268
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8200, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1815
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8200, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1856
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8200, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1891
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1946
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1988
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2439
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2458
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2481
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2503
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2526
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2551
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2579
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2607
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2638
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2667
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2695
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2728
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2762
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2808
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2852
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    2913
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    2974
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    3007
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                RECORD NUMBER    3051
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                RECORD NUMBER    3093
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                RECORD NUMBER    3157
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                RECORD NUMBER    3222
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8200, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3262
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3309
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3353
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3403
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3454
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=8200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3645
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Pb + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Pb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Pb + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Pb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 64.97%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Pb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Pb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Pb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Pb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
reaction label 1: Pb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Pb [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Pb [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Pb1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 88290. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Pb2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15847. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Pb2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15251. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Pb2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13040. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Pb3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3824.3 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Pb3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3549.3 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Pb3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3054.6 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Pb3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2594.7 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Pb3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2489. eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pb4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 876.72 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pb4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 756.02 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pb4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 634.3 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pb4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 435.23 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pb4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 412.49 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pb4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 153.04 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pb4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 147.81 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Pb5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 152.83 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Pb5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 110.91 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Pb5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 87.64 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Pb5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 28.81 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Pb5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.03 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Pb6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15.05 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Pb6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7. eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Pb6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.29 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.29 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-083_Bi_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1214
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1697
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1738
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1773
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1828
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1870
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2332
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2352
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2375
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2397
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2420
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2445
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2473
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2501
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2531
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2562
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2590
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2622
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2656
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2699
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2741
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2801
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2862
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2896
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2939
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2980
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3044
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3108
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3147
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3191
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3236
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3288
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3341
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3513
```

- `prepro` Errors:

  1. Negative cross section found
  0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Bi + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Bi + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Bi + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Bi + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 64.71%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Bi + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Bi + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Bi + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Bi + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Bi + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Bi [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Bi [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Bi1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 90832. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Bi2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16376. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Bi2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15768. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Bi2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13425. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Bi3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3973.9 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Bi3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3692.7 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Bi3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3166.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Bi3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2698. eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Bi3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2586. eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Bi4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 923.4299999999999 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Bi4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 799.4299999999999 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Bi4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 669.16 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Bi4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 464.95 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Bi4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 440.61 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Bi4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 173.87 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Bi4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 168.17 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Bi5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 166.86 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Bi5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 123.12 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Bi5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 97.45999999999999 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Bi5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.37 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Bi5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.17 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Bi6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.69 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Bi6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.6 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Bi6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.35 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.35 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-084_Po_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1174
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1620
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1661
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1696
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1751
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1793
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2248
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2268
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2290
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2312
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2336
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2361
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2389
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2417
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2447
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2479
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2507
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2539
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2572
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2615
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2657
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2717
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2779
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2813
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2856
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2896
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2958
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3021
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3060
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3104
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3150
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3201
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3253
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3417
```

- `prepro` Errors:

  1. Negative cross section found
  0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Po + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Po + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Po + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Po + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 64.42%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Po + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Po + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Po + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Po + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Po + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Po [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Po [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Po1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 93424. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Po2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16918. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Po2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16297. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Po2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13817. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Po3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4127.6 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Po3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3840.2 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Po3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3281.5 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Po3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2803.5 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Po3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2685.1 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Po4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 971.64 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Po4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 844.3 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Po4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 704.96 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Po4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 495.56 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Po4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 469.54 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Po4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 195.5 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Po4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 189.3 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Po5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 181.34 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Po5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 135.73 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Po5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 107.52 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Po5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 42.16 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Po5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.51 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Po6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20.33 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Po6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.25 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Po6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.44 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.44 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-085_At_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1141
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1553
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1594
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1629
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1684
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1726
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2185
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2205
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2227
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2249
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2272
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2298
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2325
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2353
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2383
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2415
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2443
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2475
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2509
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2550
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2592
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2652
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2713
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2747
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2789
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2829
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2890
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2949
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    2987
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3030
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3076
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3129
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3183
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3340
```

- `prepro` Errors:

  1. Negative cross section found
  0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: At + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: At + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: At + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: At + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 64.19%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: At + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: At + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: At + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: At + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: At + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + At [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + At [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + At1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 96068. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + At2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17473. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + At2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16840. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + At2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14215. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + At3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4285.5 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + At3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3991.8 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + At3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3398.5 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + At3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2911.4 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + At3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2786.2 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + At4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1021.4 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + At4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 890.65 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + At4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 741.71 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + At4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 527.08 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + At4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 499.28 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + At4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 217.93 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + At4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 211.2 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + At5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 196.27 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + At5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 148.78 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + At5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 117.82 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + At5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 49.2 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + At5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.06 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + At6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.01 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + At6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.94 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + At6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.539999999999999 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.539999999999999 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-086_Rn_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8600, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      167 TO     203
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8600, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     167
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     205
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1084
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1450
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1491
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1526
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1581
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1623
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2070
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2089
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2112
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2134
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2157
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2182
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2209
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2236
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2265
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2295
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2322
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2354
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2387
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2426
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2464
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2525
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2585
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2620
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2662
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2702
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2761
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2822
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    2861
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    2904
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    2950
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3000
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3051
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3182
```

- `prepro` Errors:

  1. Negative cross section found
  0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [74 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Rn + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Rn + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Rn + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Rn + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 28: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 30: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 63.87%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Rn + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Rn + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Rn + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Rn + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Rn + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Rn [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Rn [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Rn1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 98764. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Rn2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18042. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Rn2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17396. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Rn2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14619. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Rn3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4447.7 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Rn3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4147.6 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Rn3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3517.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Rn3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3021.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Rn3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2889.3 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Rn4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1072.7 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Rn4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 938.51 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Rn4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 779.39 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Rn4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 559.5 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Rn4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 529.8200000000001 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Rn4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 241.16 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Rn4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 233.87 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Rn5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 211.69 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Rn5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 162.29 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Rn5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 128.37 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Rn5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.49 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Rn5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 51.84 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Rn6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.72 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Rn6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.69 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Rn6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.640000000000001 eV!
```

32. Calculated and tabulated thresholds don't agree
summedReaction label 28: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.640000000000001 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-087_Fr_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8700, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8700, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      168 TO     205
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8700, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8700, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     168
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     207
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1191
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1647
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1688
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1723
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1778
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1820
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2283
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2302
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2325
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2348
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2371
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2396
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2423
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2450
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2480
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2509
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2537
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2568
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2599
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2638
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2677
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2737
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2798
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2830
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2867
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2906
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2964
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3022
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3059
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3102
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3147
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3188
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3238
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3289
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3484
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Fr + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Fr + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Fr + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Fr + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 29: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 31: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.86%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Fr + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Fr + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Fr + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Fr + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Fr + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Fr [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Fr [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Fr1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 101520. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Fr2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18630. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Fr2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17971. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Fr2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15034. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Fr3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4619.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Fr3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4312.5 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Fr3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3644.5 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Fr3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3138.9 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Fr3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2999.2 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Fr4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1130.3 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Fr4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 992.6900000000001 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Fr4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 822.8 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Fr4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 597.6 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Fr4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 565.95 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Fr4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 269.95 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Fr4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 262.07 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Fr5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 232.34 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Fr5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 181. eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Fr5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 143.91 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Fr5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 68.73 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Fr5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 63.52 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Fr6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.64 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Fr6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19.28 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Fr6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.14 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Fr7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.8 eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.8 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-088_Ra_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      168 TO     205
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8800, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     168
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     207
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1175
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1658
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1699
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1734
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8800, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1789
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1831
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2247
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2267
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2290
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2312
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2336
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2361
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2388
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2416
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2445
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2476
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2503
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2534
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2565
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2603
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2640
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2699
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2759
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2789
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2826
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2865
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    2914
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    2965
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3003
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3044
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3086
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3125
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3175
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3226
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3422
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Ra + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Ra + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Ra + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Ra + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 29: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 31: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 99.22%
   ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Ra + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Ra + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Ra + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ra + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ra + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Ra [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Ra [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Ra1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 104320. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Ra2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19232. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Ra2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18560. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Ra2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15456. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Ra3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4795.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Ra3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4482. eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Ra3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3773.7 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ra3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3258.7 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ra3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3111.3 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ra4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1189.7 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ra4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1048.6 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ra4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 867.3099999999999 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ra4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 636.77 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ra4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 603.0599999999999 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ra4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 299.7 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ra4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 291.19 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ra5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 253.63 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ra5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 200.32 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ra5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 159.83 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ra5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 81.31999999999999 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Ra5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 75.52 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Ra6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 39.54 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Ra6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.88 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Ra6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18.62 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Ra7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.73 eV!
```

33. Calculated and tabulated thresholds don't agree
summedReaction label 29: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

34. Calculated and tabulated thresholds don't agree
summedReaction label 30: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.73 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-089_Ac_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
   MAT=8900, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=8900, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=8900, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=8900, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     211
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1241
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1772
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1813
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1848
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=8900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1904
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1946
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2375
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2395
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2417
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2440
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2463
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2488
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2515
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2542
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2570
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2599
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2625
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2656
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2687
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2724
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2760
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2816
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2872
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2901
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2938
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2973
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3031
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3089
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3126
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3167
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3208
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3270
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3332
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3371
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3420
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3470
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=8900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=8900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3684
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Ac + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Ac + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Ac + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Ac + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 31: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 76.88%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Ac + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Ac + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Ac + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Ac + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Ac + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Ac [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Ac [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Ac1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 107190. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Ac2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19848. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Ac2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19163. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Ac2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15883. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Ac3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4974.3 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Ac3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4654.7 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Ac3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3903.9 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Ac3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3379.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Ac3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3224.1 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Ac4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1249.5 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Ac4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1104.8 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Ac4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 911.4400000000001 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Ac4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 675.51 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Ac4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 639.62 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Ac4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 328.9 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Ac4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 319.74 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Ac5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 274.1 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Ac5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 218.79 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Ac5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 174.66 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Ac5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 92.81999999999999 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Ac5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 86.38 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Ac6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 45.17 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Ac6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.31 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Ac6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21.95 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Ac6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.49 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Ac6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4. eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Ac7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.41 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4. eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-090_Th_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=9000, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9000, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=9000, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9000, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     211
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1245
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1746
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1787
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1822
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1878
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1920
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2386
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2406
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2428
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2451
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2474
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2499
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2526
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2553
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2581
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2610
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2637
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2668
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2699
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2736
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2774
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2831
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2887
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2916
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2954
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2989
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3045
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3102
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3139
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3180
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3221
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3281
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3341
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3380
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3430
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3481
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9000, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9000, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3693
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Th + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Th + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Th + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Th + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 31: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 62.51%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Th + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Th + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Th + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Th + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Th + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Th [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Th [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Th1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 110110. eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Th2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20478. eV!
     ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Th2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19780. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Th2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16315. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Th3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5157.9 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Th3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4831.6 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Th3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4036.2 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Th3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3502.4 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Th3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3338.6 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Th4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1310.6 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Th4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1162.3 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Th4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 956.16 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Th4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 714.8099999999999 eV!
    ```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Th4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 676.64 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Th4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 358.55 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Th4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 348.69 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Th5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 294.76 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Th5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 237.43 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Th5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 189.41 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Th5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 104.23 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Th5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 97.11 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Th6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.55 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Th6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.52 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Th6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.01 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Th6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.62 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Th6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.98 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Th7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.97 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.98 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-091_Pa_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=9100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9100, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      172 TO     213
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=9100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9100, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     172
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     215
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1303
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1819
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1860
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1895
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1951
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9100, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1993
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2498
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2518
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2540
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2562
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2585
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2611
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2637
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2665
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2693
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2721
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2748
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2779
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2810
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2847
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2884
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2940
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2995
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3024
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3061
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3096
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3152
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3210
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3292
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3371
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3407
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3447
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3487
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3547
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3607
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3646
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3695
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3745
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9100, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9100, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3962
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Pa + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Pa + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Pa + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Pa + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 33: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 35: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 62.23%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Pa + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
reaction label 0: Pa + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Pa + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Pa + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Pa + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Pa [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Pa [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Pa1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 113080. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Pa2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21113. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Pa2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20402. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Pa2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16743. eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Pa3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5334.9 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Pa3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5001.8 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Pa3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4159.4 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Pa3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3616.1 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Pa3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3443.6 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Pa4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1362.1 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Pa4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1210.1 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Pa4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 990.5700000000001 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Pa4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 743.75 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pa4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 703.21 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pa4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 377.63 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pa4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 367.04 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Pa5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 305.17 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Pa5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 245.89 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Pa5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 194.07 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Pa5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 106.08 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Pa5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 98.40000000000001 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Pa5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.64 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Pa5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.8 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Pa6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.01 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Pa6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.61 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Pa6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.82 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Pa6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.71 eV!
```

35. Calculated and tabulated thresholds don't agree
reaction label 31: e- + Pa6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.13 eV!
```

36. Calculated and tabulated thresholds don't agree
reaction label 32: e- + Pa7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.67 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

38. Calculated and tabulated thresholds don't agree
summedReaction label 34: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

39. Calculated and tabulated thresholds don't agree
summedReaction label 35: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.13 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-092_U_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=9200, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9200, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      172 TO     213
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=9200, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9200, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     172
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     215
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1349
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1893
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1934
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1969
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    2025
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    2067
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9200, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2590
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2610
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2633
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2655
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2678
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2704
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2730
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2757
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2785
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2814
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2840
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2871
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2901
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2937
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2975
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    3031
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    3087
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3116
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3153
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3187
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3242
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3299
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3382
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3464
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3499
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3539
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3578
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3638
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3697
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3736
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3787
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3839
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9200, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9200, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    4069
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: U + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: U + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: U + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: U + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 33: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 35: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 61.89%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: U + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: U + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: U + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: U + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: U + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + U [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + U [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + U1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 116110. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + U2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21768. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + U2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21044. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + U2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17182. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + U3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5521.3 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + U3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5181.5 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + U3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4289.6 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + U3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3736.8 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + U3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3555.2 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + U4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1419.9 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + U4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1264.2 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + U4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1030.5 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + U4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 778.1799999999999 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + U4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 735.14 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + U4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 402.09 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + U4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 390.75 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + U5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 320.65 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + U5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 259.38 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + U5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 203.39 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + U5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 112.35 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + U5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 104.02 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + U5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.91 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + U5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.95 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + U6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 52.23 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + U6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.09 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + U6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24.57 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + U6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.74 eV!
```

35. Calculated and tabulated thresholds don't agree
reaction label 31: e- + U6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.13 eV!
```

36. Calculated and tabulated thresholds don't agree
reaction label 32: e- + U7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.78 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

38. Calculated and tabulated thresholds don't agree
summedReaction label 34: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

39. Calculated and tabulated thresholds don't agree
summedReaction label 35: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.13 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-093_Np_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=9300, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9300, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      172 TO     213
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=9300, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9300, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     172
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     215
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1354
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1896
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1937
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1972
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    2028
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    2070
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9300, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2604
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2623
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2645
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2667
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2690
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2715
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2741
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2768
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2796
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2826
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9300, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2853
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2883
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2914
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2952
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                RECORD NUMBER    2989
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                RECORD NUMBER    3045
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                RECORD NUMBER    3101
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                RECORD NUMBER    3130
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3167
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3201
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3256
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3312
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3395
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3480
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3516
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3556
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                 RECORD NUMBER    3595
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                 RECORD NUMBER    3655
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                 RECORD NUMBER    3715
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    3754
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3803
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3854
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9300, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9300, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    4079
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Np + gamma [coherent] / Product: gamma (Error # 0): Warning

  ```
  WARNING: coherentScattering is not a valid distribution component for 2-body reaction
  ```

  2. FIXME: Generic fudge unimplemented message
  reaction label 0: Np + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Np + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Np + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 33: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 35: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 61.53%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Np + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Np + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Np + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Np + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Np + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Np [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Np [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Np1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.192e5 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Np2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 22440. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Np2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 21702. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Np2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17626. eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Np3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5712.2 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Np3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5365.5 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Np3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4421.6 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Np3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3859.2 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Np3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3668.1 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Np4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1478.9 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Np4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1319.5 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Np4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1070.8 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Np4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 812.9400000000001 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Np4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 767.29 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Np4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 426.75 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Np4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 414.6 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Np5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 336.25 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Np5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 272.95 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Np5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 212.56 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Np5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 118.48 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Np5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 109.47 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Np5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.12 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Np5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.029999999999999 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Np6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 54.39 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Np6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.52 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Np6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.25 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Np6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.75 eV!
```

35. Calculated and tabulated thresholds don't agree
reaction label 31: e- + Np6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.11 eV!
```

36. Calculated and tabulated thresholds don't agree
reaction label 32: e- + Np7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.88 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

38. Calculated and tabulated thresholds don't agree
summedReaction label 34: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

39. Calculated and tabulated thresholds don't agree
summedReaction label 35: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.11 eV!
```

- `xsectplotter` Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-094_Pu_000.endf

- `checkr` Warnings:

1. A previous error halted parsing of the current section
MAT=9400, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9400, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
MAT=9400, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9400, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     211
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1228
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1704
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1745
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1780
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1835
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1877
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2354
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2373
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2395
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2416
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2439
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2464
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2490
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2517
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2545
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2574
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2600
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2630
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2660
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2697
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2734
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2792
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2851
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2879
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2917
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2951
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3007
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3064
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3146
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3227
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3262
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3302
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3344
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3382
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3432
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3483
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9400, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9400, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3687
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Pu + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Pu + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Pu + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Pu + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 31: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 64.80%
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Pu + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Pu + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Pu + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Pu + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  5. Energy range of data set does not match cross section range
     reaction label 1: Pu + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + e+ + Pu [electron field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e+ + Pu [nuclear field] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
     ```

  8. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + Pu1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 122350. eV!
     ```

  9. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + Pu2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23122. eV!
     ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Pu2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 22371. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Pu2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18071. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Pu3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5902.1 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Pu3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5548.5 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Pu3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4549.9 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Pu3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3977.8 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Pu3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3776.9 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Pu4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1533.7 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Pu4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1370.5 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Pu4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1106. eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Pu4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 842.55 eV!
    ```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Pu4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 794.17 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Pu4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 446.08 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Pu4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 433.09 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Pu5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 346.64 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Pu5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 281.33 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Pu5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 216.42 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Pu5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 119.5 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Pu5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 109.85 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Pu5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.4 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Pu5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.25 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Pu6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 53.12 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Pu6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.92 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Pu6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.42 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Pu7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.42 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.42 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-095_Am_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=9500, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9500, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

1. A variable is outside the allowed ENDF range
   MAT=9500, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9500, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     211
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1252
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1740
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1781
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1816
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    1871
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9500, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    1913
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2398
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2419
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2442
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2465
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2487
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2512
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2539
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2566
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2594
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2623
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2650
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2680
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2710
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2746
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2783
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2840
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2900
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    2928
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    2966
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    2999
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3055
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3112
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3194
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3276
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3312
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3352
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3395
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3433
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3482
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3532
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9500, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9500, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3737
```

- `fudge-4.0` Warnings:

  1. generic warning message
  reaction label 0: Am + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Am + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Am + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Am + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 31: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 67.13%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Am + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Am + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Am + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Am + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Am + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Am [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Am [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Am1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 125570. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Am2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23827. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Am2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23062. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Am2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18527. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Am3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6102.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Am3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5741.6 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Am3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4685.5 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Am3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4103.6 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Am3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3892.5 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Am4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1595.2 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Am4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1428.2 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Am4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1147. eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Am4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 877.9 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Am4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 826.6799999999999 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Am4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 471.03 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Am4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 457.17 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Am5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 362.44 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Am5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 295.06 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Am5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 225.25 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Am5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 125.29 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Am5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 114.9 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Am5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.289999999999999 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Am5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7. eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Am6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55.06 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Am6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.14 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Am6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23.89 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Am7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.49 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.49 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-096_Cm_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=9600, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=9600, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      172 TO     213
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=9600, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=9600, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     172
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9600, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9600, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     215
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9600, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9600, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1376
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9600, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9600, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1974
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9600, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9600, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    2015
     ```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    2050
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    2105
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    2147
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2645
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2664
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2687
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2709
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2732
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2757
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2783
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2810
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2838
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2866
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2892
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2922
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2952
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2989
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    3026
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    3082
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    3139
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3167
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3203
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3236
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3291
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3346
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3428
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3510
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3545
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3584
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3624
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3684
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3743
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    3781
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3830
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3880
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9600, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9600, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    4117
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Cm + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Cm + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Cm + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Cm + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 33: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 35: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 60.46%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Cm + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Cm + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Cm + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cm + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Cm + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Cm [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Cm [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Cm1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 128860. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Cm2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24554. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Cm2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 23776. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Cm2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 18994. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Cm3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6313.1 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Cm3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5945.6 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Cm3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4829. eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Cm3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4237.2 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Cm3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4015.6 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Cm4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1664.1 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Cm4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1493.2 eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Cm4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1194.4 eV!
    ```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Cm4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 919.64 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Cm4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 865.4400000000001 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Cm4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 502.25 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Cm4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 487.47 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Cm5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 384.3 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Cm5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 314.8 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Cm5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 239.65 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Cm5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 136.46 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Cm5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 125.23 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Cm5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13.48 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Cm5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.95 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Cm6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.69 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Cm6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 39.64 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Cm6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27. eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Cm6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.65 eV!
```

35. Calculated and tabulated thresholds don't agree
reaction label 31: e- + Cm6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.93 eV!
```

36. Calculated and tabulated thresholds don't agree
reaction label 32: e- + Cm7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.18 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

38. Calculated and tabulated thresholds don't agree
summedReaction label 34: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

39. Calculated and tabulated thresholds don't agree
summedReaction label 35: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.93 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=9700, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=9700, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      172 TO     213
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=9700, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=9700, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     172
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9700, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                 RECORD NUMBER     215
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9700, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                 RECORD NUMBER    1334
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9700, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                 RECORD NUMBER    1880
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9700, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                 RECORD NUMBER    1921
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9700, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                 RECORD NUMBER    1956
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9700, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                 RECORD NUMBER    2011
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9700, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                 RECORD NUMBER    2053
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9700, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                 RECORD NUMBER    2560
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                 RECORD NUMBER    2580
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                 RECORD NUMBER    2602
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                 RECORD NUMBER    2624
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                 RECORD NUMBER    2646
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                 RECORD NUMBER    2671
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                RECORD NUMBER    2697
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                RECORD NUMBER    2724
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                RECORD NUMBER    2752
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                RECORD NUMBER    2780
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                RECORD NUMBER    2806
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                RECORD NUMBER    2836
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                RECORD NUMBER    2866
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                RECORD NUMBER    2902
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2948
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    3003
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    3060
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3088
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3124
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3157
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3212
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3267
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3350
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3433
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3468
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3506
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=562 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=562
   SECTION 23/562 NOT IN DIRECTORY                  RECORD NUMBER    3546
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=563 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=563
   SECTION 23/563 NOT IN DIRECTORY                  RECORD NUMBER    3607
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3666
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3704
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9700, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                RECORD NUMBER    3753
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                RECORD NUMBER    3803
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9700, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9700, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                RECORD NUMBER    4026
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Bk + gamma [coherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: coherentScattering is not a valid distribution component for 2-body reaction
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 0: Bk + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for pointwise type data
     ```

  3. generic warning message
     reaction label 1: Bk + gamma [incoherent] / Product: gamma (Error # 0): Warning

     ```
     WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
     ```

  4. FIXME: Generic fudge unimplemented message
     reaction label 1: Bk + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for piecewise type data
     ```

  5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 33: total (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
     ```

  6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     summedReaction label 35: photoelectric absorption (Error # 0): Sumrule

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 60.29%
     ```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Bk + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Bk + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Bk + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
   ```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Bk + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

   ```
   WARNING: 2-body reaction not in center-of-mass frame!
   ```

5. Energy range of data set does not match cross section range
   reaction label 1: Bk + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

   ```
   WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
   ```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Bk [electron field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
   ```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Bk [nuclear field] / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
   ```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Bk1s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 132210. eV!
   ```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Bk2s1/2 / Cross section: (Error # 0): Threshold mismatch

   ```
   WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25294. eV!
   ```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Bk2p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24503. eV!
    ```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Bk2p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19462. eV!
    ```

12. Calculated and tabulated thresholds don't agree
    reaction label 8: e- + Bk3s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6523.3 eV!
    ```

13. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + Bk3p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6148.8 eV!
    ```

14. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + Bk3p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4968.6 eV!
    ```

15. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + Bk3d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4366.9 eV!
    ```

16. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + Bk3d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4134.3 eV!
    ```

17. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + Bk4s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1728.8 eV!
    ```

18. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + Bk4p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1554. eV!
    ```

19. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + Bk4p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1236.6 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + Bk4d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 956.12 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + Bk4d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 898.8200000000001 eV!
    ```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Bk4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 528.02 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Bk4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 512.27 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Bk5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 400.87 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Bk5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 329.26 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Bk5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 248.62 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Bk5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142.39 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Bk5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 130.35 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Bk5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.53 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Bk5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.84 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Bk6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 62.79 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Bk6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.01 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Bk6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.51 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Bk6d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.6 eV!
```

35. Calculated and tabulated thresholds don't agree
reaction label 31: e- + Bk6d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.85 eV!
```

36. Calculated and tabulated thresholds don't agree
reaction label 32: e- + Bk7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.28 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

38. Calculated and tabulated thresholds don't agree
summedReaction label 34: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

39. Calculated and tabulated thresholds don't agree
summedReaction label 35: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.85 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-098_Cf_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=9800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9800, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=9800, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=9800, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     211
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1294
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1812
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1853
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=516 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=516
        SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1888
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=517 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9800, MF=23, MT=517
        SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1943
     ```

  8. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9800, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1985
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9800, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2484
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2503
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2524
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2546
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2569
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2593
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2619
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2646
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2674
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2702
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2728
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2758
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2788
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2825
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2871
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2931
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2992
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3020
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3058
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3091
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3146
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3202
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3285
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9800, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                 RECORD NUMBER    3368
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                 RECORD NUMBER    3403
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                 RECORD NUMBER    3443
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                 RECORD NUMBER    3487
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                 RECORD NUMBER    3525
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                 RECORD NUMBER    3574
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3625
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9800, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9800, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3818
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Cf + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Cf + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
   reaction label 1: Cf + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Cf + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 31: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 74.89%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   reaction label 0: Cf + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Cf + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Cf + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Cf + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
reaction label 1: Cf + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Cf [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Cf [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Cf1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 135630. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Cf2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26047. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Cf2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25242. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Cf2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19929. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Cf3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6732.5 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Cf3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6350.9 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Cf3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5103.8 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Cf3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4492.2 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Cf3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4248.1 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Cf4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1788.7 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Cf4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1609.9 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Cf4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1272.9 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Cf4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 986.74 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Cf4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 926.2 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Cf4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 547.73 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Cf4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 530.98 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Cf5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 411.58 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Cf5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 337.87 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Cf5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 251.58 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Cf5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142.47 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Cf5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 129.66 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Cf5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.78 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Cf5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.02 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Cf6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 60.88 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Cf6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 38.79 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Cf6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.1 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Cf7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.71 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.71 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```

photoat-099_Es_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=9900, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=9900, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=9900, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=9900, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1            RECORD NUMBER     170
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9900, MF=23, MT=501 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9900, MF=23, MT=501
        SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     211
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9900, MF=23, MT=502 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9900, MF=23, MT=502
        SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1308
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9900, MF=23, MT=504 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9900, MF=23, MT=504
        SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1817
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=9900, MF=23, MT=515 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=9900, MF=23, MT=515
        SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1858
     ```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1893
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1948
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1990
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2514
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2534
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2556
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2578
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2600
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2625
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2651
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2678
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2707
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2735
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2760
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2790
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2820
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2857
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2904
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2965
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    3026
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3053
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3092
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3125
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3180
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3235
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3318
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3403
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3438
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3479
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3523
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3561
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3610
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                 RECORD NUMBER    3661
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9900, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9900, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                 RECORD NUMBER    3850
```

- `fudge-4.0` Warnings:

1. generic warning message
reaction label 0: Es + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
reaction label 0: Es + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for pointwise type data
```

3. generic warning message
reaction label 1: Es + gamma [incoherent] / Product: gamma (Error # 0): Warning

```
WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
```

4. FIXME: Generic fudge unimplemented message
reaction label 1: Es + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

```
WARNING: Checking not yet implemented for piecewise type data
```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 31: total (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 77.26%
```

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Es + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

2. 2-body reaction not in center-of-mass frame
   reaction label 0: Es + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

3. Calculated and tabulated thresholds don't agree
   reaction label 1: Es + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

4. 2-body reaction not in center-of-mass frame
   reaction label 1: Es + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

```
WARNING: 2-body reaction not in center-of-mass frame!
```

5. Energy range of data set does not match cross section range
   reaction label 1: Es + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
   reaction label 2: e- + e+ + Es [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
   reaction label 3: e- + e+ + Es [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 4: e- + Es1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 139110. eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 5: e- + Es2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26824. eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 6: e- + Es2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26007. eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 7: e- + Es2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20409. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Es3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6953.1 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Es3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6564.6 eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Es3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5247.2 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Es3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4625.5 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Es3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4369.6 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Es4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1856.3 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Es4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1673.6 eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Es4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1315.9 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Es4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1024. eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Es4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 960.0700000000001 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Es4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 573.9299999999999 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Es4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 556.13 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Es5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 428.63 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Es5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 352.76 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Es5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 260.36 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Es5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 148.17 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Es5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 134.48 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Es5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.54 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Es5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.609999999999999 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Es6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 62.85 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Es6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40.02 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Es6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.44 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Es7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.78 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.78 eV!
```

- `xsectplotter` Warnings:

  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
  Error: RuntimeWarning

```
stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
... [3 more lines]
```

photoat-100_Fm_000.endf

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
  MAT=9920, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=9920, MF= 1, MT=451
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      170 TO     209
```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
  MAT=9920, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=9920, MF= 1, MT=451
   MOD =     3 OUT OF RANGE     0 -     1           RECORD NUMBER     170
```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
  MAT=9920, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=501
   SECTION 23/501 NOT IN DIRECTORY                  RECORD NUMBER     211
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=502
   SECTION 23/502 NOT IN DIRECTORY                  RECORD NUMBER    1292
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=504
   SECTION 23/504 NOT IN DIRECTORY                  RECORD NUMBER    1810
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=515
   SECTION 23/515 NOT IN DIRECTORY                  RECORD NUMBER    1851
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=516
   SECTION 23/516 NOT IN DIRECTORY                  RECORD NUMBER    1886
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=517 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=517
   SECTION 23/517 NOT IN DIRECTORY                  RECORD NUMBER    1941
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=522 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=522
   SECTION 23/522 NOT IN DIRECTORY                  RECORD NUMBER    1983
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=9920, MF=23, MT=534 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=534
   SECTION 23/534 NOT IN DIRECTORY                  RECORD NUMBER    2487
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=23, MT=535 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=535
   SECTION 23/535 NOT IN DIRECTORY                  RECORD NUMBER    2506
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=536 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=536
   SECTION 23/536 NOT IN DIRECTORY                  RECORD NUMBER    2528
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=537 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=537
   SECTION 23/537 NOT IN DIRECTORY                  RECORD NUMBER    2550
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=538 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=538
   SECTION 23/538 NOT IN DIRECTORY                  RECORD NUMBER    2573
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=539 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=539
   SECTION 23/539 NOT IN DIRECTORY                  RECORD NUMBER    2598
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=540 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=540
   SECTION 23/540 NOT IN DIRECTORY                  RECORD NUMBER    2624
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=541 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=541
   SECTION 23/541 NOT IN DIRECTORY                  RECORD NUMBER    2651
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=542 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=542
   SECTION 23/542 NOT IN DIRECTORY                  RECORD NUMBER    2679
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=543 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=543
   SECTION 23/543 NOT IN DIRECTORY                  RECORD NUMBER    2707
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=544 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=544
   SECTION 23/544 NOT IN DIRECTORY                  RECORD NUMBER    2733
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=545 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=545
   SECTION 23/545 NOT IN DIRECTORY                  RECORD NUMBER    2763
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=546 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=546
   SECTION 23/546 NOT IN DIRECTORY                  RECORD NUMBER    2792
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=547 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=547
   SECTION 23/547 NOT IN DIRECTORY                  RECORD NUMBER    2829
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=548 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=548
   SECTION 23/548 NOT IN DIRECTORY                  RECORD NUMBER    2874
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=549 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=549
   SECTION 23/549 NOT IN DIRECTORY                  RECORD NUMBER    2932
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=550 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=550
   SECTION 23/550 NOT IN DIRECTORY                  RECORD NUMBER    2993
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=551 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=551
   SECTION 23/551 NOT IN DIRECTORY                  RECORD NUMBER    3020
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=552 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=552
   SECTION 23/552 NOT IN DIRECTORY                  RECORD NUMBER    3059
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=553 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=553
   SECTION 23/553 NOT IN DIRECTORY                  RECORD NUMBER    3092
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=554 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=554
   SECTION 23/554 NOT IN DIRECTORY                  RECORD NUMBER    3146
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=555 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=555
   SECTION 23/555 NOT IN DIRECTORY                  RECORD NUMBER    3201
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=556 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=556
   SECTION 23/556 NOT IN DIRECTORY                  RECORD NUMBER    3284
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=559 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=559
   SECTION 23/559 NOT IN DIRECTORY                  RECORD NUMBER    3368
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=560 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=560
   SECTION 23/560 NOT IN DIRECTORY                  RECORD NUMBER    3403
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=9920, MF=23, MT=561 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=561
   SECTION 23/561 NOT IN DIRECTORY                  RECORD NUMBER    3444
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=23, MT=570 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=23, MT=570
   SECTION 23/570 NOT IN DIRECTORY                  RECORD NUMBER    3488
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=27, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=27, MT=502
   SECTION 27/502 NOT IN DIRECTORY                  RECORD NUMBER    3525
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=27, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=27, MT=504
   SECTION 27/504 NOT IN DIRECTORY                  RECORD NUMBER    3574
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=27, MT=505 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=27, MT=505
   SECTION 27/505 NOT IN DIRECTORY                  RECORD NUMBER    3624
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=9920, MF=27, MT=506 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=9920, MF=27, MT=506
   SECTION 27/506 NOT IN DIRECTORY                  RECORD NUMBER    3822
```

- `prepro` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-------------------------------------------------------------------------------
Retrieval Criteria-----------        MAT
Monitor Mode-----------------        Off
Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [77 more lines]
```

- `fudge-4.0` Warnings:

  1. generic warning message
     reaction label 0: Fm + gamma [coherent] / Product: gamma (Error # 0): Warning

```
WARNING: coherentScattering is not a valid distribution component for 2-body reaction
```

2. FIXME: Generic fudge unimplemented message
   reaction label 0: Fm + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for pointwise type data
   ```

3. generic warning message
   reaction label 1: Fm + gamma [incoherent] / Product: gamma (Error # 0): Warning

   ```
   WARNING: incoherentScattering is not a valid distribution component for 2-body reaction
   ```

4. FIXME: Generic fudge unimplemented message
   reaction label 1: Fm + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

   ```
   WARNING: Checking not yet implemented for piecewise type data
   ```

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 31: total (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%
   ```

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
   summedReaction label 33: photoelectric absorption (Error # 0): Sumrule

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 79.40%
   ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: Fm + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  2. 2-body reaction not in center-of-mass frame
     reaction label 0: Fm + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 1: Fm + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
     ```

  4. 2-body reaction not in center-of-mass frame
     reaction label 1: Fm + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

     ```
     WARNING: 2-body reaction not in center-of-mass frame!
     ```

5. Energy range of data set does not match cross section range
reaction label 1: Fm + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
```

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Fm [electron field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
```

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Fm [nuclear field] / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Fm1s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142680. eV!
```

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Fm2s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27622. eV!
```

10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Fm2p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26792. eV!
```

11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Fm2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20894. eV!
```

12. Calculated and tabulated thresholds don't agree
reaction label 8: e- + Fm3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7179.7 eV!
```

13. Calculated and tabulated thresholds don't agree
reaction label 9: e- + Fm3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6784. eV!
```

14. Calculated and tabulated thresholds don't agree
reaction label 10: e- + Fm3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5392.6 eV!
```

15. Calculated and tabulated thresholds don't agree
reaction label 11: e- + Fm3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4760.8 eV!
```

16. Calculated and tabulated thresholds don't agree
reaction label 12: e- + Fm3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4492.7 eV!
```

17. Calculated and tabulated thresholds don't agree
reaction label 13: e- + Fm4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1925.8 eV!
```

18. Calculated and tabulated thresholds don't agree
reaction label 14: e- + Fm4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1739. eV!
```

19. Calculated and tabulated thresholds don't agree
reaction label 15: e- + Fm4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1359.6 eV!
```

20. Calculated and tabulated thresholds don't agree
reaction label 16: e- + Fm4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1061.8 eV!
```

21. Calculated and tabulated thresholds don't agree
reaction label 17: e- + Fm4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 994.36 eV!
```

22. Calculated and tabulated thresholds don't agree
reaction label 18: e- + Fm4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 600.52 eV!
```

23. Calculated and tabulated thresholds don't agree
reaction label 19: e- + Fm4f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 581.62 eV!
```

24. Calculated and tabulated thresholds don't agree
reaction label 20: e- + Fm5s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 446.11 eV!
```

25. Calculated and tabulated thresholds don't agree
reaction label 21: e- + Fm5p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 368.06 eV!
```

26. Calculated and tabulated thresholds don't agree
reaction label 22: e- + Fm5p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 269.17 eV!
```

27. Calculated and tabulated thresholds don't agree
reaction label 23: e- + Fm5d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 153.89 eV!
```

28. Calculated and tabulated thresholds don't agree
reaction label 24: e- + Fm5d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 139.29 eV!
```

29. Calculated and tabulated thresholds don't agree
reaction label 25: e- + Fm5f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.29 eV!
```

30. Calculated and tabulated thresholds don't agree
reaction label 26: e- + Fm5f7/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.18 eV!
```

31. Calculated and tabulated thresholds don't agree
reaction label 27: e- + Fm6s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 64.84999999999999 eV!
```

32. Calculated and tabulated thresholds don't agree
reaction label 28: e- + Fm6p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.27 eV!
```

33. Calculated and tabulated thresholds don't agree
reaction label 29: e- + Fm6p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.77 eV!
```

34. Calculated and tabulated thresholds don't agree
reaction label 30: e- + Fm7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.85 eV!
```

35. Calculated and tabulated thresholds don't agree
summedReaction label 31: total / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
```

36. Calculated and tabulated thresholds don't agree
summedReaction label 32: pair product / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
```

37. Calculated and tabulated thresholds don't agree
summedReaction label 33: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.85 eV!
```

- `xsectplotter` Warnings:
  1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
     Error: RuntimeWarning

     ```
     stderr while processing crossSection

     /usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: Runtime
     ... [3 more lines]
     ```