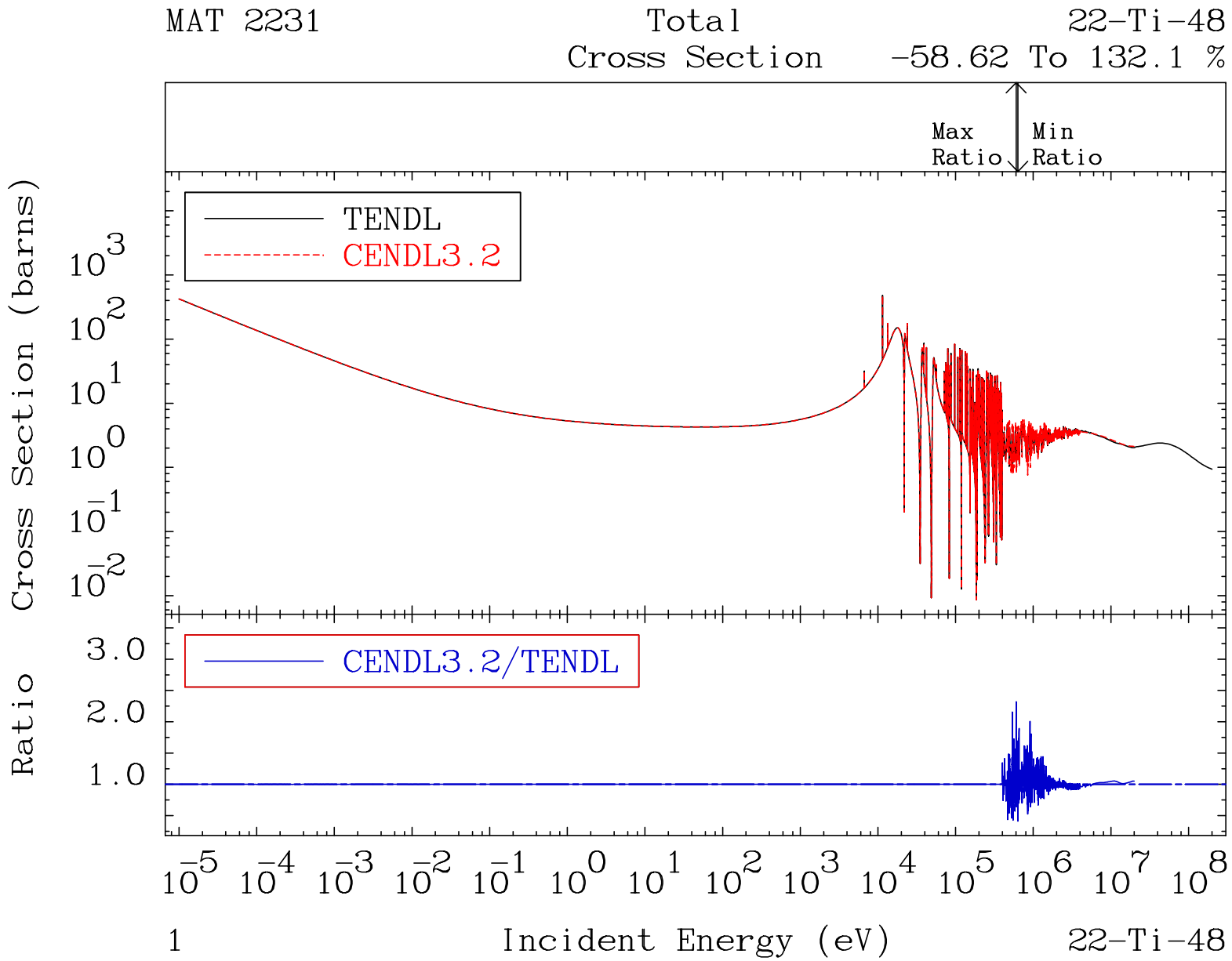
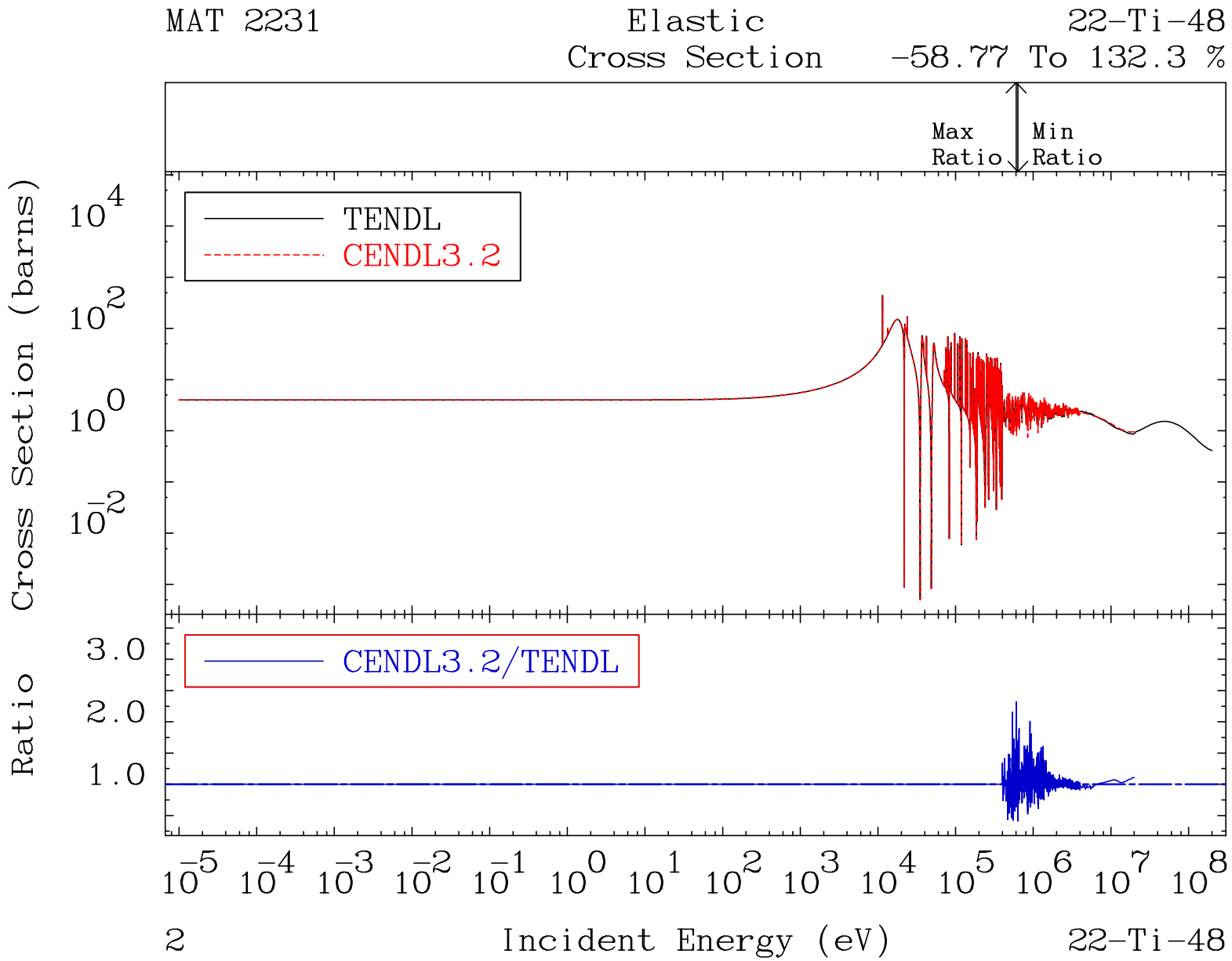
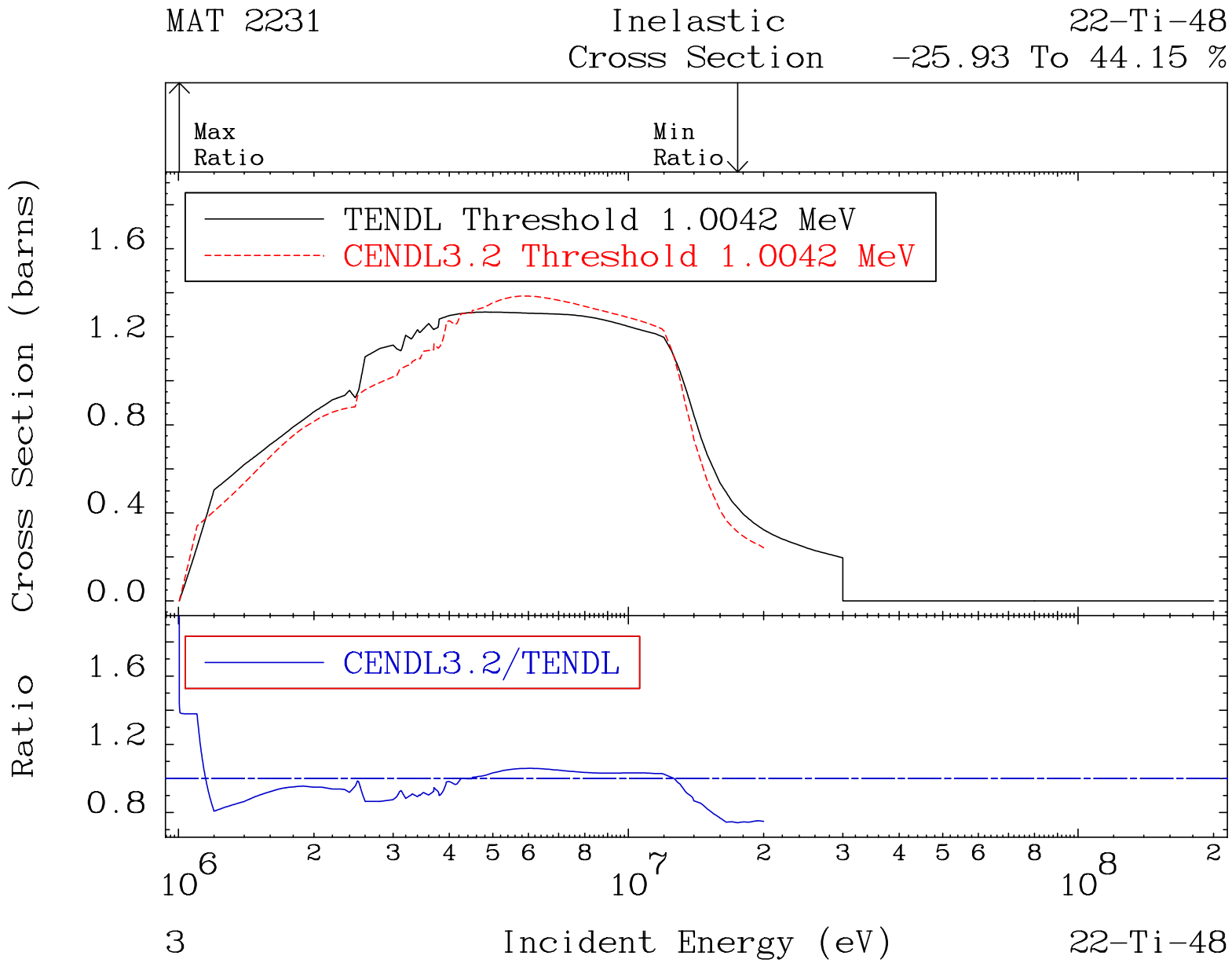
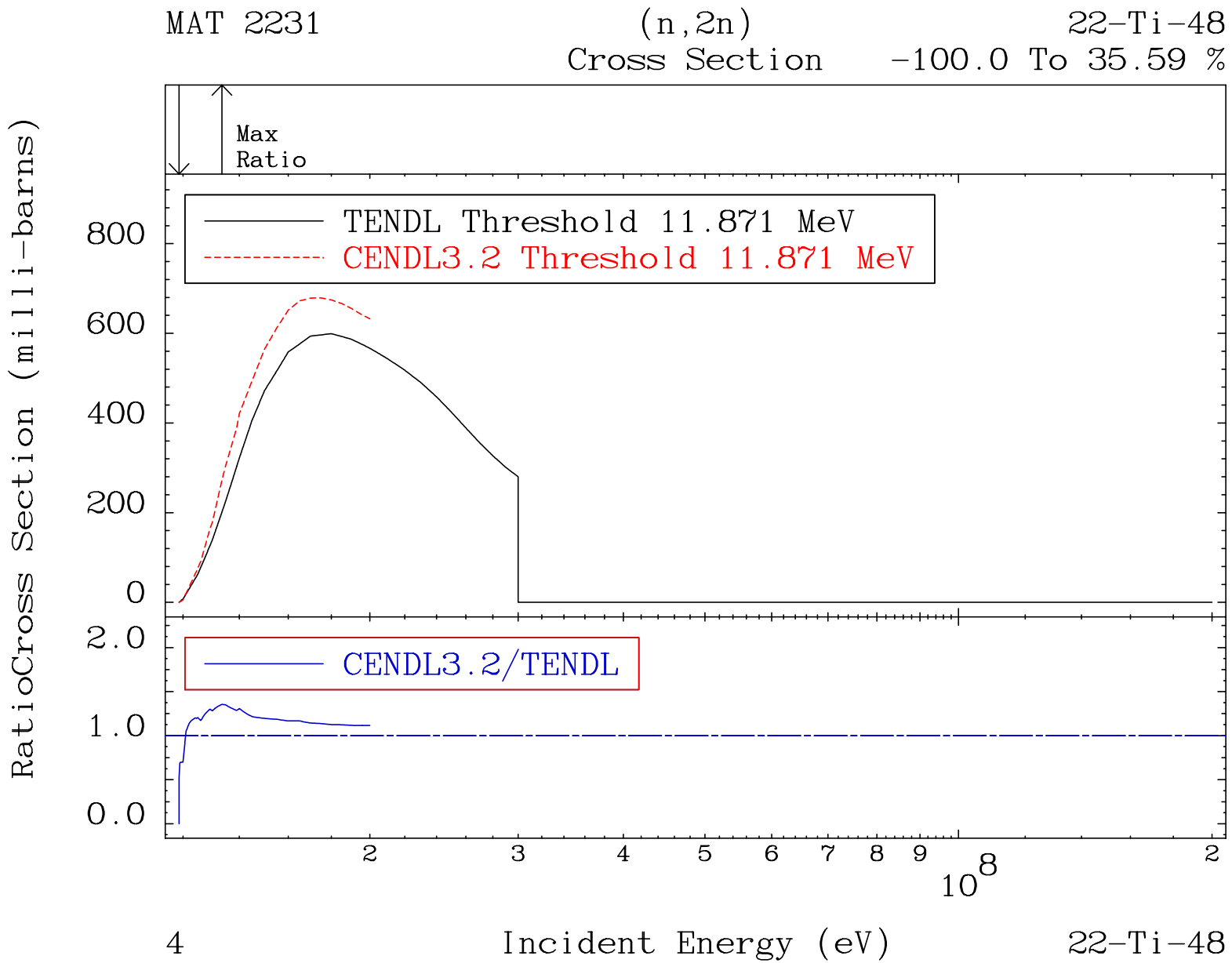
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

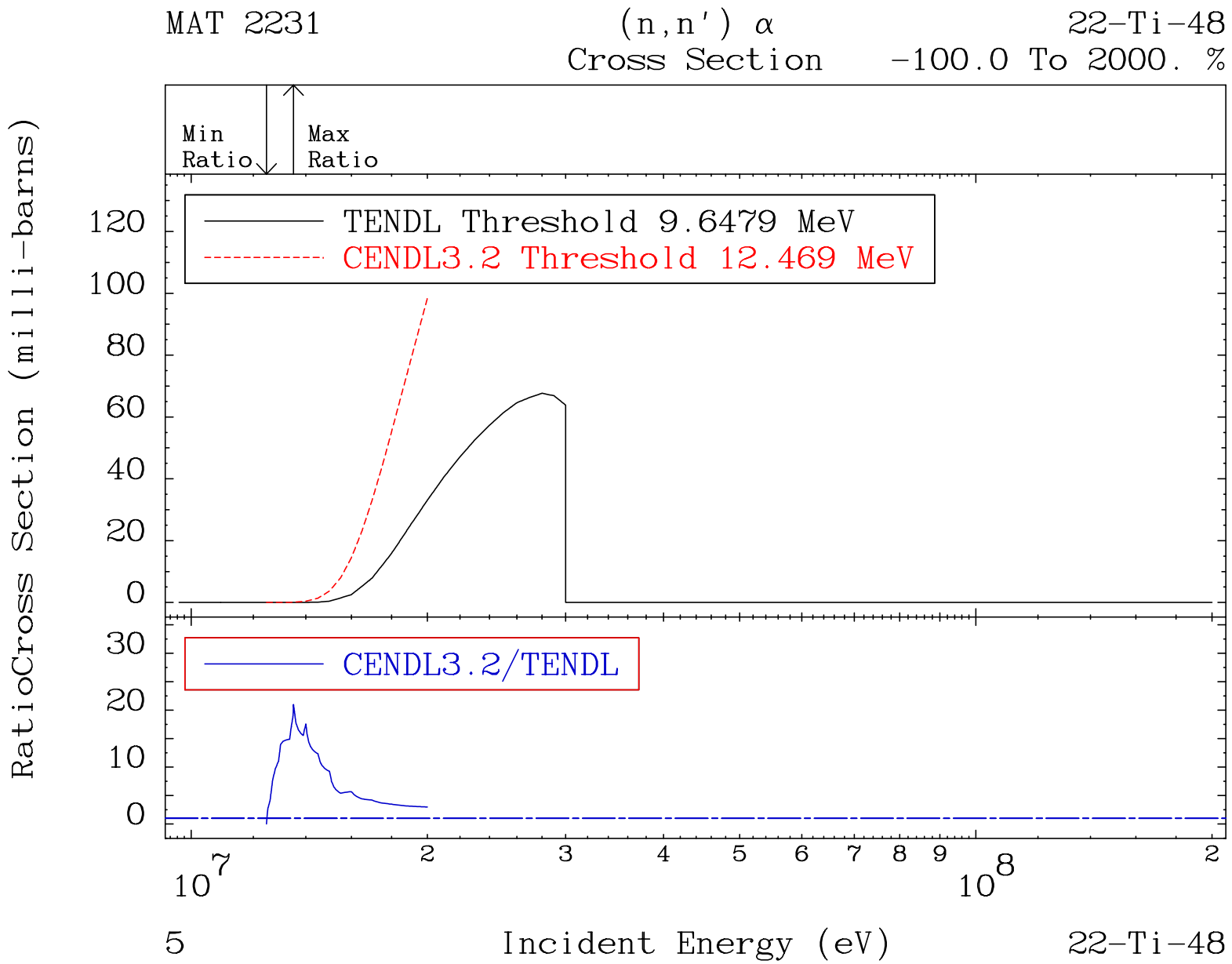
Press Mouse Button to Start

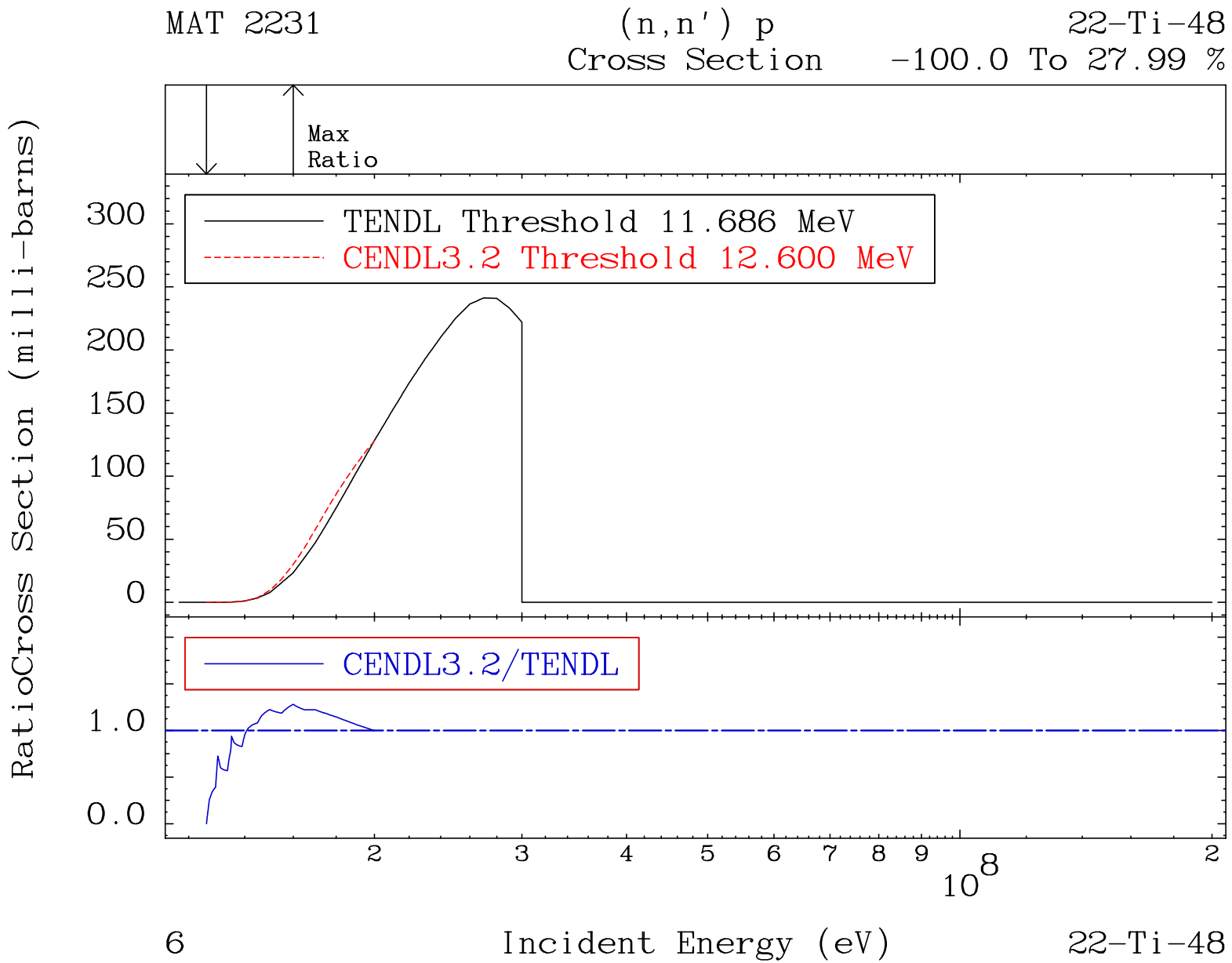

MAT 2231
Total
Cross Section
22-Ti-48
-58.62 To 132.1 %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
1
22-Ti-48

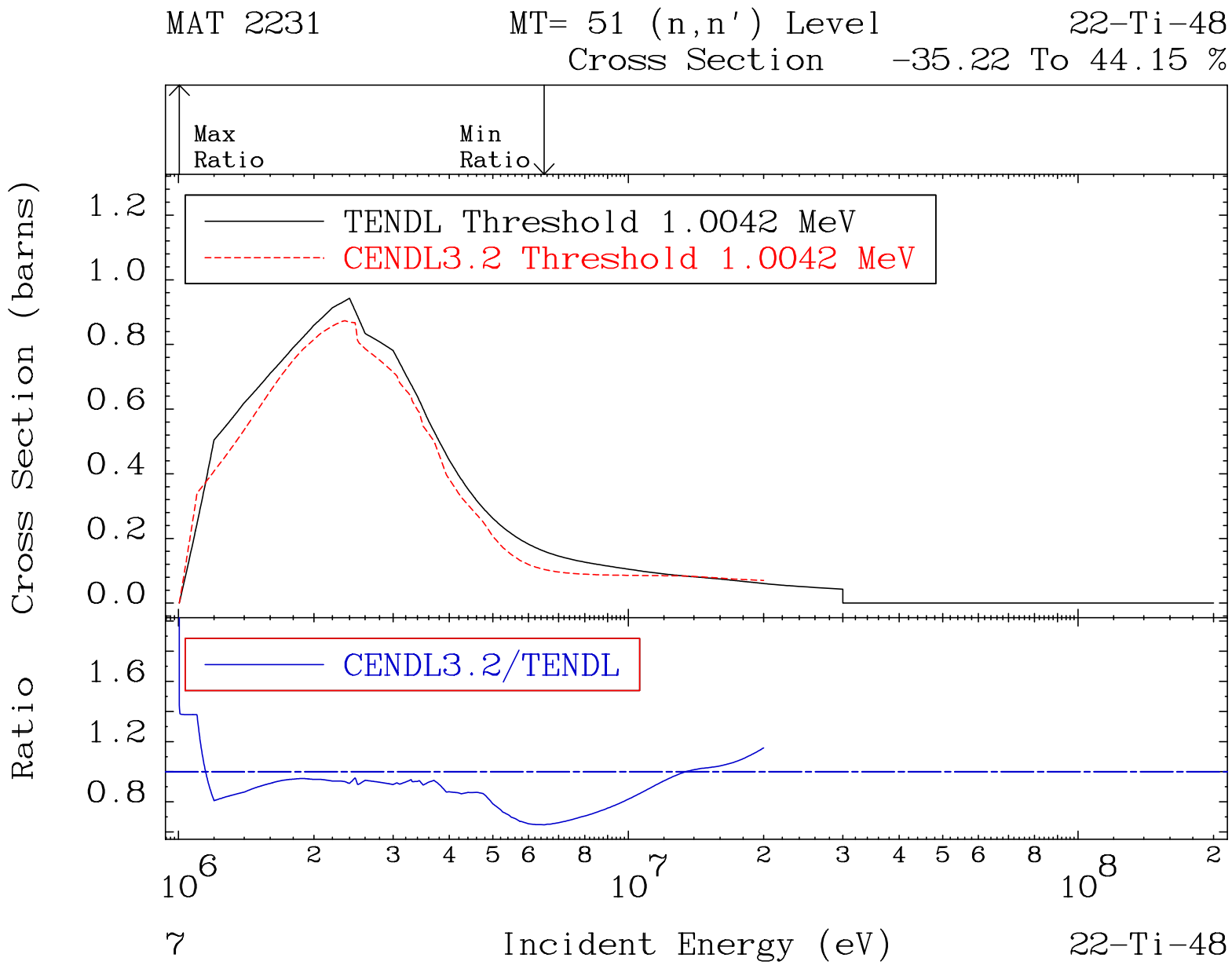

MAT 2231
Elastic
Cross Section
22-Ti-48
-58.77 To 132.3 %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
10^4
10^2
10^0
10^-2
CENDL3.2/TENDL
Ratio
3.0
2.0
1.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
Incident Energy (eV)
2
22-Ti-48

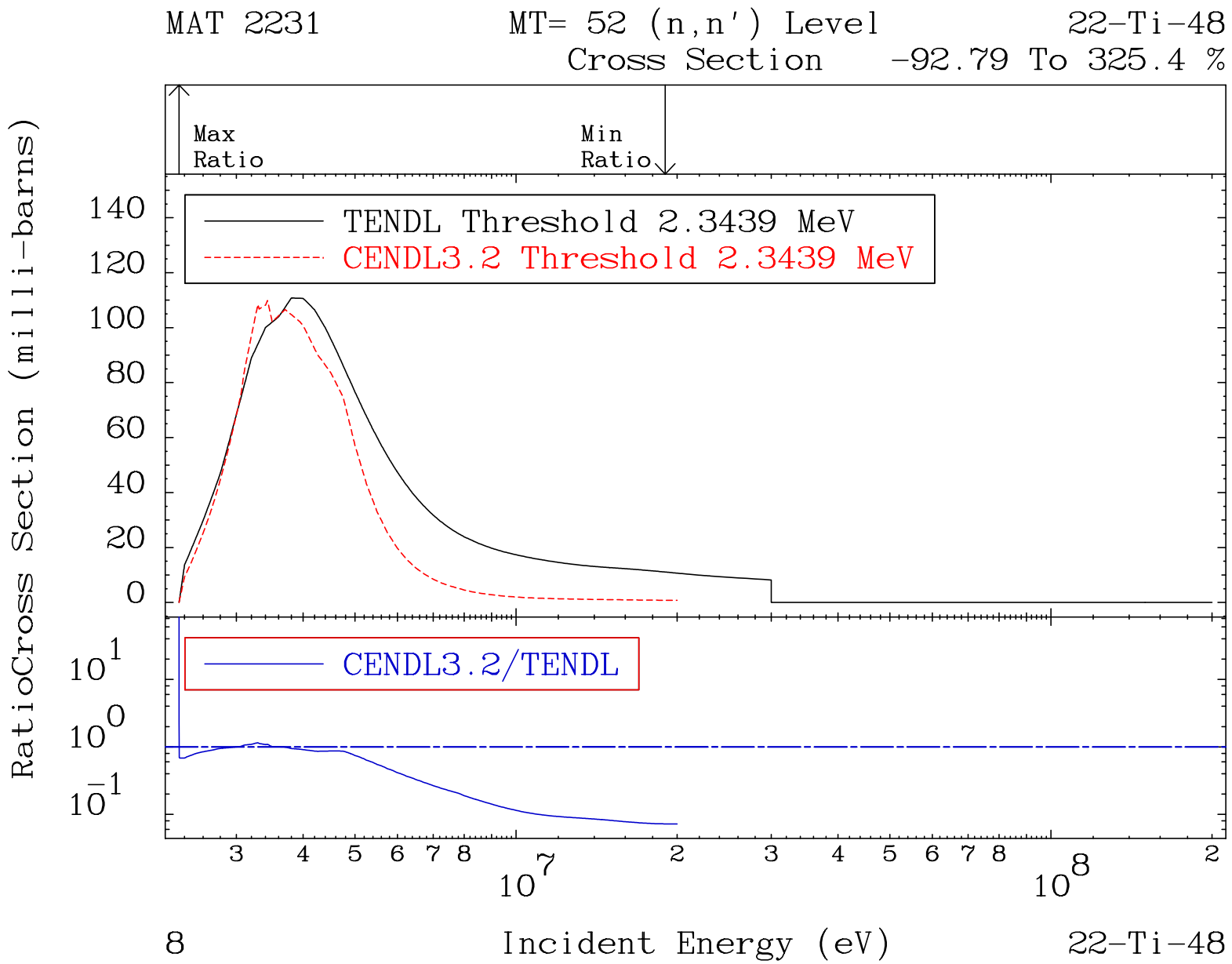

MAT 2231
Inelastic
Cross Section
22-Ti-48
-25.93 To 44.15 %
Max
Ratio
Min
Ratio
TENDL Threshold 1.0042 MeV
CENDL3.2 Threshold 1.0042 MeV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
CENDL3.2/TENDL
Ratio
1.6
1.2
0.8
2
3
4
5
6
8
10^6
10^7
10^8
3
Incident Energy (eV)
22-Ti-48

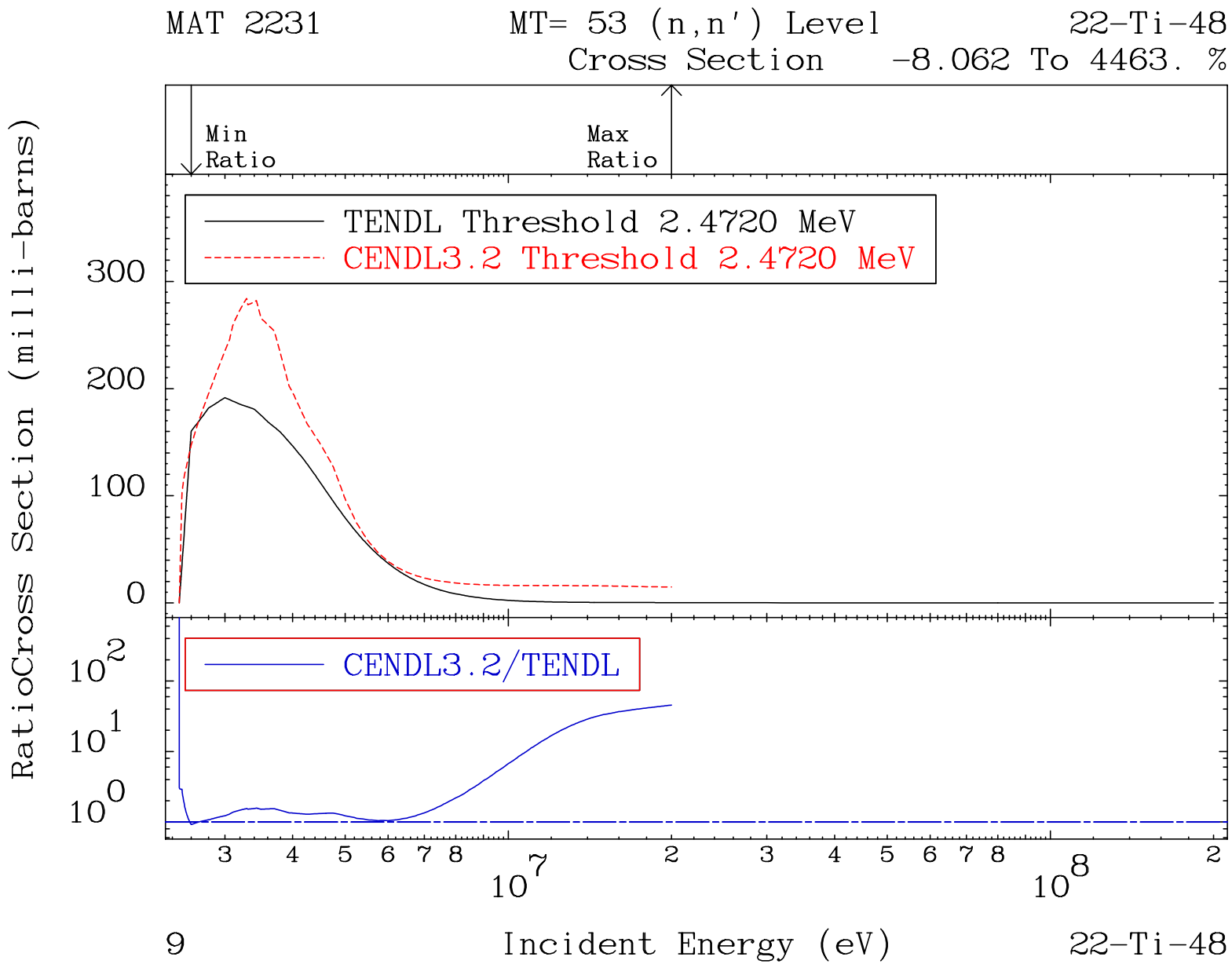

MAT 2231
(n,2n)
Cross Section
22-Ti-48
-100.0 To 35.59 %
Max
Ratio
TENDL Threshold 11.871 MeV
CENDL3.2 Threshold 11.871 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
2
10^8
Incident Energy (eV)
4
22-Ti-48

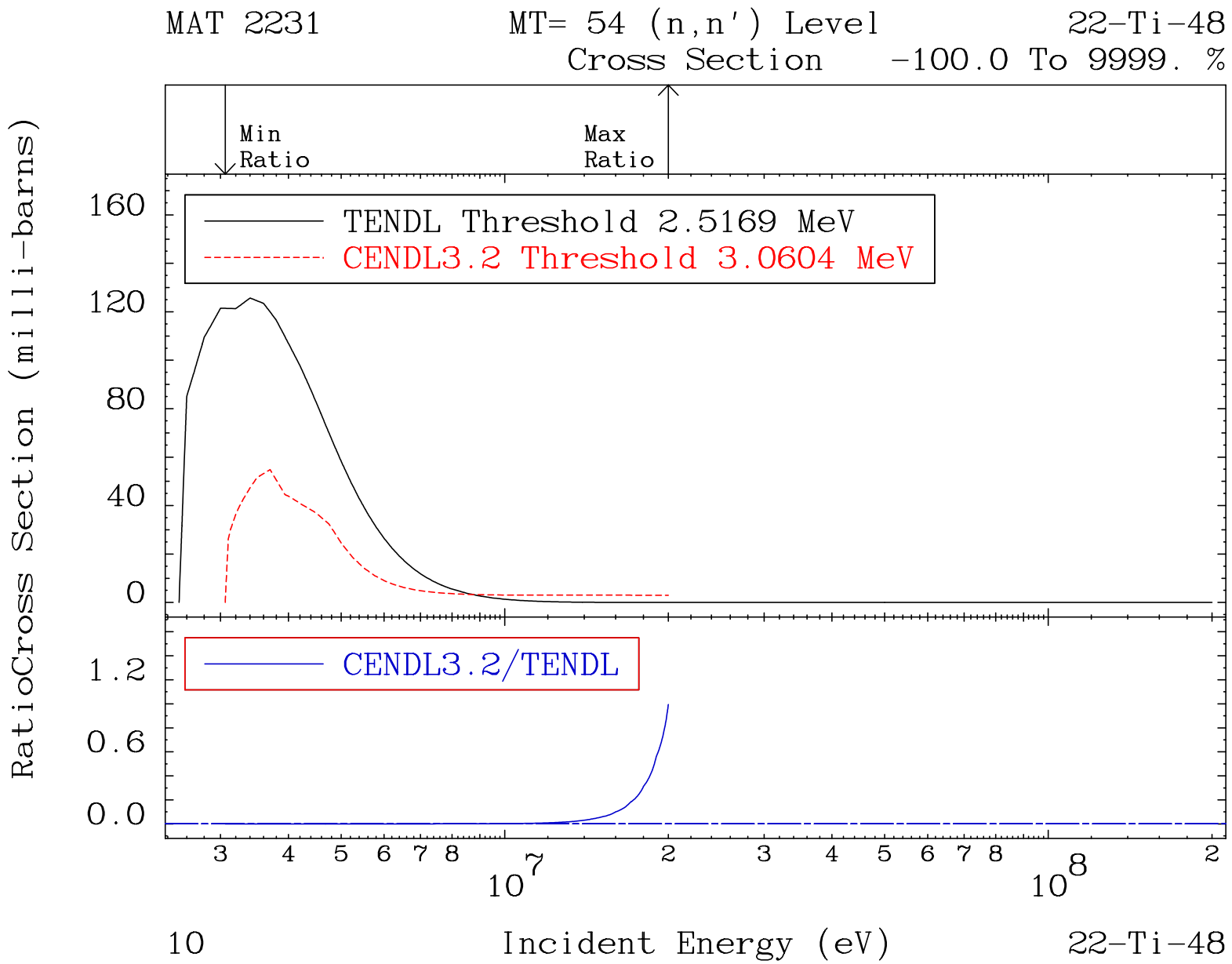

MAT 2231
(n,n') α
22-Ti-48
Cross Section
-100.0 To 2000. %
Min Ratio
Max Ratio
TENDL Threshold 9.6479 MeV
CENDL3.2 Threshold 12.469 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
30
20
10
0
10^7
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
22-Ti-48

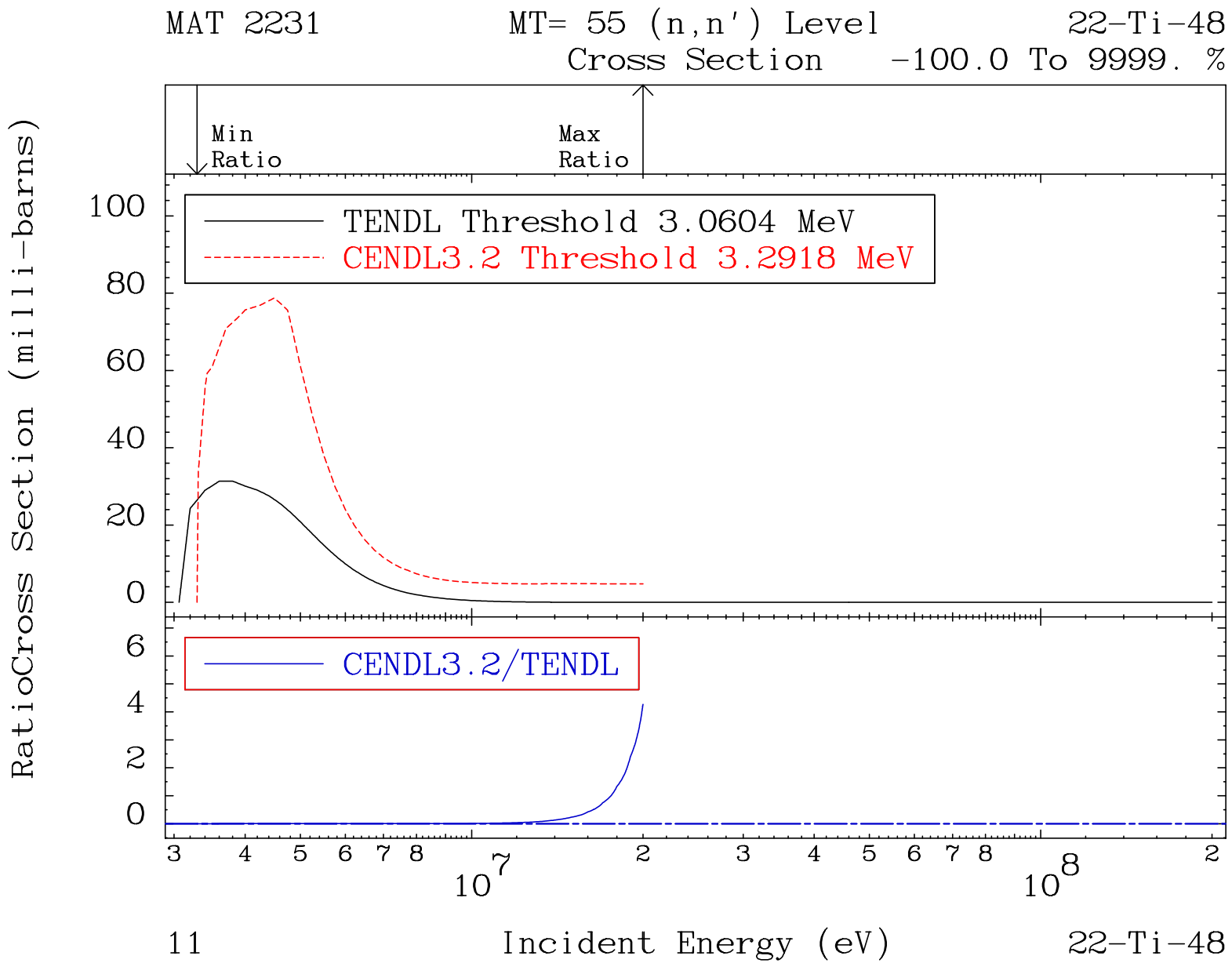

MAT 2231
(n,n') p
Cross Section
22-Ti-48
-100.0 To 27.99 %
Max
Ratio
TENDL Threshold 11.686 MeV
CENDL3.2 Threshold 12.600 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
22-Ti-48

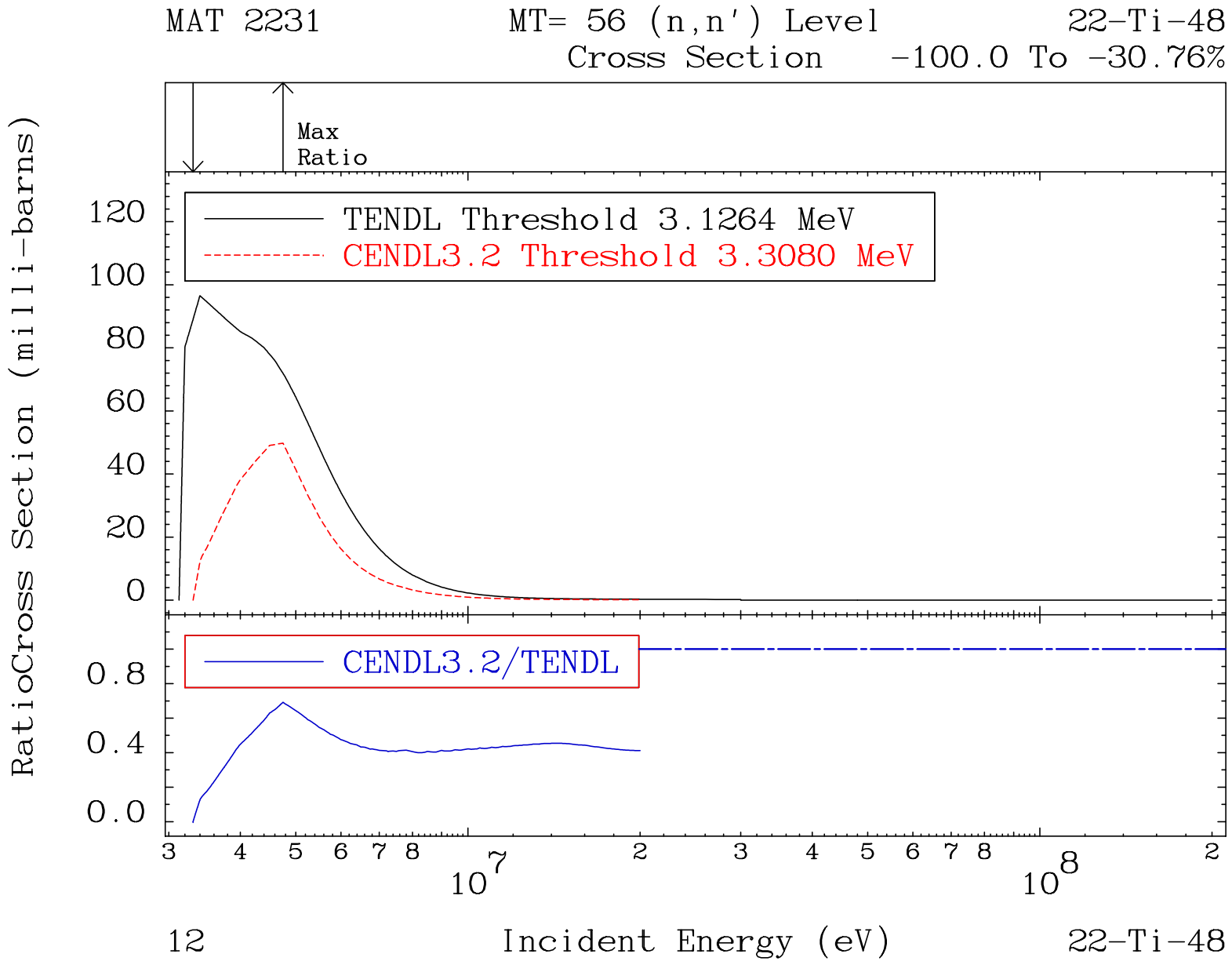

MAT 2231
MT= 51 (n,n') Level
22-Ti-48
Cross Section -35.22 To 44.15 %
Max Ratio
Min Ratio
TENDL Threshold 1.0042 MeV
CENDL3.2 Threshold 1.0042 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
22-Ti-48

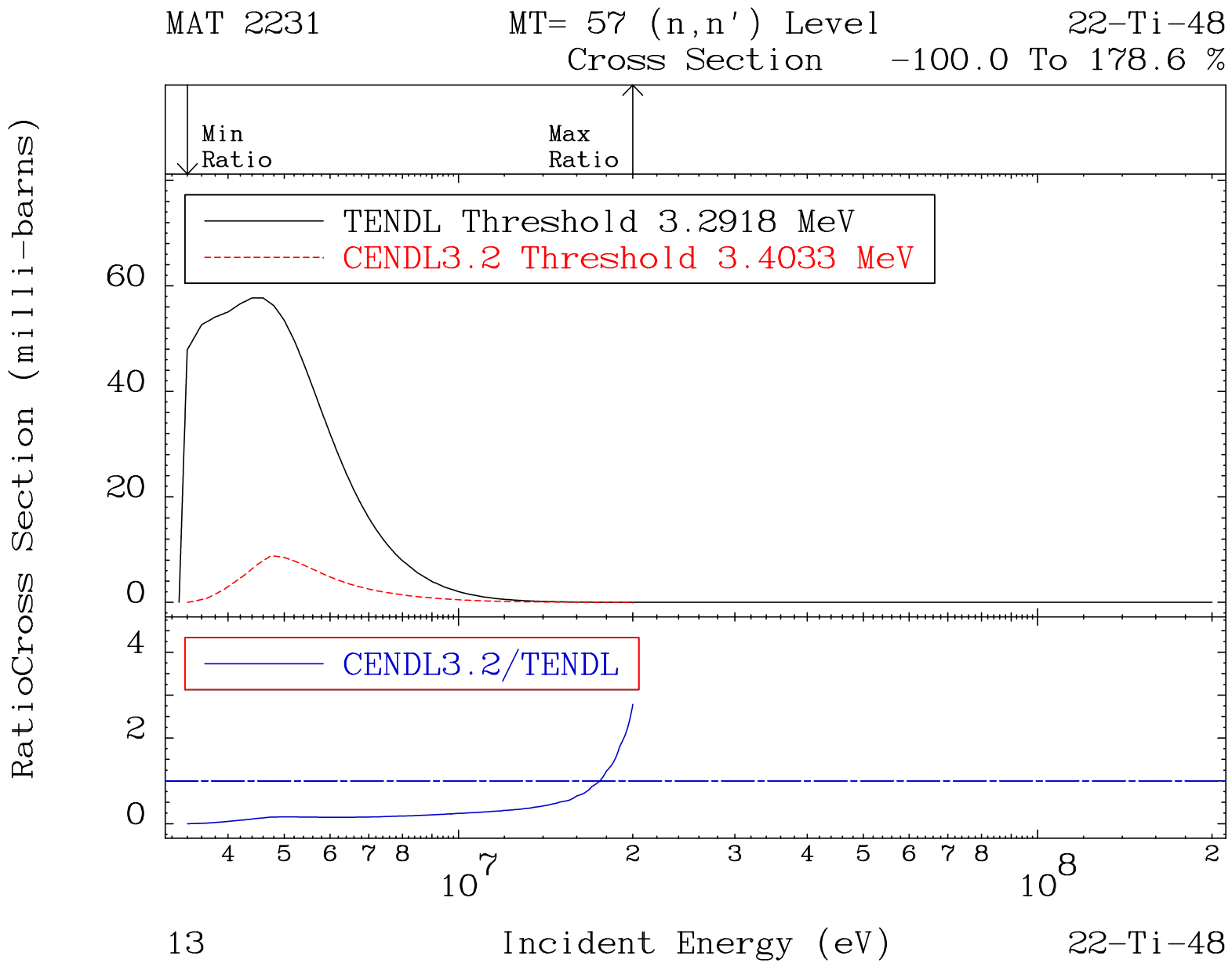

MAT 2231
MT= 52 (n,n') Level
22-Ti-48
Cross Section -92.79 To 325.4 %
Max Ratio
Min Ratio
TENDL Threshold 2.3439 MeV
CENDL3.2 Threshold 2.3439 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
10^{1}
10^{0}
10^{-1}
3 4 5 6 7 8 10^{7} 2 3 4 5 6 7 8 10^{8} 2
Incident Energy (eV)
8
22-Ti-48

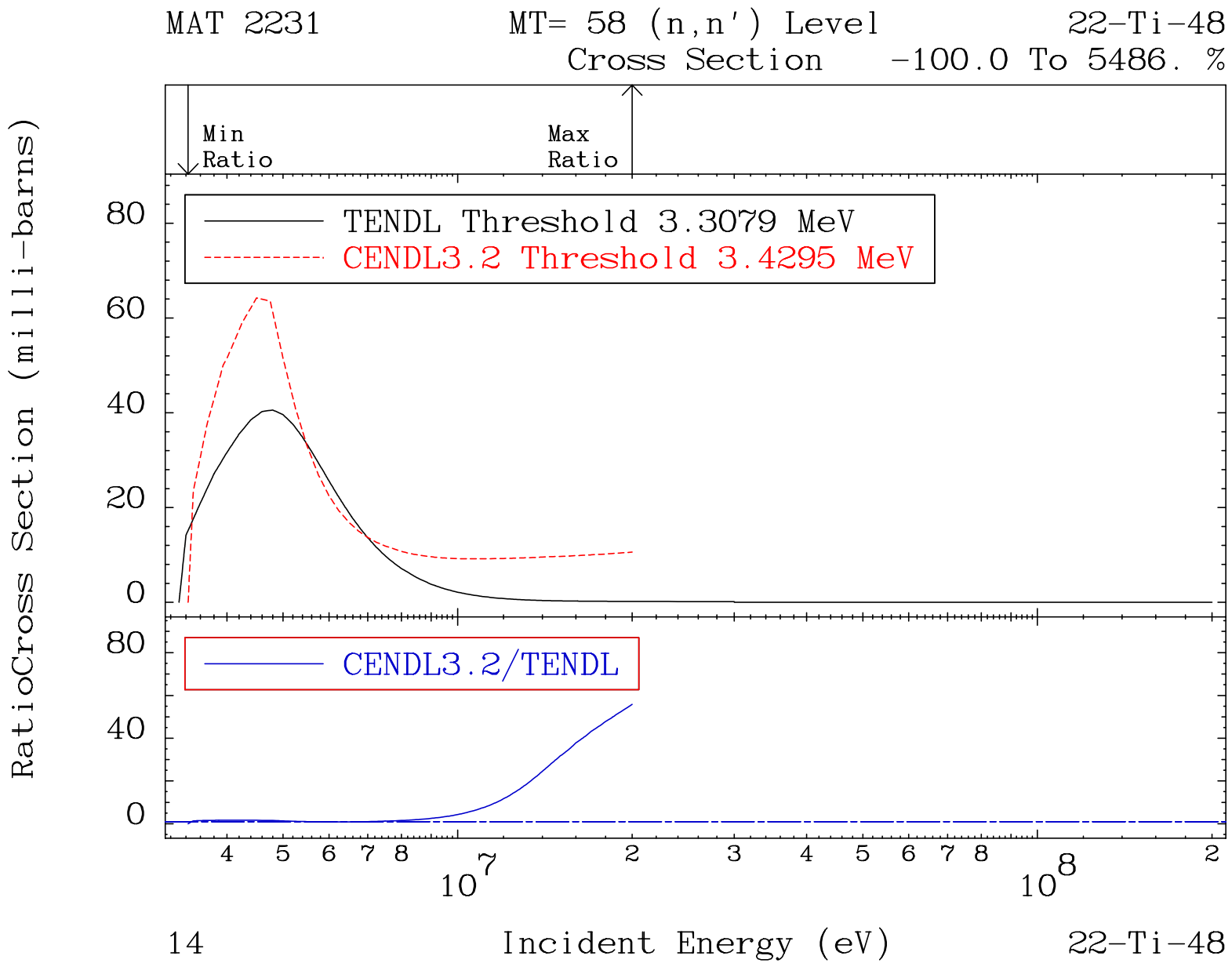

MAT 2231
MT= 53 (n,n') Level
22-Ti-48
Cross Section -8.062 To 4463. %
Min Ratio
Max Ratio
TENDL Threshold 2.4720 MeV
CENDL3.2 Threshold 2.4720 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
300
200
100
0
10^2
10^1
10^0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
9
Incident Energy (eV)
22-Ti-48

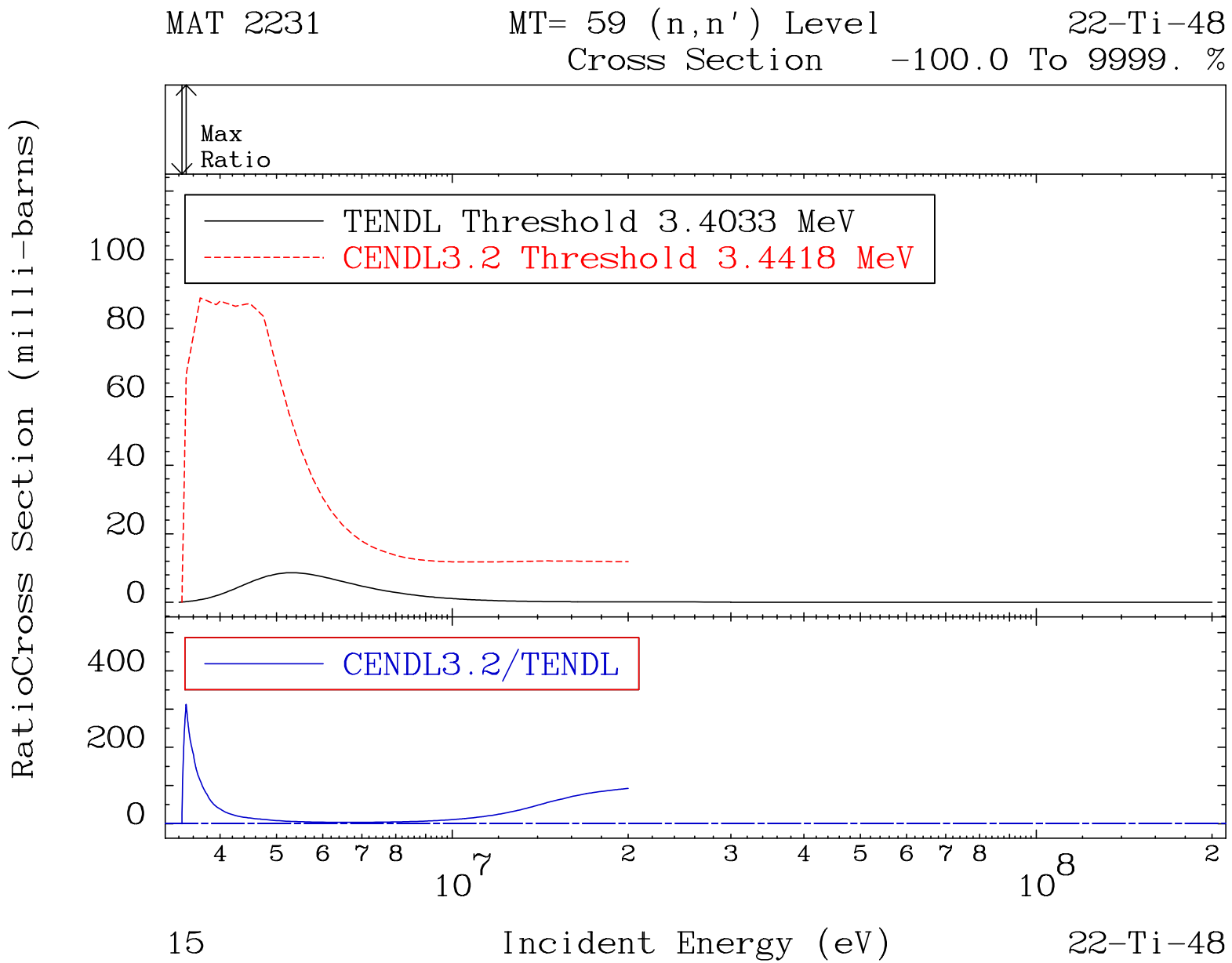

MAT 2231
MT= 54 (n,n') Level
22-Ti-48
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.5169 MeV
CENDL3.2 Threshold 3.0604 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
10
Incident Energy (eV)
22-Ti-48

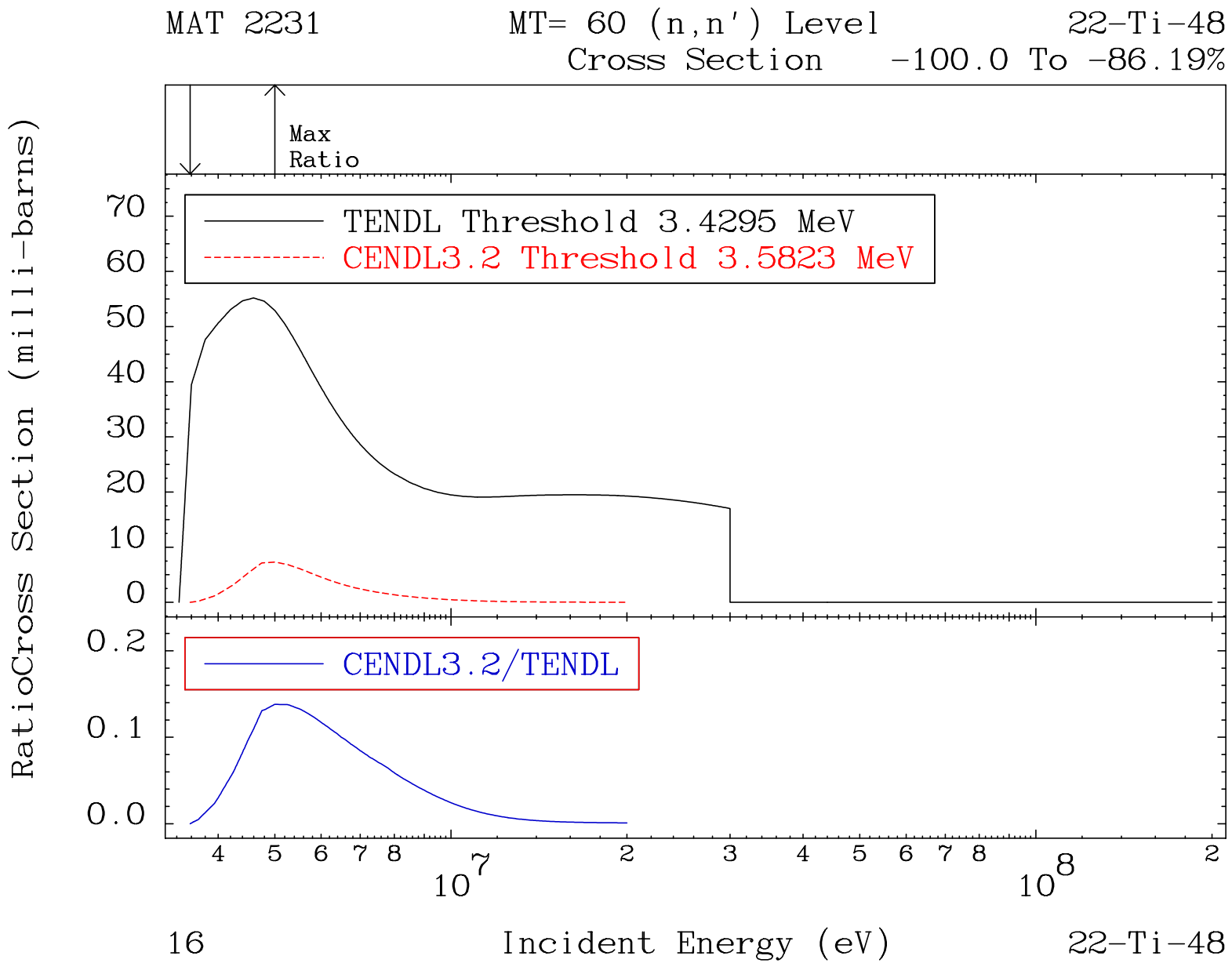

MAT 2231
MT= 55 (n,n') Level
22-Ti-48
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 3.0604 MeV
CENDL3.2 Threshold 3.2918 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
6
4
2
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
11
Incident Energy (eV)
22-Ti-48

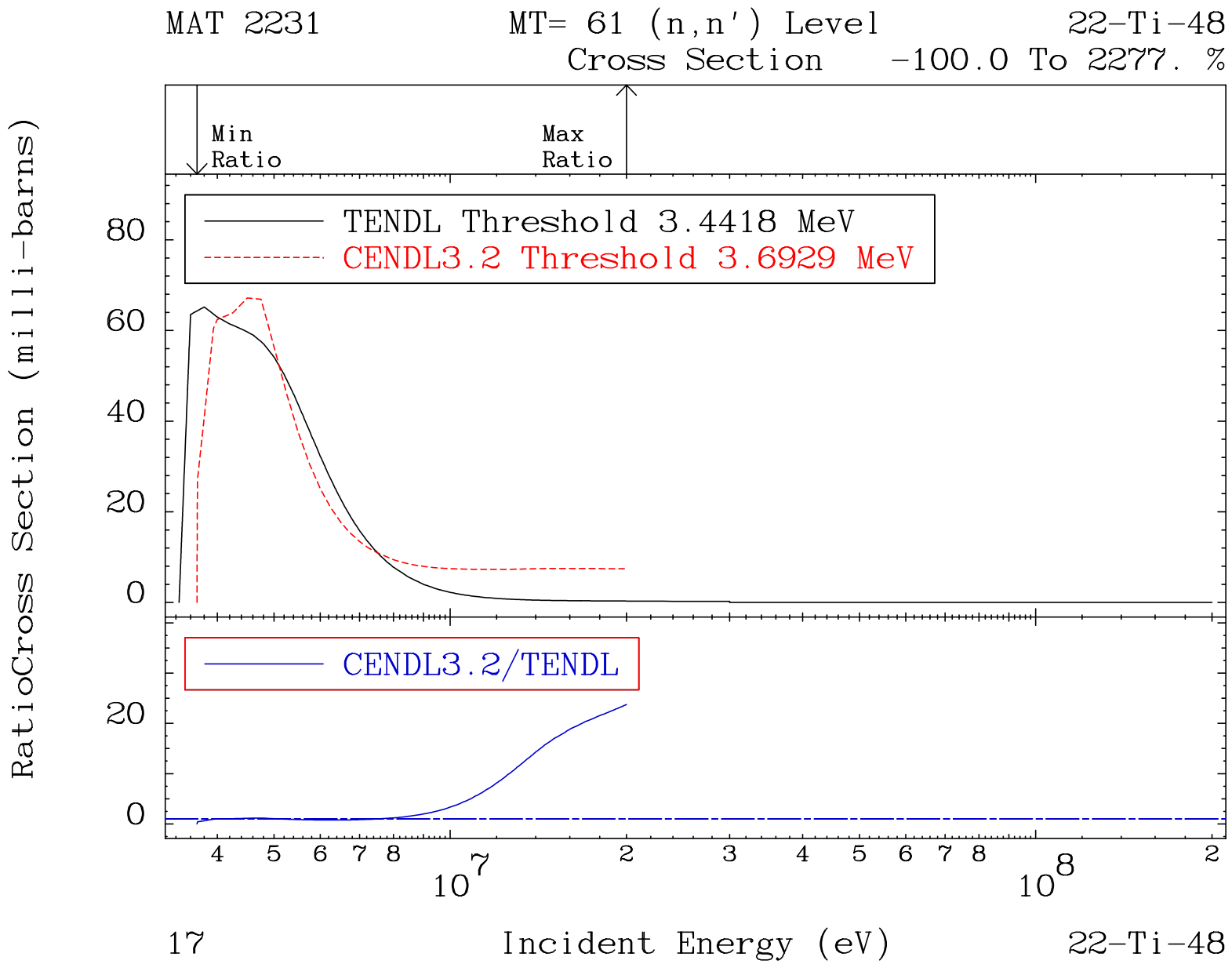

MAT 2231
MT= 56 (n,n') Level
22-Ti-48
Cross Section -100.0 To -30.76%
Max
Ratio
TENDL Threshold 3.1264 MeV
CENDL3.2 Threshold 3.3080 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
0.8
0.4
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
12
Incident Energy (eV)
22-Ti-48

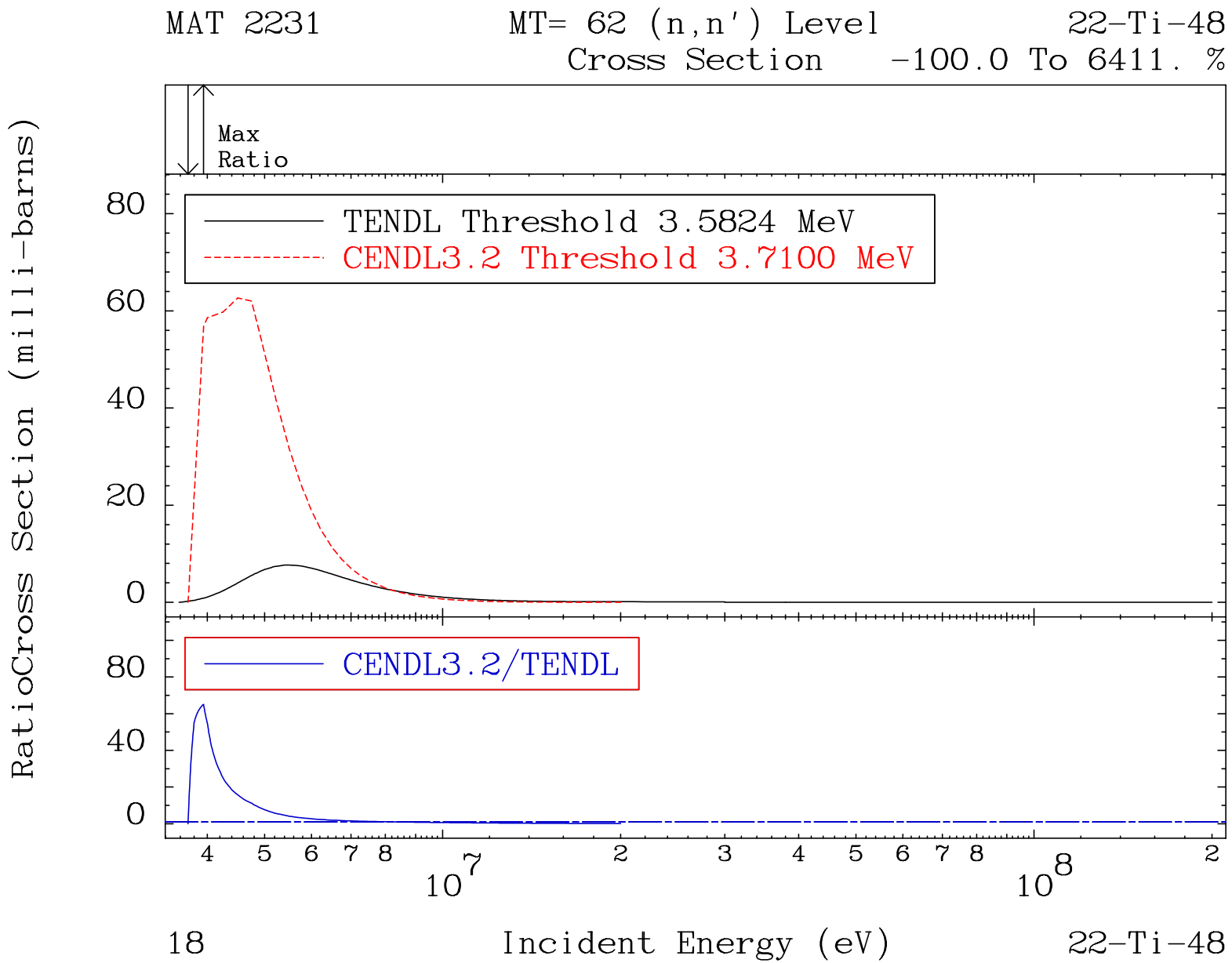

MAT 2231
MT= 57 (n,n') Level
22-Ti-48
Cross Section -100.0 To 178.6 %
Min Ratio
Max Ratio
TENDL Threshold 3.2918 MeV
CENDL3.2 Threshold 3.4033 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
40
20
0
4
2
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
13
Incident Energy (eV)
22-Ti-48

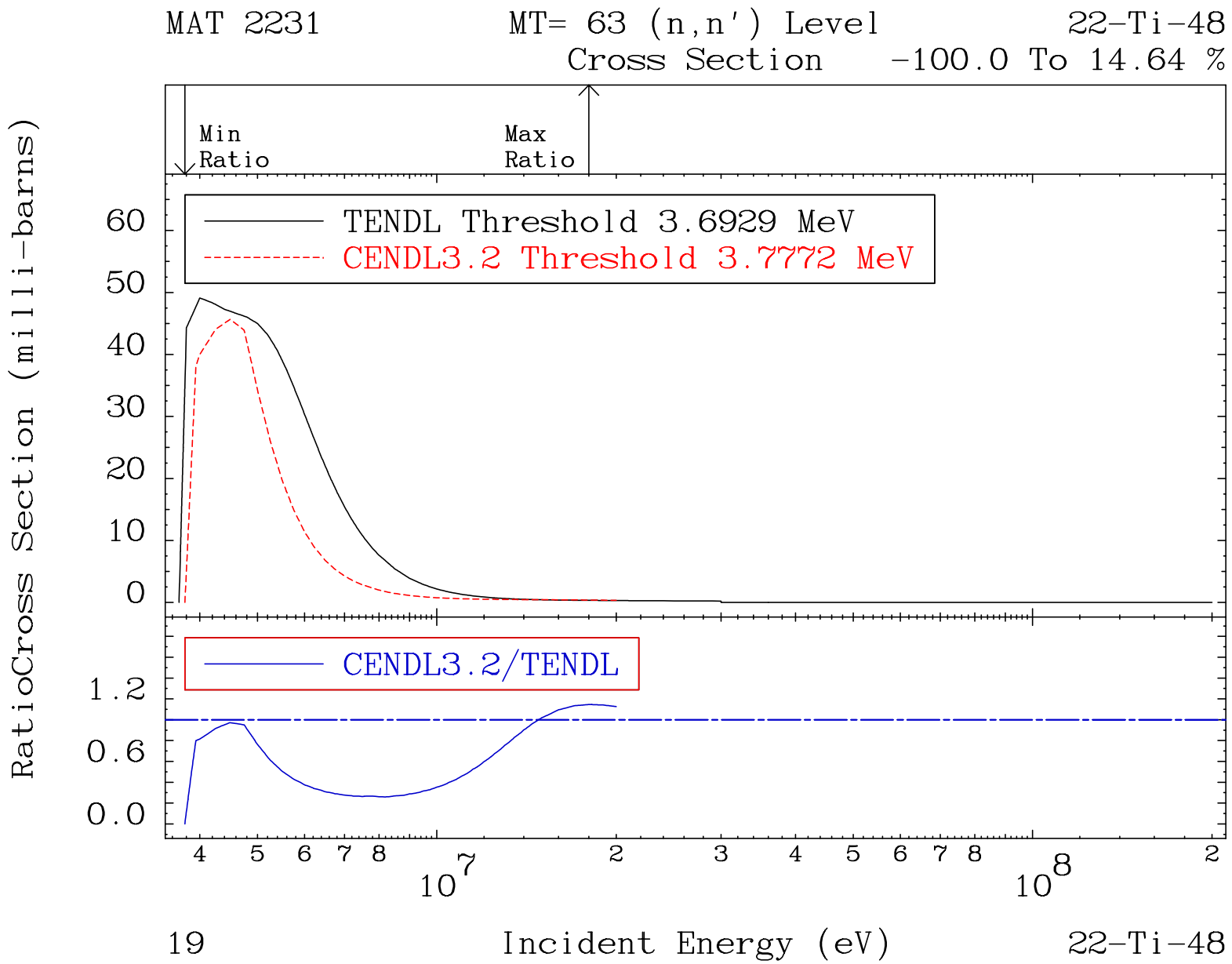

MAT 2231
MT= 58 (n,n') Level
22-Ti-48
Cross Section -100.0 To 5486. %
Min Ratio
Max Ratio
TENDL Threshold 3.3079 MeV
CENDL3.2 Threshold 3.4295 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
80
40
0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
14
Incident Energy (eV)
22-Ti-48

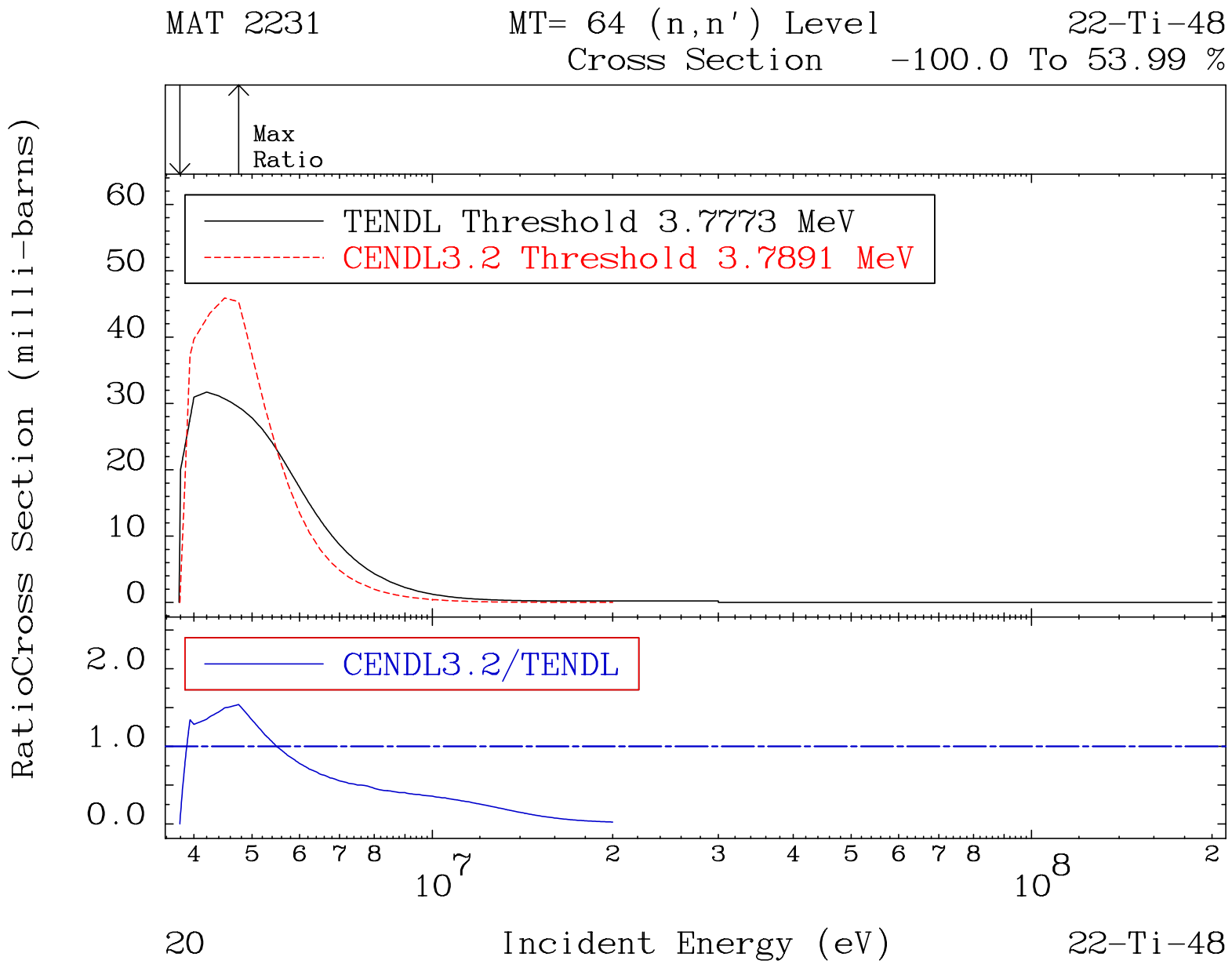

MAT 2231
MT= 59 (n,n') Level
22-Ti-48
Cross Section -100.0 To 9999. %
Max
Ratio
TENDL Threshold 3.4033 MeV
CENDL3.2 Threshold 3.4418 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
400
200
0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
15
Incident Energy (eV)
22-Ti-48

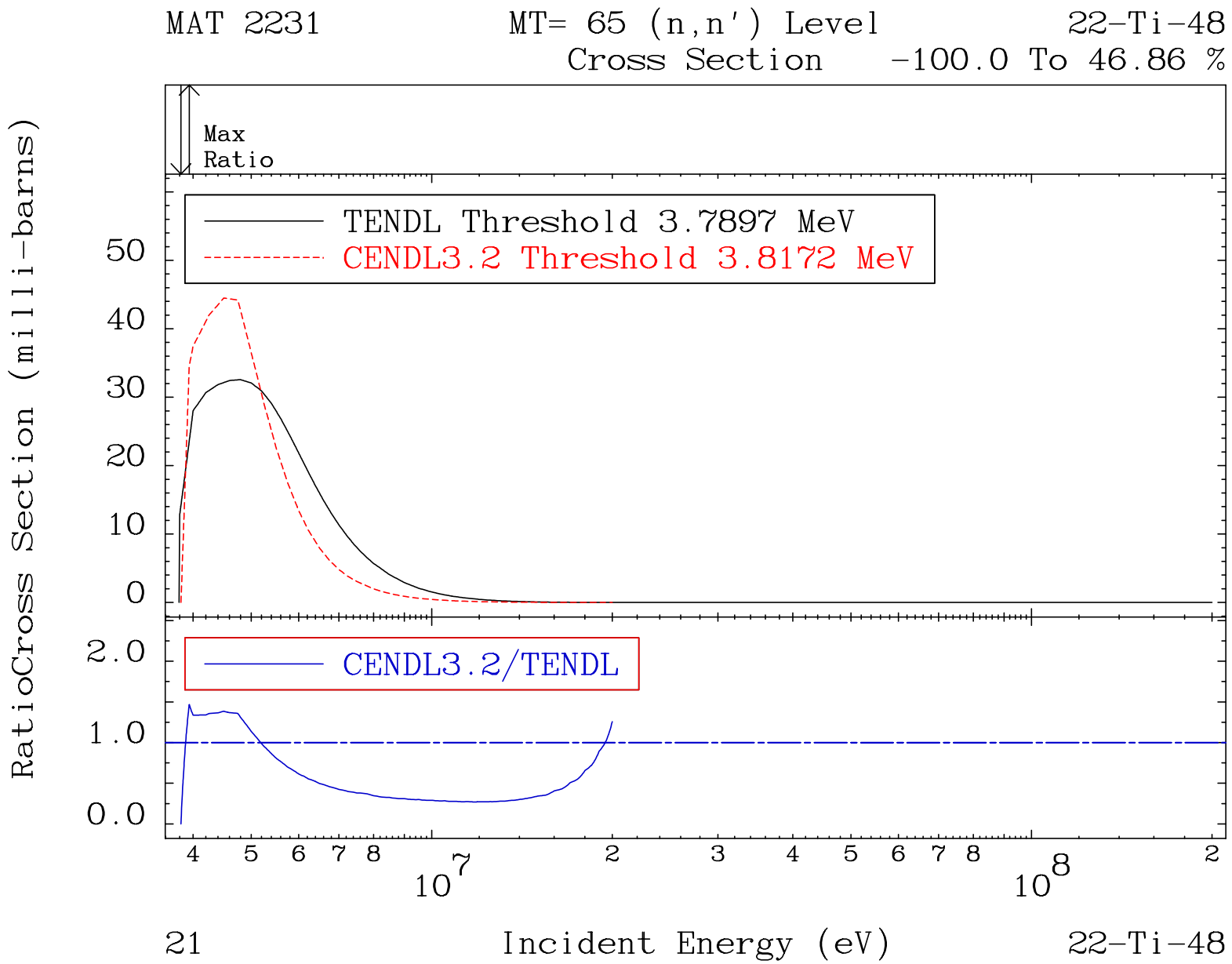

MAT 2231
MT= 60 (n,n') Level
22-Ti-48
Cross Section -100.0 To -86.19%
Max
Ratio
TENDL Threshold 3.4295 MeV
CENDL3.2 Threshold 3.5823 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
0.2
0.1
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
16
Incident Energy (eV)
22-Ti-48

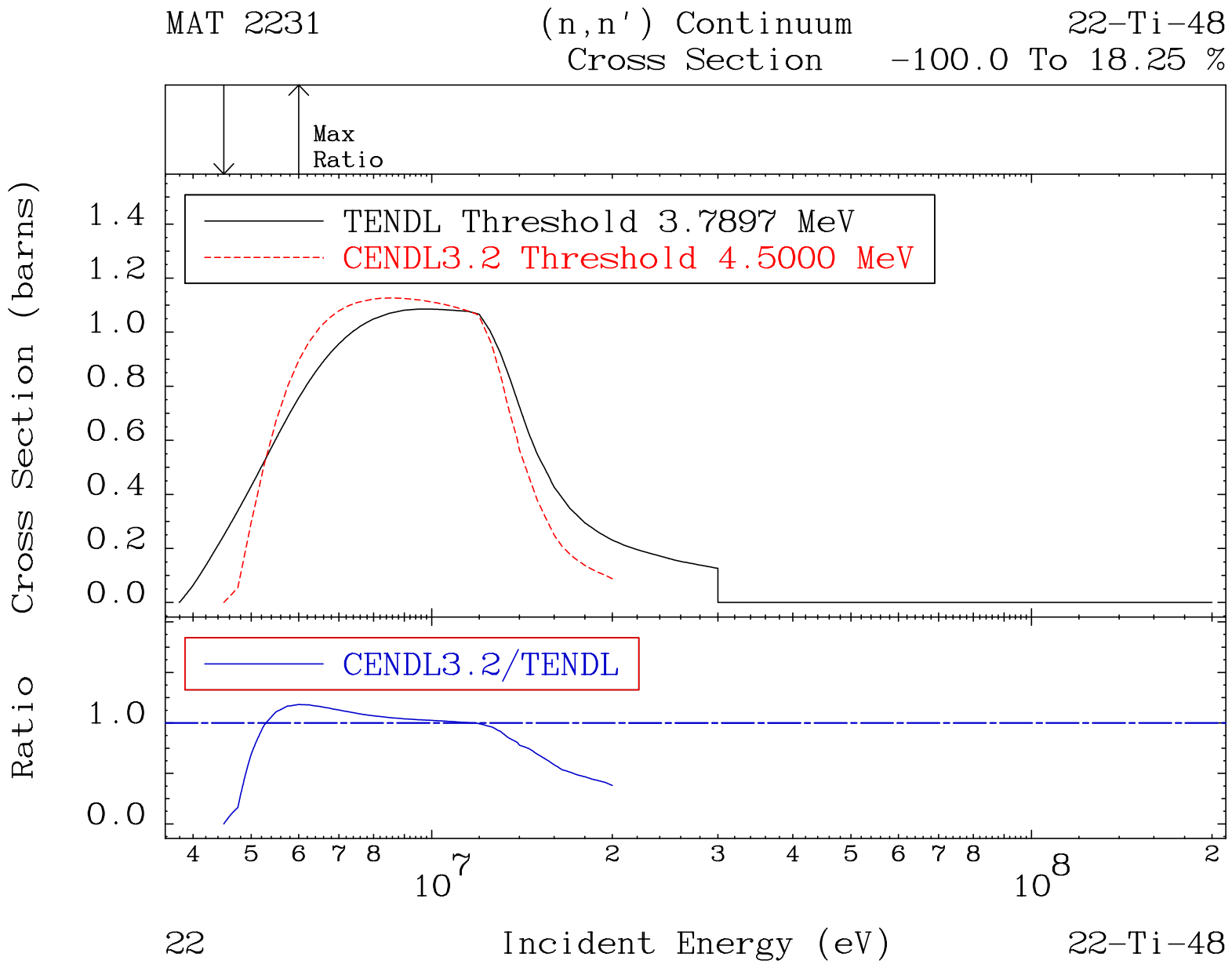

MAT 2231
MT= 61 (n,n') Level
22-Ti-48
Cross Section -100.0 To 2277. %
Min Ratio
Max Ratio
TENDL Threshold 3.4418 MeV
CENDL3.2 Threshold 3.6929 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
20
0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
17
Incident Energy (eV)
22-Ti-48

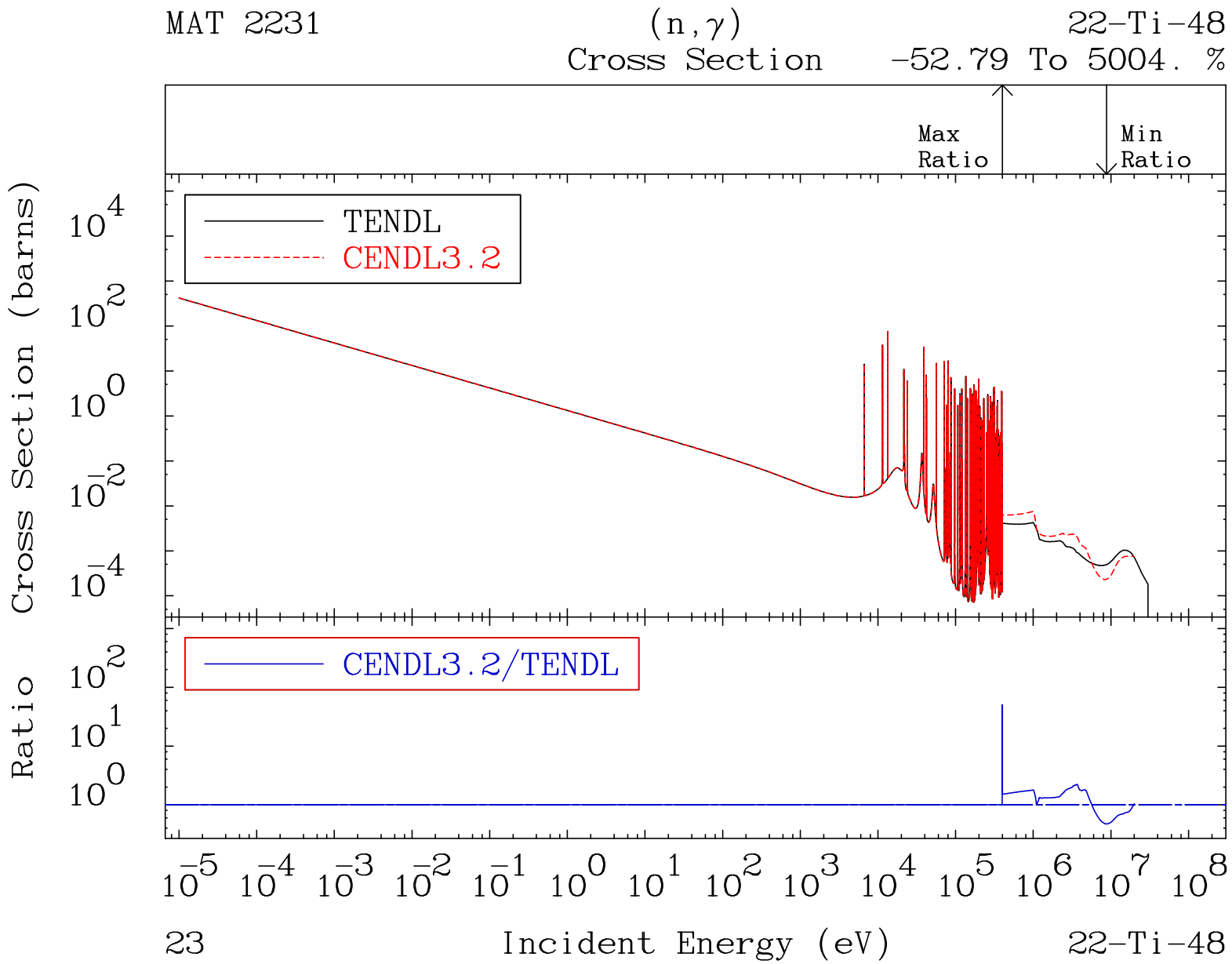

MAT 2231
MT= 62 (n,n') Level
22-Ti-48
Cross Section -100.0 To 6411. %
Max
Ratio
TENDL Threshold 3.5824 MeV
CENDL3.2 Threshold 3.7100 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
80
40
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
18
Incident Energy (eV)
22-Ti-48

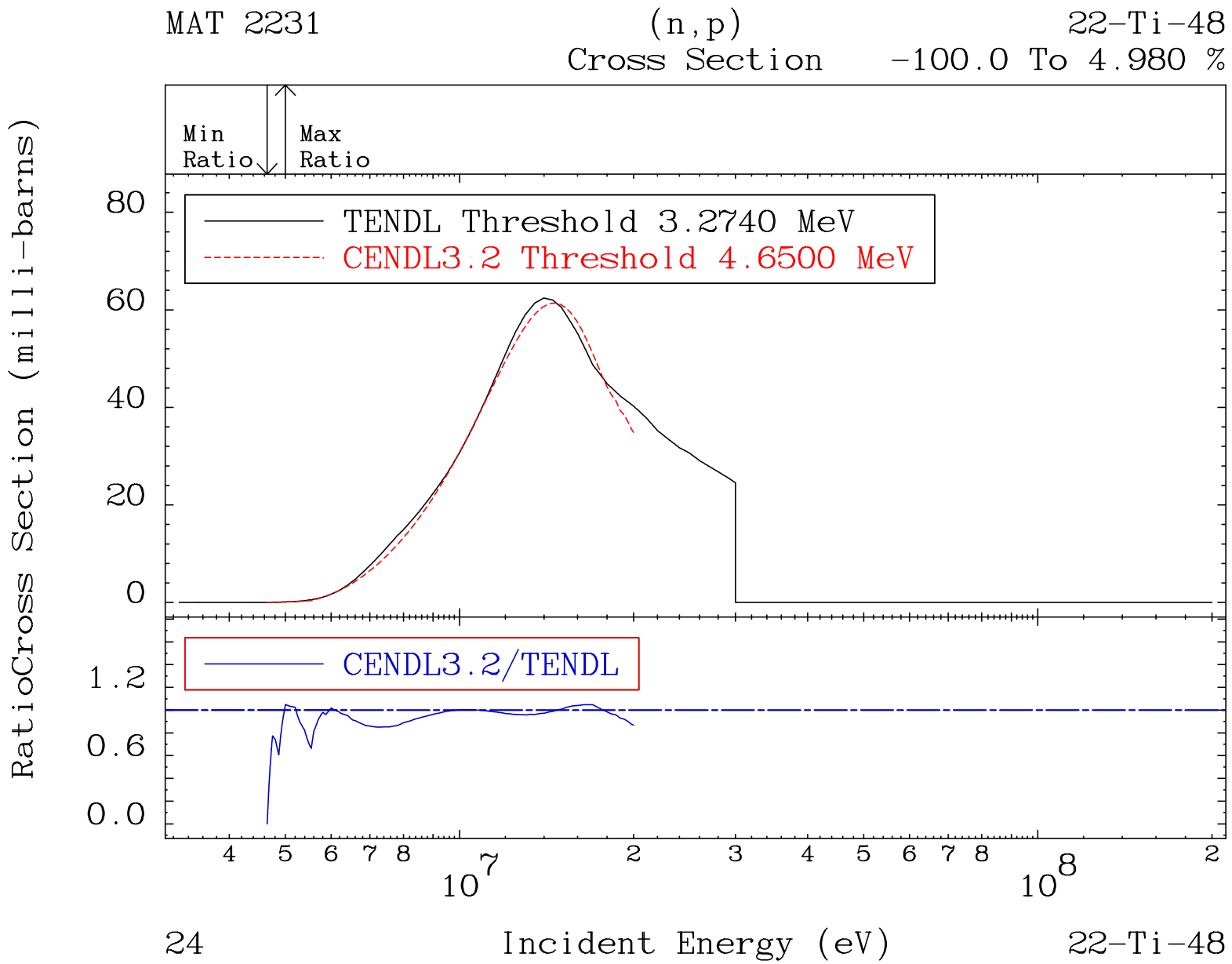

MAT 2231
MT= 63 (n,n') Level
22-Ti-48
Cross Section -100.0 To 14.64 %
Min Ratio
Max Ratio
TENDL Threshold 3.6929 MeV
CENDL3.2 Threshold 3.7772 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
1.2
0.6
0.0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
19
Incident Energy (eV)
22-Ti-48

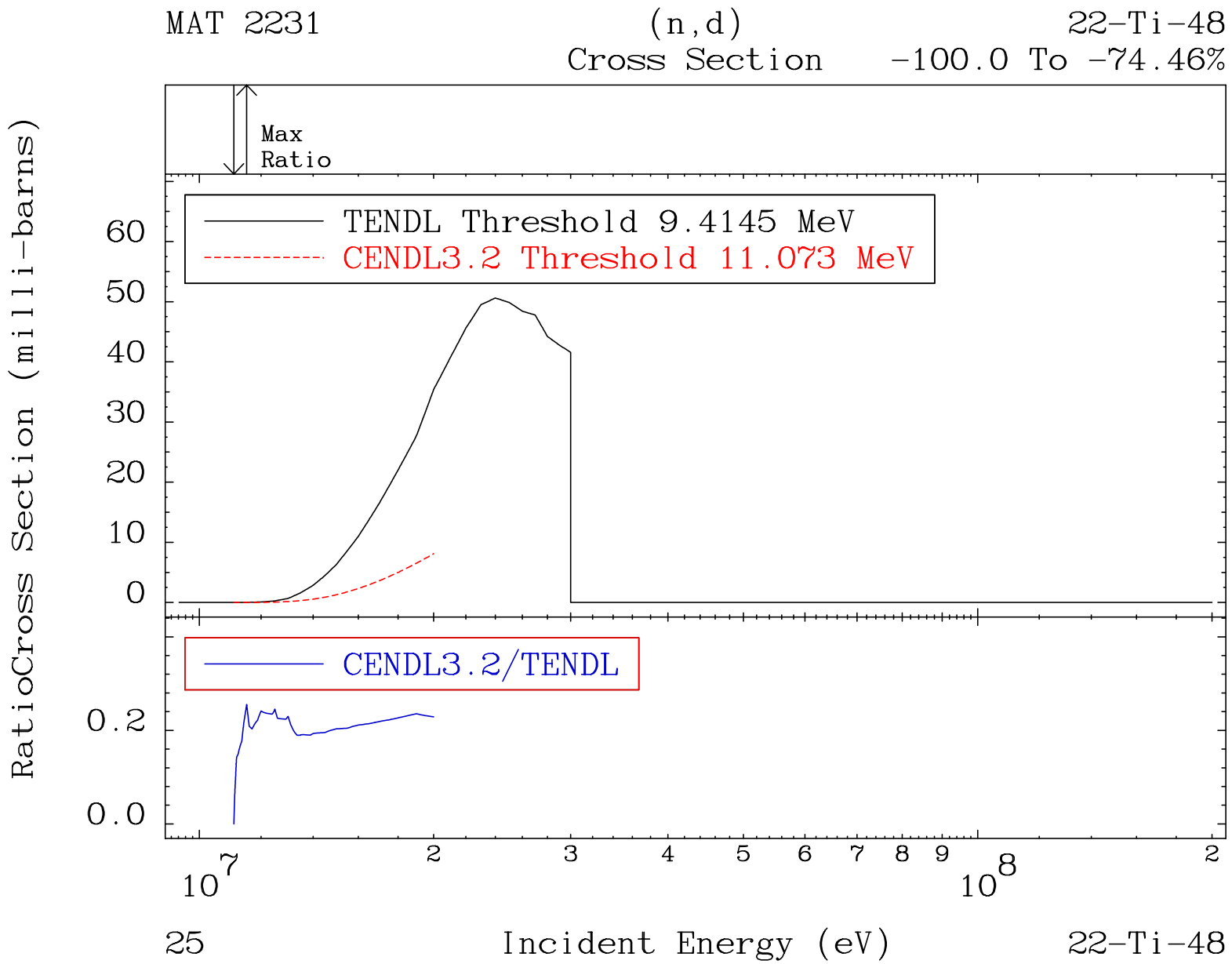

MAT 2231
MT= 64 (n,n') Level
22-Ti-48
Cross Section -100.0 To 53.99 %
Max
Ratio
TENDL Threshold 3.7773 MeV
CENDL3.2 Threshold 3.7891 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
2.0
1.0
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
20
Incident Energy (eV)
22-Ti-48

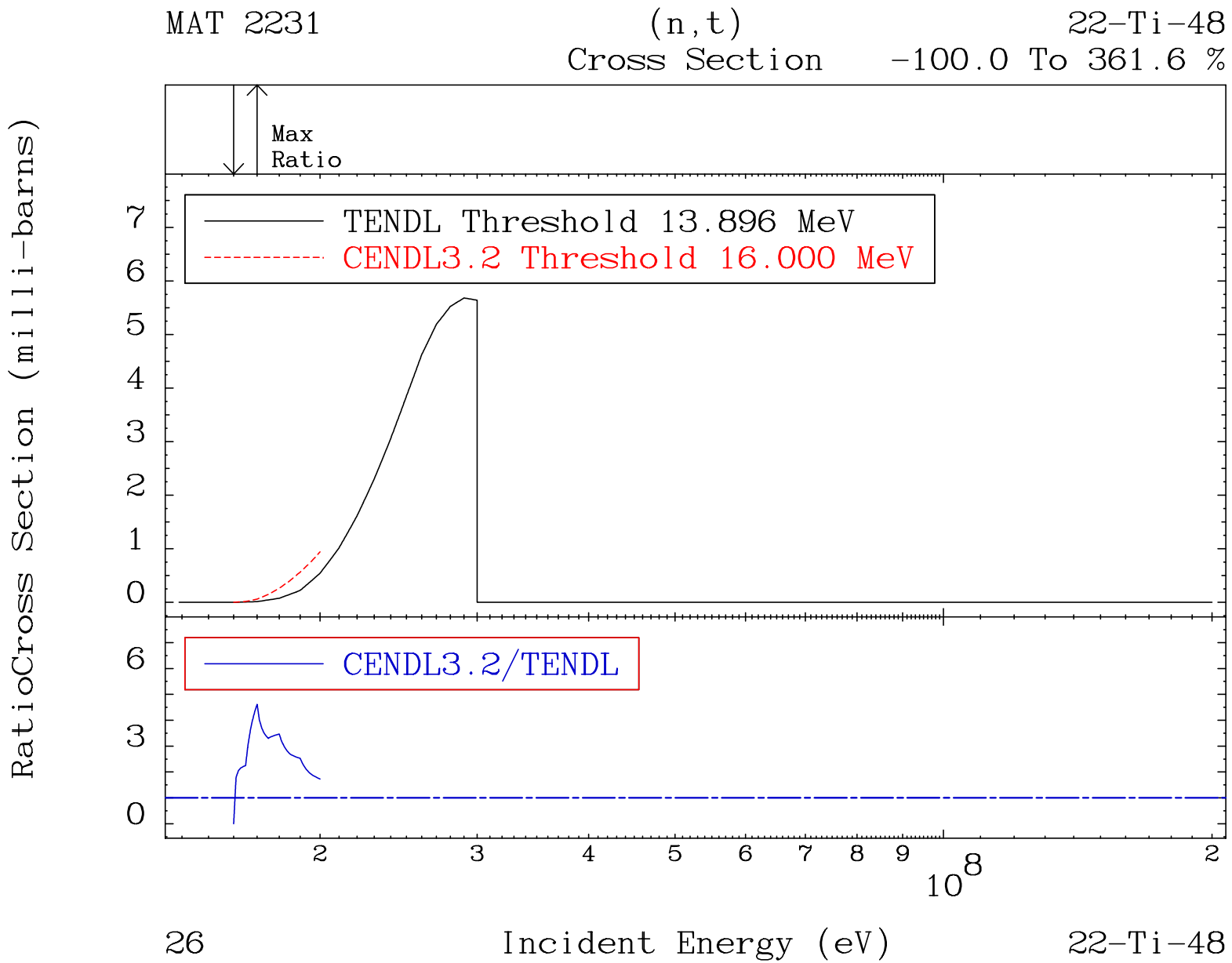

MAT 2231
MT= 65 (n,n') Level
22-Ti-48
Cross Section -100.0 To 46.86 %
Max
Ratio
TENDL Threshold 3.7897 MeV
CENDL3.2 Threshold 3.8172 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
2.0
1.0
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
22-Ti-48

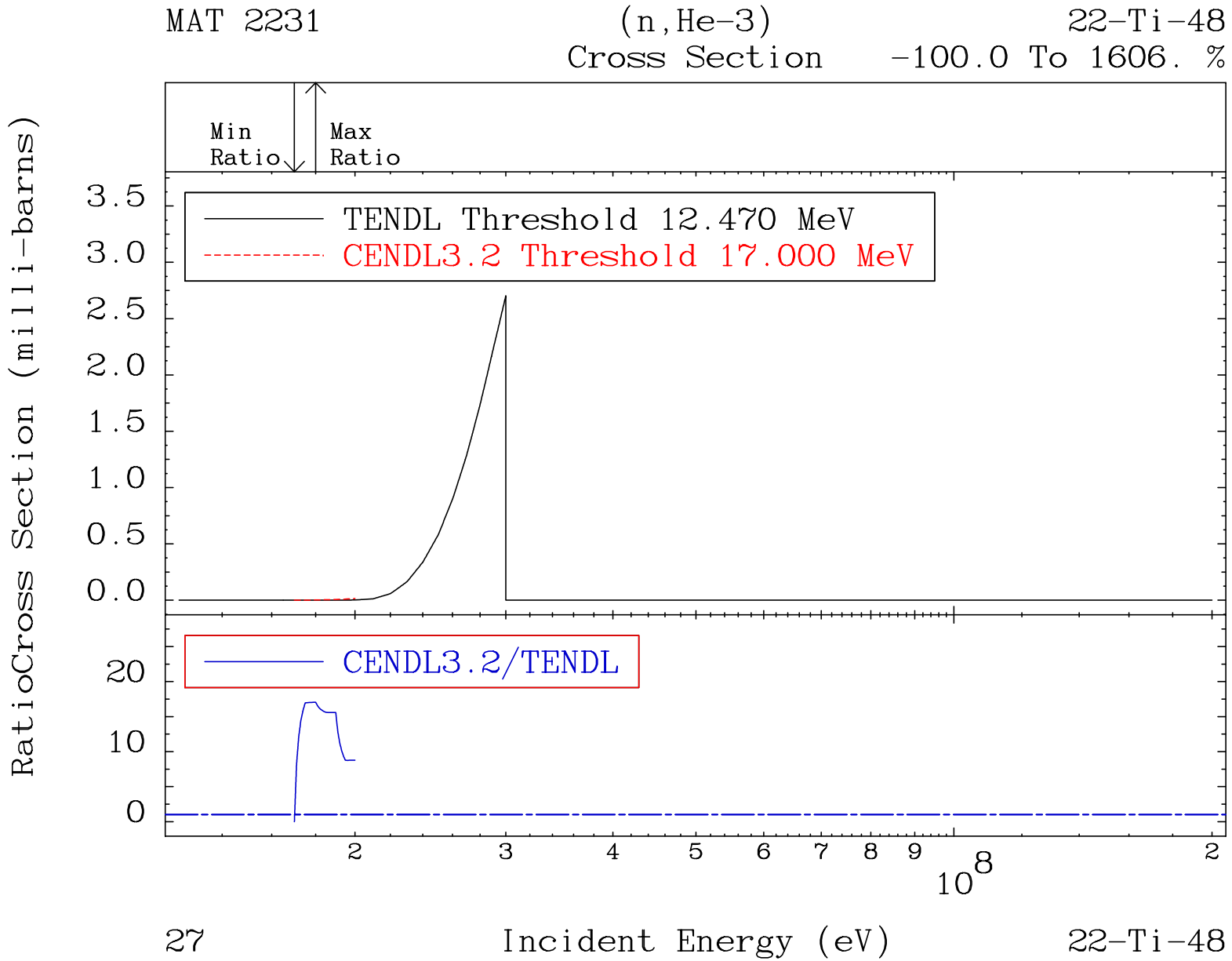

MAT 2231
(n,n') Continuum
Cross Section
22-Ti-48
-100.0 To 18.25 %
Max
Ratio
TENDL Threshold 3.7897 MeV
CENDL3.2 Threshold 4.5000 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
CENDL3.2/TENDL
Ratio
1.0
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
22-Ti-48

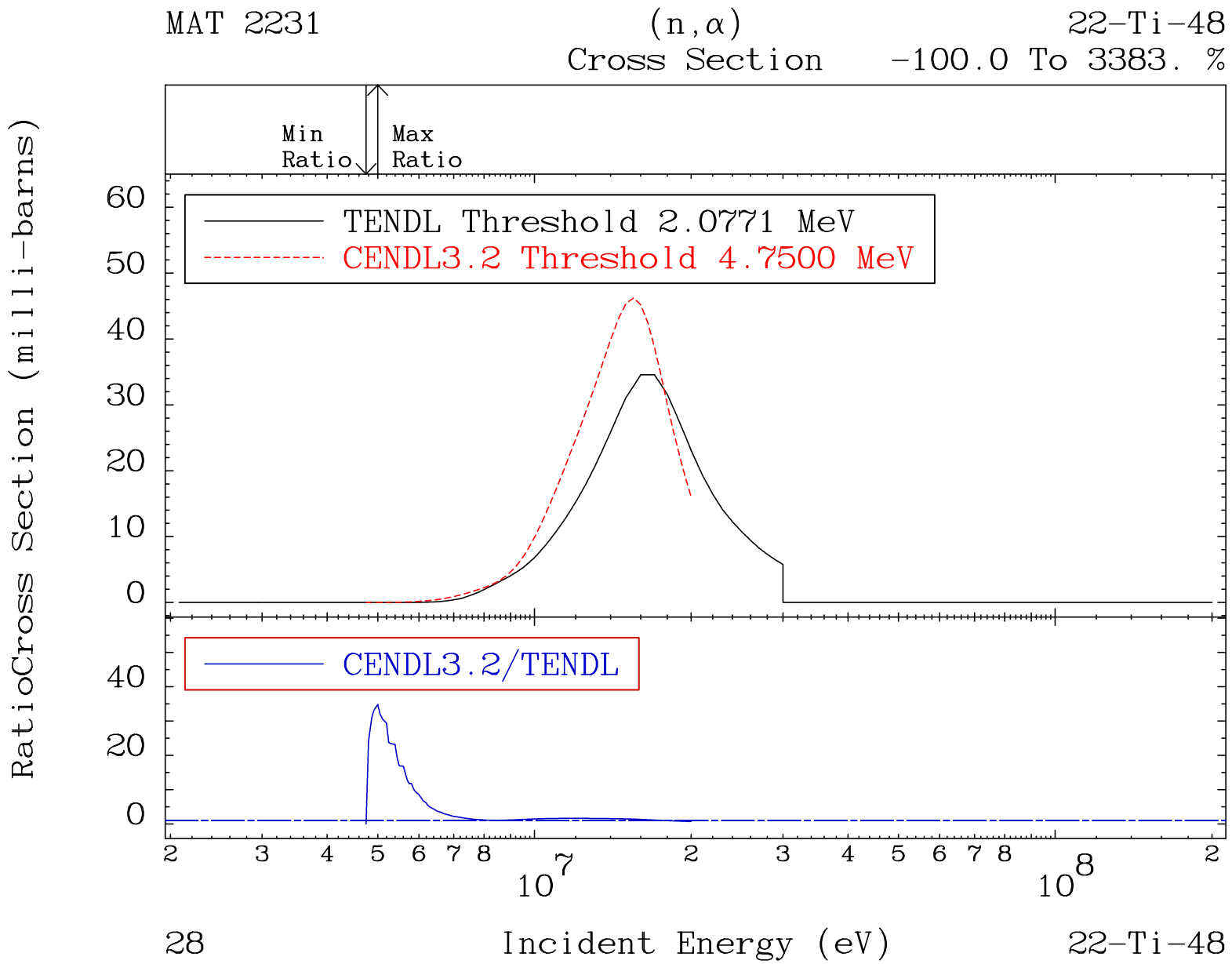

MAT 2231
(n,γ)
Cross Section
22-Ti-48
-52.79 To 5004. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
23
22-Ti-48

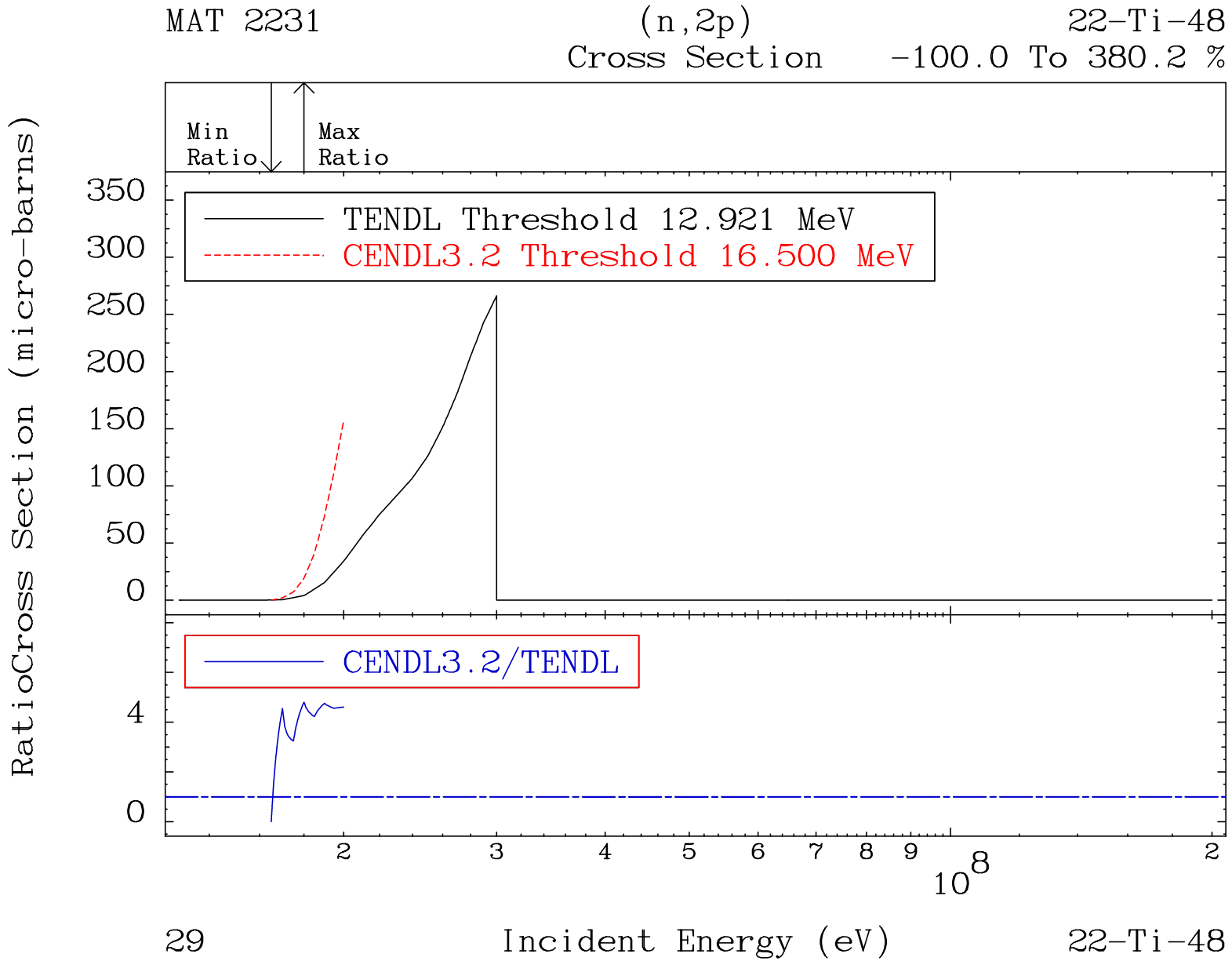

MAT 2231
(n,p)
22-Ti-48
Cross Section
-100.0 To 4.980 %
Min Ratio
Max Ratio
TENDL Threshold 3.2740 MeV
CENDL3.2 Threshold 4.6500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
1.2
0.6
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
24
Incident Energy (eV)
22-Ti-48

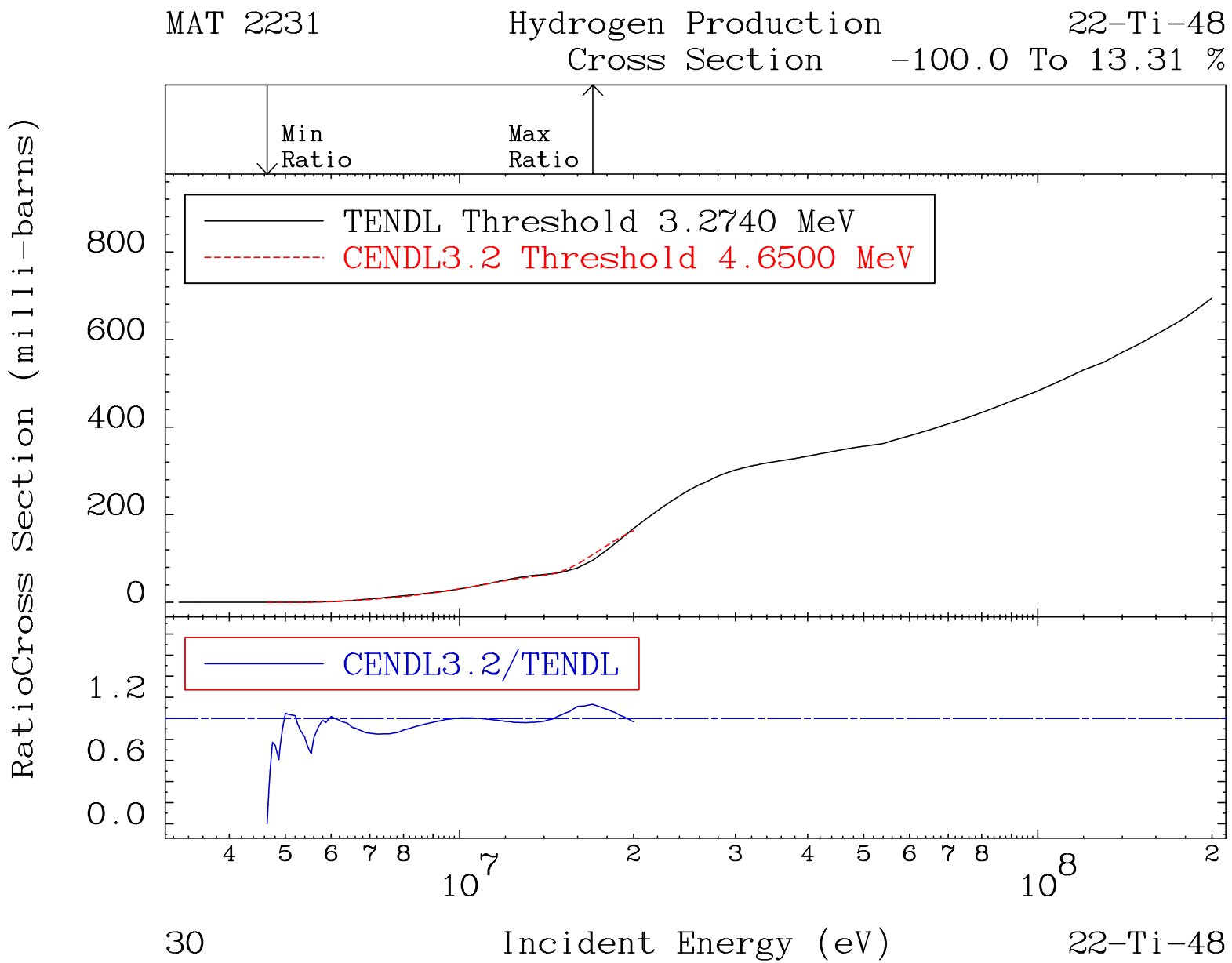

MAT 2231
(n,d)
22-Ti-48
Cross Section
-100.0 To -74.46%
Max
Ratio
TENDL Threshold 9.4145 MeV
CENDL3.2 Threshold 11.073 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
0.2
0.0
10^7
2
3
4
5
6
7
8
9
10^8
2
25
Incident Energy (eV)
22-Ti-48

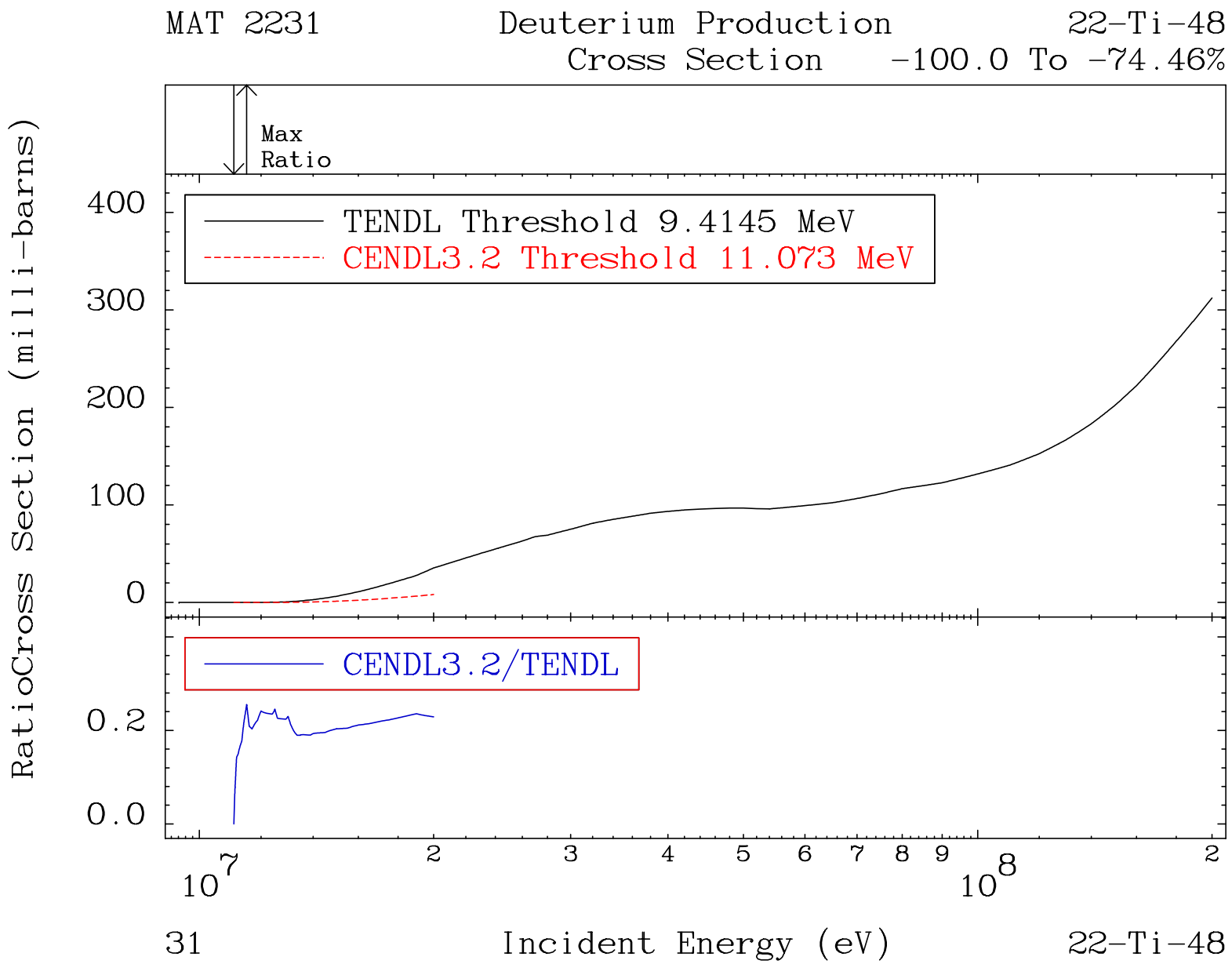

MAT 2231
(n,t)
22-Ti-48
Cross Section
-100.0 To 361.6 %
Max
Ratio
TENDL Threshold 13.896 MeV
CENDL3.2 Threshold 16.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
0
1
2
3
4
5
6
7
0
3
6
2
3
4
5
6
7
8
9
10^8
2
26
Incident Energy (eV)
22-Ti-48

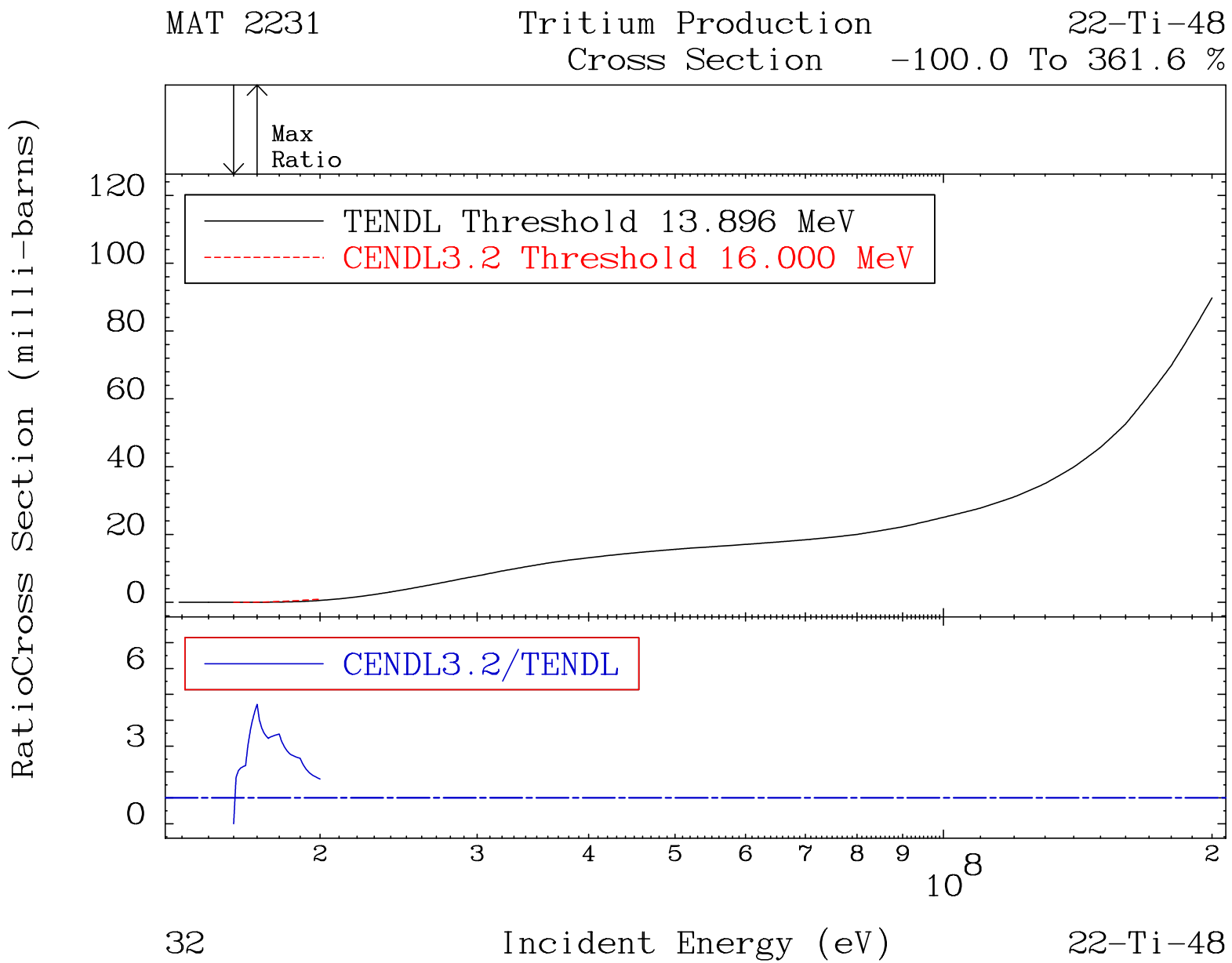

MAT 2231
(n,He-3)
22-Ti-48
Cross Section
-100.0 To 1606. %
Min Ratio
Max Ratio
TENDL Threshold 12.470 MeV
CENDL3.2 Threshold 17.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
20
10
0
2
3
4
5
6
7
8
9
10^8
2
27
Incident Energy (eV)
22-Ti-48

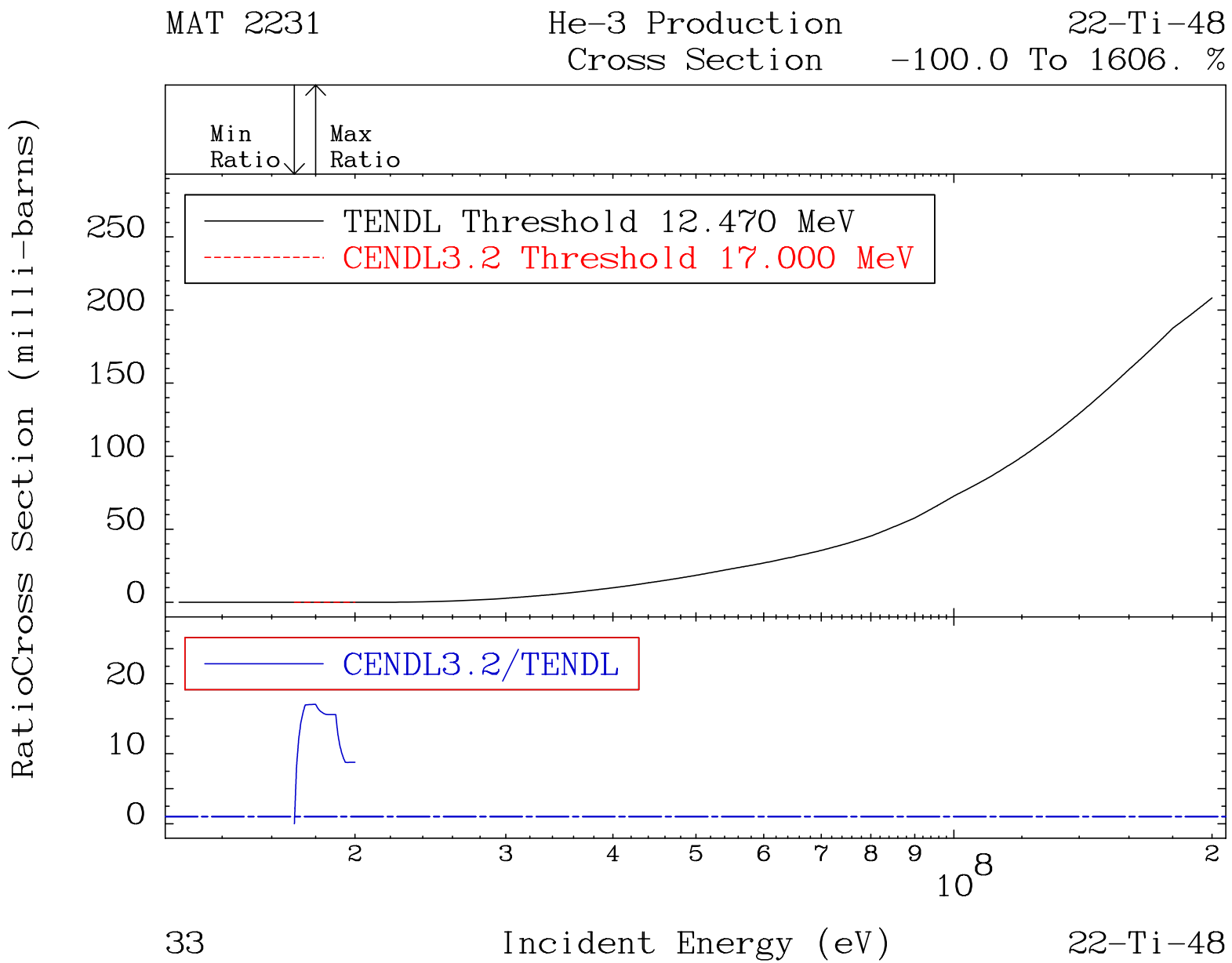

MAT 2231
(n,α)
22-Ti-48
Cross Section
-100.0 To 3383. %
Min Ratio
Max Ratio
TENDL Threshold 2.0771 MeV
CENDL3.2 Threshold 4.7500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
40
20
0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
22-Ti-48

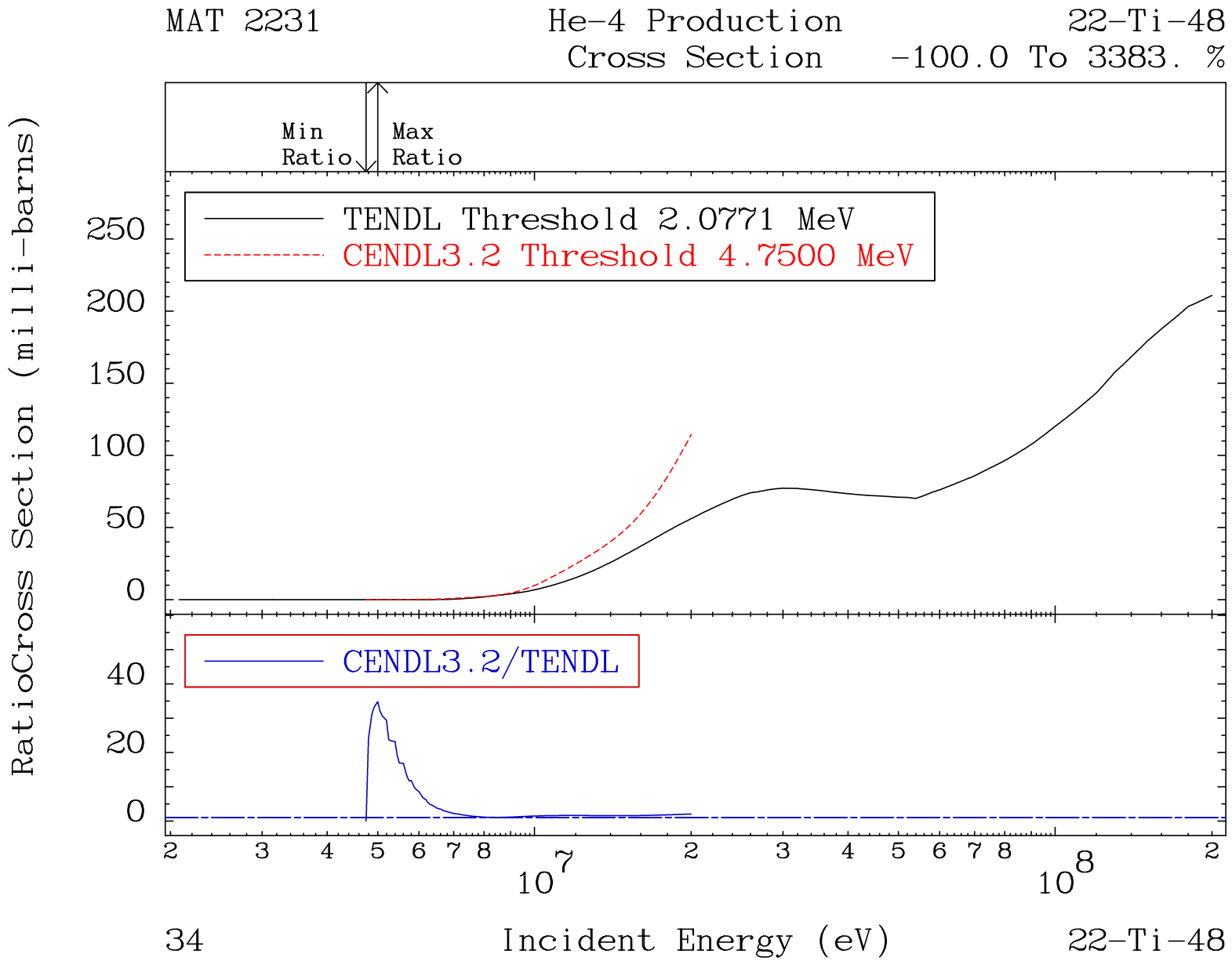

MAT 2231
(n,2p)
Cross Section
22-Ti-48
-100.0 To 380.2 %
Min Ratio
Max Ratio
TENDL Threshold 12.921 MeV
CENDL3.2 Threshold 16.500 MeV
CENDL3.2/TENDL
RatioCross Section (micro-barns)
350
300
250
200
150
100
50
0
4
0
2
3
4
5
6
7
8
9
10^8
2
29
Incident Energy (eV)
22-Ti-48

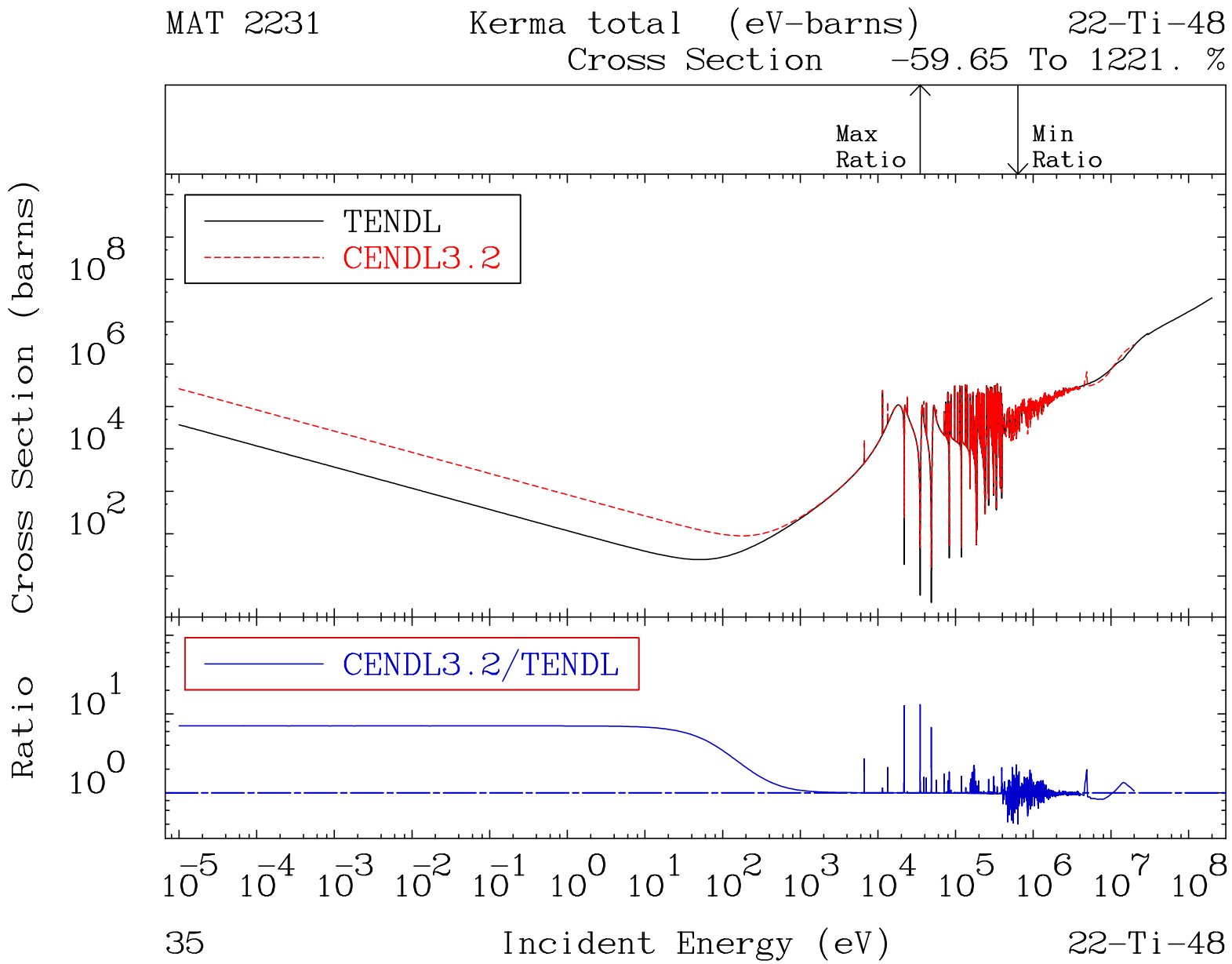

MAT 2231
Hydrogen Production
22-Ti-48
Cross Section -100.0 To 13.31 %
Min Ratio
Max Ratio
TENDL Threshold 3.2740 MeV
CENDL3.2 Threshold 4.6500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
1.2
0.6
0.0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
30
Incident Energy (eV)
22-Ti-48

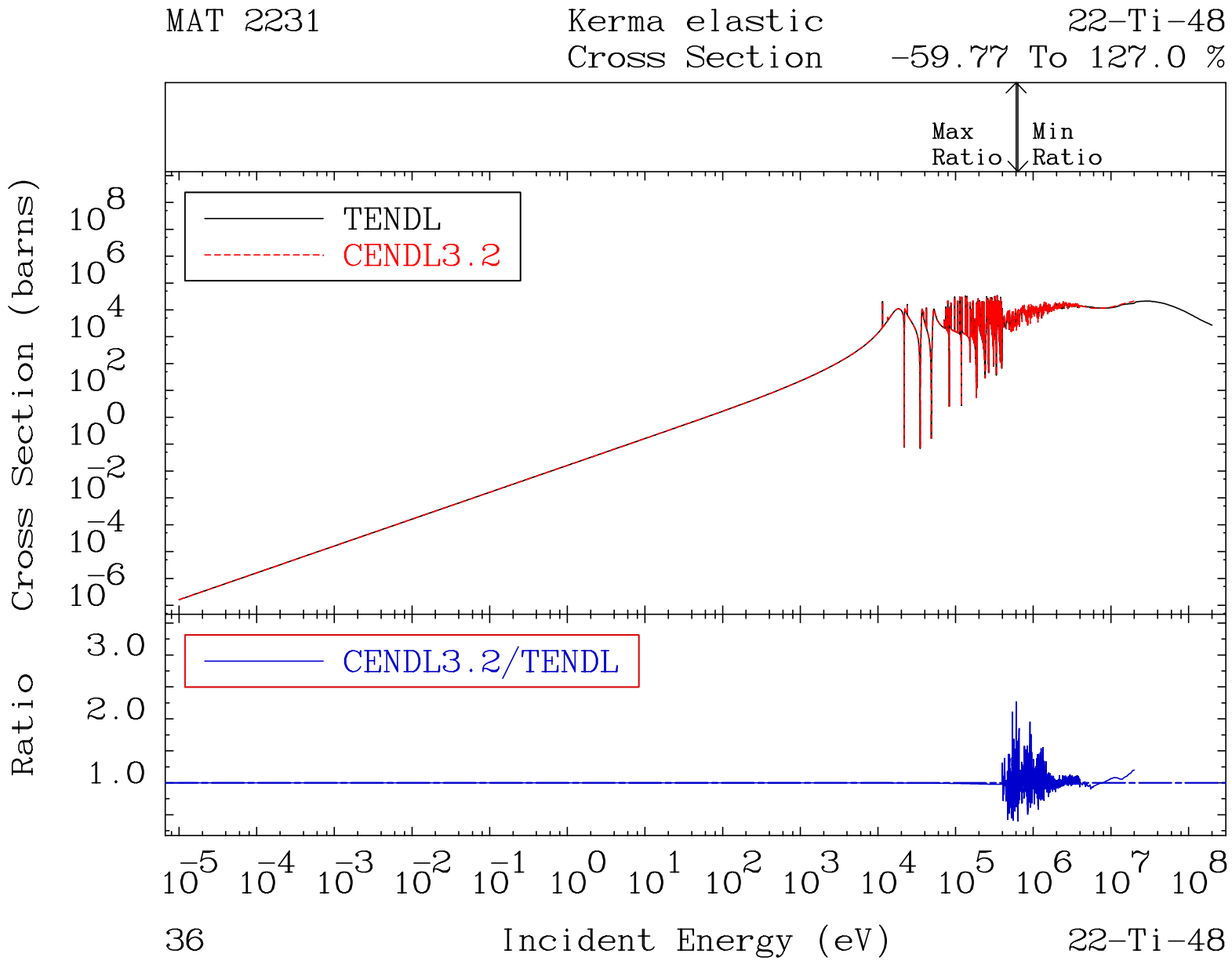

MAT 2231
Deuterium Production
22-Ti-48
Cross Section -100.0 To -74.46%
Max
Ratio
TENDL Threshold 9.4145 MeV
CENDL3.2 Threshold 11.073 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
0.2
0.0
10^7
2
3
4
5
6
7
8
9
10^8
2
31
Incident Energy (eV)
22-Ti-48

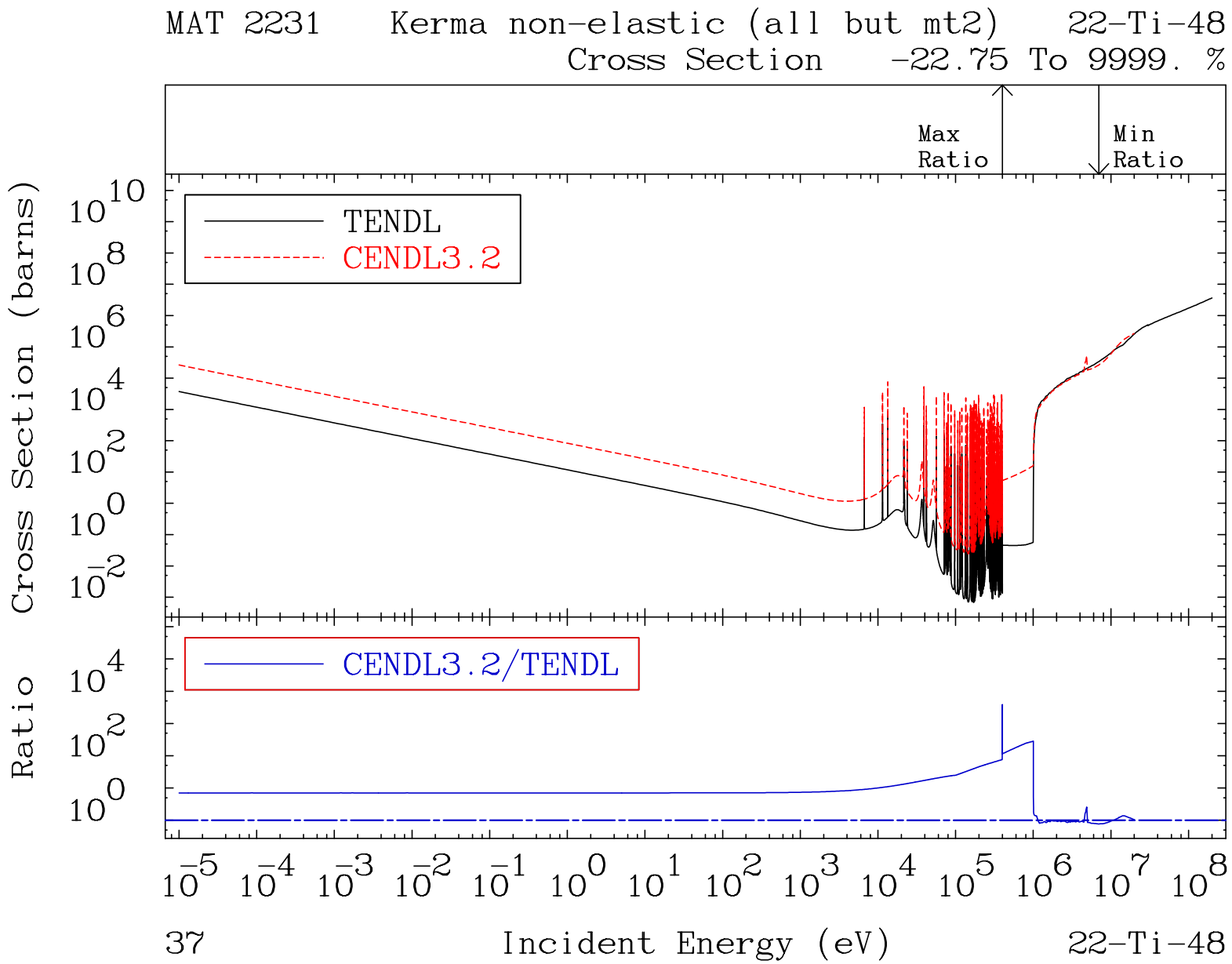

MAT 2231
Tritium Production
22-Ti-48
Cross Section
-100.0 To 361.6 %
Max
Ratio
TENDL Threshold 13.896 MeV
CENDL3.2 Threshold 16.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
6
3
0
2
3
4
5
6
7
8
9
10^8
2
32
Incident Energy (eV)
22-Ti-48

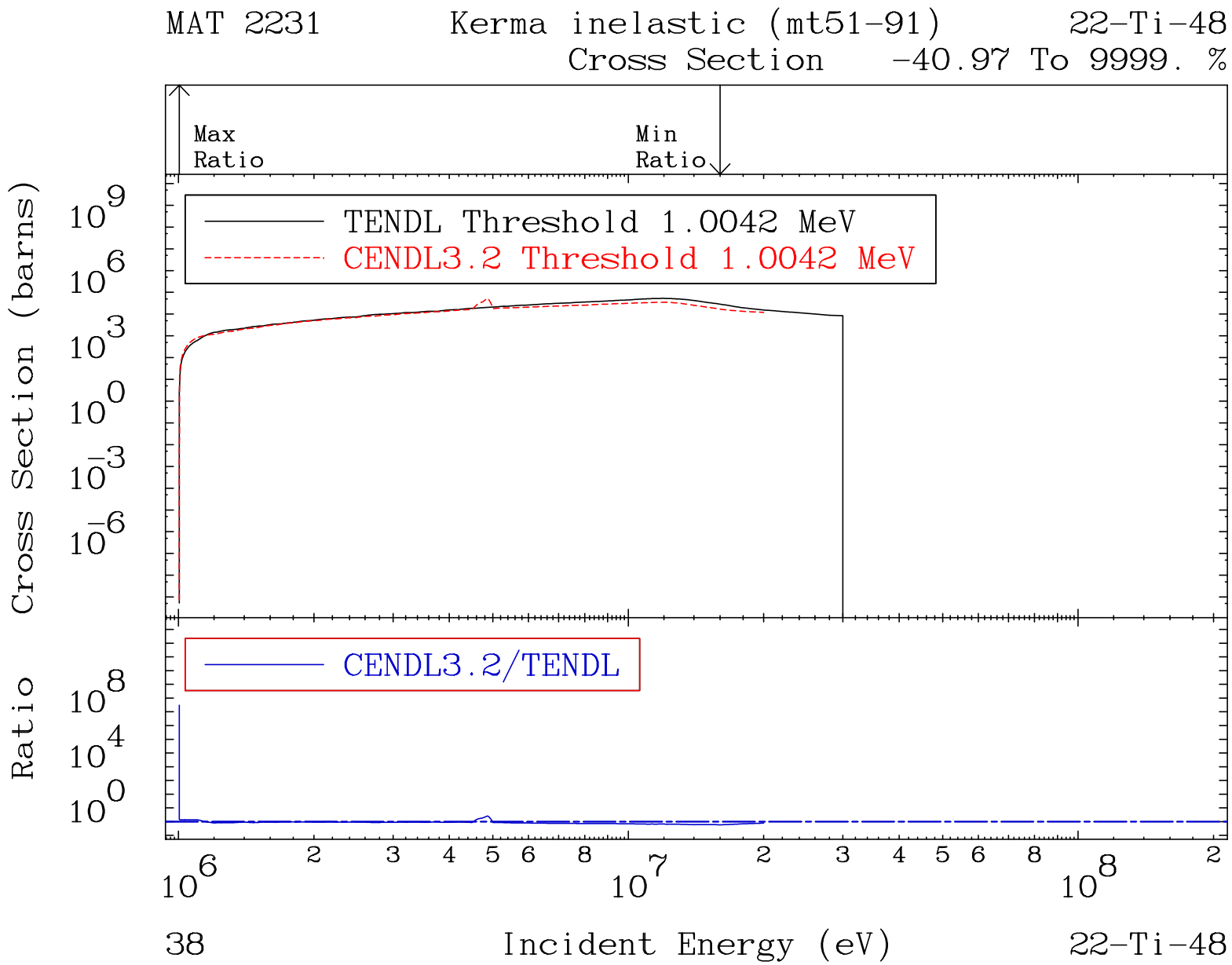

MAT 2231
He-3 Production
Cross Section
22-Ti-48
-100.0 To 1606. %
Min Ratio
Max Ratio
TENDL Threshold 12.470 MeV
CENDL3.2 Threshold 17.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
20
10
0
2
3
4
5
6
7
8
9
10^8
2
33
Incident Energy (eV)
22-Ti-48

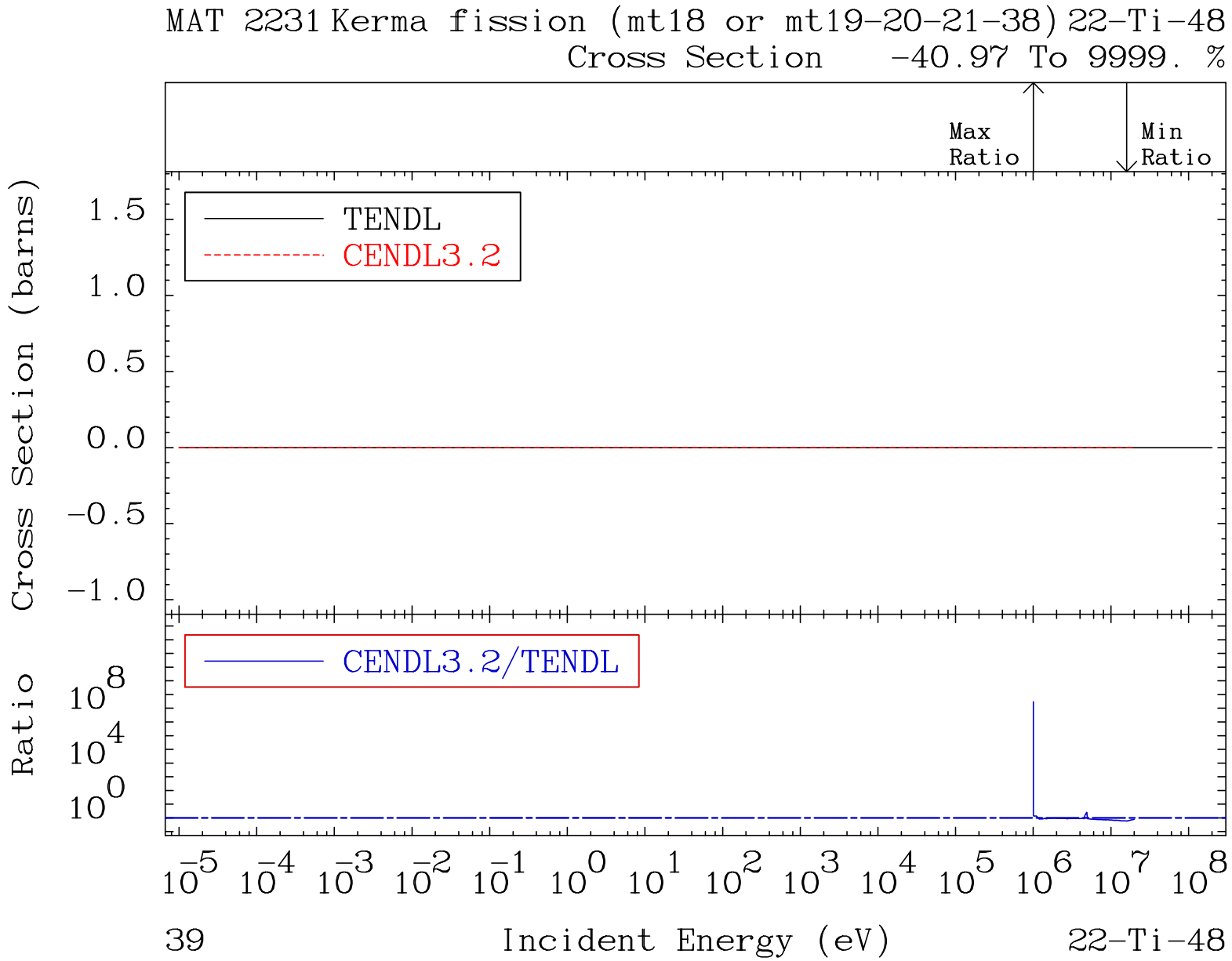

MAT 2231
He-4 Production
22-Ti-48
Cross Section
-100.0 To 3383. %
Min Ratio
Max Ratio
TENDL Threshold 2.0771 MeV
CENDL3.2 Threshold 4.7500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
40
20
0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
34
Incident Energy (eV)
22-Ti-48

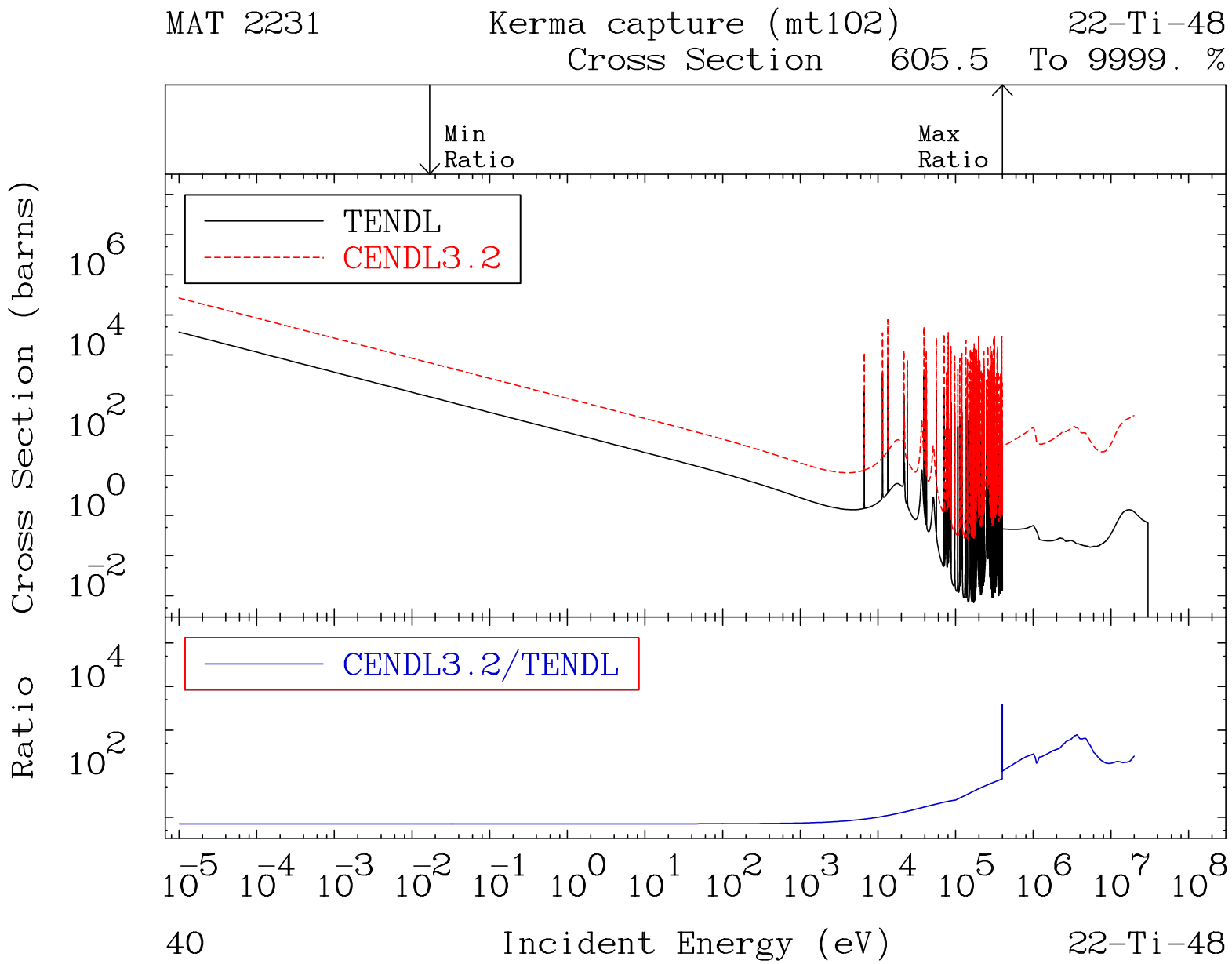

MAT 2231
Kerma total (eV-barns)
22-Ti-48
Cross Section -59.65 To 1221. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
10^8
10^6
10^4
10^2
CENDL3.2/TENDL
Ratio
10^1
10^0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
35
Incident Energy (eV)
22-Ti-48

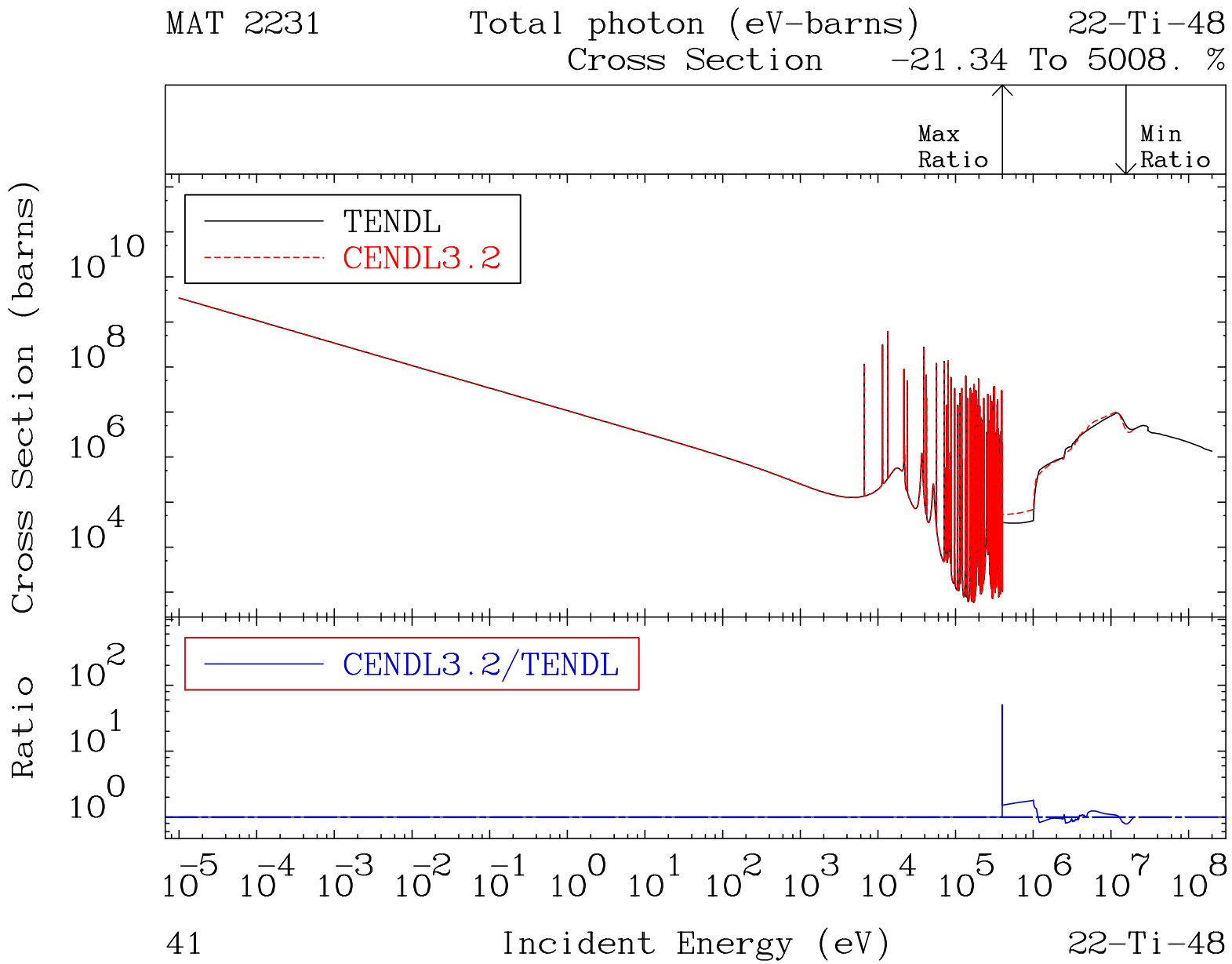

MAT 2231
Kerma elastic
Cross Section
22-Ti-48
-59.77 To 127.0 %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
36
22-Ti-48

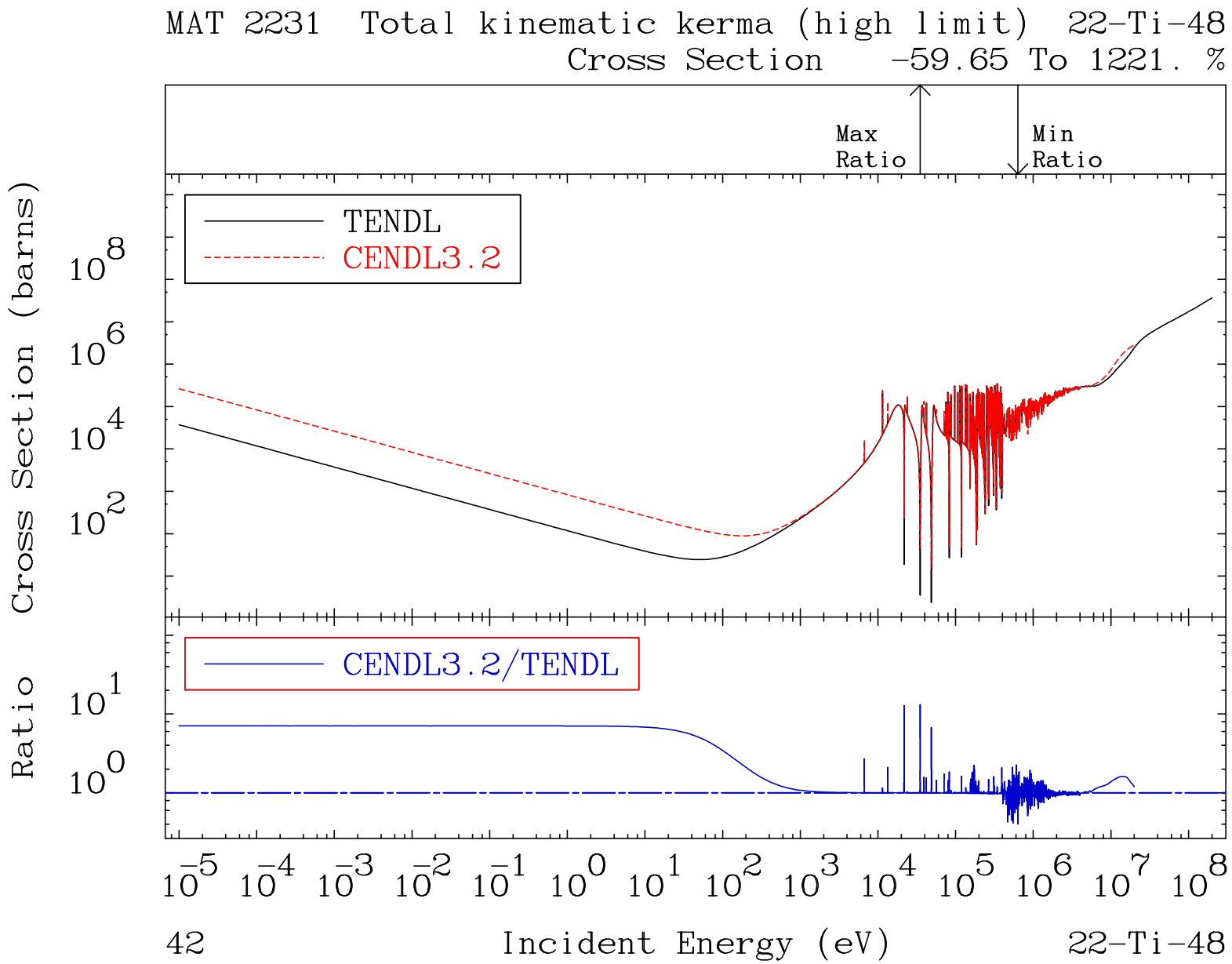

MAT 2231 Kerma non-elastic (all but mt2) 22-Ti-48
Cross Section -22.75 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
37
22-Ti-48

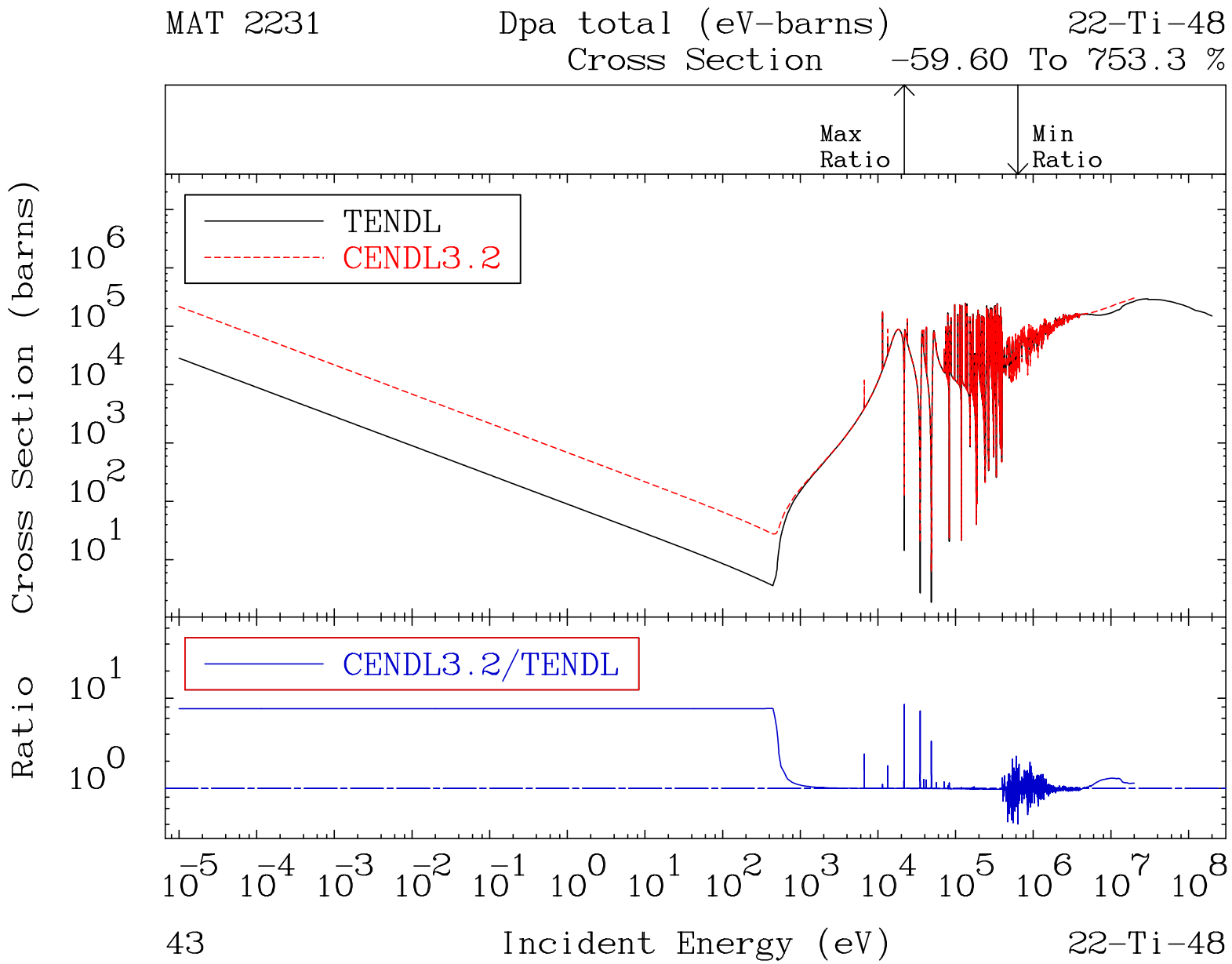

MAT 2231
Kerma inelastic (mt51-91)
22-Ti-48
Cross Section
-40.97 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 1.0042 MeV
CENDL3.2 Threshold 1.0042 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
38
22-Ti-48

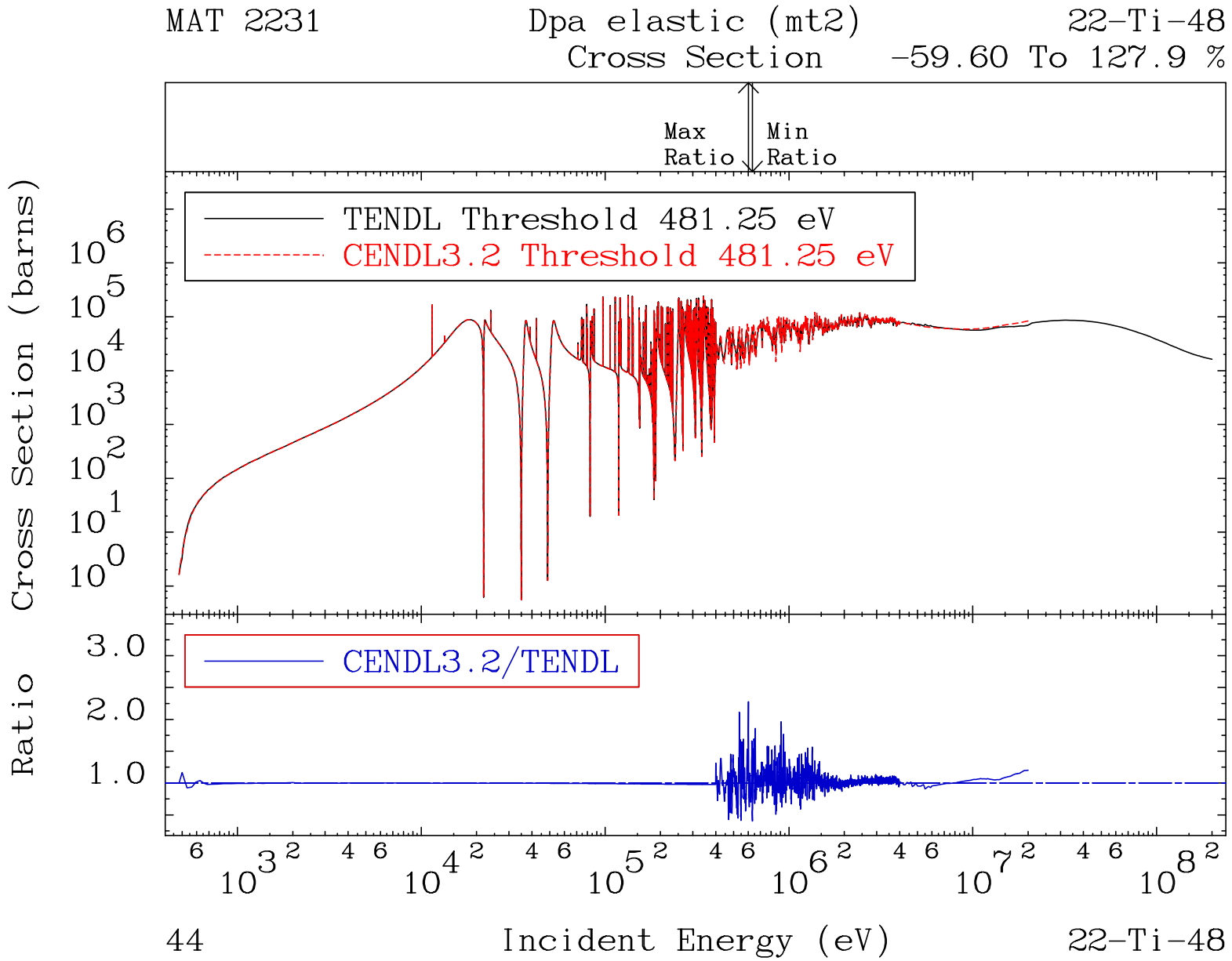

MAT 2231 Kerma fission (mt18 or mt19-20-21-38) 22-Ti-48
Cross Section -40.97 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{8}
10^{4}
10^{0}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
39
Incident Energy (eV)
22-Ti-48

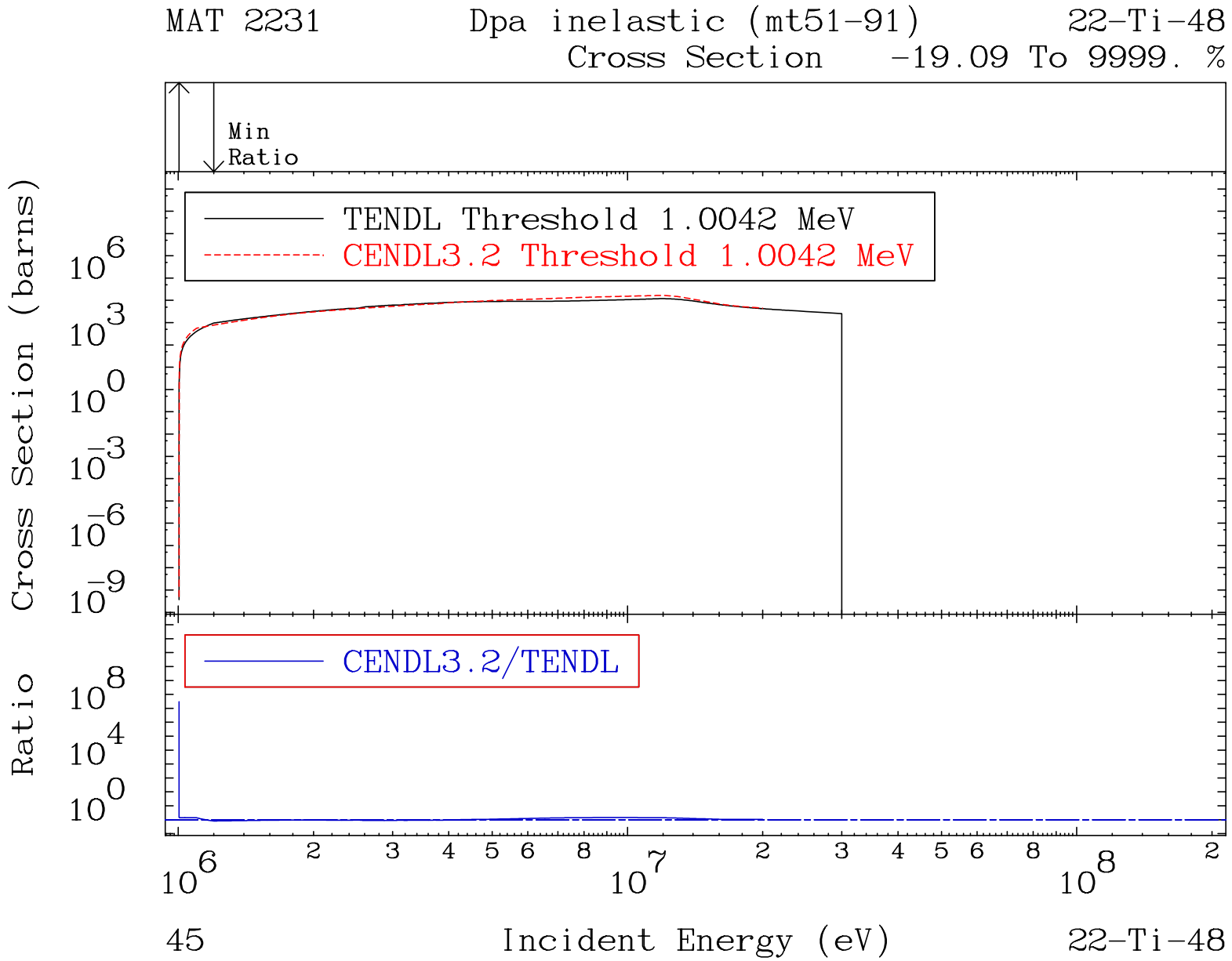

MAT 2231
Kerma capture (mt102)
22-Ti-48
Cross Section 605.5 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
40
22-Ti-48

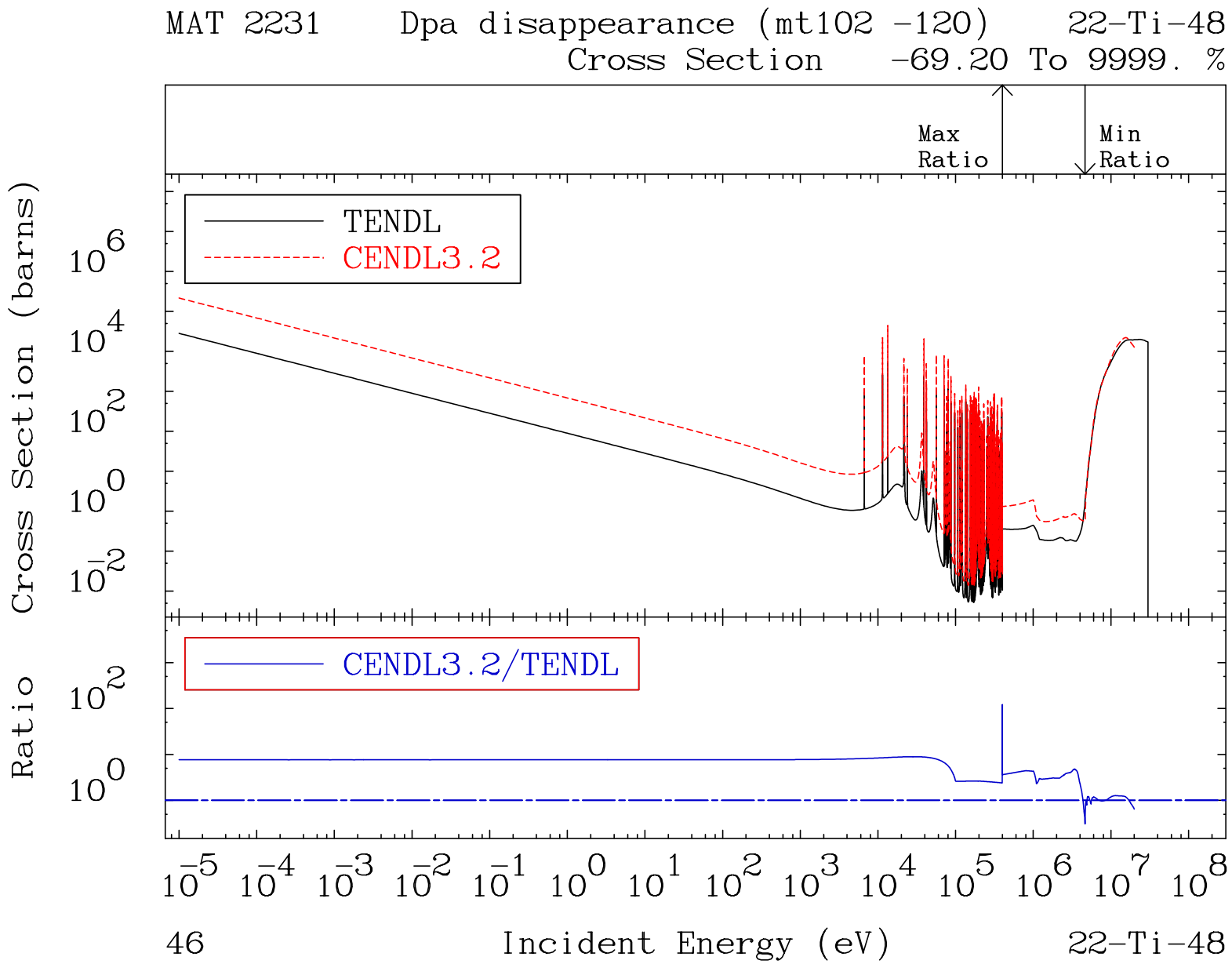

MAT 2231
Total photon (eV-barns)
22-Ti-48
Cross Section -21.34 To 5008. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
10^{10}
10^{8}
10^{6}
10^{4}
CENDL3.2/TENDL
Ratio
10^{2}
10^{1}
10^{0}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
41
Incident Energy (eV)
22-Ti-48

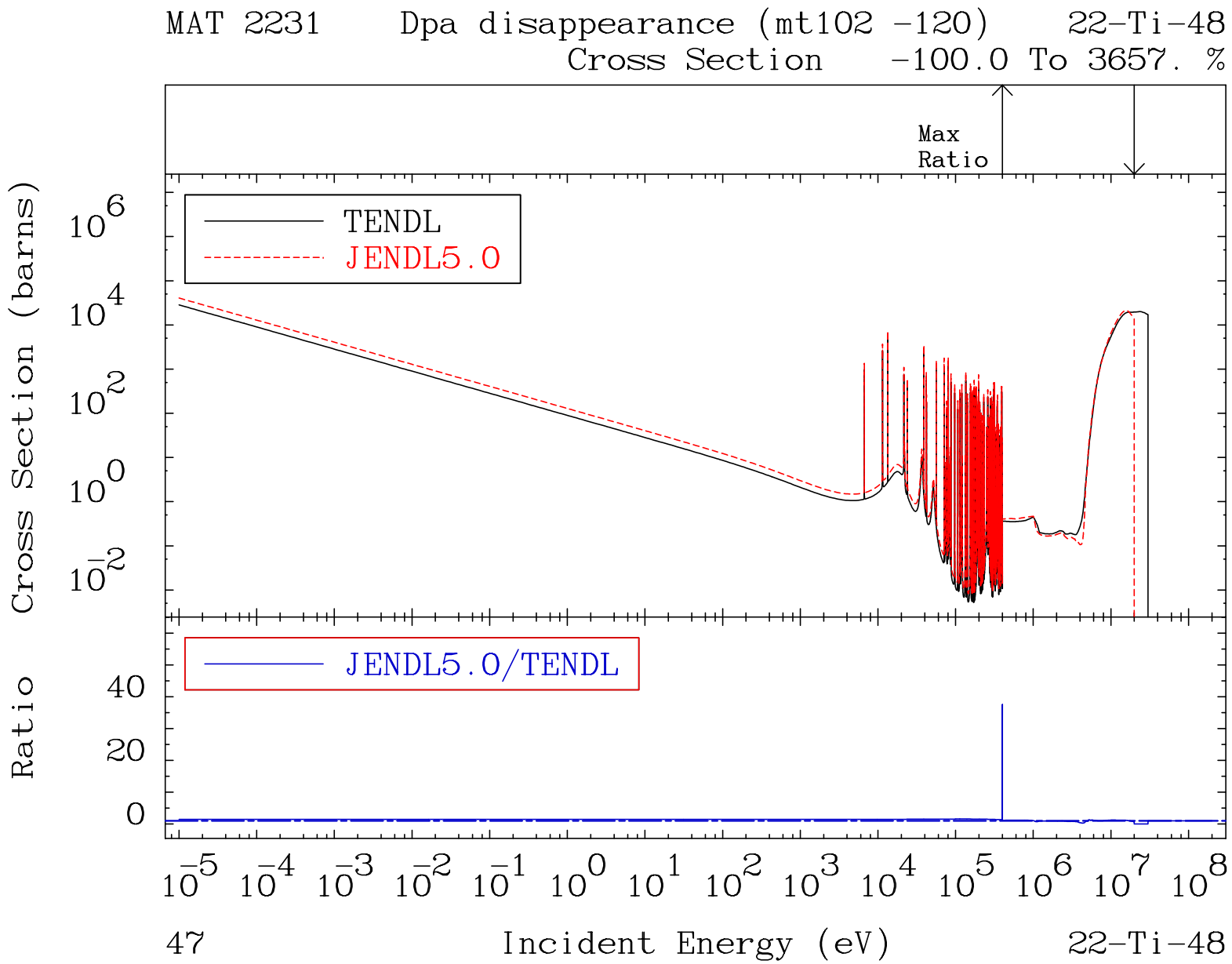

MAT 2231 Total kinematic kerma (high limit) 22-Ti-48
Cross Section -59.65 To 1221. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
22-Ti-48

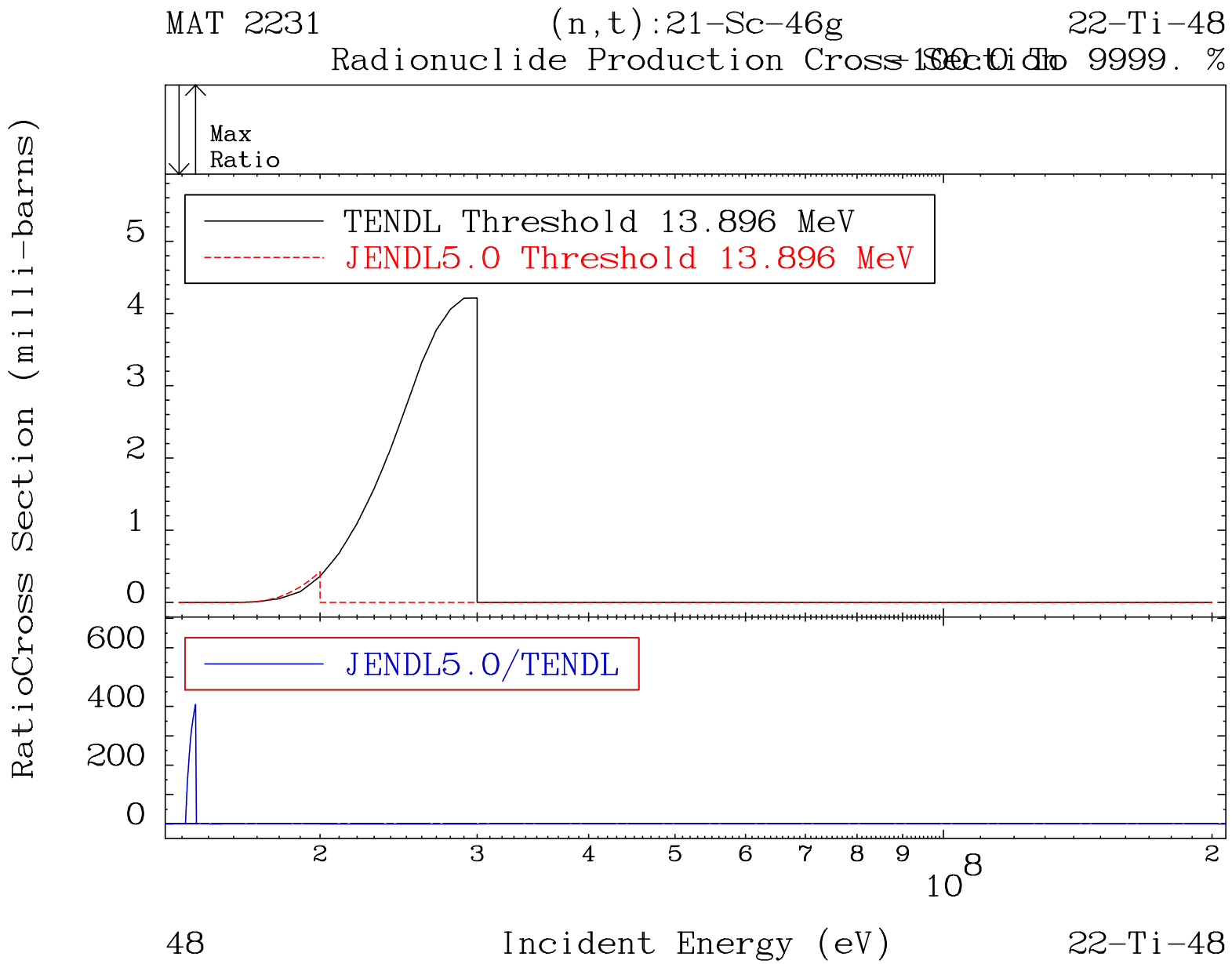

MAT 2231
Dpa total (eV-barns)
22-Ti-48
Cross Section -59.60 To 753.3 %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
22-Ti-48

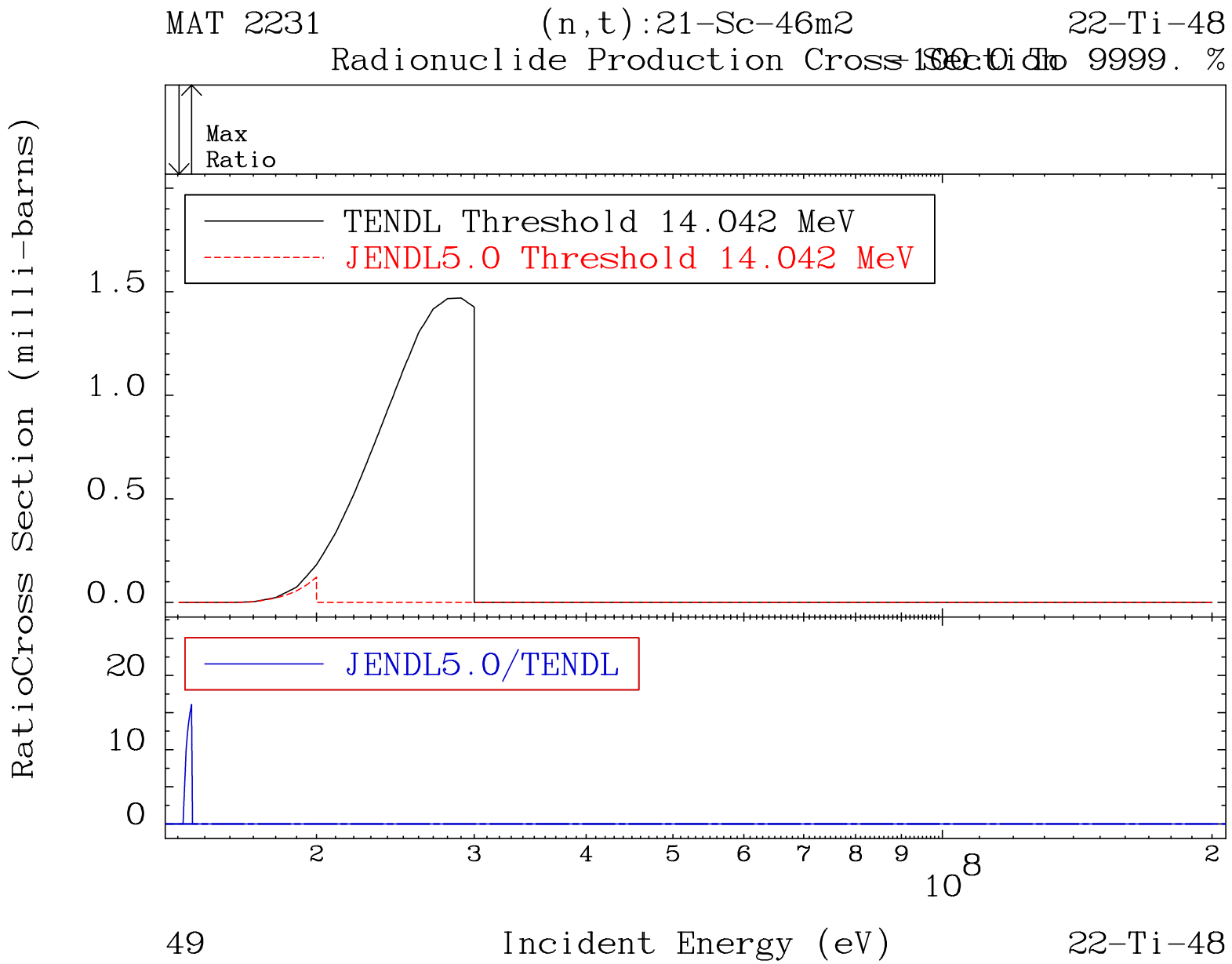

MAT 2231
Dpa elastic (mt2)
Cross Section
22-Ti-48
-59.60 To 127.9 %
Max Ratio
Min Ratio
TENDL Threshold 481.25 eV
CENDL3.2 Threshold 481.25 eV
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
44
22-Ti-48

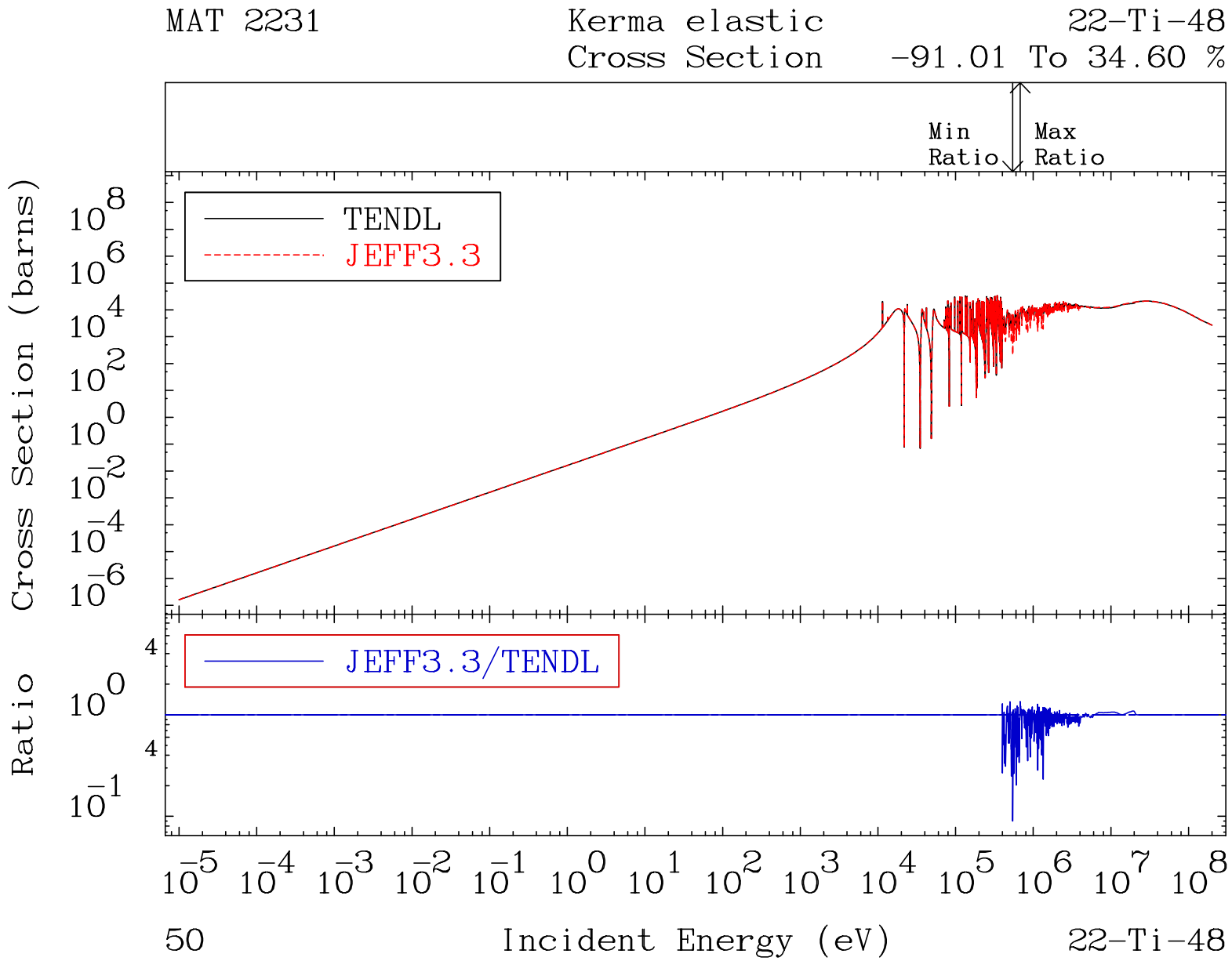

MAT 2231
Dpa inelastic (mt51-91)
22-Ti-48
Cross Section -19.09 To 9999. %
Min
Ratio
TENDL Threshold 1.0042 MeV
CENDL3.2 Threshold 1.0042 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
45
22-Ti-48

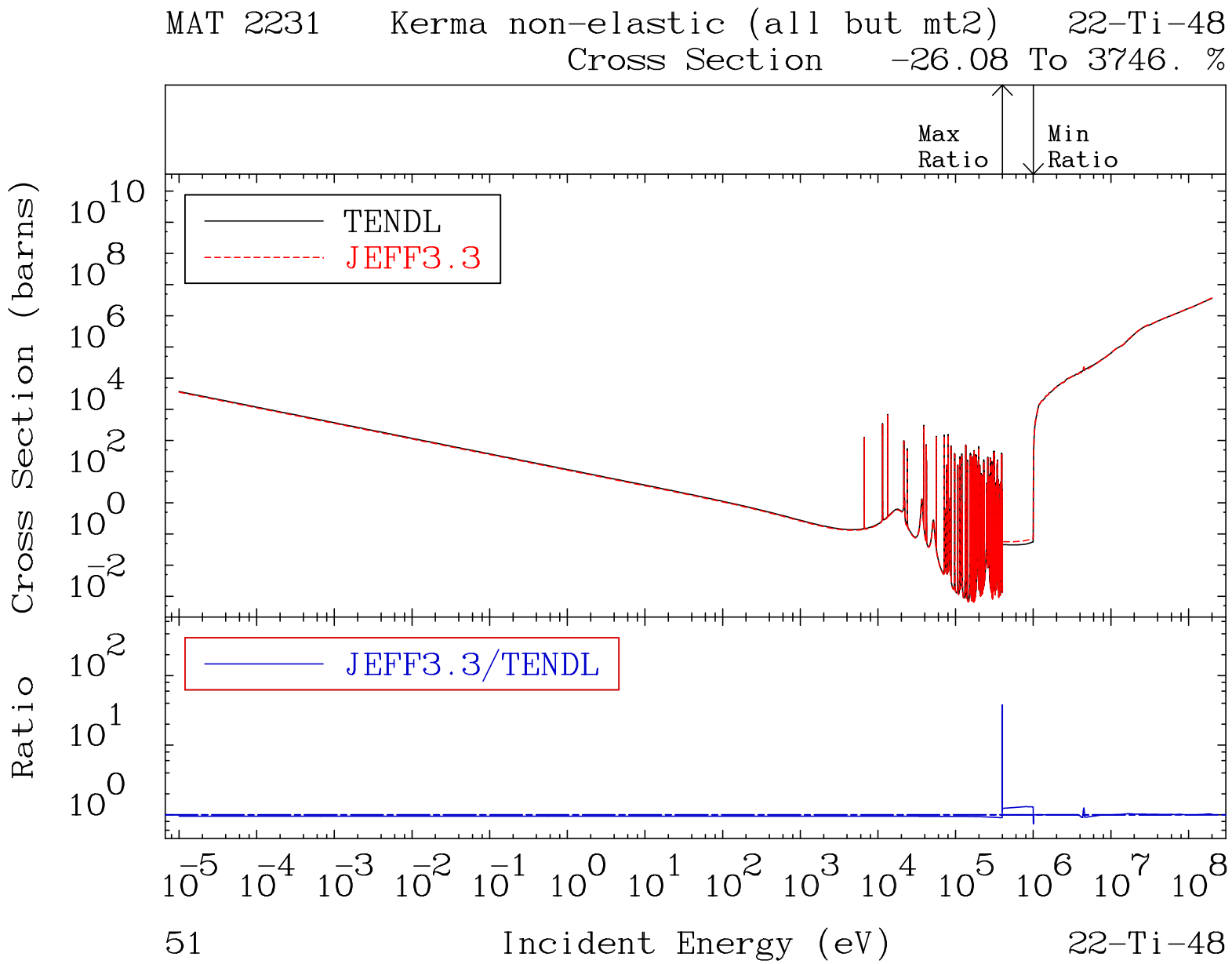

MAT 2231 Dpa disappearance (mt102 -120) 22-Ti-48
Cross Section -69.20 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
46
22-Ti-48

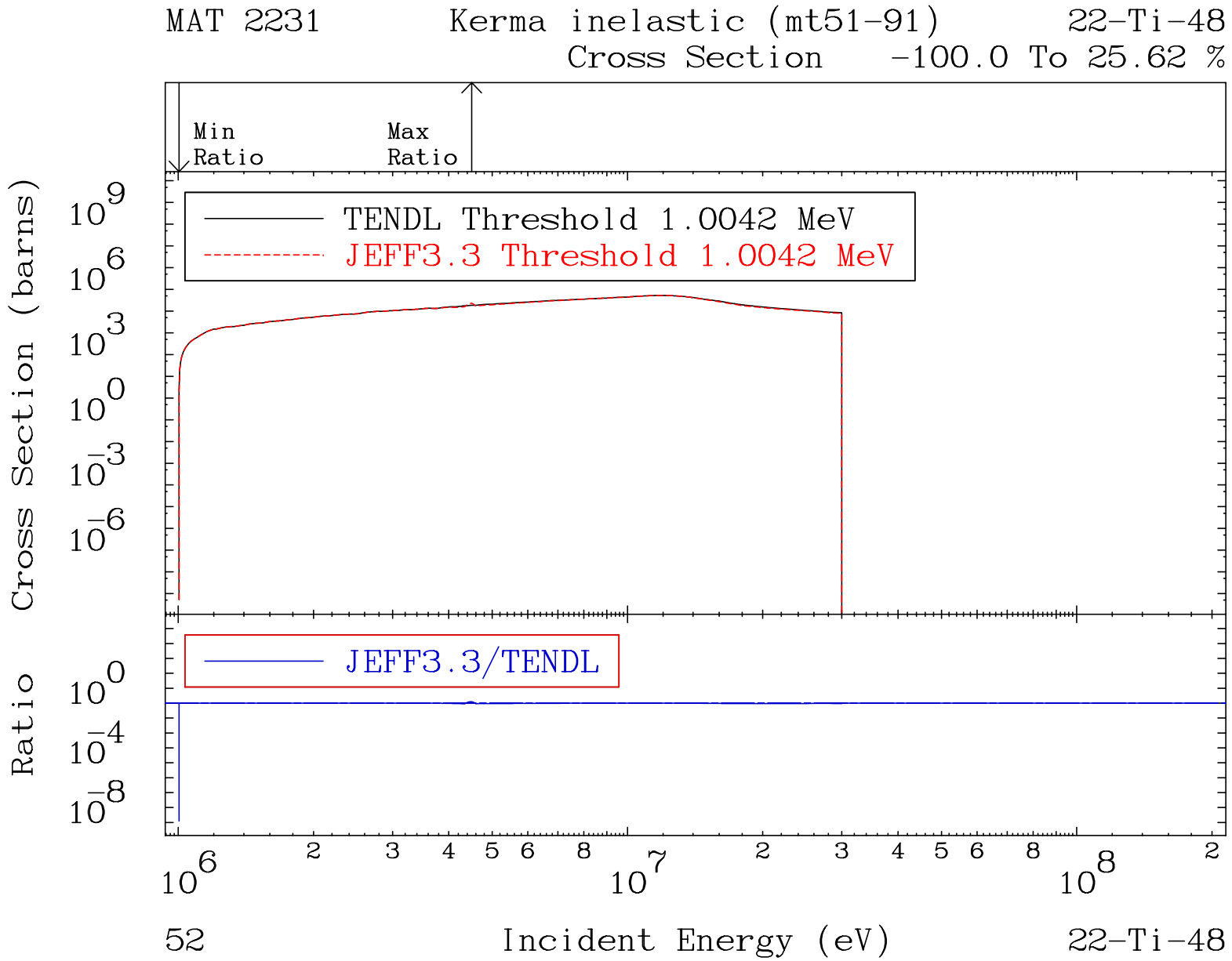

MAT 2231 Dpa disappearance (mt102 -120) 22-Ti-48
Cross Section -100.0 To 3657. %
Max
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
47
22-Ti-48

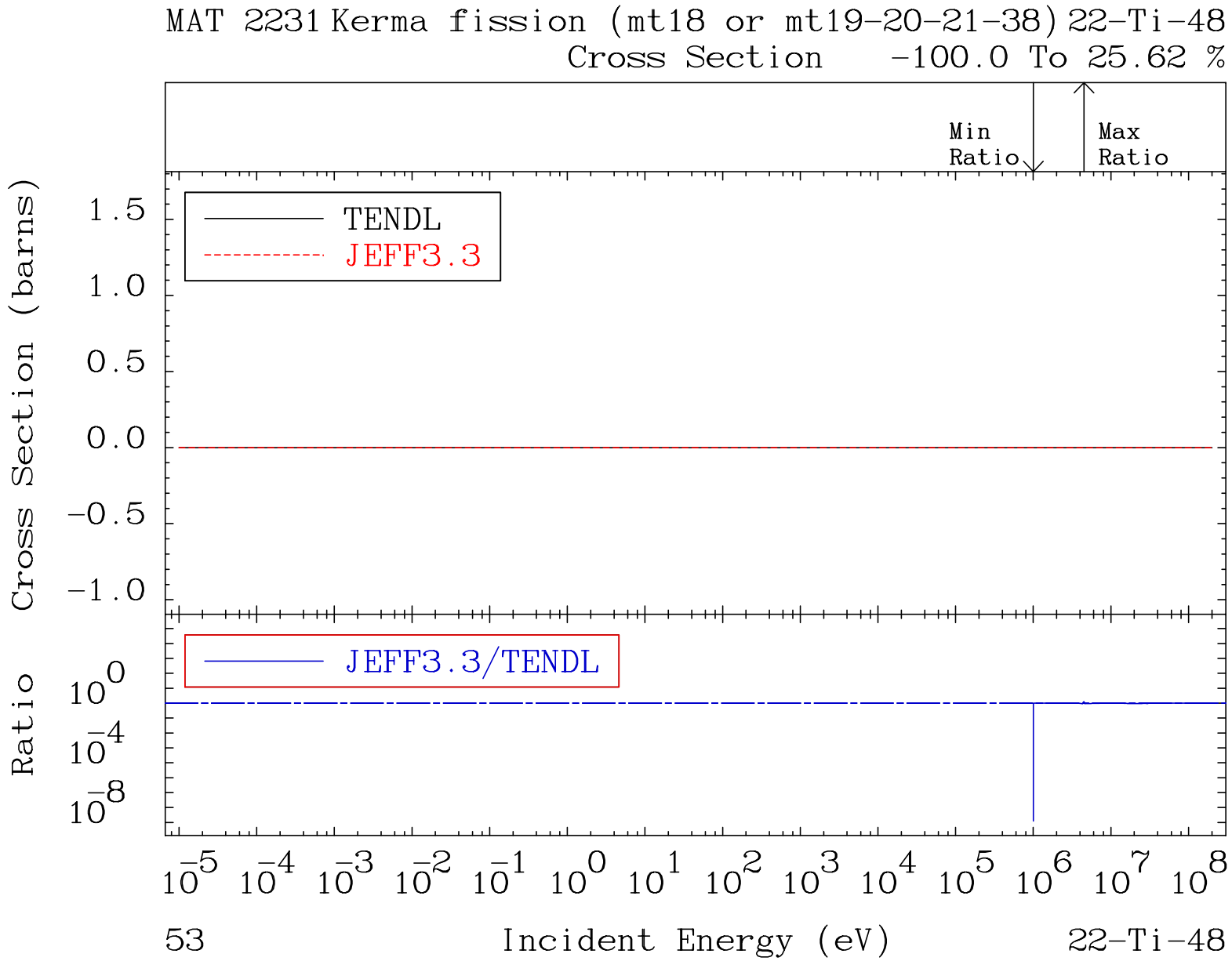

MAT 2231
(n,t):21-Sc-46g
22-Ti-48
Radionuclide Production Cross Section
100 To 9999. %
Max
Ratio
TENDL Threshold 13.896 MeV
JENDL5.0 Threshold 13.896 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
0
1
2
3
4
5
0
200
400
600
2
3
4
5
6
7
8
9
10^8
2
48
Incident Energy (eV)
22-Ti-48

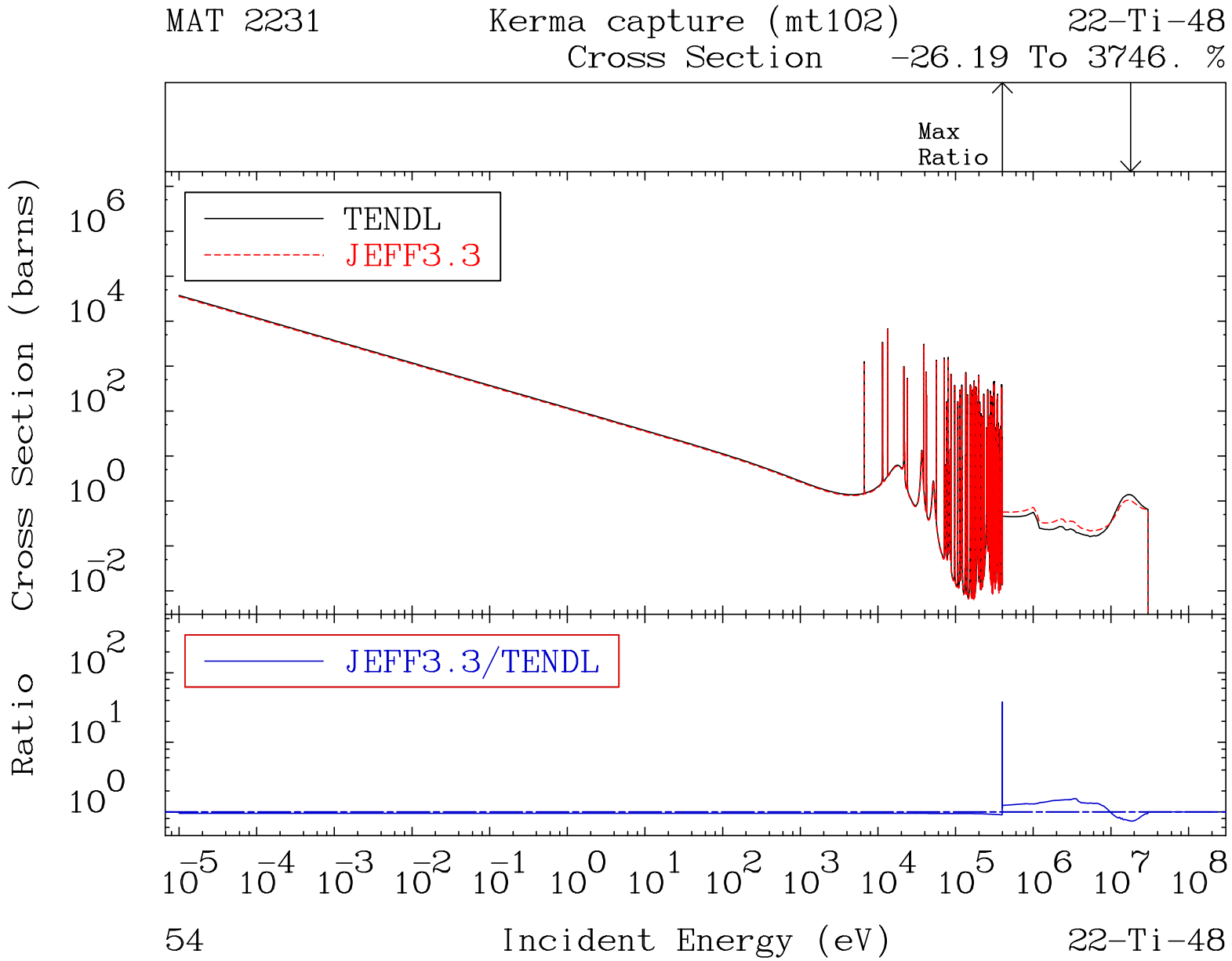

MAT 2231
(n,t):21-Sc-46m2
22-Ti-48
Radionuclide Production Cross Section
Max
Ratio
TENDL Threshold 14.042 MeV
JENDL5.0 Threshold 14.042 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
1.5
1.0
0.5
0.0
20
10
0
2
3
4
5
6
7
8
9
2
10^8
49
Incident Energy (eV)
22-Ti-48

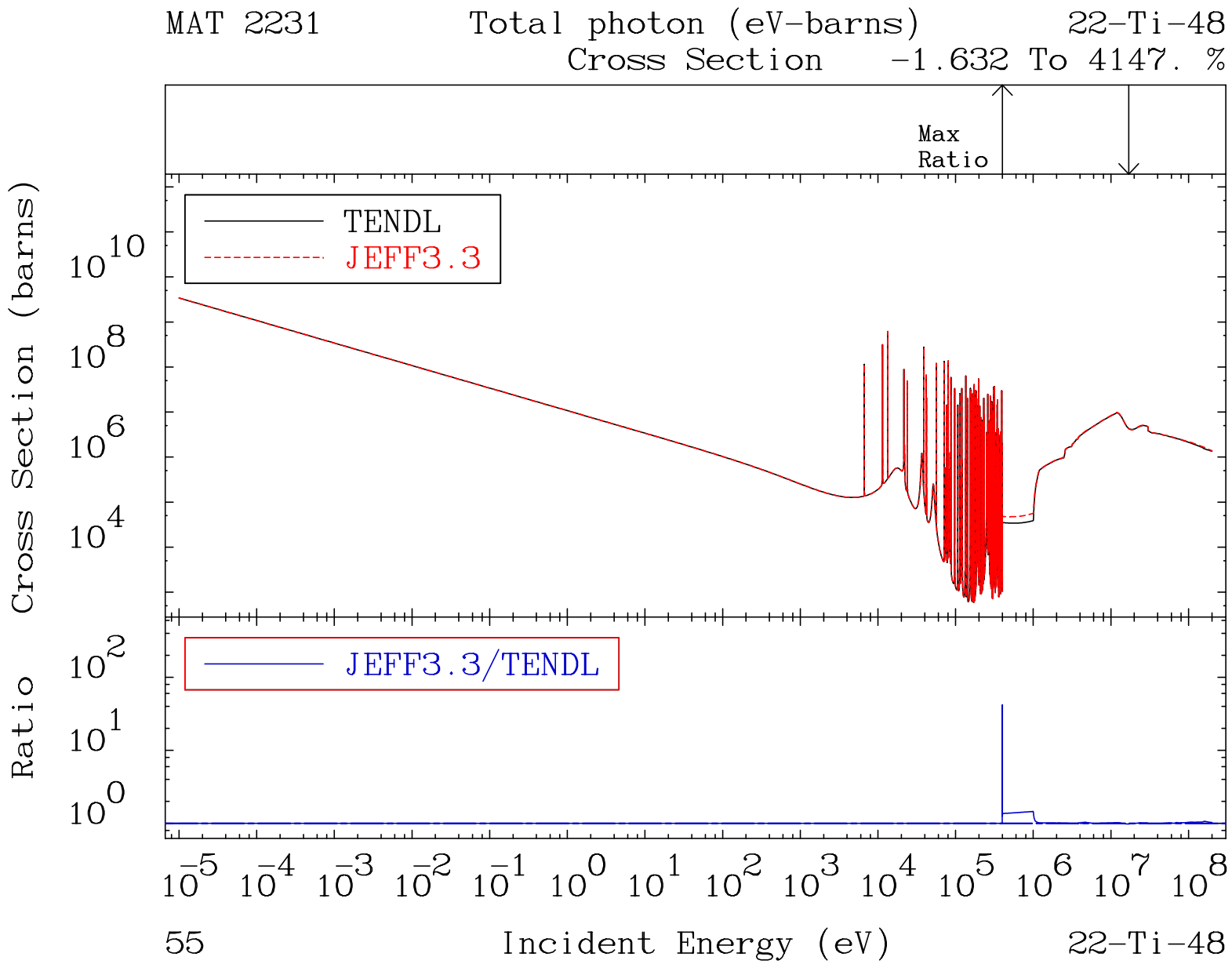

MAT 2231
Kerma elastic
Cross Section
22-Ti-48
-91.01 To 34.60 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
50
22-Ti-48

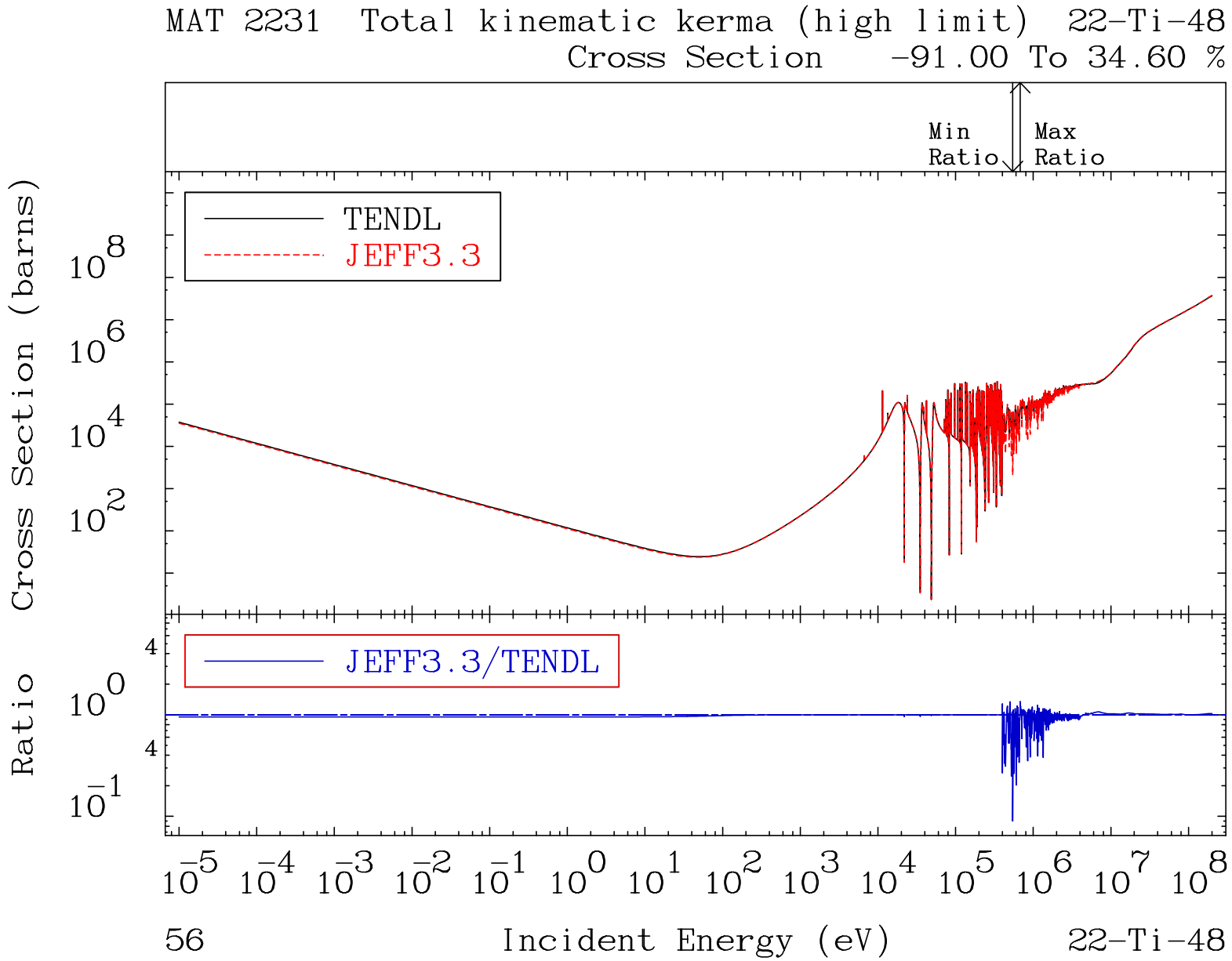

MAT 2231 Kerma non-elastic (all but mt2) 22-Ti-48
Cross Section -26.08 To 3746. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
51
22-Ti-48

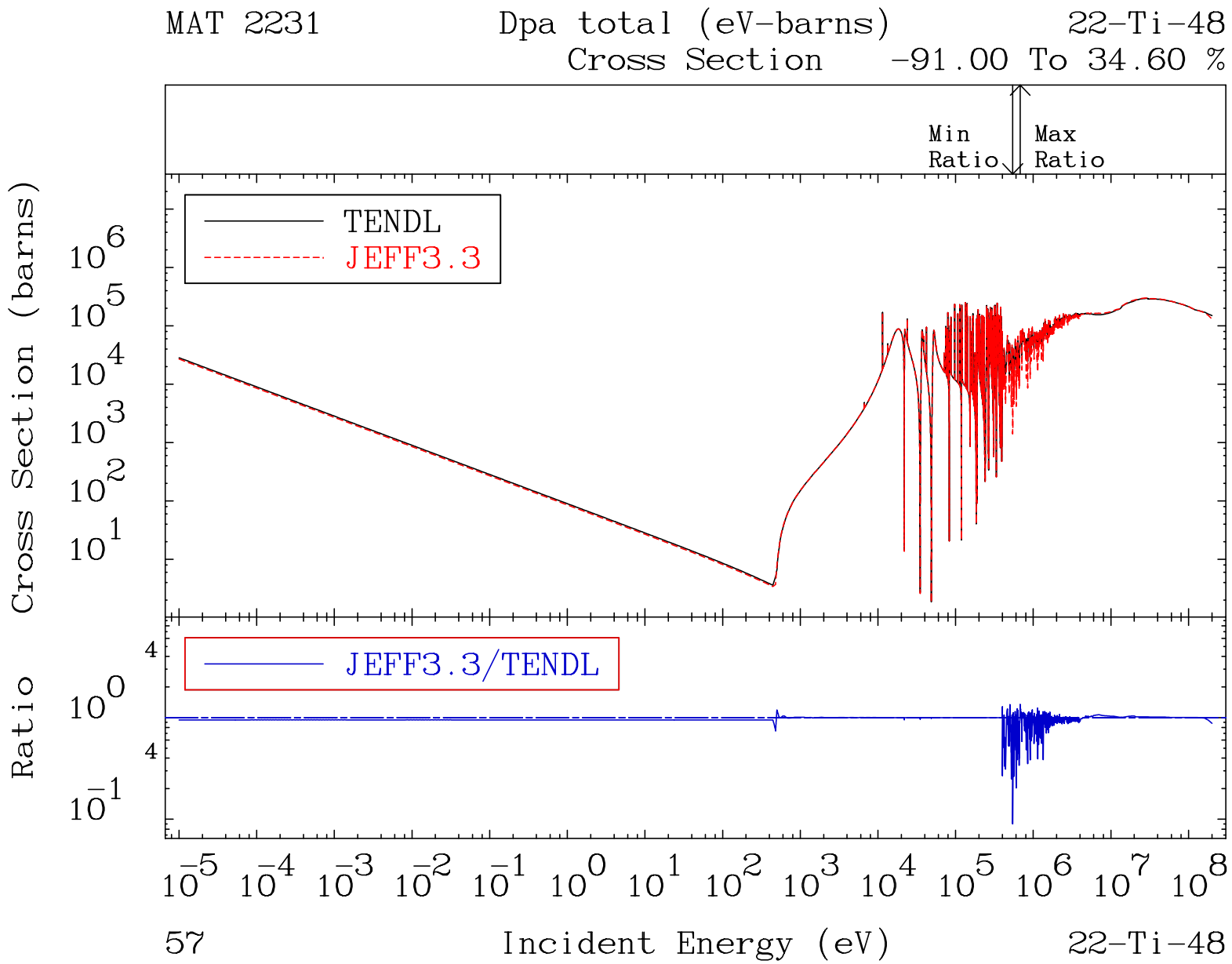

MAT 2231
Kerma inelastic (mt51-91)
22-Ti-48
Cross Section
-100.0 To 25.62 %
Min Ratio
Max Ratio
TENDL Threshold 1.0042 MeV
JEFF3.3 Threshold 1.0042 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
52
22-Ti-48

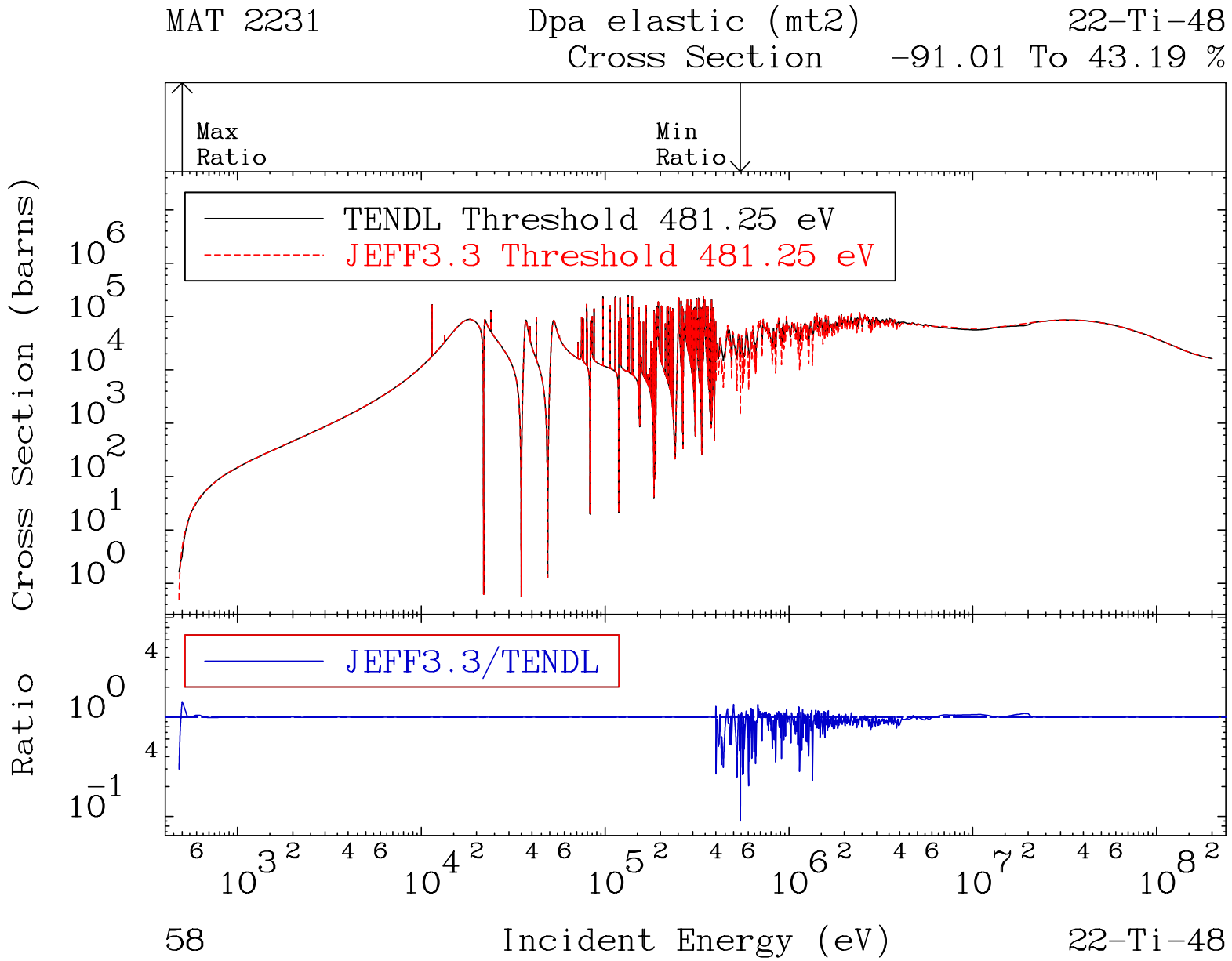

MAT 2231 Kerma fission (mt18 or mt19-20-21-38) 22-Ti-48
Cross Section -100.0 To 25.62 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{0}
10^{-4}
10^{-8}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
53
Incident Energy (eV)
22-Ti-48

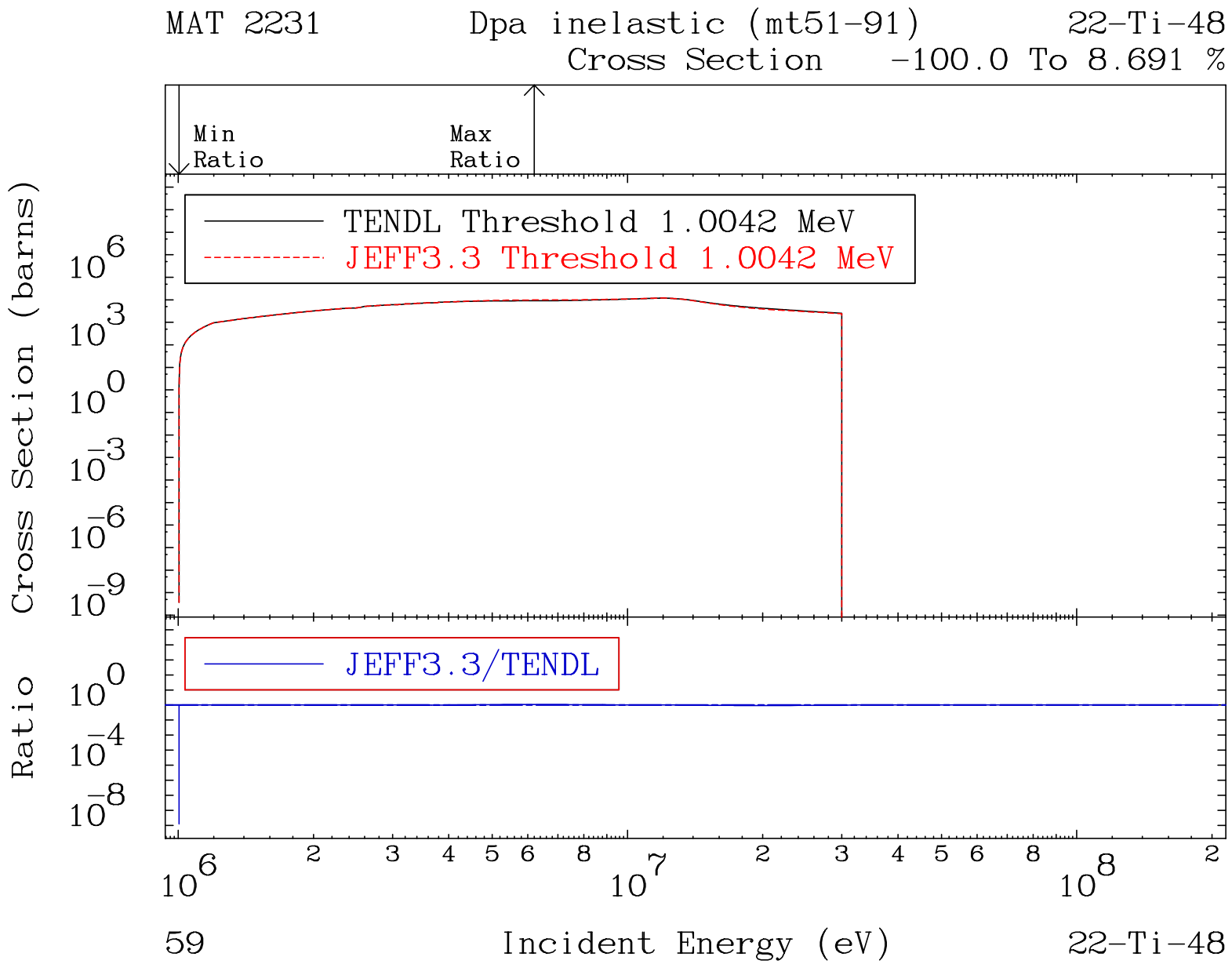

MAT 2231
Kerma capture (mt102)
22-Ti-48
Cross Section -26.19 To 3746. %
Max
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
54
22-Ti-48

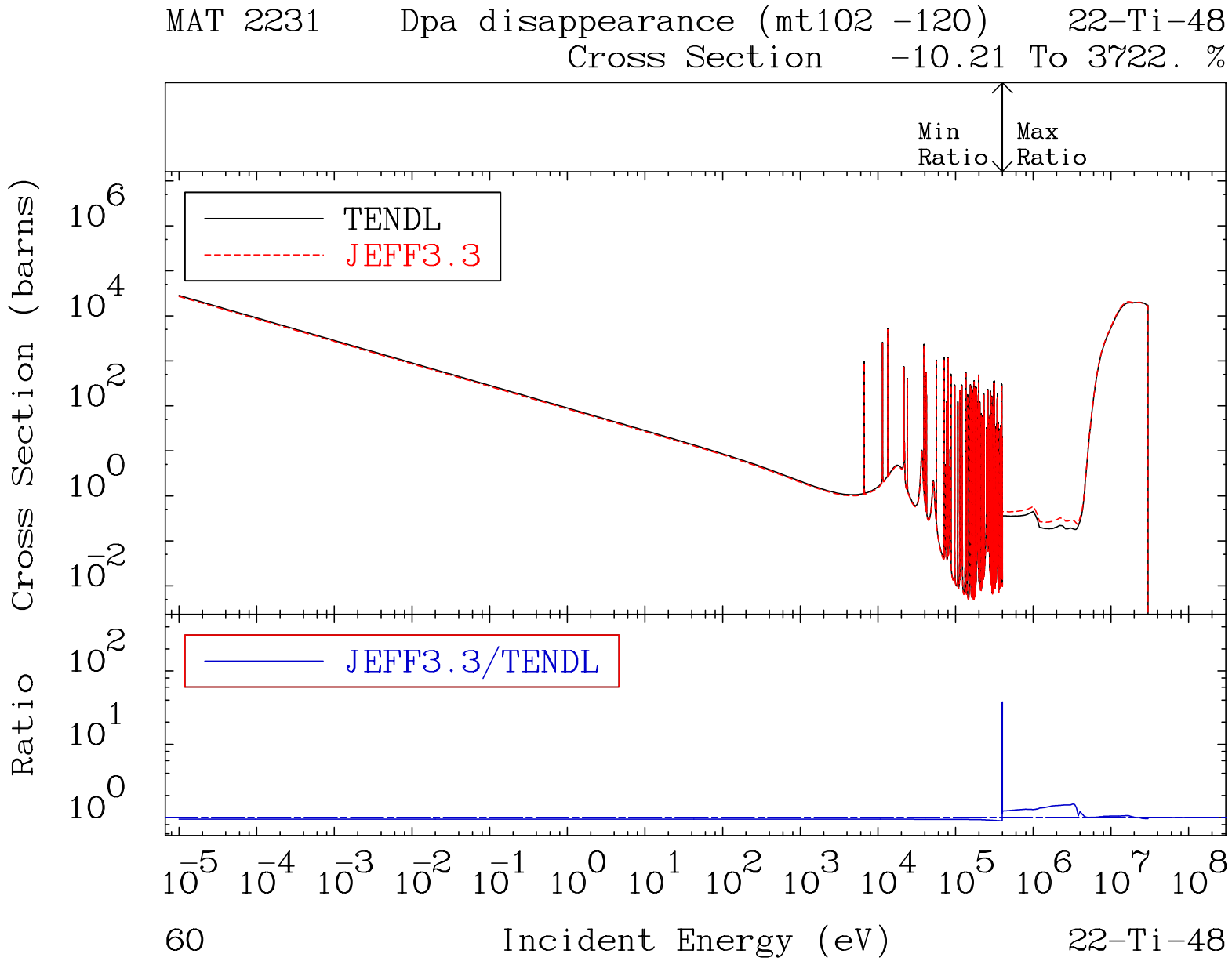

MAT 2231
Total photon (eV-barns)
22-Ti-48
Cross Section -1.632 To 4147. %
Max
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
55
22-Ti-48

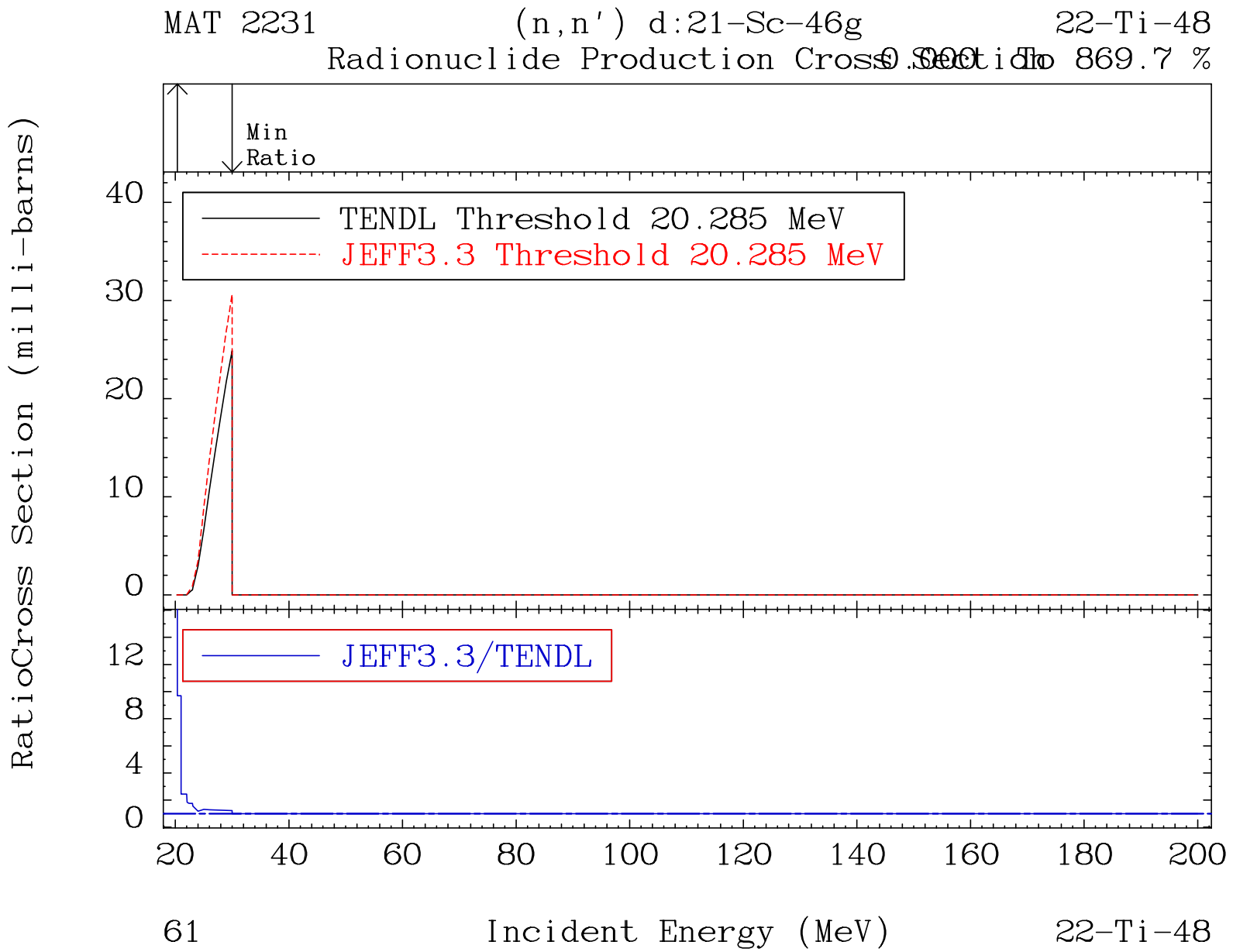

MAT 2231 Total kinematic kerma (high limit) 22-Ti-48
Cross Section -91.00 To 34.60 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
22-Ti-48

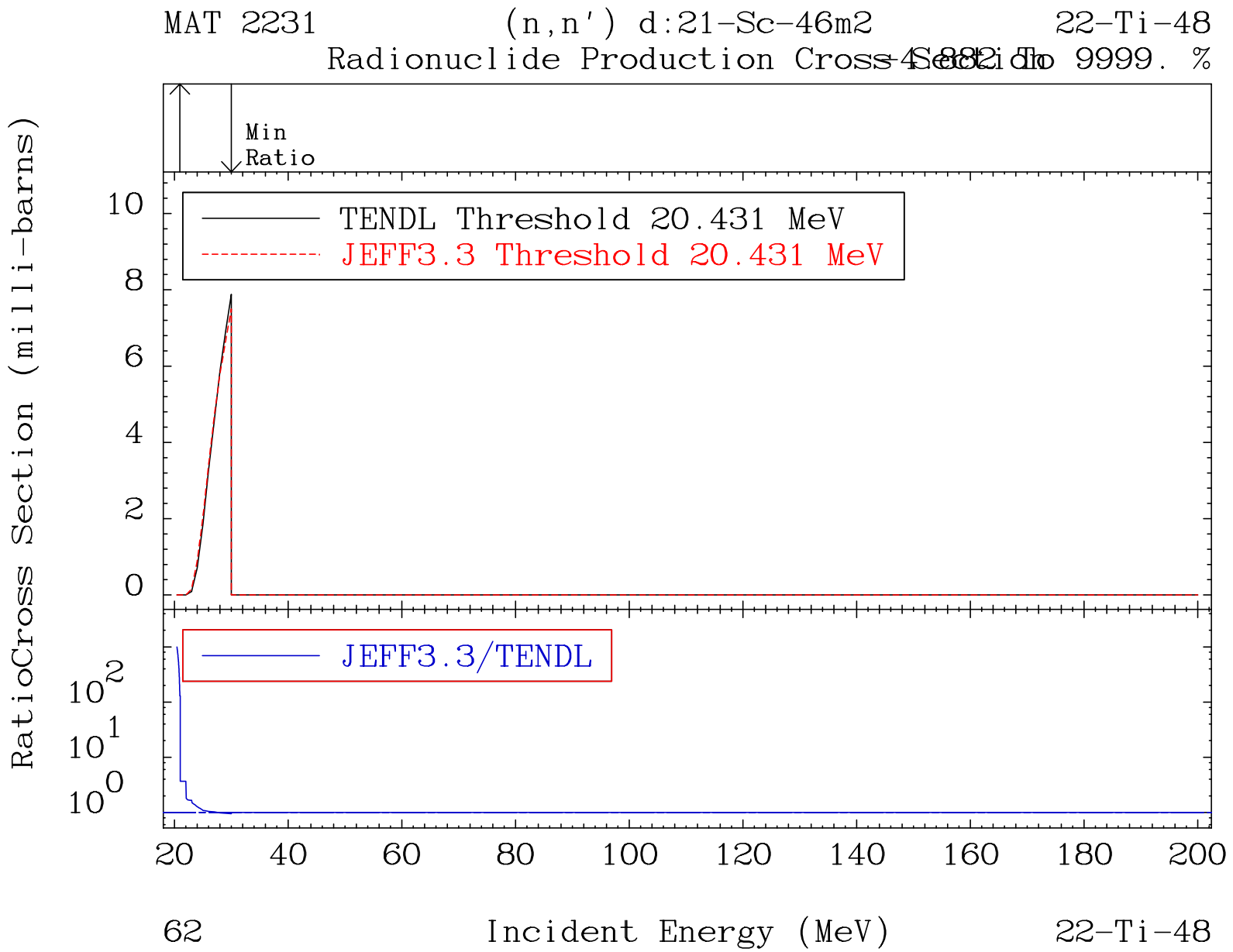

MAT 2231
Dpa total (eV-barns)
22-Ti-48
Cross Section -91.00 To 34.60 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
57
22-Ti-48

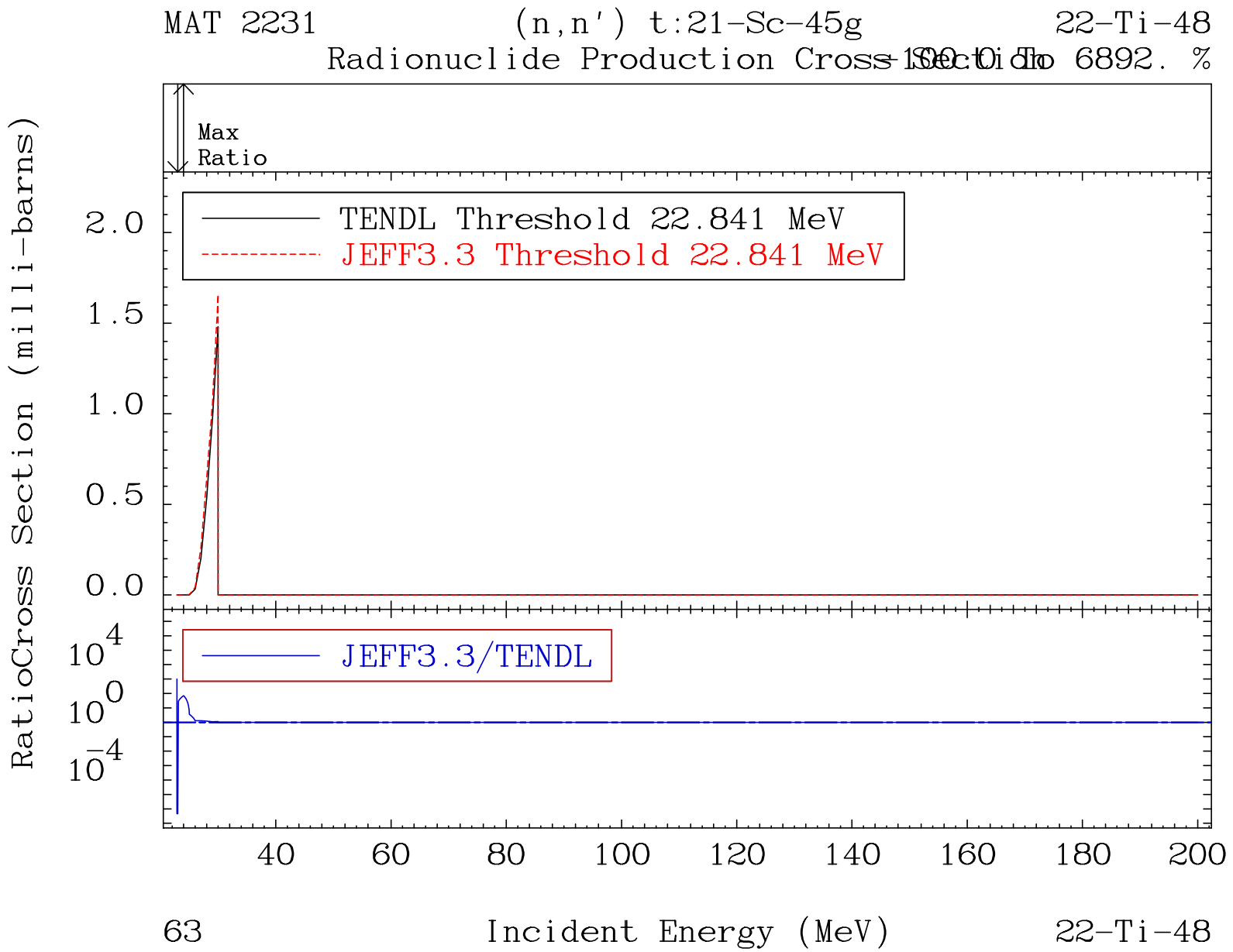

MAT 2231
Dpa elastic (mt2)
Cross Section
22-Ti-48
-91.01 To 43.19 %
Max Ratio
Min Ratio
TENDL Threshold 481.25 eV
JEFF3.3 Threshold 481.25 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
58
22-Ti-48

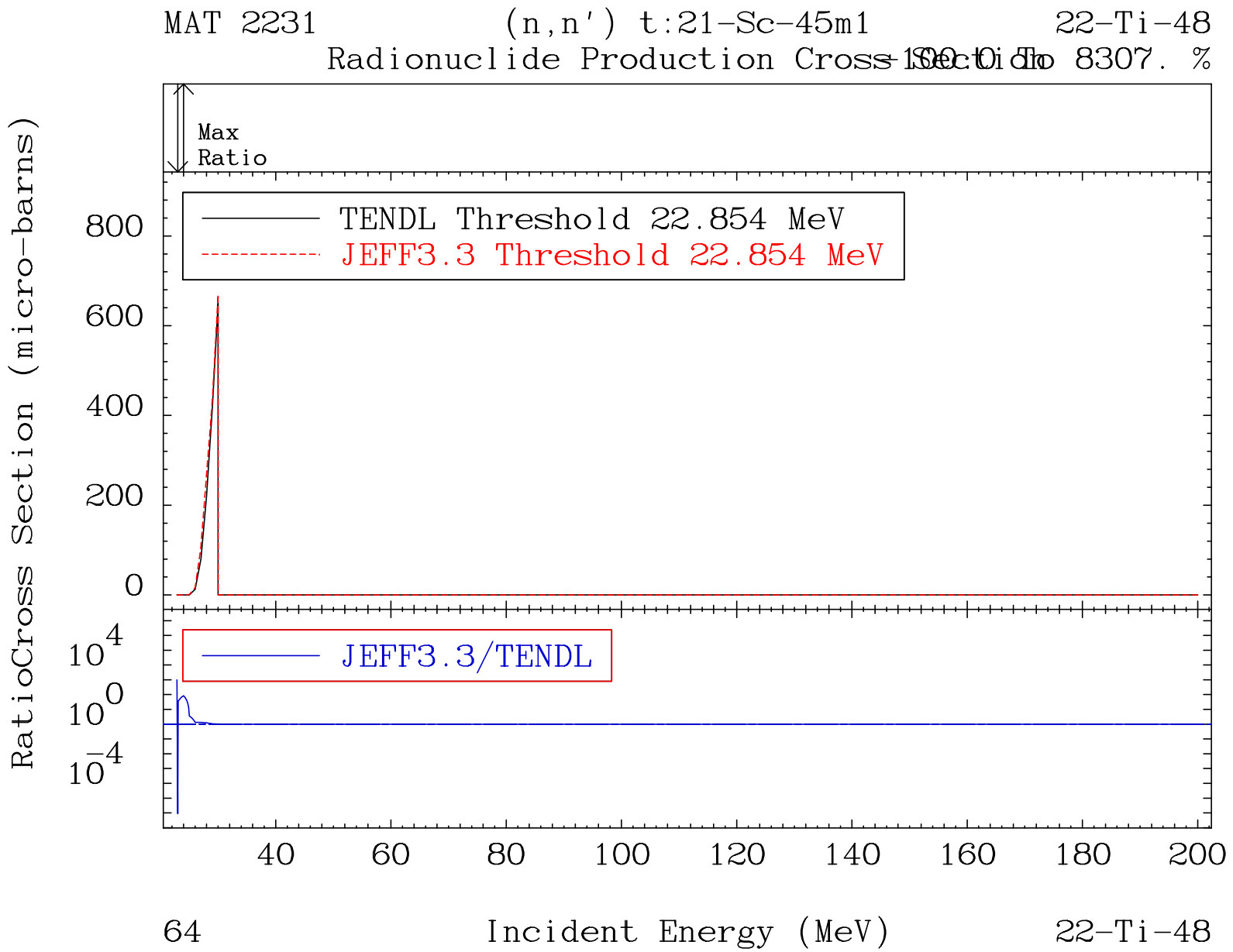

MAT 2231
Dpa inelastic (mt51-91)
22-Ti-48
Cross Section
-100.0 To 8.691 %
Min Ratio
Max Ratio
TENDL Threshold 1.0042 MeV
JEFF3.3 Threshold 1.0042 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
59
22-Ti-48

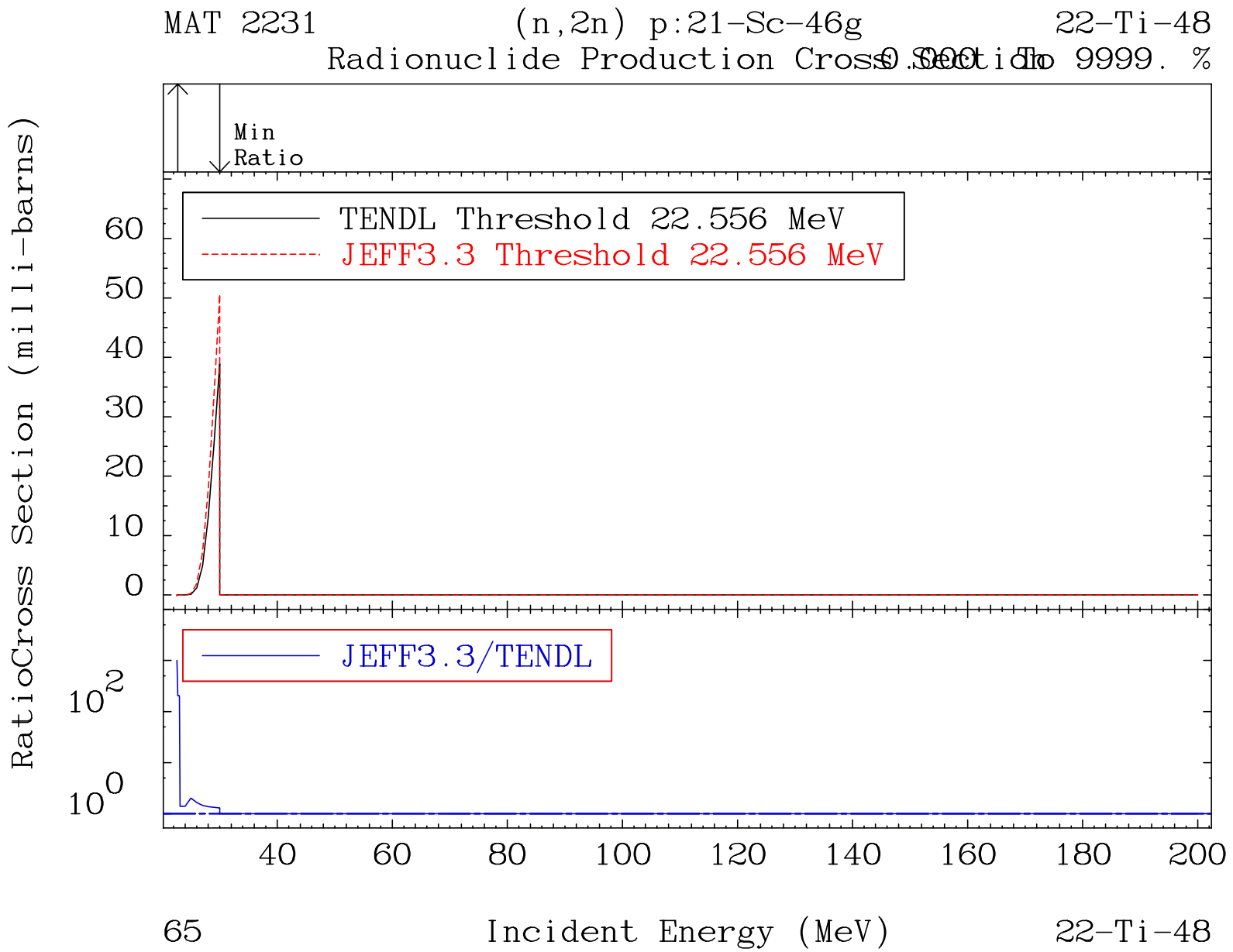

MAT 2231 Dpa disappearance (mt102 -120) 22-Ti-48
Cross Section -10.21 To 3722. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
60
22-Ti-48

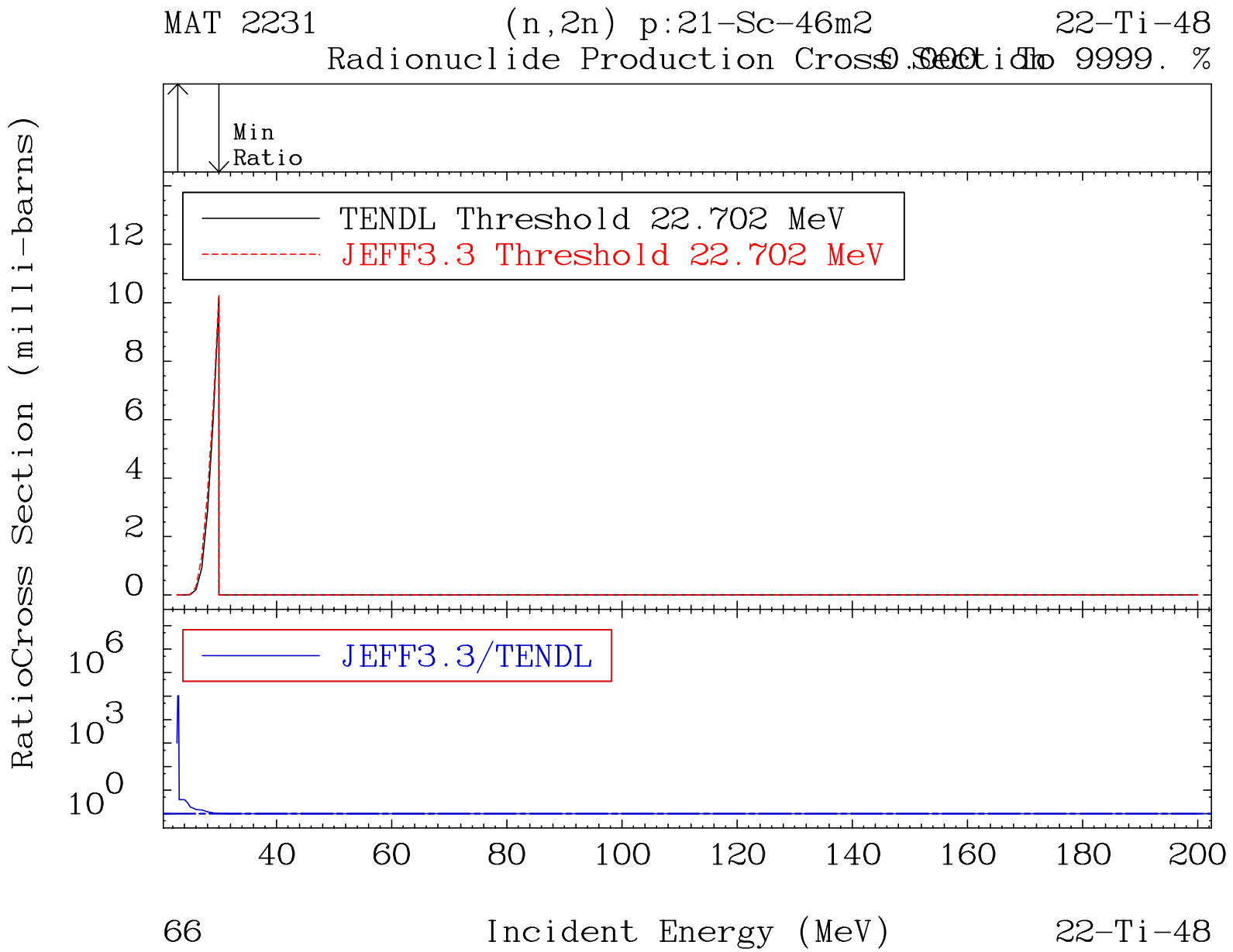

MAT 2231
(n,n') d:21-Sc-46g
22-Ti-48
Radionuclide Production Cross Section
0.000 To 869.7 %
Min
Ratio
TENDL Threshold 20.285 MeV
JEFF3.3 Threshold 20.285 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (MeV)
61
22-Ti-48

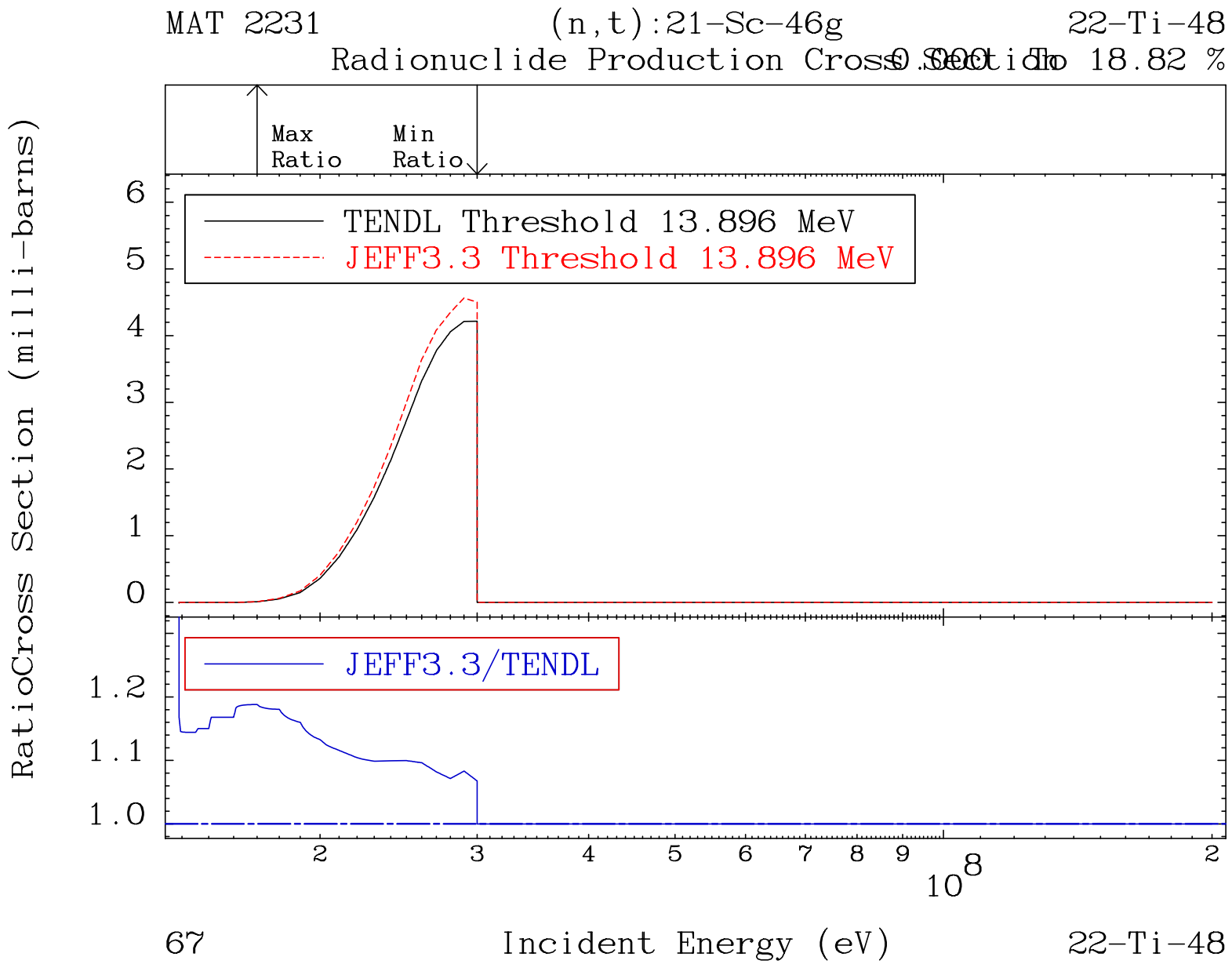

MAT 2231
(n,n') d:21-Sc-46m2
22-Ti-48
Radionuclide Production Cross-Section
Min
Ratio
TENDL Threshold 20.431 MeV
JEFF3.3 Threshold 20.431 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (MeV)
62
22-Ti-48

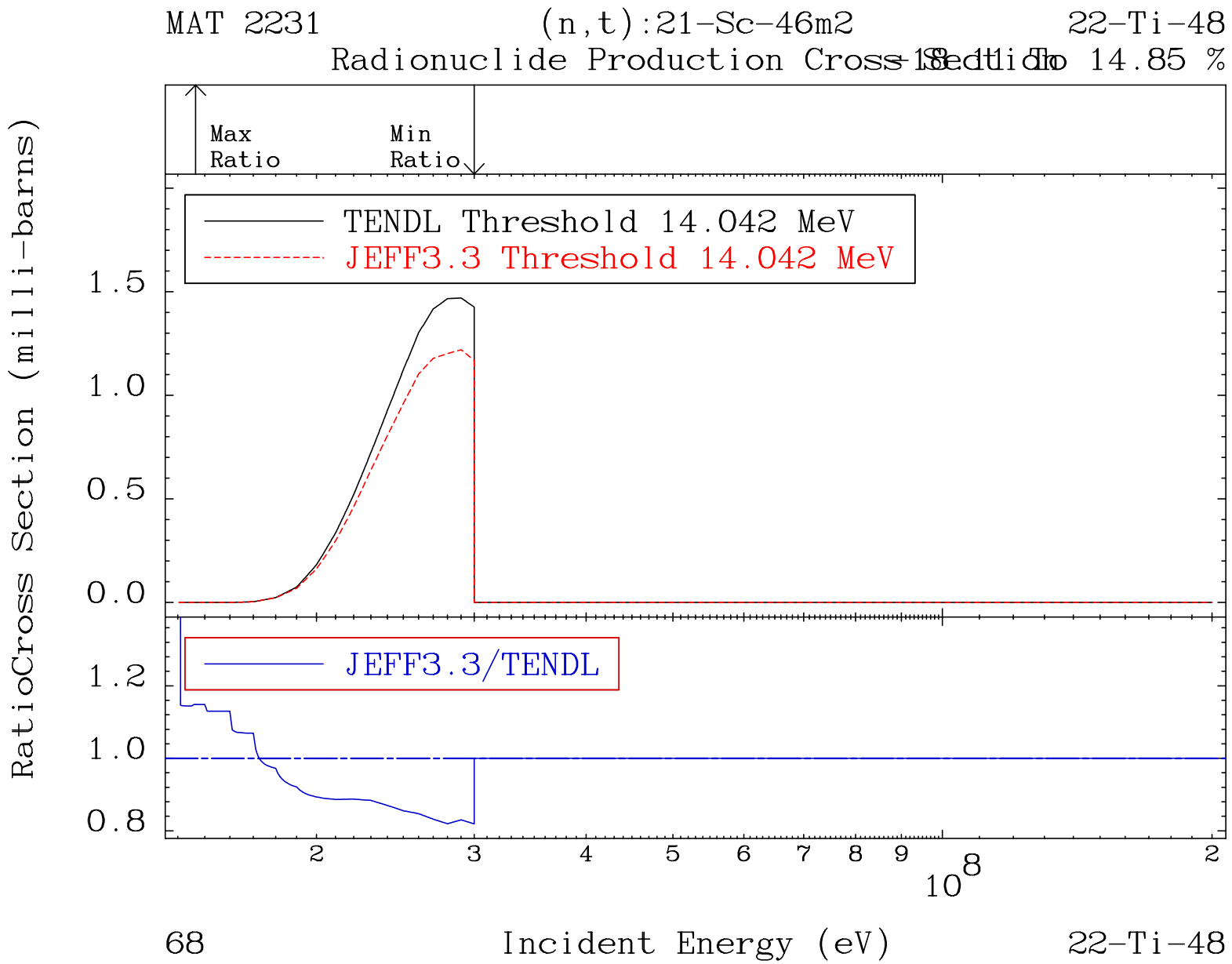

MAT 2231
(n,n') t:21-Sc-45g
22-Ti-48
Radionuclide Production Cross Section To 6892. %
Max
Ratio
TENDL Threshold 22.841 MeV
JEFF3.3 Threshold 22.841 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
10^4
10^0
10^-4
40
60
80
100
120
140
160
180
200
63
Incident Energy (MeV)
22-Ti-48


MAT 2231
(n,n') t:21-Sc-45m1
22-Ti-48
Radionuclide Production Cross Section To 8307. %
Max
Ratio
TENDL Threshold 22.854 MeV
JEFF3.3 Threshold 22.854 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
800
600
400
200
0
10^4
10^0
10^-4
40
60
80
100
120
140
160
180
200
64
Incident Energy (MeV)
22-Ti-48


MAT 2231
(n,2n) p:21-Sc-46g
22-Ti-48
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 22.556 MeV
JEFF3.3 Threshold 22.556 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
10^2
10^0
40
60
80
100
120
140
160
180
200
65
Incident Energy (MeV)
22-Ti-48


MAT 2231
(n,2n) p:21-Sc-46m2
22-Ti-48
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 22.702 MeV
JEFF3.3 Threshold 22.702 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
12
10
8
6
4
2
0
10^6
10^3
10^0
40
60
80
100
120
140
160
180
200
66
Incident Energy (MeV)
22-Ti-48


MAT 2231
(n,t):21-Sc-46g
22-Ti-48
Radionuclide Production Cross Section
0.000 To 18.82 %
Max Ratio
Min Ratio
TENDL Threshold 13.896 MeV
JEFF3.3 Threshold 13.896 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
67
22-Ti-48


MAT 2231
(n,t):21-Sc-46m2
22-Ti-48
Radionuclide Production Cross Section To 14.85 %
Max Ratio
Min Ratio
TENDL Threshold 14.042 MeV
JEFF3.3 Threshold 14.042 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.5
1.0
0.5
0.0
1.2
1.0
0.8
2
3
4
5
6
7
8
9
10^8
2
68
Incident Energy (eV)
22-Ti-48