Release notes for ENDF/B Development p-013_Al_027 evaluation

December 2, 2016

- `checkr` Warnings:
  1. A previous error halted parsing of the current section
     MAT=1325, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      208 TO     213
     ```

- `checkr` Errors:
  1. A variable is outside the allowed ENDF range
     MAT=1325, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 1, MT=451
        MOD =     1 OUT OF RANGE     0 -     0           RECORD NUMBER     208
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1325, MF= 3, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 3, MT=  2
        SECTION  3/  2 NOT IN DIRECTORY                 RECORD NUMBER     215
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1325, MF= 3, MT= 5 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 3, MT=  5
        SECTION  3/  5 NOT IN DIRECTORY                 RECORD NUMBER     244
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1325, MF= 6, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 6, MT=  2
        SECTION  6/  2 NOT IN DIRECTORY                 RECORD NUMBER     309
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1325, MF= 6, MT= 5 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 6, MT=  5
        SECTION  6/  5 NOT IN DIRECTORY                 RECORD NUMBER    1278
     ```

- `fizcon` Errors:
  1. The mass field (AWI) is incorrectly set.
     MAT=1325, MF= 1, MT=451 (1): Bad mass

     ```
     ERROR(S) FOUND IN MAT=1325, MF= 1, MT=451
         AWI SHOULD BE SET TO  9.98623E-01
     ```

  2. All probability distributions should be normalized to 1, this one isn't.
     MAT=1325, MF= 6, MT= 2 (1): Bad norm (a)

```
ERROR(S) FOUND IN MAT=1325, MF= 6, MT=  2
   CHECK NORMALIZATION=   1.000542 AT E= 4.5000E+06
```

- `linear` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
  Linearize ENDF/B Cross Sections (LINEAR 2015-1)
  ------------------------------------------------------------------------------
  Retrieval Criteria-----------        MAT
  Monitor Mode-----------------        Off
  Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [42 more lines]
```

- `fudge-4.0` Warnings:

  1. First cross section point not zero right at threshold
     reaction label 1: sumOfRemainingOutputChannels / Cross section: (Error # 0): nonZero_crossSection_at_thres

```
WARNING: First cross section point for threshold reaction should be 0, not 0.01352487
```