Release notes for ENDF/B Development n-041_Nb_093 evaluation

April 26, 2017

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=4125, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      307 TO   99999
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=4125, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 1, MT=451
        MOD =     3 OUT OF RANGE     0 -     1           SEQUENCE NUMBER   307
     ```

  2. Generic error message
     MAT=4125, MF= 2, MT=151 (0): Error

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 2, MT=151
        AWR SHOULD BE SET TO  9.210510E+01               SEQUENCE NUMBER     1
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4125, MF= 2, MT=151 (1): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 2, MT=151
        SECTION  2/151 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4125, MF= 3, MT= 1 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 3, MT=  1
        SECTION  3/  1 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4125, MF= 3, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 3, MT=  2
        SECTION  3/  2 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4125, MF= 3, MT= 4 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=4125, MF= 3, MT=  4
        SECTION  3/  4 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=4125, MF= 3, MT= 5 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=  5
   SECTION  3/  5 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4125, MF= 3, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 16
   SECTION  3/ 16 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4125, MF= 3, MT= 17 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 17
   SECTION  3/ 17 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 22
   SECTION  3/ 22 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 28
   SECTION  3/ 28 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 32 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 32
   SECTION  3/ 32 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 33 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 33
   SECTION  3/ 33 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 51
   SECTION  3/ 51 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 52
   SECTION  3/ 52 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 53
   SECTION  3/ 53 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 54
   SECTION  3/ 54 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 55
   SECTION  3/ 55 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 56
   SECTION  3/ 56 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 57
   SECTION  3/ 57 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 58
   SECTION  3/ 58 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 59
   SECTION  3/ 59 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4125, MF= 3, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 60
   SECTION  3/ 60 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 61 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 61
   SECTION  3/ 61 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 62 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 62
   SECTION  3/ 62 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 63 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 63
   SECTION  3/ 63 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 64 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 64
   SECTION  3/ 64 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 65 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 65
   SECTION  3/ 65 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 66 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 66
   SECTION  3/ 66 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 67 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 67
   SECTION  3/ 67 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 68 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 68
   SECTION  3/ 68 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 69 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 69
   SECTION  3/ 69 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 70 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 70
   SECTION  3/ 70 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 71 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 71
   SECTION  3/ 71 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 72 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 72
   SECTION  3/ 72 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 73 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 73
   SECTION  3/ 73 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT= 91
   SECTION  3/ 91 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=102
   SECTION  3/102 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=103
   SECTION  3/103 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT=104 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=104
   SECTION  3/104 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT=105 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=105
   SECTION  3/105 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 3, MT=107 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 3, MT=107
   SECTION  3/107 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 2 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT=  2
   SECTION  4/  2 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 16
   SECTION  4/ 16 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 17 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 17
   SECTION  4/ 17 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 22
   SECTION  4/ 22 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 28
   SECTION  4/ 28 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 32 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 32
   SECTION  4/ 32 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

49. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 33 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 33
   SECTION  4/ 33 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 51
   SECTION  4/ 51 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

51. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 52
   SECTION  4/ 52 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 53
   SECTION  4/ 53 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

53. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 54
   SECTION  4/ 54 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 55
   SECTION  4/ 55 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 56
   SECTION  4/ 56 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 57
   SECTION  4/ 57 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 58
   SECTION  4/ 58 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 59
   SECTION  4/ 59 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 60
   SECTION  4/ 60 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 61 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 61
   SECTION  4/ 61 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 62 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 62
   SECTION  4/ 62 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 63 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 63
   SECTION  4/ 63 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 64 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 64
   SECTION  4/ 64 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 65 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 65
   SECTION  4/ 65 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 66 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 66
   SECTION  4/ 66 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 67 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 67
   SECTION  4/ 67 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 68 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 68
   SECTION  4/ 68 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 69 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 69
   SECTION  4/ 69 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 70 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 70
   SECTION  4/ 70 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

70. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 71 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 71
   SECTION  4/ 71 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

71. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 72 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 72
   SECTION  4/ 72 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

72. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 73 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 73
   SECTION  4/ 73 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

73. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 4, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 4, MT= 91
   SECTION  4/ 91 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

74. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 16
   SECTION  5/ 16 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

75. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 17 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 17
   SECTION  5/ 17 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

76. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 22
   SECTION  5/ 22 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

77. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 28
   SECTION  5/ 28 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

78. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 32 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 32
   SECTION  5/ 32 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

79. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 33 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 33
   SECTION  5/ 33 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

80. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 5, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 91
   SECTION  5/ 91 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

81. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 6, MT= 5 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 6, MT=  5
   SECTION  6/  5 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

82. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF= 8, MT= 4 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 8, MT=  4
   SECTION  8/  4 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

83. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=10, MT= 4 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=10, MT=  4
   SECTION 10/  4 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

84. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=12, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=12, MT=102
   SECTION 12/102 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

85. Missing a gamma spectrum for continuum of gammas
MAT=4125, MF=12, MT=102 (1): No gamma spectrum

```
ERROR(S) FOUND IN MAT=4125, MF=12, MT=102
   CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

86. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=13, MT= 3 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=13, MT=  3
   SECTION 13/  3 NOT IN DIRECTORY                 SEQUENCE NUMBER     1
```

87. Missing a gamma spectrum for continuum of gammas
MAT=4125, MF=13, MT= 3 (1): No gamma spectrum

```
ERROR(S) FOUND IN MAT=4125, MF=13, MT=  3
   CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

88. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=14, MT= 3 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=14, MT=  3
   SECTION 14/  3 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

89. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=14, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=14, MT=102
   SECTION 14/102 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

90. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=15, MT= 3 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=15, MT=  3
   SECTION 15/  3 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

91. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=15, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=15, MT=102
   SECTION 15/102 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

92. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4125, MF=40, MT= 4 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4125, MF=40, MT=  4
   SECTION 40/  4 NOT IN DIRECTORY                  SEQUENCE NUMBER     1
```

- `fizcon` Errors:

1. All probability distributions should be normalized to 1, this one isn't.
MAT=4125, MF= 5, MT= 32 (1): Bad norm (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 32
   NORMALIZATION CHECK INTEGRAL= 9.82505E-01 BEFORE SEQUENCE NUMBER    25
```

2. All probability distributions should be normalized to 1, this one isn't.
MAT=4125, MF= 5, MT= 33 (1): Bad norm (b)

```
ERROR(S) FOUND IN MAT=4125, MF= 5, MT= 33
   NORMALIZATION CHECK INTEGRAL= 9.87893E-01 BEFORE SEQUENCE NUMBER    25
```

3. Data for a reaction started at a minimum Ein that is incorrect, based upon reaction's Q value.
MAT=4125, MF=10, MT= 4 (1): Bad Ein (a)

```
ERROR(S) FOUND IN MAT=4125, MF=10, MT=  4
   THE MINIMUM INCIDENT ENERGY OF  3.11500E+04(EV)
       SHOULD BE  3.10636E+04(EV) FOR Q= -3.07300E+04(EV)
```

4. Outgoing ZA is wrong
   MAT=4125, MF=40, MT= 4 (1): Bad ZA (b)

```
ERROR(S) FOUND IN MAT=4125, MF=40, MT=  4
   IZAP       0 NOT IN RANGE    3000 TO  120000     SEQUENCE NUMBER     2
```

- `psyche` Warnings:

  1. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 93. L = 0 / AT RESONANCE ENERGY 3.41100E+03 EV. THE GAMMA WIDTH 5.83200E-02 DEVIATES TOO MUCH FROM THE AVERAGE 1.83711E-01 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  93. L =  0
                 AT RESONANCE ENERGY  3.41100E+03 EV. THE GAMMA WIDTH  5.83200E-02 DEVIATES TOO MUCH FROM THE AV
```

  2. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 93. L = 0 / AT RESONANCE ENERGY 6.22700E+03 EV. THE GAMMA WIDTH 5.42000E-02 DEVIATES TOO MUCH FROM THE AVERAGE 1.83711E-01 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  93. L =  0
                 AT RESONANCE ENERGY  6.22700E+03 EV. THE GAMMA WIDTH  5.42000E-02 DEVIATES TOO MUCH FROM THE AV
```

  3. Non-threshold reaction with Q value differing from PSYCHE's expectations
     FILE 3 / SECTION 103 / THE CALCULATED Q 7.48604E+05 DISSAGREES WITH THE GIVEN Q 6.93000E+05 (0): Iffy Q

```
FILE  3
   SECTION 103
            THE CALCULATED Q  7.48604E+05 DISSAGREES WITH THE GIVEN Q  6.93000E+05
```

- `recent` Warnings:

  1. Statistical weight of certain L values were incorrect
     0: RRR goof (a)

```
 Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
 ==========================================================================
 Retrieval Criteria-----------        MAT
 File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)
 Reactions with No Background-     Output (Resonance Contribution)
... [905 more lines]
```

- `fudge-4.0` Warnings:

  1. Missing a channel with a particular angular momenta combination
     resonances / resolved (Error # 1): missingResonanceChannel

```
WARNING: Missing a channel with angular momenta combination L = 0, J = 3.0 and S = 3.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 3.0 and S = 3.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 4.0 and S = 3.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 4.0 and S = 4.0 for "capture"
        ... plus 1 more instances of this message
```

2. Unnormalized outgoing probability distribution
   reaction label 28: n + H2 + Zr91 / Product: n / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.259e7 eV (index 0), integral = 0.9825046939905849
```

3. Unnormalized outgoing probability distribution
   reaction label 29: n + H3 + Zr90 / Product: n / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.348e7 eV (index 0), integral = 0.9878929919911301
```

4. Cross section does not match sum of linked reaction cross sections
   crossSectionSum label 1: nonelastic (Error # 0): CS Sum.

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 1.35%
```

- `fudge-4.0` Errors:

1. The spin statistical weights are off, indicating missing channels
   resonances / resolved / MultiLevel_BreitWigner (Error # 0): badSpinStatisticalWeights

```
WARNING: The spin statical weights for L=1 sums to 2.0, but should sum to 3.0.  You have too few channels for re
```

2. Calculated and tabulated Q values disagree.
   reaction label 25: n[multiplicity:'2'] + Nb92 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -11631819.21150208 eV vs -8.833e6 eV!
```

3. Calculated and tabulated Q values disagree.
   reaction label 26: n[multiplicity:'3'] + Nb91 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -19702685.69184875 eV vs -1.6715e7 eV!
```

4. Calculated and tabulated Q values disagree.
   reaction label 27: n + H1 + Zr92 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -8976469.142288208 eV vs -6.042e6 eV!
```

5. Calculated and tabulated Q values disagree.
   reaction label 28: n + H2 + Zr91 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -15760131.02679443 eV vs -1.246e7 eV!
```

6. Calculated and tabulated Q values disagree.
   reaction label 29: n + H3 + Zr90 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -16643322.03157043 eV vs -1.334e7 eV!
```

7. Calculated and tabulated Q values disagree.
   reaction label 30: Nb94 + gamma (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: 4251300.140167236 eV vs 7.214e6 eV!
   ```

8. Calculated and tabulated Q values disagree.
   reaction label 31: n + He4 + Y89 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -5052658.390106201 eV vs -1.938e6 eV!
   ```

9. Calculated and tabulated Q values disagree.
   reaction label 32: H1 + Zr93_s (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -1835772.372711182 eV vs 6.93e5 eV!
   ```

10. Calculated and tabulated Q values disagree.
    reaction label 33: H2 + Zr92_s (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -6759094.835693359 eV vs -3.817e6 eV!
    ```

11. Calculated and tabulated Q values disagree.
    reaction label 34: H3 + Zr91_s (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -9502625.261978149 eV vs -6.195e6 eV!
    ```

12. Calculated and tabulated Q values disagree.
    reaction label 35: He4 + Y90_s (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 2088038.379455566 eV vs 4.918e6 eV!
    ```

13. Energy range of data set does not match cross section range
    production label 37: /reactionSuite/reactions/production[@label='37'] / Product: gamma / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (29310.0 -> 150000000.0) vs (1e-05 -> 150000000.0)
    ```

14. Energy range of data set does not match cross section range
    production label 37: /reactionSuite/reactions/production[@label='37'] / Product: gamma / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (29310.0 -> 150000000.0) vs (1e-05 -> 150000000.0)
    ```

- `njoy2012` Warnings:

  1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

     ```
     ---message from conver---cannot do complete particle production for mt= 16
                              only mf4/mf5 provided
     ```

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 17
                         only mf4/mf5 provided
```

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 22
                         only mf4/mf5 provided
```

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 28
                         only mf4/mf5 provided
```

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 32
                         only mf4/mf5 provided
```

6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (5): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 33
                         only mf4/mf5 provided
```

7. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (6): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 91
                         only mf4/mf5 provided
```

8. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (0): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 9.786342E-12 with q.lt.0 for (n,x) at e  1.000000E-11 -> 1.000000E-11
```

9. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (1): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

10. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (2): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

11. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (3): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.957268E+01 with q.lt.0 for (n,x) at e  2.000001E+01 -> 2.000001E+01
```

12. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (4): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

13. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (5): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

14. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (6): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.348721E+01 with q.lt.0 for (n,x) at e  2.400000E+01 -> 2.349492E+01
```

15. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (7): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

16. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (8): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

17. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (9): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.544448E+01 with q.lt.0 for (n,x) at e  2.600000E+01 -> 2.547344E+01
```

18. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (10): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

19. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (11): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

20. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (12): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.740175E+01 with q.lt.0 for (n,x) at e  2.800000E+01 -> 2.745196E+01
```

21. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (13): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

22. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (14): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

23. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (15): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.935902E+01 with q.lt.0 for (n,x) at e  3.000000E+01 -> 2.943048E+01
```

24. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (16): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

25. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (17): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

26. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (18): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 3.425219E+01 with q.lt.0 for (n,x) at e  3.500000E+01 -> 3.437678E+01
```

27. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (19): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

28. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (20): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

29. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (21): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 3.914536E+01 with q.lt.0 for (n,x) at e  4.000000E+01 -> 3.932308E+01
```

30. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (22): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

31. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (23): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

32. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (24): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 4.403853E+01 with q.lt.0 for (n,x) at e  4.500000E+01 -> 4.426938E+01
```

33. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (25): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

34. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (26): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

35. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (27): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 4.893170E+01 with q.lt.0 for (n,x) at e  5.000000E+01 -> 4.921568E+01
```

36. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (28): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

37. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (29): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

38. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (30): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 5.382487E+01 with q.lt.0 for (n,x) at e  5.500000E+01 -> 5.416197E+01
```

39. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (31): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

40. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (32): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

41. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (33): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 5.871805E+01 with q.lt.0 for (n,x) at e  6.000000E+01 -> 5.910827E+01
```

42. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (34): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

43. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (35): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

44. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (36): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 6.361122E+01 with q.lt.0 for (n,x) at e  6.500000E+01 -> 6.405457E+01
```

45. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (37): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

46. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (38): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

47. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (39): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 6.850439E+01 with q.lt.0 for (n,x) at e  7.000000E+01 -> 6.875356E+01
```

48. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (40): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

49. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (41): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

50. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (42): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 7.339756E+01 with q.lt.0 for (n,x) at e  7.500000E+01 -> 7.369986E+01
```

51. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (43): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

52. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (44): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

53. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (45): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 7.829073E+01 with q.lt.0 for (n,x) at e  8.000000E+01 -> 7.864616E+01
```

54. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (46): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

55. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (47): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

56. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (48): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 8.318390E+01 with q.lt.0 for (n,x) at e  8.500000E+01 -> 8.359245E+01
```

57. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (49): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

58. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (50): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

59. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (51): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 8.807707E+01 with q.lt.0 for (n,x) at e  9.000000E+01 -> 8.853875E+01
```

60. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (52): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

61. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (53): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

62. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (54): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 9.297024E+01 with q.lt.0 for (n,x) at e  9.500000E+01 -> 9.348505E+01
```

63. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (55): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

64. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (56): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

65. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (57): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 9.786342E+01 with q.lt.0 for (n,x) at e  1.000000E+02 -> 9.843135E+01
```

66. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (58): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

67. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (59): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

68. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (60): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.076497E+02 with q.lt.0 for (n,x) at e  1.100000E+02 -> 1.083239E+02
```

69. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (61): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

70. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (62): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

71. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (63): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.174360E+02 with q.lt.0 for (n,x) at e  1.200000E+02 -> 1.182165E+02
```

72. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (64): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

73. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (65): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

74. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (66): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.272224E+02 with q.lt.0 for (n,x) at e  1.300000E+02 -> 1.281091E+02
```

75. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (67): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

76. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (68): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

77. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (69): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.370087E+02 with q.lt.0 for (n,x) at e  1.400000E+02 -> 1.370125E+02
```

78. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (70): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

79. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (71): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

80. There is bad Kalbach parameter (r(E) or otherwise)
check...ace consistency check (72): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.467950E+02 with q.lt.0 for (n,x) at e  1.500000E+02 -> 1.469051E+02
```

81. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (73): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

82. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (74): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

- `acelst` Warnings:

  1. The incident energy grid is not monotonic for this angular distribution
     0: Bad Ang. Dist.

```
ACELST WARNING - Processing Ang.Dist.MT         2
                 E-grid non-monotonic   2.000000000E+01 2.000000000E+01
```