

Program Complot  
(Version 2018-1)

by

Dermott E. Cullen  
(Present Contact Information)

Dermott E. Cullen  
1466 Hudson Way  
Livermore, CA 94550

U.S.A.

Tele: 925-443-1911

E.Mail: [redcullen1@comcast.net](mailto:redcullen1@comcast.net)  
Web: [redcullen1.net/HOMEPAGE.NEW](http://redcullen1.net/HOMEPAGE.NEW)

Press Mouse Button to Start

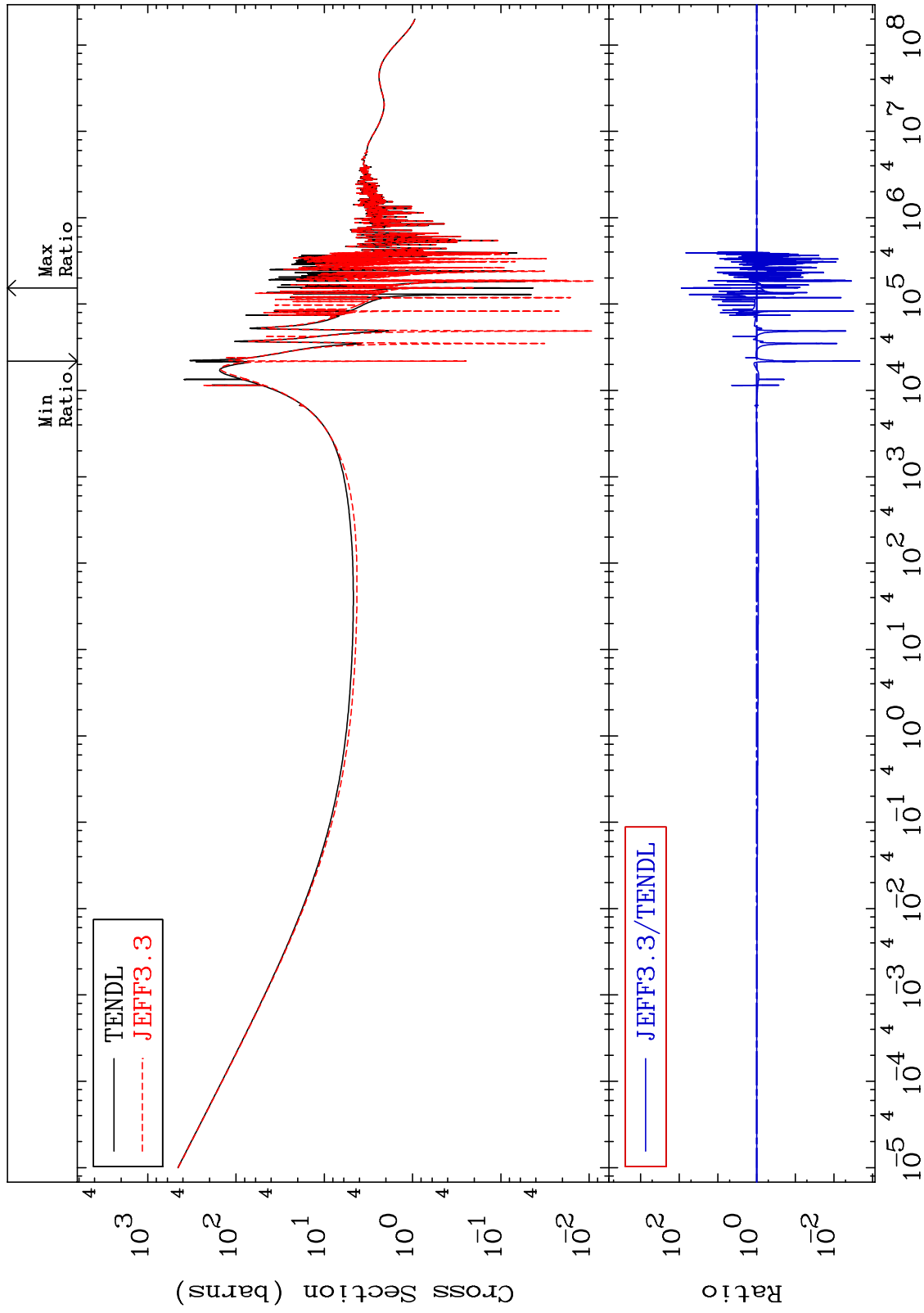
MAT 2231

Total

22-Ti-48

Cross Section

-99.78 To 8786. %



1

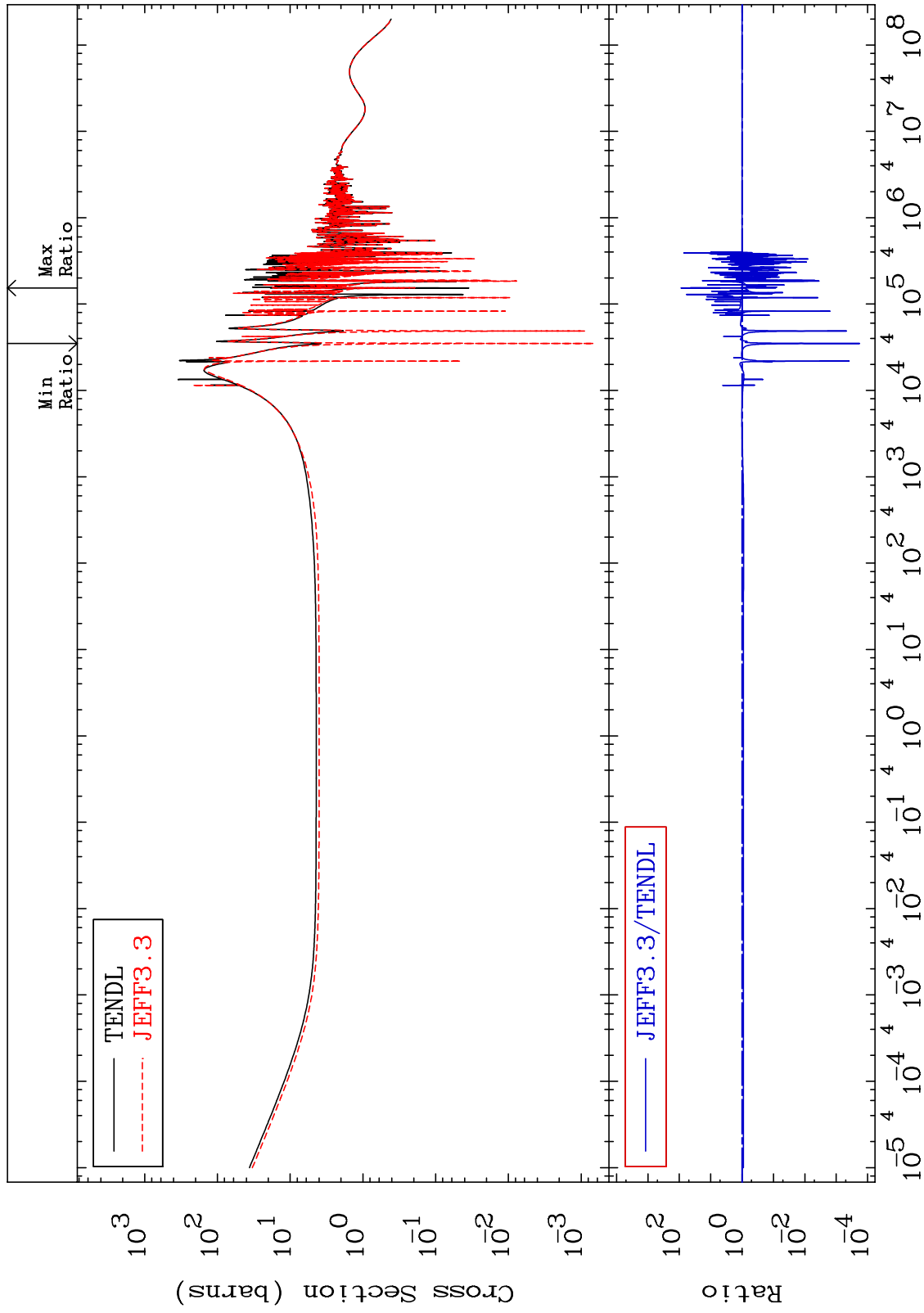
Incident Energy (eV)

22-Ti-48

MAT 2231

Elastic  
Cross Section

22-Ti-48  
-99.98 To 8564. %



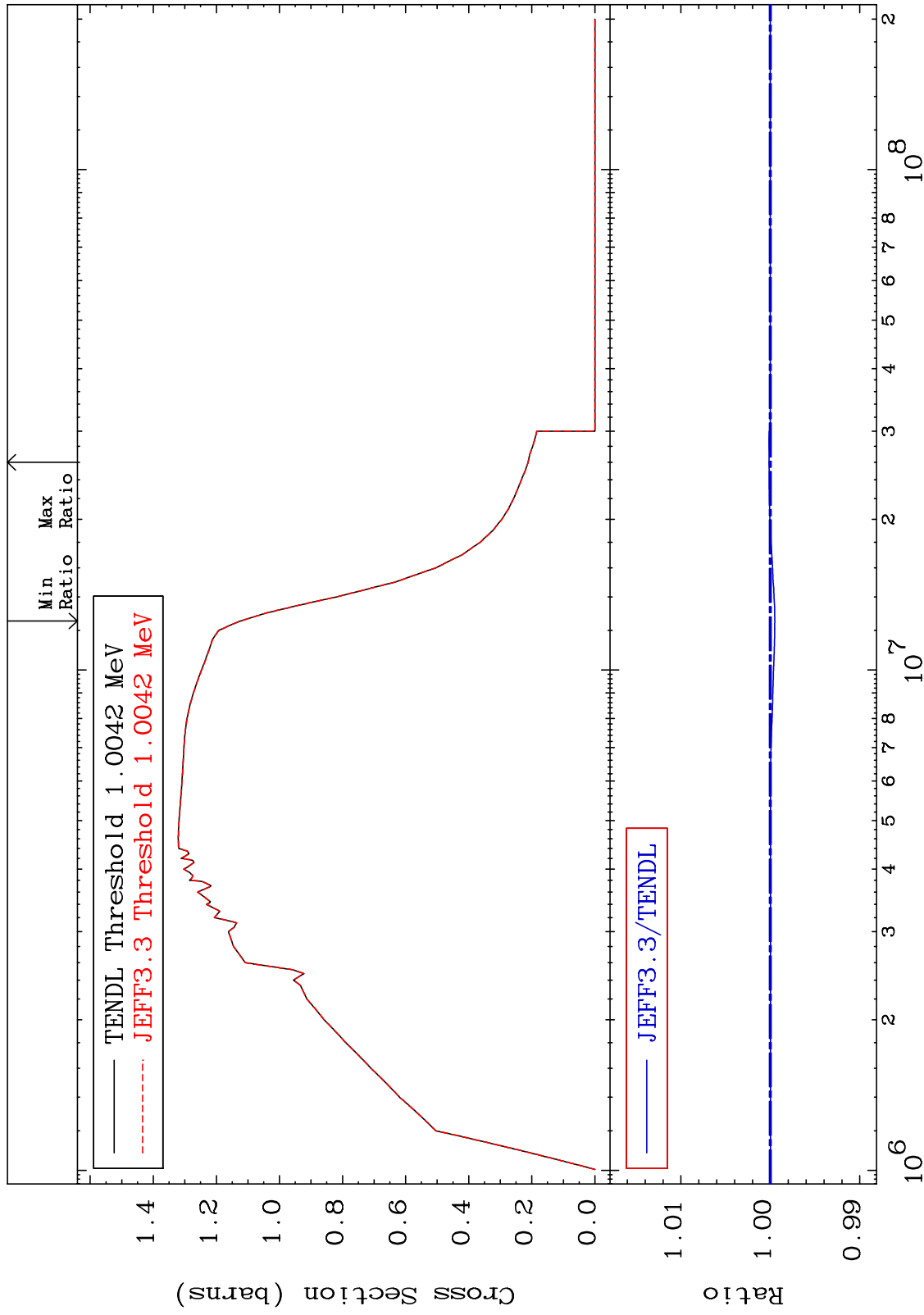
MAT 2231

Inelastic

22-Ti-48

Cross Section

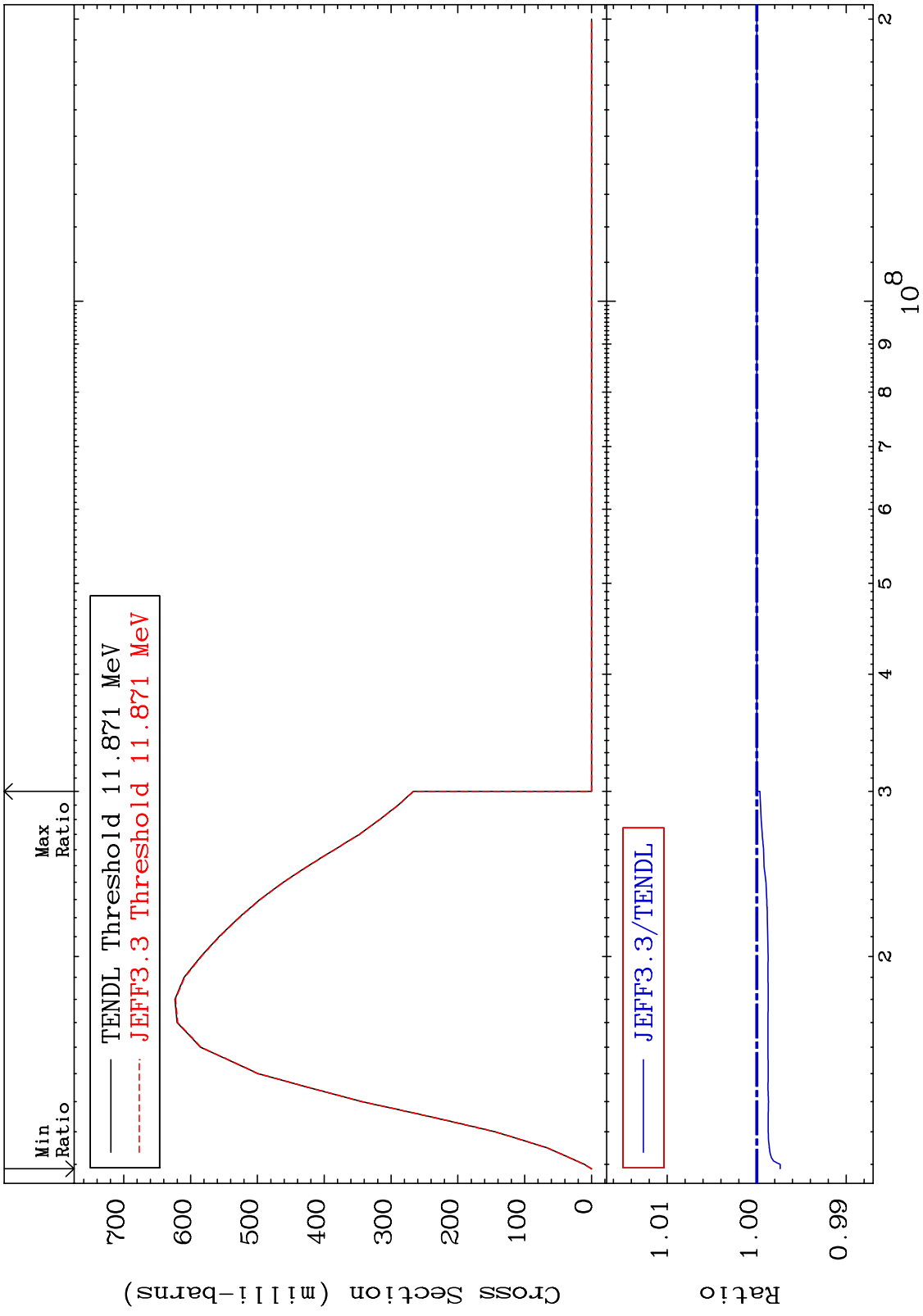
-0.049 To 0.016 %



Incident Energy (eV)

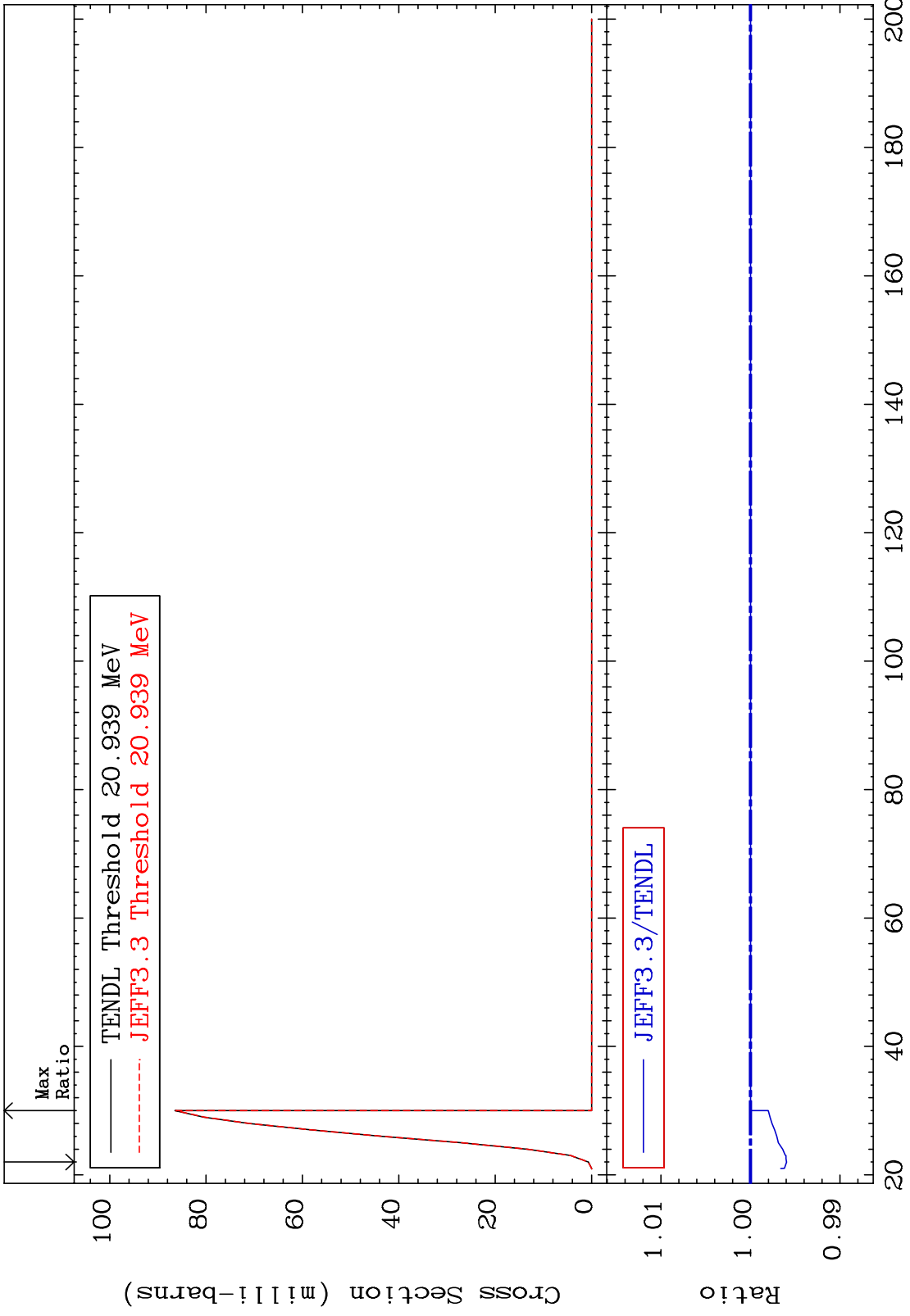
22-Ti-48

MAT 2231 22-Ti-48  
 (n,2n) -0.262 To 0.000 %  
 Cross Section

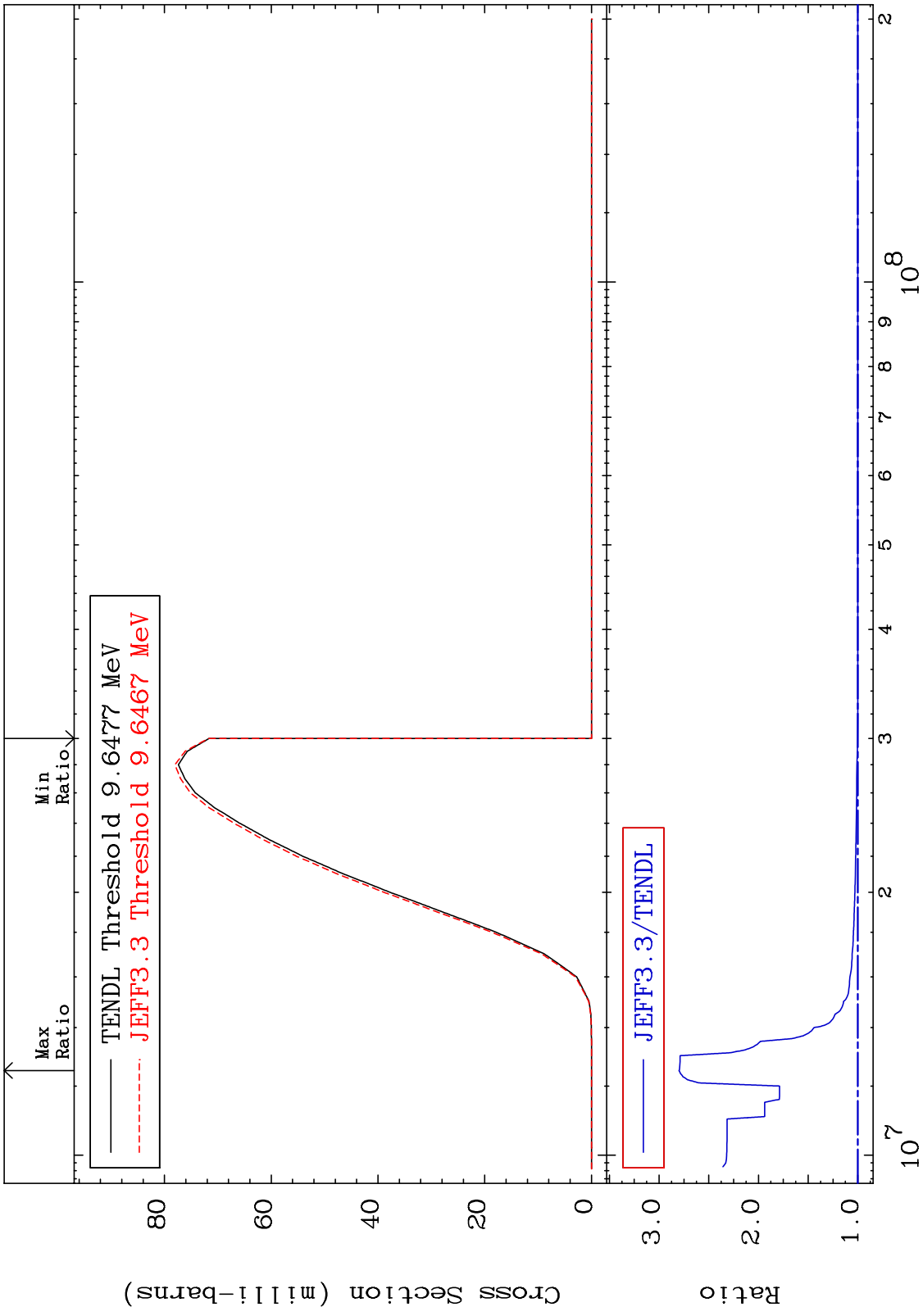


4 22-Ti-48

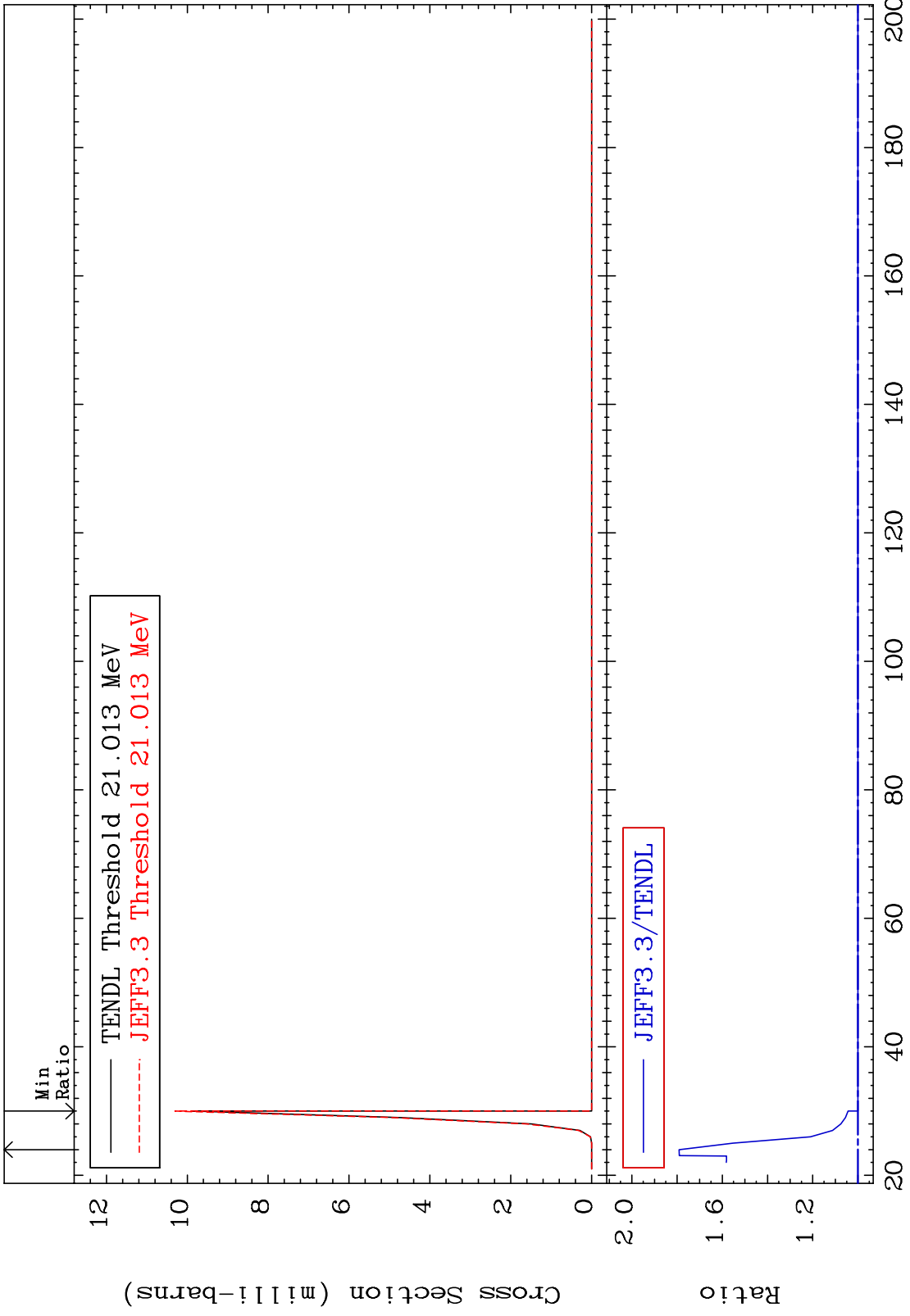
MAT 2231 (n,3n) 22-Ti-48  
 Cross Section -0.404 To 0.000 %



MAT 2231  $(n, n') \alpha$  Cross Section 22-Ti-48 To 179.9 %



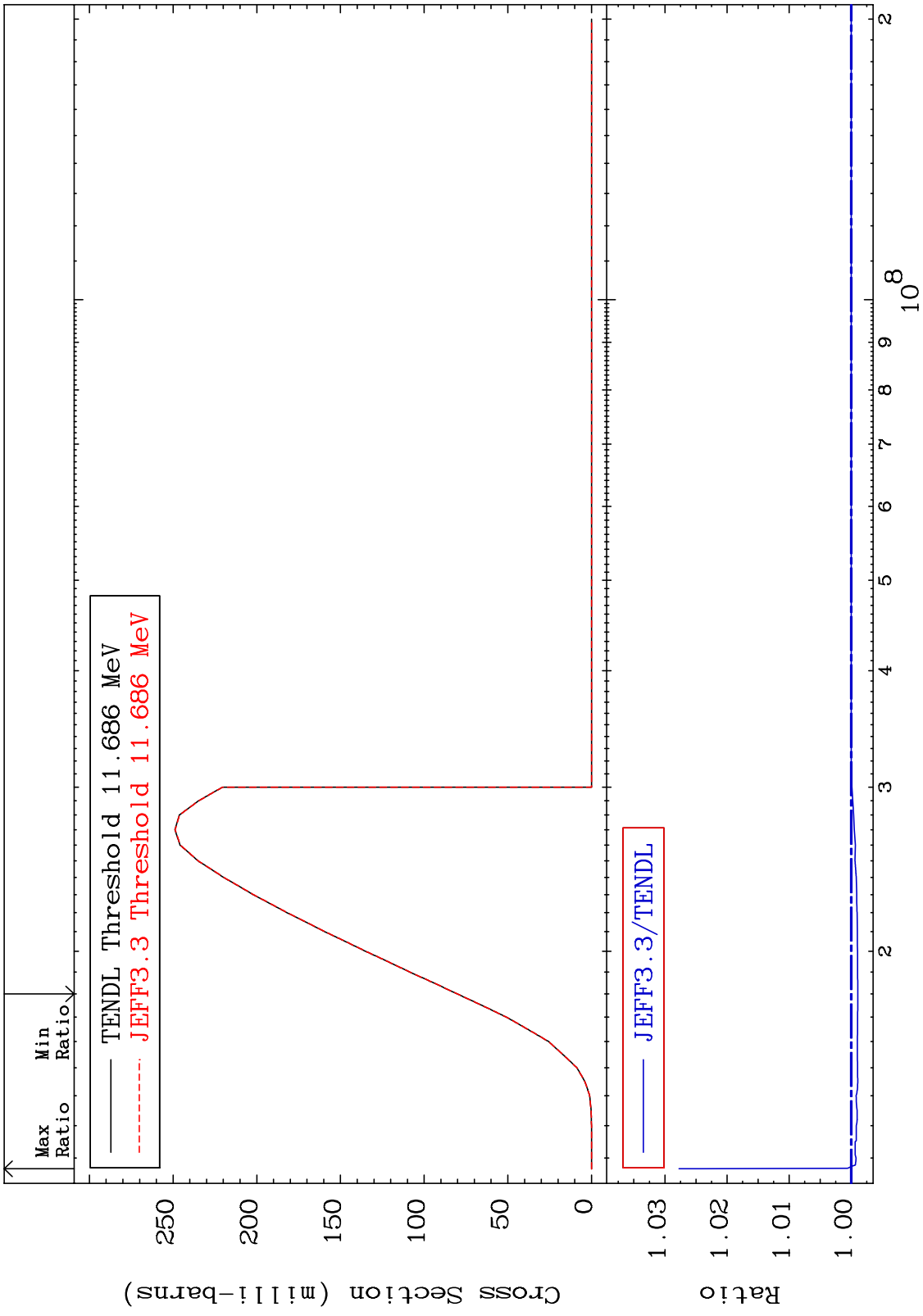
MAT 2231 (n,2n)  $\alpha$  22-Ti-48  
Cross Section 0.000 To 79.09 %



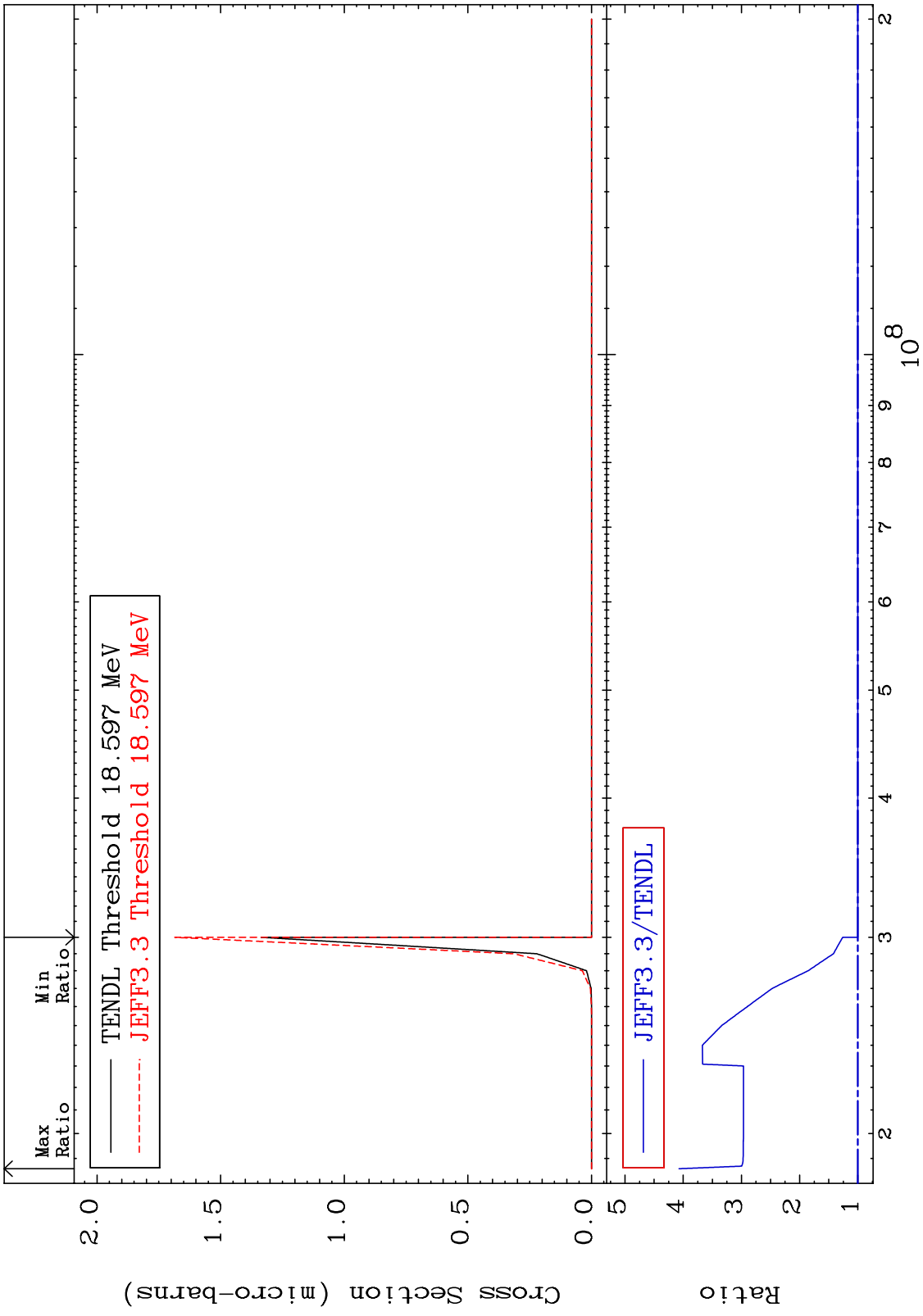
7 22-Ti-48 Incident Energy (MeV)



MAT 2231 (n,n') p 22-Ti-48  
 Cross Section -0.106 To 2.772 %



MAT 2231 (n,n') 2α Cross Section 22-Ti-48 0.000 To 307.2 %



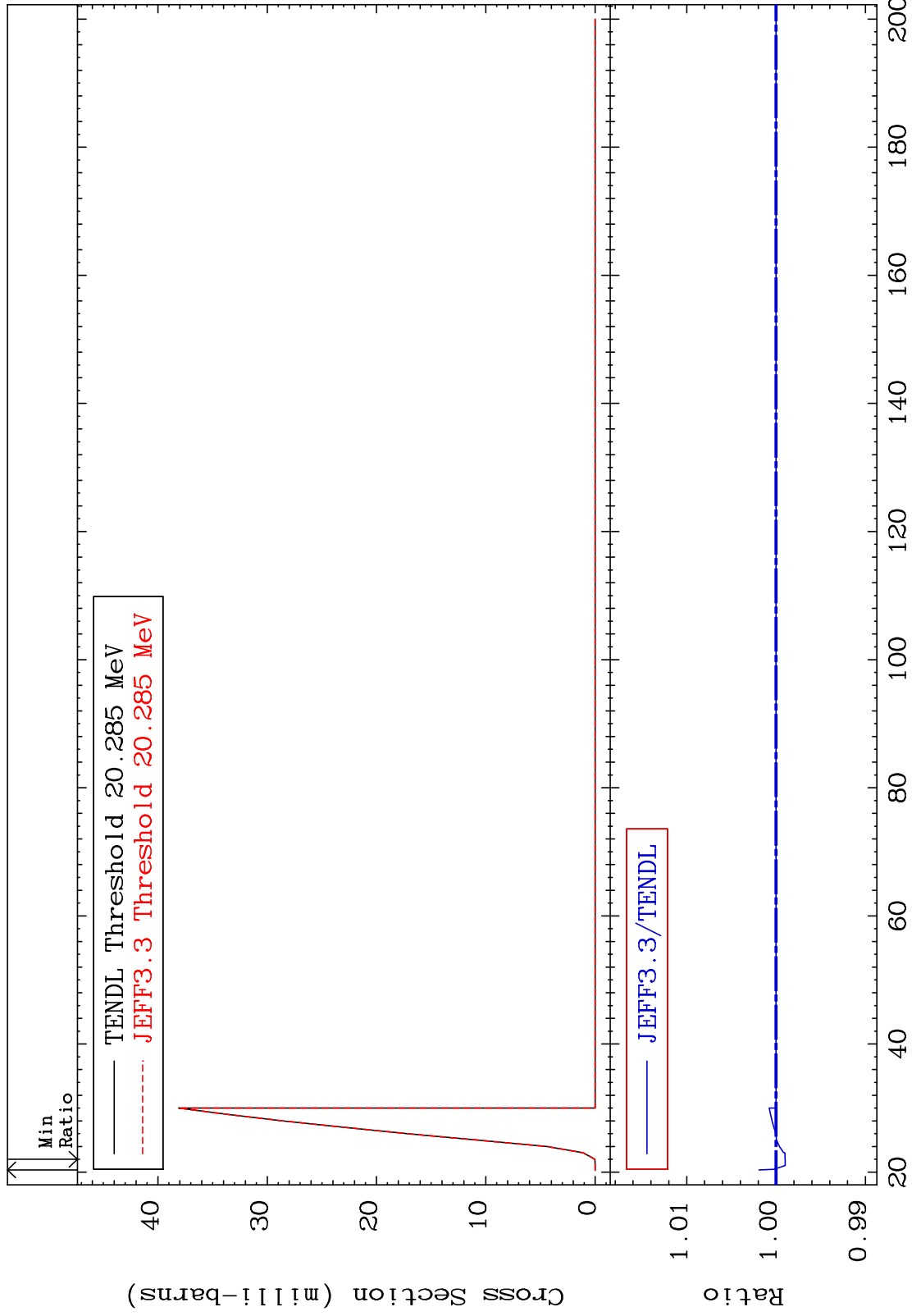
MAT 2231

(n,n') d

<sup>22</sup>Ti-48

Cross Section

-0.102 To 0.191 %

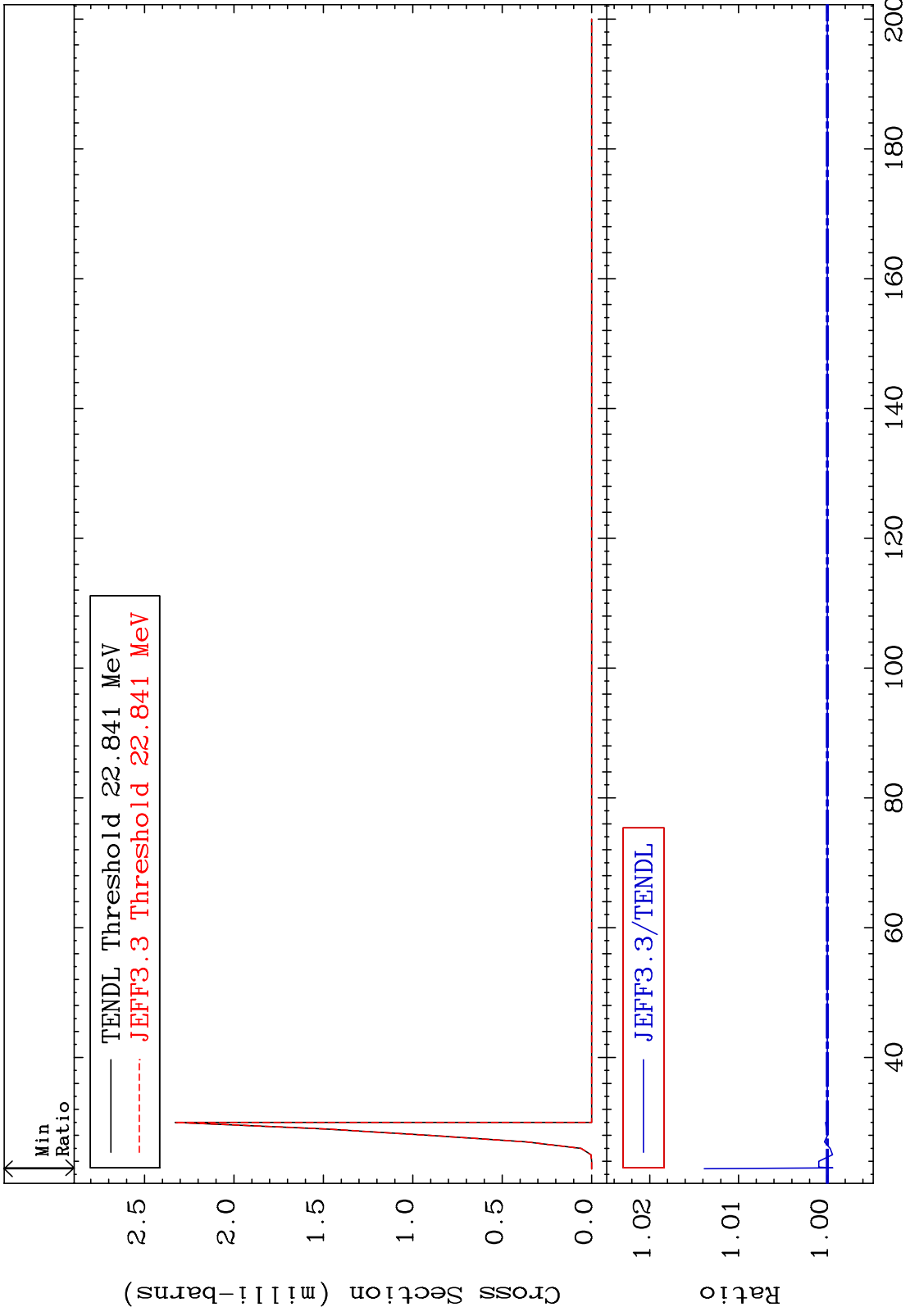


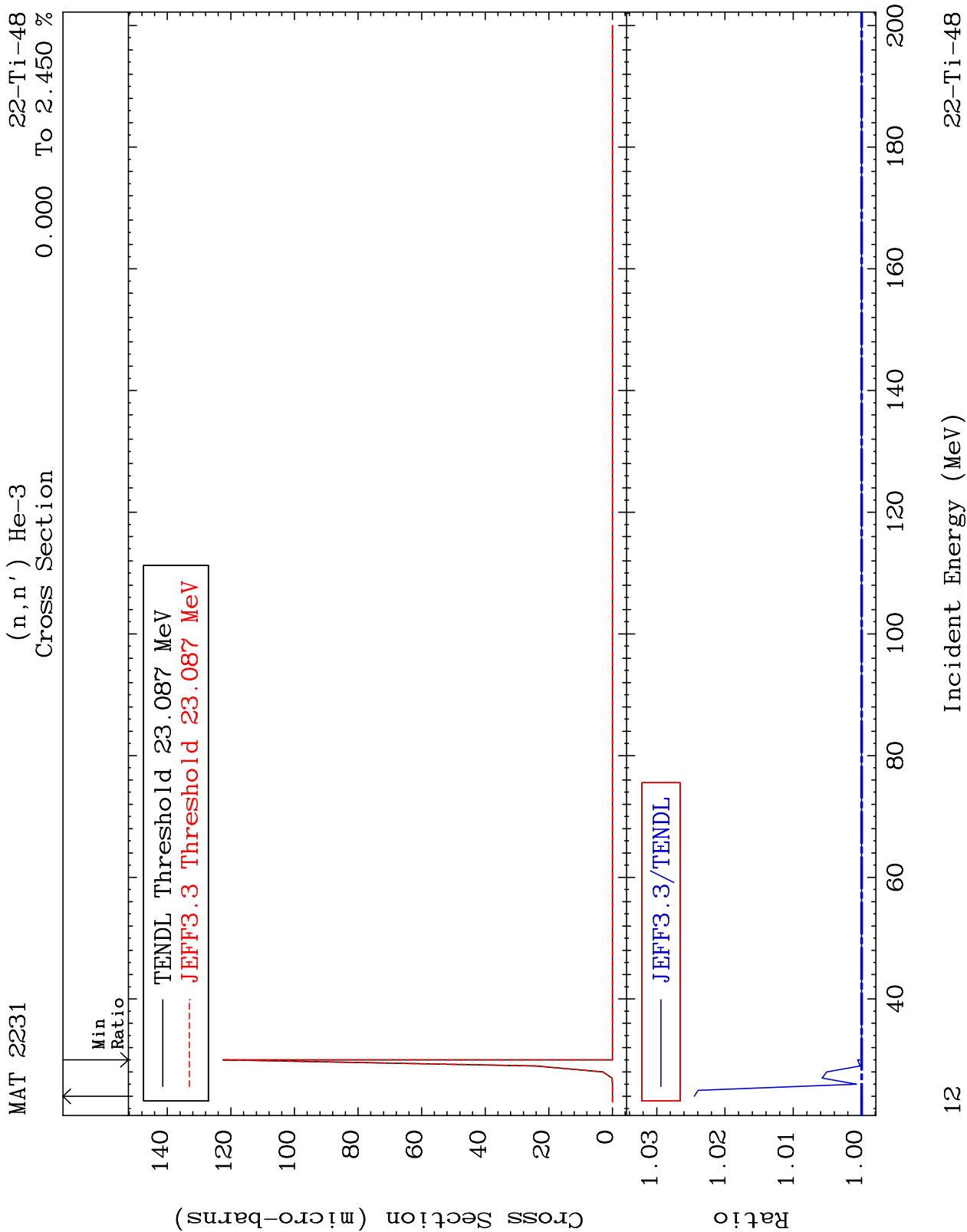
10

Incident Energy (MeV)

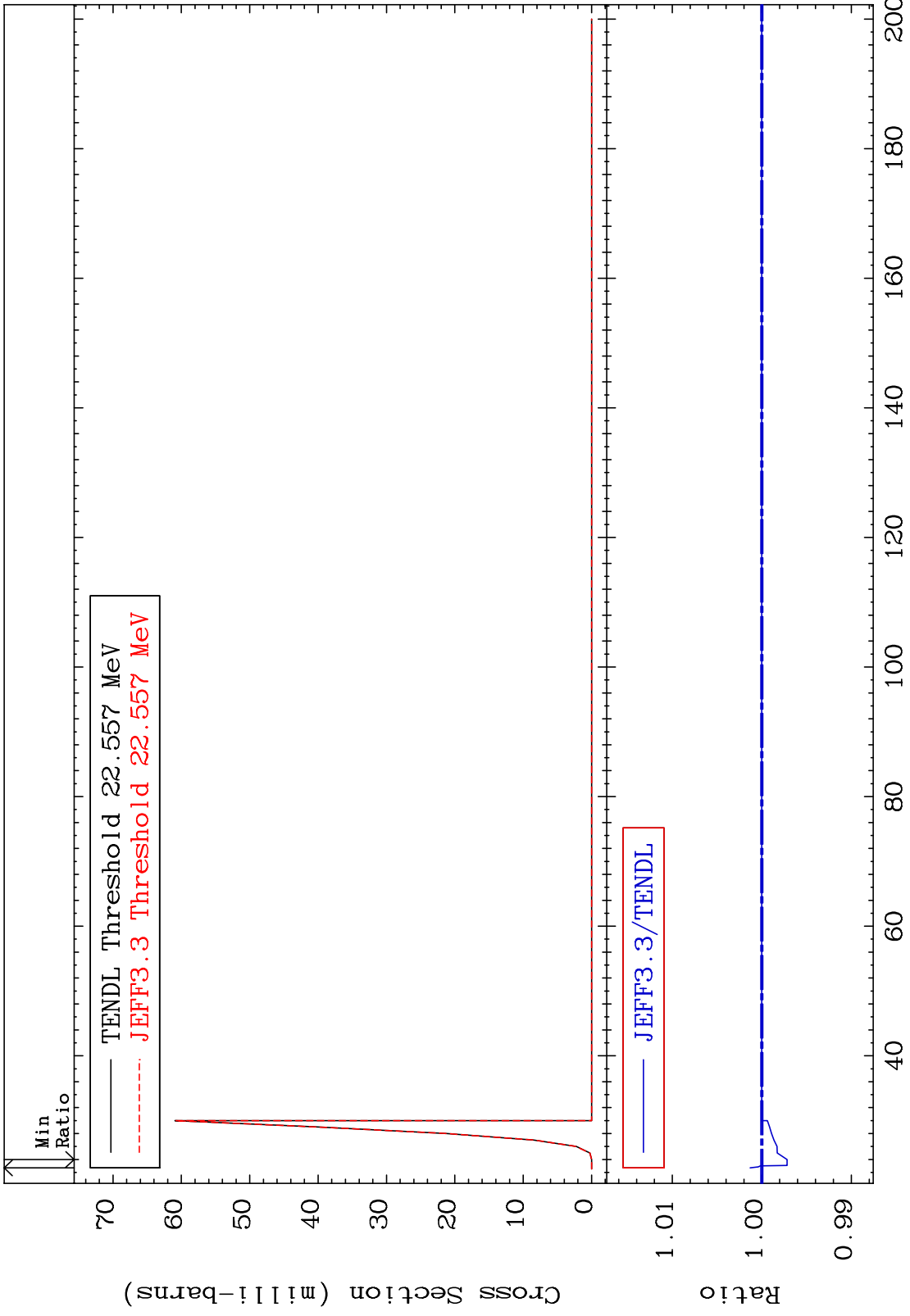
<sup>22</sup>Ti-48

MAT 2231 (n,n') t 22-Ti-48  
 Cross Section -0.061 To 1.385 %

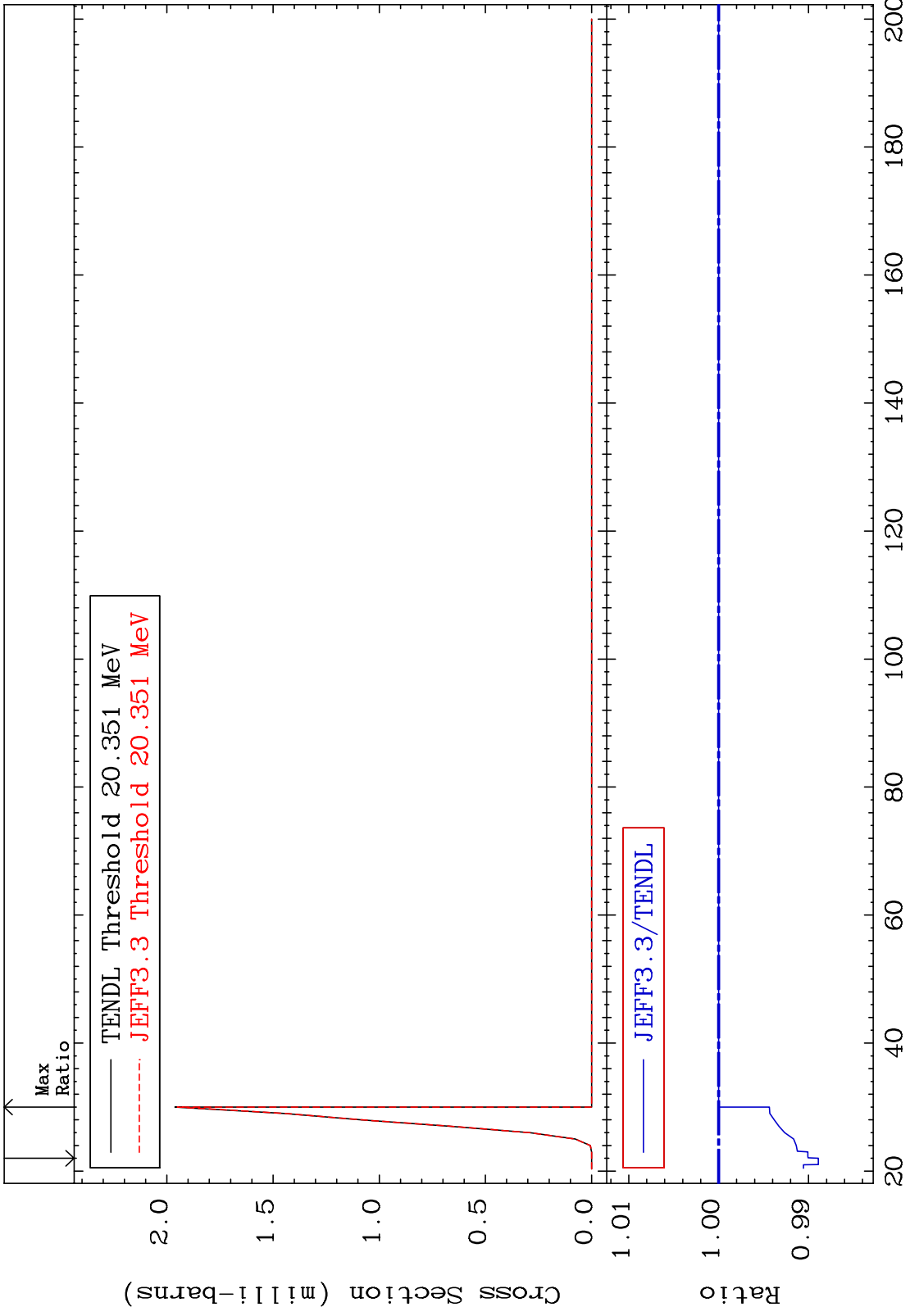




MAT 2231 (n,2n) p 22-Ti-48  
Cross Section -0.282 To 0.131 %

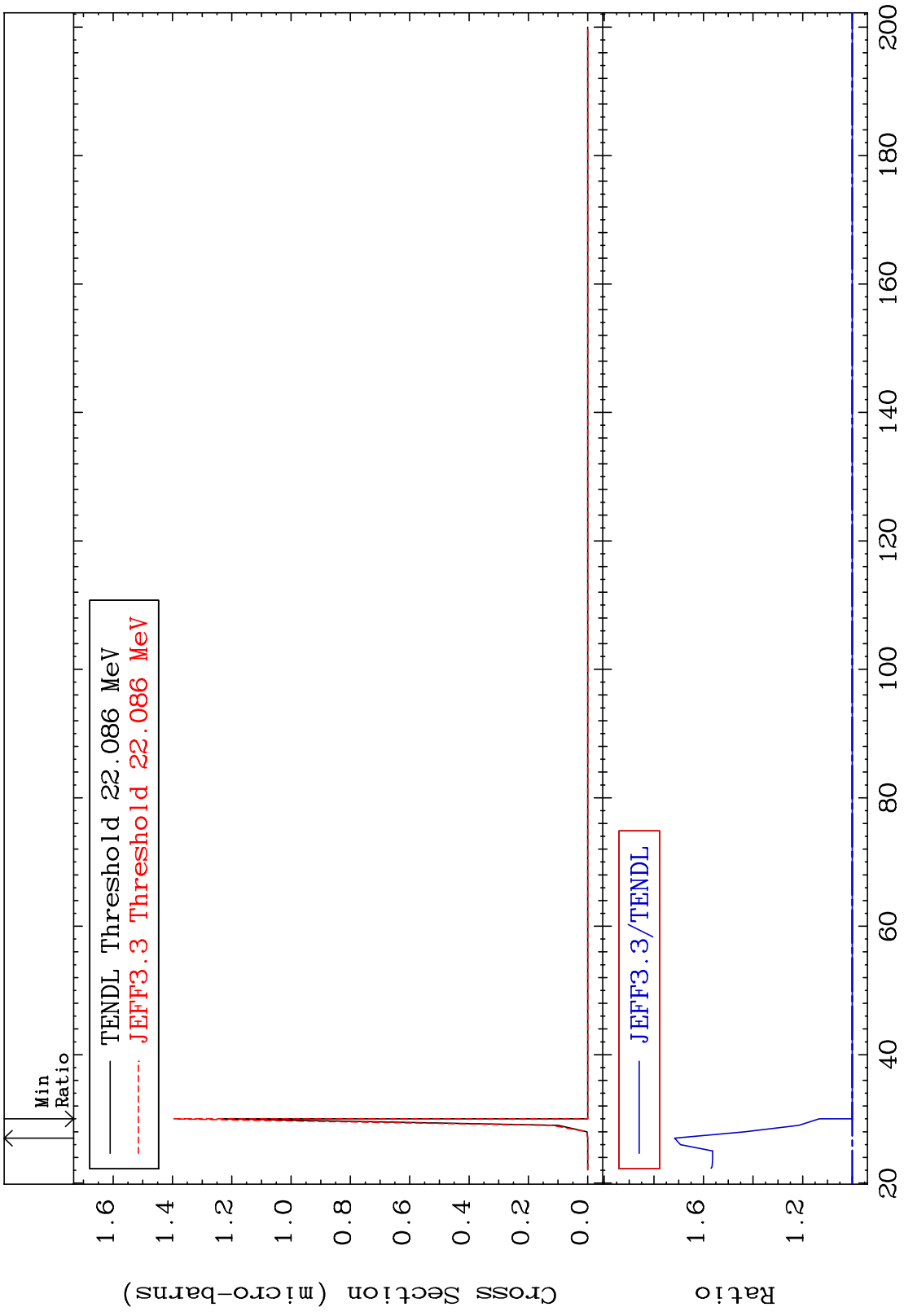


MAT 2231 (n,2n) p 22-Ti-48  
 Cross Section -1.110 To 0.000 %



14 22-Ti-48

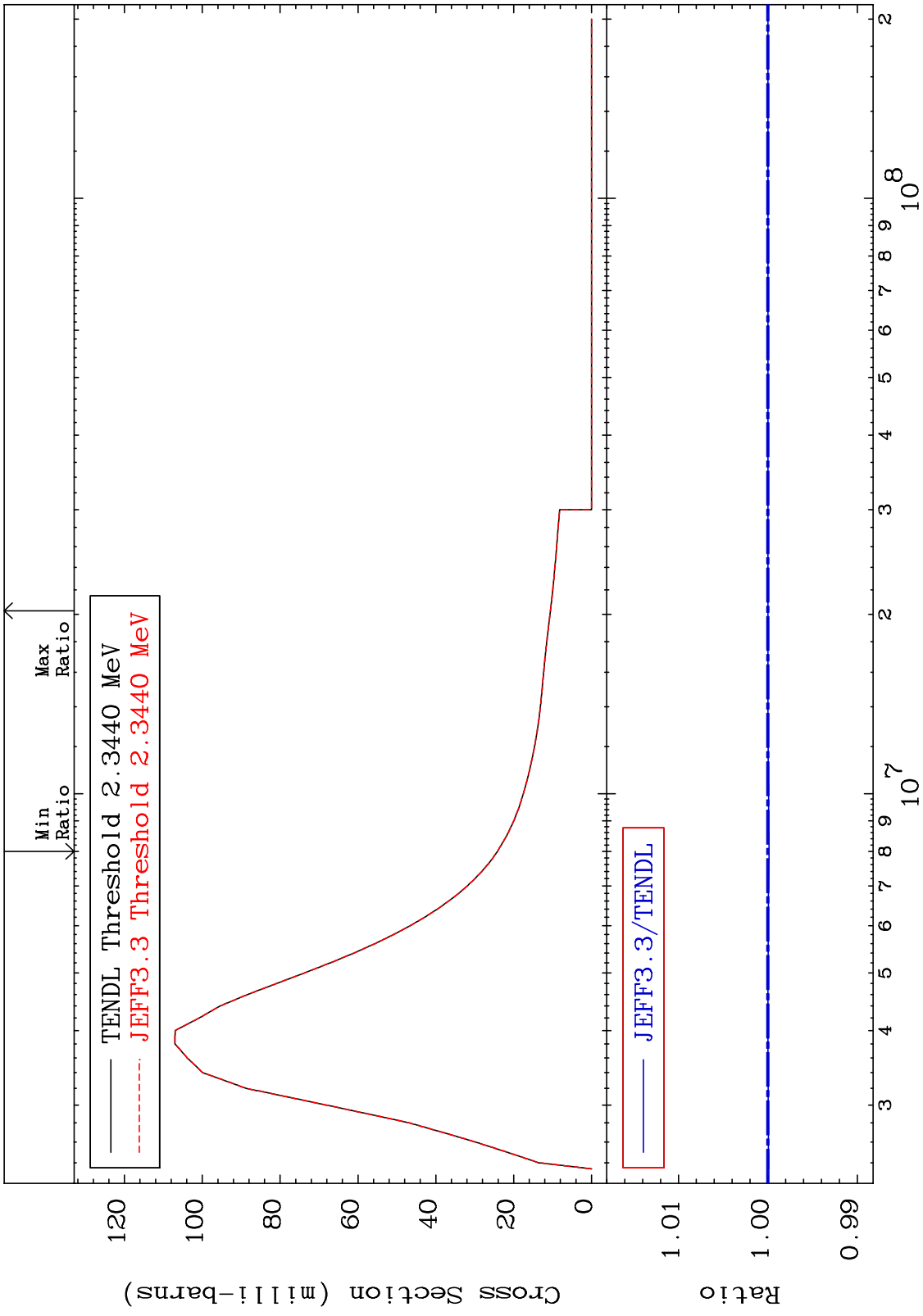
MAT 2231  $(n,n')$  p  $\alpha$  22-Ti-48  
 Cross Section 0.000 To 71.63 %



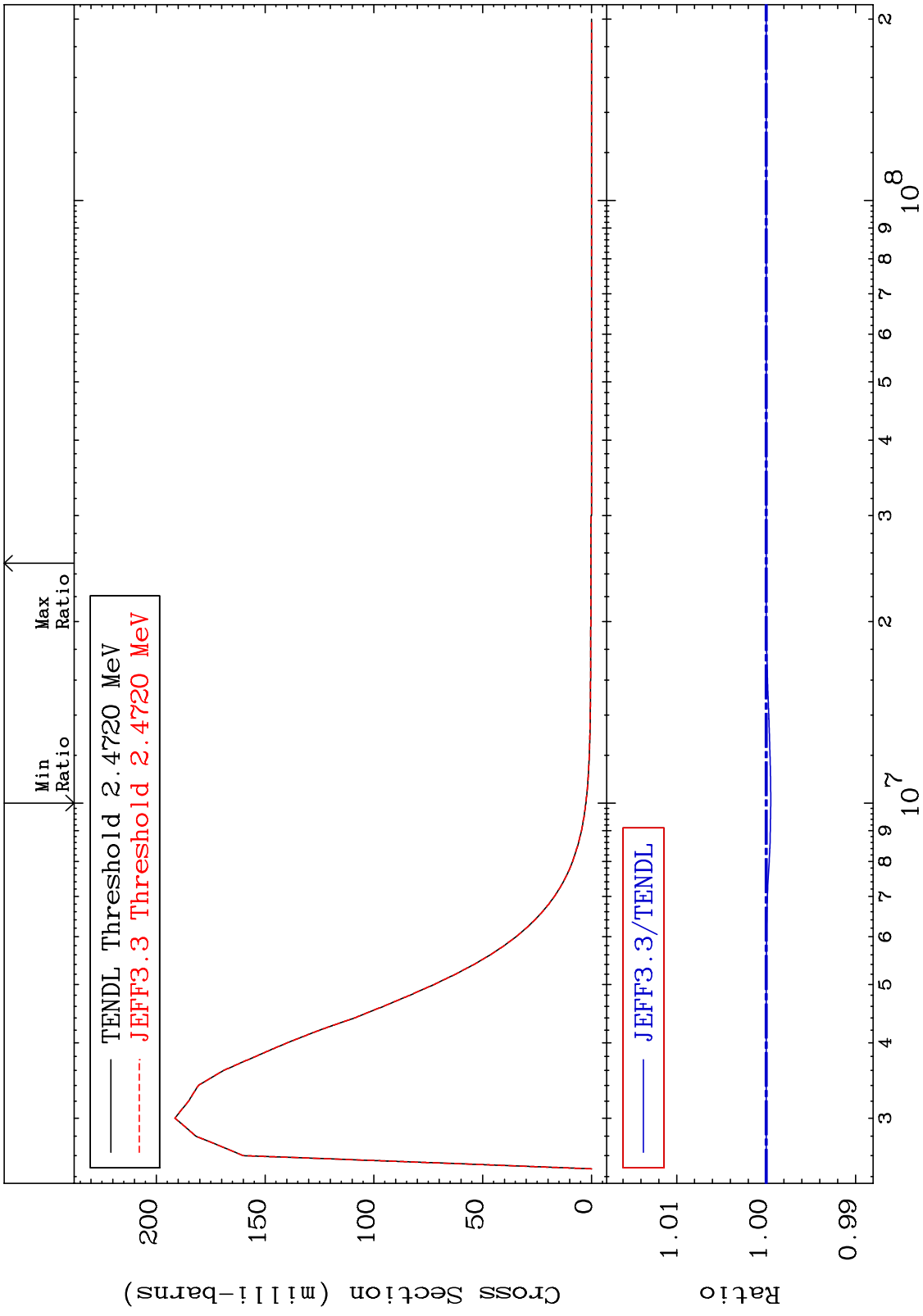
15 22-Ti-48



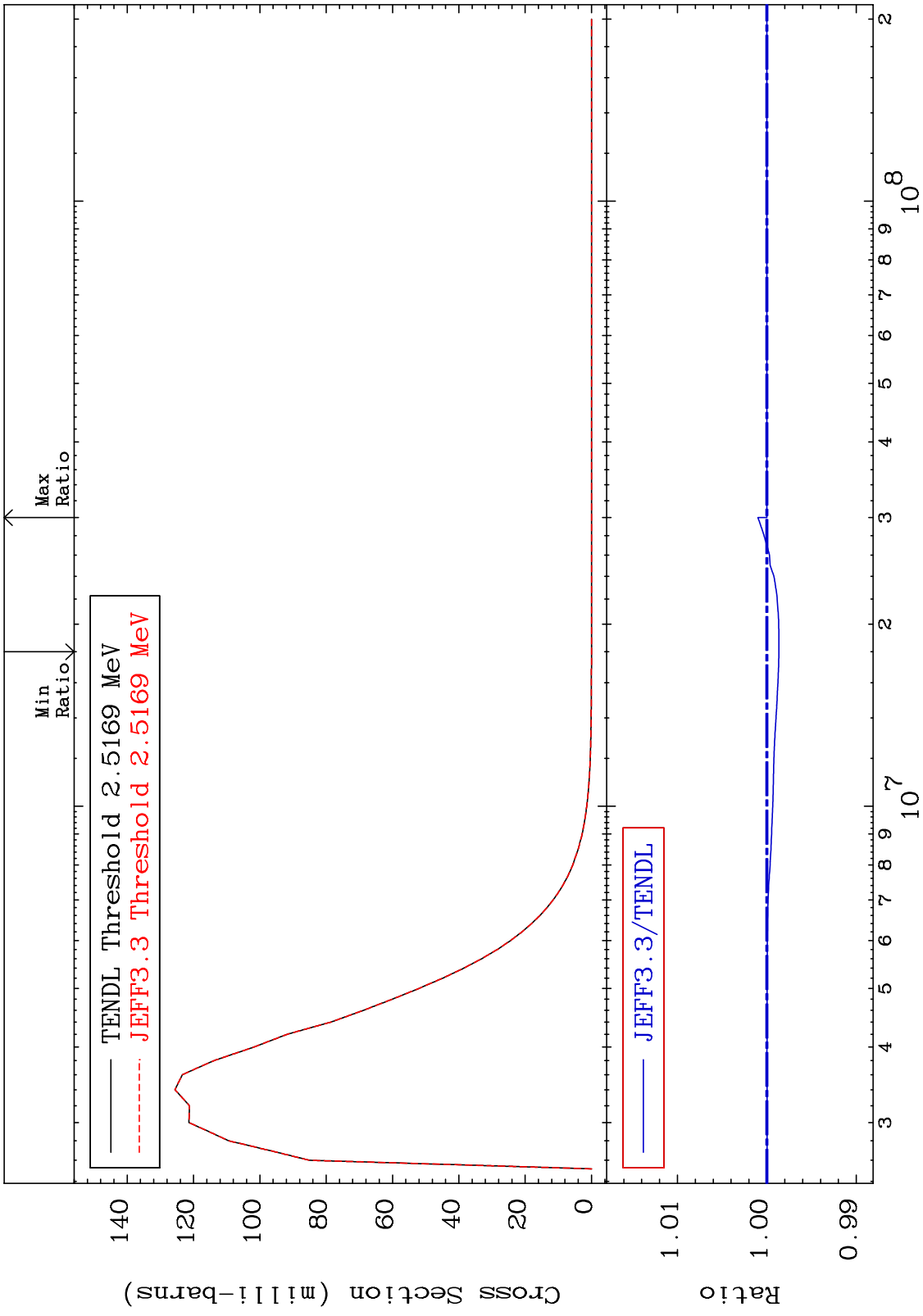
MAT 2231 MT= 52 (n,n') Level Cross Section -0.013 To 0.000 % 22-Ti-48



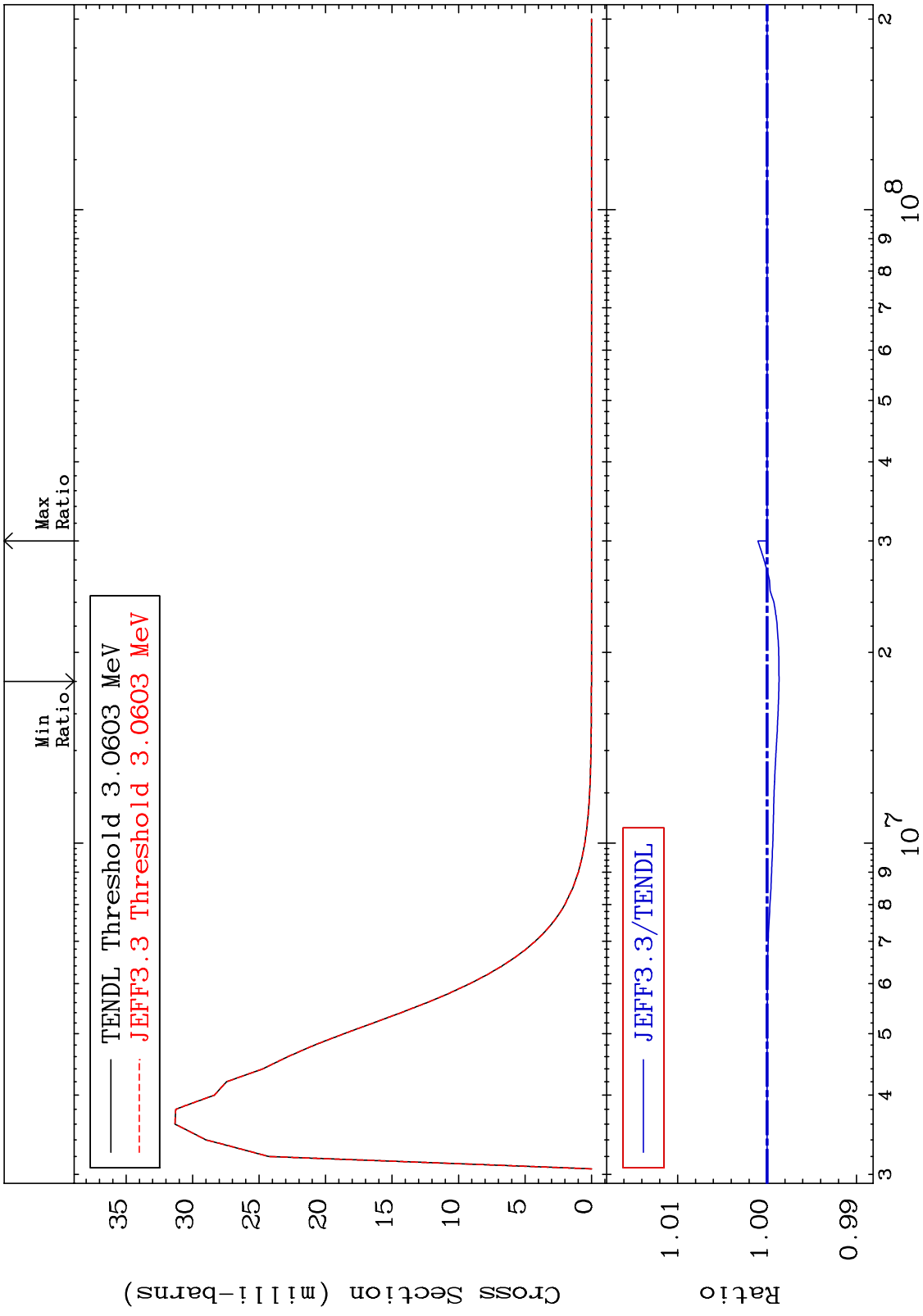
MAT 2231 MT= 53 (n, n') Level Cross Section 22-Ti-48  
 -0.052 To 0.000 %



MAT 2231 MT= 54 (n,n') Level Cross Section -0.135 To 0.100 % 22-Ti-48



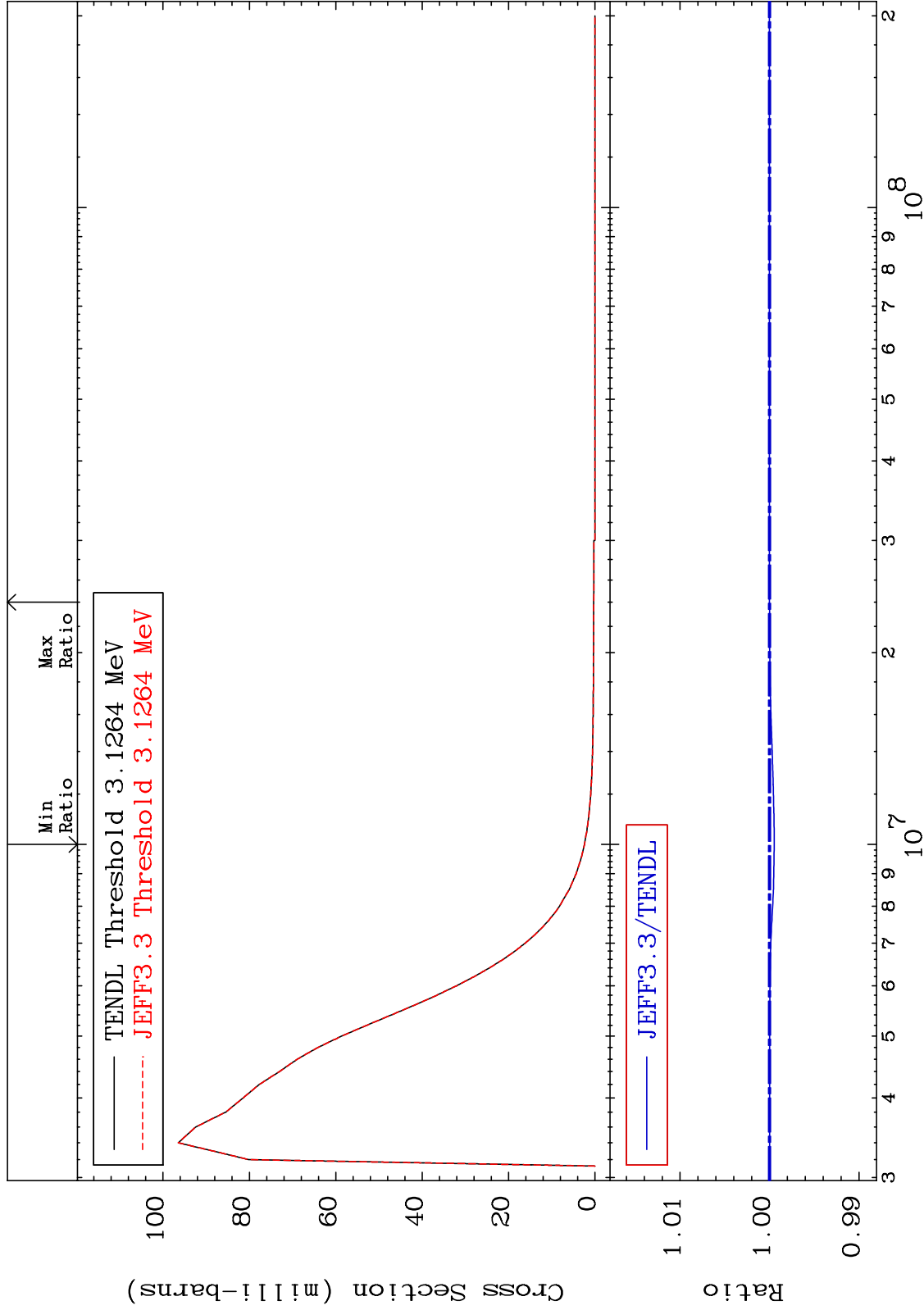
MAT 2231 MT= 55 (n,n') Level Cross Section -0.134 To 0.102 % 22-Ti-48



MAT 2231

MT= 56 (n,n') Level  
Cross Section

22-Ti-48  
-0.053 To 0.000 %

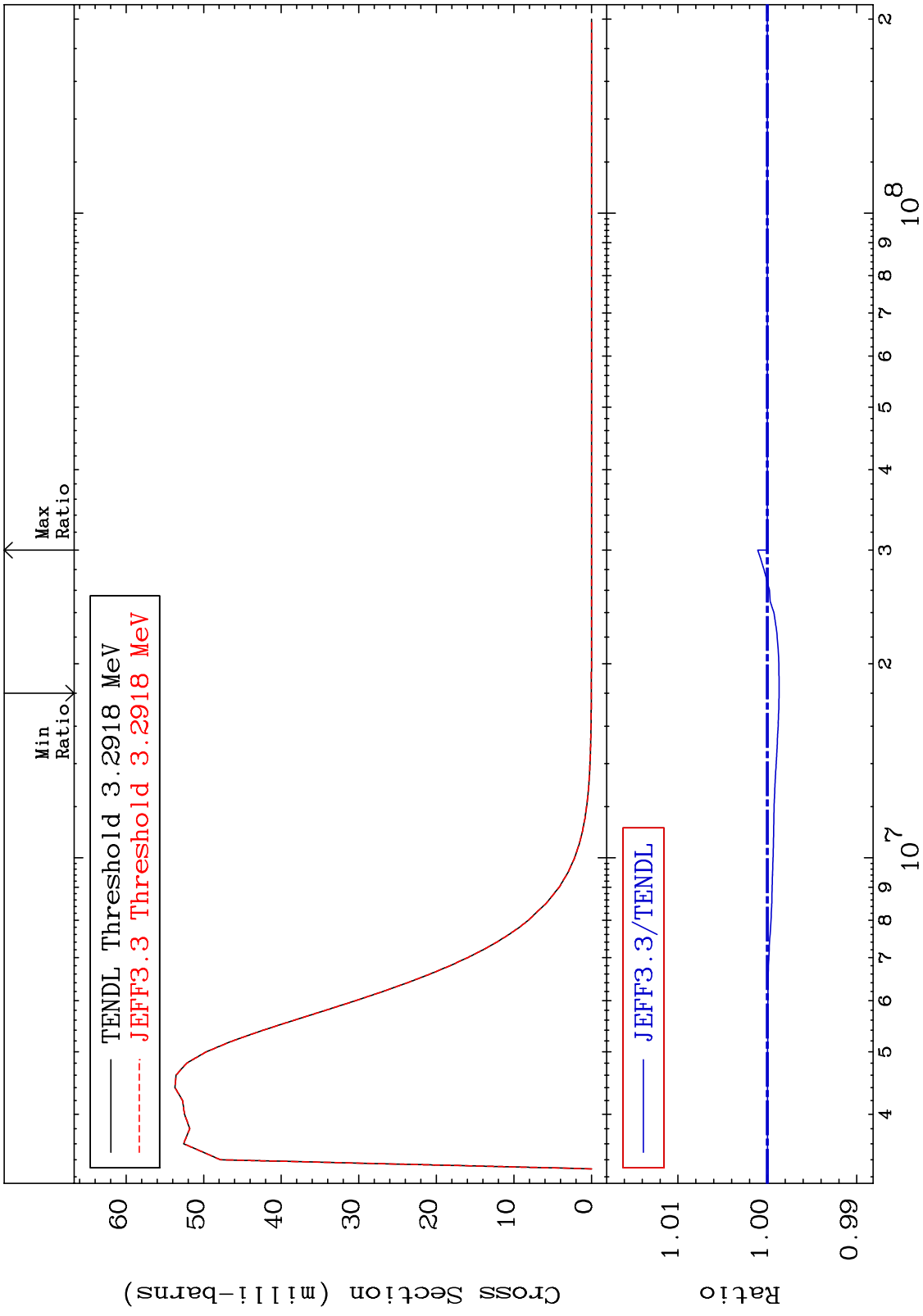


20

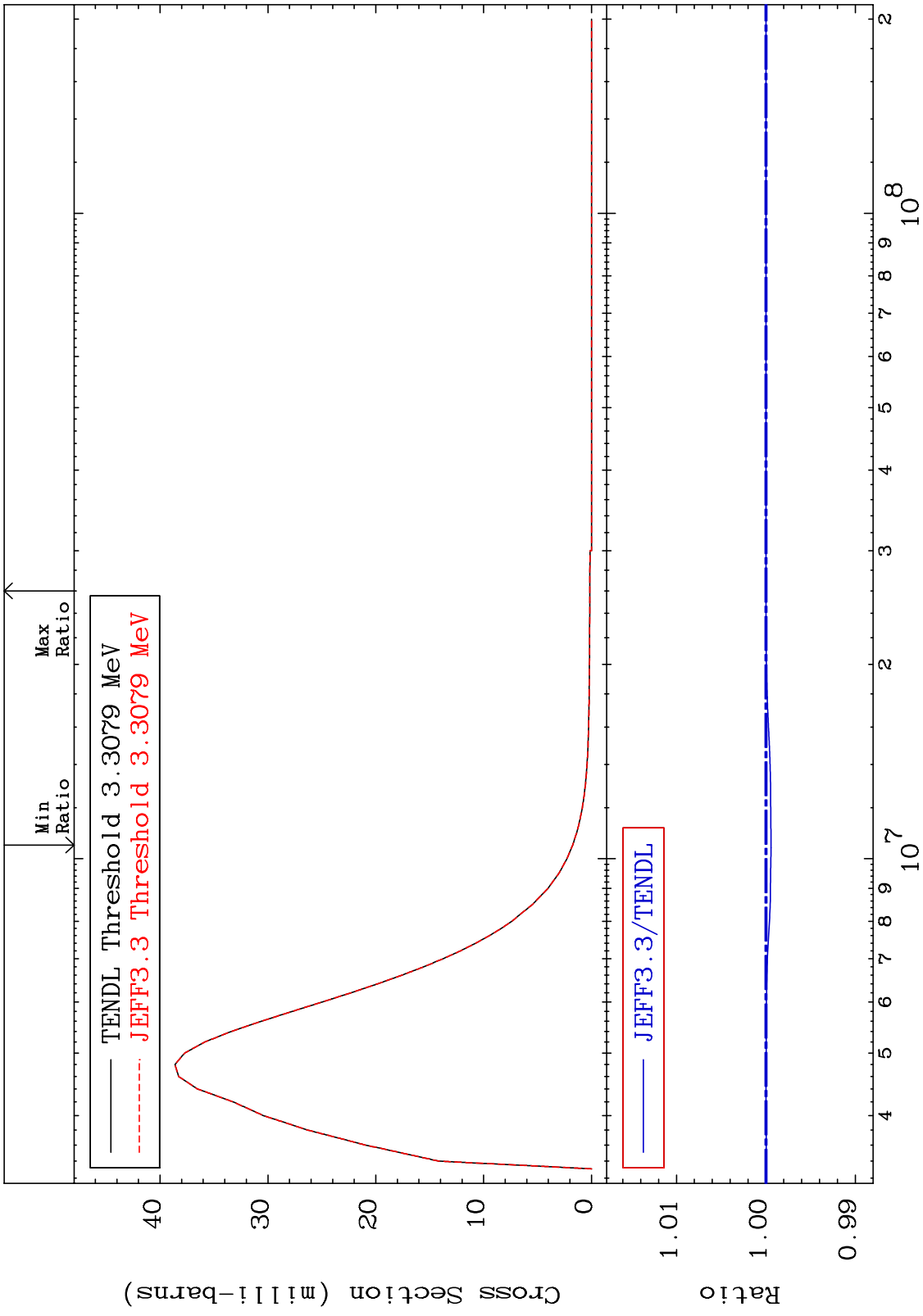
Incident Energy (eV)

22-Ti-48

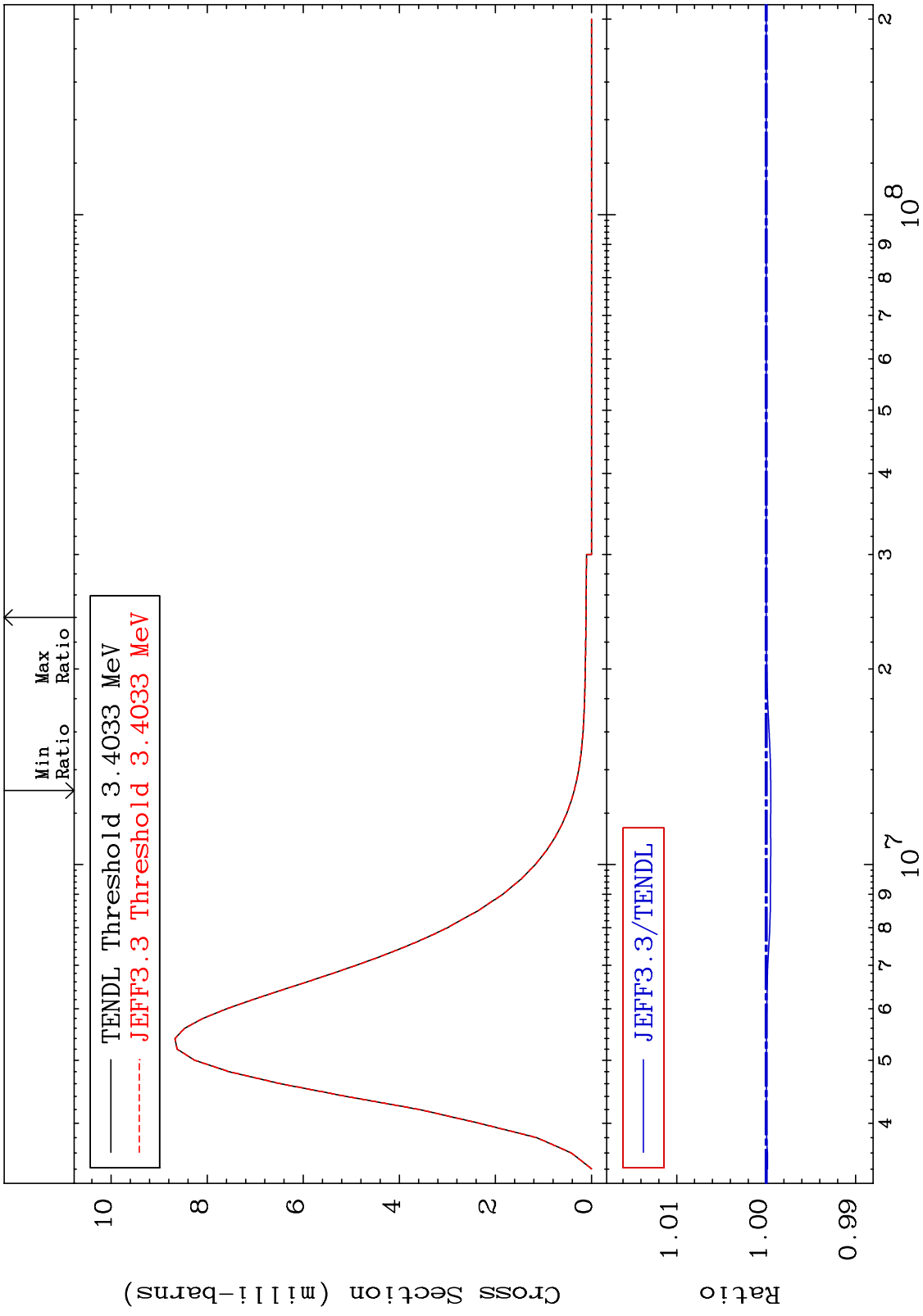
MAT 2231      MT= 57 (n,n') Level      22-Ti-48  
 Cross Section      -0.132 To 0.107 %



MAT 2231 MT= 58 (n,n') Level Cross Section -0.057 To 0.000 % 22-Ti-48

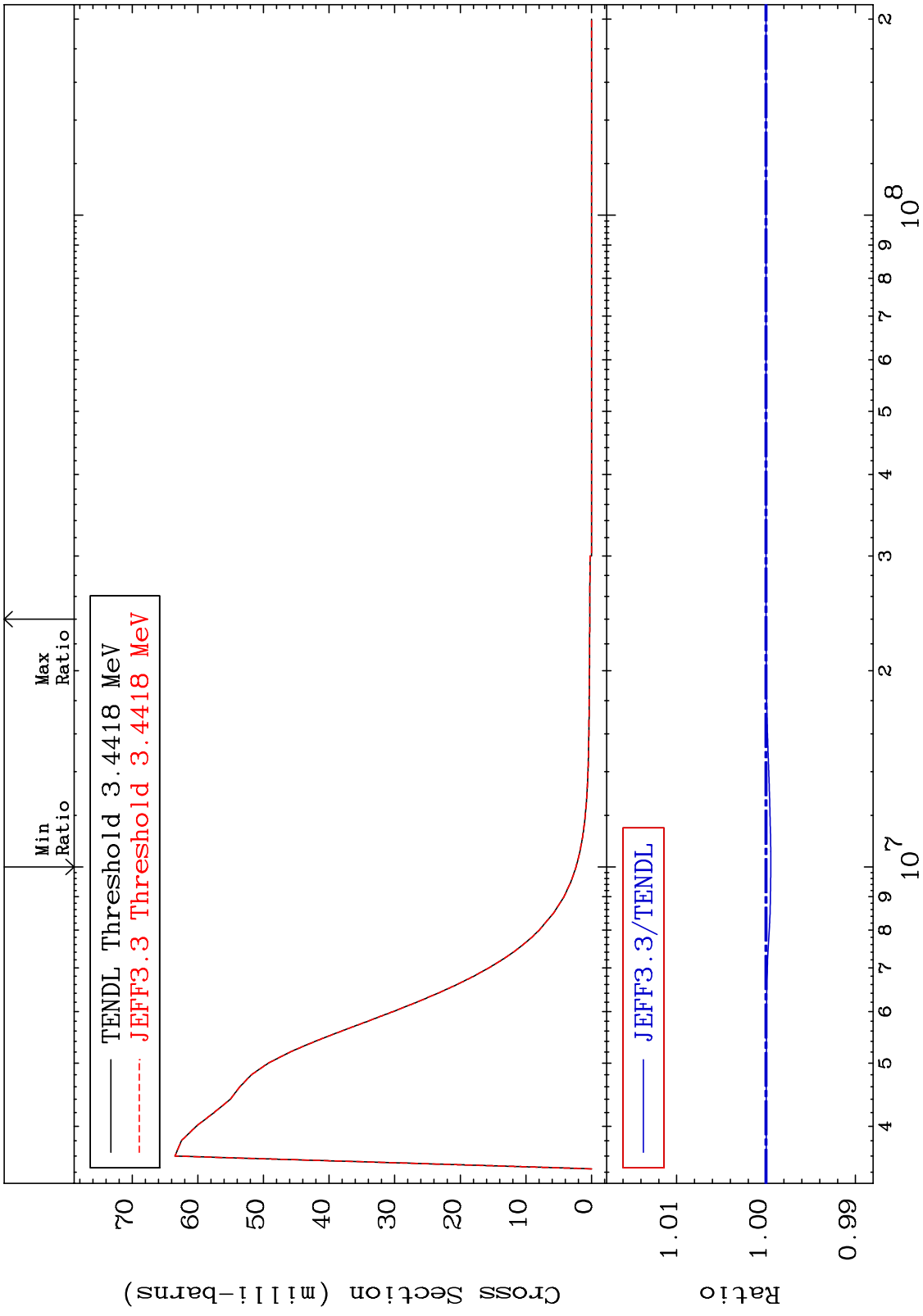


MAT 2231 MT= 59 (n,n') Level Cross Section -0.052 To 0.000 % 22-Ti-48





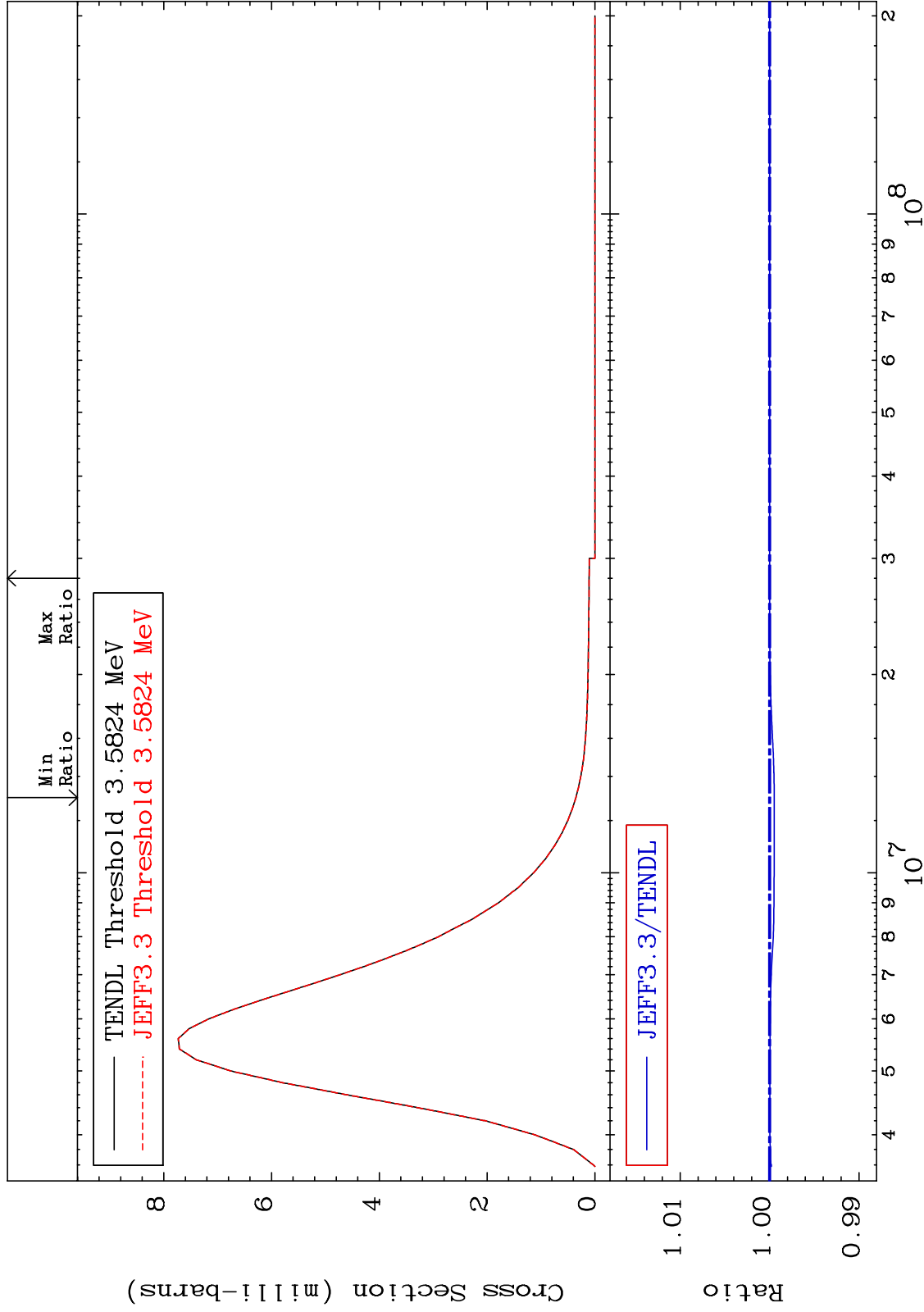
MAT 2231      MT= 61 (n,n') Level      22-Ti-48  
 Cross Section      -0.053 To 0.000 %



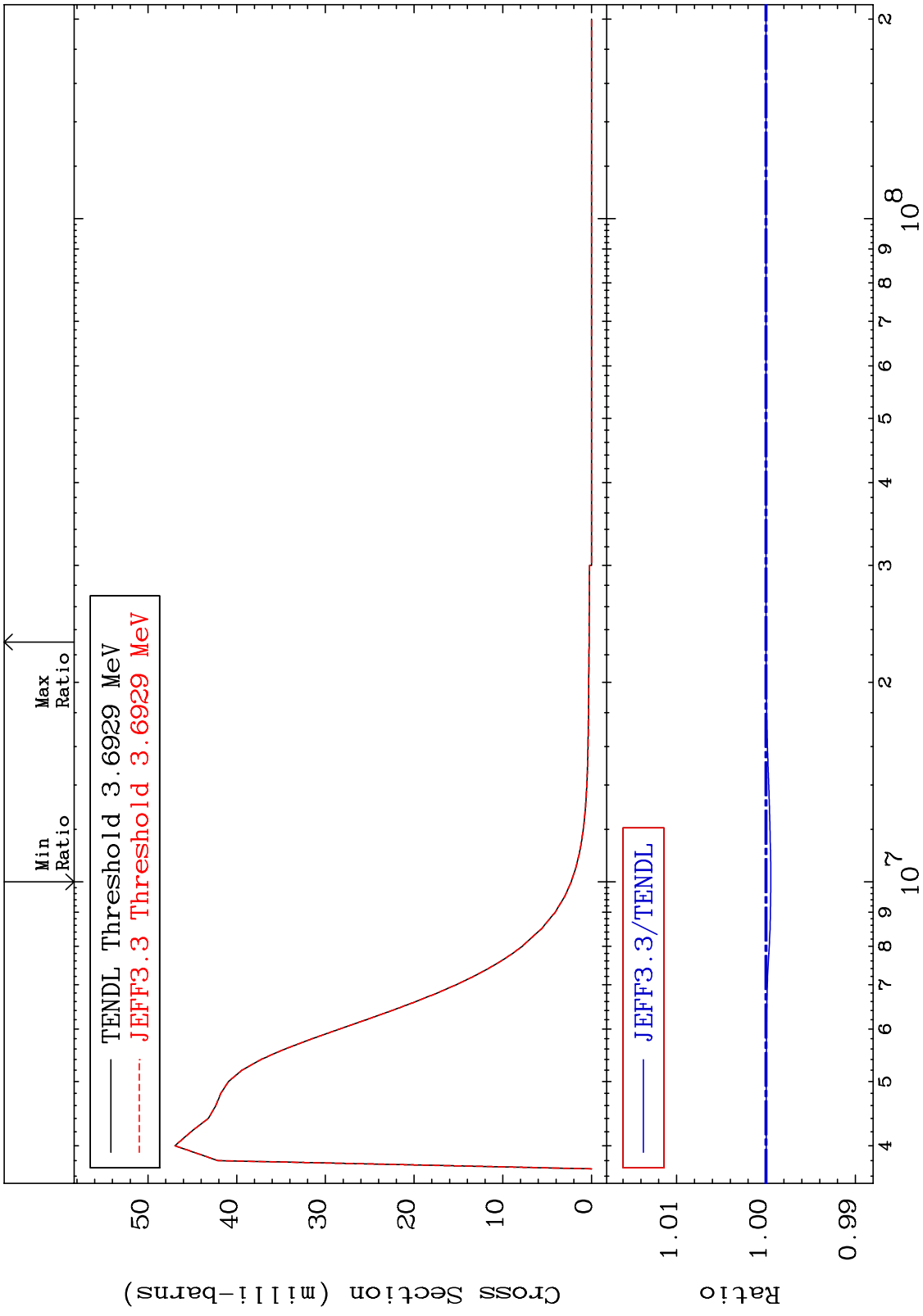
MAT 2231

MT= 62 (n,n') Level  
Cross Section

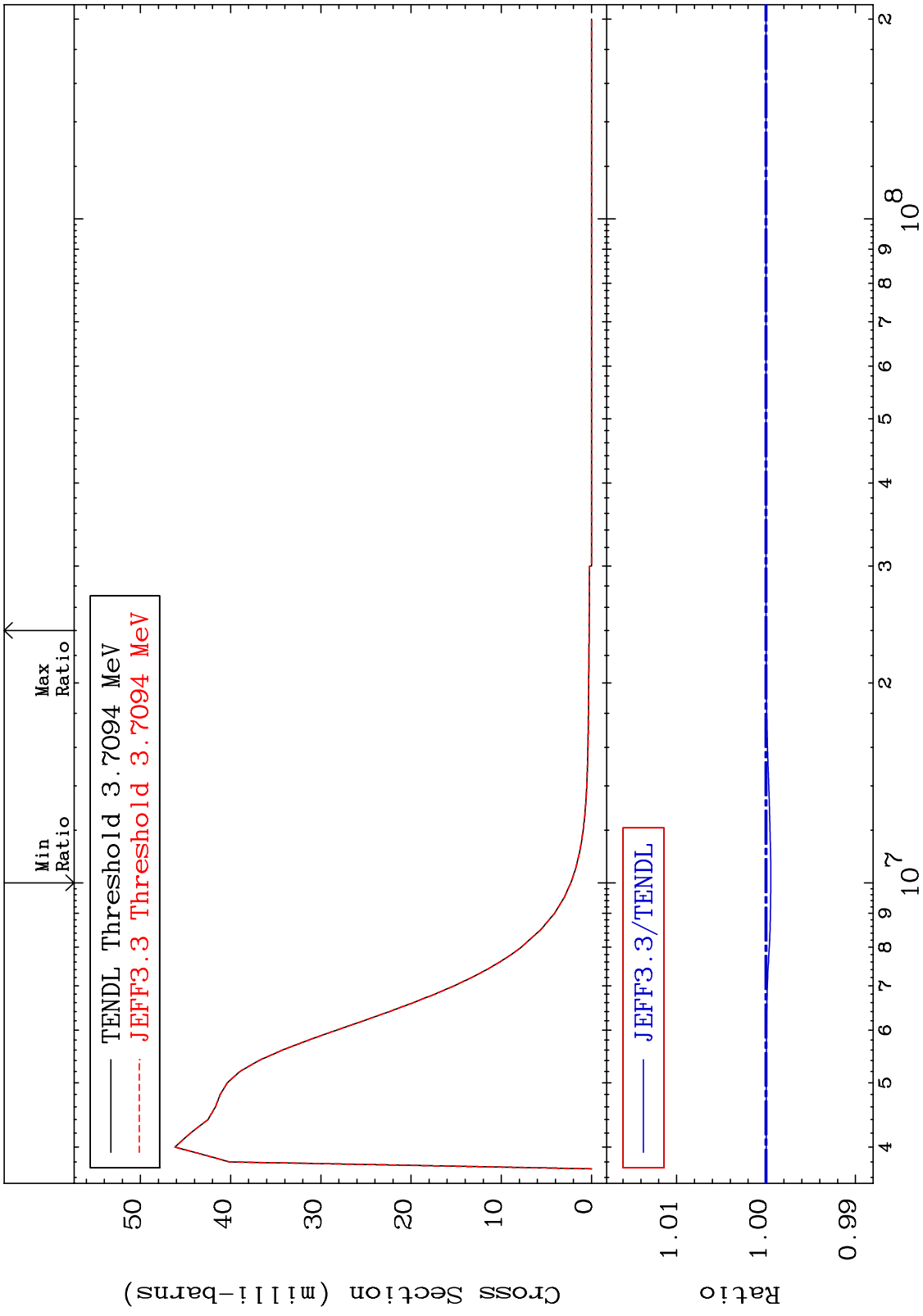
22-Ti-48  
-0.052 To 0.000 %



MAT 2231 MT= 63 (n,n') Level Cross Section -0.054 To 0.000 % 22-Ti-48



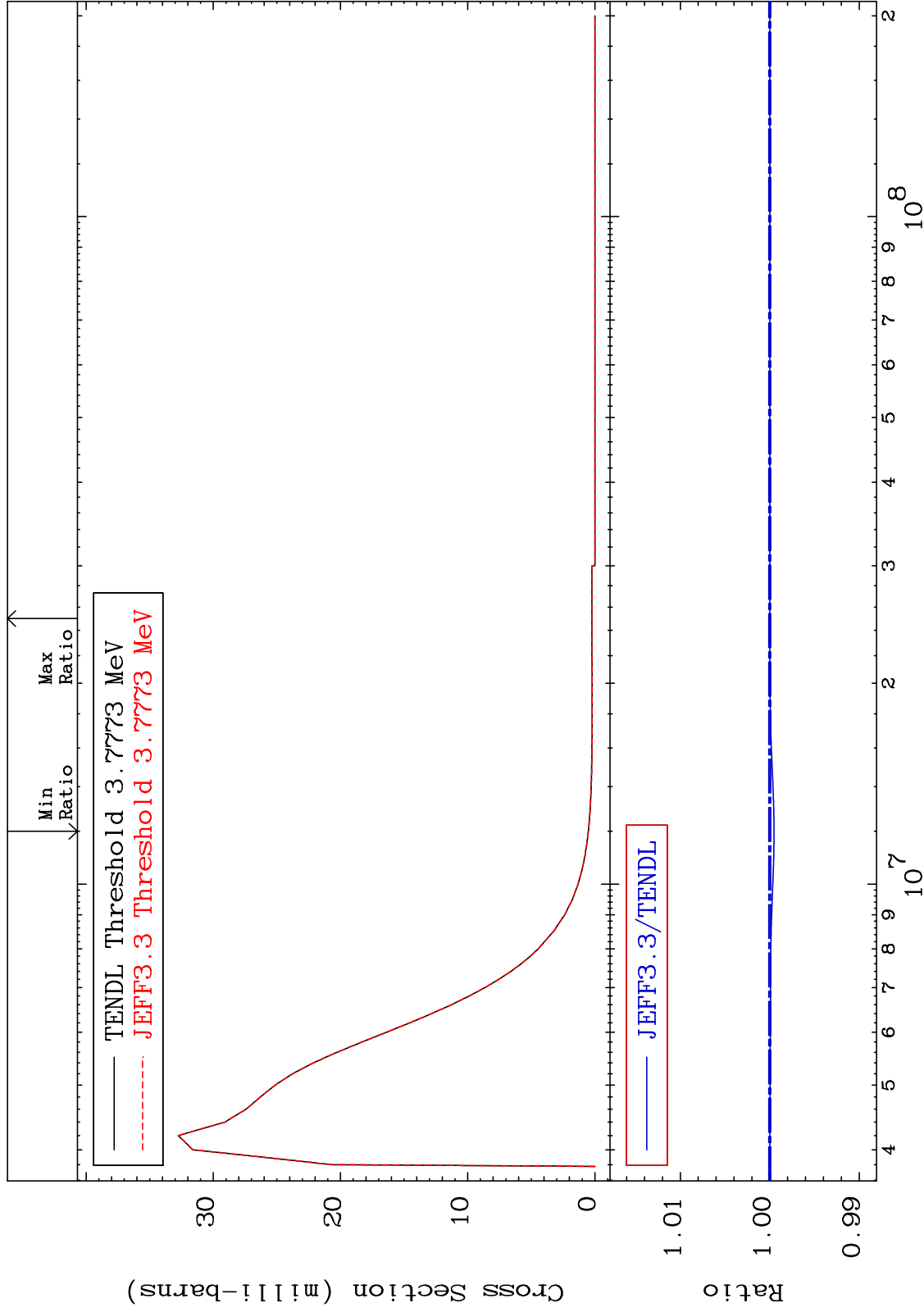
MAT 2231 MT= 64 (n,n') Level Cross Section -0.054 To 0.000 % 22-Ti-48



MAT 2231

MT= 65 (n,n') Level  
Cross Section

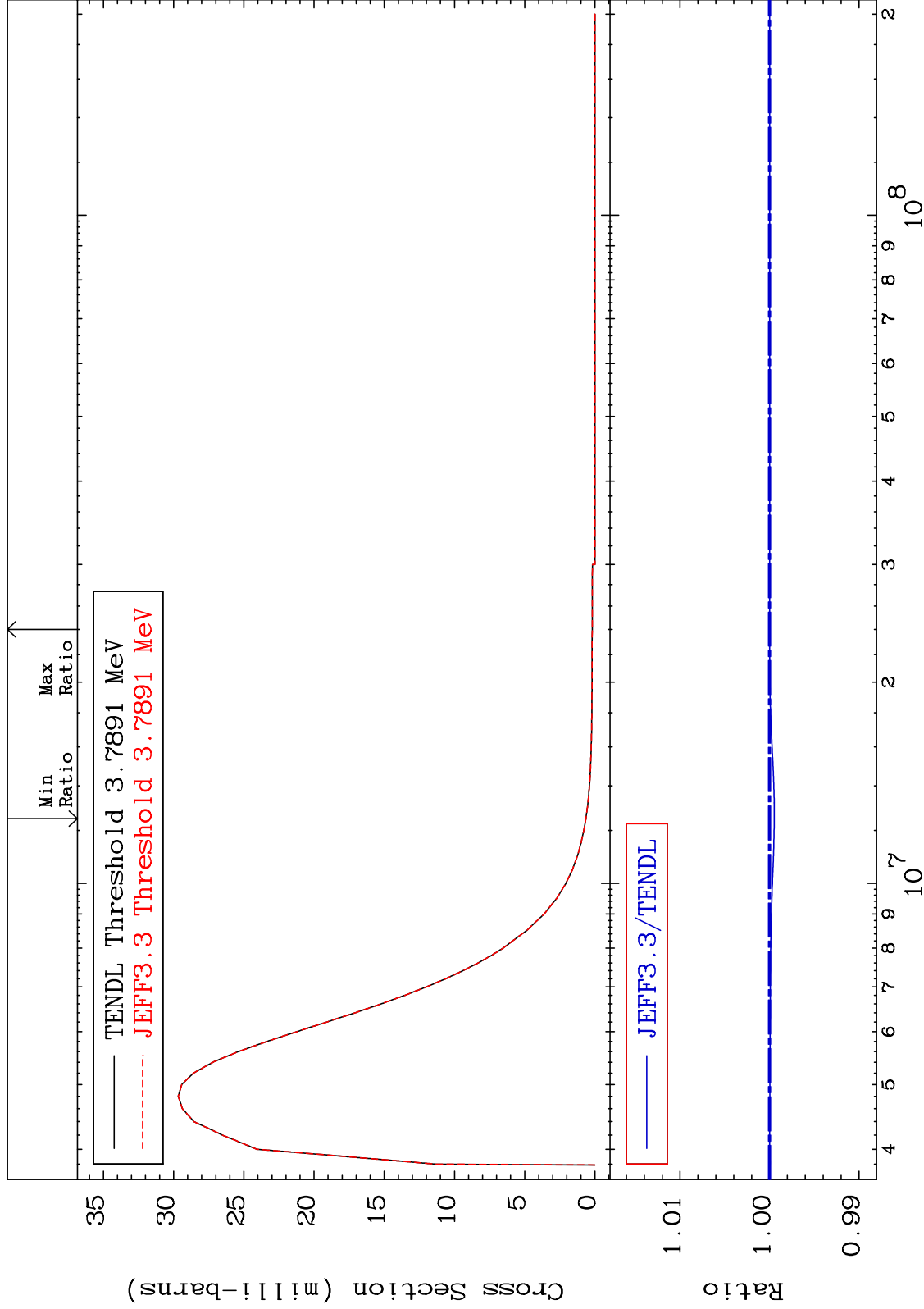
22-Ti-48  
-0.047 To 0.000 %



MAT 2231

MT= 66 (n,n') Level  
Cross Section

22-Ti-48  
-0.053 To 0.000 %



29

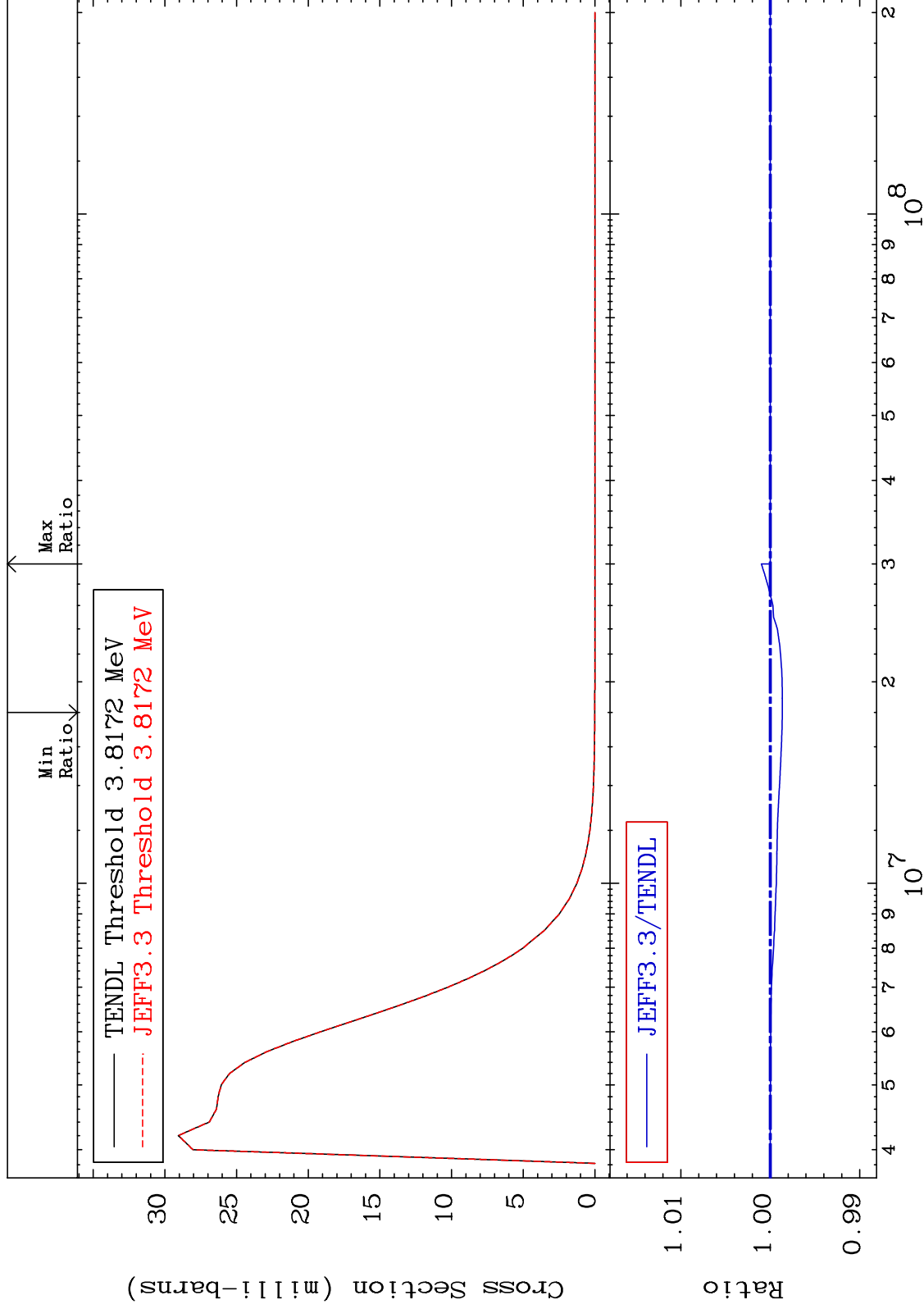
Incident Energy (eV)

22-Ti-48

MAT 2231

MT= 67 (n,n') Level  
Cross Section

22-Ti-48  
-0.136 To 0.099 %

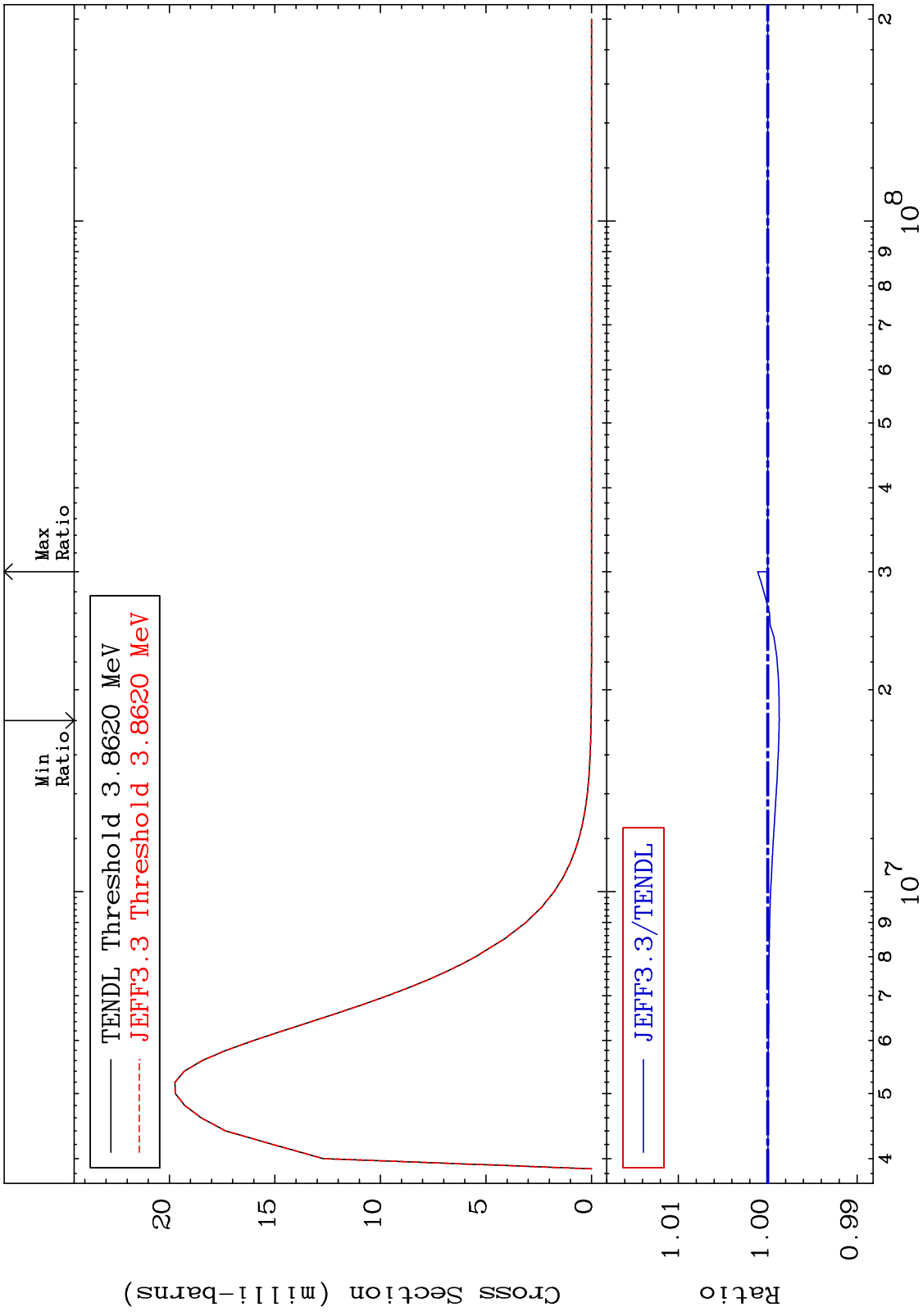


30

Incident Energy (eV)

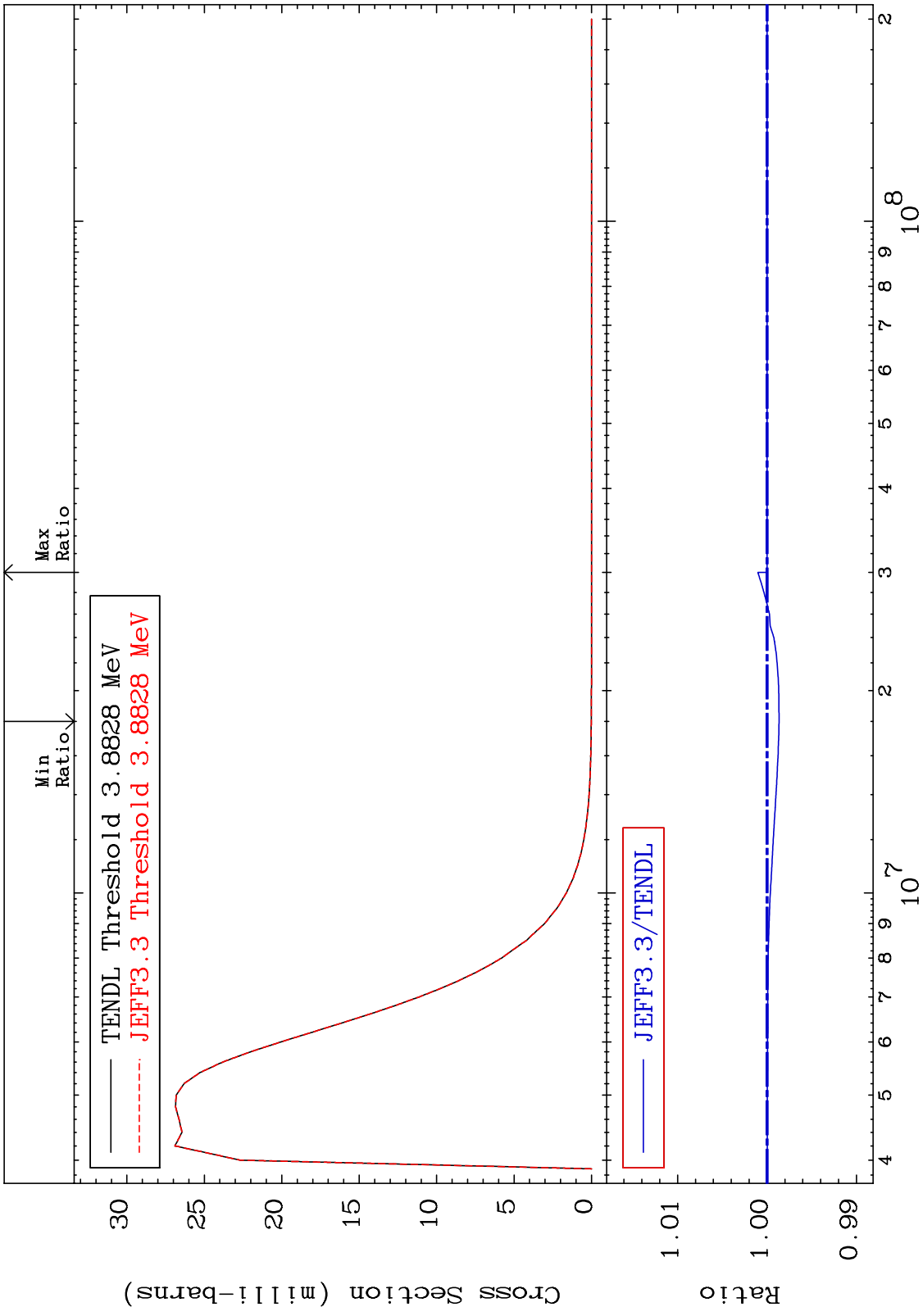
22-Ti-48

MAT 2231 MT= 68 (n,n') Level Cross Section -0.129 To 0.112 % 22-Ti-48





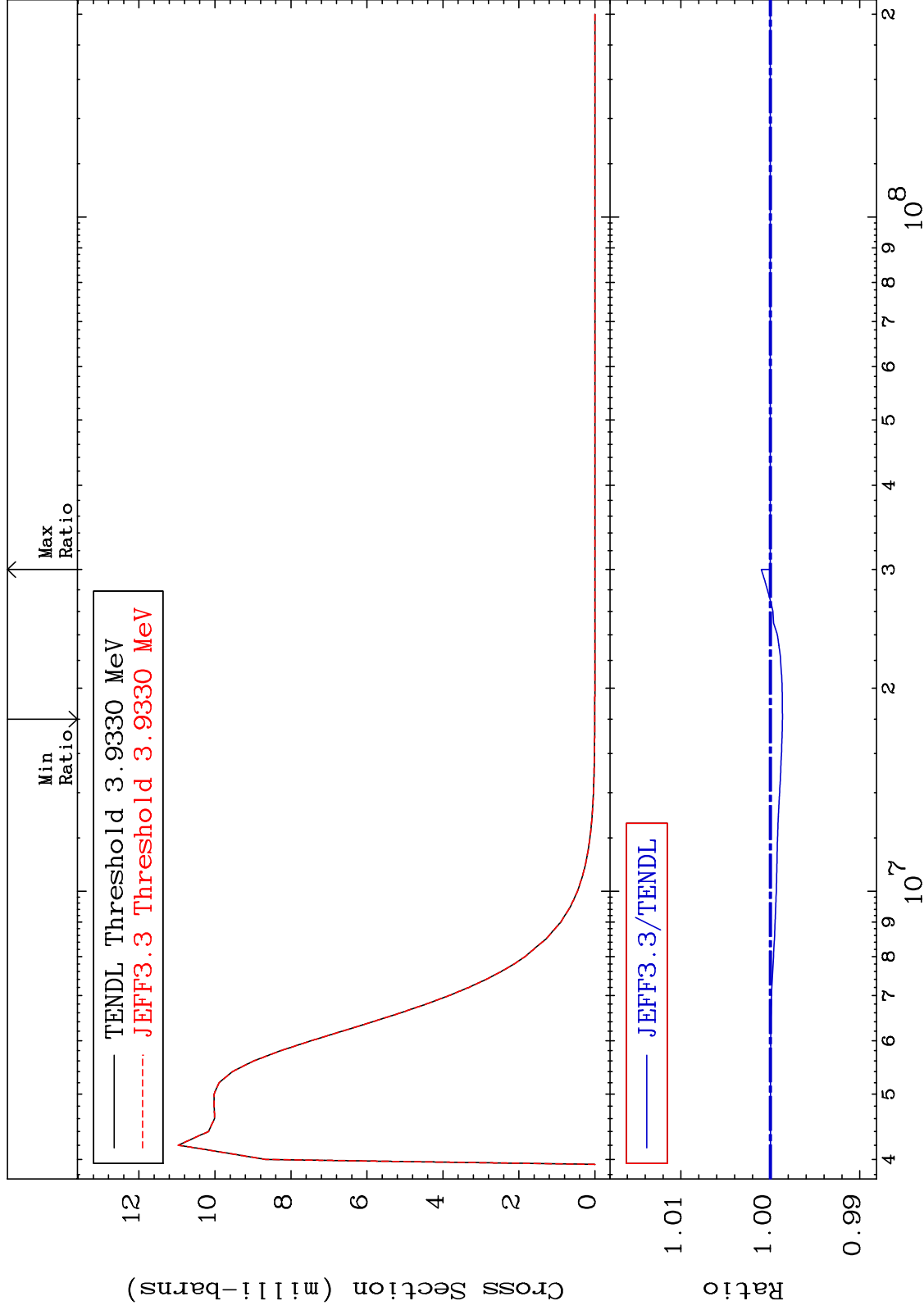
MAT 2231      MT= 69 (n,n') Level Cross Section      22-Ti-48  
 -0.134 To 0.103 %

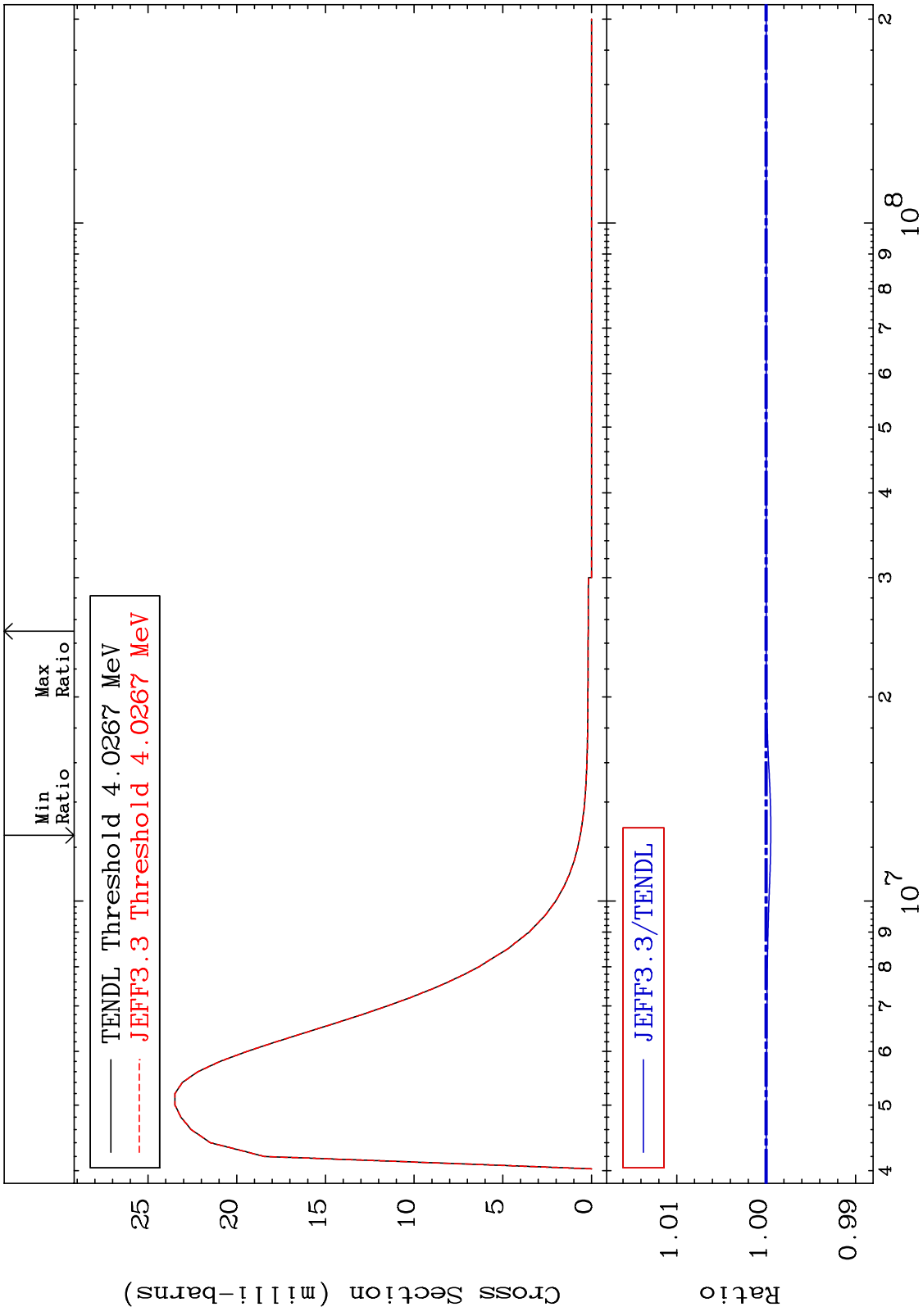


MAT 2231

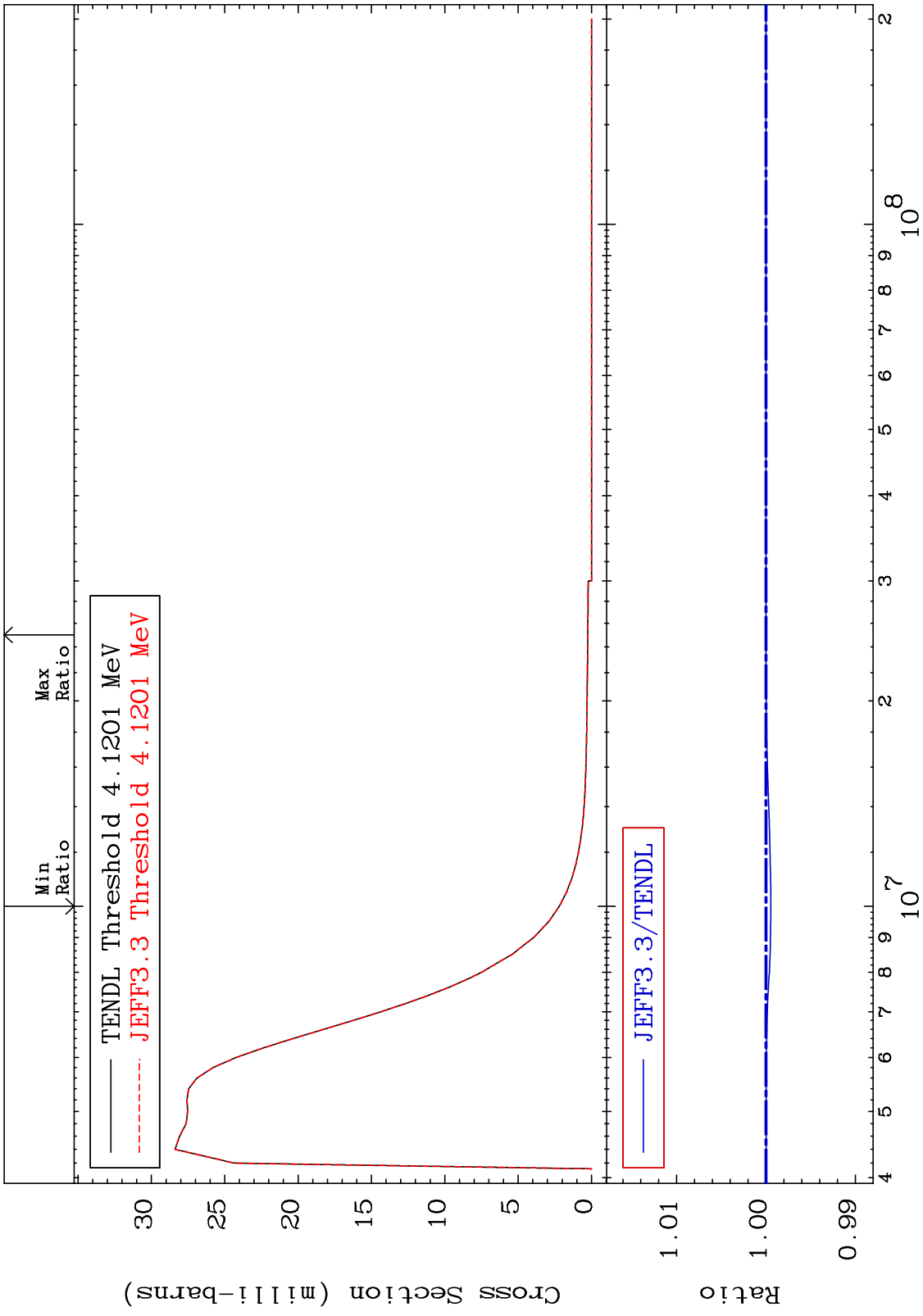
MT= 70 (n,n') Level  
Cross Section

22-Ti-48  
-0.135 To 0.102 %

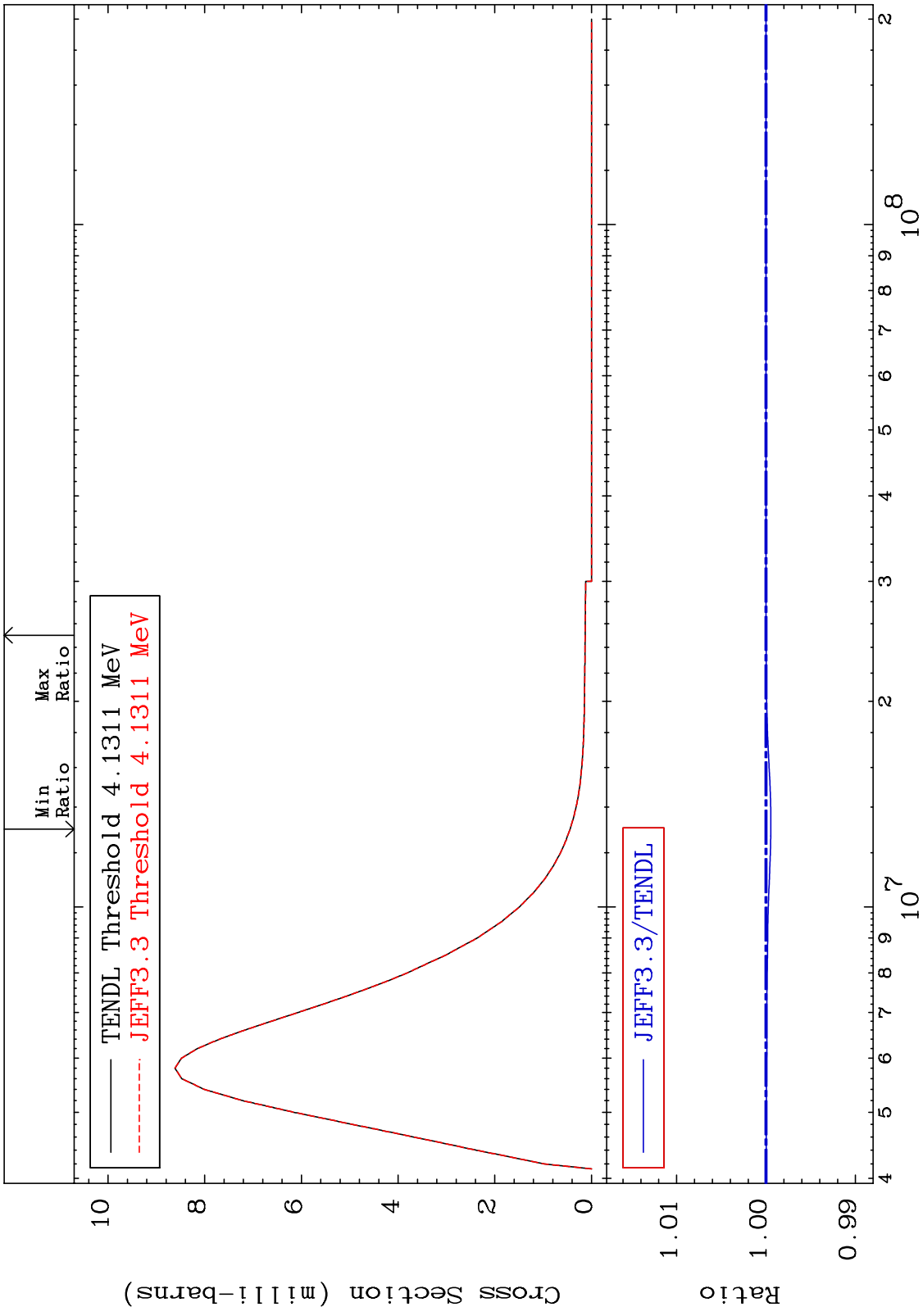




MAT 2231 MT= 72 (n,n') Level Cross Section 22-Ti-48  
 -0.055 To 0.000 %



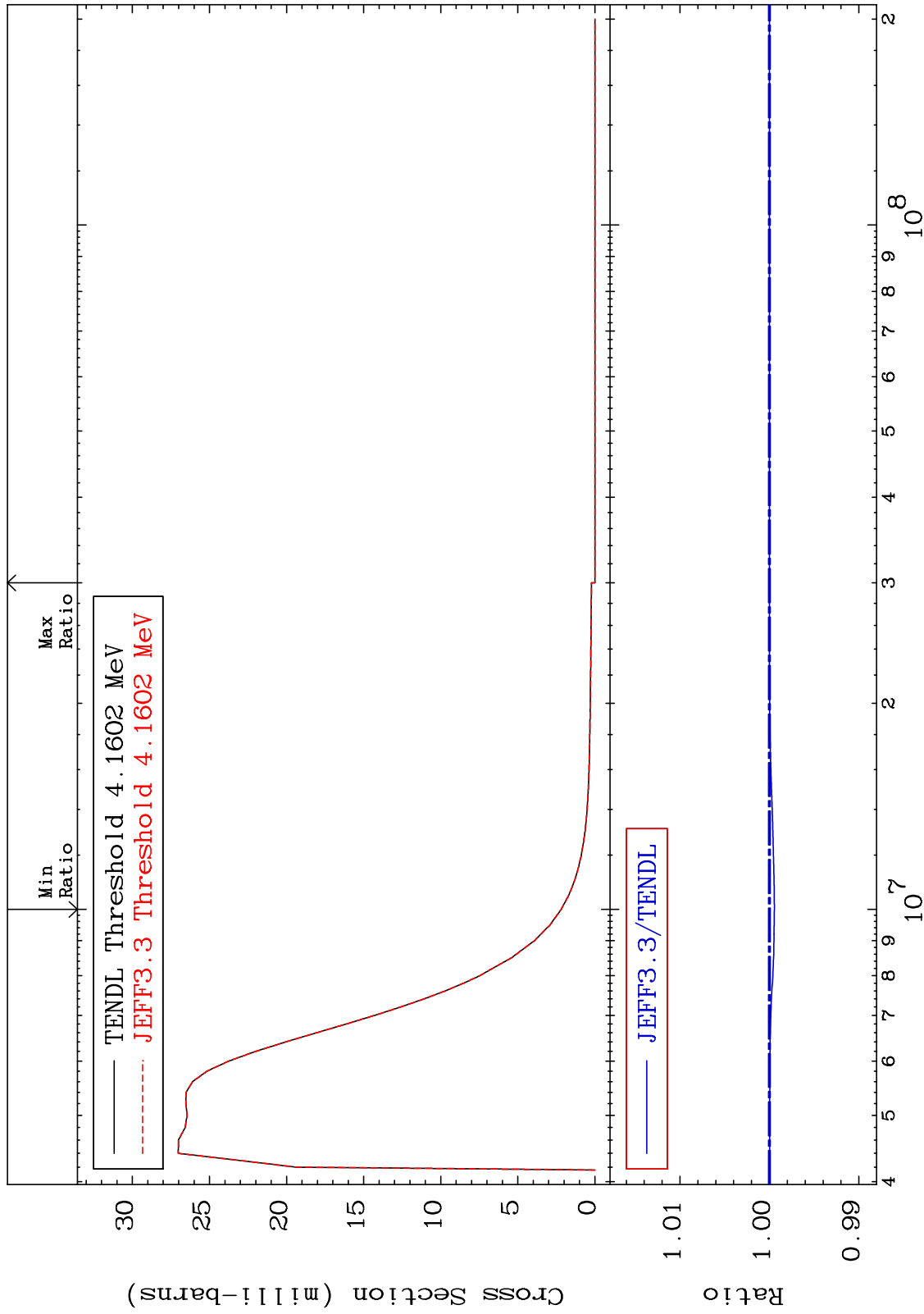
MAT 2231 MT= 73 (n,n') Level Cross Section -0.054 To 0.000 % 22-Ti-48



MAT 2231

MT= 74 (n,n') Level  
Cross Section

22-Ti-48  
-0.055 To 0.000 %

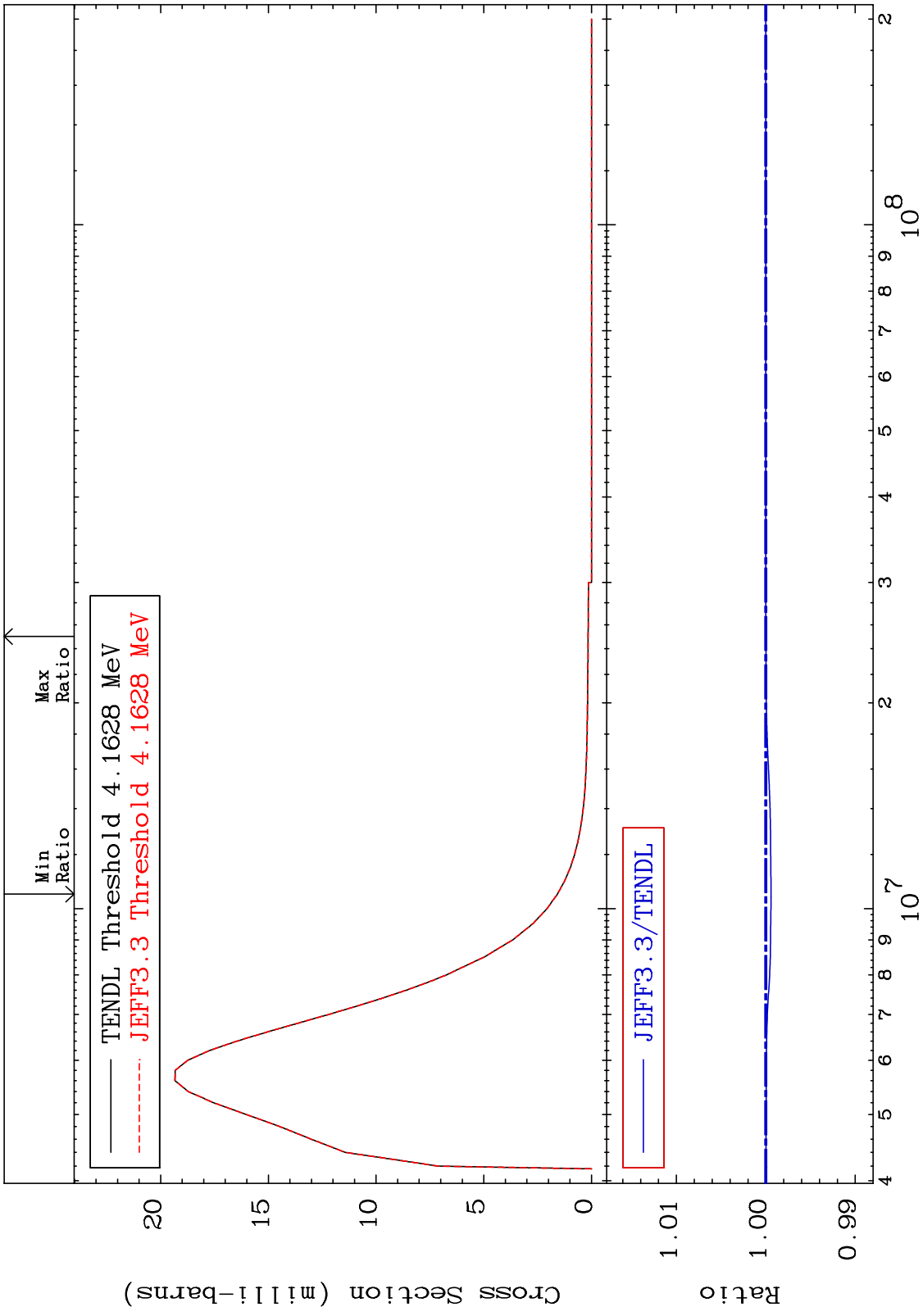


37

Incident Energy (eV)

22-Ti-48

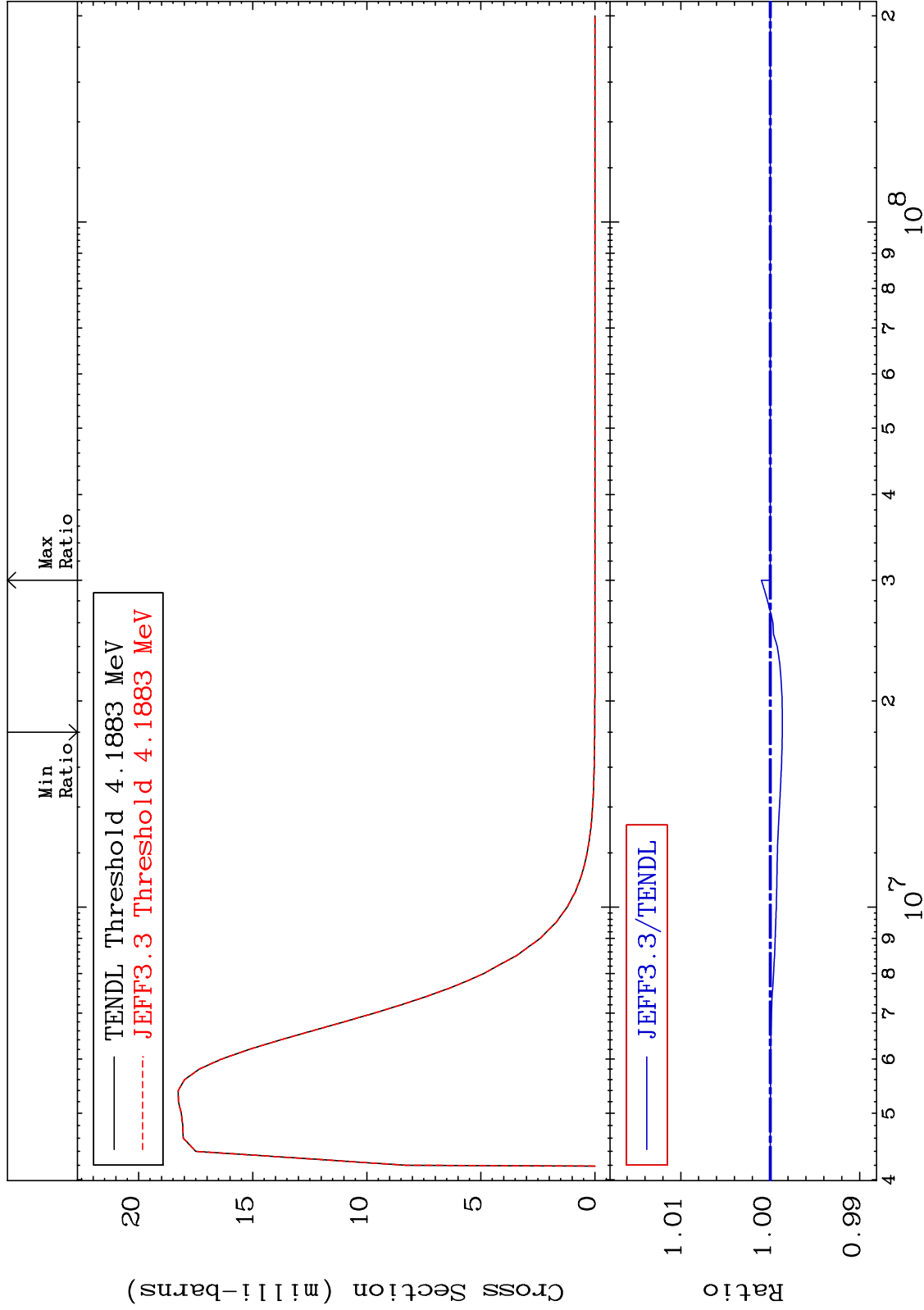
MAT 2231 MT= 75 (n,n') Level Cross Section -0.058 To 0.000 % 22-Ti-48



MAT 2231

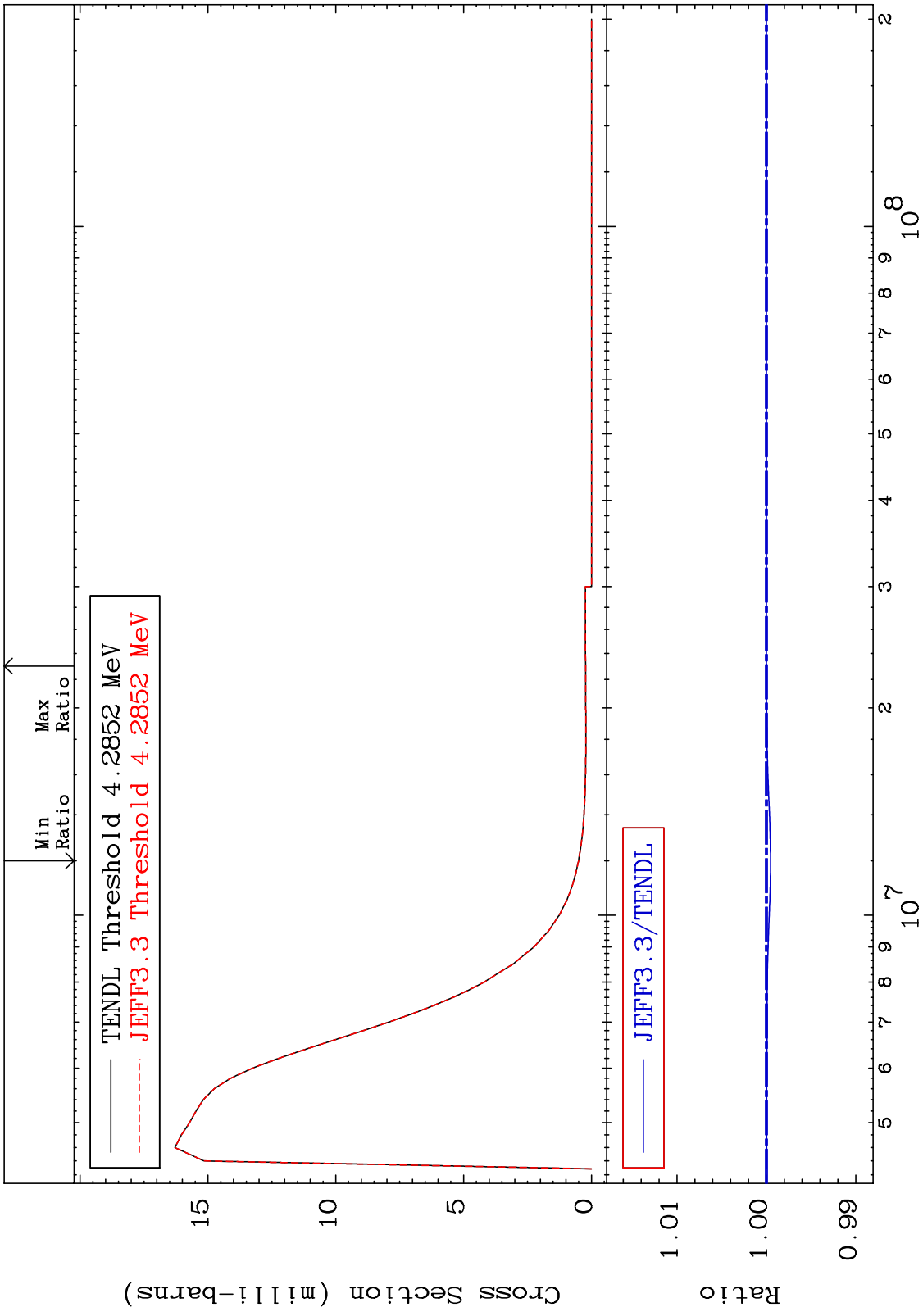
MT= 76 (n,n') Level  
Cross Section

22-Ti-48  
-0.136 To 0.098 %





MAT 2231      MT= 77 (n,n') Level      22-Ti-48  
Cross Section      -0.046 To 0.000 %

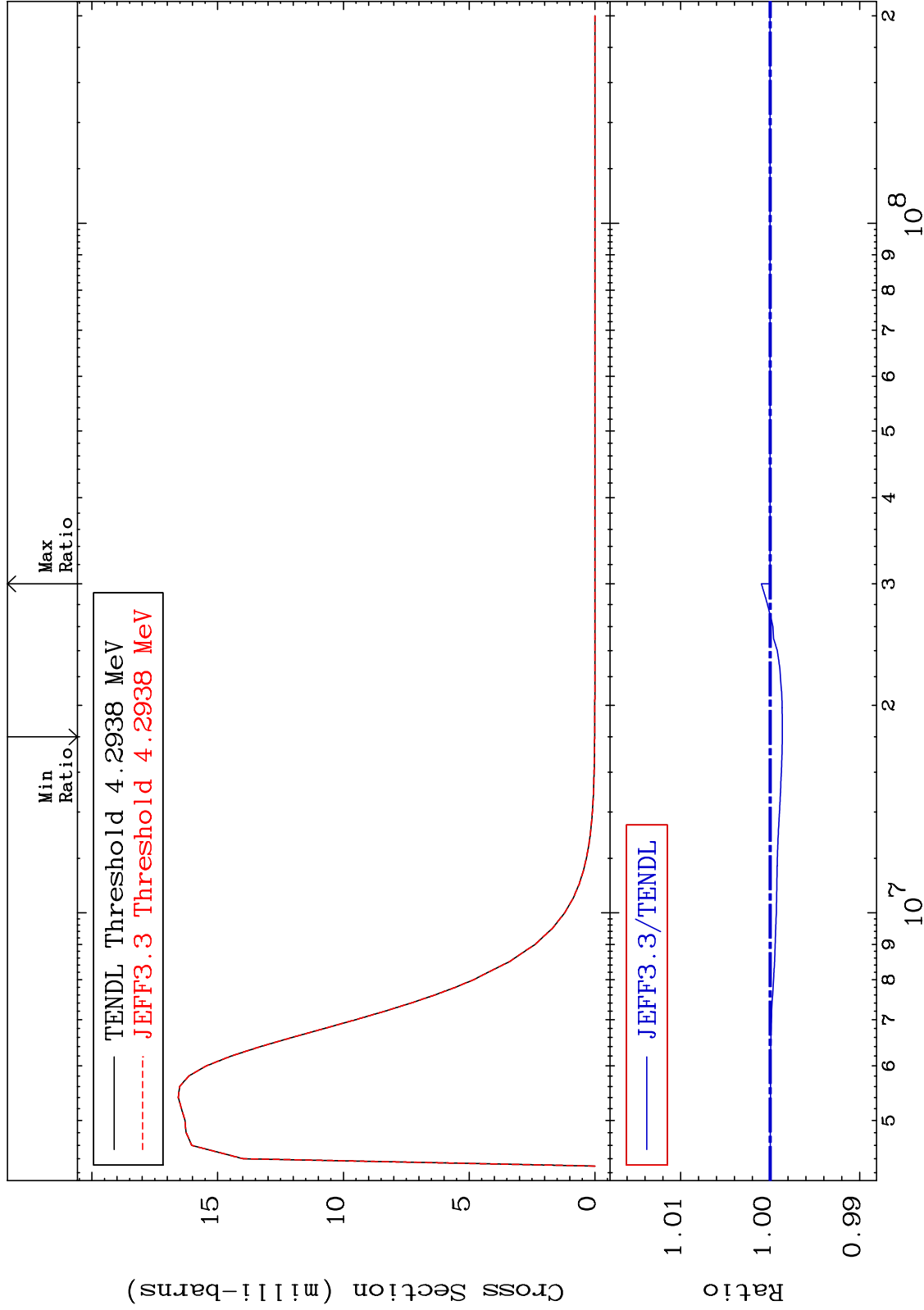


40      Incident Energy (eV)      22-Ti-48

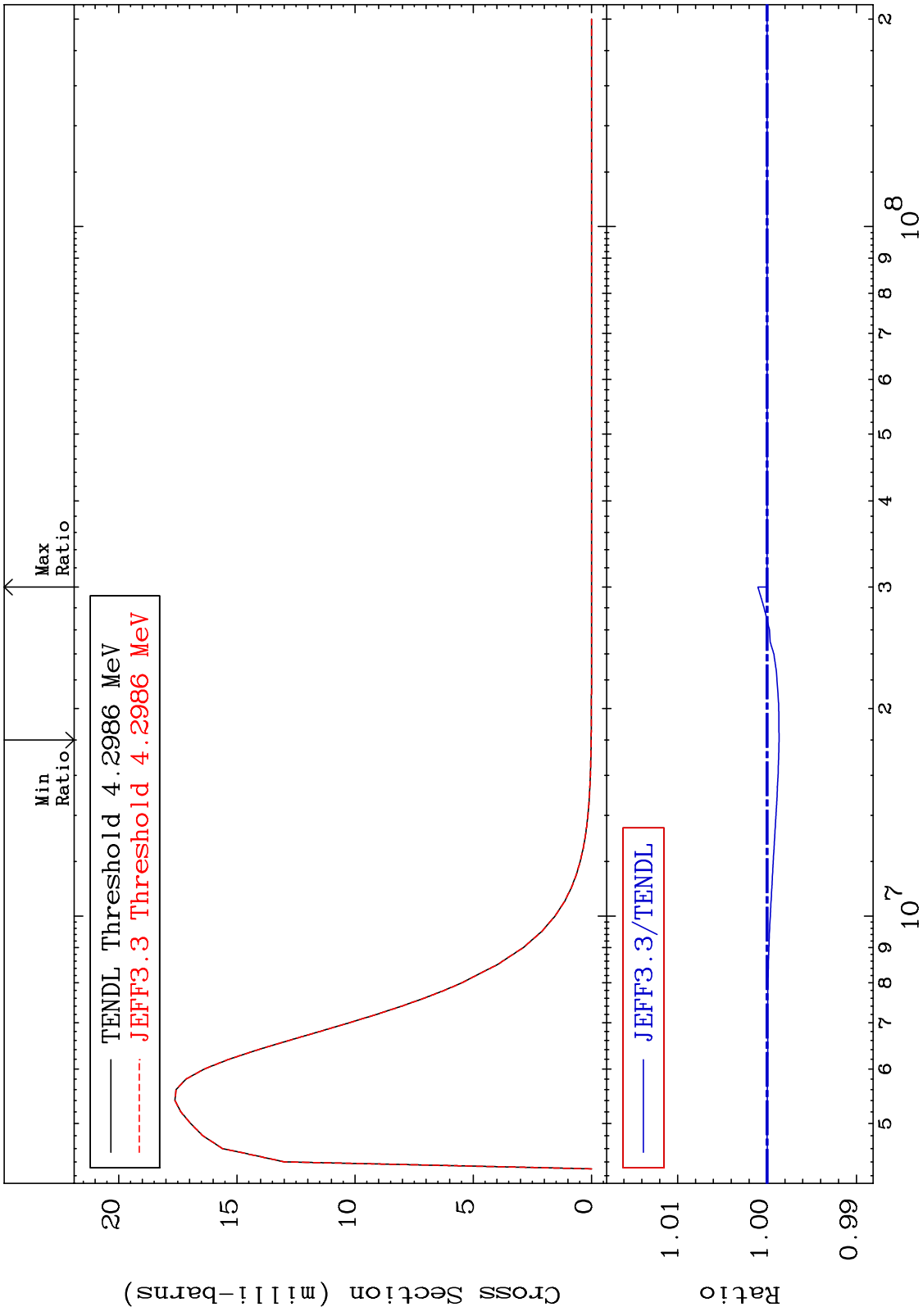
MAT 2231

MT= 78 (n,n') Level  
Cross Section

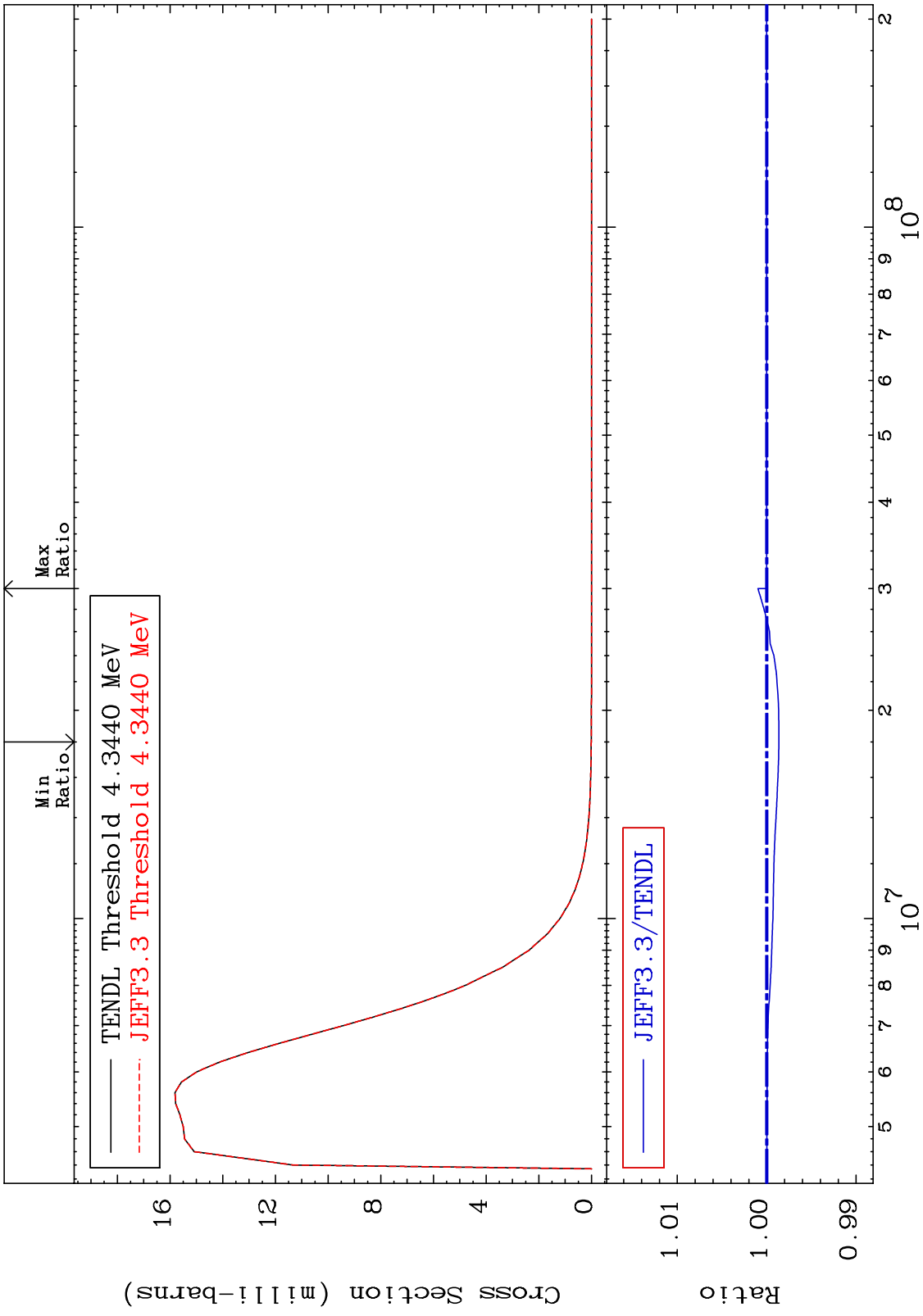
22-Ti-48  
-0.137 To 0.099 %

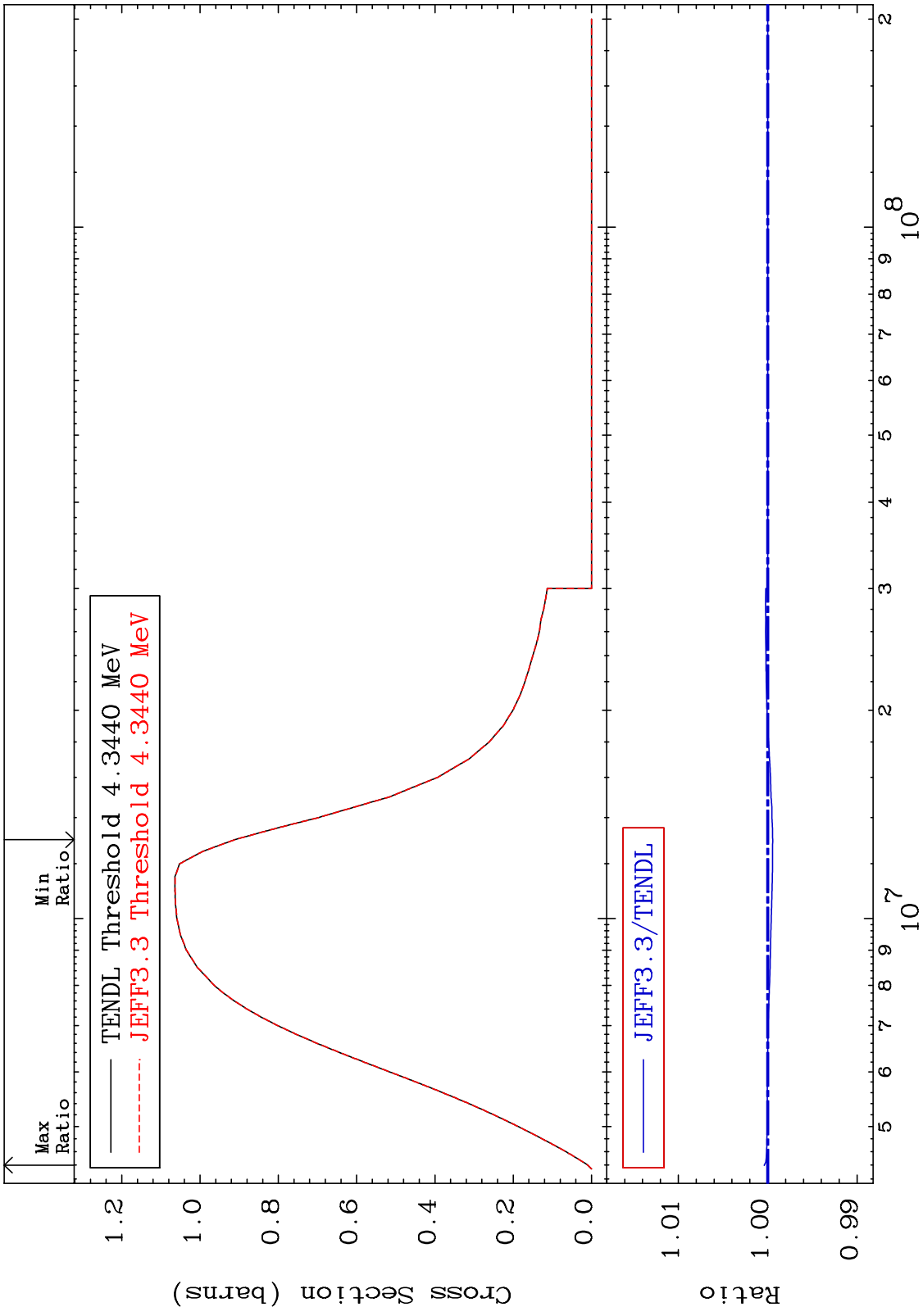


MAT 2231 MT= 79 (n,n') Level Cross Section -0.134 To 0.103 % 22-Ti-48



MAT 2231 MT= 80 (n,n') Level Cross Section -0.137 To 0.099 % 22-Ti-48





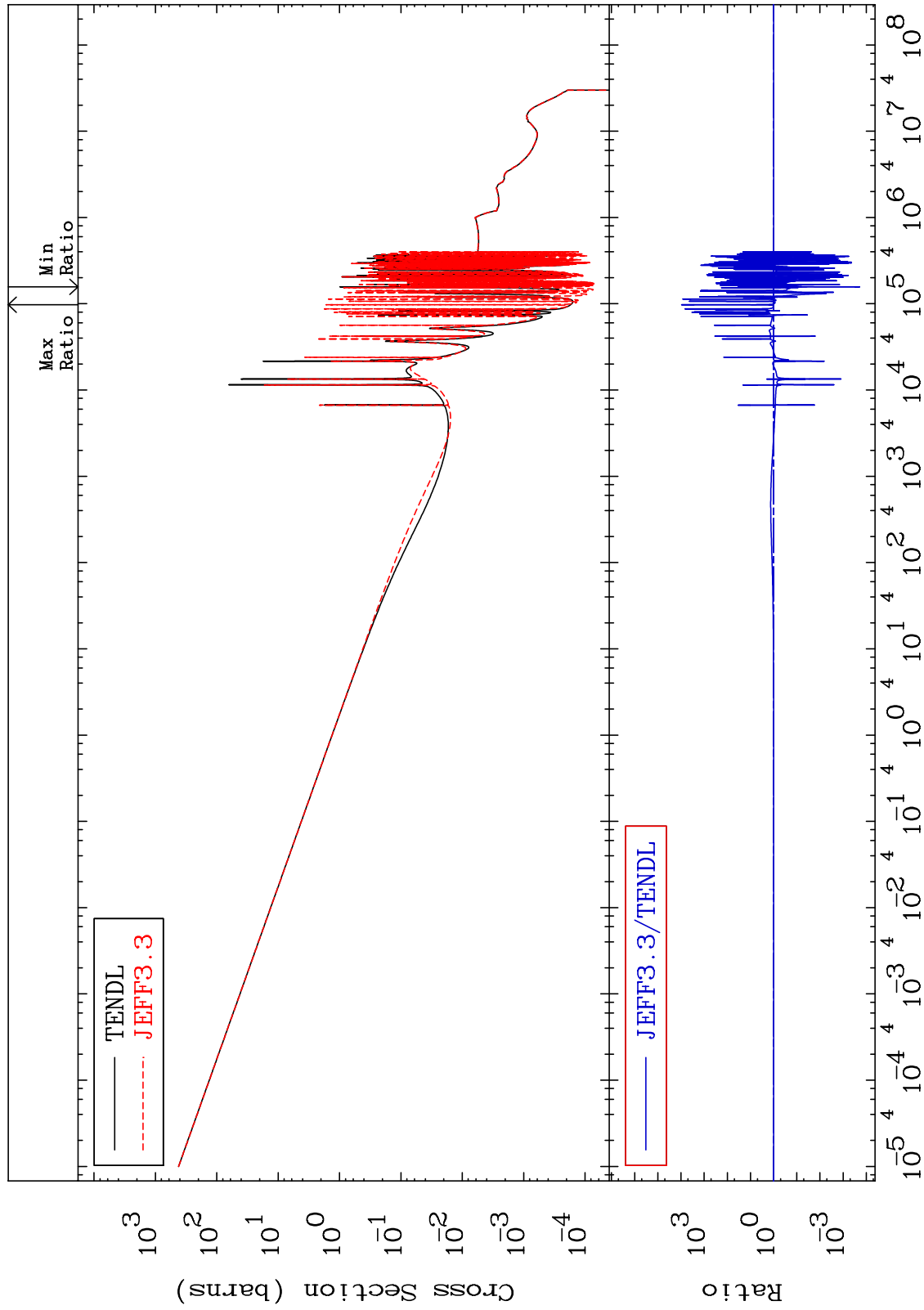
MAT 2231

(n,  $\gamma$ )

22-Ti-48

Cross Section

-99.98 To 9999. %

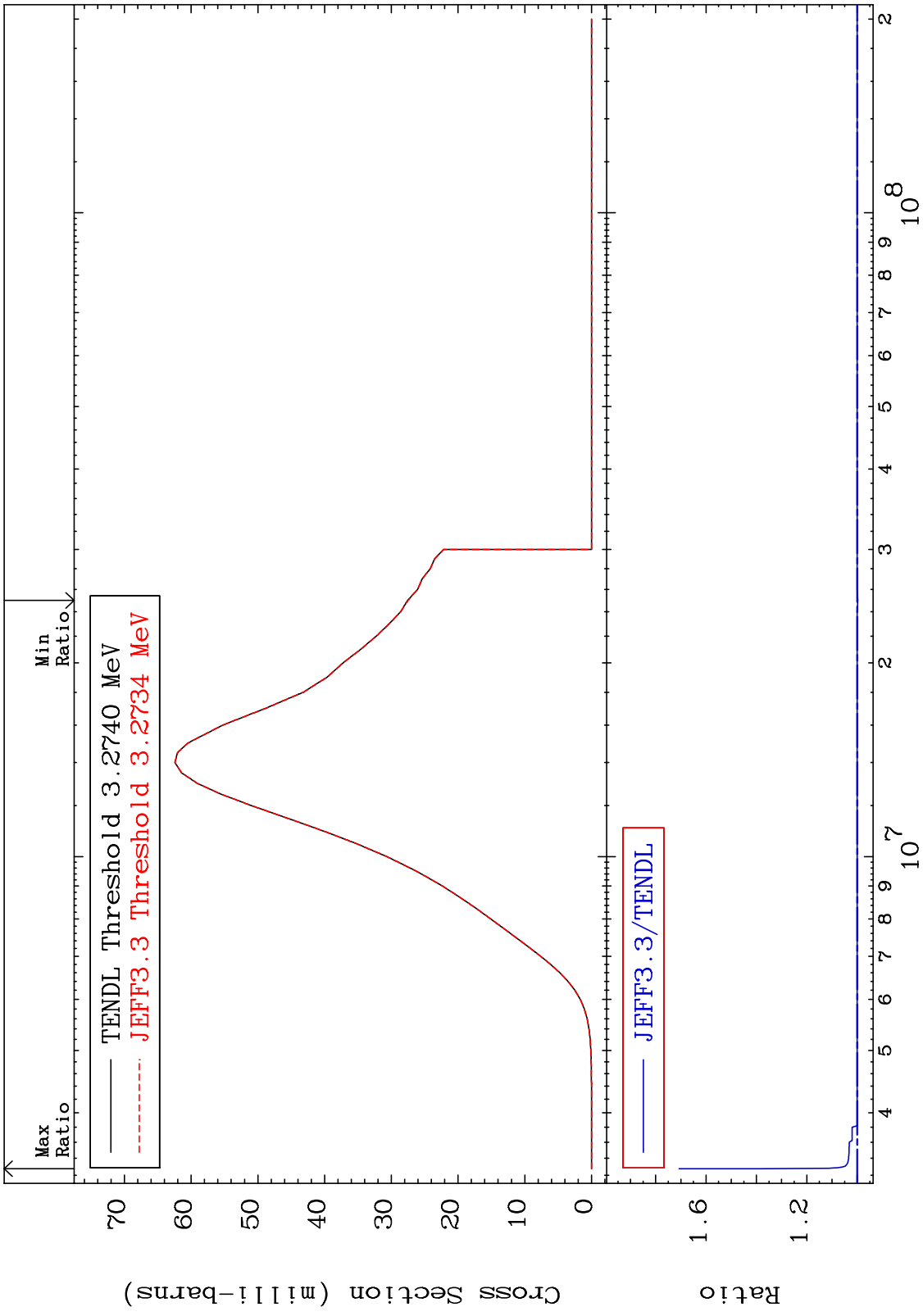


45

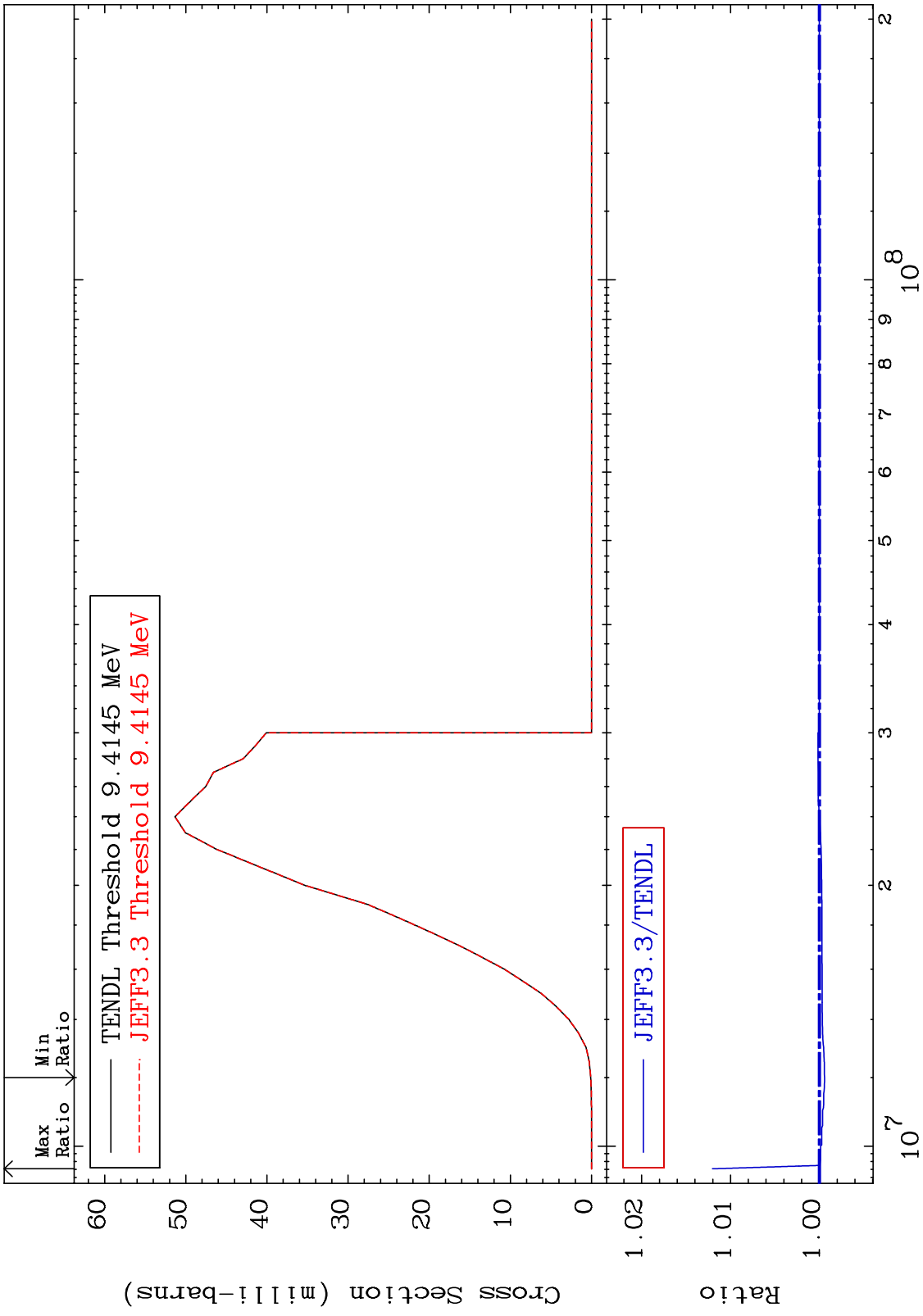
Incident Energy (eV)

22-Ti-48

MAT 2231 (n,p) 22-Ti-48  
Cross Section -0.270 To 70.72 %



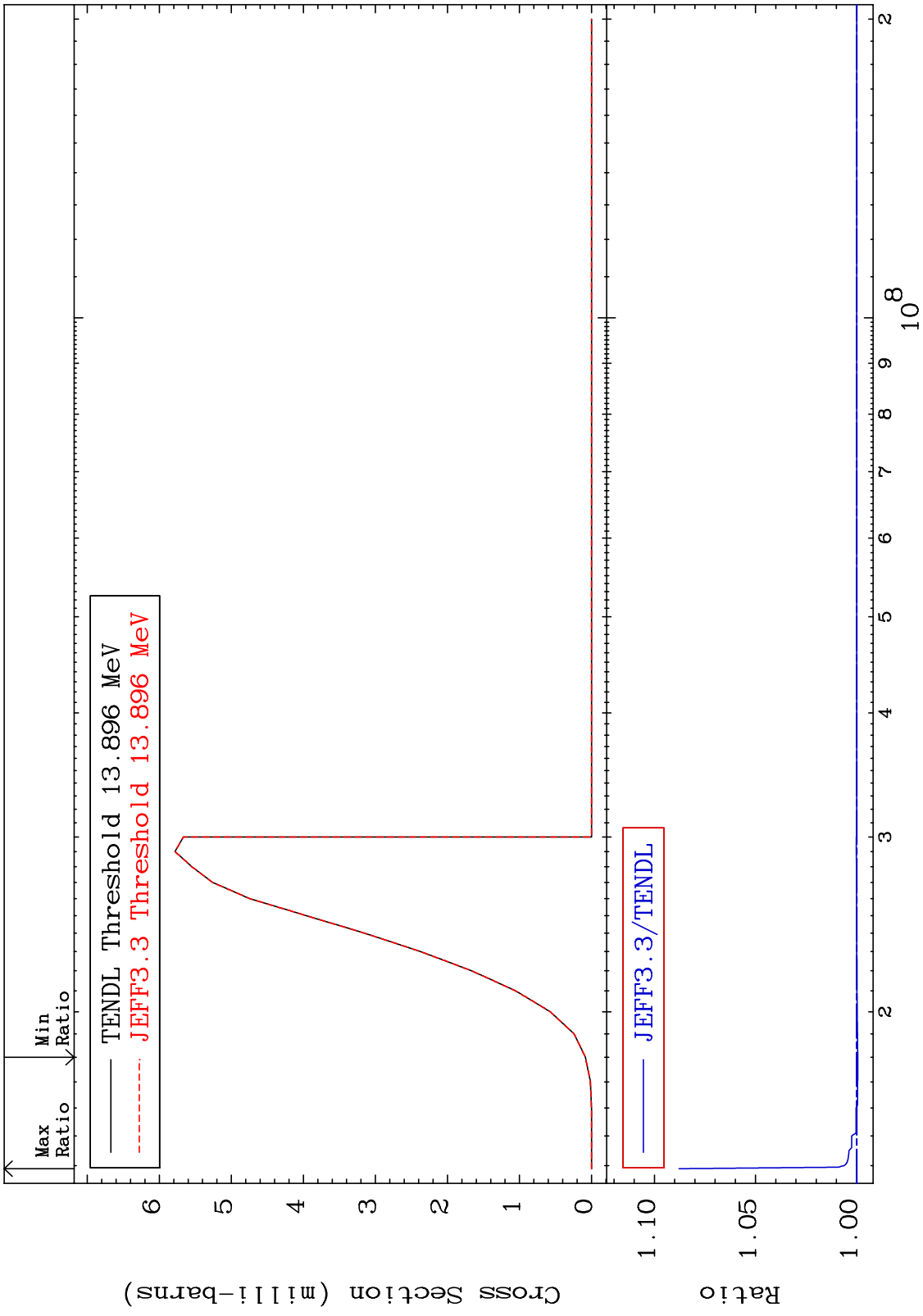
MAT 2231 (n,d) 22-Ti-48  
 Cross Section -0.058 To 1.205 %

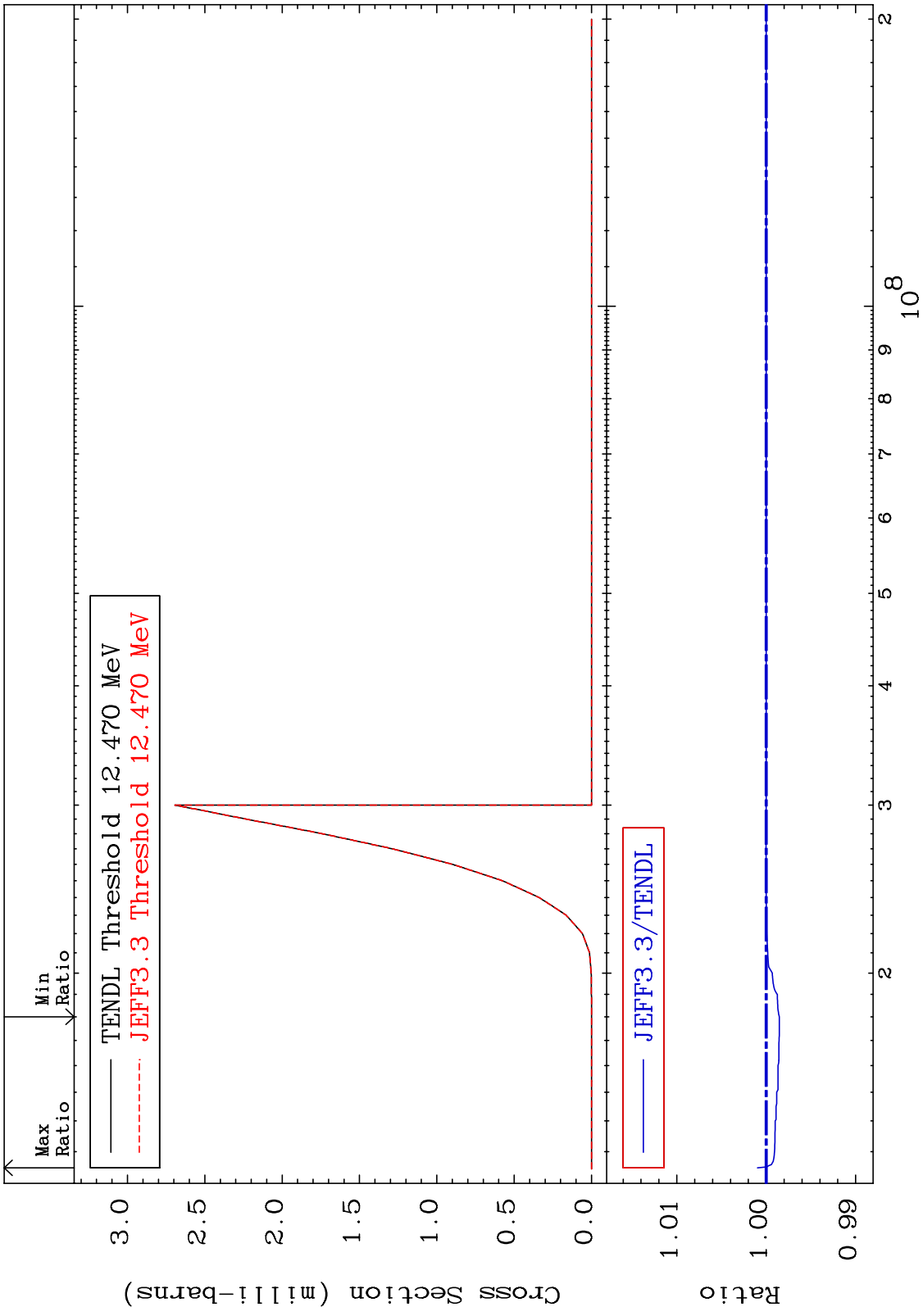


47 22-Ti-48

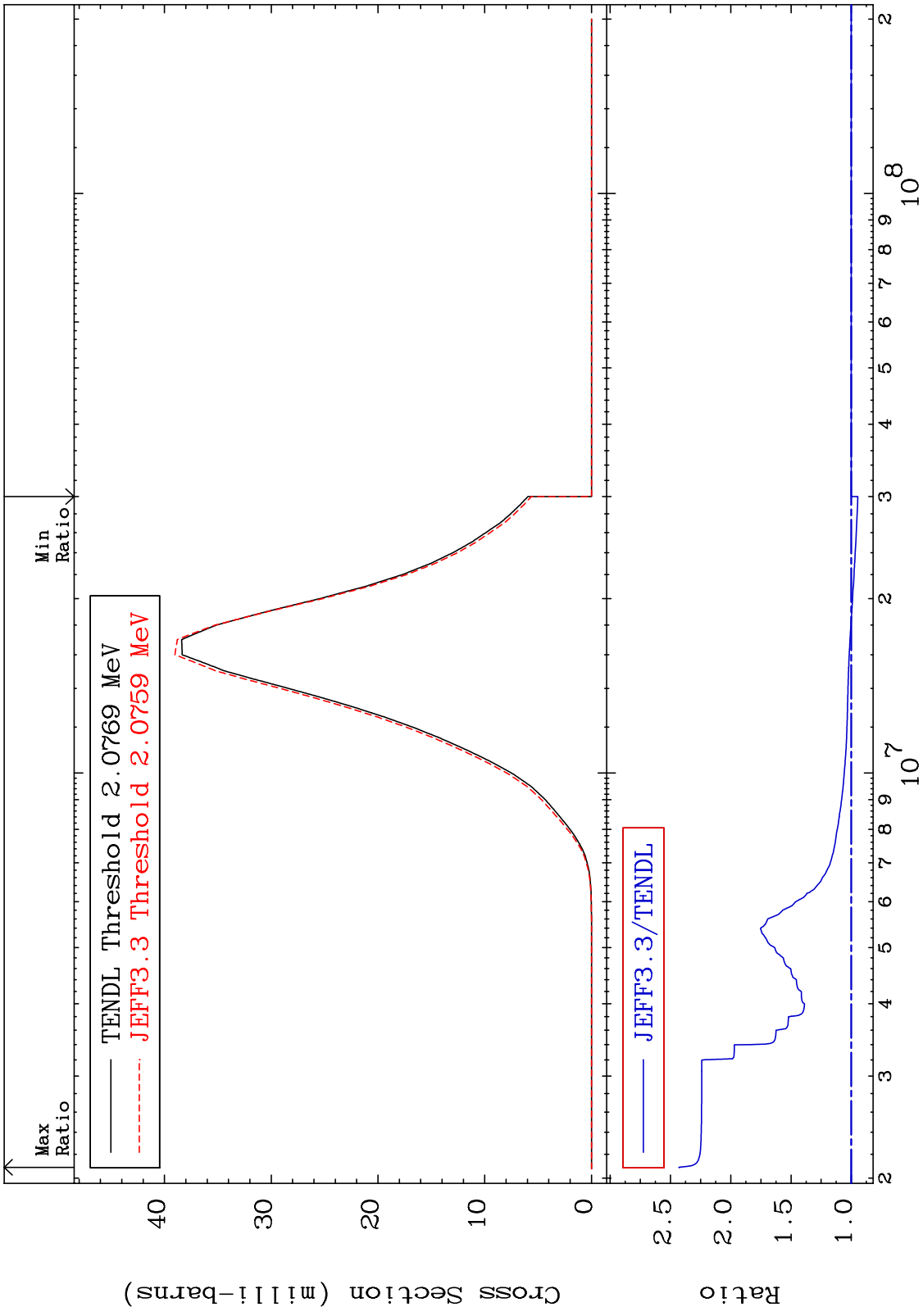


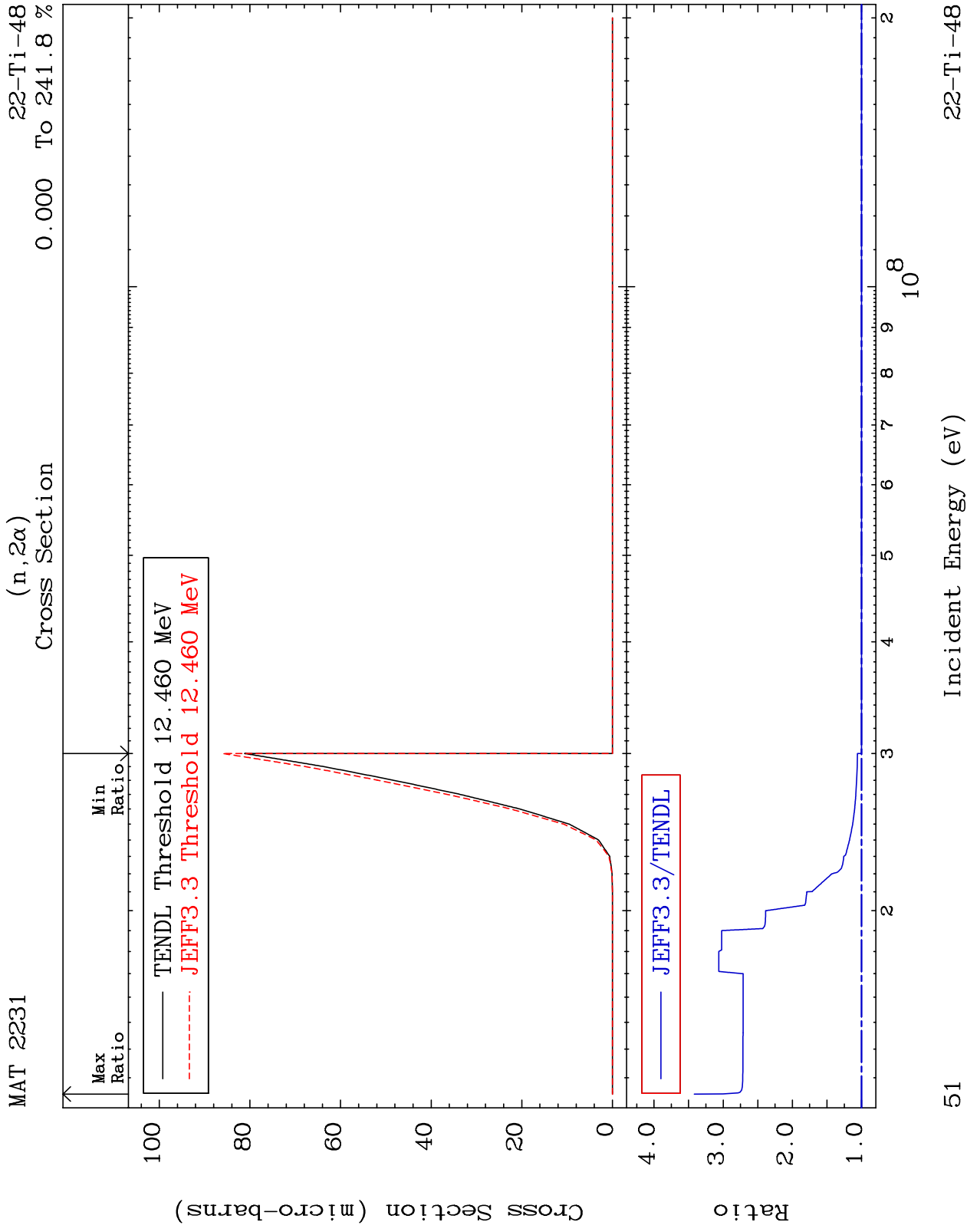
MAT 2231 (n,t) 22-Ti-48  
Cross Section -0.058 To 8.782 %



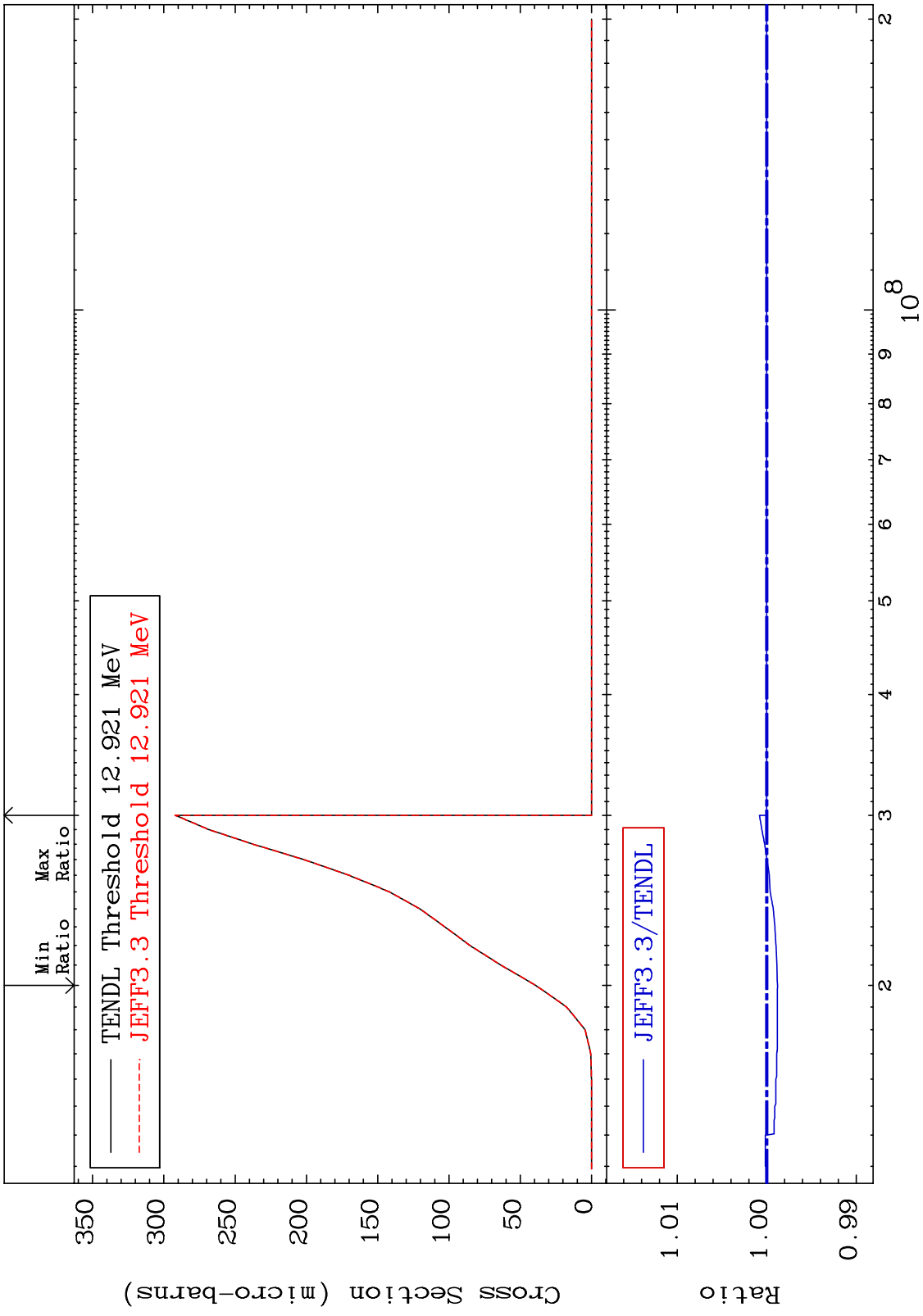


MAT 2231  $(n, \alpha)$  22-Ti-48  
 Cross Section -5.396 To 142.8 %

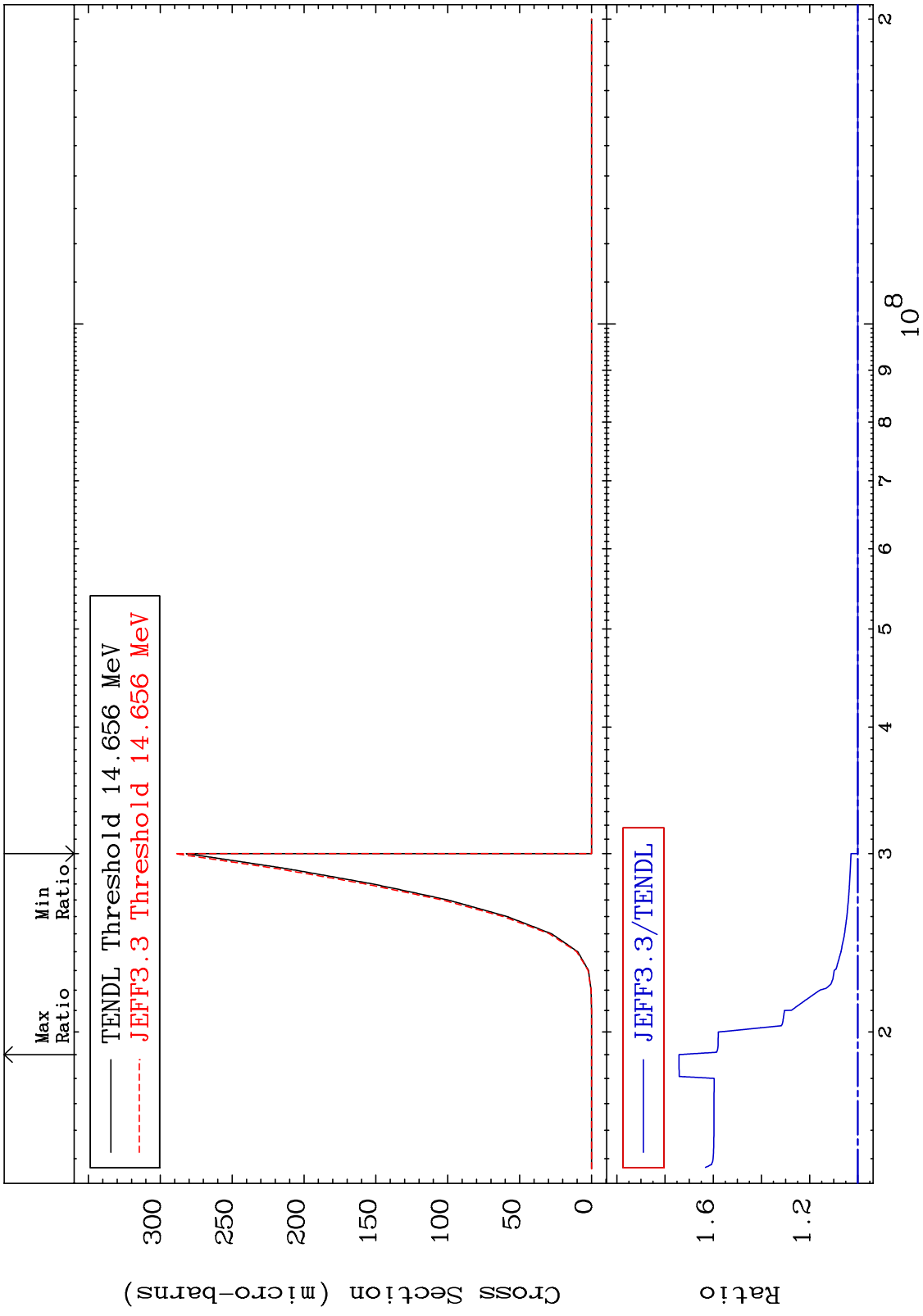




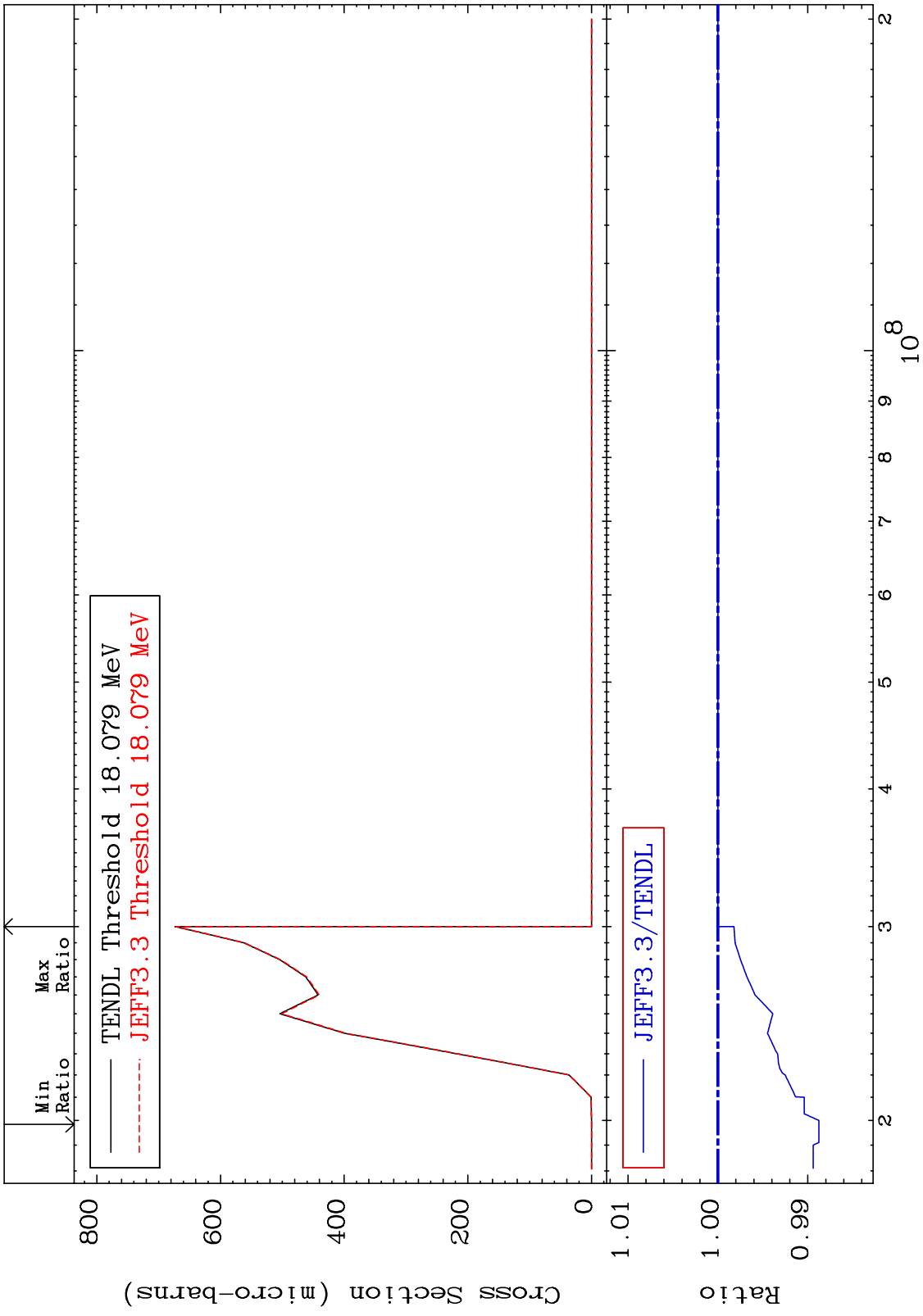
MAT 2231 (n,2p) 22-Ti-48  
 Cross Section -0.120 To 0.082 %



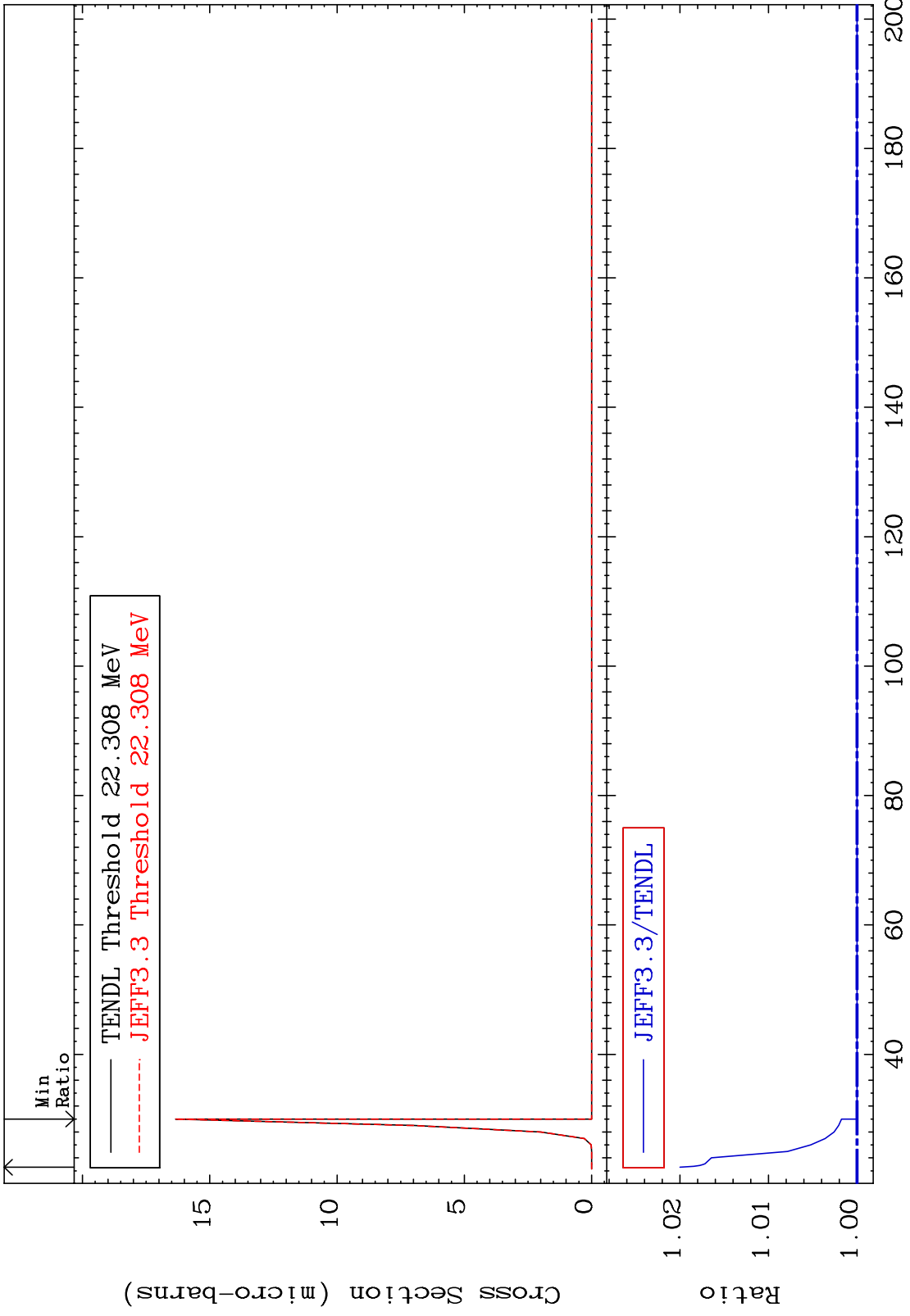
MAT 2231  $(n,p) \alpha$  22-Ti-48  
 Cross Section 0.000 To 74.20 %



MAT 2231 (n,p) d 22-Ti-48  
 Cross Section -1.124 To 0.000 %



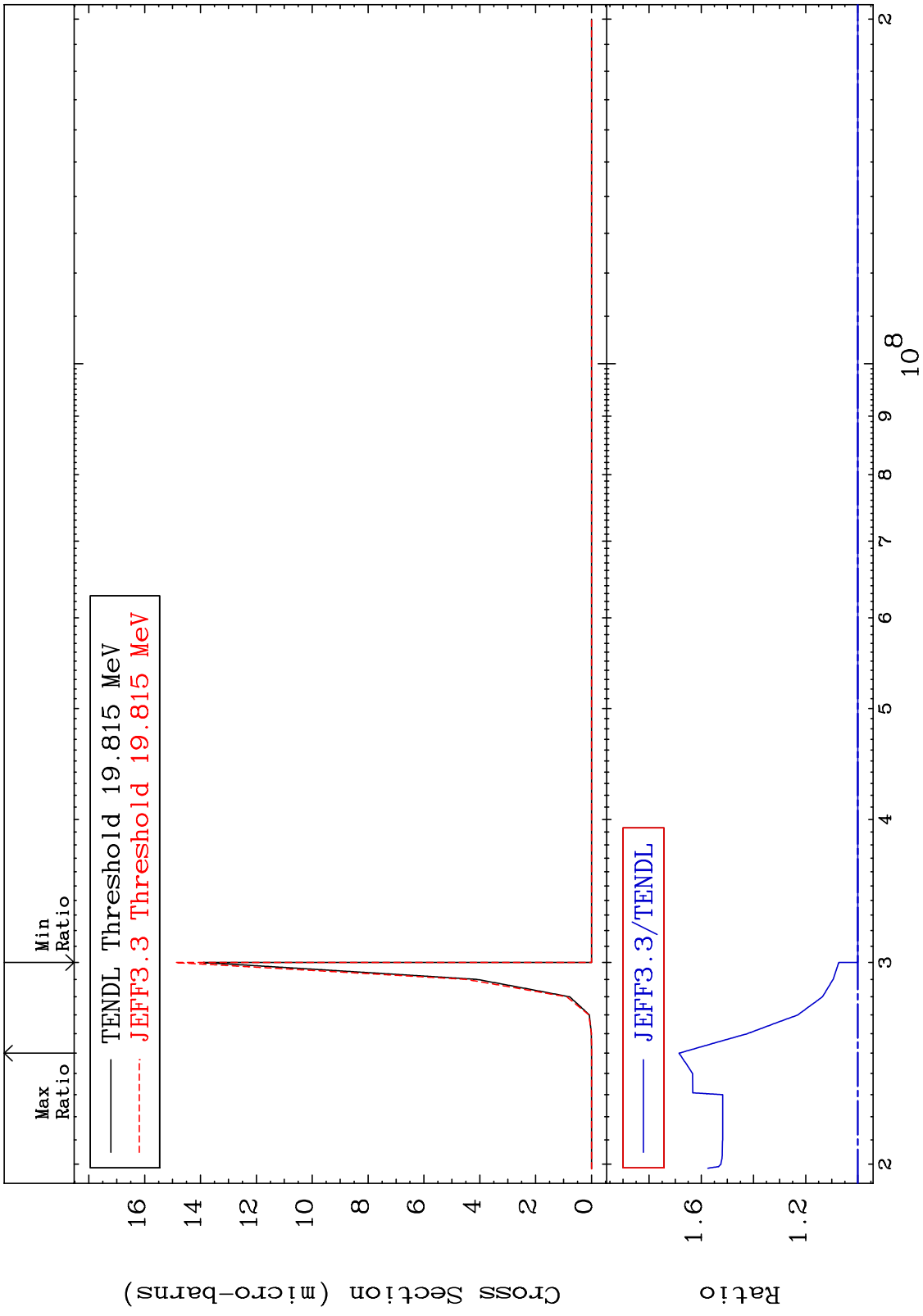
MAT 2231 (n,p) t 22-Ti-48  
 Cross Section 0.000 To 2.000 %



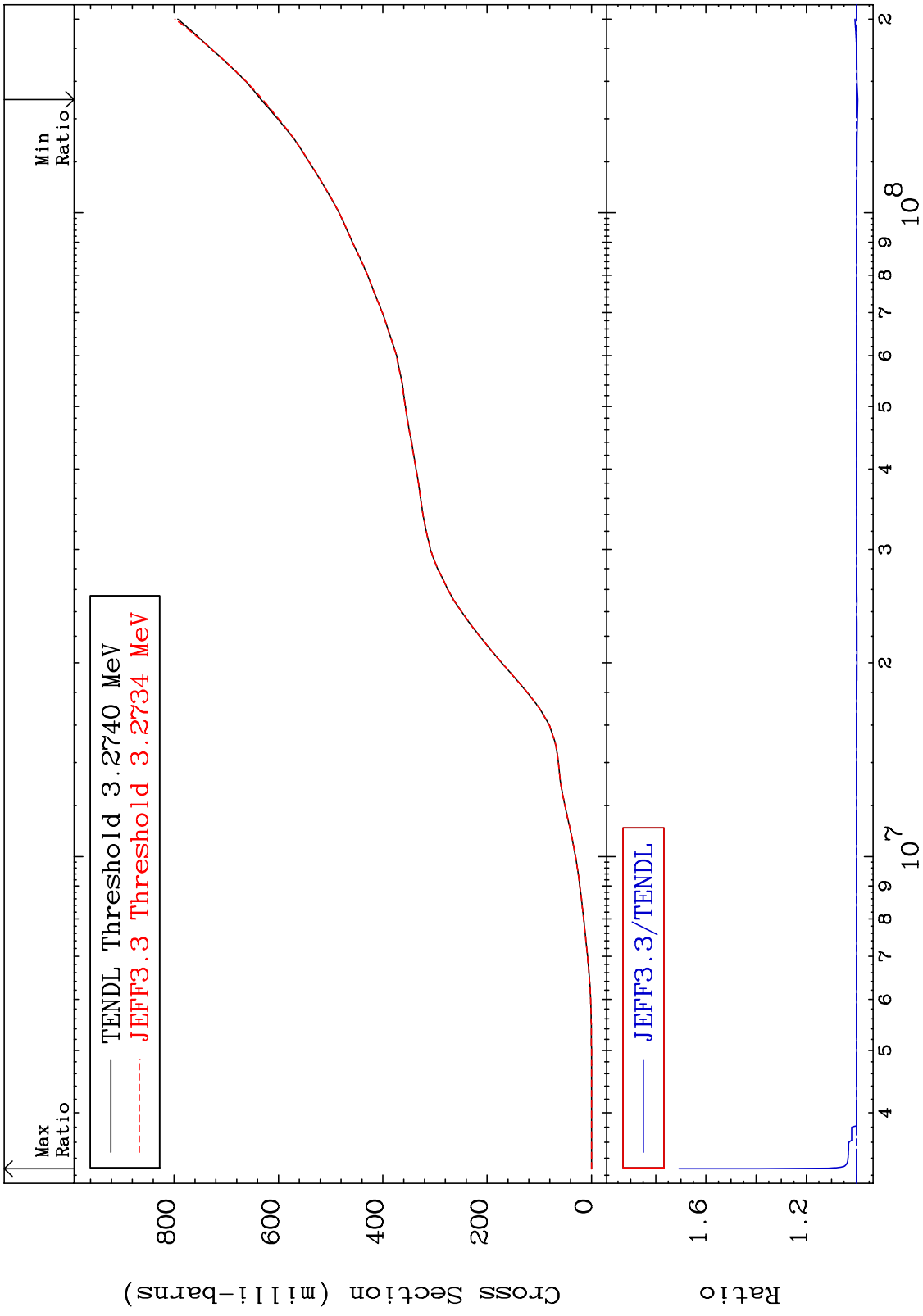
55 Incident Energy (MeV) 22-Ti-48

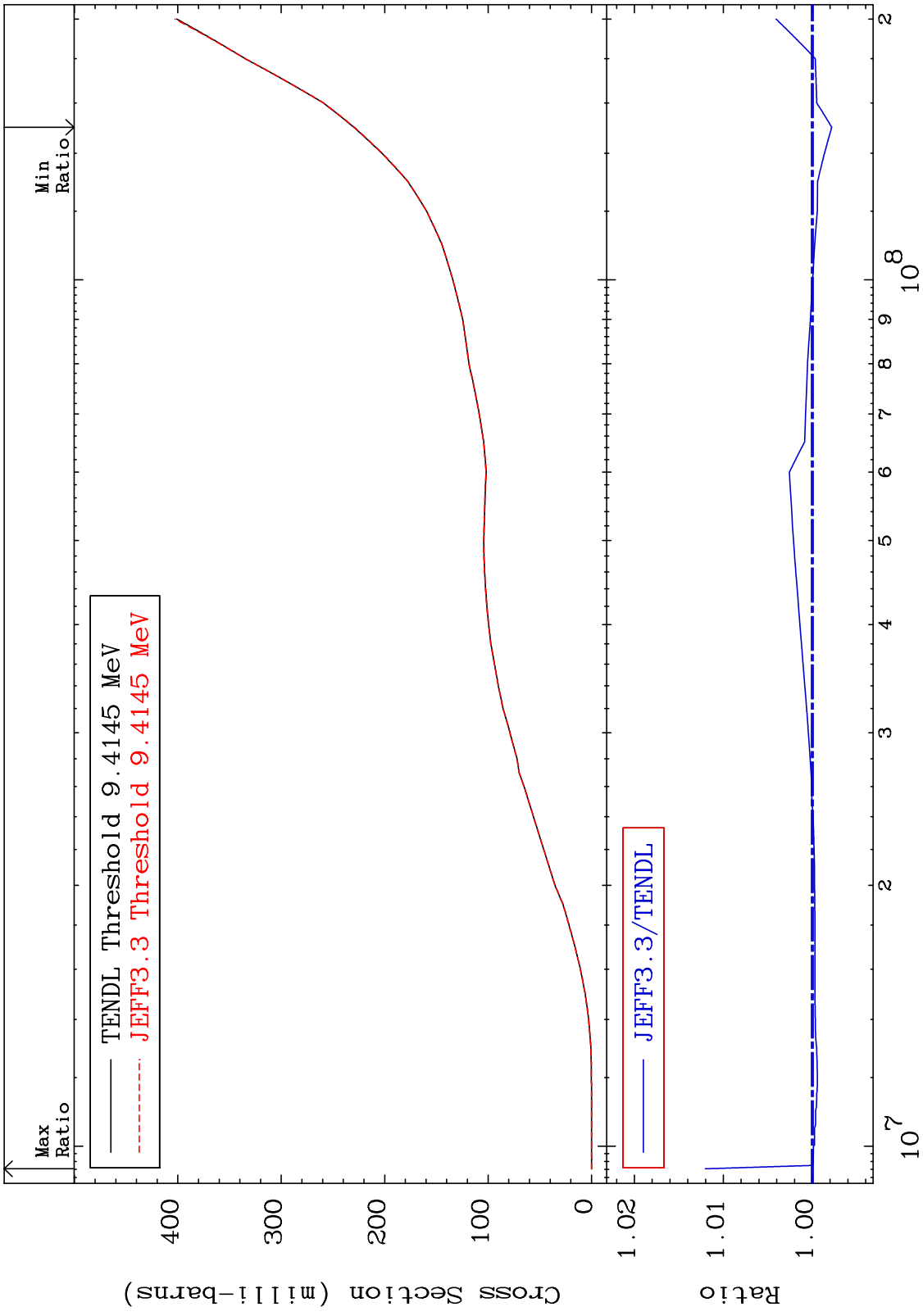


MAT 2231 (n,d)  $\alpha$  22-Ti-48  
 Cross Section 0.000 To 68.53 %

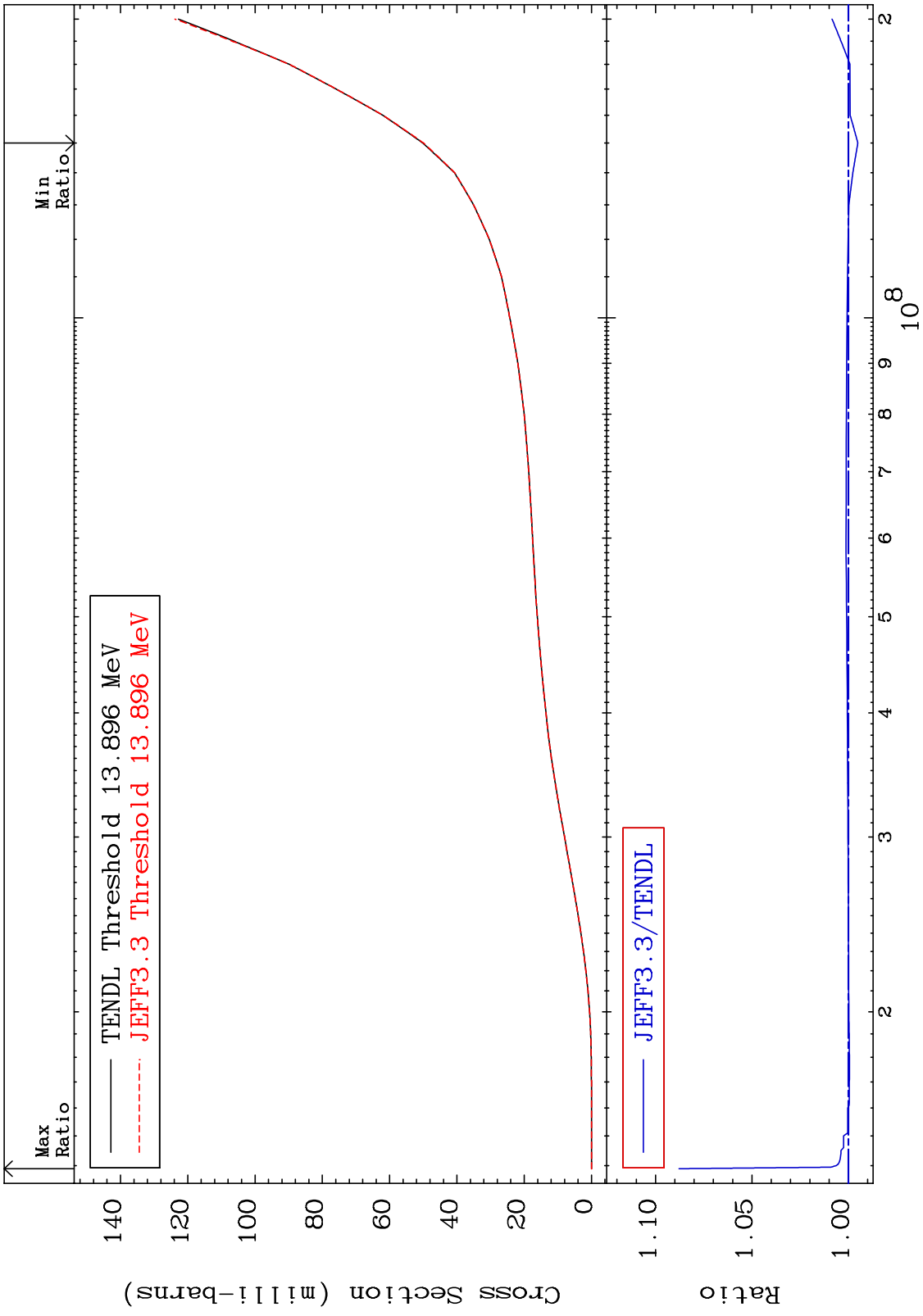


MAT 2231 Hydrogen Production Cross Section 22-Ti-48  
 -0.483 To 70.72 %





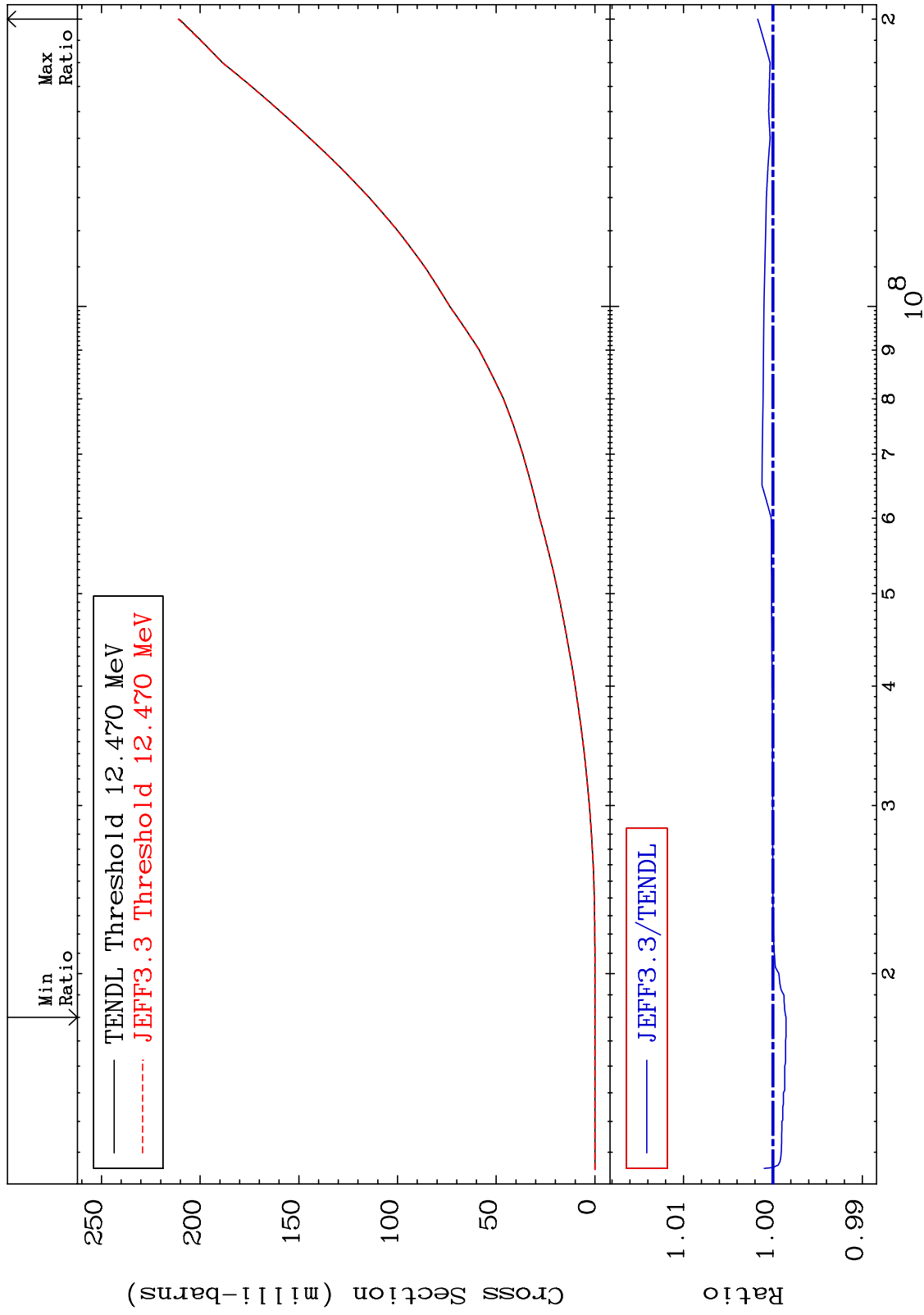
MAT 2231 Tritium Production Cross Section 22-Ti-48  
 -0.490 To 8.782 %



MAT 2231

He-3 Production  
Cross Section

22-Ti-48  
-0.147 To 0.171 %

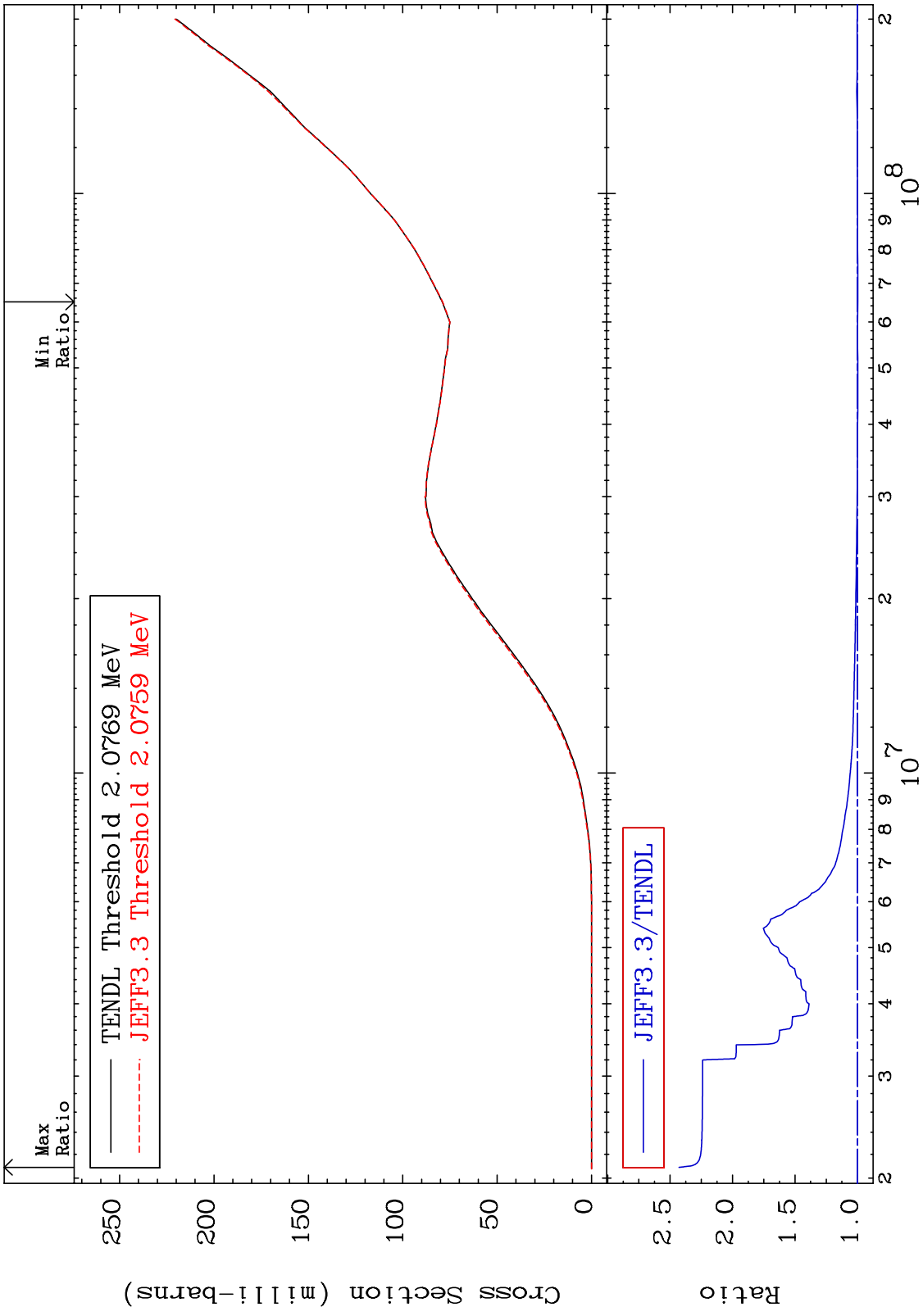


60

Incident Energy (eV)

22-Ti-48

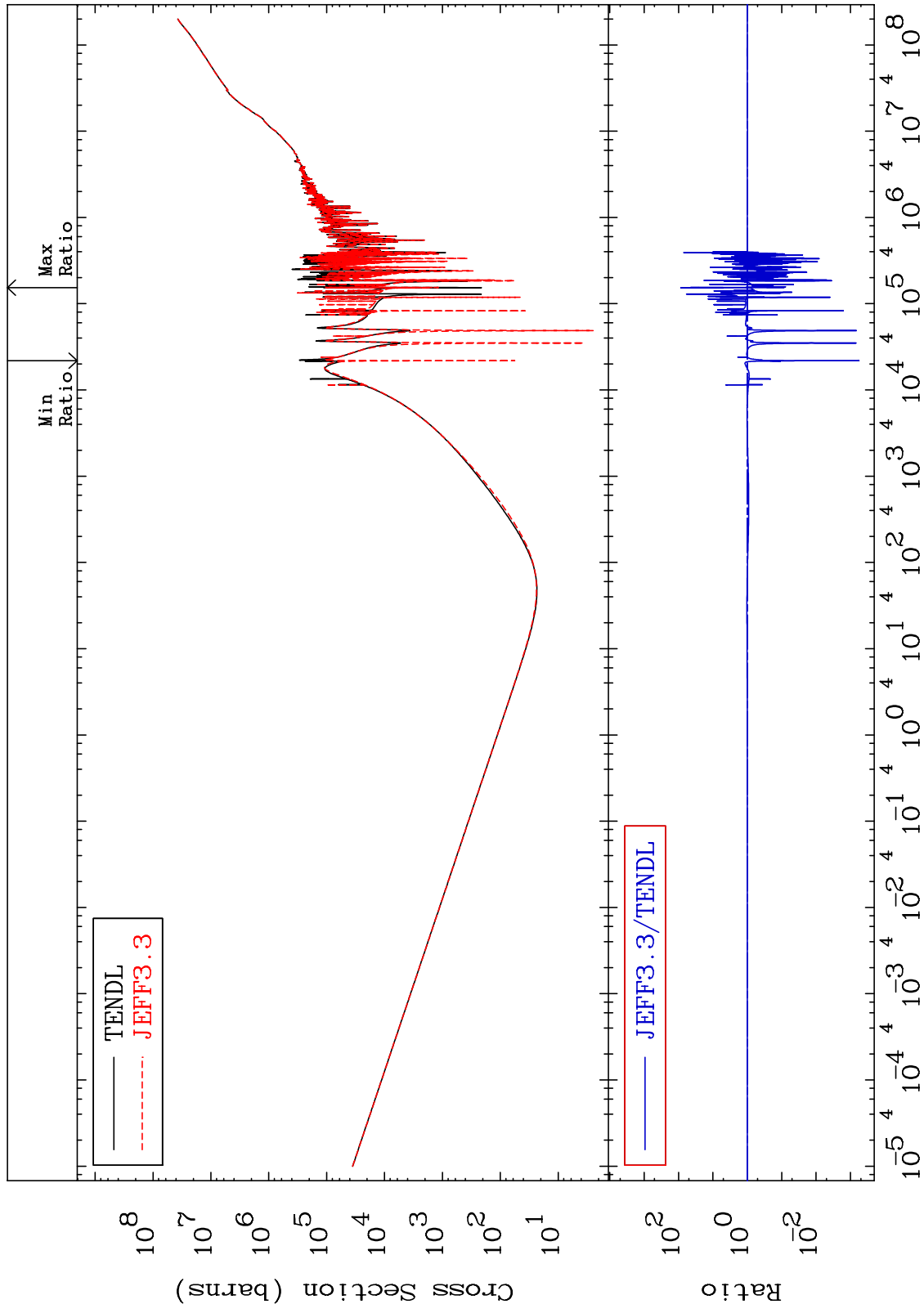
MAT 2231 He-4 Production Cross Section 22-Ti-48  
 -0.236 To 142.8 %



MAT 2231

Kerma total (eV-barns)  
Cross Section

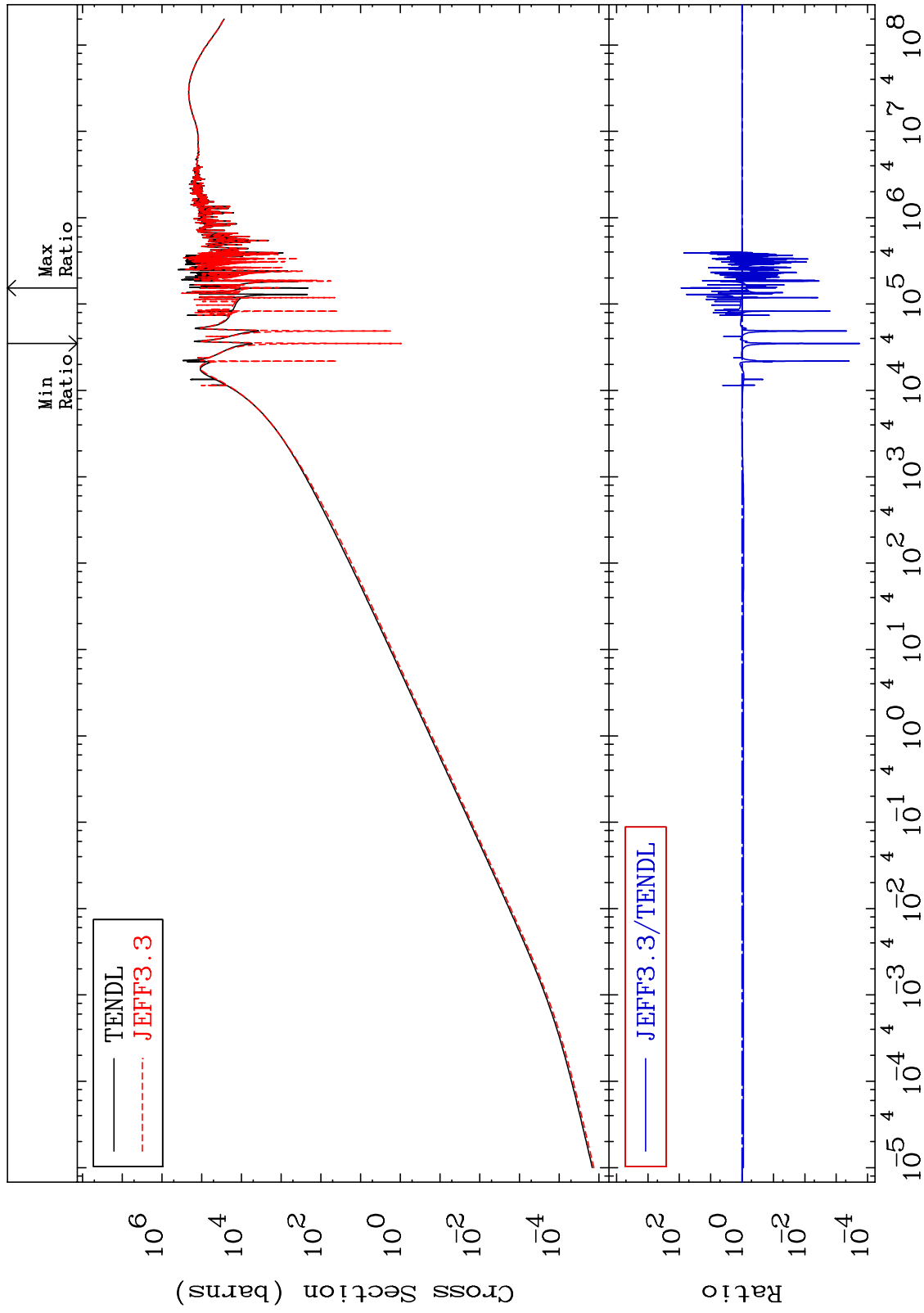
22-Ti-48  
-99.94 To 8568. %



MAT 2231

Kerma elastic  
Cross Section

22-Ti-48  
-99.98 To 8564. %



63

Incident Energy (eV)

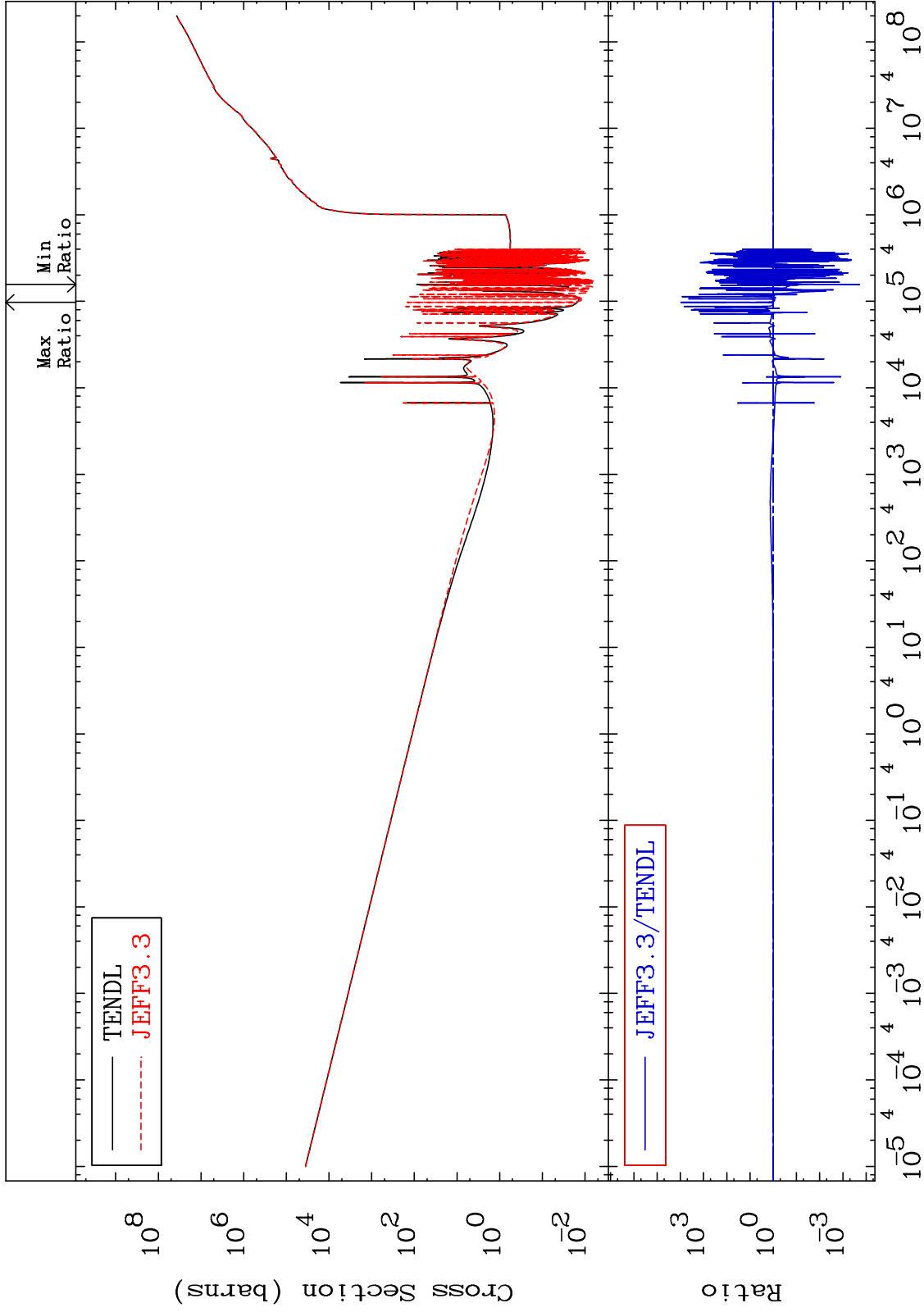
22-Ti-48



MAT 2231

Kerma non-elastic (all but mt2)  
Cross Section

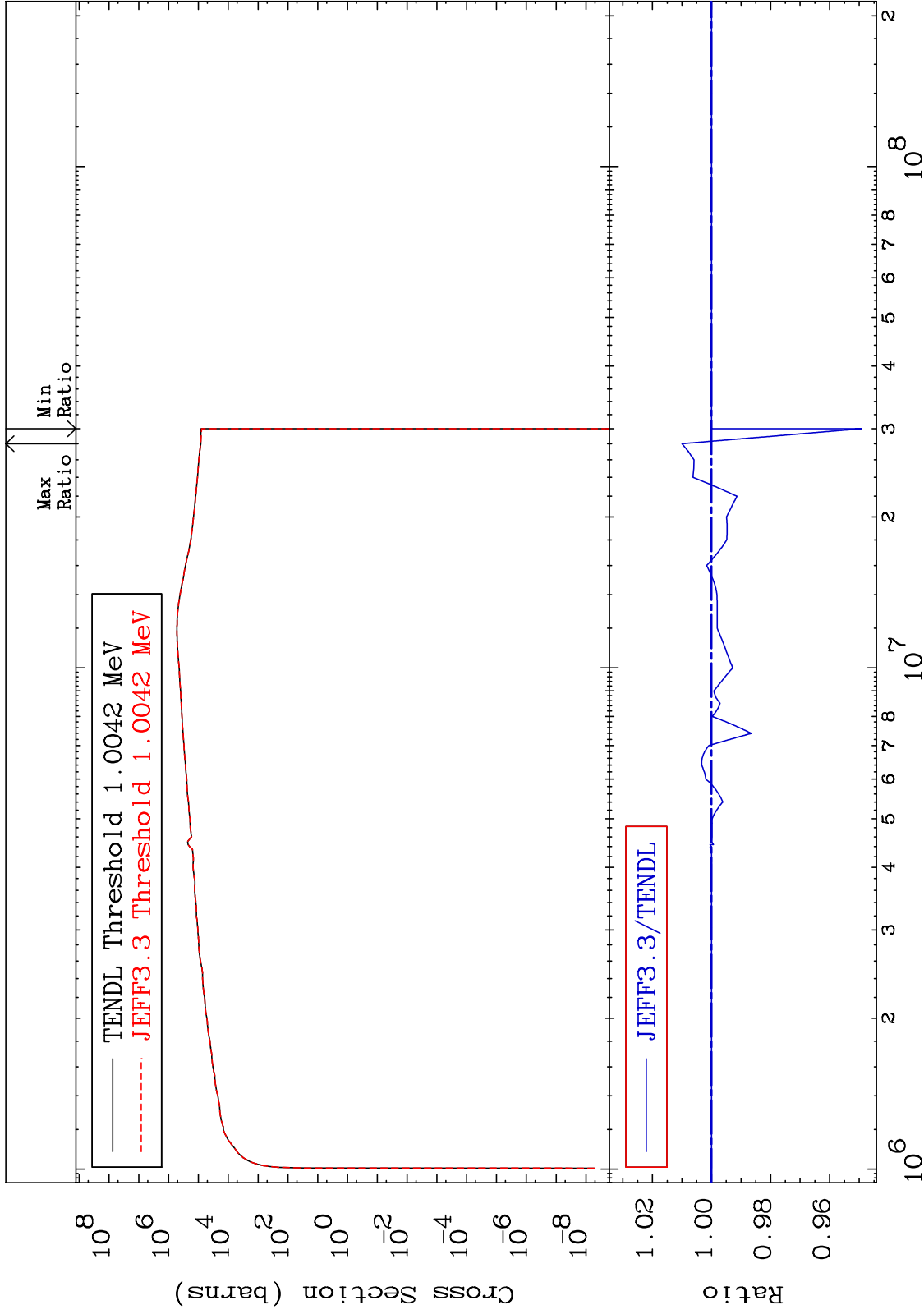
22-Ti-48  
-99.98 To 9999. %



MAT 2231

Kerma inelastic (mt51-91)  
Cross Section

22-Ti-48  
-5.067 To 0.997 %



65

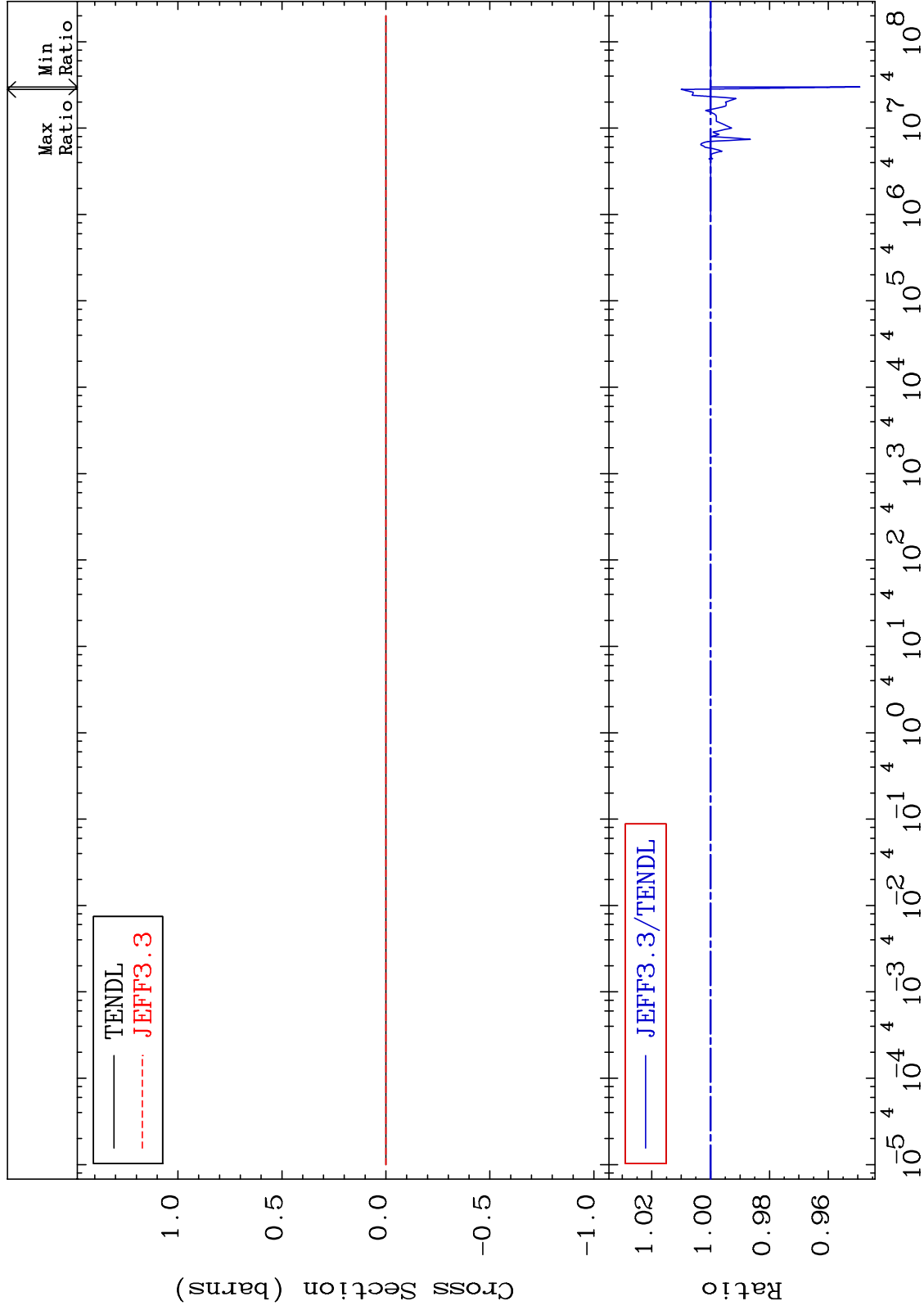
Incident Energy (eV)

22-Ti-48

MAT 2231

Kerma fission (mt18 or mt19-20-21-38)  
Cross Section

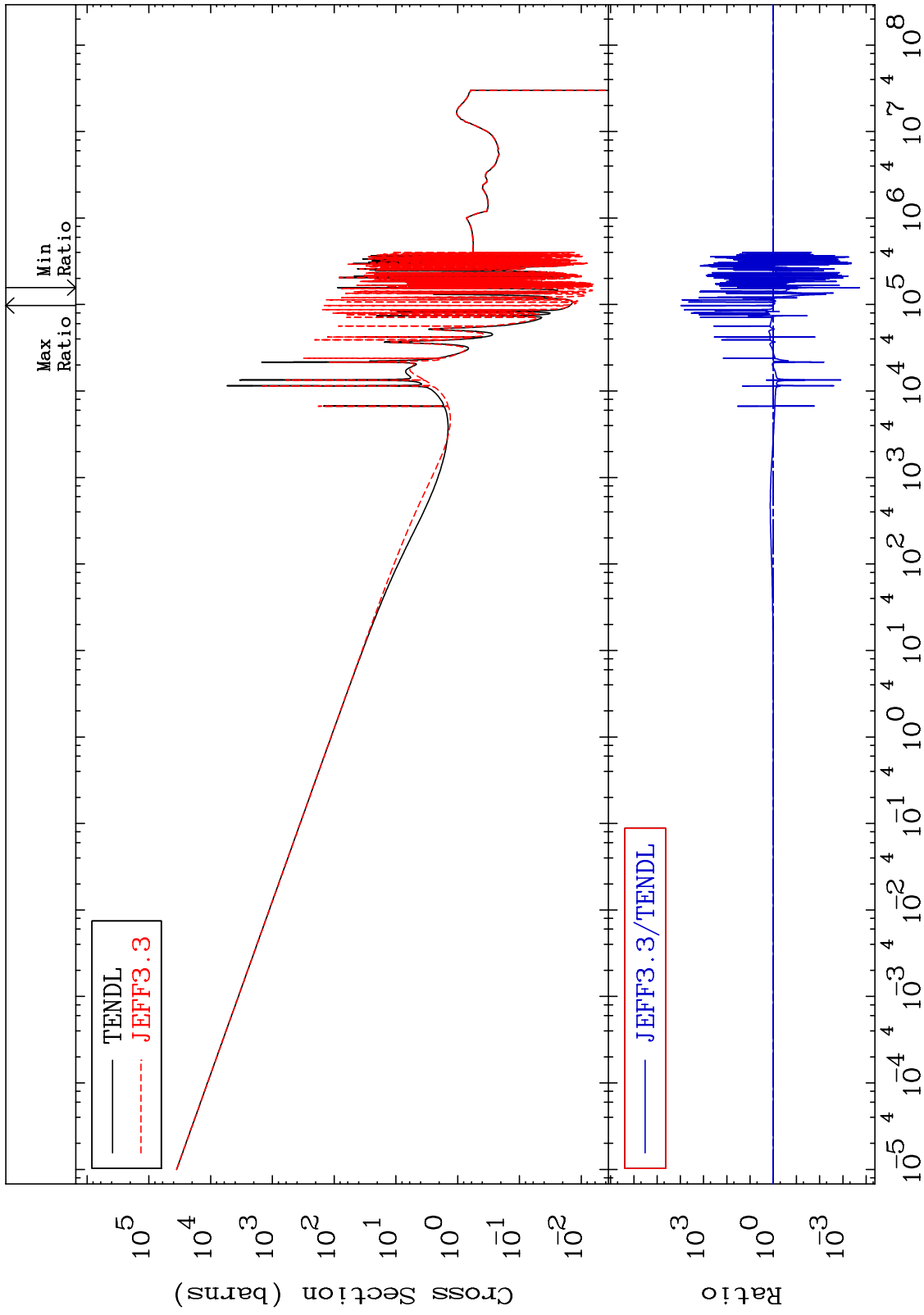
22-Ti-48  
-5.067 To 0.997 %



MAT 2231

Kerma capture (mt102)  
Cross Section

22-Ti-48  
-99.98 To 9999. %



67

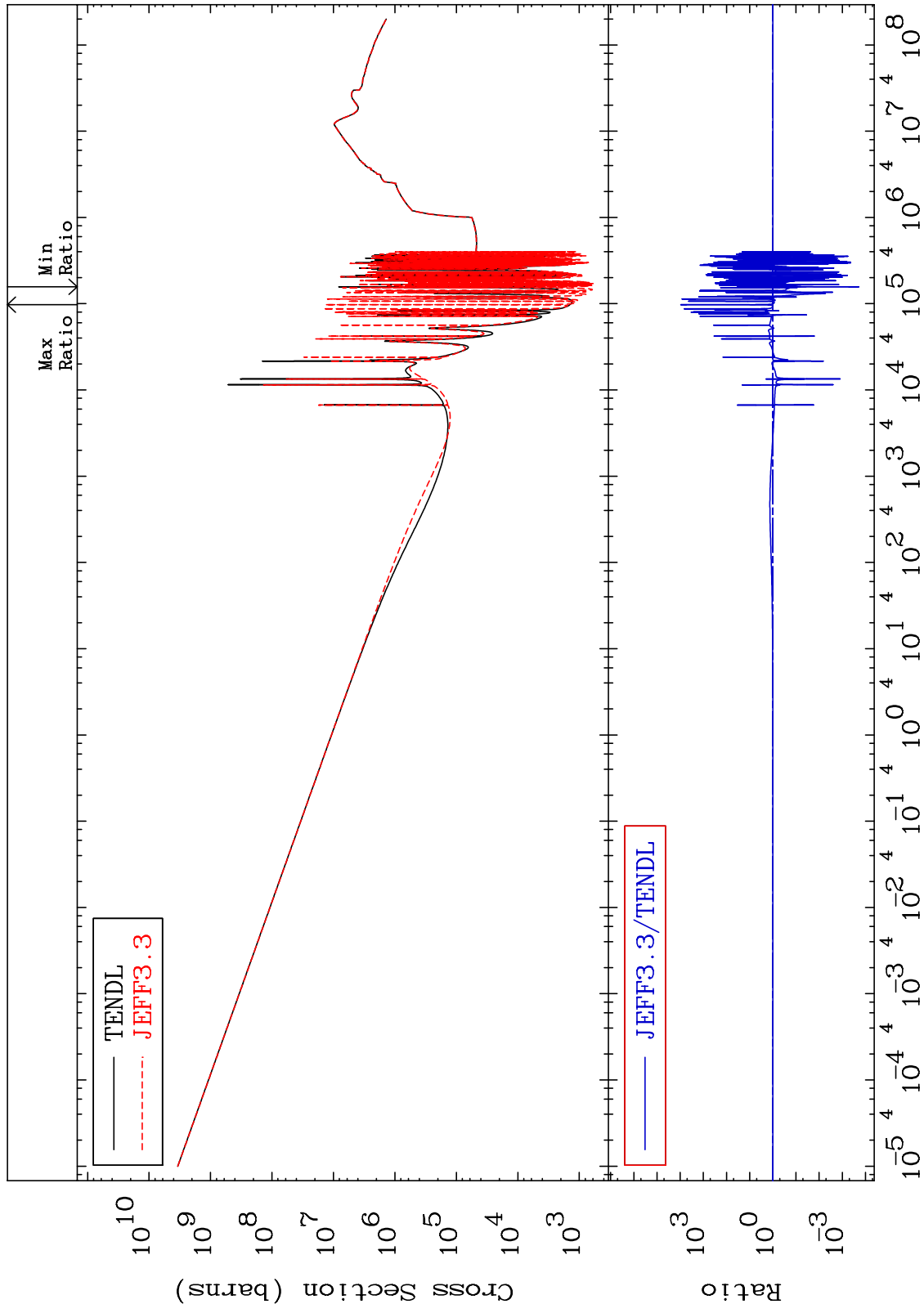
Incident Energy (eV)

22-Ti-48

MAT 2231

Total photon (eV-barns)  
Cross Section

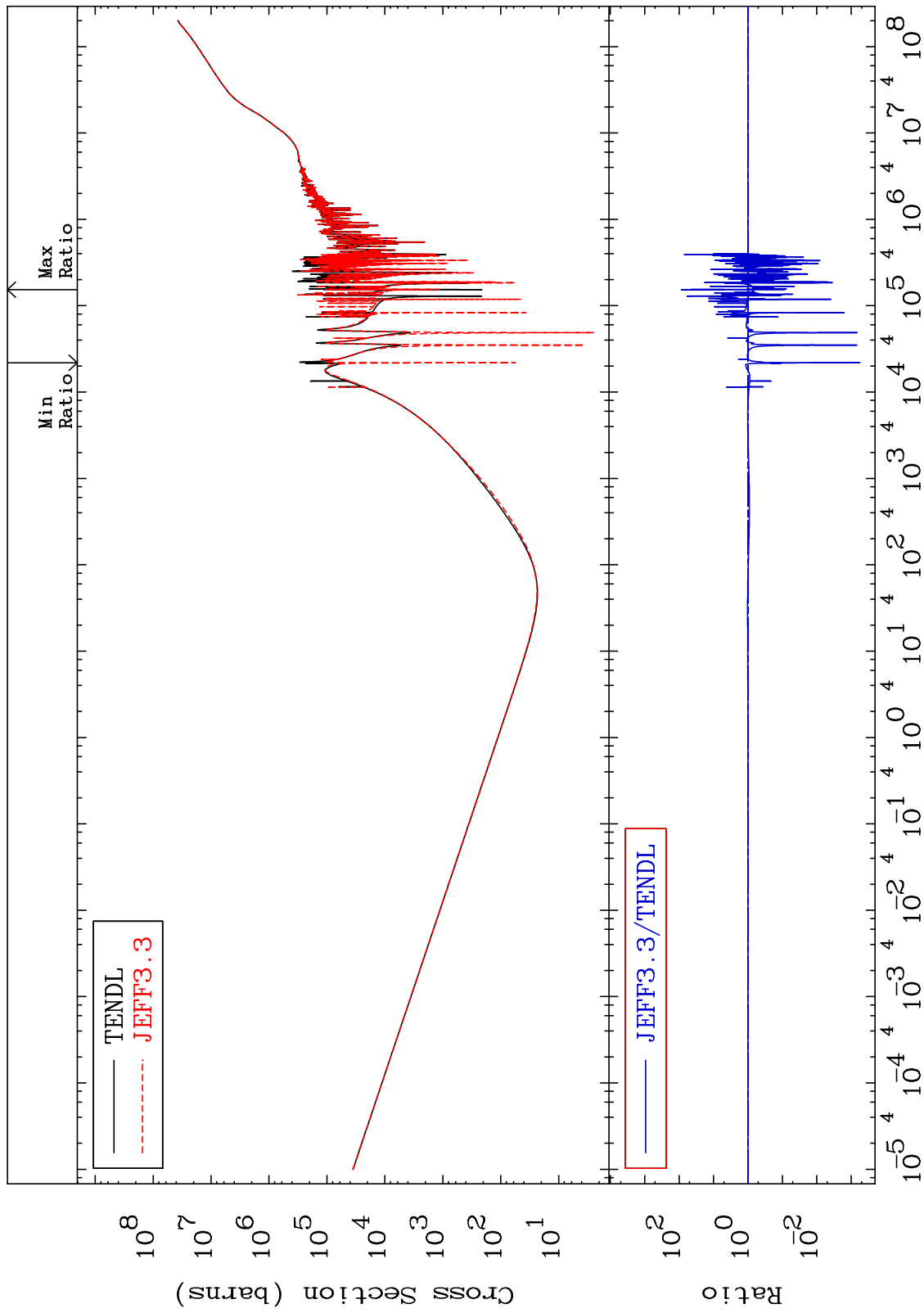
22-Ti-48  
-99.98 To 9999. %



MAT 2231

Total kinematic kerma (high limit)  
Cross Section

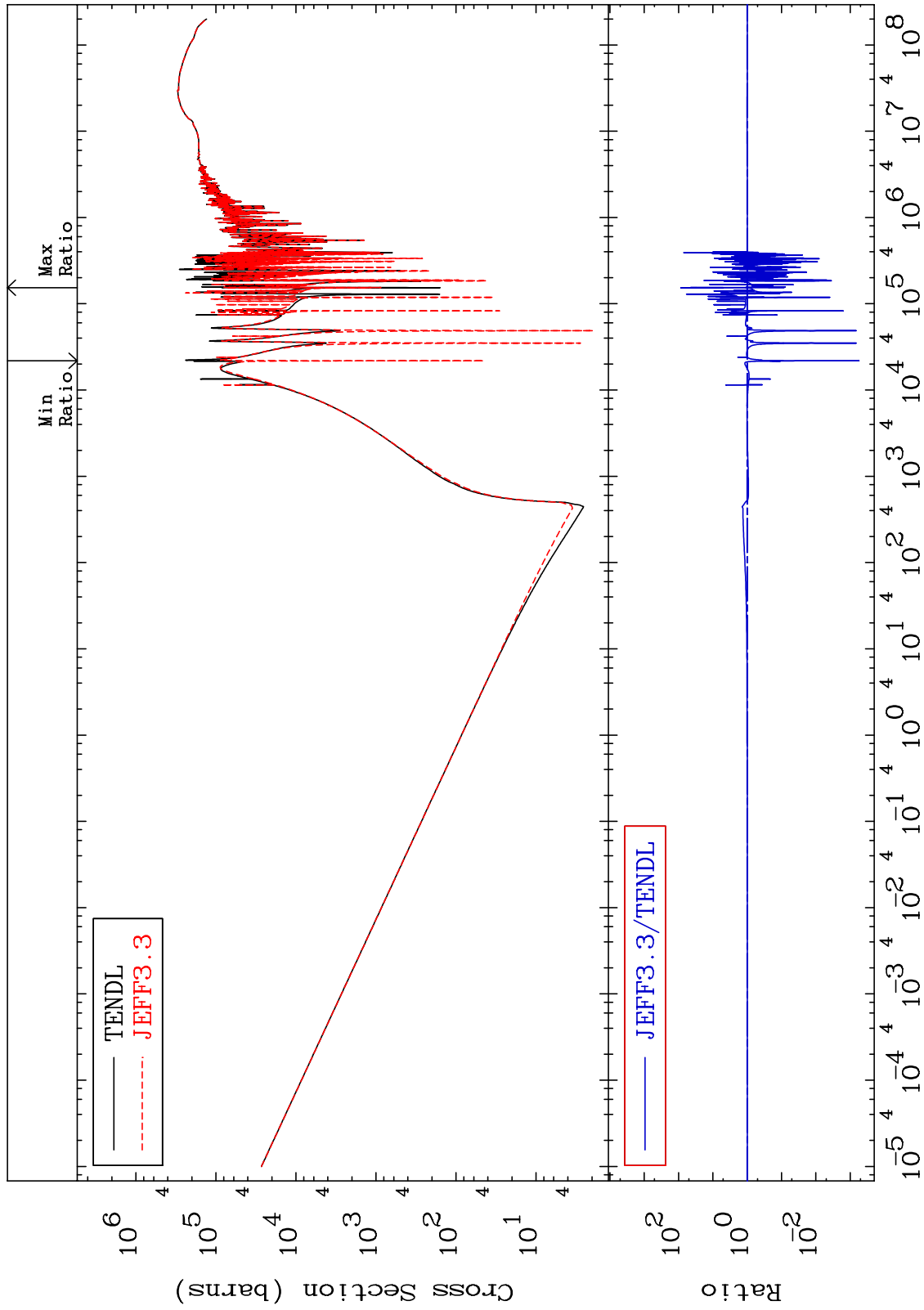
22-Ti-48  
-99.94 To 8568. %



MAT 2231

Dpa total (eV-barns)  
Cross Section

22-Ti-48  
-99.94 To 8568. %



70

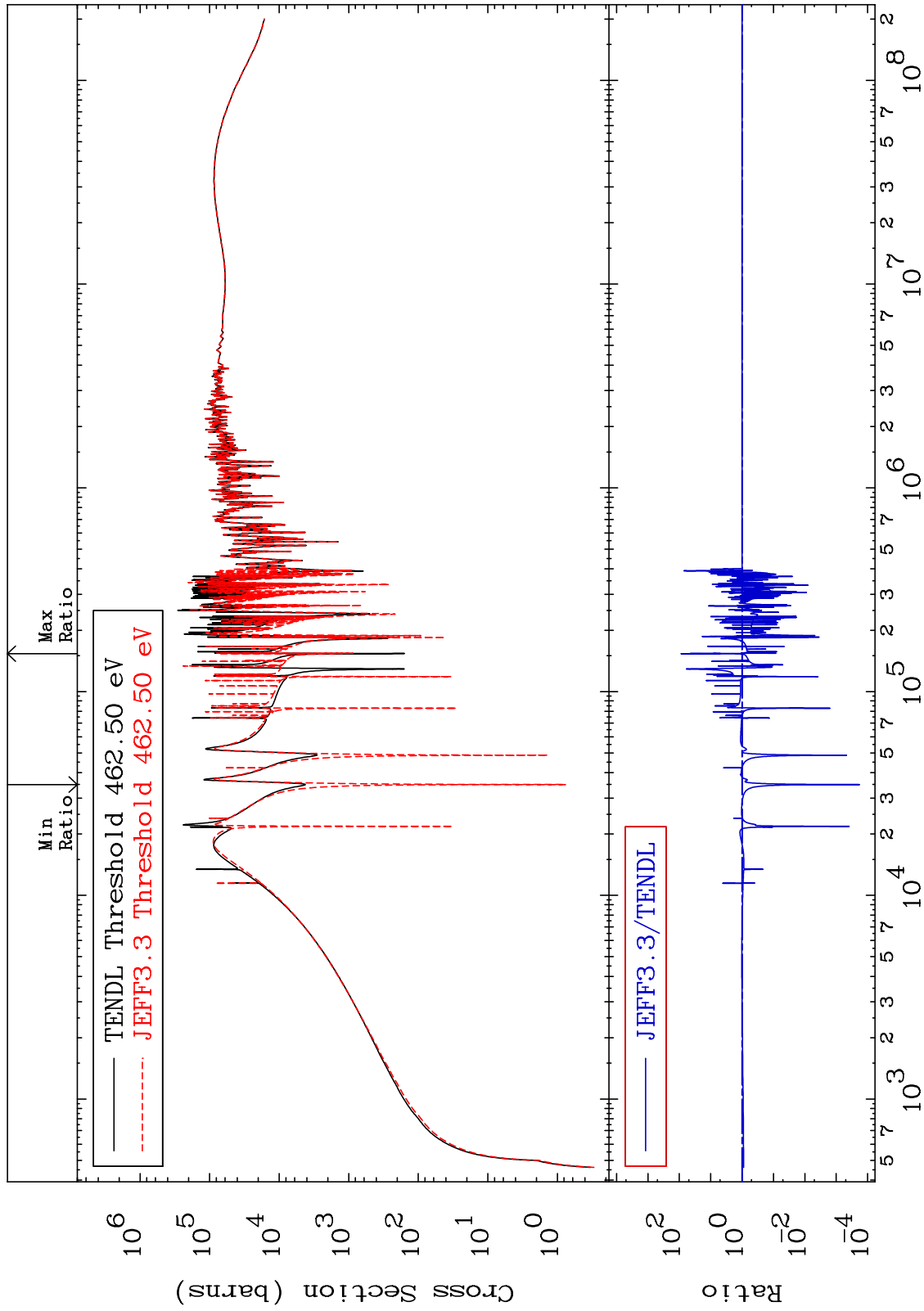
Incident Energy (eV)

22-Ti-48

MAT 2231

Dpa elastic (mt2)  
Cross Section

22-Ti-48  
-99.98 To 8564. %

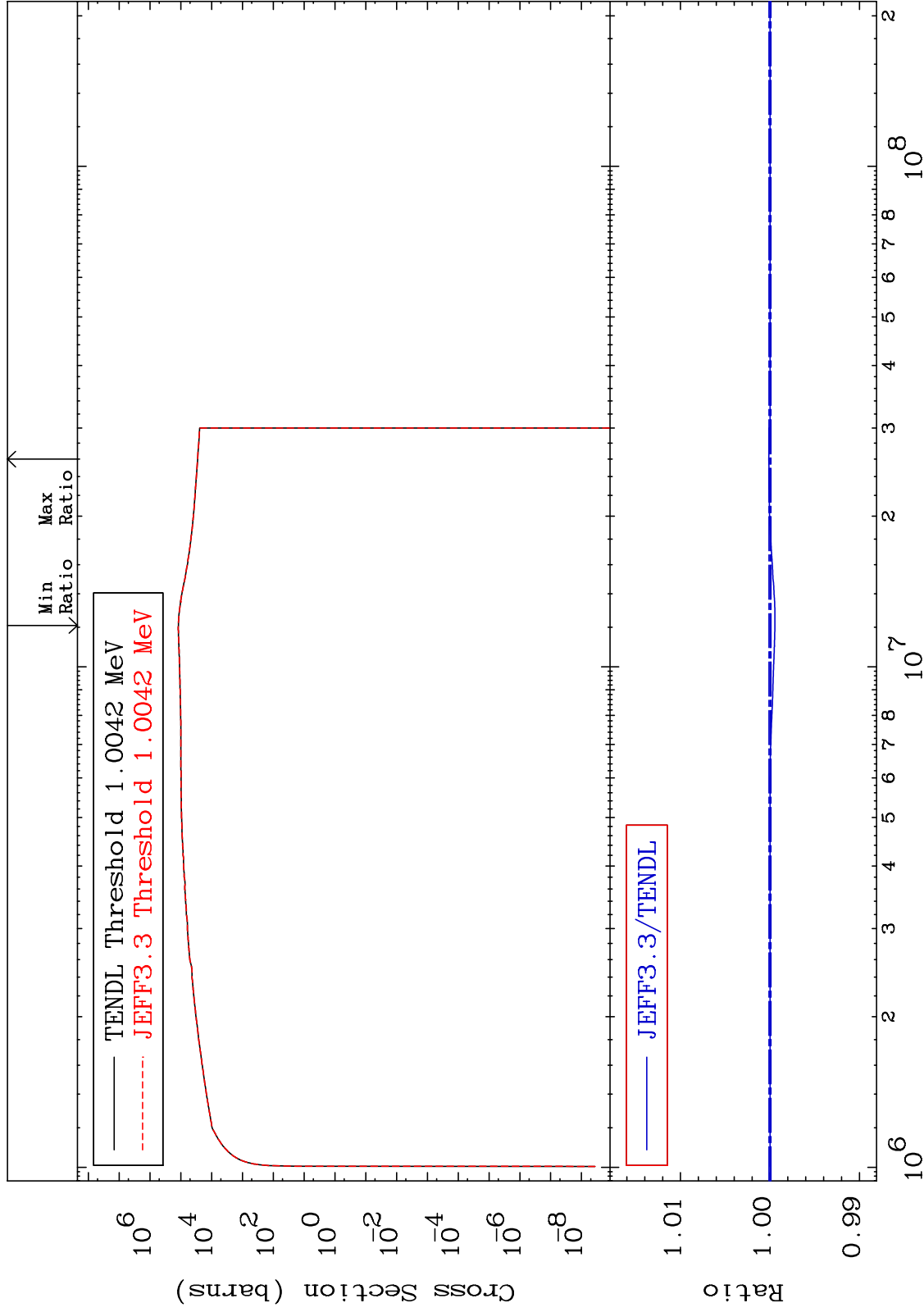




MAT 2231

Dpa inelastic (mt51-91)  
Cross Section

22-Ti-48  
-0.055 To 0.013 %



72

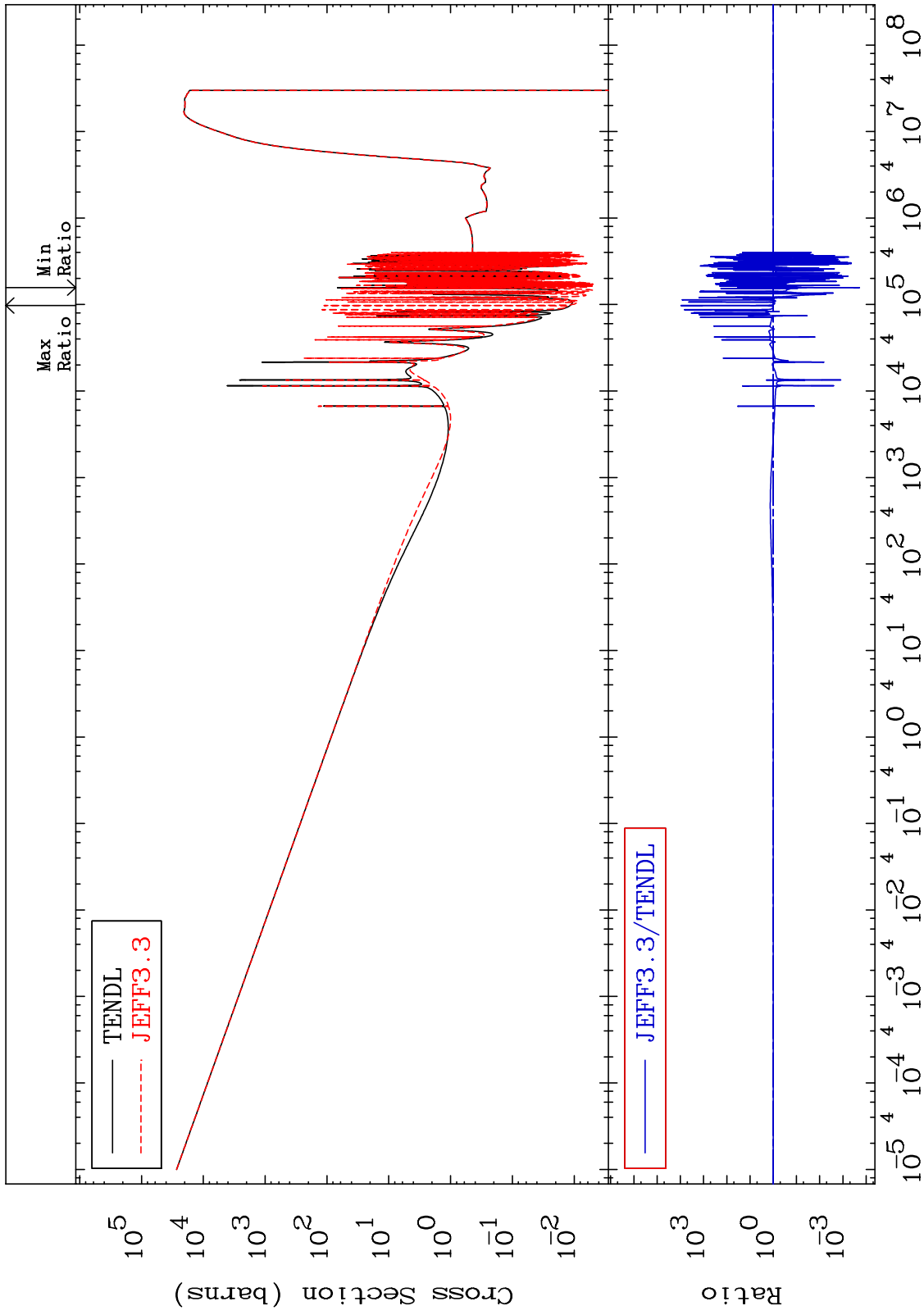
Incident Energy (eV)

22-Ti-48

MAT 2231

Dpa disappearance (mt102 -120)  
Cross Section

22-Ti-48  
-99.98 To 9999. %

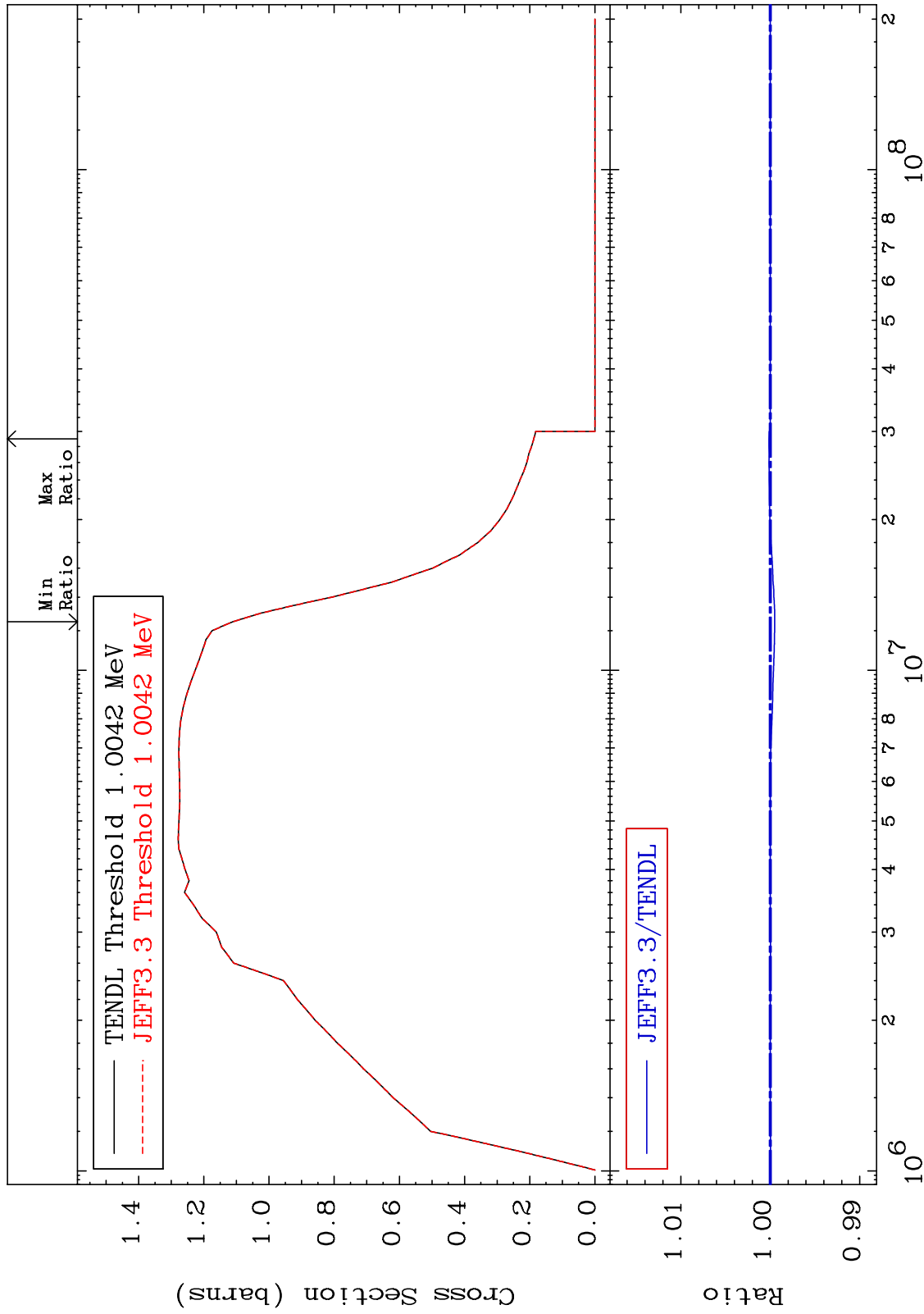


MAT 2231

Inelastic:22-Ti-48g

22-Ti-48

Radionuclide Production Cross Section -0.050 To 0.014 %



74

Incident Energy (eV)

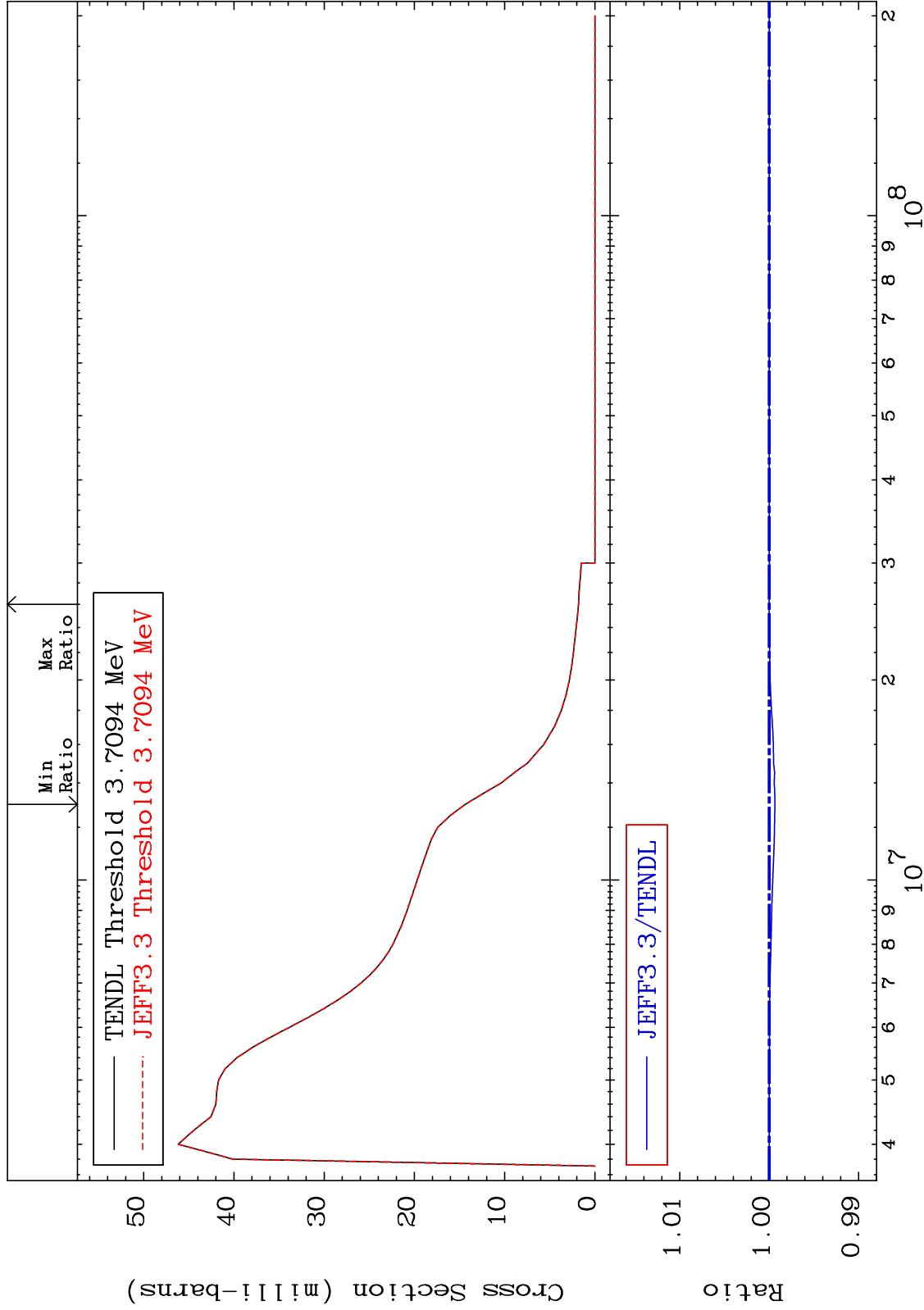
22-Ti-48

MAT 2231

Inelastic:22-Ti-48m14

22-Ti-48

Radionuclide Production Cross Section -0.064 To 0.002 %



75

Incident Energy (eV)

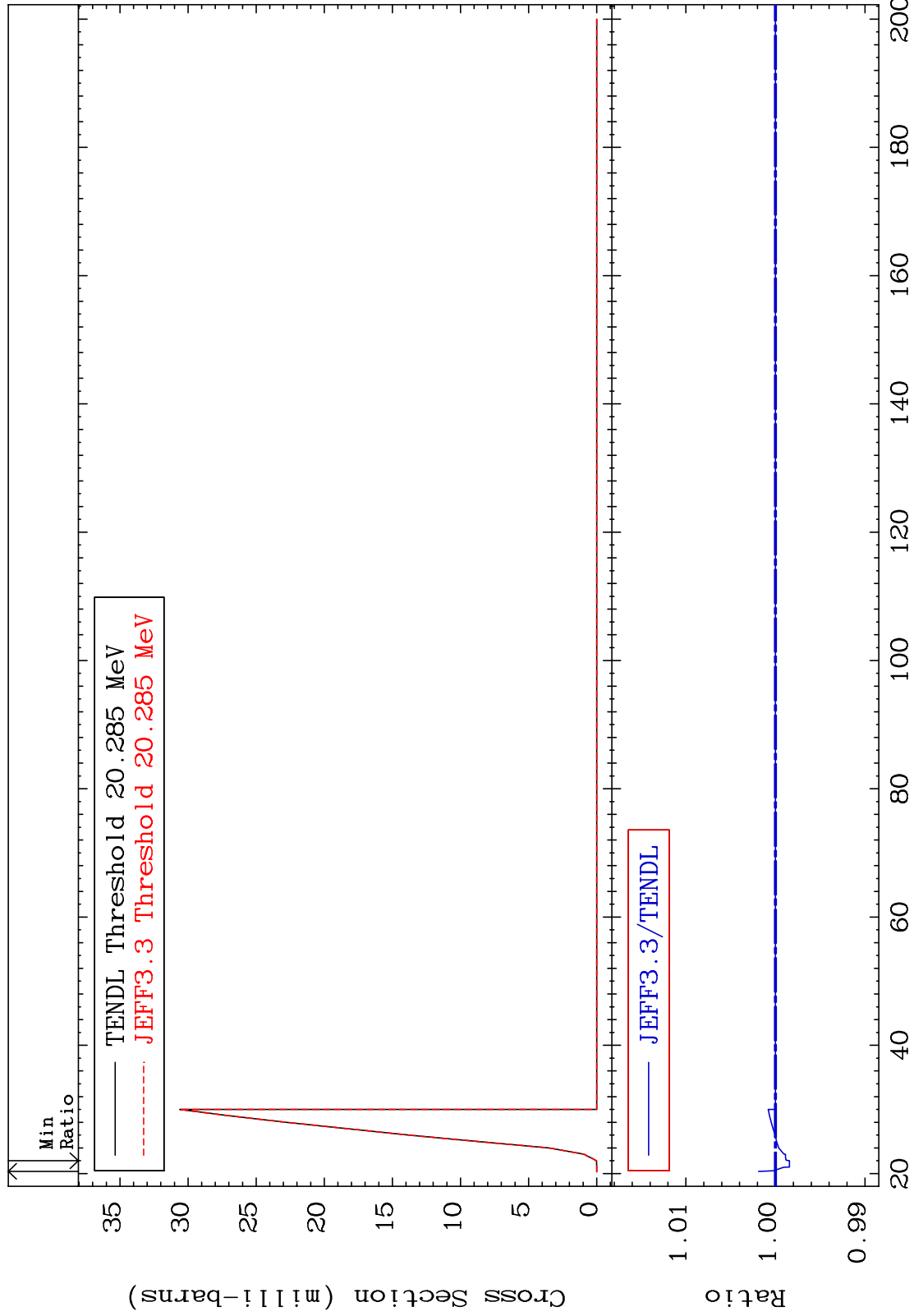
22-Ti-48

MAT 2231

(n,n') d:21-Sc-46g

22-Ti-48

Radionuclide Production Cross Section -0.156 To 0.189 %



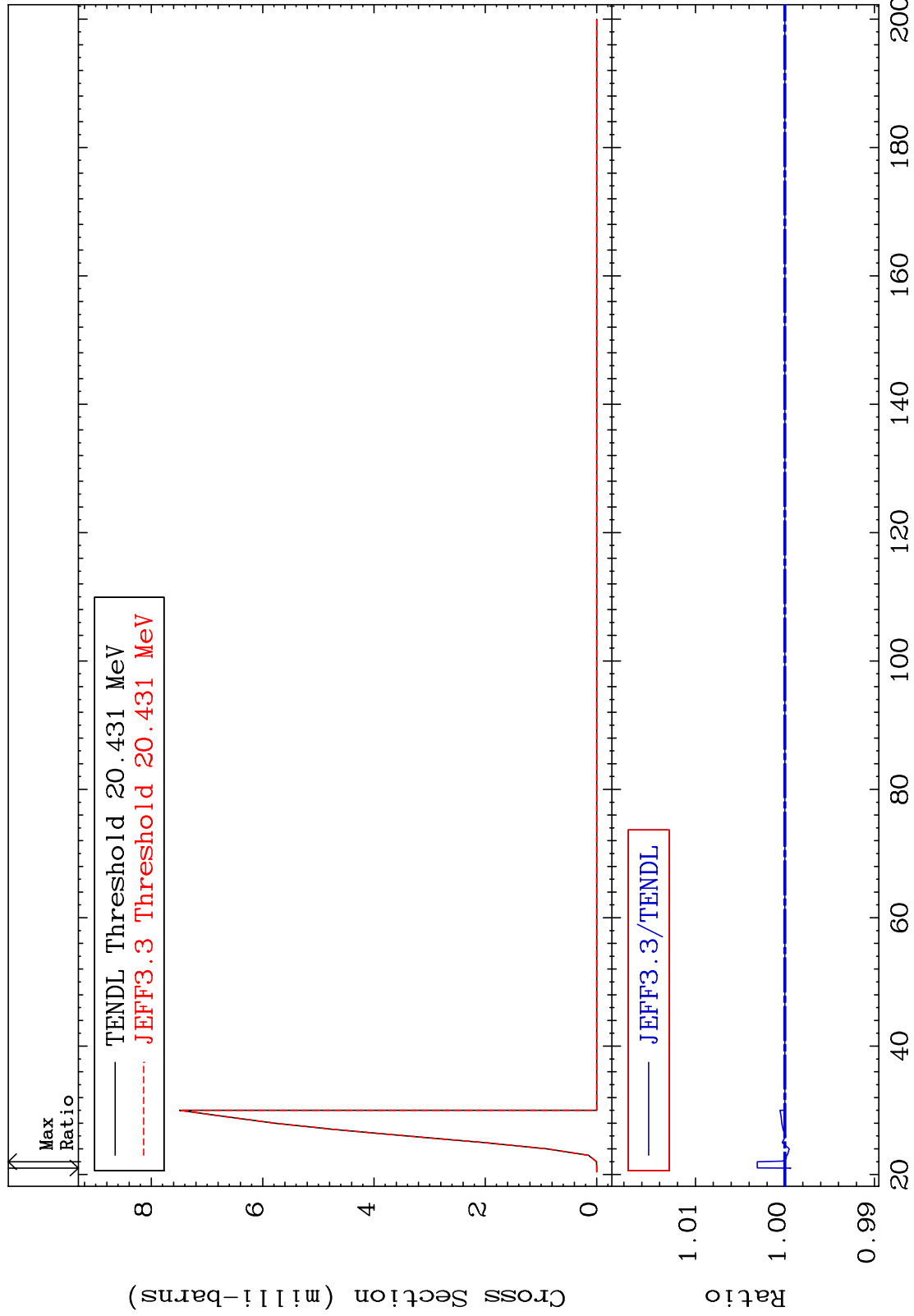
76

MAT 2231

(n, n') d:21-Sc-46m2

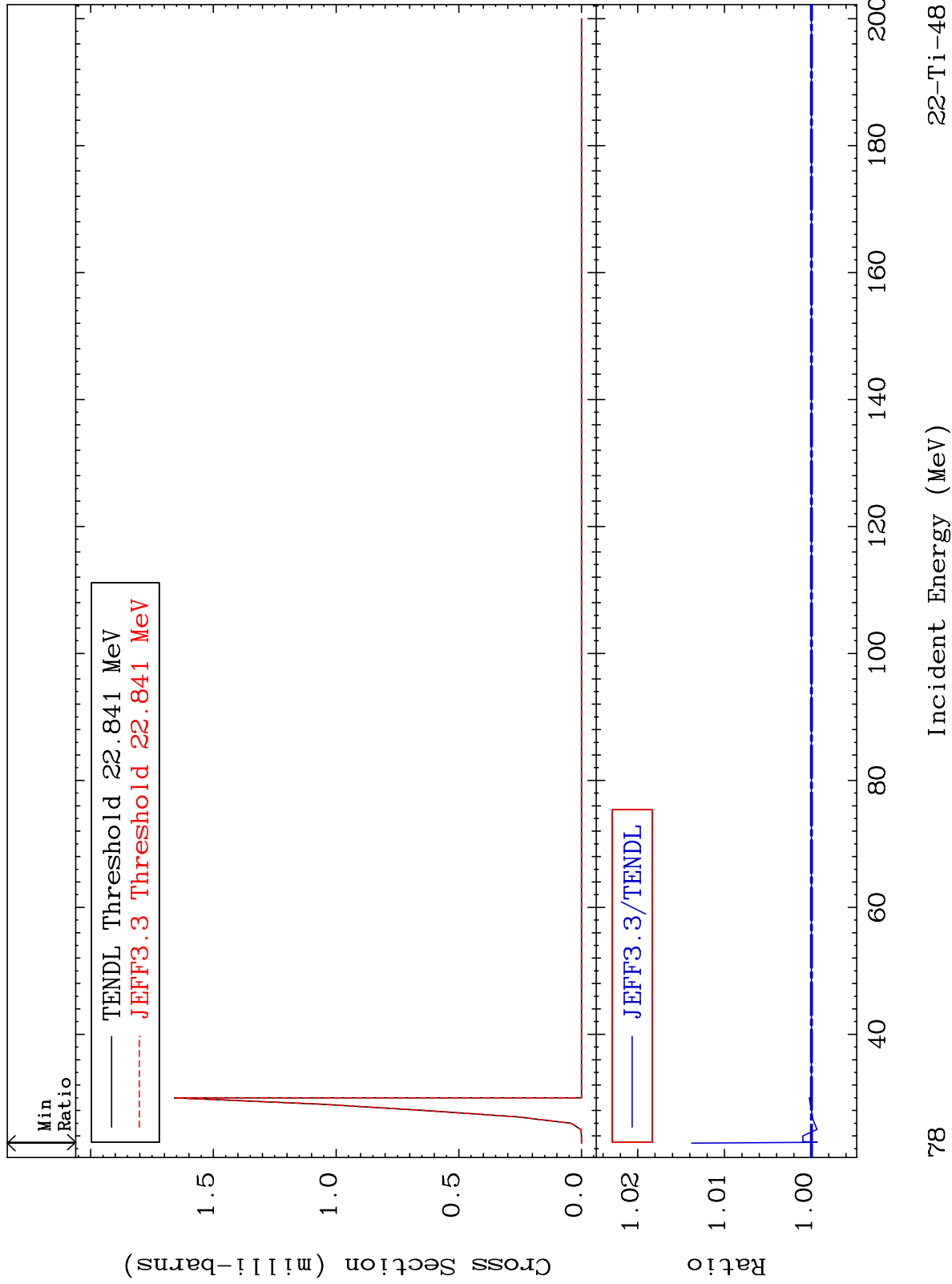
22-Ti-48

Radionuclide Production Cross Section -0.065 To 0.310 %



MAT 2231

(n,n') t:21-Sc-45g 22-Ti-48  
Radionuclide Production Cross Section -0.068 To 1.379 %

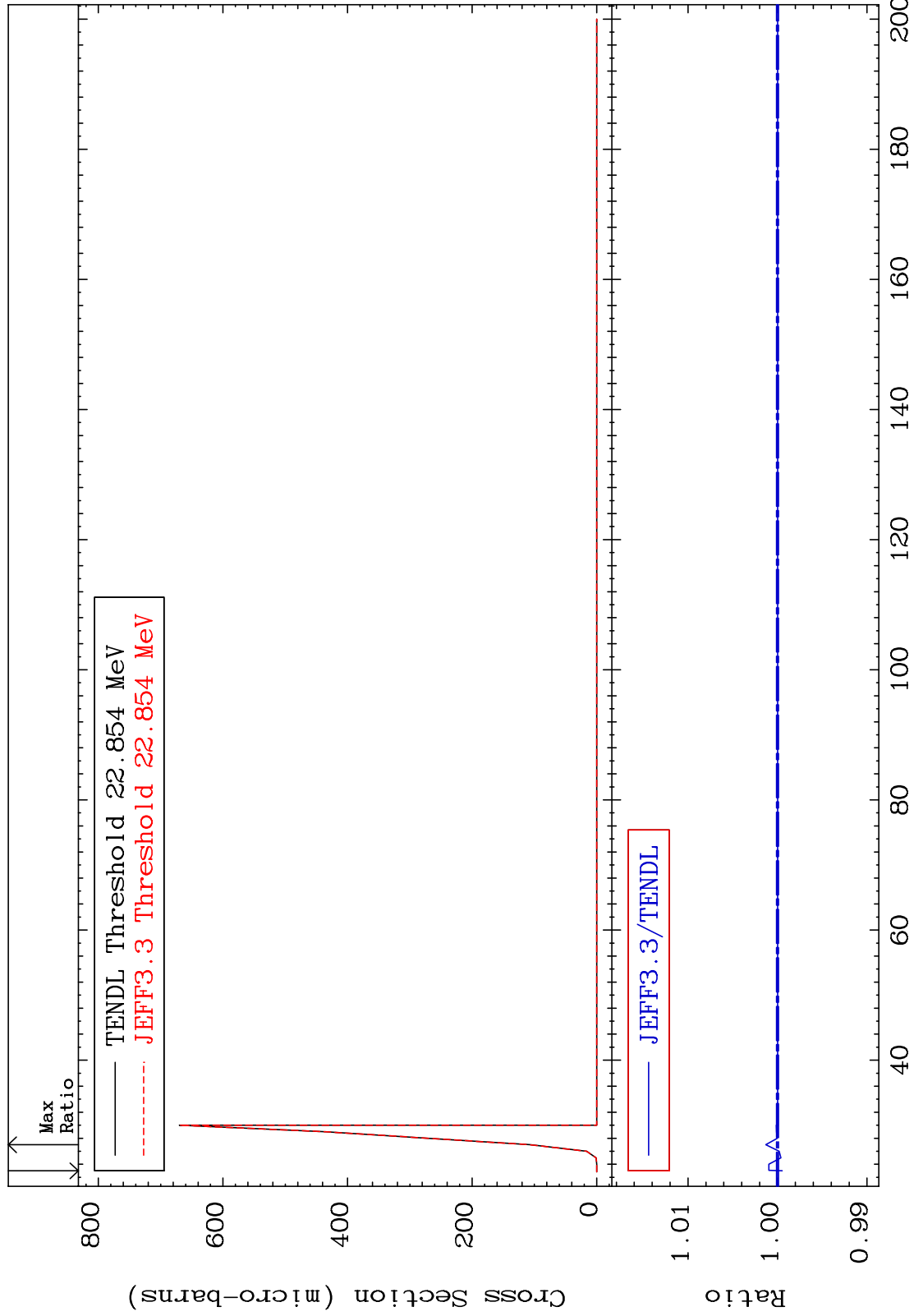


MAT 2231

(n, n') t:21-Sc-45m1

22-Ti-48

Radionuclide Production Cross Section -0.052 To 0.132 %



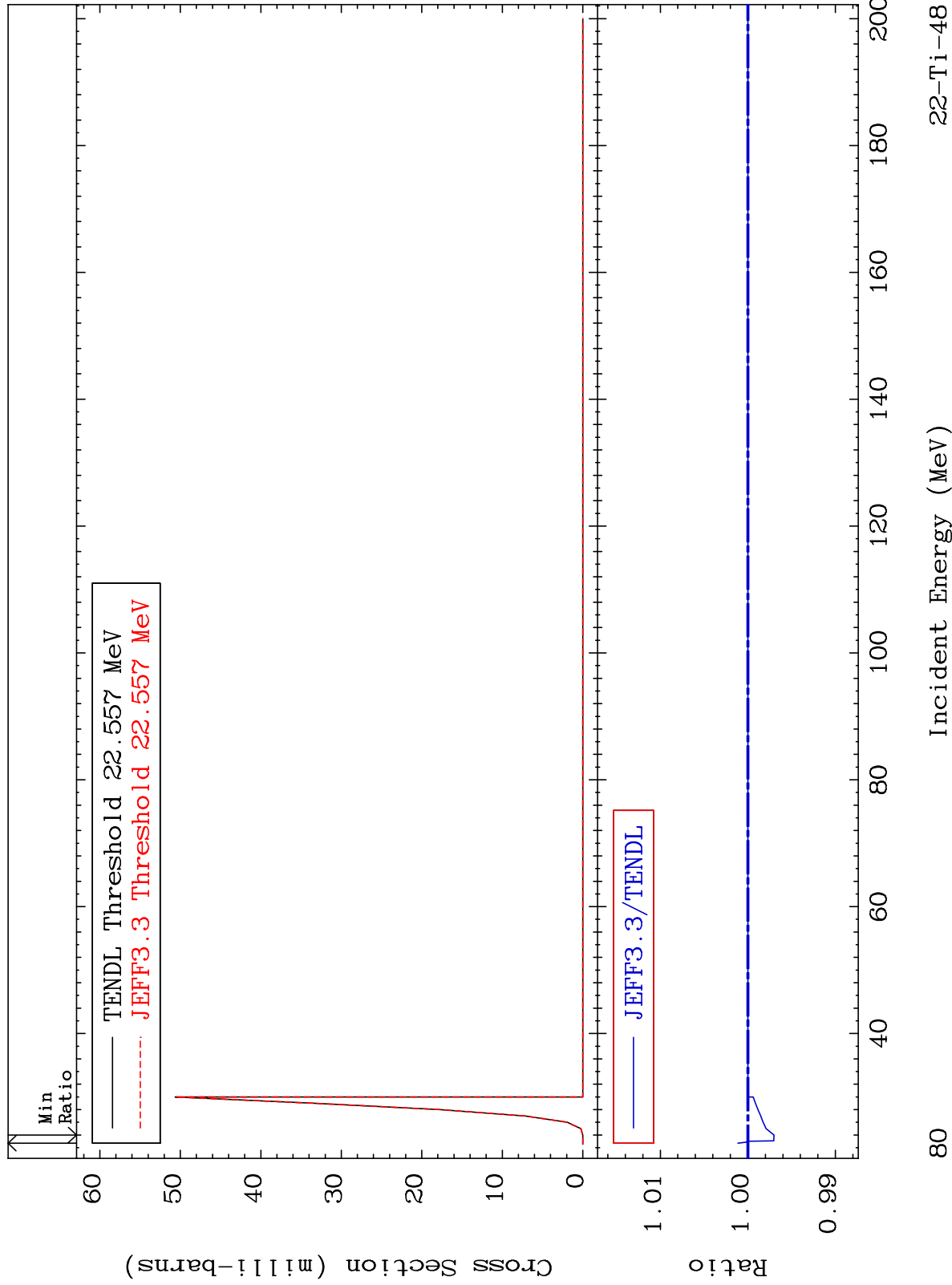


MAT 2231

(n,2n) p:21-Sc-46g

22-Ti-48

Radionuclide Production Cross Section -0.297 To 0.115 %

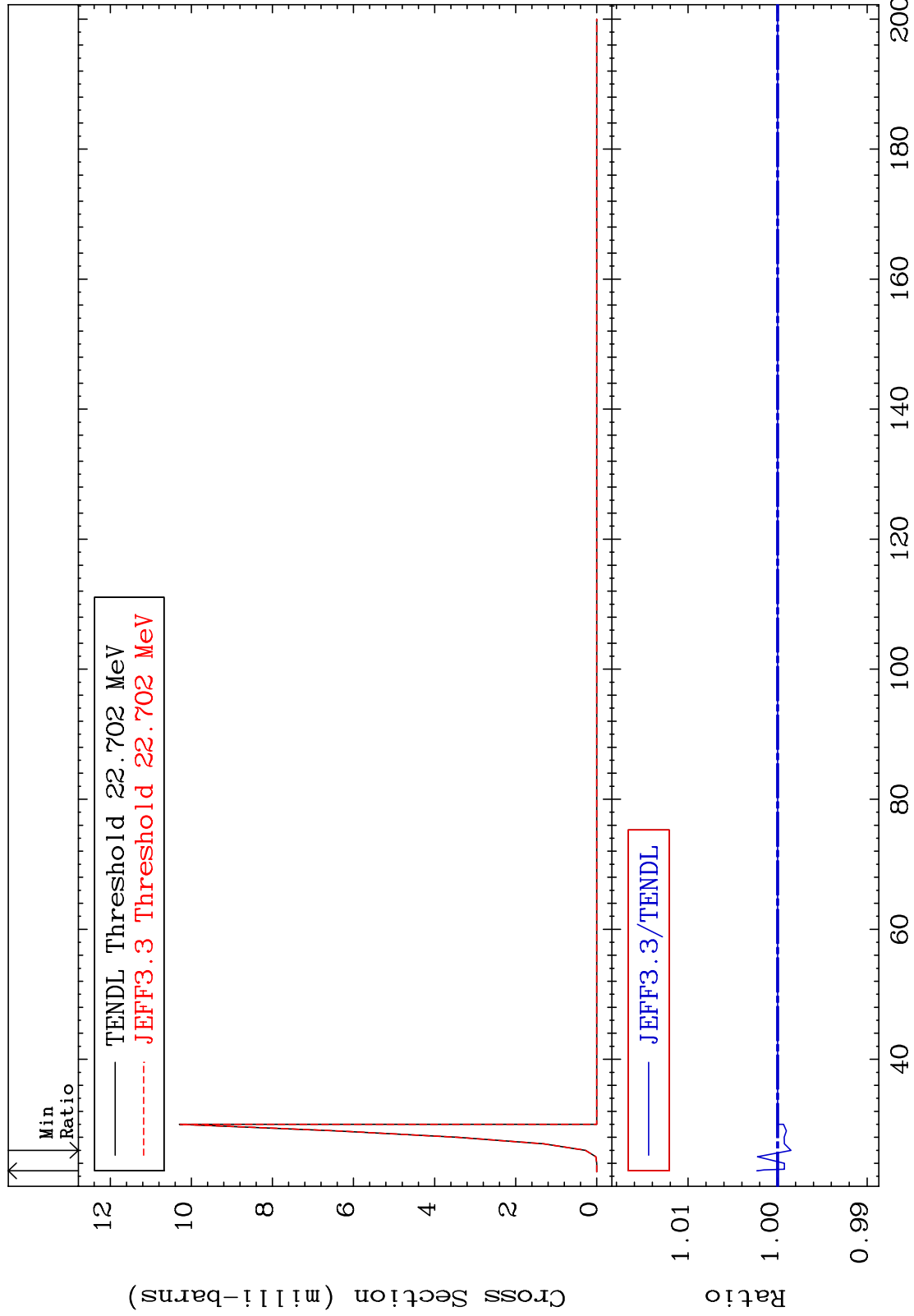


MAT 2231

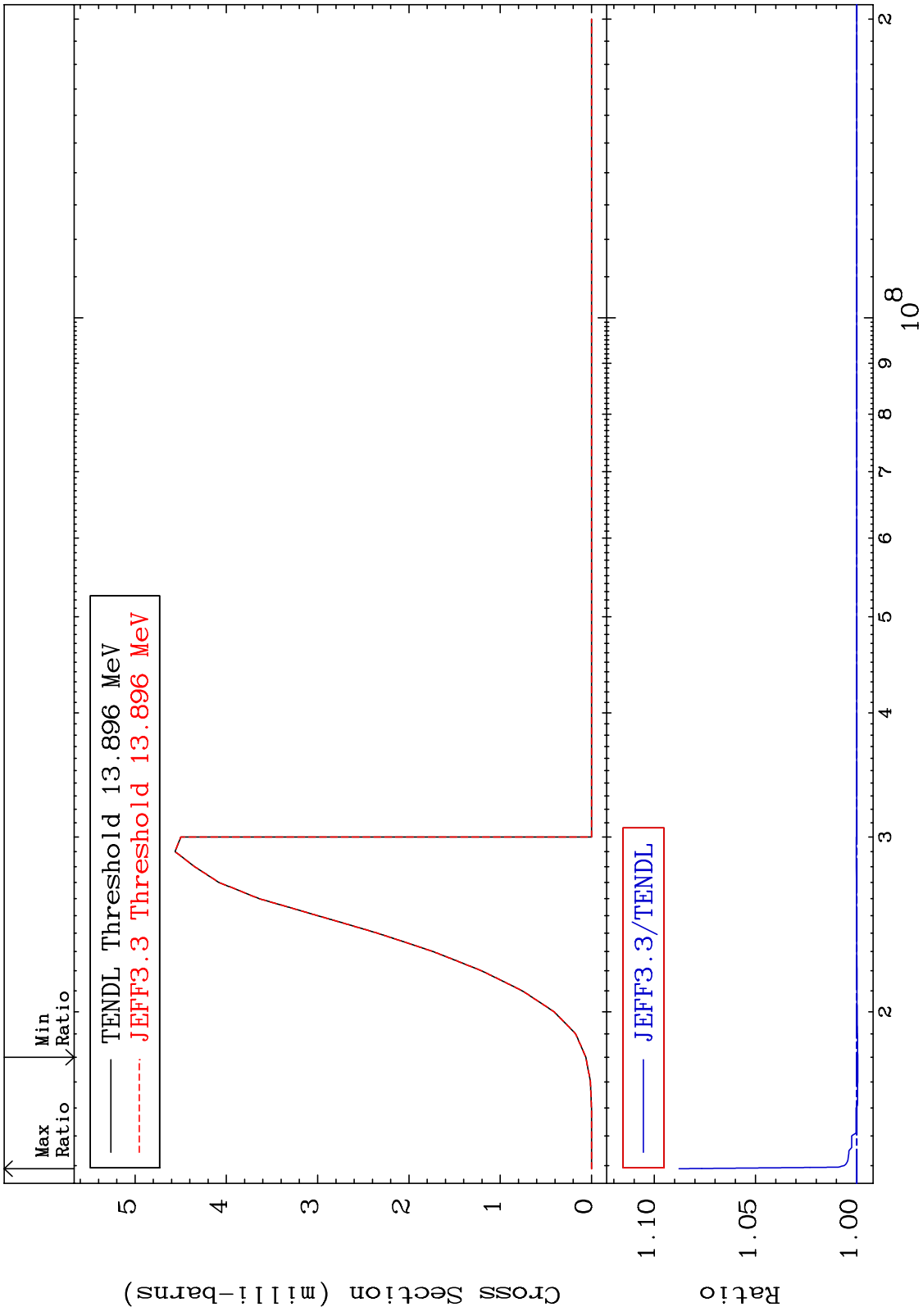
(n,2n) p:21-Sc-46m2

22-Ti-48

Radionuclide Production Cross Section -0.149 To 0.232 %



MAT 2231 (n,t):21-Sc-46g 22-Ti-48  
 Radionuclide Production Cross Section -0.056 To 8.781 %



MAT 2231 (n,t):21-Sc-46m2 22-Ti-48  
 Radionuclide Production Cross Section -0.064 To 1.096 %

