Release notes for ENDF/B Development gammas sublibrary


May 5, 2015

## FAILURE SUMMARY

No FAILURES found!

## ERROR SUMMARY

**checkr** Missing a section/file: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf, g-095_Am_241.endf,

**checkr** Missing nubar_total or LFI flag is set wrong: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**checkr** Sections out of order in directory so your directory is messed up. This error will break everything else: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf, g-095_Am_241.endf,

**fizcon** A level's energy is somehow off: g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_241.endf,

**fizcon** Implied intermediate level energy should be something else: g-093_Np_237.endf, g-095_Am_241.endf,

**fizcon** Missing files (probably nubar): g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fizcon** Missing files (probably spectra for outgoing particles): g-004_Be_009.endf, g-007_N_014.endf, g-023_V_051.endf, g-074_W_180.endf, g-074_W_182.endf, g-074_W_183.endf, g-074_W_186.endf, g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf, g-095_Am_241.endf,

**fizcon** Outgoing energy E' not energetically allow: E' .le. E-Q.: g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fizcon** The cross section and an outgoing distribution don't span the same energy region.: g-094_Pu_239.endf, g-094_Pu_241.endf,

**fudge-4.0** Calculated and tabulated Q values disagree.: g-004_Be_009.endf, g-007_N_014.endf, g-023_V_051.endf, g-074_W_182.endf, g-074_W_183.endf, g-074_W_186.endf, g-090_Th_232.endf, g-092_U_233.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fudge-4.0** Calculated and tabulated thresholds don't agree: g-004_Be_009.endf, g-006_C_013.endf, g-007_N_014.endf, g-007_N_015.endf, g-008_O_017.endf, g-008_O_018.endf, g-011_Na_023.endf, g-012_Mg_024.endf, g-012_Mg_025.endf, g-012_Mg_026.endf, g-013_Al_027.endf, g-014_Si_028.endf, g-014_Si_029.endf, g-014_Si_030.endf, g-016_S_032.endf, g-016_S_033.endf, g-016_S_034.endf, g-016_S_036.endf, g-017_Cl_035.endf, g-017_Cl_037.endf, g-018_Ar_036.endf, g-018_Ar_038.endf, g-018_Ar_040.endf, g-020_Ca_040.endf, g-020_Ca_042.endf, g-020_Ca_043.endf, g-020_Ca_044.endf, g-020_Ca_046.endf, g-020_Ca_048.endf, g-022_Ti_046.endf, g-022_Ti_047.endf, g-022_Ti_048.endf, g-022_Ti_049.endf, g-022_Ti_050.endf, g-023_V_051.endf, g-024_Cr_050.endf, g-024_Cr_052.endf, g-024_Cr_053.endf, g-024_Cr_054.endf,

g-025_Mn_055.endf, g-026_Fe_054.endf, g-026_Fe_056.endf, g-026_Fe_057.endf, g-026_Fe_058.endf, g-027_Co_059.endf, g-028_Ni_058.endf, g-028_Ni_060.endf, g-028_Ni_061.endf, g-028_Ni_062.endf, g-028_Ni_064.endf, g-029_Cu_063.endf, g-029_Cu_065.endf, g-030_Zn_064.endf, g-030_Zn_066.endf, g-030_Zn_067.endf, g-030_Zn_068.endf, g-030_Zn_070.endf, g-032_Ge_070.endf, g-032_Ge_072.endf, g-032_Ge_073.endf, g-032_Ge_074.endf, g-032_Ge_076.endf, g-038_Sr_084.endf, g-038_Sr_086.endf, g-038_Sr_087.endf, g-038_Sr_088.endf, g-038_Sr_090.endf, g-040_Zr_090.endf, g-040_Zr_091.endf, g-040_Zr_092.endf, g-040_Zr_093.endf, g-040_Zr_094.endf, g-040_Zr_096.endf, g-041_Nb_093.endf, g-041_Nb_094.endf, g-042_Mo_092.endf, g-042_Mo_094.endf, g-042_Mo_095.endf, g-042_Mo_096.endf, g-042_Mo_097.endf, g-042_Mo_098.endf, g-042_Mo_100.endf, g-046_Pd_102.endf, g-046_Pd_104.endf, g-046_Pd_105.endf, g-046_Pd_106.endf, g-046_Pd_107.endf, g-046_Pd_108.endf, g-046_Pd_110.endf, g-047_Ag_107.endf, g-047_Ag_108.endf, g-047_Ag_109.endf, g-048_Cd_106.endf, g-048_Cd_108.endf, g-048_Cd_110.endf, g-048_Cd_111.endf, g-048_Cd_112.endf, g-048_Cd_113.endf, g-048_Cd_114.endf, g-048_Cd_116.endf, g-050_Sn_112.endf, g-050_Sn_114.endf, g-050_Sn_115.endf, g-050_Sn_116.endf, g-050_Sn_117.endf, g-050_Sn_118.endf, g-050_Sn_119.endf, g-050_Sn_120.endf, g-050_Sn_122.endf, g-050_Sn_124.endf, g-051_Sb_121.endf, g-051_Sb_123.endf, g-052_Te_120.endf, g-052_Te_122.endf, g-052_Te_123.endf, g-052_Te_124.endf, g-052_Te_125.endf, g-052_Te_126.endf, g-052_Te_128.endf, g-052_Te_130.endf, g-053_I_127.endf, g-053_I_129.endf, g-055_Cs_133.endf, g-055_Cs_135.endf, g-055_Cs_137.endf, g-059_Pr_141.endf, g-062_Sm_144.endf, g-062_Sm_147.endf, g-062_Sm_148.endf, g-062_Sm_149.endf, g-062_Sm_150.endf, g-062_Sm_151.endf, g-062_Sm_152.endf, g-062_Sm_154.endf, g-065_Tb_158.endf, g-065_Tb_159.endf, g-067_Ho_165.endf, g-073_Ta_181.endf, g-074_W_182.endf, g-074_W_183.endf, g-074_W_184.endf, g-074_W_186.endf, g-079_Au_197.endf, g-082_Pb_206.endf, g-082_Pb_207.endf, g-082_Pb_208.endf, g-083_Bi_209.endf, g-090_Th_232.endf, g-092_U_233.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fudge-4.0** Energy doesn't balance: g-004_Be_009.endf, g-090_Th_232.endf, g-092_U_233.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fudge-4.0** Energy range of data set does not match cross section range: g-092_U_236.endf, g-094_Pu_241.endf,

**fudge-4.0** Found a negative probability: g-050_Sn_117.endf, g-053_I_127.endf,

**fudge-4.0** Negative multiplicity found: g-092_U_233.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**fudge-4.0** Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?): g-074_W_182.endf, g-074_W_186.endf,

**fudge-4.0** The r(E) in Kalbach-Mann formulation is outside of allowed bounds: g-006_C_013.endf, g-007_N_014.endf, g-008_O_017.endf, g-082_Pb_206.endf, g-082_Pb_207.endf,

**fudge-4.0** Too much energy is going into n's and g's and not enough is left for the FF: g-092_U_236.endf, g-094_Pu_241.endf,

**fudge-4.0** Unnormalized outgoing probability distribution: g-004_Be_009.endf, g-008_O_018.endf, g-014_Si_028.endf, g-023_V_051.endf, g-052_Te_122.endf, g-062_Sm_147.endf, g-074_W_182.endf, g-074_W_183.endf, g-074_W_186.endf, g-082_Pb_208.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**xsectplotter** Generic error message: g-001_H_002.endf, g-004_Be_009.endf, g-006_C_012.endf, g-006_C_013.endf, g-007_N_014.endf, g-007_N_015.endf, g-008_O_016.endf, g-008_O_017.endf, g-008_O_018.endf, g-011_Na_023.endf, g-012_Mg_024.endf, g-012_Mg_025.endf, g-012_Mg_026.endf, g-013_Al_027.endf, g-014_Si_028.endf, g-014_Si_029.endf, g-014_Si_030.endf, g-016_S_032.endf, g-016_S_033.endf, g-016_S_034.endf, g-016_S_036.endf, g-017_Cl_035.endf, g-017_Cl_037.endf, g-018_Ar_036.endf, g-018_Ar_038.endf, g-018_Ar_040.endf, g-020_Ca_040.endf, g-020_Ca_042.endf, g-020_Ca_043.endf, g-020_Ca_044.endf, g-020_Ca_046.endf, g-020_Ca_048.endf, g-022_Ti_046.endf, g-022_Ti_047.endf, g-022_Ti_048.endf, g-022_Ti_049.endf, g-022_Ti_050.endf, g-023_V_051.endf, g-024_Cr_050.endf, g-024_Cr_052.endf, g-024_Cr_053.endf,

g-024_Cr_054.endf, g-025_Mn_055.endf, g-026_Fe_054.endf, g-026_Fe_056.endf, g-026_Fe_057.endf, g-026_Fe_058.endf, g-027_Co_059.endf, g-028_Ni_058.endf, g-028_Ni_060.endf, g-028_Ni_061.endf, g-028_Ni_062.endf, g-028_Ni_064.endf, g-029_Cu_063.endf, g-029_Cu_065.endf, g-030_Zn_064.endf, g-030_Zn_066.endf, g-030_Zn_067.endf, g-030_Zn_068.endf, g-030_Zn_070.endf, g-032_Ge_070.endf, g-032_Ge_072.endf, g-032_Ge_073.endf, g-032_Ge_074.endf, g-032_Ge_076.endf, g-038_Sr_084.endf, g-038_Sr_086.endf, g-038_Sr_087.endf, g-038_Sr_088.endf, g-038_Sr_090.endf, g-040_Zr_090.endf, g-040_Zr_091.endf, g-040_Zr_092.endf, g-040_Zr_093.endf, g-040_Zr_094.endf, g-040_Zr_096.endf, g-041_Nb_093.endf, g-041_Nb_094.endf, g-042_Mo_092.endf, g-042_Mo_094.endf, g-042_Mo_095.endf, g-042_Mo_096.endf, g-042_Mo_097.endf, g-042_Mo_098.endf, g-042_Mo_100.endf, g-046_Pd_102.endf, g-046_Pd_104.endf, g-046_Pd_105.endf, g-046_Pd_106.endf, g-046_Pd_107.endf, g-046_Pd_108.endf, g-046_Pd_110.endf, g-047_Ag_107.endf, g-047_Ag_108.endf, g-047_Ag_109.endf, g-048_Cd_106.endf, g-048_Cd_108.endf, g-048_Cd_110.endf, g-048_Cd_111.endf, g-048_Cd_112.endf, g-048_Cd_113.endf, g-048_Cd_114.endf, g-048_Cd_116.endf, g-050_Sn_112.endf, g-050_Sn_114.endf, g-050_Sn_115.endf, g-050_Sn_116.endf, g-050_Sn_117.endf, g-050_Sn_118.endf, g-050_Sn_119.endf, g-050_Sn_120.endf, g-050_Sn_122.endf, g-050_Sn_124.endf, g-051_Sb_121.endf, g-051_Sb_123.endf, g-052_Te_120.endf, g-052_Te_122.endf, g-052_Te_123.endf, g-052_Te_124.endf, g-052_Te_125.endf, g-052_Te_126.endf, g-052_Te_128.endf, g-052_Te_130.endf, g-053_I_127.endf, g-053_I_129.endf, g-055_Cs_133.endf, g-055_Cs_135.endf, g-055_Cs_137.endf, g-059_Pr_141.endf, g-062_Sm_144.endf, g-062_Sm_147.endf, g-062_Sm_148.endf, g-062_Sm_149.endf, g-062_Sm_150.endf, g-062_Sm_151.endf, g-062_Sm_152.endf, g-062_Sm_154.endf, g-065_Tb_158.endf, g-065_Tb_159.endf, g-067_Ho_165.endf, g-073_Ta_181.endf, g-074_W_180.endf, g-074_W_182.endf, g-074_W_183.endf, g-074_W_184.endf, g-074_W_186.endf, g-079_Au_197.endf, g-082_Pb_206.endf, g-082_Pb_207.endf, g-082_Pb_208.endf, g-083_Bi_209.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

## WARNING SUMMARY

**checkr** A previous error halted parsing of the current section: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf, g-095_Am_241.endf,

**checkr** Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf,

**checkr** Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.: g-090_Th_232.endf, g-092_U_233.endf, g-092_U_234.endf, g-092_U_235.endf, g-092_U_236.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_238.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-094_Pu_241.endf, g-095_Am_241.endf,

**checkr** Although the ENDF manual says MT=458 (fission energy release) is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to energy release.: g-092_U_235.endf,

**fudge-4.0** Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sum-rule: g-090_Th_232.endf,

**psyche** PSYCHE is concerned about non-existant nubar data: g-092_U_233.endf, g-092_U_234.endf, g-092_U_236.endf, g-094_Pu_238.endf, g-094_Pu_241.endf,

**xsectplotter** Generic warning message: g-092_U_235.endf, g-092_U_238.endf, g-093_Np_237.endf, g-094_Pu_239.endf, g-094_Pu_240.endf, g-095_Am_241.endf,

## g-001_H_002.endf

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-004_Be_009.endf

- `fizcon` Errors:
  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [1 more lines]
```

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: n[multiplicity:'2'] + Be7 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.0588e7 eV vs 2.0563e7 eV!
```

  2. Calculated and tabulated Q values disagree.
     *Reaction # 0: n[multiplicity:'2'] + Be7 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -20482531.2456675 eV vs -2.0563e7 eV!
```

  3. Unnormalized outgoing probability distribution
     *Reaction # 0: n[multiplicity:'2'] + Be7 / Product: Be7 / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.3e7 eV (index 4), integral = 1.000016
```

  4. Energy doesn't balance
     *Reaction # 0: n[multiplicity:'2'] + Be7 (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 2.0588e7 eV (index 0). Total deposited = 0.018% (n = 0.012%, Be7 =
WARNING: Energy imbalance at incident energy 2.1e7 eV (index 1). Total deposited = 107.7% (n = 84.82%, Be7 = 22.
WARNING: Energy imbalance at incident energy 2.2e7 eV (index 2). Total deposited = 97.96% (n = 86.31%, Be7 = 11.
WARNING: Energy imbalance at incident energy 2.25e7 eV (index 3). Total deposited = 98.46% (n = 87.69%, Be7 = 10
WARNING: Energy imbalance at incident energy 2.3e7 eV (index 4). Total deposited = 98.69% (n = 87.59%, Be7 = 11.
... [14 more lines]
```

5. Calculated and tabulated thresholds don't agree
   *Reaction # 1: n + H1 + Li7 + gamma / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.894e7 eV vs 1.8919e7 eV!
```

6. Calculated and tabulated Q values disagree.
   *Reaction # 1: n + H1 + Li7 + gamma (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -19420822.0572453 eV vs -1.8919e7 eV!
```

7. Unnormalized outgoing probability distribution
   *Reaction # 1: n + H1 + Li7 + gamma / Product: H1 / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 6), integral = 1.00001112
WARNING: Unnormalized distribution! At energy_in = 2.35e7 eV (index 9), integral = 1.00001792
```

8. Unnormalized outgoing probability distribution
   *Reaction # 1: n + H1 + Li7 + gamma / Product: Li7 / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.1e7 eV (index 4), integral = 1.000013
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 6), integral = 0.99999
WARNING: Unnormalized distribution! At energy_in = 2.35e7 eV (index 9), integral = 0.999986666
WARNING: Unnormalized distribution! At energy_in = 2.6e7 eV (index 14), integral = 1.000016
```

9. Energy doesn't balance
   *Reaction # 1: n + H1 + Li7 + gamma (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 1.894e7 eV (index 0). Total deposited = 0.02143% (Li7 = 0.007143%,
WARNING: Energy imbalance at incident energy 1.95e7 eV (index 1). Total deposited = 99.14% (H1 = 51.64%, n = 30.
WARNING: Energy imbalance at incident energy 2e7 eV (index 2). Total deposited = 97.3% (H1 = 58.43%, n = 28.31%,
WARNING: Energy imbalance at incident energy 2.0588e7 eV (index 3). Total deposited = 98.65% (H1 = 63.96%, n = 2
WARNING: Energy imbalance at incident energy 2.1e7 eV (index 4). Total deposited = 98.8% (H1 = 65%, n = 22.78%,
... [18 more lines]
```

10. Calculated and tabulated thresholds don't agree
    *Reaction # 2: Be9 + gamma / Cross section: (Error # 0): Threshold mismatch*

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

11. Calculated and tabulated Q values disagree.
    *Reaction # 3: n + He4[multiplicity:'2'] (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -1503305.04555511 eV vs -1.573e6 eV!
```

12. Unnormalized outgoing probability distribution
    *Reaction # 3: n + He4[multiplicity:'2'] / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2e7 eV (index 31), integral = 0.99998577
```

13. Unnormalized outgoing probability distribution
    *Reaction # 3: n + He4[multiplicity:'2'] / Product: He4 / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.55e7 eV (index 22), integral = 0.9999866
```

14. Energy doesn't balance
*Reaction # 3: n + He4[multiplicity:'2'] (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 1573100 eV (index 0). Total deposited = 4.5% (He4 = 3%, n = 1.5%)
WARNING: Energy imbalance at incident energy 1.55e7 eV (index 22). Total deposited = 99.9% (He4 = 56.63%, n = 43
WARNING: Energy imbalance at incident energy 1.6e7 eV (index 23). Total deposited = 99.9% (He4 = 55.36%, n = 44.
WARNING: Energy imbalance at incident energy 1.65e7 eV (index 24). Total deposited = 99.89% (He4 = 54.12%, n = 4
WARNING: Energy imbalance at incident energy 1.7e7 eV (index 25). Total deposited = 99.89% (He4 = 53.06%, n = 46
... [19 more lines]
```

15. Calculated and tabulated thresholds don't agree
*Reaction # 4: H1 + Li8_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.6903e7 eV vs 1.6886e7 eV!
```

16. Calculated and tabulated Q values disagree.
*Reaction # 4: H1 + Li8_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -16856132.0930347 eV vs -1.6886e7 eV!
```

17. Calculated and tabulated thresholds don't agree
*Reaction # 5: H2 + Li7_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.6712e7 eV vs 1.6695e7 eV!
```

18. Calculated and tabulated Q values disagree.
*Reaction # 5: H2 + Li7_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -17193747.8848591 eV vs -1.6695e7 eV!
```

19. Calculated and tabulated thresholds don't agree
*Reaction # 6: H3 + Li6_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.7707e7 eV vs 1.7688e7 eV!
```

20. Calculated and tabulated Q values disagree.
*Reaction # 6: H3 + Li6_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -17654409.5190496 eV vs -1.7688e7 eV!
```

21. Calculated and tabulated thresholds don't agree
*Reaction # 7: He3 + He6_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.1202e7 eV vs 2.1175e7 eV!
```

22. Calculated and tabulated Q values disagree.
*Reaction # 7: He3 + He6_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -21144133.3147593 eV vs -2.1175e7 eV!
```

23. Calculated and tabulated thresholds don't agree
*Reaction # 8 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

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

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-006_C_012.endf

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-006_C_013.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4946300 eV!
```

  2. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
     *Reaction # 0: sumOfRemainingOutputChannels / Product: H1 / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 2.15e7 eV. Value=1.096, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 2.35e7 eV. Value=1.073, should be in range 0
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

- `fizcon` Errors:

  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: N14 + gamma / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7550600 eV!
```

  2. Calculated and tabulated thresholds don't agree
     *Reaction # 1: H1 + C13_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7550600 eV!
```

  3. Calculated and tabulated Q values disagree.
     *Reaction # 1: H1 + C13_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6708404.80921555 eV vs 0 eV!
```

  4. Calculated and tabulated thresholds don't agree
     *Reaction # 2: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7550600 eV!
```

  5. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
     *Reaction # 2: sumOfRemainingOutputChannels / Product: n / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.6e7 eV. Value=1.002, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.7e7 eV. Value=1.001, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.8e7 eV. Value=1.001, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.85e7 eV. Value=1.001, should be in range 0
```

  6. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
     *Reaction # 2: sumOfRemainingOutputChannels / Product: H1 / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.5e7 eV. Value=1.008, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.6e7 eV. Value=1.016, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.7e7 eV. Value=1.036, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.8e7 eV. Value=1.175, should be in range 0
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.85e7 eV. Value=1.196, should be in range 0
... [14 more lines]
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-007_N_015.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 10207400 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-008_O_016.endf

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-008_O_017.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4143400 eV!
```

2. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
   *Reaction # 0: sumOfRemainingOutputChannels / Product: H1 / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.7e7 eV. Value=1.553, should be in range 0
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-008_O_018.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6.23e6 eV!
```

2. Unnormalized outgoing probability distribution
   *Reaction # 0: sumOfRemainingOutputChannels / Product: H3 / Distribution energyAngular - KalbachMann: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 9e7 eV (index 55), integral = 0.999989813672
WARNING: Unnormalized distribution! At energy_in = 9.5e7 eV (index 56), integral = 0.999988633657
WARNING: Unnormalized distribution! At energy_in = 1e8 eV (index 57), integral = 0.999988052941
WARNING: Unnormalized distribution! At energy_in = 1.05e8 eV (index 58), integral = 0.999987481212
WARNING: Unnormalized distribution! At energy_in = 1.1e8 eV (index 59), integral = 0.999987090938
... [5 more lines]
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-011_Na_023.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8794100 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-012_Mg_024.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9310600 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-012_Mg_025.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7330700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-012_Mg_026.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 10611800 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-013_Al_027.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8272100 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-014_Si_028.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9984300 eV!
```

2. Unnormalized outgoing probability distribution
   *Reaction # 0: sumOfRemainingOutputChannels / Product: He4 / Distribution energyAngular - KalbachMann: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 32), integral = 0.999985139884
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-014_Si_029.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8473900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-014_Si_030.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 10609600 eV!
```

- `xsectplotter` Errors:

    1. Generic error message
    *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-016_S_032.endf

- `fudge-4.0` Errors:

    1. Calculated and tabulated thresholds don't agree
    *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6948400 eV!
```

- `xsectplotter` Errors:

    1. Generic error message
    *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-016_S_033.endf

- `fudge-4.0` Errors:

    1. Calculated and tabulated thresholds don't agree
    *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7116100 eV!
```

- `xsectplotter` Errors:

    1. Generic error message
    *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-016_S_034.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7923700 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-016_S_036.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9008100 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-017_Cl_035.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6370400 eV!
     ```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-017_Cl_037.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7848600 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-018_Ar_036.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6639200 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-018_Ar_038.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7207600 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-018_Ar_040.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6799800 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-020_Ca_040.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7040300 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-020_Ca_042.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6256800 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-020_Ca_043.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7592500 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-020_Ca_044.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8.855e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-020_Ca_046.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 10399300 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-020_Ca_048.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9939900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-022_Ti_046.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8003300 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-022_Ti_047.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8877800 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-022_Ti_048.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9442800 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-022_Ti_049.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8142400 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-022_Ti_050.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 10710200 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-023_V_051.endf

- `fizcon` Errors:
  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [3 more lines]
```

- `fudge-4.0` Errors:
  1. Calculated and tabulated Q values disagree.
     *Reaction # 0: n + V50 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11357865.3869705 eV vs -1.1051e7 eV!
```

  2. Calculated and tabulated thresholds don't agree
     *Reaction # 1: n + V50_e1 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.1279e7 eV vs 1.1277e7 eV!
```

  3. Calculated and tabulated Q values disagree.
     *Reaction # 1: n + V50_e1 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11583865.3869705 eV vs -1.1277e7 eV!
```

  4. Calculated and tabulated thresholds don't agree
     *Reaction # 2: n + V50_e2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.1373e7 eV vs 1.1371e7 eV!
```

  5. Calculated and tabulated Q values disagree.
     *Reaction # 2: n + V50_e2 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11677865.3869705 eV vs -1.1371e7 eV!
```

  6. Calculated and tabulated thresholds don't agree
     *Reaction # 3: n + V50_e3 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.1408e7 eV vs 1.1406e7 eV!
```

  7. Calculated and tabulated Q values disagree.
     *Reaction # 3: n + V50_e3 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11712865.3869705 eV vs -1.1406e7 eV!
```

8. Calculated and tabulated thresholds don't agree
   *Reaction # 4: n + V50_e4 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.1441e7 eV vs 1.1439e7 eV!
```

9. Calculated and tabulated Q values disagree.
   *Reaction # 4: n + V50_e4 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11745865.3869705 eV vs -1.1439e7 eV!
```

10. Calculated and tabulated thresholds don't agree
    *Reaction # 5: n + V50_e5 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.1889e7 eV vs 1.1887e7 eV!
```

11. Calculated and tabulated Q values disagree.
    *Reaction # 5: n + V50_e5 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12193865.3869705 eV vs -1.1887e7 eV!
```

12. Calculated and tabulated Q values disagree.
    *Reaction # 6: n + V50_e6 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12267865.3869705 eV vs -1.1961e7 eV!
```

13. Calculated and tabulated Q values disagree.
    *Reaction # 7: n + V50_e7 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12268865.3869705 eV vs -1.1962e7 eV!
```

14. Calculated and tabulated thresholds don't agree
    *Reaction # 8: n + V50_e8 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2354e7 eV vs 1.2352e7 eV!
```

15. Calculated and tabulated Q values disagree.
    *Reaction # 8: n + V50_e8 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12658865.3869705 eV vs -1.2352e7 eV!
```

16. Calculated and tabulated thresholds don't agree
    *Reaction # 9: n + V50_e9 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2384e7 eV vs 1.2382e7 eV!
```

17. Calculated and tabulated Q values disagree.
    *Reaction # 9: n + V50_e9 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12688865.3869705 eV vs -1.2382e7 eV!
```

18. Calculated and tabulated Q values disagree.
    *Reaction # 10: n + V50_e10 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12759865.3869705 eV vs -1.2453e7 eV!
```

19. Calculated and tabulated thresholds don't agree
*Reaction # 11: n + V50_e11 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2548e7 eV vs 1.2546e7 eV!
```

20. Calculated and tabulated Q values disagree.
*Reaction # 11: n + V50_e11 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12852865.3869705 eV vs -1.2546e7 eV!
```

21. Calculated and tabulated thresholds don't agree
*Reaction # 12: n + V50_e12 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2571e7 eV vs 1.2569e7 eV!
```

22. Calculated and tabulated Q values disagree.
*Reaction # 12: n + V50_e12 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12875865.3869705 eV vs -1.2569e7 eV!
```

23. Calculated and tabulated Q values disagree.
*Reaction # 13: n + V50_e13 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12919865.3869705 eV vs -1.2613e7 eV!
```

24. Calculated and tabulated thresholds don't agree
*Reaction # 14: n + V50_e14 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.273e7 eV vs 1.2728e7 eV!
```

25. Calculated and tabulated Q values disagree.
*Reaction # 14: n + V50_e14 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -13034865.3869705 eV vs -1.2728e7 eV!
```

26. Calculated and tabulated thresholds don't agree
*Reaction # 15: n + V50_e15 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2753e7 eV vs 1.2751e7 eV!
```

27. Calculated and tabulated Q values disagree.
*Reaction # 15: n + V50_e15 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -13057865.3869705 eV vs -1.2751e7 eV!
```

28. Calculated and tabulated thresholds don't agree
*Reaction # 16: n + V50_c / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.2753e7 eV vs 1.2751e7 eV!
```

29. Calculated and tabulated Q values disagree.
*Reaction # 16: n + V50_c (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -13057865.3869705 eV vs -1.2751e7 eV!
```

30. Unnormalized outgoing probability distribution
*Reaction # 16: n + V50_c / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 1), integral = 0.99997162117
WARNING: Unnormalized distribution! At energy_in = 2e7 eV (index 8), integral = 1.00001194035
WARNING: Unnormalized distribution! At energy_in = 2.3e7 eV (index 11), integral = 0.999985391308
WARNING: Unnormalized distribution! At energy_in = 2.6e7 eV (index 14), integral = 0.999967751332
WARNING: Unnormalized distribution! At energy_in = 2.7e7 eV (index 15), integral = 0.99998074849
... [1 more lines]
```

31. Calculated and tabulated thresholds don't agree
*Reaction # 17: n[multiplicity:'2'] + V49 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.039e7 eV vs 2.0385e7 eV!
```

32. Calculated and tabulated Q values disagree.
*Reaction # 17: n[multiplicity:'2'] + V49 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -20693796.9106827 eV vs -2.0385e7 eV!
```

33. Calculated and tabulated thresholds don't agree
*Reaction # 18: n + H1 + Ti49 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.9004e7 eV vs 1.9e7 eV!
```

34. Calculated and tabulated Q values disagree.
*Reaction # 18: n + H1 + Ti49 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -19309593.8439331 eV vs -1.9e7 eV!
```

35. Unnormalized outgoing probability distribution
*Reaction # 18: n + H1 + Ti49 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 2), integral = 1.00002339586
```

36. Calculated and tabulated thresholds don't agree
*Reaction # 19: V51 + gamma / Cross section: (Error # 0): Threshold mismatch*

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

37. Calculated and tabulated thresholds don't agree
*Reaction # 20: n + He4 + Sc46 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.0941e7 eV vs 2.0936e7 eV!
```

38. Calculated and tabulated Q values disagree.
*Reaction # 20: n + He4 + Sc46 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -21247223.2265167 eV vs -2.0936e7 eV!
```

39. Unnormalized outgoing probability distribution
*Reaction # 20: n + He4 + Sc46 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.9e7 eV (index 5), integral = 1.00001531142
```

40. Calculated and tabulated thresholds don't agree
*Reaction # 21: H1[multiplicity:'2'] + Sc49 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.0222e7 eV vs 2.0218e7 eV!
```

41. Calculated and tabulated Q values disagree.
*Reaction # 21: H1[multiplicity:'2'] + Sc49 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -20533679.2385025 eV vs -2.0218e7 eV!
```

42. Calculated and tabulated Q values disagree.
*Reaction # 22: H1 + Ti50_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -8370400.35512543 eV vs -8.061e6 eV!
```

43. Calculated and tabulated thresholds don't agree
*Reaction # 23: H2 + Ti49_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.6779e7 eV vs 1.6776e7 eV!
```

44. Calculated and tabulated Q values disagree.
*Reaction # 23: H2 + Ti49_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -17085027.0586166 eV vs -1.6776e7 eV!
```

45. Calculated and tabulated thresholds don't agree
*Reaction # 24: H3 + Ti48_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.8664e7 eV vs 1.8661e7 eV!
```

46. Calculated and tabulated Q values disagree.
*Reaction # 24: H3 + Ti48_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -18970184.1917038 eV vs -1.8661e7 eV!
```

47. Calculated and tabulated thresholds don't agree
*Reaction # 25: He3 + Sc48_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.2642e7 eV vs 2.2637e7 eV!
```

48. Calculated and tabulated Q values disagree.
*Reaction # 25: He3 + Sc48_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -22943220.3428421 eV vs -2.2637e7 eV!
```

49. Calculated and tabulated Q values disagree.
*Reaction # 26: He4 + Sc47_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -10600897.1451492 eV vs -1.0293e7 eV!
```

50. Calculated and tabulated thresholds don't agree
*Reaction # 27 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

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

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-024_Cr_050.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8556800 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-024_Cr_052.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 9352200 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-024_Cr_053.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7939500 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-024_Cr_054.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7.929e6 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-025_Mn_055.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7934200 eV!
     ```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-026_Fe_054.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8417900 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-026_Fe_056.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7614200 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-026_Fe_057.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7320900 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-026_Fe_058.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7646600 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-027_Co_059.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6942800 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-028_Ni_058.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6399600 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-028_Ni_060.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6.292e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-028_Ni_061.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6.466e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-028_Ni_062.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7018600 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-028_Ni_064.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8116900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-029_Cu_063.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5777500 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-029_Cu_065.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6789900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-030_Zn_064.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3956300 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-030_Zn_066.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4578200 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-030_Zn_067.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4791700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-030_Zn_068.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5333400 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-030_Zn_070.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5956900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-032_Ge_070.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4087900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-032_Ge_072.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5.002e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-032_Ge_073.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5302800 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-032_Ge_074.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6287500 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-032_Ge_076.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7508700 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-038_Sr_084.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5171900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-038_Sr_086.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6351700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-038_Sr_087.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7318400 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-038_Sr_088.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7911700 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-038_Sr_090.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5105700 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_090.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6676600 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_091.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5443100 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_092.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2965500 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_093.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3334100 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_094.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3750400 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-040_Zr_096.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4943900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-041_Nb_093.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1932600 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-041_Nb_094.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2304500 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_092.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5607900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_094.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2067700 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_095.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2240700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_096.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2759900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_097.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2846900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_098.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3.27e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-042_Mo_100.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3168900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_102.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2117900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_104.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2598200 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_105.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2890500 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_106.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3232500 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_107.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3538500 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-046_Pd_108.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3854900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-046_Pd_110.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4443900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-047_Ag_107.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2807600 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-047_Ag_108.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3077900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-047_Ag_109.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3296900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-048_Cd_106.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1641900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-048_Cd_108.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2284900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-048_Cd_110.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2868900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-048_Cd_111.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3304900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-048_Cd_112.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3483100 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-048_Cd_113.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3869900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-048_Cd_114.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4101700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-048_Cd_116.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4811900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_112.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1829900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_114.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2633900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_115.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3.205e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_116.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3369800 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_117.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3774200 eV!
```

2. Found a negative probability
   *Reaction # 0: sumOfRemainingOutputChannels / Product: gamma / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad prob.*

```
WARNING: Negative probabilities encountered in distribution. Incident energy: 1.4e7 eV, worst case: -1.41276e-13
WARNING: Negative probabilities encountered in distribution. Incident energy: 1.45e7 eV, worst case: -6.61812e-1
WARNING: Negative probabilities encountered in distribution. Incident energy: 1.5e7 eV, worst case: -1.06609e-12
WARNING: Negative probabilities encountered in distribution. Incident energy: 1.55e7 eV, worst case: -1.40324e-1
WARNING: Negative probabilities encountered in distribution. Incident energy: 1.6e7 eV, worst case: -1.72203e-12
... [53 more lines]
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_118.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4057300 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_119.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4401800 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_120.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4808700 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_122.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5661900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-050_Sn_124.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6689200 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-051_Sb_121.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3071500 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-051_Sb_123.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3915700 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-052_Te_120.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2.848e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-052_Te_122.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1077900 eV!
```

  2. Unnormalized outgoing probability distribution
     *Reaction # 0: sumOfRemainingOutputChannels / Product: He4 / Distribution energyAngular - KalbachMann: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 4), integral = 1.00001004499
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-052_Te_123.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1.528e6 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-052_Te_124.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1846200 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-052_Te_125.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2245800 eV!
     ```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-052_Te_126.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2.546e6 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-052_Te_128.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3179600 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-052_Te_130.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3751900 eV!
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-053_I_127.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2183100 eV!
     ```

  2. Found a negative probability
     *Reaction # 0: sumOfRemainingOutputChannels / Product: gamma / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad prob.*

     ```
     WARNING: Negative probabilities encountered in distribution. Incident energy: 1.3e8 eV, worst case: -5.03132e-15
     ```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-053_I_129.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2673900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-055_Cs_133.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2003900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-055_Cs_135.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2629900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-055_Cs_137.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 3092900 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-059_Pr_141.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 2.5e6 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

## g-062_Sm_144.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8e6 eV!
     ```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_147.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6e6 eV!
```

  2. Unnormalized outgoing probability distribution
     *Reaction # 0: sumOfRemainingOutputChannels / Product: He4 / Distribution energyAngular - KalbachMann: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 9e6 eV (index 6), integral = 0.999987625231
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_148.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8e6 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_149.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5.5e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_150.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7.5e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_151.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5.5e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_152.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-062_Sm_154.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 1196900 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-065_Tb_158.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 156900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-065_Tb_159.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 137900 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-067_Ho_165.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-073_Ta_181.endf

- `fudge-4.0` Errors:

1. Calculated and tabulated thresholds don't agree
   *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7.5e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-074_W_180.endf

- `fizcon` Errors:

1. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [3 more lines]
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-074_W_182.endf

- `fizcon` Errors:

  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT=  50 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT=  51 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT=  52 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT=  53 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [18 more lines]
```

  2. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (2): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [2 more lines]
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     *Reaction # 0: n + W181 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3537827.96221924 eV vs -8064600 eV!
```

  2. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
     *Reaction # 0: n + W181 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

  3. Calculated and tabulated Q values disagree.
     *Reaction # 1: n + W181_e1 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3651227.96221924 eV vs -8.178e6 eV!
```

  4. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
     *Reaction # 1: n + W181_e1 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

5. Calculated and tabulated Q values disagree.
   *Reaction # 2: n + W181_e2 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3788727.96221924 eV vs -8315500 eV!
```

6. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
   *Reaction # 2: n + W181_e2 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

7. Calculated and tabulated Q values disagree.
   *Reaction # 3: n + W181_e3 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3903427.96221924 eV vs -8430200 eV!
```

8. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
   *Reaction # 3: n + W181_e3 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

9. Calculated and tabulated Q values disagree.
   *Reaction # 4: n + W181_e4 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3923027.96221924 eV vs -8449800 eV!
```

10. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
    *Reaction # 4: n + W181_e4 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

11. Calculated and tabulated Q values disagree.
    *Reaction # 5: n + W181_e5 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3947027.96221924 eV vs -8473800 eV!
```

12. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
    *Reaction # 5: n + W181_e5 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

13. Calculated and tabulated Q values disagree.
    *Reaction # 6: n + W181_e6 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3952227.96221924 eV vs -8.479e6 eV!
```

14. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
    *Reaction # 6: n + W181_e6 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

15. Calculated and tabulated Q values disagree.
*Reaction # 7: n + W181_e7 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3988027.96221924 eV vs -8514800 eV!
```

16. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 7: n + W181_e7 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

17. Calculated and tabulated Q values disagree.
*Reaction # 8: n + W181_e8 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3995627.96221924 eV vs -8522400 eV!
```

18. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 8: n + W181_e8 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

19. Calculated and tabulated Q values disagree.
*Reaction # 9: n + W181_e9 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4013327.96221924 eV vs -8540100 eV!
```

20. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 9: n + W181_e9 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

21. Calculated and tabulated Q values disagree.
*Reaction # 10: n + W181_e10 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4026227.96221924 eV vs -8.553e6 eV!
```

22. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 10: n + W181_e10 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

23. Calculated and tabulated Q values disagree.
*Reaction # 11: n + W181_e11 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4066427.96221924 eV vs -8593200 eV!
```

24. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 11: n + W181_e11 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

25. Calculated and tabulated Q values disagree.
*Reaction # 12: n + W181_e12 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4067227.96221924 eV vs -8.594e6 eV!
```

26. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 12: n + W181_e12 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

27. Calculated and tabulated Q values disagree.
*Reaction # 13: n + W181_e13 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4098327.96221924 eV vs -8625100 eV!
```

28. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 13: n + W181_e13 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

29. Calculated and tabulated Q values disagree.
*Reaction # 14: n + W181_e14 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4137227.96221924 eV vs -8.664e6 eV!
```

30. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 14: n + W181_e14 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

31. Calculated and tabulated Q values disagree.
*Reaction # 15: n + W181_e15 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4147027.96221924 eV vs -8673800 eV!
```

32. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 15: n + W181_e15 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

33. Calculated and tabulated Q values disagree.
*Reaction # 16: n + W181_e16 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4180627.96221924 eV vs -8707400 eV!
```

34. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 16: n + W181_e16 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

35. Calculated and tabulated Q values disagree.
*Reaction # 17: n + W181_e17 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4199527.96221924 eV vs -8726300 eV!
```

36. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 17: n + W181_e17 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

37. Calculated and tabulated Q values disagree.
*Reaction # 18: n + W181_e18 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4213027.96221924 eV vs -8739800 eV!
```

38. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 18: n + W181_e18 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

39. Calculated and tabulated Q values disagree.
*Reaction # 19: n + W181_e19 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4252827.96221924 eV vs -8779600 eV!
```

40. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 19: n + W181_e19 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

41. Calculated and tabulated Q values disagree.
*Reaction # 20: n + W181_e20 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4264127.96221924 eV vs -8790900 eV!
```

42. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 20: n + W181_e20 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

43. Calculated and tabulated Q values disagree.
*Reaction # 21: n + W181_e21 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4299527.96221924 eV vs -8826300 eV!
```

44. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 21: n + W181_e21 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

45. Calculated and tabulated Q values disagree.
*Reaction # 22: n + W181_c (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4299527.96221924 eV vs -8826300 eV!
```

46. Unnormalized outgoing probability distribution
*Reaction # 22: n + W181_c / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 3), integral = 0.99998750974
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 5), integral = 1.00001318422
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 7), integral = 1.00001439718
WARNING: Unnormalized distribution! At energy_in = 2.1e7 eV (index 13), integral = 0.999956592899
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 14), integral = 1.00003908552
... [7 more lines]
```

47. Calculated and tabulated Q values disagree.
*Reaction # 23: n[multiplicity:'2'] + W180 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -10218623.3800354 eV vs -1.4745e7 eV!
```

48. Unnormalized outgoing probability distribution
*Reaction # 23: n[multiplicity:'2'] + W180 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 1), integral = 0.99998973245
WARNING: Unnormalized distribution! At energy_in = 1.8e7 eV (index 4), integral = 1.0000164551
WARNING: Unnormalized distribution! At energy_in = 1.9e7 eV (index 5), integral = 1.00001352721
WARNING: Unnormalized distribution! At energy_in = 2.4e7 eV (index 10), integral = 0.99998995692
WARNING: Unnormalized distribution! At energy_in = 2.6e7 eV (index 12), integral = 0.99998787342
... [2 more lines]
```

49. Calculated and tabulated thresholds don't agree
*Reaction # 24: n[multiplicity:'3'] + W179 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 2.3159e7 eV vs 2.3157e7 eV!
```

50. Calculated and tabulated Q values disagree.
*Reaction # 24: n[multiplicity:'3'] + W179 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -18630859.0407715 eV vs -2.3157e7 eV!
```

51. Calculated and tabulated Q values disagree.
*Reaction # 25: n + H1 + Ta180 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -10144558.710022 eV vs -1.4671e7 eV!
```

52. Calculated and tabulated thresholds don't agree
*Reaction # 26: W182 + gamma / Cross section: (Error # 0): Threshold mismatch*

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

53. Calculated and tabulated Q values disagree.
*Reaction # 27: n + He4 + Hf177 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -1327072.54580688 eV vs -5854500 eV!
```

54. Calculated and tabulated Q values disagree.
*Reaction # 28: H1 + Ta181_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -2567798.94692993 eV vs -7095100 eV!
```

55. Calculated and tabulated Q values disagree.
*Reaction # 29: H2 + Ta180_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -7919991.92468262 eV vs -1.2446e7 eV!
```

56. Calculated and tabulated Q values disagree.
*Reaction # 30: H3 + Ta179_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -8303957.44729614 eV vs -1.2834e7 eV!
```

57. Calculated and tabulated Q values disagree.
*Reaction # 31: He3 + Hf179_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -8179744.04724121 eV vs -1.2706e7 eV!
```

58. Calculated and tabulated thresholds don't agree
*Reaction # 32: He4 + Hf178_s / Cross section: (Error # 0): Threshold mismatch*

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

59. Calculated and tabulated Q values disagree.
*Reaction # 32: He4 + Hf178_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 6298885.95346069 eV vs 1771400 eV!
```

60. Calculated and tabulated thresholds don't agree
*Reaction # 33 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

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

- `xsectplotter` Errors:

1. Generic error message
*Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```



- `fizcon` Errors:

1. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
... [2 more lines]
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
   *Reaction # 0: n + W182 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4868599.34716797 eV vs -6190500 eV!
```

2. Calculated and tabulated Q values disagree.
   *Reaction # 1: n + W182_e1 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4968699.34716797 eV vs -6290600 eV!
```

3. Calculated and tabulated Q values disagree.
   *Reaction # 2: n + W182_e2 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5197999.34716797 eV vs -6519900 eV!
```

4. Calculated and tabulated Q values disagree.
   *Reaction # 3: n + W182_e3 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5549099.34716797 eV vs -6.871e6 eV!
```

5. Calculated and tabulated Q values disagree.
   *Reaction # 4: n + W182_e4 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6004399.34716797 eV vs -7326300 eV!
```

6. Calculated and tabulated Q values disagree.
   *Reaction # 5: n + W182_e5 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6012999.34716797 eV vs -7334900 eV!
```

7. Calculated and tabulated Q values disagree.
   *Reaction # 6: n + W182_e6 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6089999.34716797 eV vs -7411900 eV!
```

8. Calculated and tabulated Q values disagree.
   *Reaction # 7: n + W182_e7 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6125999.34716797 eV vs -7447900 eV!
```

9. Calculated and tabulated Q values disagree.
   *Reaction # 8: n + W182_e8 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6157799.34716797 eV vs -7479700 eV!
```

10. Calculated and tabulated Q values disagree.
*Reaction # 9: n + W182_e9 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6199699.34716797 eV vs -7521600 eV!
```

11. Calculated and tabulated Q values disagree.
*Reaction # 10: n + W182_e10 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6242399.34716797 eV vs -7564300 eV!
```

12. Calculated and tabulated Q values disagree.
*Reaction # 11: n + W182_e11 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6311399.34716797 eV vs -7633300 eV!
```

13. Calculated and tabulated Q values disagree.
*Reaction # 12: n + W182_e12 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6356099.34716797 eV vs -7.678e6 eV!
```

14. Calculated and tabulated Q values disagree.
*Reaction # 13: n + W182_e13 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6378799.34716797 eV vs -7700700 eV!
```

15. Calculated and tabulated Q values disagree.
*Reaction # 14: n + W182_e14 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6421799.34716797 eV vs -7743700 eV!
```

16. Calculated and tabulated Q values disagree.
*Reaction # 15: n + W182_e15 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6489899.34716797 eV vs -7811800 eV!
```

17. Calculated and tabulated Q values disagree.
*Reaction # 16: n + W182_e16 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6492199.34716797 eV vs -7814100 eV!
```

18. Calculated and tabulated Q values disagree.
*Reaction # 17: n + W182_e17 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6528999.34716797 eV vs -7850900 eV!
```

19. Calculated and tabulated Q values disagree.
*Reaction # 18: n + W182_e18 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6580499.34716797 eV vs -7902400 eV!
```

20. Calculated and tabulated Q values disagree.
*Reaction # 19: n + W182_e19 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6625399.34716797 eV vs -7947300 eV!
```

21. Calculated and tabulated Q values disagree.
*Reaction # 20: n + W182_c (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -6625399.34716797 eV vs -7947300 eV!
```

22. Unnormalized outgoing probability distribution
*Reaction # 20: n + W182_c / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 3), integral = 0.99998441019
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 8), integral = 0.999985551655
WARNING: Unnormalized distribution! At energy_in = 2.1e7 eV (index 13), integral = 1.00002863602
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 14), integral = 0.999948615672
WARNING: Unnormalized distribution! At energy_in = 2.3e7 eV (index 15), integral = 1.00005506236
... [6 more lines]
```

23. Calculated and tabulated Q values disagree.
*Reaction # 21: n[multiplicity:'2'] + W181 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12933484.4968872 eV vs -1.4255e7 eV!
```

24. Unnormalized outgoing probability distribution
*Reaction # 21: n[multiplicity:'2'] + W181 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 2), integral = 1.00002750665
```

25. Calculated and tabulated Q values disagree.
*Reaction # 22: n[multiplicity:'3'] + W180 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -19614279.9147339 eV vs -2.0936e7 eV!
```

26. Unnormalized outgoing probability distribution
*Reaction # 22: n[multiplicity:'3'] + W180 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.7e7 eV (index 4), integral = 1.00002203785
```

27. Calculated and tabulated Q values disagree.
*Reaction # 23: n + H1 + Ta181 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11963455.4816284 eV vs -1.3286e7 eV!
```

28. Unnormalized outgoing probability distribution
*Reaction # 23: n + H1 + Ta181 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.8e7 eV (index 1), integral = 0.999985622925
WARNING: Unnormalized distribution! At energy_in = 2.1e7 eV (index 4), integral = 0.999982180952
WARNING: Unnormalized distribution! At energy_in = 2.6e7 eV (index 9), integral = 1.00001009353
WARNING: Unnormalized distribution! At energy_in = 2.9e7 eV (index 12), integral = 0.999985965564
```

29. Calculated and tabulated thresholds don't agree
*Reaction # 24: W183 + gamma / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

30. Calculated and tabulated Q values disagree.
*Reaction # 25: n + He4 + Hf178 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -3096770.58123779 eV vs -4419100 eV!
```

31. Calculated and tabulated Q values disagree.
*Reaction # 26: H1 + Ta182_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5900517.46072388 eV vs -7221800 eV!
```

32. Calculated and tabulated Q values disagree.
*Reaction # 27: H2 + Ta181_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -9738888.69628906 eV vs -1.1061e7 eV!
```

33. Calculated and tabulated Q values disagree.
*Reaction # 28: H3 + Ta180_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11058413.59375 eV vs -1.238e7 eV!
```

34. Calculated and tabulated Q values disagree.
*Reaction # 29: He3 + Hf180_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -10187618.6632385 eV vs -1.151e7 eV!
```

35. Calculated and tabulated thresholds don't agree
*Reaction # 30: He4 + Hf179_s / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

36. Calculated and tabulated Q values disagree.
*Reaction # 30: He4 + Hf179_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 3002222.79083252 eV vs 1681100 eV!
```

37. Calculated and tabulated thresholds don't agree
*Reaction # 31 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
*Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7.5e6 eV!
     ```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

     ```
     ERROR: Plot generation failed!!!

     Traceback (most recent call last):
       File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
         gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
     ... [2 more lines]
     ```

g-074_W_186.endf

- `fizcon` Errors:

  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

     ```
       ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
          PRESENCE OF FILE 3, MT=  50 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT=  51 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT=  52 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT=  53 REQUIRES AN EQUIVALENT SECTION IN FILE 6
     ... [18 more lines]
     ```

  2. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (2): Missing files (a)*

     ```
       ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
          PRESENCE OF FILE 3, MT= 102 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT= 103 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT= 104 REQUIRES AN EQUIVALENT SECTION IN FILE 6
          PRESENCE OF FILE 3, MT= 105 REQUIRES AN EQUIVALENT SECTION IN FILE 6
     ... [2 more lines]
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     *Reaction # 0: n + W185 (Error # 0): Q mismatch*

     ```
     WARNING: Calculated and tabulated Q-values disagree: -4303796.22976685 eV vs -7192800 eV!
     ```

  2. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
     *Reaction # 0: n + W185 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

3. Calculated and tabulated Q values disagree.
   *Reaction # 1: n + W185_e1 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4327396.22976685 eV vs -7216400 eV!
```

4. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
   *Reaction # 1: n + W185_e1 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

5. Calculated and tabulated Q values disagree.
   *Reaction # 2: n + W185_e2 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4369696.22976685 eV vs -7258700 eV!
```

6. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
   *Reaction # 2: n + W185_e2 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

7. Calculated and tabulated Q values disagree.
   *Reaction # 3: n + W185_e3 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4397096.22976685 eV vs -7286100 eV!
```

8. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
   *Reaction # 3: n + W185_e3 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

9. Calculated and tabulated Q values disagree.
   *Reaction # 4: n + W185_e4 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4477496.22976685 eV vs -7366500 eV!
```

10. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
    *Reaction # 4: n + W185_e4 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

11. Calculated and tabulated Q values disagree.
    *Reaction # 5: n + W185_e5 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4491696.22976685 eV vs -7380700 eV!
```

12. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
    *Reaction # 5: n + W185_e5 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

13. Calculated and tabulated Q values disagree.
*Reaction # 6: n + W185_e6 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4501196.22976685 eV vs -7390200 eV!
```

14. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 6: n + W185_e6 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

15. Calculated and tabulated Q values disagree.
*Reaction # 7: n + W185_e7 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4547496.22976685 eV vs -7436500 eV!
```

16. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 7: n + W185_e7 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

17. Calculated and tabulated Q values disagree.
*Reaction # 8: n + W185_e8 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4605796.22976685 eV vs -7494800 eV!
```

18. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 8: n + W185_e8 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

19. Calculated and tabulated Q values disagree.
*Reaction # 9: n + W185_e9 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4637796.22976685 eV vs -7526800 eV!
```

20. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 9: n + W185_e9 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

21. Calculated and tabulated Q values disagree.
*Reaction # 10: n + W185_e10 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4687796.22976685 eV vs -7576800 eV!
```

22. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 10: n + W185_e10 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

23. Calculated and tabulated Q values disagree.
*Reaction # 11: n + W185_e11 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4694796.22976685 eV vs -7583800 eV!
```

24. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 11: n + W185_e11 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

25. Calculated and tabulated Q values disagree.
*Reaction # 12: n + W185_e12 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4781796.22976685 eV vs -7670800 eV!
```

26. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 12: n + W185_e12 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

27. Calculated and tabulated Q values disagree.
*Reaction # 13: n + W185_e13 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4795796.22976685 eV vs -7684800 eV!
```

28. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 13: n + W185_e13 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

29. Calculated and tabulated Q values disagree.
*Reaction # 14: n + W185_e14 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4873796.22976685 eV vs -7762800 eV!
```

30. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 14: n + W185_e14 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

31. Calculated and tabulated Q values disagree.
*Reaction # 15: n + W185_e15 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -4967396.22976685 eV vs -7856400 eV!
```

32. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 15: n + W185_e15 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

33. Calculated and tabulated Q values disagree.
*Reaction # 16: n + W185_e16 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5009796.22976685 eV vs -7898800 eV!
```

34. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 16: n + W185_e16 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

35. Calculated and tabulated Q values disagree.
*Reaction # 17: n + W185_e17 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5019796.22976685 eV vs -7908800 eV!
```

36. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 17: n + W185_e17 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

37. Calculated and tabulated Q values disagree.
*Reaction # 18: n + W185_e18 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5033796.22976685 eV vs -7922800 eV!
```

38. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 18: n + W185_e18 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

39. Calculated and tabulated Q values disagree.
*Reaction # 19: n + W185_e19 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5072196.22976685 eV vs -7961200 eV!
```

40. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 19: n + W185_e19 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

41. Calculated and tabulated Q values disagree.
*Reaction # 20: n + W185_e20 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5077796.22976685 eV vs -7966800 eV!
```

42. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 20: n + W185_e20 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

43. Calculated and tabulated Q values disagree.
*Reaction # 21: n + W185_e21 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5089196.22976685 eV vs -7978200 eV!
```

44. Outgoing distributions are required for neutrons in the ENDF format (you do want to do neutronics, right?)
*Reaction # 21: n + W185_e21 / Product: n (Error # 0): Missing n dist.*

```
WARNING: Missing distribution (required for all 'n' products)!
```

45. Calculated and tabulated Q values disagree.
*Reaction # 22: n + W185_c (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5089196.22976685 eV vs -7978200 eV!
```

46. Unnormalized outgoing probability distribution
*Reaction # 22: n + W185_c / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 9), integral = 1.00001031556
WARNING: Unnormalized distribution! At energy_in = 2.3e7 eV (index 16), integral = 0.999989593475
WARNING: Unnormalized distribution! At energy_in = 2.4e7 eV (index 17), integral = 1.00007448114
WARNING: Unnormalized distribution! At energy_in = 2.5e7 eV (index 18), integral = 0.99998334023
WARNING: Unnormalized distribution! At energy_in = 2.6e7 eV (index 19), integral = 1.00007083459
... [3 more lines]
```

47. Calculated and tabulated Q values disagree.
*Reaction # 23: n[multiplicity:'2'] + W184 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -10057487.4468689 eV vs -1.2948e7 eV!
```

48. Unnormalized outgoing probability distribution
*Reaction # 23: n[multiplicity:'2'] + W184 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 2), integral = 1.0000115236
WARNING: Unnormalized distribution! At energy_in = 2.1e7 eV (index 9), integral = 1.00001783013
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 10), integral = 1.00001034759
```

49. Calculated and tabulated Q values disagree.
*Reaction # 24: n[multiplicity:'3'] + W183 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -17469088.6071472 eV vs -2.0359e7 eV!
```

50. Unnormalized outgoing probability distribution
*Reaction # 24: n[multiplicity:'3'] + W183 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.3e7 eV (index 2), integral = 1.00001244387
WARNING: Unnormalized distribution! At energy_in = 2.4e7 eV (index 3), integral = 1.00001109224
WARNING: Unnormalized distribution! At energy_in = 2.9e7 eV (index 8), integral = 0.999989461954
```

51. Calculated and tabulated Q values disagree.
*Reaction # 25: n + H1 + Ta184 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12141141.8400574 eV vs -1.503e7 eV!
```

52. Calculated and tabulated thresholds don't agree
*Reaction # 26: W186 + gamma / Cross section: (Error # 0): Threshold mismatch*

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

53. Calculated and tabulated Q values disagree.
*Reaction # 27: n + He4 + Hf181 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -2706503.42010498 eV vs -5594600 eV!
```

54. Unnormalized outgoing probability distribution
*Reaction # 27: n + He4 + Hf181 / Product: n / Distribution uncorrelated energy-Component - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 2.2e7 eV (index 6), integral = 1.00001077992
```

55. Calculated and tabulated Q values disagree.
*Reaction # 28: H1 + Ta185_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -5514950.62002563 eV vs -8.401e6 eV!
```

56. Calculated and tabulated Q values disagree.
*Reaction # 29: H2 + Ta184_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -9916575.05471802 eV vs -1.2806e7 eV!
```

57. Calculated and tabulated Q values disagree.
*Reaction # 30: H3 + Ta183_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -9275846.50970459 eV vs -1.2165e7 eV!
```

58. Calculated and tabulated Q values disagree.
*Reaction # 31: He3 + Hf183_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11267255.1494446 eV vs -1.4156e7 eV!
```

59. Calculated and tabulated thresholds don't agree
*Reaction # 32: He4 + Hf182_s / Cross section: (Error # 0): Threshold mismatch*

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

60. Calculated and tabulated Q values disagree.
*Reaction # 32: He4 + Hf182_s (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 4011494.94998169 eV vs 1122200 eV!
```

61. Calculated and tabulated thresholds don't agree
*Reaction # 33 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

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

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-079_Au_197.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8e6 eV!
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-082_Pb_206.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 8e6 eV!
```

  2. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
     *Reaction # 0: sumOfRemainingOutputChannels / Product: H1 / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.5e7 eV. Value=2.0, should be in range 0 ->
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-082_Pb_207.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 6.5e6 eV!
```

  2. The r(E) in Kalbach-Mann formulation is outside of allowed bounds
     *Reaction # 0: sumOfRemainingOutputChannels / Product: H1 / Distribution energyAngular - KalbachMann: (Error # 0): Kalbach goof*

```
WARNING: Invalid 'r' in KalbachMann distribution at incident energy 1.5e7 eV. Value=2.0, should be in range 0 ->
```

- `xsectplotter` Errors:
  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-082_Pb_208.endf

- `fudge-4.0` Errors:
  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7.5e6 eV!
```

  2. Unnormalized outgoing probability distribution
     *Reaction # 0: sumOfRemainingOutputChannels / Product: He4 / Distribution energyAngular - KalbachMann: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.05e7 eV (index 6), integral = 0.999980184404
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 7), integral = 0.999986909375
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 13), integral = 0.999979256728
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-083_Bi_209.endf

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *Reaction # 0: sumOfRemainingOutputChannels / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 7e6 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-090_Th_232.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9040, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9040, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9040, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
*MAT=9040, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
*MAT=9040, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
*MAT=9040, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9040, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9040, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9040, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9040, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9040, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9040, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9040, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9040, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
*MAT=9040, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9040, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9040, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9040, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9040, MF= 4, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9040, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9040, MF= 5, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

7. Missing a section/file
*MAT=9040, MF= 5, MT= 18 (3): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9040, MF= 5, MT= 18
   SECTION MAT= 9040   MF=  4   MT=   5   IS MISSING
   SECTION MAT= 9040   MF=  4   MT=  16   IS MISSING
   SECTION MAT= 9040   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9040   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

  1. Missing files (probably nubar)
     *MAT=9040, MF= 1, MT=456 (1): Missing files (b)*

     ```
     ERROR(S) FOUND IN MAT=9040, MF= 1, MT=456
        THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
     ```

  2. Missing files (probably nubar)
     *MAT=9040, MF= 1, MT=456 (2): Missing files (d)*

     ```
     ERROR(S) FOUND IN MAT=9040, MF= 1, MT=456
        BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
     ```

  3. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

     ```
     ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
        PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
        PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
        PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
     ```

- `fudge-4.0` Warnings:

  1. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
     *Reaction # 3 (summed reaction): nonelastic (Error # 0): Sumrule*

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 81.17%
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     *Reaction # 0: n[multiplicity:'2'] + Th230 (Error # 0): Q mismatch*

     ```
     WARNING: Calculated and tabulated Q-values disagree: -16009082.99014282 eV vs -1.1451e7 eV!
     ```

  2. Energy doesn't balance
     *Reaction # 0: n[multiplicity:'2'] + Th230 / Energy balance for products: n, Th230 (Error # 0): Energy balance*

     ```
     WARNING: Energy imbalance at incident energy 11459578.125 eV (index 1). Total deposited = 133.1% (n = 133.1%)
     WARNING: Energy imbalance at incident energy 11468156.25 eV (index 2). Total deposited = 132.9% (n = 132.9%)
     WARNING: Energy imbalance at incident energy 11476734.375 eV (index 3). Total deposited = 132.7% (n = 132.7%)
     WARNING: Energy imbalance at incident energy 11485312.5 eV (index 4). Total deposited = 132.4% (n = 132.4%)
     WARNING: Energy imbalance at incident energy 11493890.625 eV (index 5). Total deposited = 132.2% (n = 132.2%)
     ... [86 more lines]
     ```

  3. Calculated and tabulated thresholds don't agree
     *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.8e6 eV!
     ```

4. Calculated and tabulated Q values disagree.
   *Reaction # 2: sumOfRemainingOutputChannels (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 215198051066.1526 eV vs -6.364e6 eV!
```

5. Calculated and tabulated thresholds don't agree
   *Reaction # 3 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.8e6 eV!
```

g-092_U_233.endf

- `checkr` Warnings:

1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9222, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

2. A previous error halted parsing of the current section
   *MAT=9222, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9222, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
   *MAT=9222, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9222, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
   *MAT=9222, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9222, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9222, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9222, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9222, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9222, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9222, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9222, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9222, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
*MAT=9222, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9222, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9222, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9222, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9222, MF= 4, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9222, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9222, MF= 5, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

7. Missing a section/file
   *MAT=9222, MF= 5, MT= 18 (3): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9222, MF= 5, MT= 18
   SECTION MAT= 9222   MF=  4   MT=   5   IS MISSING
   SECTION MAT= 9222   MF=  4   MT=  16   IS MISSING
   SECTION MAT= 9222   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9222   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

1. Missing files (probably nubar)
   *MAT=9222, MF= 1, MT=456 (1): Missing files (b)*

```
ERROR(S) FOUND IN MAT=9222, MF= 1, MT=456
   THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
```

2. Missing files (probably nubar)
   *MAT=9222, MF= 1, MT=456 (2): Missing files (d)*

```
ERROR(S) FOUND IN MAT=9222, MF= 1, MT=456
   BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
```

3. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `psyche` Warnings:
  1. PSYCHE is concerned about non-existant nubar data
     *FILE 5 / SECTION 5 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

     ```
     FILE  5
        SECTION   5
            WARNING - NU-BAR DATA UNDEFINED
     ```
  2. PSYCHE is concerned about non-existant nubar data
     *FILE 5 / SECTION 16 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

     ```
     FILE  5
        SECTION  16
            WARNING - NU-BAR DATA UNDEFINED
     ```
  3. PSYCHE is concerned about non-existant nubar data
     *FILE 5 / SECTION 18 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

     ```
     FILE  5
        SECTION  18
            WARNING - NU-BAR DATA UNDEFINED
     ```

- `fudge-4.0` Errors:
  1. Calculated and tabulated Q values disagree.
     *Reaction # 0: n[multiplicity:'2'] + U231 (Error # 0): Q mismatch*

     ```
     WARNING: Calculated and tabulated Q-values disagree: -12760291.9259644 eV vs -1.301e7 eV!
     ```
  2. Energy doesn't balance
     *Reaction # 0: n[multiplicity:'2'] + U231 (Error # 1): Energy balance*

     ```
     WARNING: Energy imbalance at incident energy 1.5e7 eV (index 1). Total deposited = 106.3% (n = 106.3%)
     ```
  3. Calculated and tabulated thresholds don't agree
     *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Cross section: (Error # 0): Threshold mismatch*

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4.8e6 eV!
     ```
  4. Calculated and tabulated Q values disagree.
     *Reaction # 2: sumOfRemainingOutputChannels (Error # 0): Q mismatch*

     ```
     WARNING: Calculated and tabulated Q-values disagree: 217075369446.618 eV vs -5.743e6 eV!
     ```
  5. Negative multiplicity found
     *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Multiplicity: (Error # 0): Neg. mult.*

```
WARNING: Encountered negative multiplicity (0)!
```

6. Calculated and tabulated thresholds don't agree
   *Reaction # 3 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4.8e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-092_U_234.endf

- `checkr` Warnings:

1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9225, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

2. A previous error halted parsing of the current section
   *MAT=9225, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9225, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
   *MAT=9225, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9225, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
*MAT=9225, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9225, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9225, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9225, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9225, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9225, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9225, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9225, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9225, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
   *MAT=9225, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9225, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9225, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9225, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9225, MF= 4, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9225, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9225, MF= 5, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

7. Missing a section/file
   *MAT=9225, MF= 5, MT= 18 (3): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 18
   SECTION MAT= 9225   MF=  4   MT=   5   IS MISSING
   SECTION MAT= 9225   MF=  4   MT=  16   IS MISSING
   SECTION MAT= 9225   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9225   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

1. Missing files (probably nubar)
   *MAT=9225, MF= 1, MT=456 (1): Missing files (b)*

```
ERROR(S) FOUND IN MAT=9225, MF= 1, MT=456
   THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
```

2. Missing files (probably nubar)
   *MAT=9225, MF= 1, MT=456 (2): Missing files (d)*

```
ERROR(S) FOUND IN MAT=9225, MF= 1, MT=456
   BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
```

3. A level's energy is somehow off
   *MAT=9225, MF= 3, MT= 18 (1): Bad Elevel*

```
WARNING(S)     IN MAT=9225, MF= 3, MT= 18
   Q= 0.00000E+00 MIGHT BE UNREASONABLE            SEQUENCE NUMBER     1
```

4. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9225, MF= 5, MT= 5 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT=  5
   FOR LF=1 EPMAX FOUND TO BE 4.00000E+05 SHOULD BE 0.00000E+00
```

5. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9225, MF= 5, MT= 16 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9225, MF= 5, MT= 16
   FOR LF=1 EPMAX FOUND TO BE 4.00000E+05 SHOULD BE 0.00000E+00
```

6. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `psyche` Warnings:

1. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 5 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION   5
       WARNING - NU-BAR DATA UNDEFINED
```

2. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 16 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  16
       WARNING - NU-BAR DATA UNDEFINED
```

3. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 18 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  18
       WARNING - NU-BAR DATA UNDEFINED
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-092_U_235.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=458 (fission energy release) is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to energy release.
     *MAT=9228, MF= 1, MT=458 (0): En. Rel. OK*

```
ERROR(S) FOUND IN MAT=9228, MF= 1, MT=458
   MT= 458 FOR NSUB=     0 INVALID                 SEQUENCE NUMBER     1
```

  2. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9228, MF= 4, MT= 18 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9228, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  3. A previous error halted parsing of the current section
     *MAT=9228, MF= 4, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9228, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  4. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9228, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9228, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

  5. A previous error halted parsing of the current section
     *MAT=9228, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9228, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  6. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9228, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9228, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

7. A previous error halted parsing of the current section
   *MAT=9228, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9228, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9228, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9228, MF= 5, MT=455
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

2. Missing a section/file
   *MAT=9228, MF= 6, MT= 16 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9228, MF= 6, MT= 16
   SECTION MAT= 9228   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9228   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9228   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

1. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

1. Generic warning message
   *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```

## g-092_U_236.endf

- `checkr` Warnings:

1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
   *MAT=9231, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

2. A previous error halted parsing of the current section
*MAT=9231, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
*MAT=9231, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
*MAT=9231, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
*MAT=9231, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
*MAT=9231, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9231, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9231, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9231, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9231, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9231, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9231, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9231, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9231, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
*MAT=9231, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9231, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9231, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 16
   OUT OF SEQUENCE AT                              SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9231, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9231, MF= 4, MT= 18
   OUT OF SEQUENCE AT                              SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9231, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 16
   OUT OF SEQUENCE AT                              SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9231, MF= 5, MT= 18 (0): Directory (c)*

```
 ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 18
    OUT OF SEQUENCE AT                              SEQUENCE NUMBER     1
```

7. Missing a section/file
   *MAT=9231, MF= 5, MT= 18 (3): Missing data (b)*

```
 ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 18
    SECTION MAT= 9231   MF=  4   MT=   5   IS MISSING
    SECTION MAT= 9231   MF=  4   MT=  16   IS MISSING
    SECTION MAT= 9231   MF=  4   MT=  18   IS MISSING
    SECTION MAT= 9231   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

1. Missing files (probably nubar)
   *MAT=9231, MF= 1, MT=456 (1): Missing files (b)*

```
 ERROR(S) FOUND IN MAT=9231, MF= 1, MT=456
    THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
```

2. Missing files (probably nubar)
   *MAT=9231, MF= 1, MT=456 (2): Missing files (d)*

```
 ERROR(S) FOUND IN MAT=9231, MF= 1, MT=456
    BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
```

3. A level's energy is somehow off
   *MAT=9231, MF= 3, MT= 18 (1): Bad Elevel*

```
 WARNING(S)     IN MAT=9231, MF= 3, MT= 18
    Q= 0.00000E+00 MIGHT BE UNREASONABLE            SEQUENCE NUMBER     1
```

4. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9231, MF= 5, MT= 5 (1): Big Eout*

```
 ERROR(S) FOUND IN MAT=9231, MF= 5, MT=  5
    FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

5. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9231, MF= 5, MT= 16 (1): Big Eout*

```
 ERROR(S) FOUND IN MAT=9231, MF= 5, MT= 16
    FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

6. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
 ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
    PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
    PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `psyche` Warnings:

1. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 5 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION   5
       WARNING - NU-BAR DATA UNDEFINED
```

2. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 16 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  16
       WARNING - NU-BAR DATA UNDEFINED
```

3. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 18 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  18
       WARNING - NU-BAR DATA UNDEFINED
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
   *Reaction # 0: n[multiplicity:'2'] + U234 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11676903.557251 eV vs -1.1884e7 eV!
```

2. Unnormalized outgoing probability distribution
   *Reaction # 0: n[multiplicity:'2'] + U234 / Product: n / Distribution uncorrelated energyComponent - semiPiecewise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 1), integral = 0.999921632784
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 2), integral = 0.99990733479
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 3), integral = 0.999966121569
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 4), integral = 0.999980060903
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 5), integral = 0.999983007787
... [3 more lines]
```

3. Energy doesn't balance
   *Reaction # 0: n[multiplicity:'2'] + U234 (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 1.2e7 eV (index 1). Total deposited = 130.7% (n = 130.7%)
WARNING: Energy imbalance at incident energy 1.3e7 eV (index 2). Total deposited = 107.7% (n = 107.7%)
```

4. Calculated and tabulated thresholds don't agree
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5.9e6 eV!
```

5. Energy range of data set does not match cross section range
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Product: n / Multiplicity: (Error # 0): Domain mismatch (a)*

```
WARNING: Domain doesn't match the cross section domain: (5000000.0 -> 20000000.0) vs (5900000.0 -> 20000000.0)
```

6. Energy range of data set does not match cross section range
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Product: n / Distribution uncorrelated angularComponent - isotropic: (Error # 0): Domain mismatch (a)*

```
WARNING: Domain doesn't match the cross section domain: (5000000.0 -> 20000000.0) vs (5900000.0 -> 20000000.0)
```

7. Unnormalized outgoing probability distribution
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Product: n / Distribution uncorrelated energyComponent - semiPiecewise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 11), integral = 0.999988849317
WARNING: Unnormalized distribution! At energy_in = 1.7e7 eV (index 12), integral = 0.999987236423
WARNING: Unnormalized distribution! At energy_in = 1.8e7 eV (index 13), integral = 0.99998557218
WARNING: Unnormalized distribution! At energy_in = 2e7 eV (index 14), integral = 0.999983000117
```

8. Too much energy is going into n's and g's and not enough is left for the FF
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] (Error # 0): Bad Fis. En.*

```
WARNING: Fission energy imbalance at incident energy 6e6 eV (index 1). Total deposited = 75.37% (n = 75.37%), le
WARNING: Fission energy imbalance at incident energy 7e6 eV (index 2). Total deposited = 69.72% (n = 69.72%), le
WARNING: Fission energy imbalance at incident energy 8e6 eV (index 3). Total deposited = 65.6% (n = 65.6%), leav
WARNING: Fission energy imbalance at incident energy 9e6 eV (index 4). Total deposited = 62.5% (n = 62.5%), leav
WARNING: Fission energy imbalance at incident energy 1e7 eV (index 5). Total deposited = 60.11% (n = 60.11%), le
... [9 more lines]
```

9. Calculated and tabulated Q values disagree.
   *Reaction # 2: sumOfRemainingOutputChannels (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 219875275093.961 eV vs -6.546e6 eV!
```

10. Negative multiplicity found
    *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Multiplicity: (Error # 0): Neg. mult.*

```
WARNING: Encountered negative multiplicity (0)!
```

11. Unnormalized outgoing probability distribution
    *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Distribution uncorrelated energyComponent - semiPiecewise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 7e6 eV (index 1), integral = 0.99992035979
WARNING: Unnormalized distribution! At energy_in = 8e6 eV (index 2), integral = 0.999928868142
WARNING: Unnormalized distribution! At energy_in = 9e6 eV (index 3), integral = 0.999967086143
WARNING: Unnormalized distribution! At energy_in = 1e7 eV (index 4), integral = 0.999981976004
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 5), integral = 0.999985380381
... [8 more lines]
```

12. Calculated and tabulated thresholds don't agree
    *Reaction # 3 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 5.9e6 eV!
```

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-092_U_238.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9237, MF= 4, MT= 18 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9237, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9237, MF= 4, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9237, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  3. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9237, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9237, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

  4. A previous error halted parsing of the current section
     *MAT=9237, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9237, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  5. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9237, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9237, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

  6. A previous error halted parsing of the current section
     *MAT=9237, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9237, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

  1. Sections out of order in directory so your directory is messed up. This error will break everything else
     *MAT=9237, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9237, MF= 5, MT=455
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

  2. Missing a section/file
     *MAT=9237, MF= 6, MT= 17 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9237, MF= 6, MT= 17
   SECTION MAT= 9237   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9237   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9237   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

  1. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

  1. Generic warning message
     *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```

## g-093_Np_237.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9346, MF= 4, MT= 18 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9346, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9346, MF= 4, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9346, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9346, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9346, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
*MAT=9346, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9346, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9346, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9346, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
*MAT=9346, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9346, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Sections out of order in directory so your directory is messed up. This error will break everything else
*MAT=9346, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9346, MF= 5, MT=455
   OUT OF SEQUENCE AT                            SEQUENCE NUMBER     1
```

2. Missing a section/file
*MAT=9346, MF= 6, MT= 17 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9346, MF= 6, MT= 17
   SECTION MAT= 9346   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9346   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9346   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

1. Implied intermediate level energy should be something else
*MAT=9346, MF= 3, MT= 5 (1): Intermediate level*

```
ERROR(S) FOUND IN MAT=9346, MF= 3, MT=  5
   IMPLIED INTERMEDIATE LEVEL ENERGY SHOULD BE 0.0  SEQUENCE NUMBER     1
```

2. Missing files (probably spectra for outgoing particles)
*MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

  1. Generic warning message
     *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```

g-094_Pu_238.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9434, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9434, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9434, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  4. A previous error halted parsing of the current section
     *MAT=9434, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9434, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  6. A previous error halted parsing of the current section
     *MAT=9434, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9434, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9434, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9434, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9434, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9434, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9434, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9434, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9434, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
*MAT=9434, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9434, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9434, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9434, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9434, MF= 4, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9434, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9434, MF= 5, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

7. Missing a section/file
   *MAT=9434, MF= 5, MT= 18 (3): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 18
   SECTION MAT= 9434   MF=  4   MT=   5   IS MISSING
   SECTION MAT= 9434   MF=  4   MT=  16   IS MISSING
   SECTION MAT= 9434   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9434   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

1. Missing files (probably nubar)
   *MAT=9434, MF= 1, MT=456 (1): Missing files (b)*

```
ERROR(S) FOUND IN MAT=9434, MF= 1, MT=456
   THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
```

2. Missing files (probably nubar)
   *MAT=9434, MF= 1, MT=456 (2): Missing files (d)*

```
ERROR(S) FOUND IN MAT=9434, MF= 1, MT=456
   BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
```

3. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9434, MF= 5, MT= 5 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT=  5
   FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

4. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9434, MF= 5, MT= 16 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9434, MF= 5, MT= 16
   FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

5. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `psyche` Warnings:

1. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 5 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION   5
       WARNING - NU-BAR DATA UNDEFINED
```

2. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 16 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  16
       WARNING - NU-BAR DATA UNDEFINED
```

3. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 18 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  18
       WARNING - NU-BAR DATA UNDEFINED
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
   *Reaction # 0: n[multiplicity:'2'] + Pu236 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -12974494.6157837 eV vs -1.2861e7 eV!
```

2. Unnormalized outgoing probability distribution
   *Reaction # 0: n[multiplicity:'2'] + Pu236 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 1), integral = 0.999913912801
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 2), integral = 0.999922683146
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 3), integral = 0.999971031938
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 4), integral = 0.999987334312
WARNING: Unnormalized distribution! At energy_in = 1.7e7 eV (index 5), integral = 0.999984220574
... [1 more lines]
```

3. Energy doesn't balance
   *Reaction # 0: n[multiplicity:'2'] + Pu236 (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 1.3e7 eV (index 1). Total deposited = 130% (n = 130%)
WARNING: Energy imbalance at incident energy 1.4e7 eV (index 2). Total deposited = 108.1% (n = 108.1%)
```

4. Calculated and tabulated thresholds don't agree
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Cross section: (Error # 0): Threshold mismatch*

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

5. Unnormalized outgoing probability distribution
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Product: n / Distribution uncorrelated energyComponent - semiPiecewise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 7), integral = 0.999989095039
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 8), integral = 0.999987480868
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 9), integral = 0.999985700208
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 10), integral = 0.999983904304
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 11), integral = 0.999982080943
... [3 more lines]
```

6. Calculated and tabulated Q values disagree.
   *Reaction # 2: sumOfRemainingOutputChannels (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 221741722264.581 eV vs -6.997e6 eV!
```

7. Negative multiplicity found
   *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Multiplicity: (Error # 0): Neg. mult.*

```
WARNING: Encountered negative multiplicity (0)!
```

8. Unnormalized outgoing probability distribution
   *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Distribution uncorrelated energyComponent - semiPiecewise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 7e6 eV (index 1), integral = 0.999970379851
WARNING: Unnormalized distribution! At energy_in = 8e6 eV (index 2), integral = 0.999915348865
WARNING: Unnormalized distribution! At energy_in = 9e6 eV (index 3), integral = 0.999968670671
WARNING: Unnormalized distribution! At energy_in = 1e7 eV (index 4), integral = 0.999980334109
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 5), integral = 0.999977863863
... [8 more lines]
```

9. Calculated and tabulated thresholds don't agree
   *Reaction # 3 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

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

- `xsectplotter` Errors:

  1. Generic error message
     *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

g-094_Pu_239.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9437, MF= 4, MT= 18 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9437, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9437, MF= 4, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9437, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  3. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9437, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

  4. A previous error halted parsing of the current section
     *MAT=9437, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  5. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
     *MAT=9437, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

  6. A previous error halted parsing of the current section
     *MAT=9437, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

  1. Sections out of order in directory so your directory is messed up. This error will break everything else
     *MAT=9437, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT=455
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

  2. Missing a section/file
     *MAT=9437, MF= 6, MT= 17 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9437, MF= 6, MT= 17
   SECTION MAT= 9437   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9437   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9437   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

  1. The cross section and an outgoing distribution don't span the same energy region.
     *MAT=9437, MF= 5, MT= 18 (1): Diff limits (a)*

```
ERROR(S) FOUND IN MAT=9437, MF= 5, MT= 18
   SECTION DOES NOT SPAN THE SAME ENERGY RANGE AS FILE   3, MT=  18
```

  2. Missing files (probably spectra for outgoing particles)
     *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

  1. Generic warning message
     *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```

## g-094_Pu_240.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9440, MF= 4, MT= 18 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9440, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

2. A previous error halted parsing of the current section
   *MAT=9440, MF= 4, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9440, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
   *MAT=9440, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9440, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
   *MAT=9440, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9440, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

5. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
   *MAT=9440, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9440, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

6. A previous error halted parsing of the current section
   *MAT=9440, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9440, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9440, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9440, MF= 5, MT=455
   OUT OF SEQUENCE AT                              SEQUENCE NUMBER     1
```

2. Missing a section/file
   *MAT=9440, MF= 6, MT= 17 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9440, MF= 6, MT= 17
   SECTION MAT= 9440   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9440   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9440   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

1. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

  1. Generic warning message
     *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```

g-094_Pu_241.endf

- `checkr` Warnings:

  1. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9443, MF= 4, MT= 5 (0): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT=  5
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  2. A previous error halted parsing of the current section
     *MAT=9443, MF= 4, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  3. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9443, MF= 4, MT= 16 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 16
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  4. A previous error halted parsing of the current section
     *MAT=9443, MF= 4, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

  5. Although the ENDF manual says MT=18/MF=4 is allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons
     *MAT=9443, MF= 4, MT= 18 (1): Ang. dist. OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 18
   FILE  4 ALLOWED ONLY IN A NEUTRON DATA SUBLIBRARYSEQUENCE NUMBER     1
```

  6. A previous error halted parsing of the current section
     *MAT=9443, MF= 4, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

7. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9443, MF= 5, MT= 5 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT=  5
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

8. A previous error halted parsing of the current section
*MAT=9443, MF= 5, MT= 5 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT=  5
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

9. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9443, MF= 5, MT= 16 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 16
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

10. A previous error halted parsing of the current section
*MAT=9443, MF= 5, MT= 16 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 16
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

11. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
*MAT=9443, MF= 5, MT= 18 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

12. A previous error halted parsing of the current section
*MAT=9443, MF= 5, MT= 18 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Missing a section/file
*MAT=9443, MF= 1, MT=456 (0): Missing data (a)*

```
ERROR(S) FOUND IN MAT=9443, MF= 1, MT=456
   THIS SECTION REQUIRES THE PRESENCE OF SECTION  1/SEQUENCE NUMBER     1
```

2. Missing nubar_total or LFI flag is set wrong
*MAT=9443, MF= 1, MT=456 (1): No nubar_tot*

```
ERROR(S) FOUND IN MAT=9443, MF= 1, MT=456
   LFI INCORRECT OR NUBAR-TOTAL MISSING   PRECEDING SEQUENCE NUMBER     1
```

3. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9443, MF= 4, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

4. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9443, MF= 4, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9443, MF= 4, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

5. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9443, MF= 5, MT= 16 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 16
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

6. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9443, MF= 5, MT= 18 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 18
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

7. Missing a section/file
   *MAT=9443, MF= 5, MT= 18 (3): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 18
   SECTION MAT= 9443   MF=  4   MT=   5   IS MISSING
   SECTION MAT= 9443   MF=  4   MT=  16   IS MISSING
   SECTION MAT= 9443   MF=  4   MT=  18   IS MISSING
   SECTION MAT= 9443   MF=  5   MT=   5   IS MISSING
... [2 more lines]
```

- `fizcon` Errors:

1. Missing files (probably nubar)
   *MAT=9443, MF= 1, MT=456 (1): Missing files (b)*

```
ERROR(S) FOUND IN MAT=9443, MF= 1, MT=456
   THIS SECTION REQUIRES THAT MISSING FILE  1, MT= 452  BE PRESENT
```

2. Missing files (probably nubar)
   *MAT=9443, MF= 1, MT=456 (2): Missing files (d)*

```
ERROR(S) FOUND IN MAT=9443, MF= 1, MT=456
   BOTH SECTIONS MF=1, MT=455 AND MT=456 MUST BE PRESENT
```

3. A level's energy is somehow off
   *MAT=9443, MF= 3, MT= 18 (1): Bad Elevel*

```
WARNING(S)     IN MAT=9443, MF= 3, MT= 18
   Q= 0.00000E+00 MIGHT BE UNREASONABLE             SEQUENCE NUMBER     1
```

4. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9443, MF= 5, MT= 5 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT=  5
   FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

5. Outgoing energy E' not energetically allow: E' .le. E-Q.
   *MAT=9443, MF= 5, MT= 16 (1): Big Eout*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 16
   FOR LF=1 EPMAX FOUND TO BE 4.00000E-05 SHOULD BE 0.00000E+00
```

6. The cross section and an outgoing distribution don't span the same energy region.
   *MAT=9443, MF= 5, MT= 18 (1): Diff limits (a)*

```
ERROR(S) FOUND IN MAT=9443, MF= 5, MT= 18
   SECTION DOES NOT SPAN THE SAME ENERGY RANGE AS FILE   3, MT=  18
```

7. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=   5 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  16 REQUIRES AN EQUIVALENT SECTION IN FILE 6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `psyche` Warnings:

1. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 5 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION   5
      WARNING - NU-BAR DATA UNDEFINED
```

2. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 16 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  16
      WARNING - NU-BAR DATA UNDEFINED
```

3. PSYCHE is concerned about non-existant nubar data
   *FILE 5 / SECTION 18 / WARNING - NU-BAR DATA UNDEFINED (0): Nubar... huh?*

```
FILE  5
   SECTION  18
      WARNING - NU-BAR DATA UNDEFINED
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
   *Reaction # 0: n[multiplicity:'2'] + Pu239 (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: -11829660.8068237 eV vs -1.1774e7 eV!
```

2. Unnormalized outgoing probability distribution
   *Reaction # 0: n[multiplicity:'2'] + Pu239 / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 1), integral = 0.999920814353
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 2), integral = 0.999914580519
WARNING: Unnormalized distribution! At energy_in = 1.4e7 eV (index 3), integral = 0.999969212085
WARNING: Unnormalized distribution! At energy_in = 1.5e7 eV (index 4), integral = 0.99998016034
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 5), integral = 0.999981716644
... [3 more lines]
```

3. Energy doesn't balance
   *Reaction # 0: n[multiplicity:'2'] + Pu239 (Error # 1): Energy balance*

```
WARNING: Energy imbalance at incident energy 1.2e7 eV (index 1). Total deposited = 128.3% (n = 128.3%)
WARNING: Energy imbalance at incident energy 1.3e7 eV (index 2). Total deposited = 106.1% (n = 106.1%)
```

4. Calculated and tabulated thresholds don't agree
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

5. Energy range of data set does not match cross section range
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] / Product: n / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Domain mismatch (a)*

```
WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4000000.0 -> 20000000.0)
```

6. Too much energy is going into n's and g's and not enough is left for the FF
   *Reaction # 1: n[multiplicity:'energyDependent', emissionMode:'prompt'] [total fission] (Error # 0): Bad Fis. En.*

```
WARNING: Fission energy imbalance at incident energy 7e6 eV (index 2). Total deposited = 81.64% (n = 81.64%), le
WARNING: Fission energy imbalance at incident energy 8e6 eV (index 3). Total deposited = 75.54% (n = 75.54%), le
WARNING: Fission energy imbalance at incident energy 9e6 eV (index 4). Total deposited = 70.81% (n = 70.81%), le
WARNING: Fission energy imbalance at incident energy 1e7 eV (index 5). Total deposited = 67.05% (n = 67.05%), le
WARNING: Fission energy imbalance at incident energy 1.1e7 eV (index 6). Total deposited = 65.08% (n = 65.08%),
... [8 more lines]
```

7. Calculated and tabulated Q values disagree.
   *Reaction # 2: sumOfRemainingOutputChannels (Error # 0): Q mismatch*

```
WARNING: Calculated and tabulated Q-values disagree: 224543037260.405 eV vs -5240600 eV!
```

8. Negative multiplicity found
   *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Multiplicity: (Error # 0): Neg. mult.*

```
WARNING: Encountered negative multiplicity (0)!
```

9. Unnormalized outgoing probability distribution
   *Reaction # 2: sumOfRemainingOutputChannels / Product: He4 / Distribution uncorrelated energyComponent - pointwise: (Error # 0): Bad norm*

```
WARNING: Unnormalized distribution! At energy_in = 6e6 eV (index 1), integral = 0.999917682491
WARNING: Unnormalized distribution! At energy_in = 7e6 eV (index 2), integral = 0.999976069411
WARNING: Unnormalized distribution! At energy_in = 8e6 eV (index 3), integral = 0.999987287619
WARNING: Unnormalized distribution! At energy_in = 9e6 eV (index 4), integral = 0.999979448555
WARNING: Unnormalized distribution! At energy_in = 1e7 eV (index 5), integral = 0.99997776765
... [9 more lines]
```

10. Calculated and tabulated thresholds don't agree
    *Reaction # 3 (summed reaction): nonelastic / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1e-5 eV vs 4e6 eV!
```

- `xsectplotter` Errors:

1. Generic error message
   *Error: Error*

```
ERROR: Plot generation failed!!!

Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
    gndMap[endf] = [ results['reactionSuite'], results['covarianceSuite'] ]
... [2 more lines]
```

## g-095_Am_241.endf

- `checkr` Warnings:

1. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
   *MAT=9543, MF= 5, MT= 18 (0): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9543, MF= 5, MT= 18
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

2. A previous error halted parsing of the current section
   *MAT=9543, MF= 5, MT= 18 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9543, MF= 5, MT= 18
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

3. Although the ENDF manual says MT=18/MF=5 (PFNS) and MT=455 (nubar) are allowed only for the neutron sublibrary, this is too restrictive as all fission events lead to emitted neutrons.
   *MAT=9543, MF= 5, MT=455 (1): PFNS, nubar OK*

```
ERROR(S) FOUND IN MAT=9543, MF= 5, MT=455
   FILE  5 NOT ALLOWED FOR NSUB =     0             SEQUENCE NUMBER     1
```

4. A previous error halted parsing of the current section
   *MAT=9543, MF= 5, MT=455 (2): Parsing stopped*

```
ERROR(S) FOUND IN MAT=9543, MF= 5, MT=455
   SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER        1 TO   99999
```

- `checkr` Errors:

1. Sections out of order in directory so your directory is messed up. This error will break everything else
   *MAT=9543, MF= 5, MT=455 (0): Directory (c)*

```
ERROR(S) FOUND IN MAT=9543, MF= 5, MT=455
   OUT OF SEQUENCE AT                                SEQUENCE NUMBER     1
```

2. Missing a section/file
   *MAT=9543, MF= 6, MT= 16 (0): Missing data (b)*

```
ERROR(S) FOUND IN MAT=9543, MF= 6, MT= 16
   SECTION MAT= 9543   MF=  5   MT=  18   IS MISSING
   SECTION MAT= 9543   MF=  5   MT= 455   IS MISSING
```

- `fizcon` Errors:

1. Implied intermediate level energy should be something else
   *MAT=9543, MF= 3, MT= 5 (1): Intermediate level*

```
ERROR(S) FOUND IN MAT=9543, MF= 3, MT=  5
   IMPLIED INTERMEDIATE LEVEL ENERGY SHOULD BE 0.0  SEQUENCE NUMBER     1
```

2. Missing files (probably spectra for outgoing particles)
   *MAT -1 MF 6 (1): Missing files (a)*

```
ERROR(S) - MISSING SECTIONS IN MAT   -1 MF  6
   PRESENCE OF FILE 3, MT=  18 REQUIRES AN EQUIVALENT SECTION IN FILE 6
```

- `xsectplotter` Warnings:

1. Generic warning message
   *Error: Warning*

```
ERROR: Plot generation failed!!!

      WARNING: have prompt fission nu_bar so not including total
Traceback (most recent call last):
  File "/Users/davidbrown/Projects/Current/advance.trunk/project_endf/code_runners/xsectplotter/pltUtil.py", lin
... [3 more lines]
```