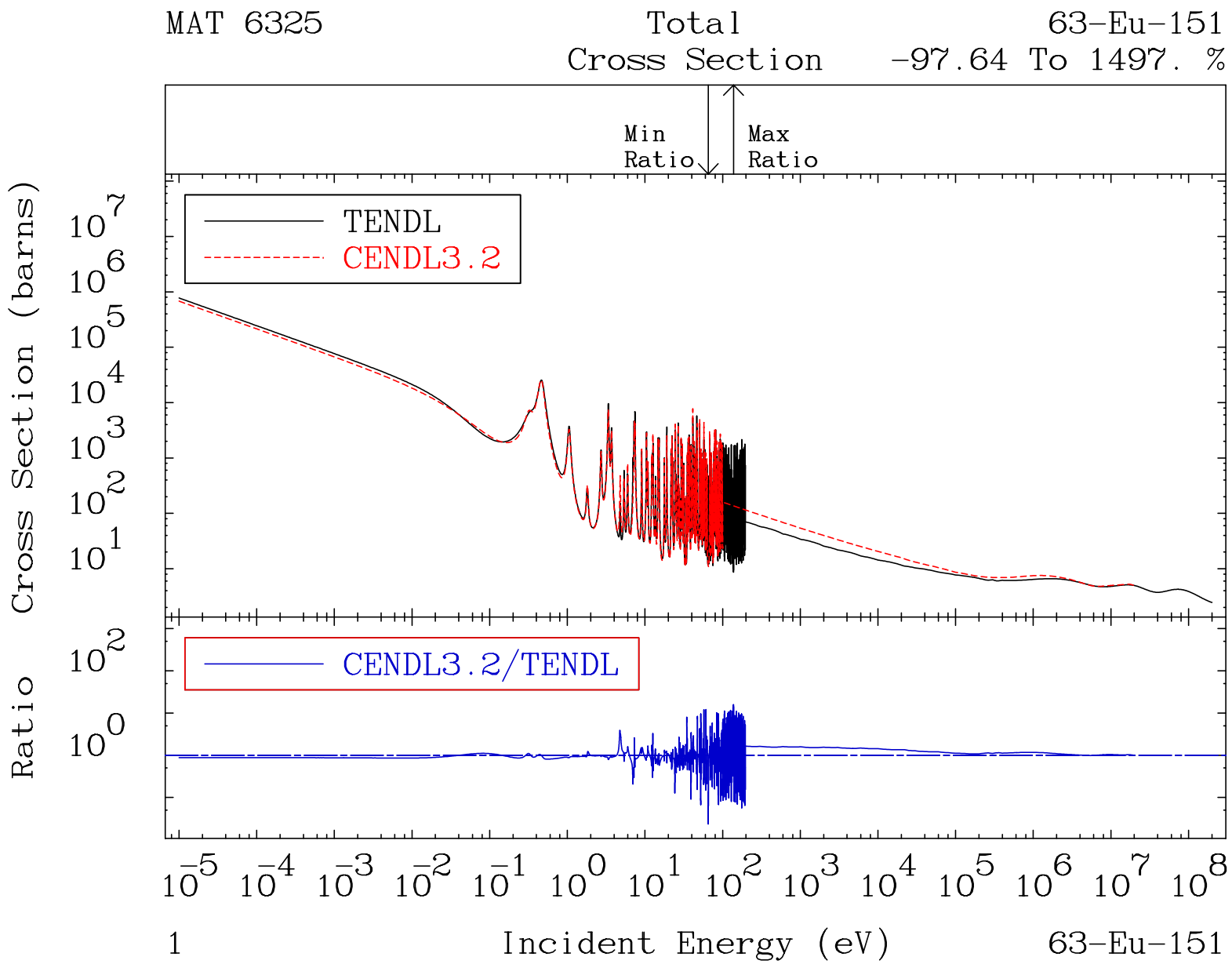
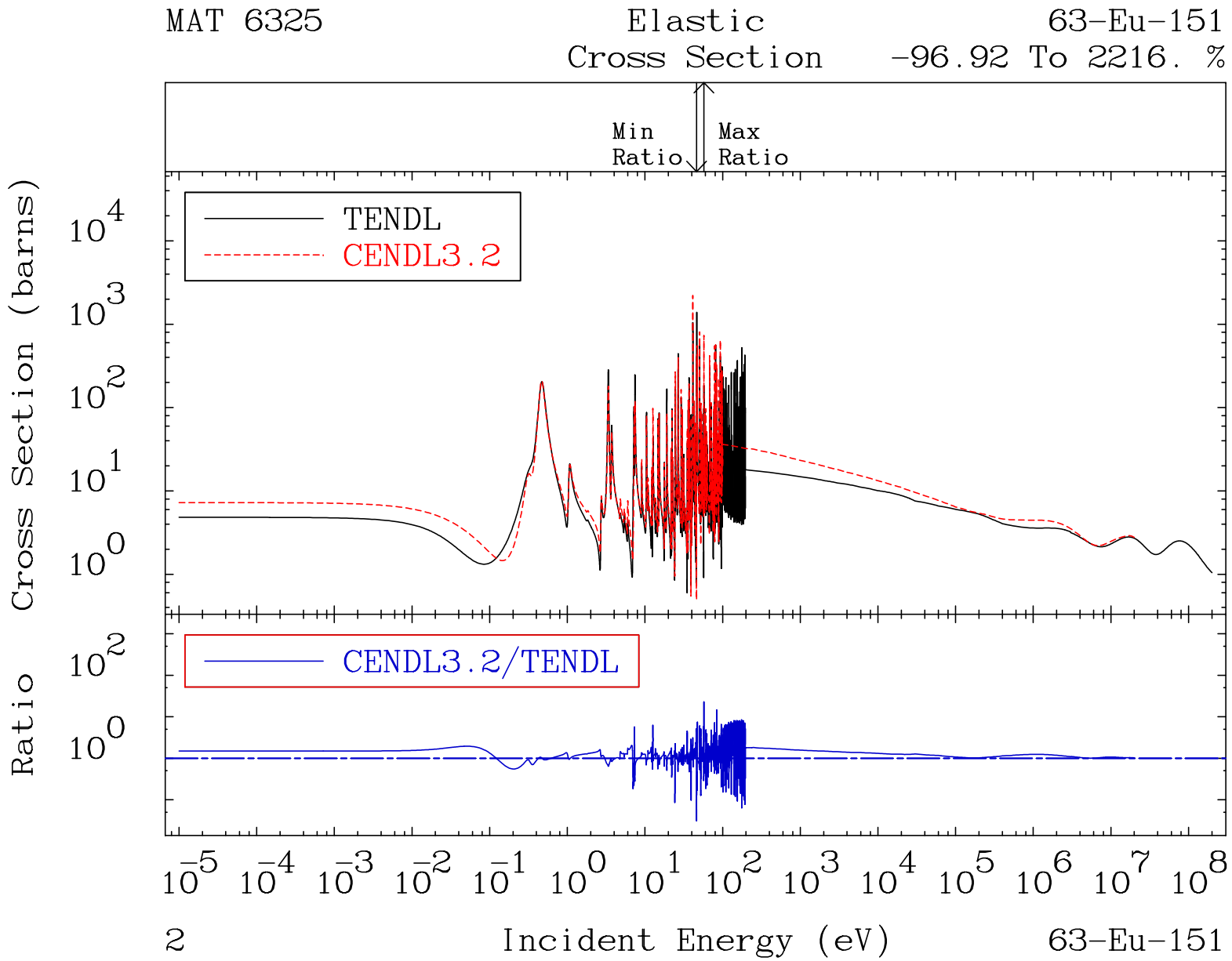
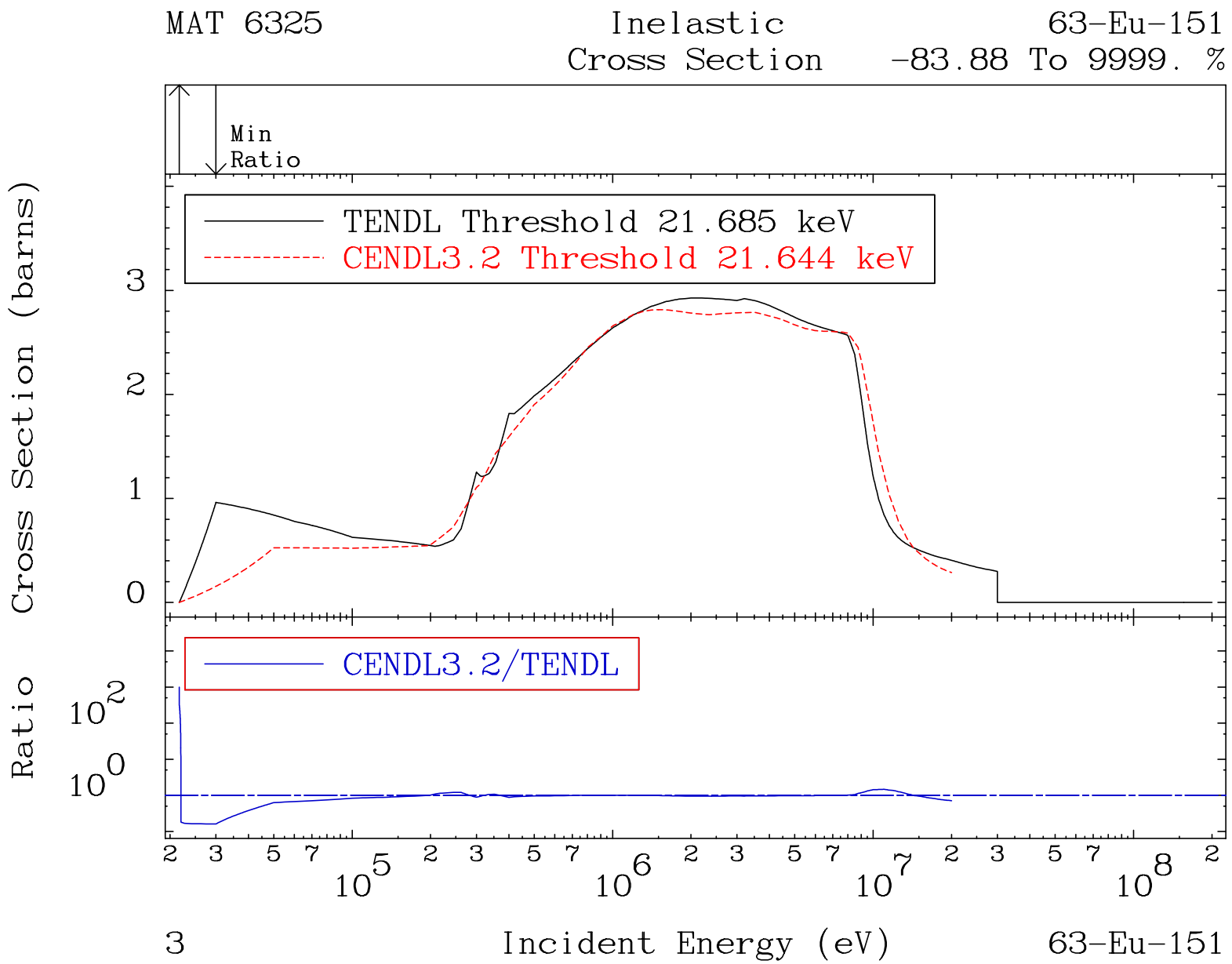
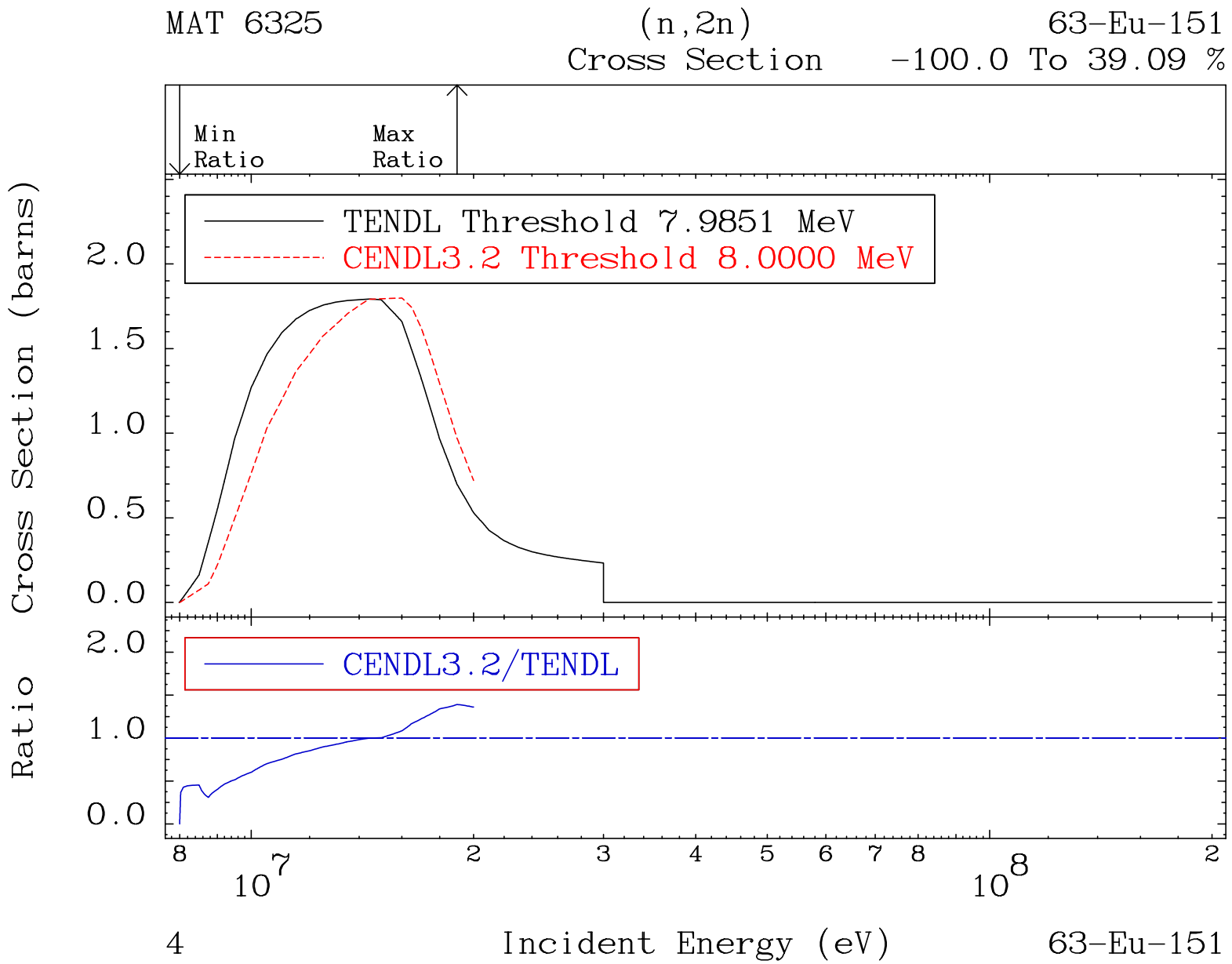
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

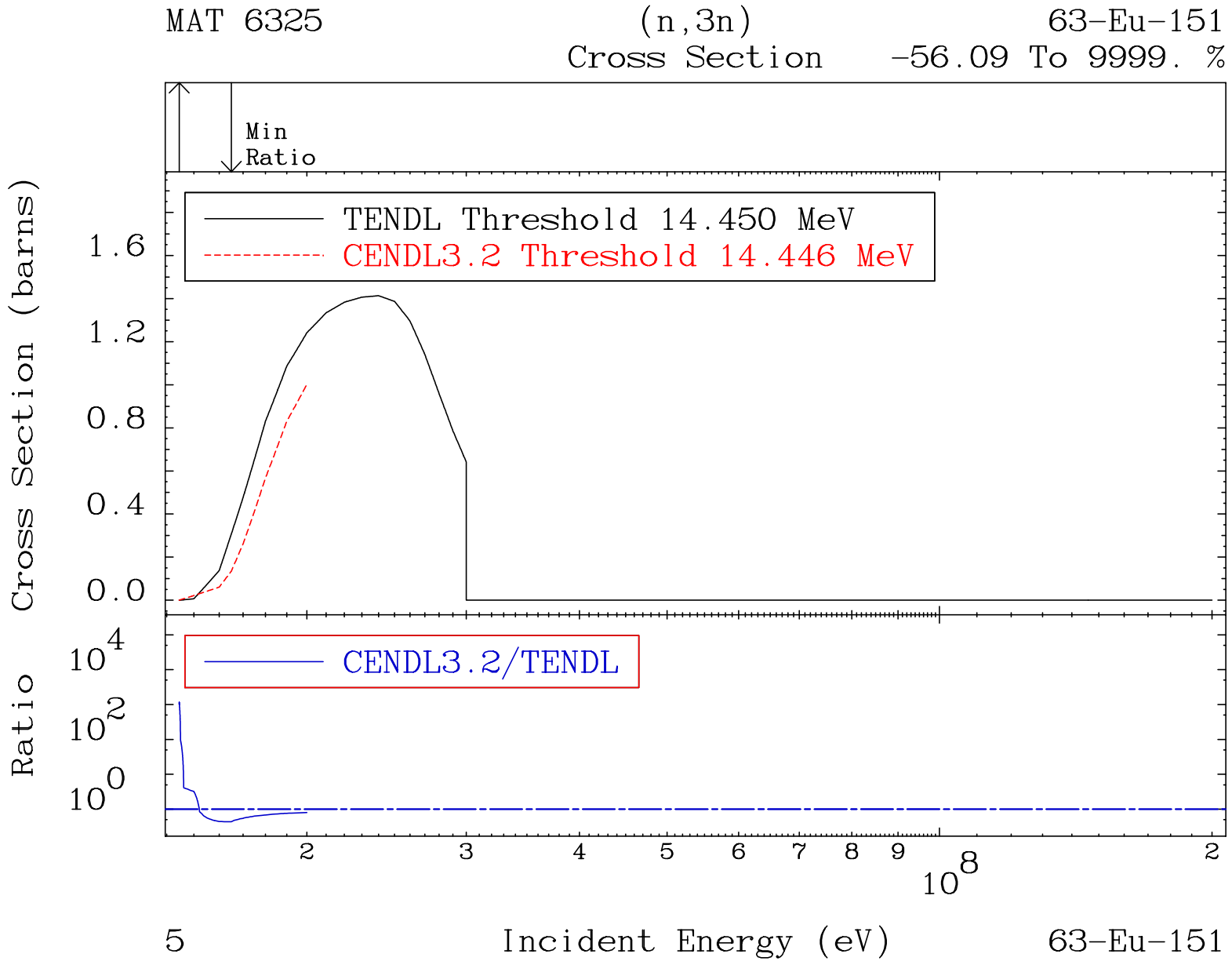
Press Mouse Button to Start

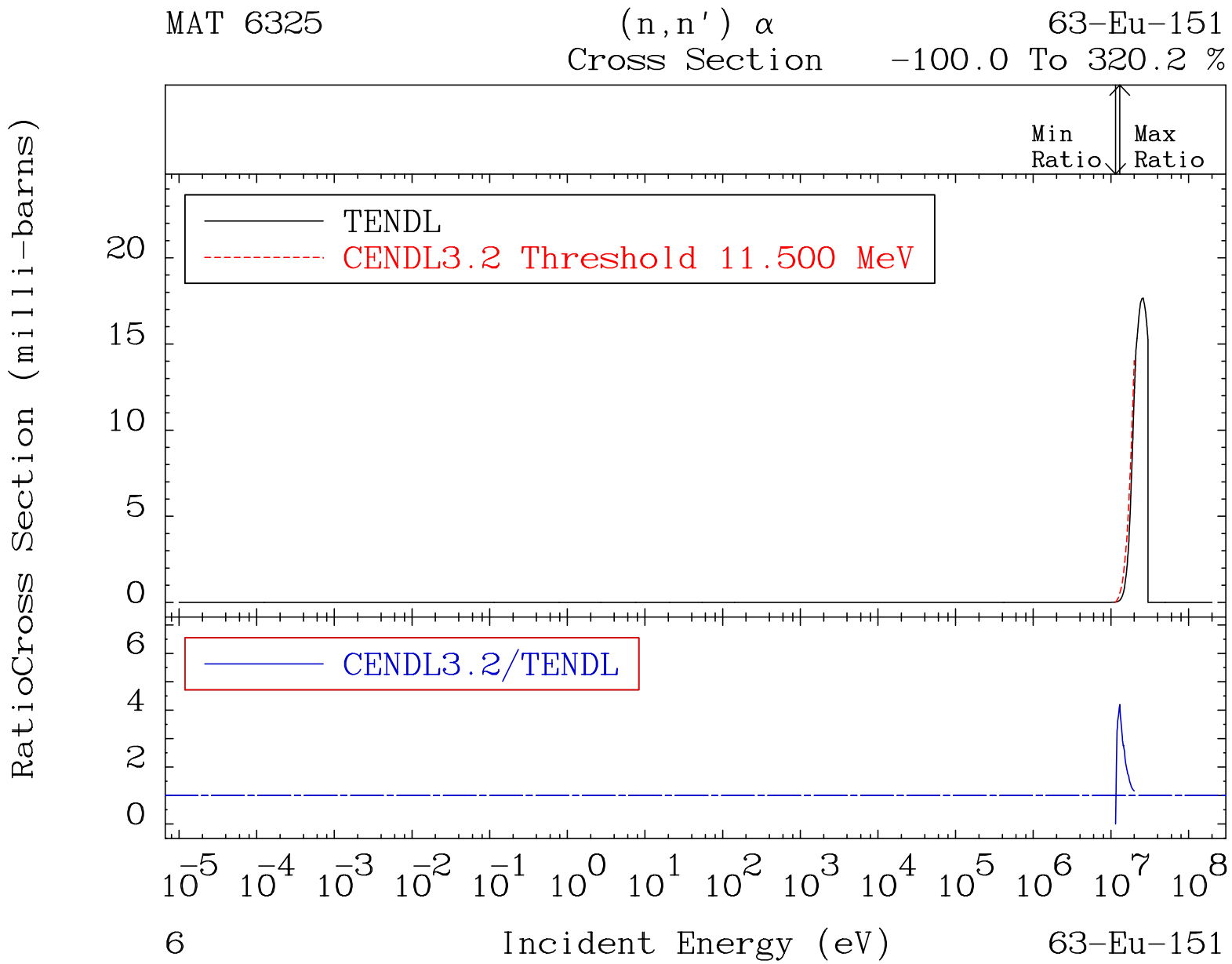

MAT 6325
Total
Cross Section
63-Eu-151
-97.64 To 1497. %
Min
Ratio
Max
Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
63-Eu-151

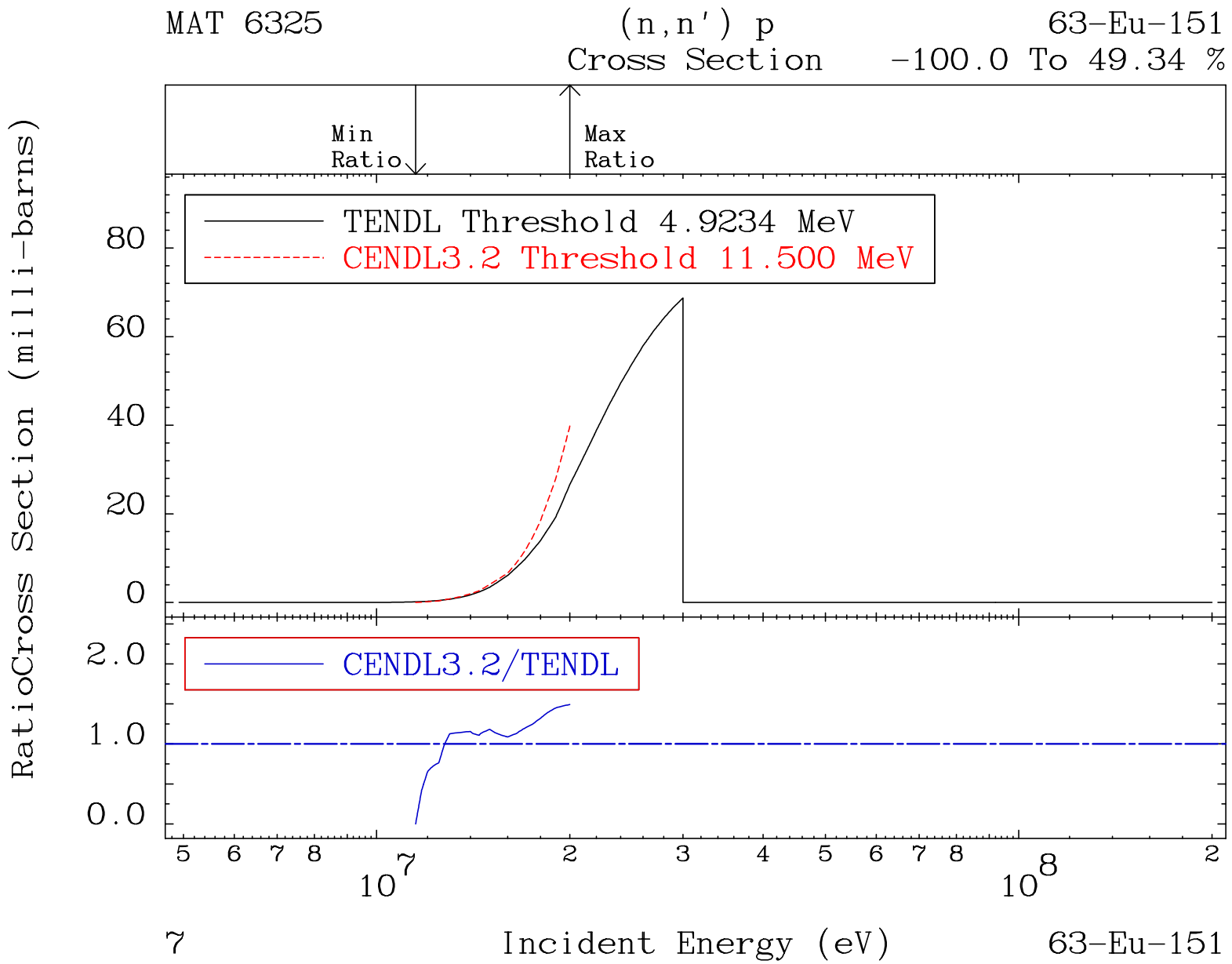

MAT 6325
Elastic
Cross Section
63-Eu-151
-96.92 To 2216. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
63-Eu-151

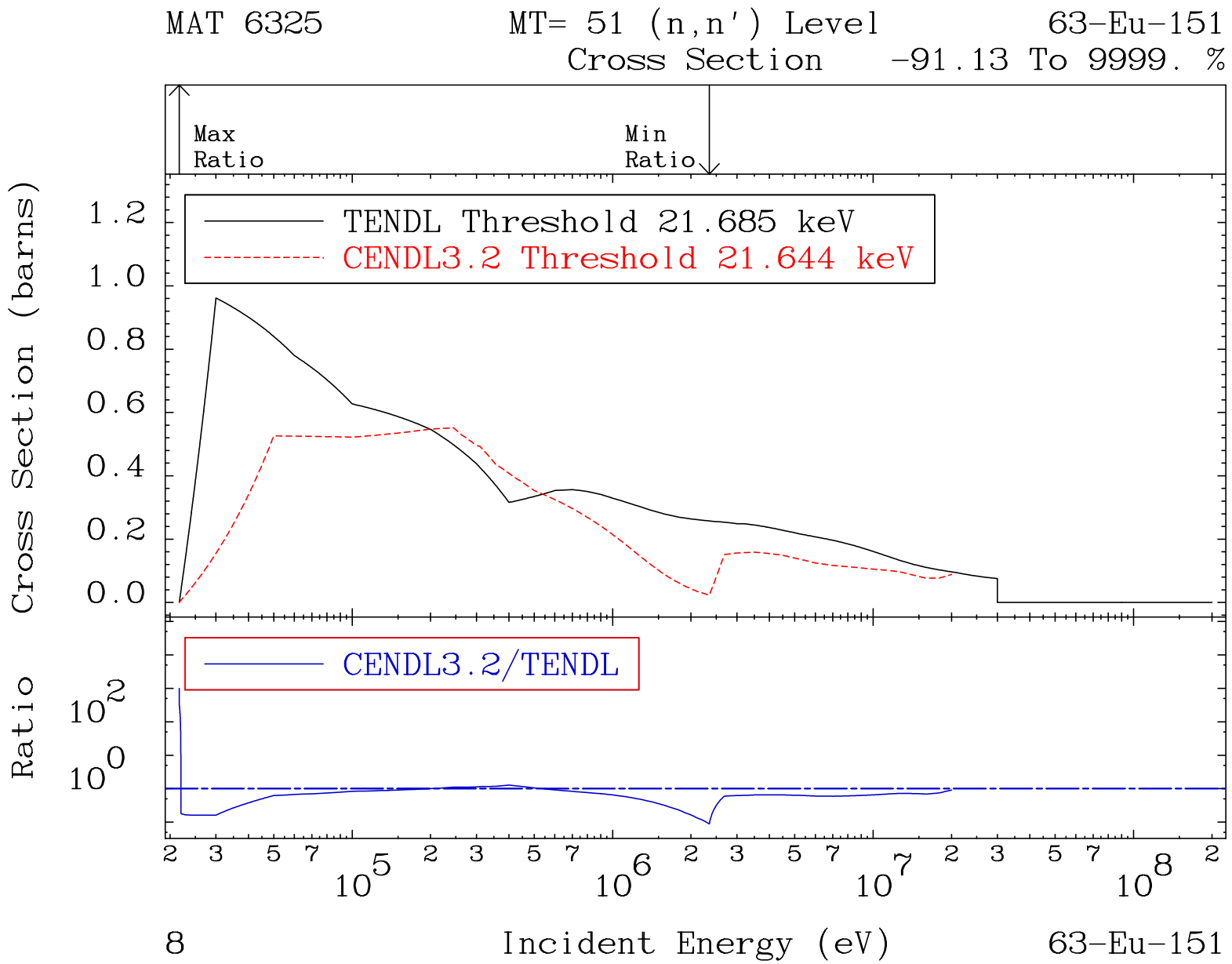

MAT 6325
Inelastic
Cross Section
63-Eu-151
-83.88 To 9999. %
Min
Ratio
TENDL Threshold 21.685 keV
CENDL3.2 Threshold 21.644 keV
Cross Section (barns)
0
1
2
3
CENDL3.2/TENDL
Ratio
10^2
10^0
2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
3
Incident Energy (eV)
63-Eu-151

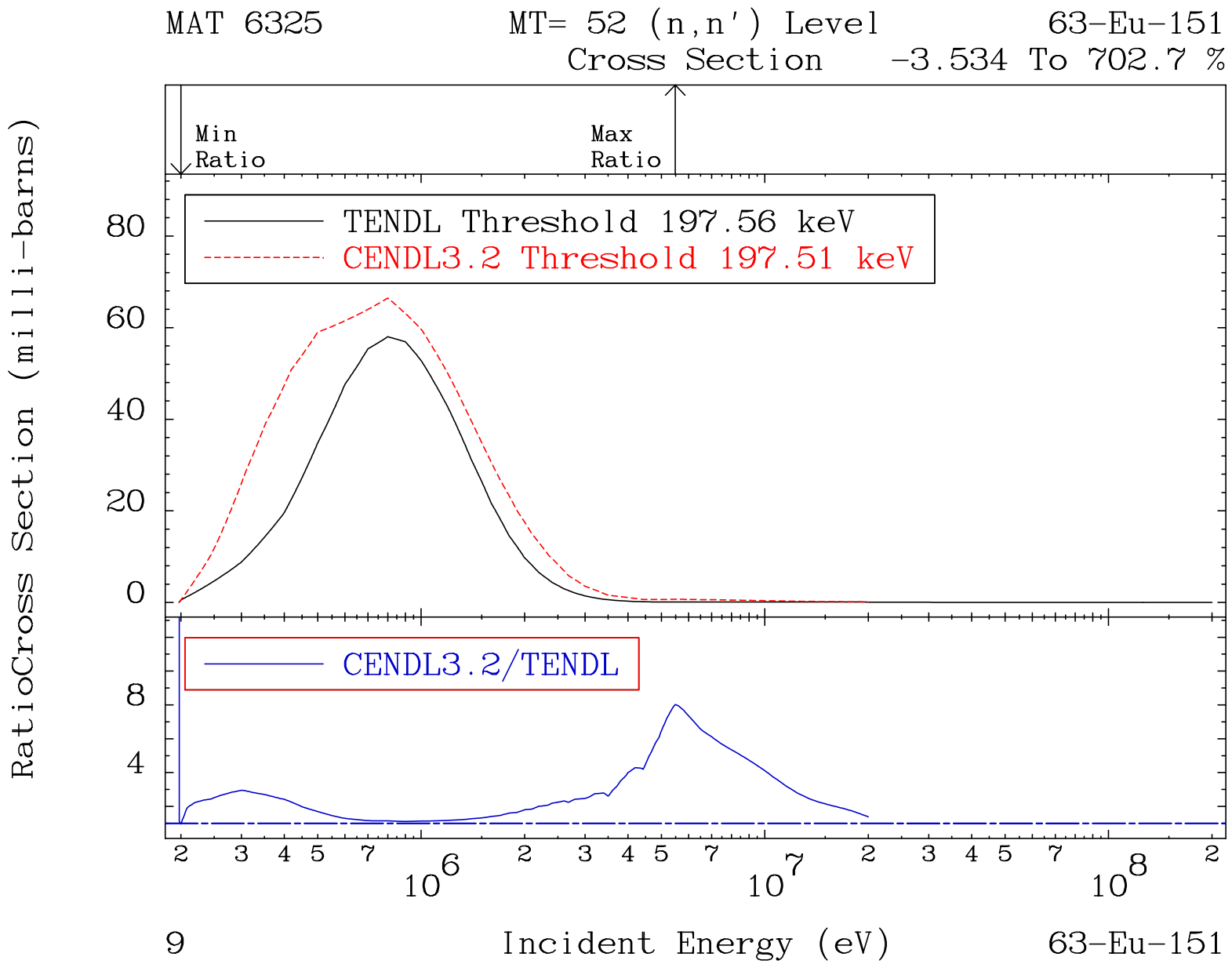

MAT 6325
(n,2n)
Cross Section
63-Eu-151
-100.0 To 39.09 %
Min Ratio
Max Ratio
TENDL Threshold 7.9851 MeV
CENDL3.2 Threshold 8.0000 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
8
10^7
2
3
4
5
6
7
8
10^8
2
Incident Energy (eV)
4
63-Eu-151

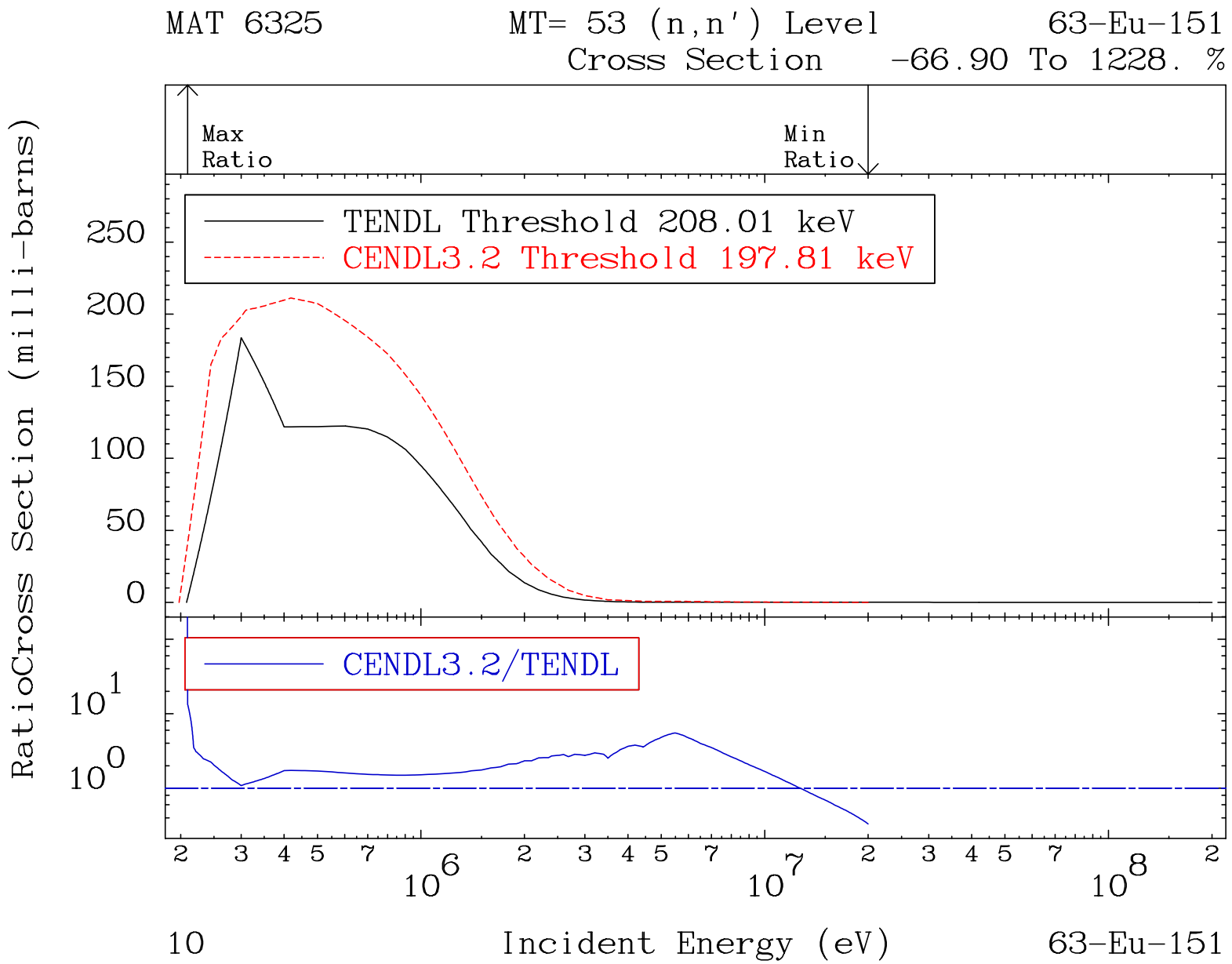

MAT 6325
(n,3n)
63-Eu-151
Cross Section
-56.09 To 9999. %
Min
Ratio
TENDL Threshold 14.450 MeV
CENDL3.2 Threshold 14.446 MeV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
CENDL3.2/TENDL
Ratio
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
63-Eu-151

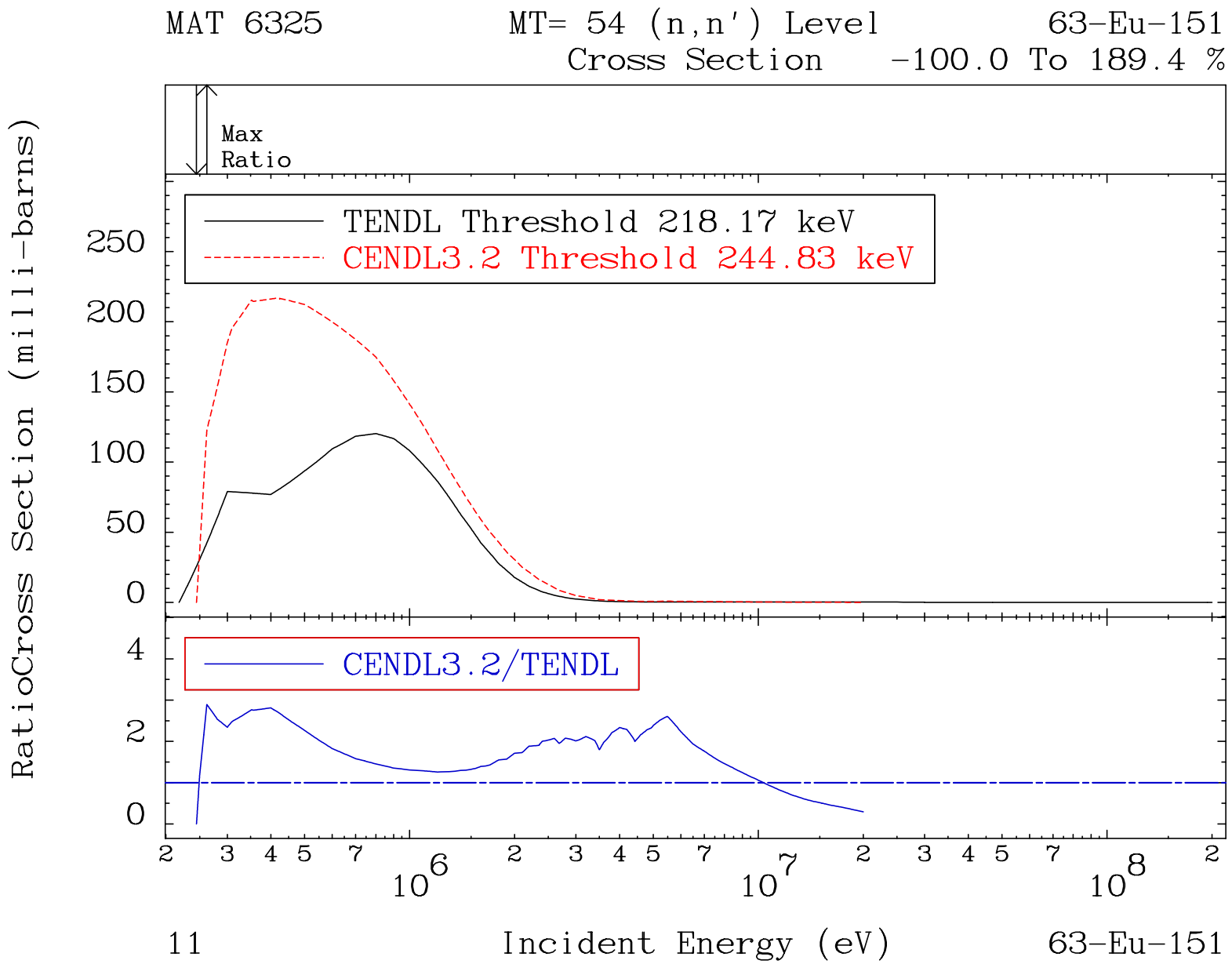

MAT 6325
(n,n') α
Cross Section
63-Eu-151
-100.0 To 320.2 %
Min Ratio
Max Ratio
TENDL
CENDL3.2 Threshold 11.500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
6
63-Eu-151

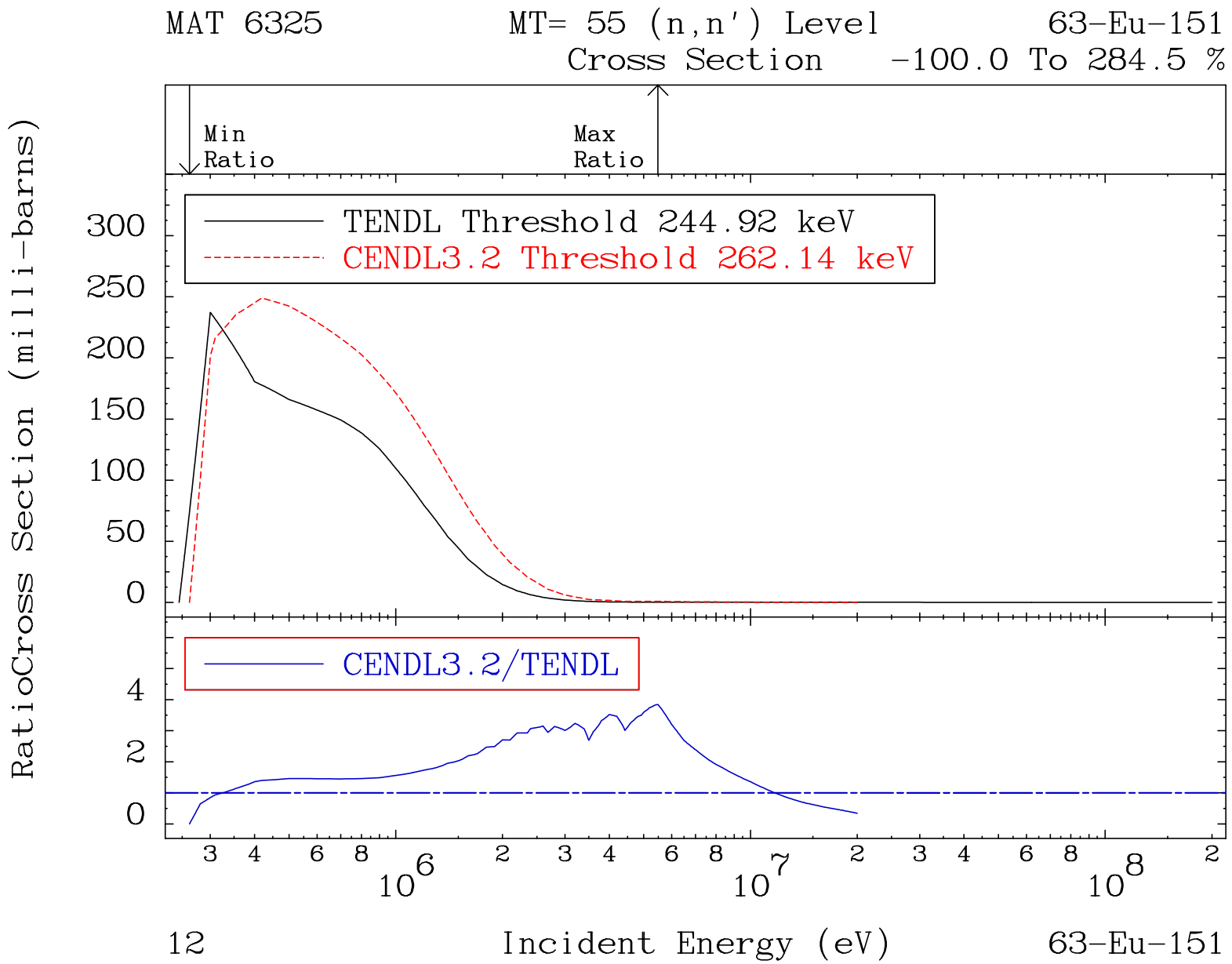

MAT 6325
(n,n') p
Cross Section
63-Eu-151
-100.0 To 49.34 %
Min Ratio
Max Ratio
TENDL Threshold 4.9234 MeV
CENDL3.2 Threshold 11.500 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
2.0
1.0
0.0
5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
7
Incident Energy (eV)
63-Eu-151

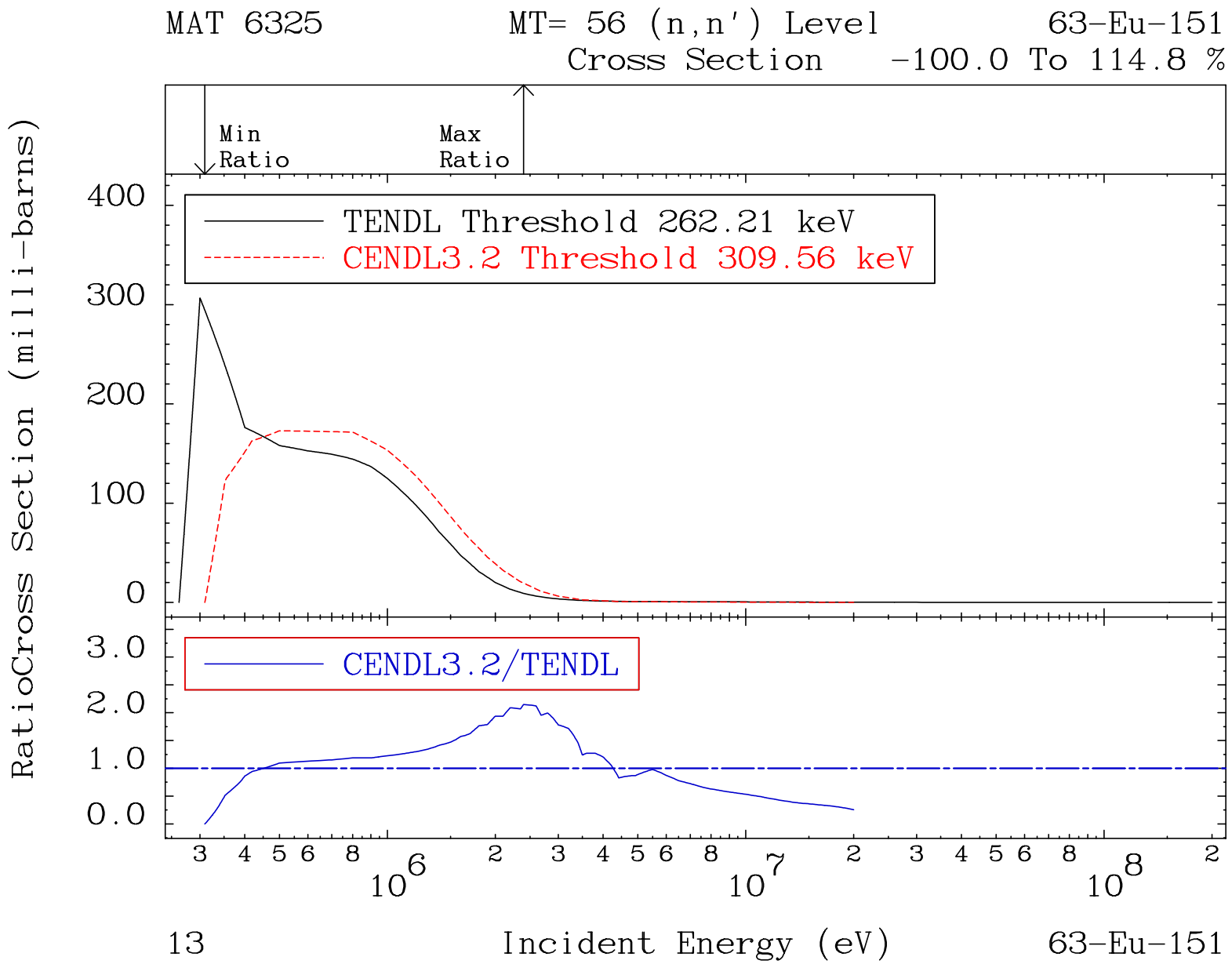

MAT 6325
MT= 51 (n,n') Level
63-Eu-151
Cross Section -91.13 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 21.685 keV
CENDL3.2 Threshold 21.644 keV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
CENDL3.2/TENDL
Ratio
10^2
10^0
2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
8
Incident Energy (eV)
63-Eu-151

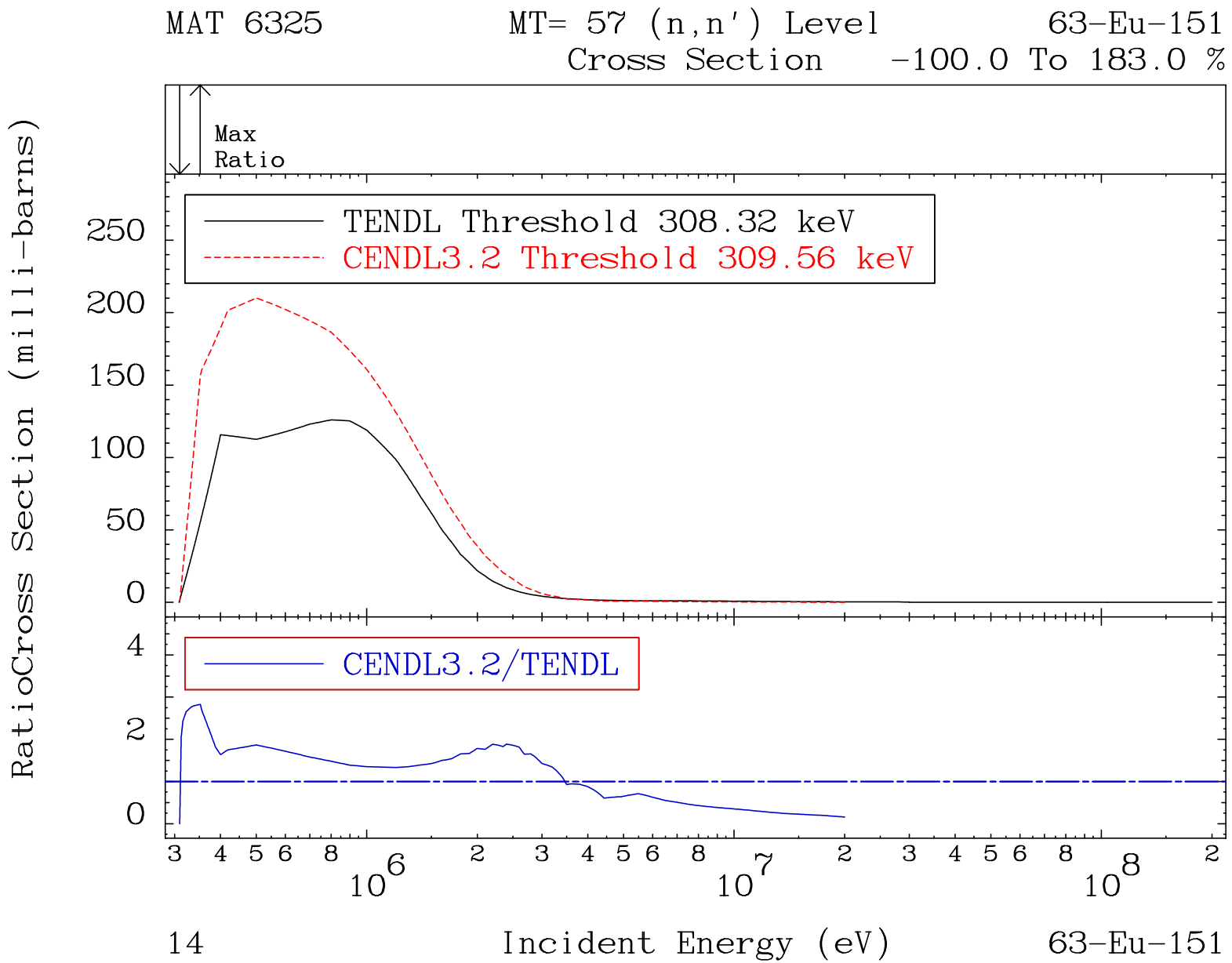

MAT 6325
MT= 52 (n,n') Level
63-Eu-151
Cross Section -3.534 To 702.7 %
Min Ratio
Max Ratio
TENDL Threshold 197.56 keV
CENDL3.2 Threshold 197.51 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
8
4
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
Incident Energy (eV)
9
63-Eu-151

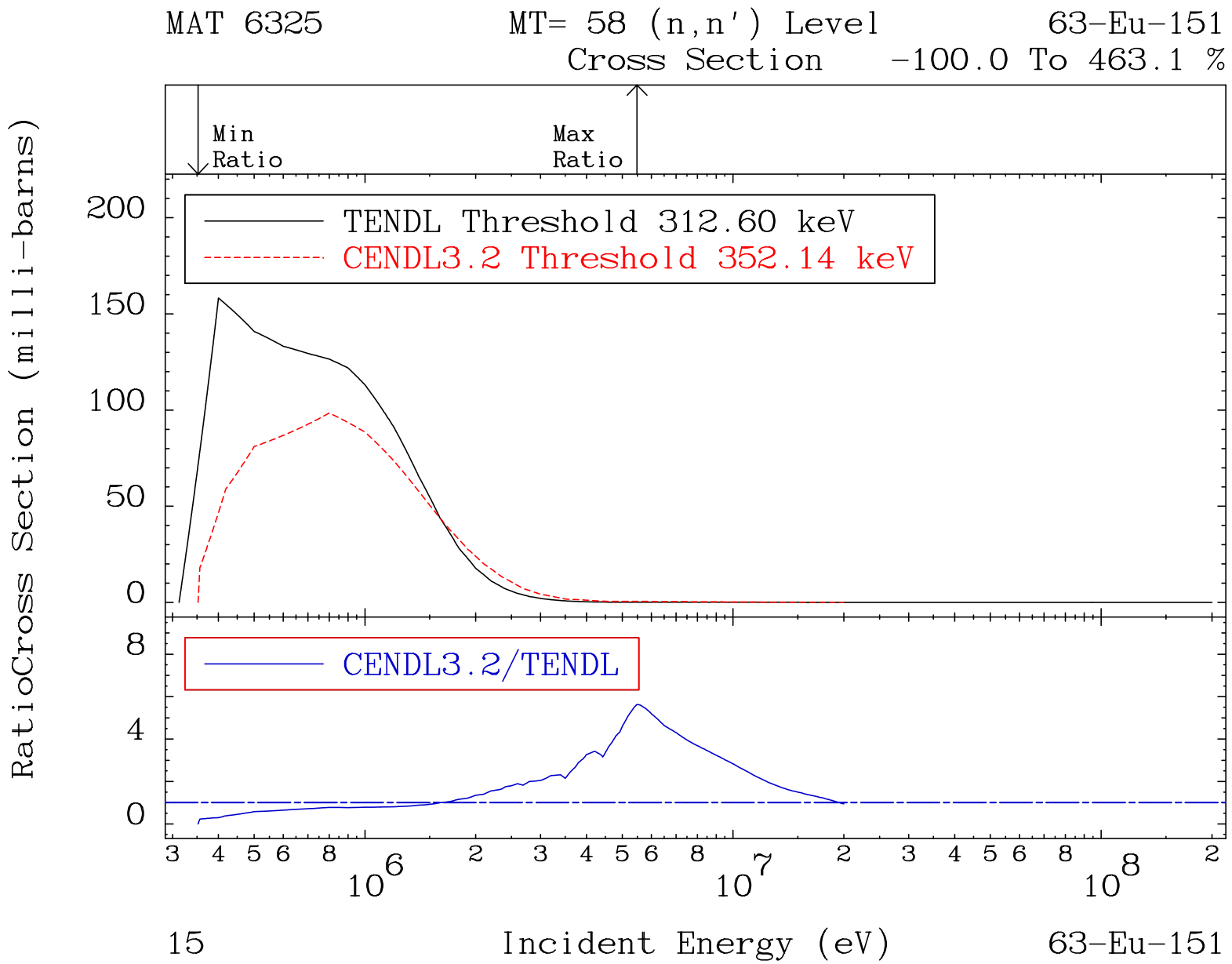

MAT 6325
MT= 53 (n,n') Level
63-Eu-151
Cross Section
-66.90 To 1228. %
Max Ratio
Min Ratio
TENDL Threshold 208.01 keV
CENDL3.2 Threshold 197.81 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^1
10^0
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
10
Incident Energy (eV)
63-Eu-151

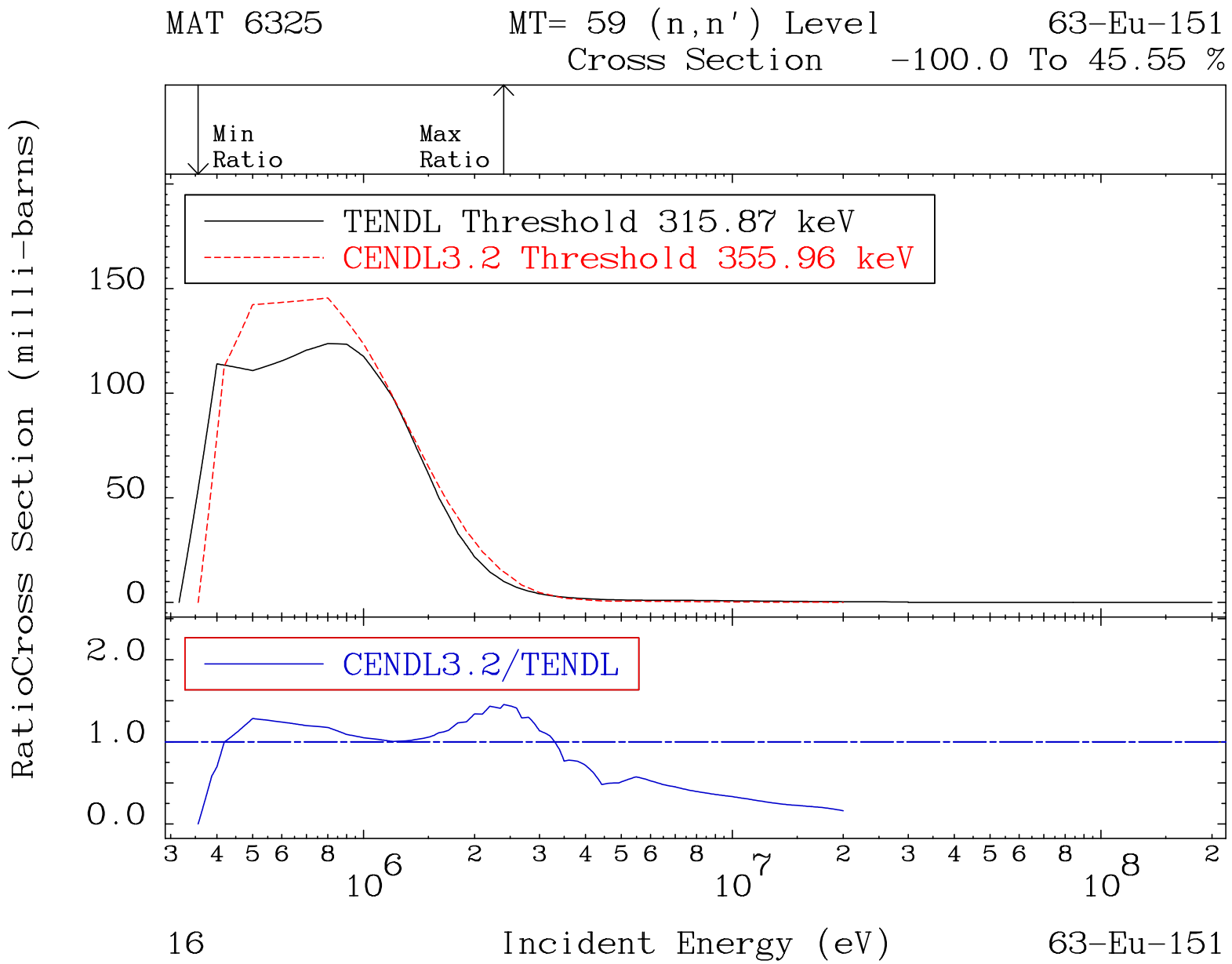

MAT 6325
MT= 54 (n,n') Level
63-Eu-151
Cross Section -100.0 To 189.4 %
Max
Ratio
TENDL Threshold 218.17 keV
CENDL3.2 Threshold 244.83 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
4
2
0
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
11
Incident Energy (eV)
63-Eu-151

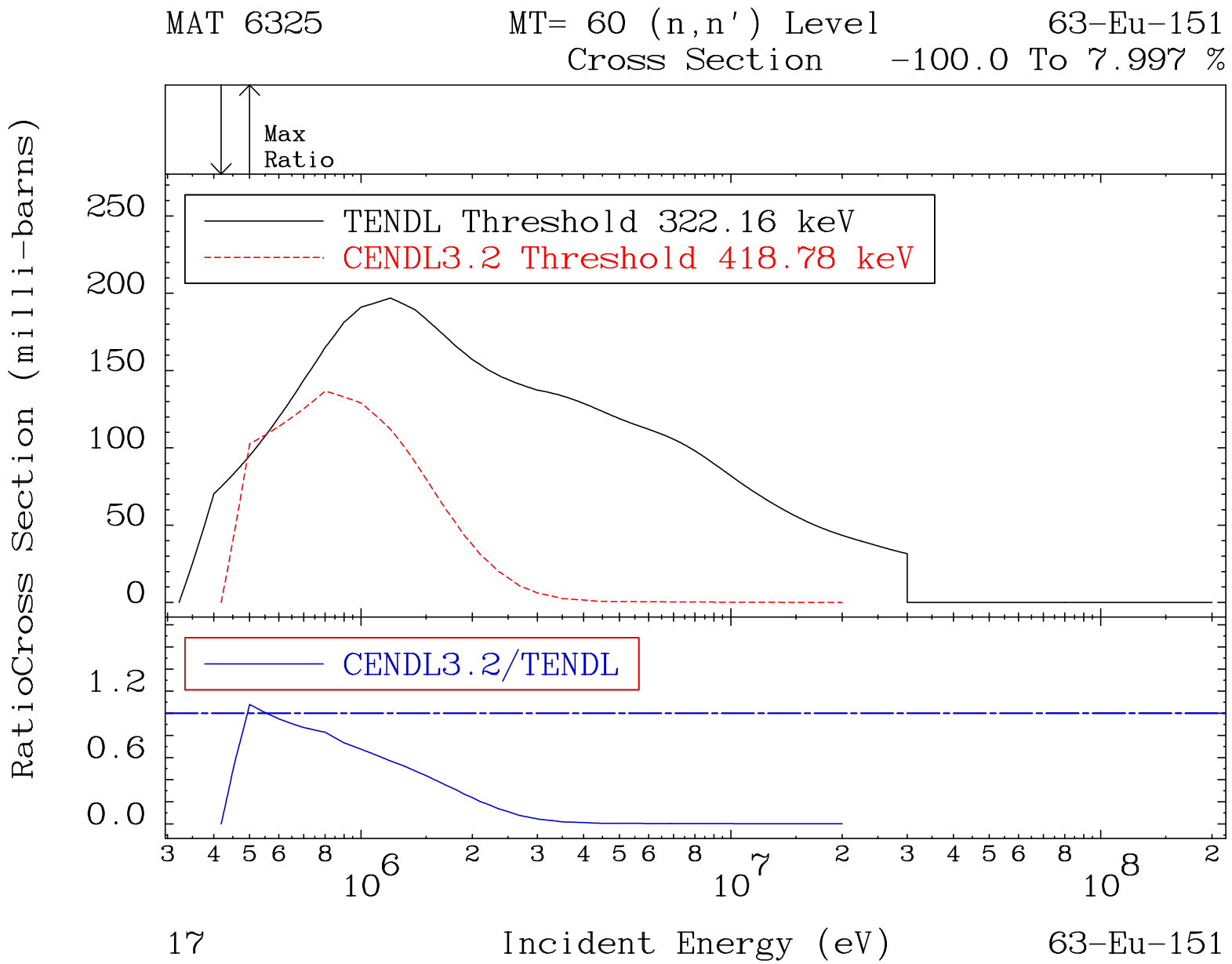

MAT 6325
MT= 55 (n,n') Level
63-Eu-151
Cross Section
-100.0 To 284.5 %
Min Ratio
Max Ratio
TENDL Threshold 244.92 keV
CENDL3.2 Threshold 262.14 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
4
2
0
3 4 6 8 10^6 2 3 4 6 8 10^7 2 3 4 6 8 10^8 2
12
Incident Energy (eV)
63-Eu-151

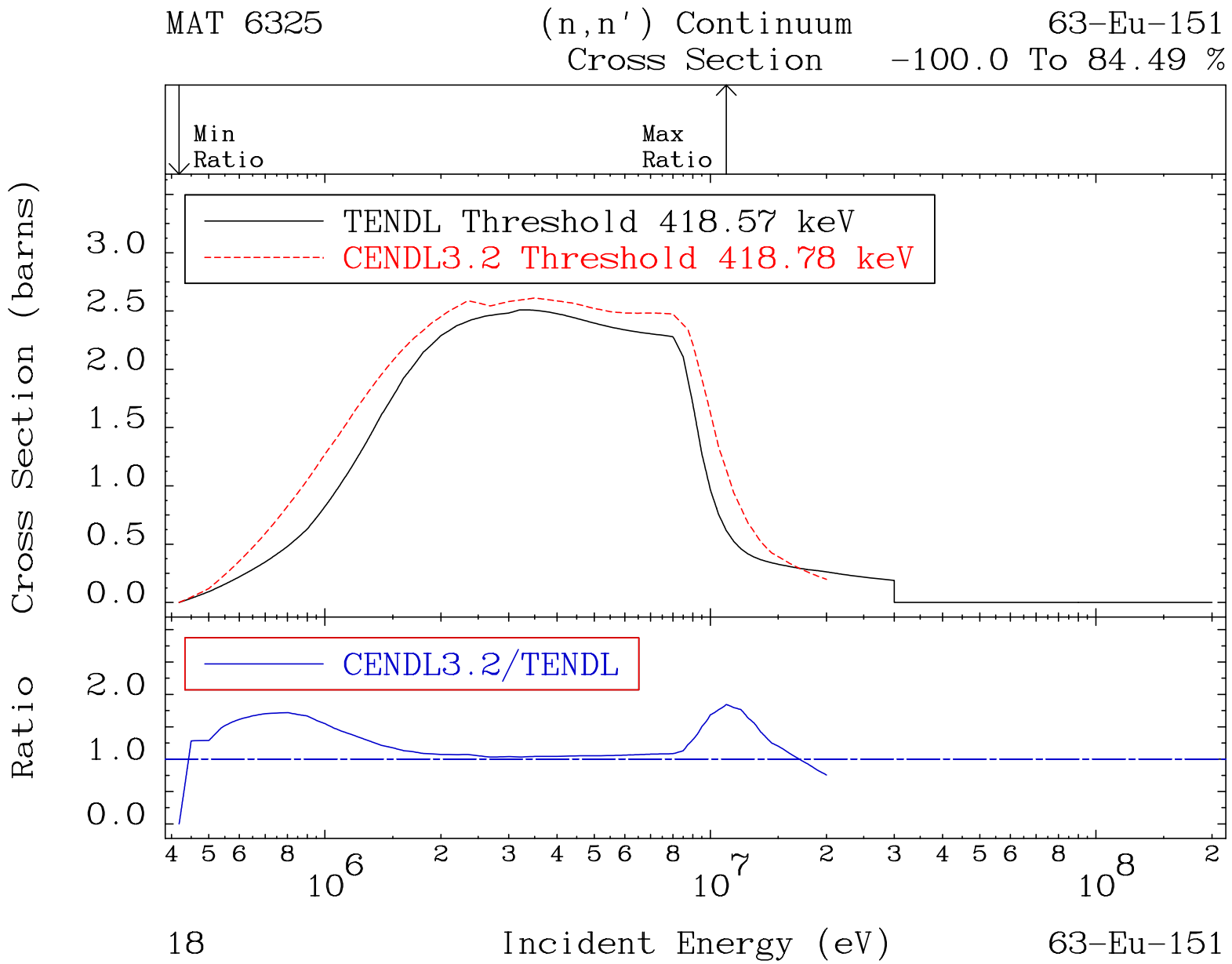

MAT 6325
MT= 56 (n,n') Level
63-Eu-151
Cross Section -100.0 To 114.8 %
Min Ratio
Max Ratio
TENDL Threshold 262.21 keV
CENDL3.2 Threshold 309.56 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
3.0
2.0
1.0
0.0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
13
Incident Energy (eV)
63-Eu-151

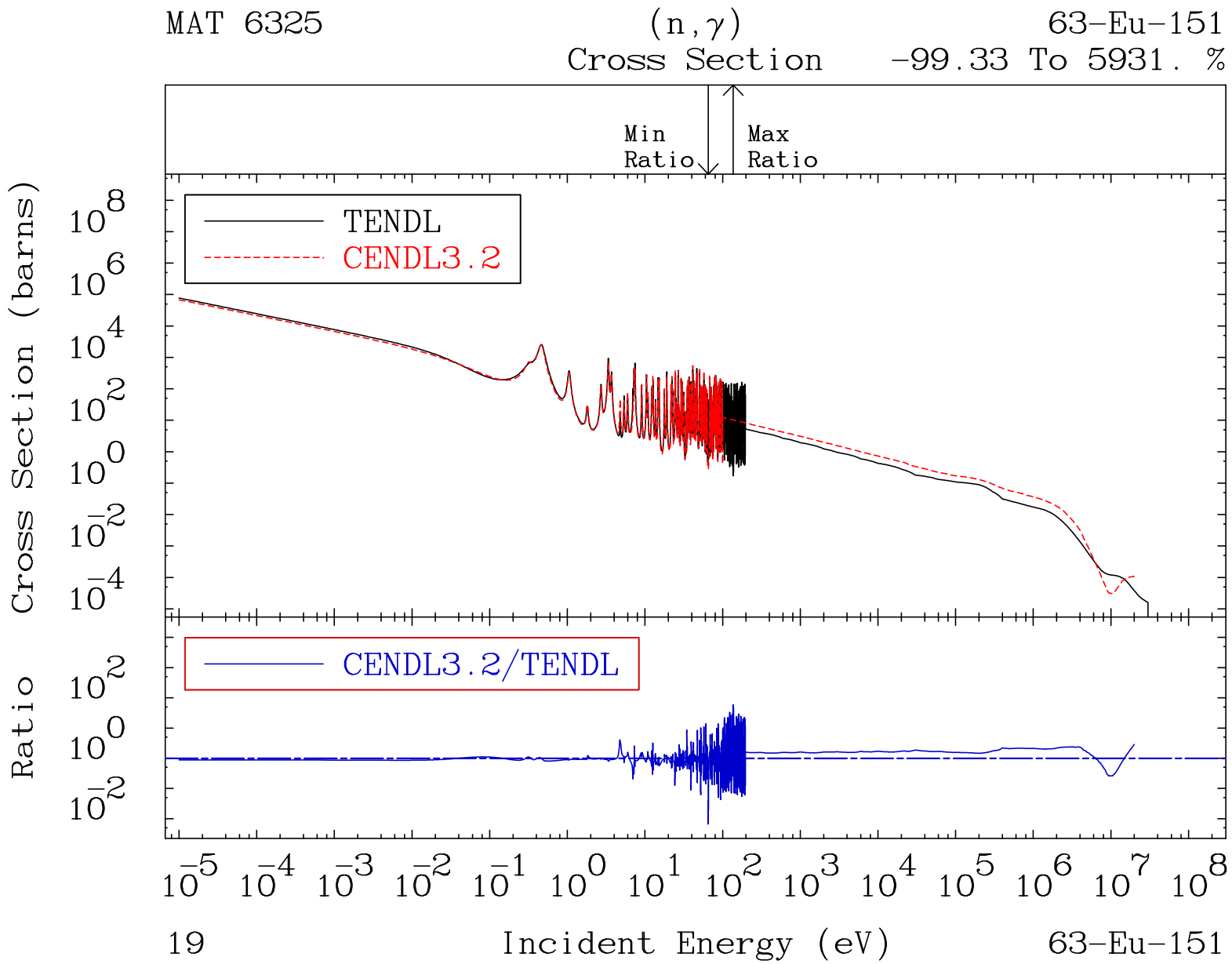

MAT 6325
MT= 57 (n,n') Level
63-Eu-151
Cross Section -100.0 To 183.0 %
Max
Ratio
TENDL Threshold 308.32 keV
CENDL3.2 Threshold 309.56 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
4
2
0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
14
Incident Energy (eV)
63-Eu-151

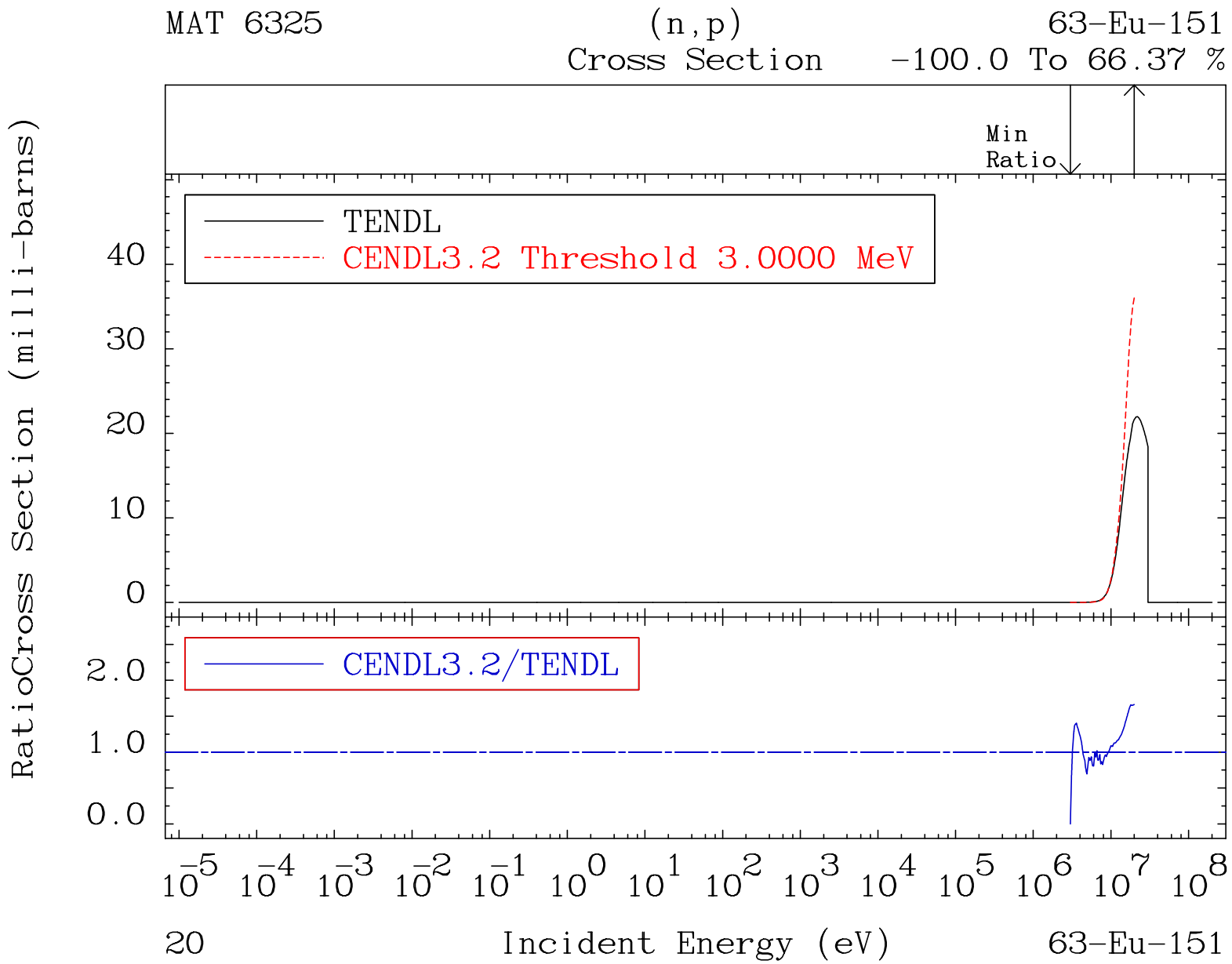

MAT 6325
MT= 58 (n,n') Level
63-Eu-151
Cross Section -100.0 To 463.1 %
Min Ratio
Max Ratio
TENDL Threshold 312.60 keV
CENDL3.2 Threshold 352.14 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
8
4
0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
15
Incident Energy (eV)
63-Eu-151

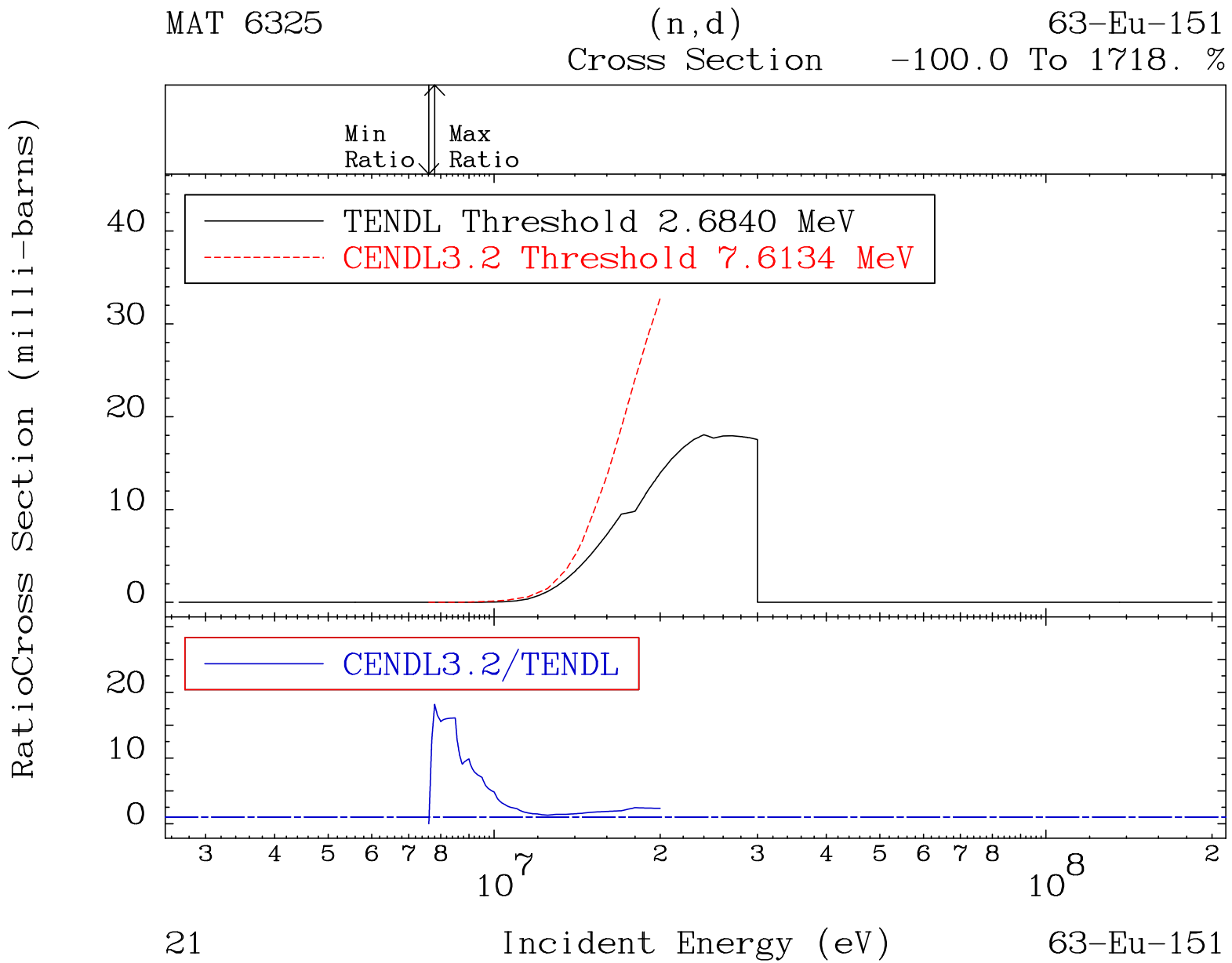

MAT 6325
MT= 59 (n,n') Level
63-Eu-151
Cross Section
-100.0 To 45.55 %
Min Ratio
Max Ratio
TENDL Threshold 315.87 keV
CENDL3.2 Threshold 355.96 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
150
100
50
0
2.0
1.0
0.0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
16
Incident Energy (eV)
63-Eu-151

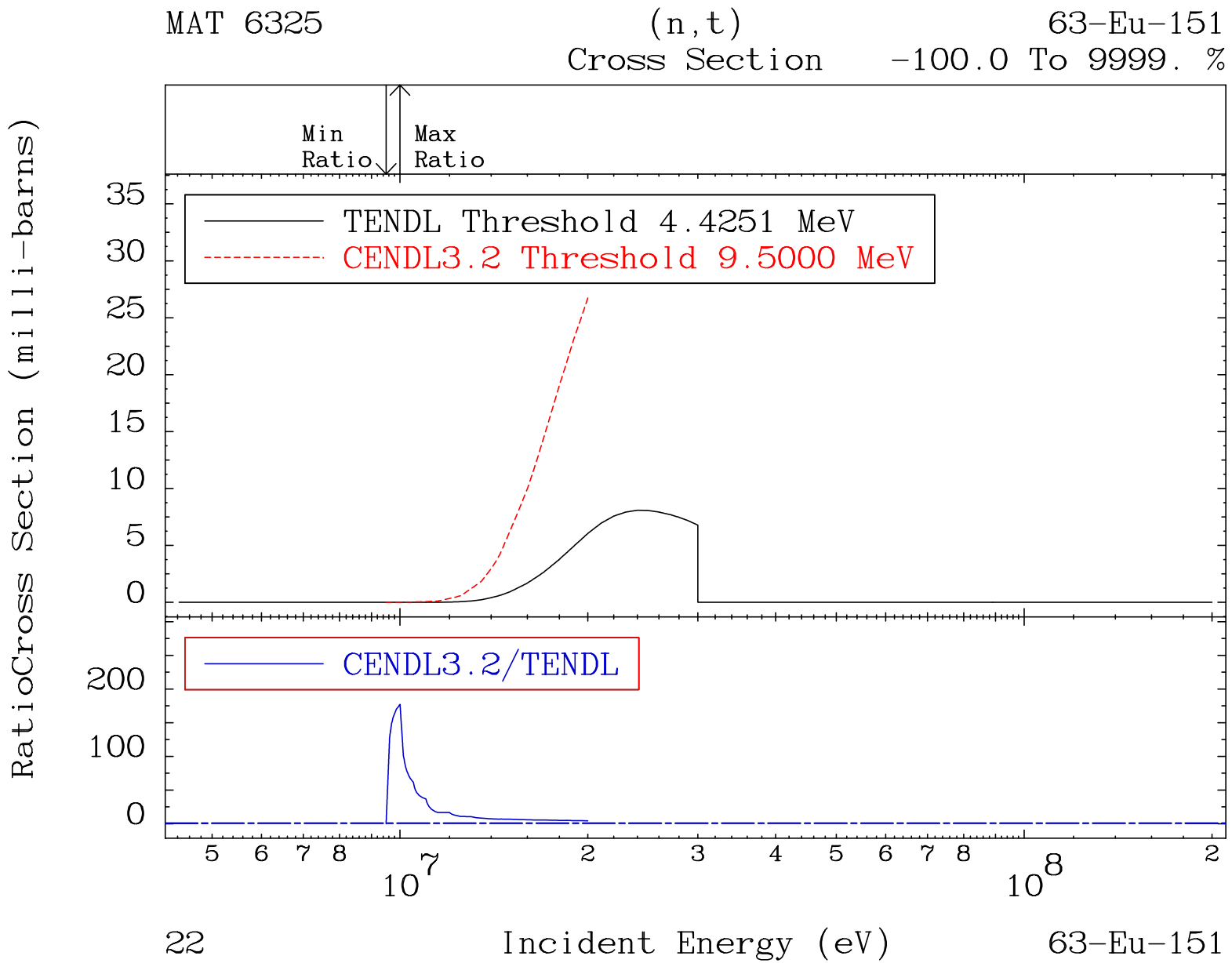

MAT 6325
MT= 60 (n,n') Level
63-Eu-151
Cross Section
-100.0 To 7.997 %
Max
Ratio
TENDL Threshold 322.16 keV
CENDL3.2 Threshold 418.78 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.2
0.6
0.0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
17
Incident Energy (eV)
63-Eu-151

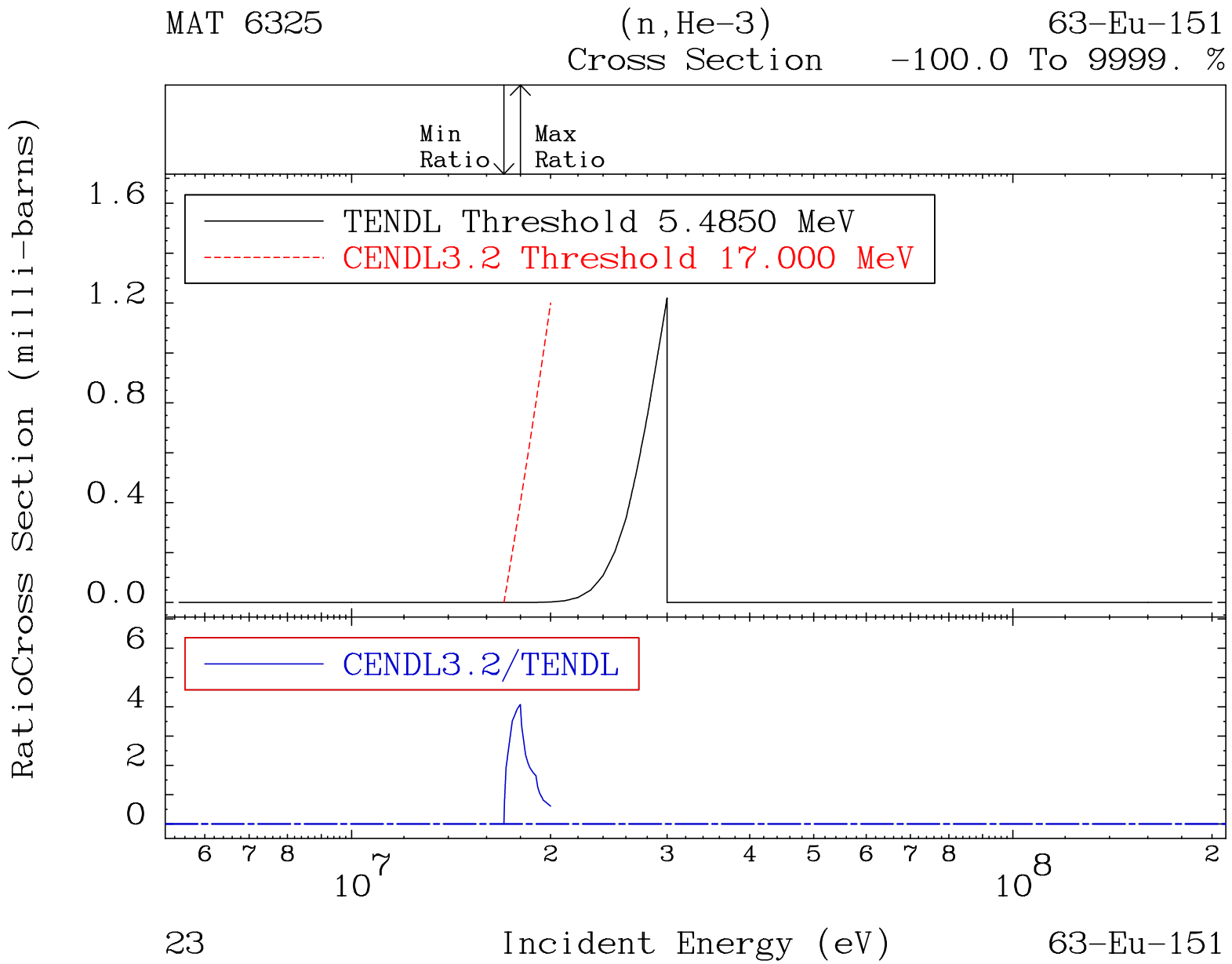

MAT 6325
(n,n') Continuum
Cross Section
63-Eu-151
-100.0 To 84.49 %
Min Ratio
Max Ratio
TENDL Threshold 418.57 keV
CENDL3.2 Threshold 418.78 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
CENDL3.2/TENDL
Ratio
2.0
1.0
0.0
4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
18
Incident Energy (eV)
63-Eu-151

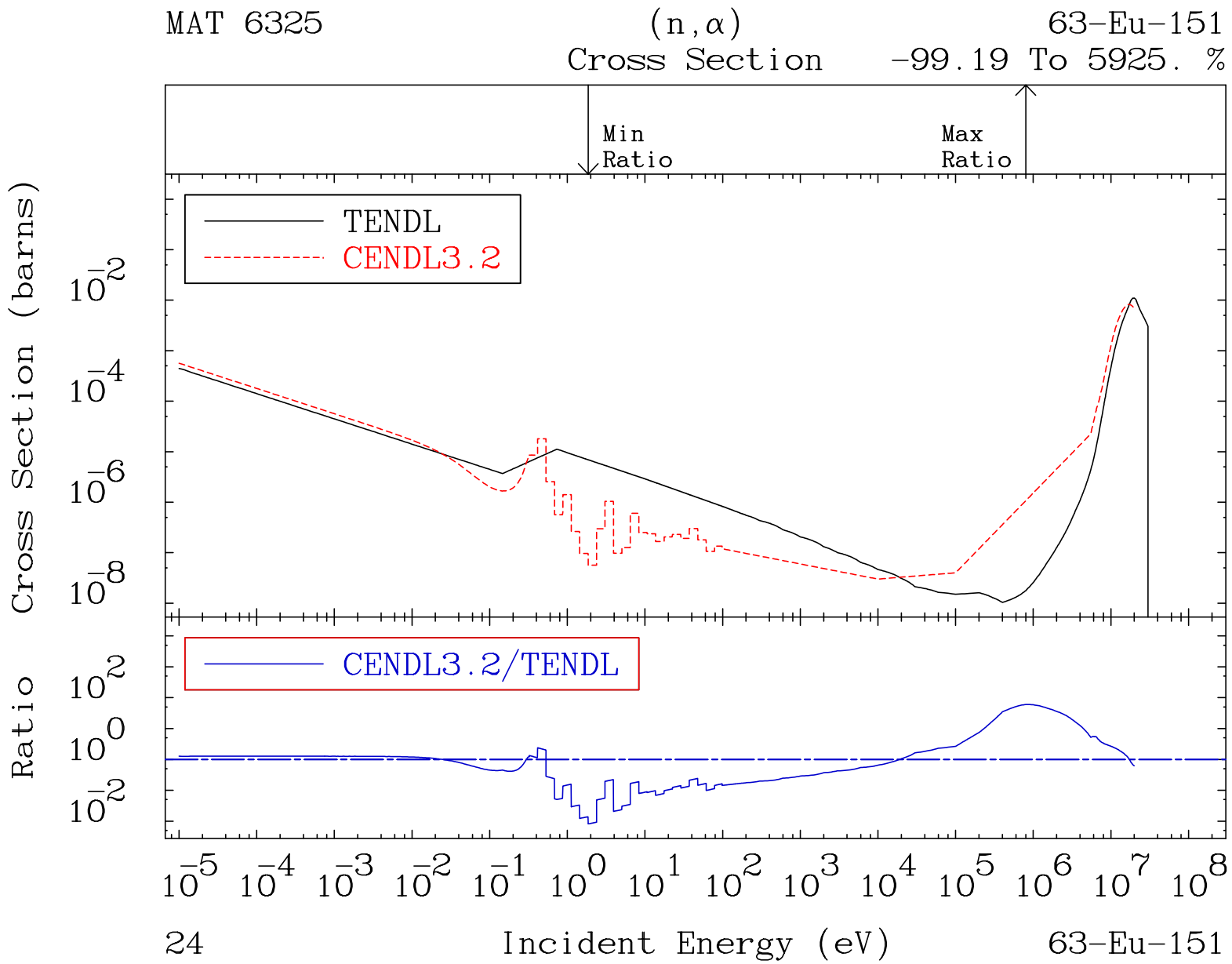

MAT 6325
(n,γ)
Cross Section
63-Eu-151
-99.33 To 5931. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
19
63-Eu-151

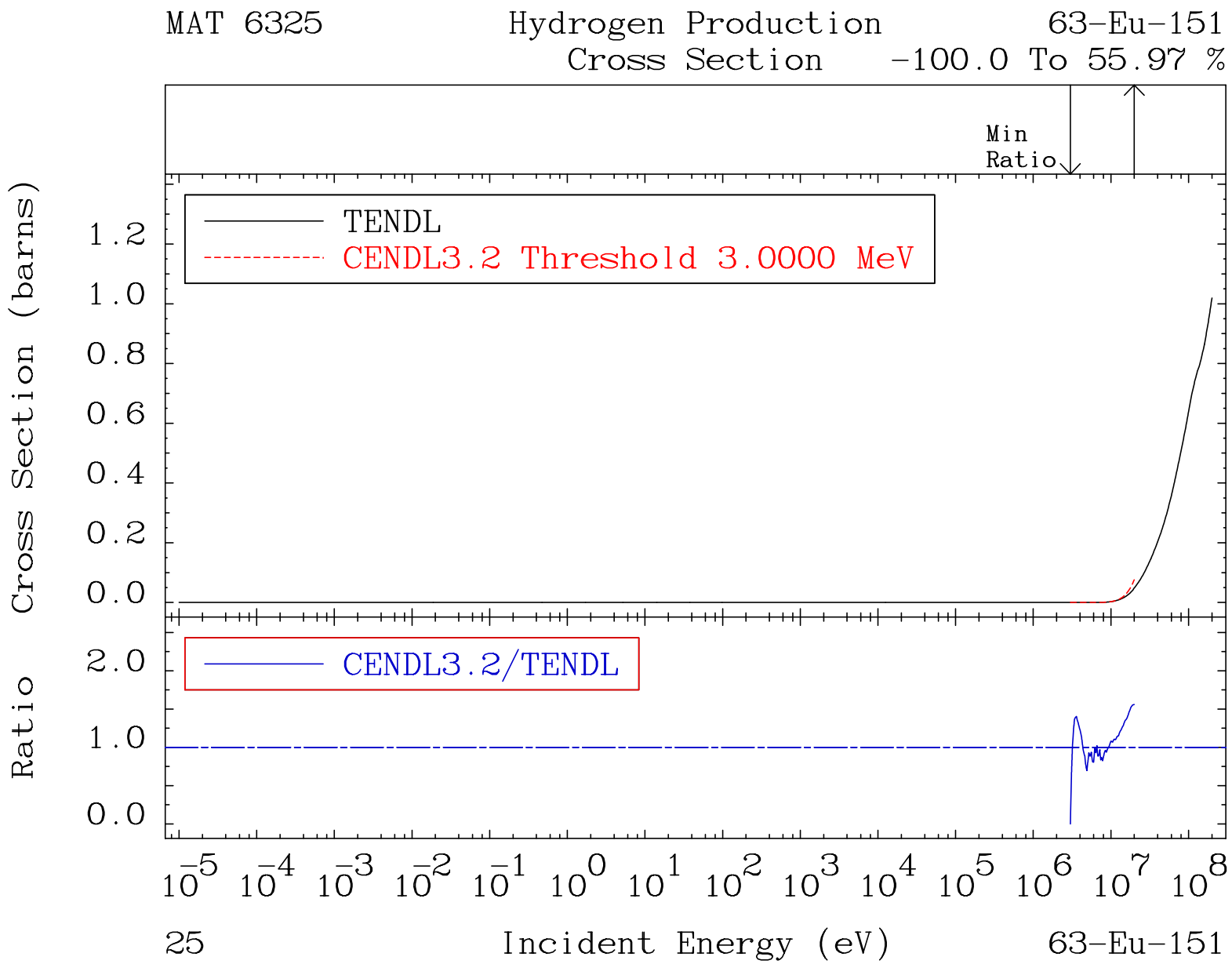

MAT 6325
(n,p)
Cross Section
63-Eu-151
-100.0 To 66.37 %
Min
Ratio
TENDL
CENDL3.2 Threshold 3.0000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
2.0
1.0
0.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
20
Incident Energy (eV)
63-Eu-151

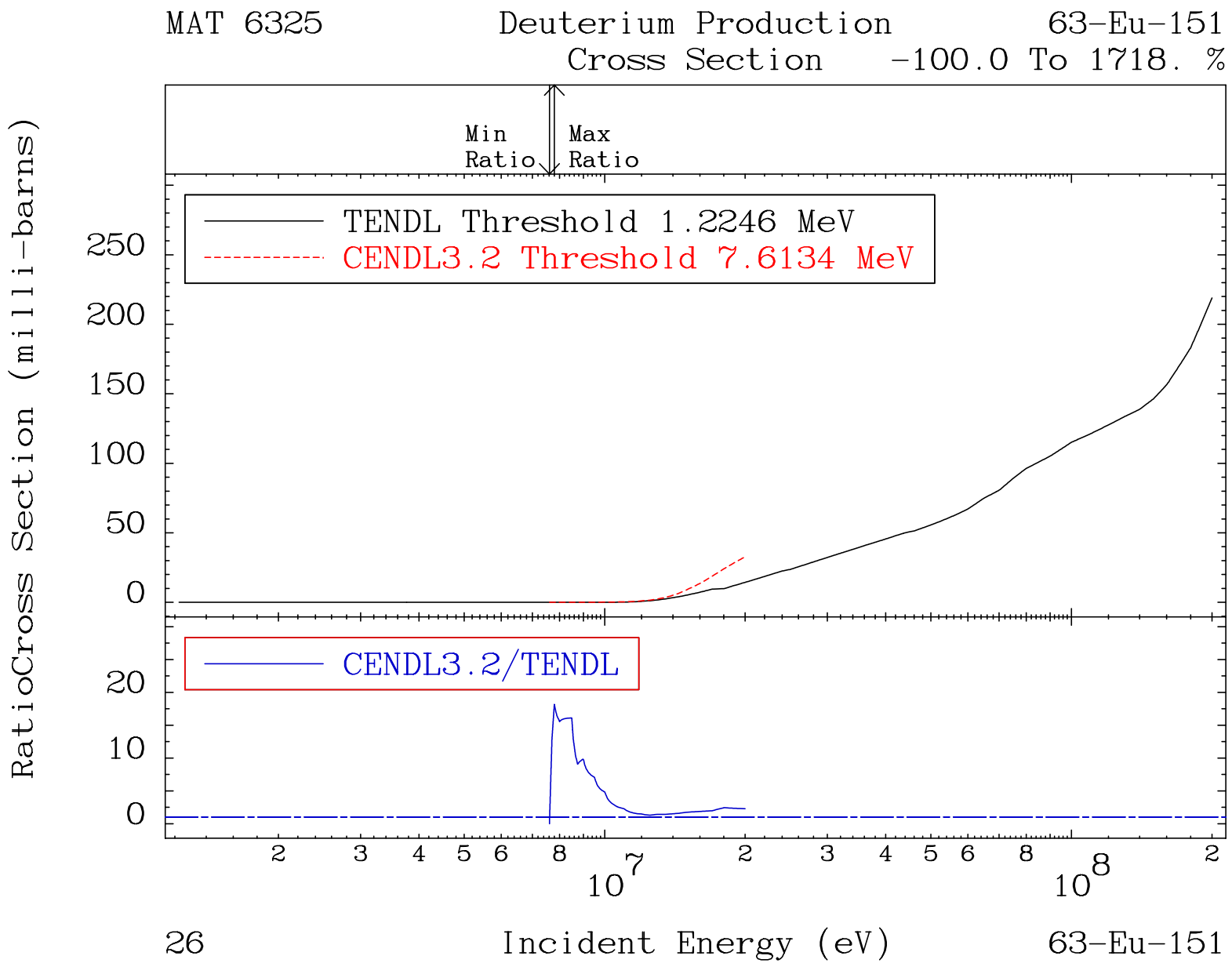

MAT 6325
(n,d)
63-Eu-151
Cross Section
-100.0 To 1718. %
Min Ratio
Max Ratio
TENDL Threshold 2.6840 MeV
CENDL3.2 Threshold 7.6134 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
20
10
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
21
Incident Energy (eV)
63-Eu-151

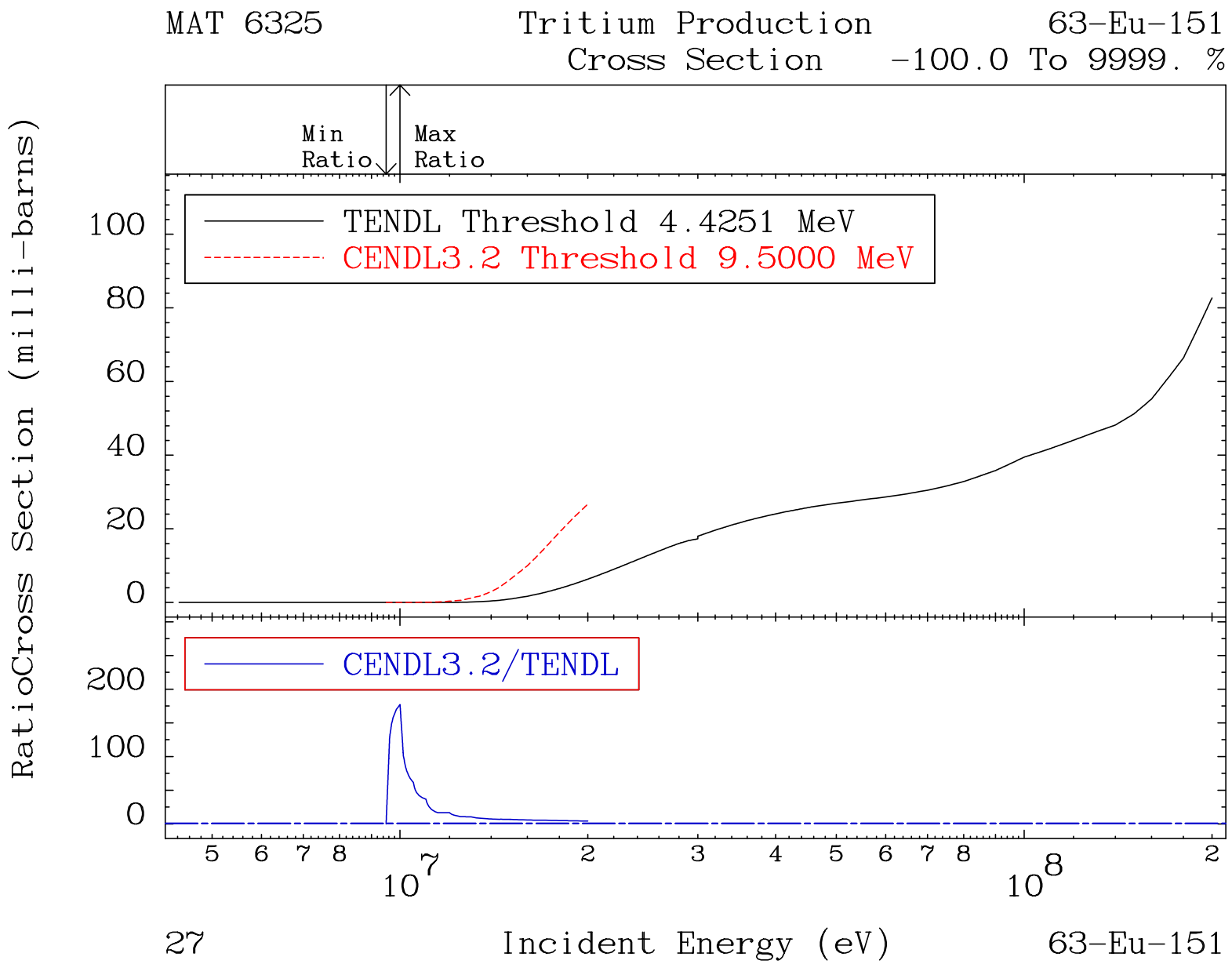

MAT 6325
(n,t)
Cross Section
63-Eu-151
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 4.4251 MeV
CENDL3.2 Threshold 9.5000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
35
30
25
20
15
10
5
0
200
100
0
5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
63-Eu-151

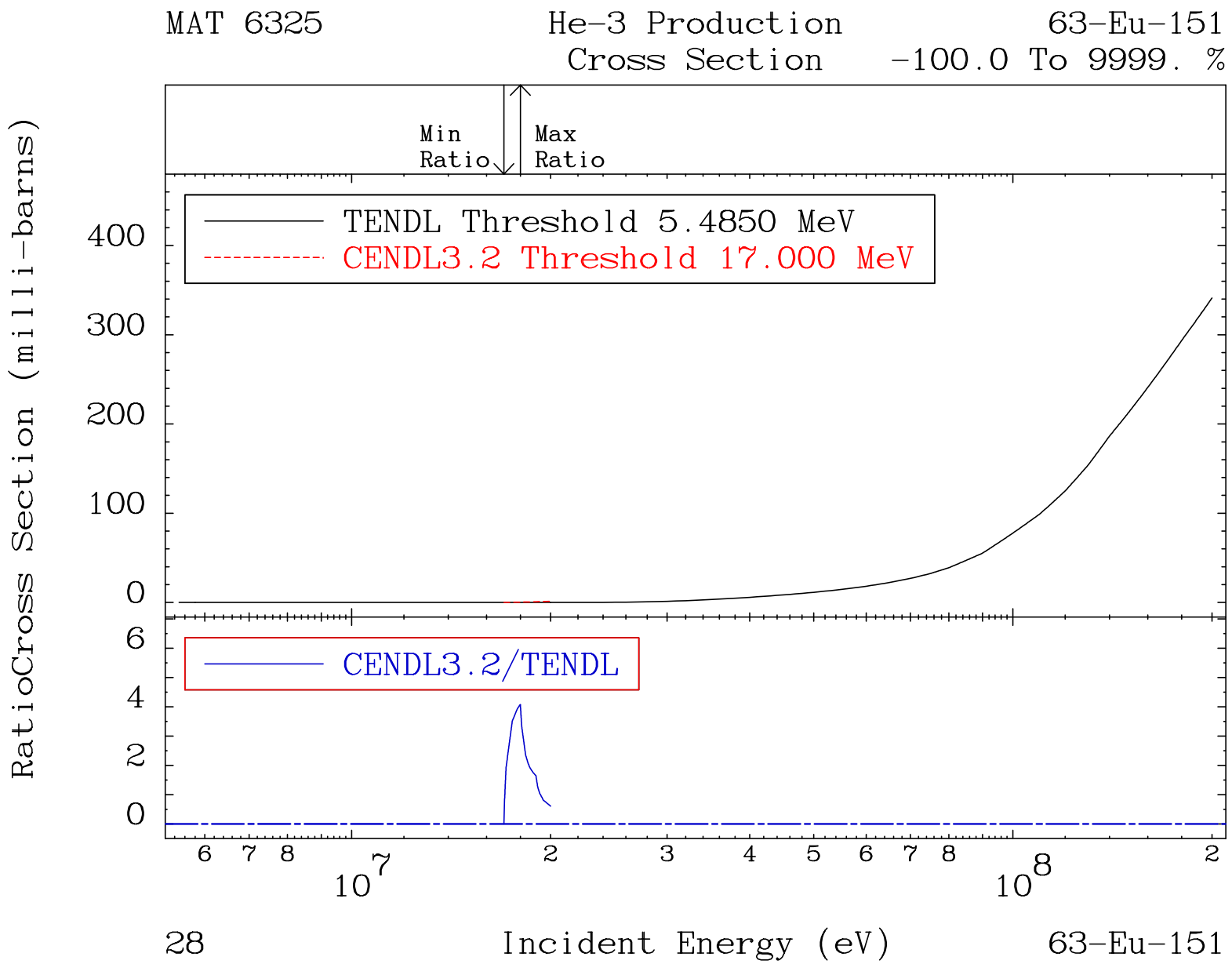

MAT 6325
(n,He-3)
63-Eu-151
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 5.4850 MeV
CENDL3.2 Threshold 17.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
6
4
2
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
63-Eu-151

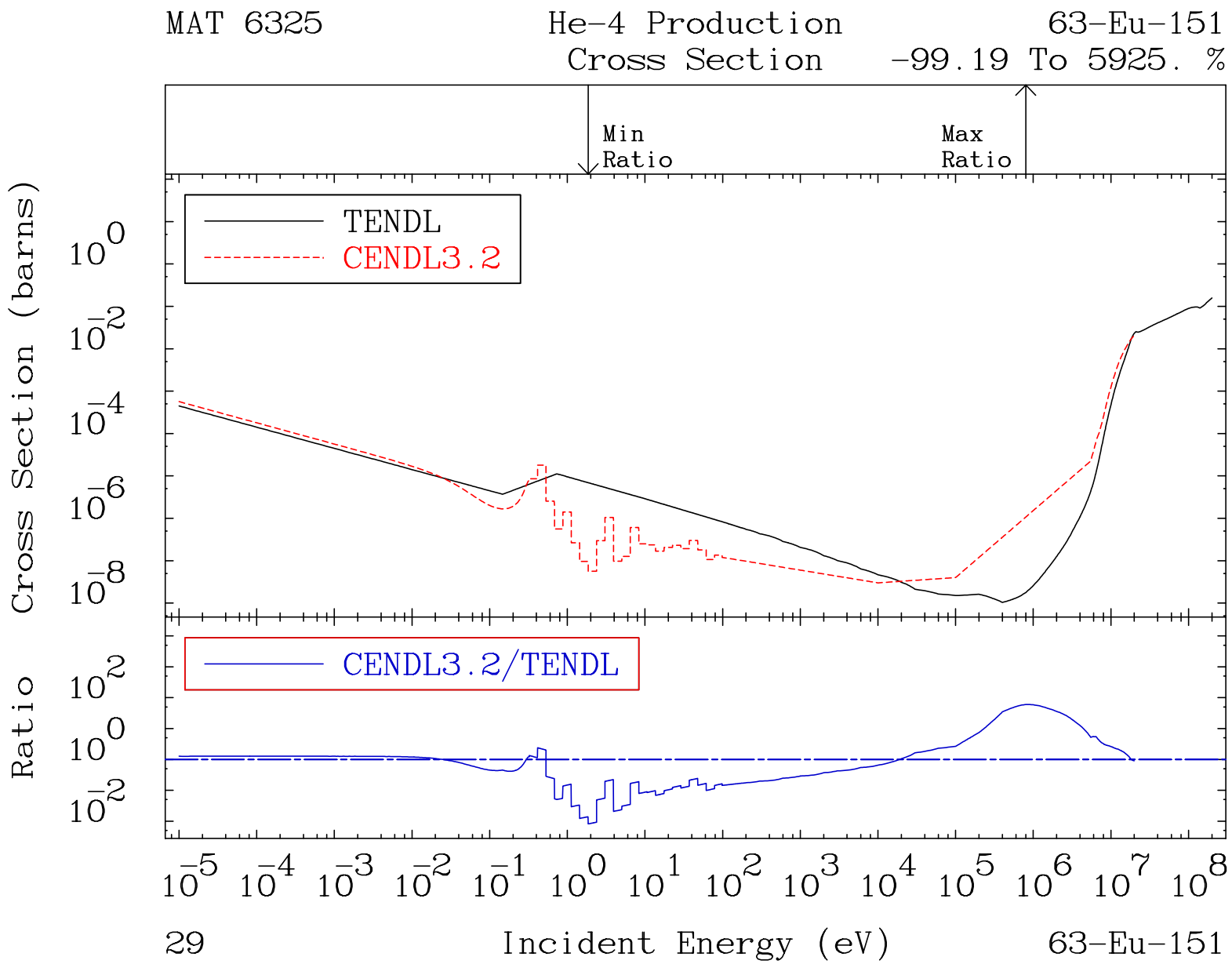

MAT 6325
(n,α)
63-Eu-151
Cross Section
-99.19 To 5925. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
Cross Section (barns)
10^2
10^-4
10^-6
10^-8
CENDL3.2/TENDL
Ratio
10^2
10^0
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
24
Incident Energy (eV)
63-Eu-151

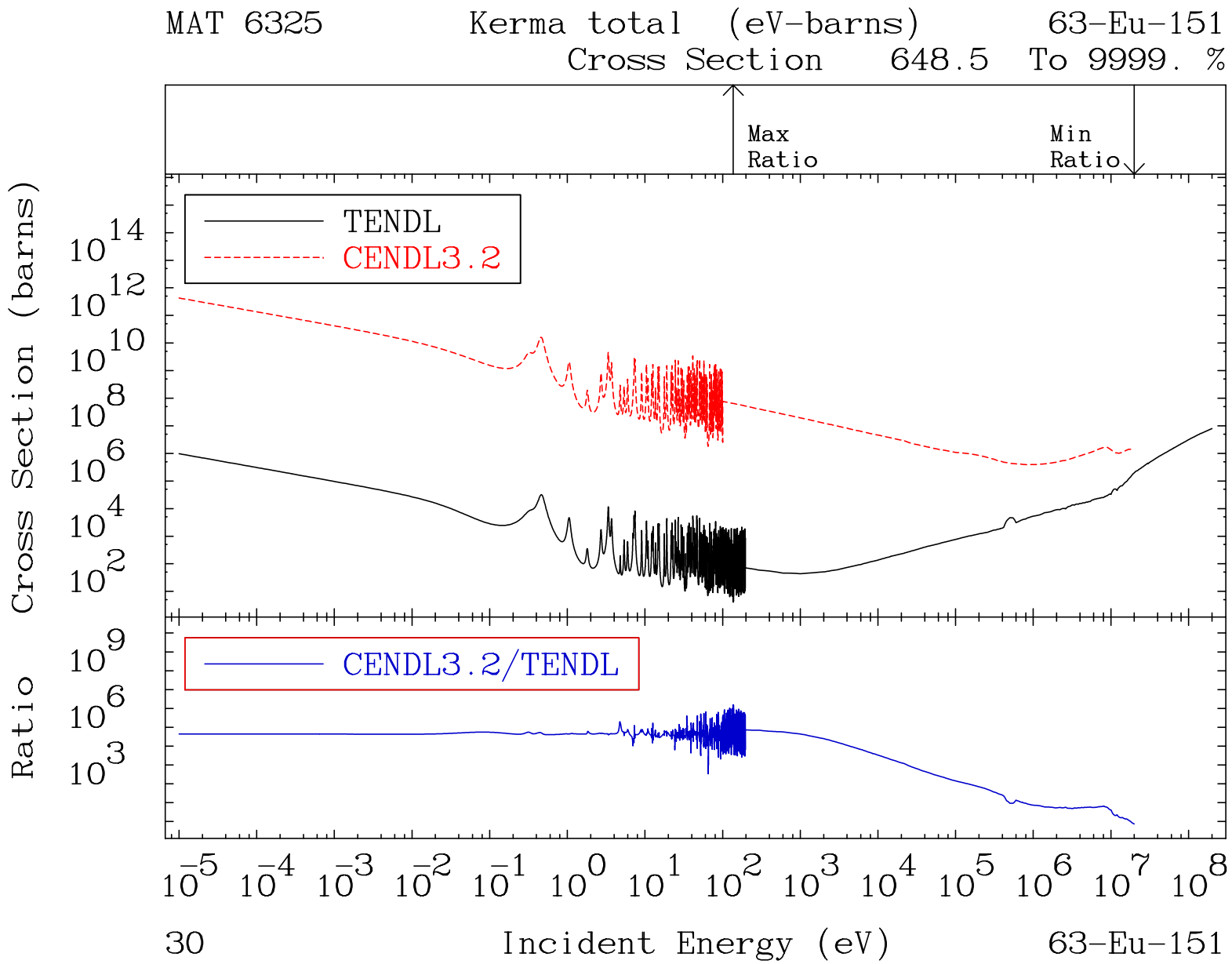

MAT 6325
Hydrogen Production
63-Eu-151
Cross Section
-100.0 To 55.97 %
Min
Ratio
TENDL
CENDL3.2 Threshold 3.0000 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2.0
1.0
0.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
25
Incident Energy (eV)
63-Eu-151

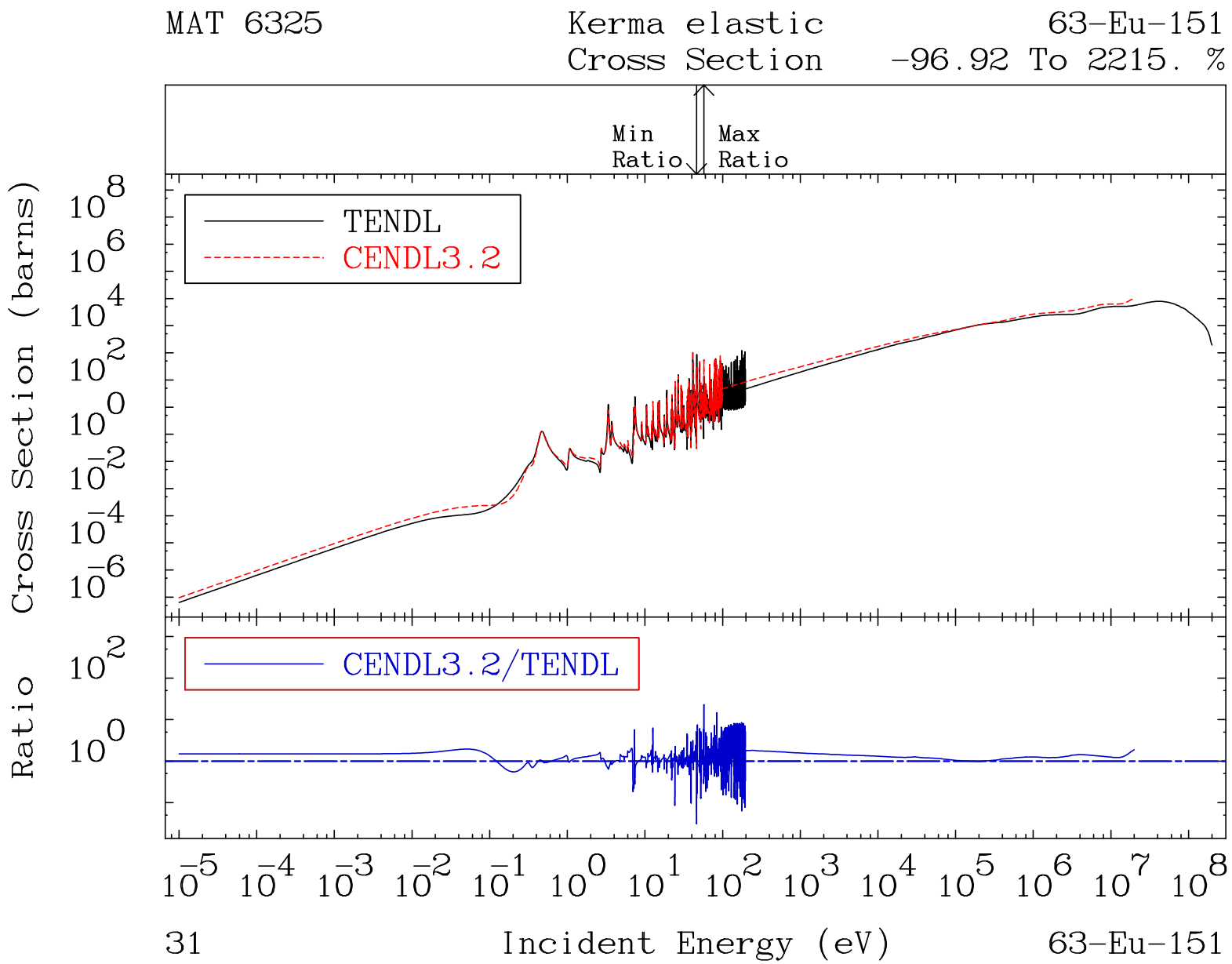

MAT 6325
Deuterium Production
63-Eu-151
Cross Section -100.0 To 1718. %
Min Ratio
Max Ratio
TENDL Threshold 1.2246 MeV
CENDL3.2 Threshold 7.6134 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
20
10
0
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
26
Incident Energy (eV)
63-Eu-151

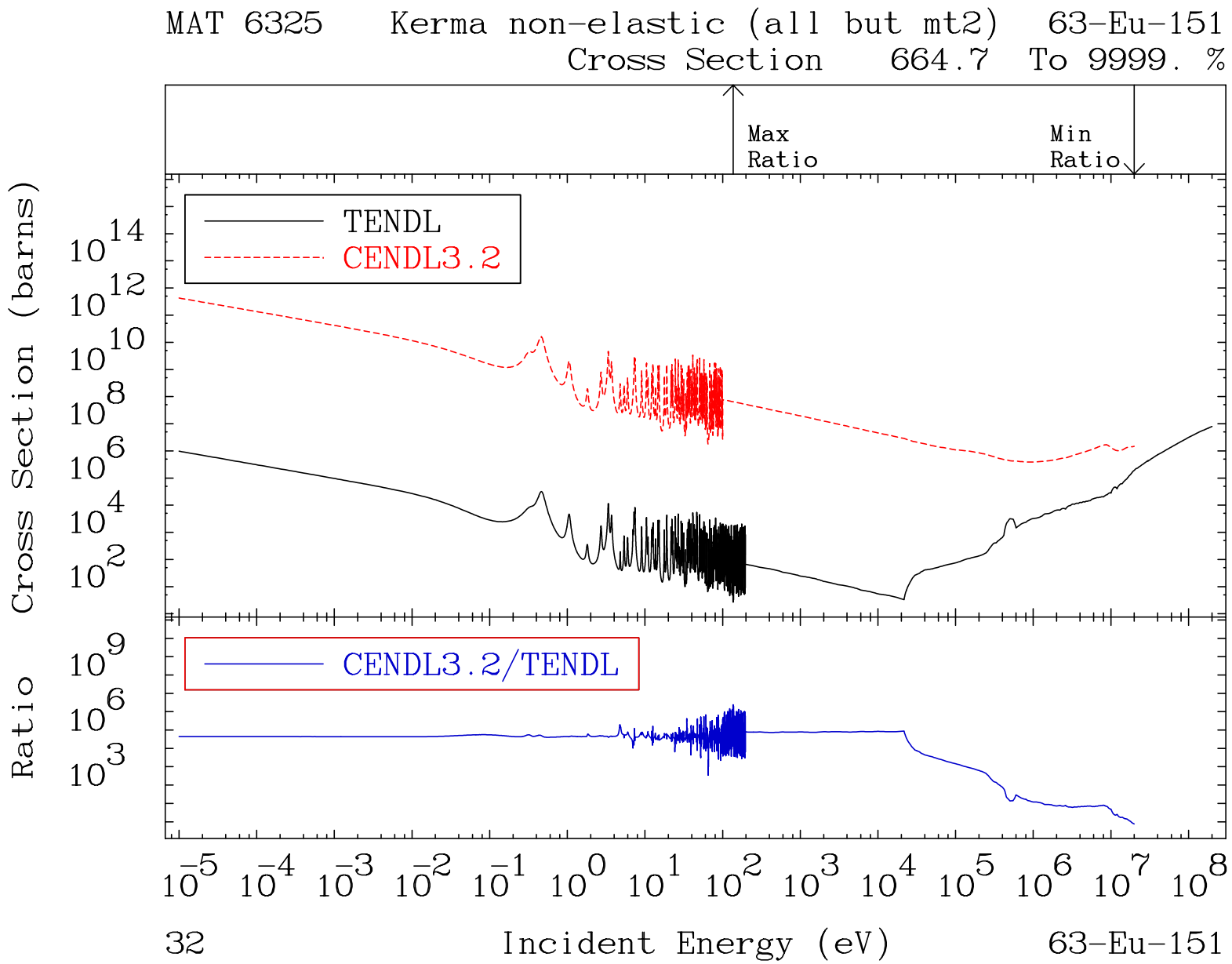

MAT 6325
Tritium Production
63-Eu-151
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 4.4251 MeV
CENDL3.2 Threshold 9.5000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
200
100
0
5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
27
Incident Energy (eV)
63-Eu-151

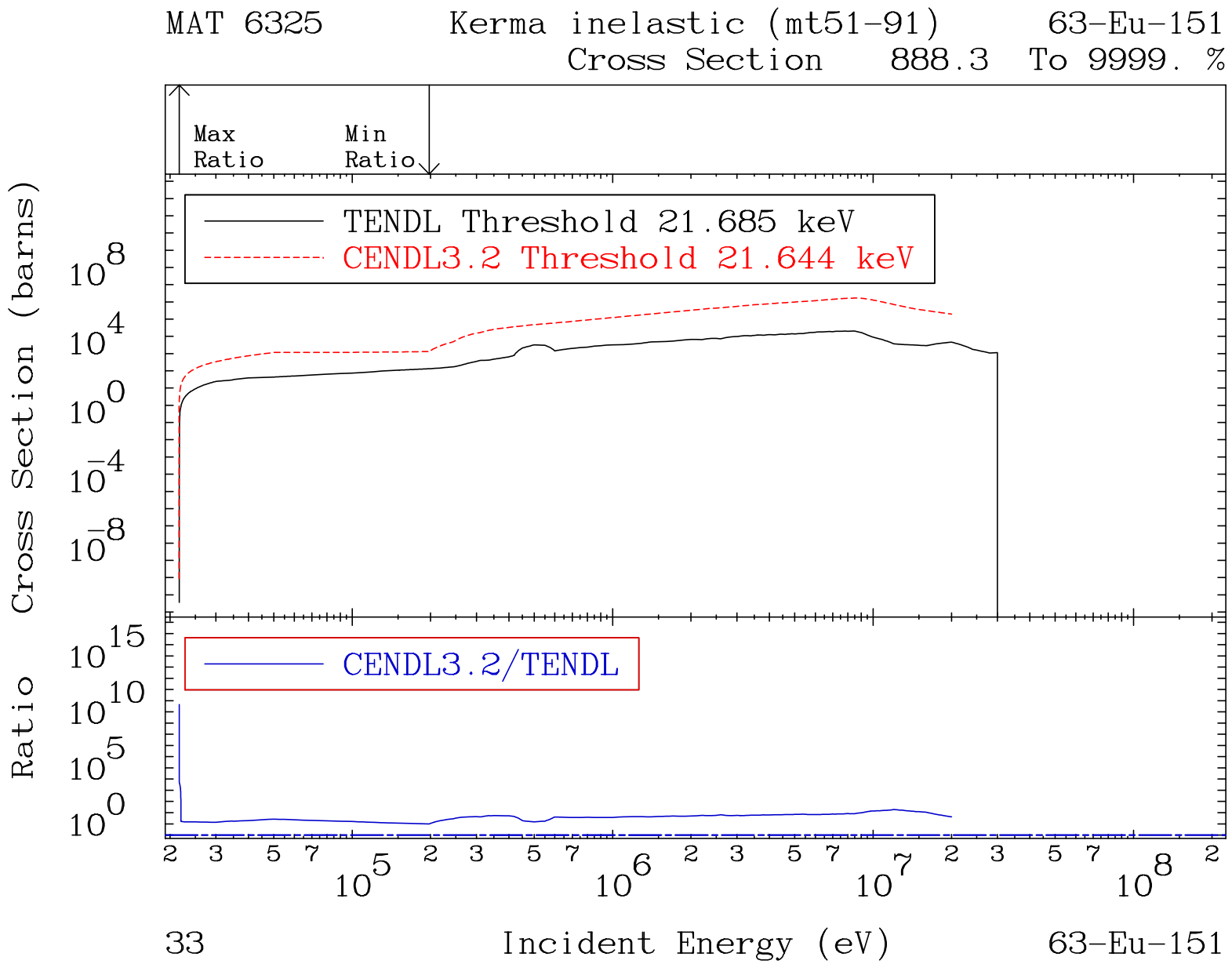

MAT 6325
He-3 Production
Cross Section
63-Eu-151
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 5.4850 MeV
CENDL3.2 Threshold 17.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
6
4
2
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
63-Eu-151

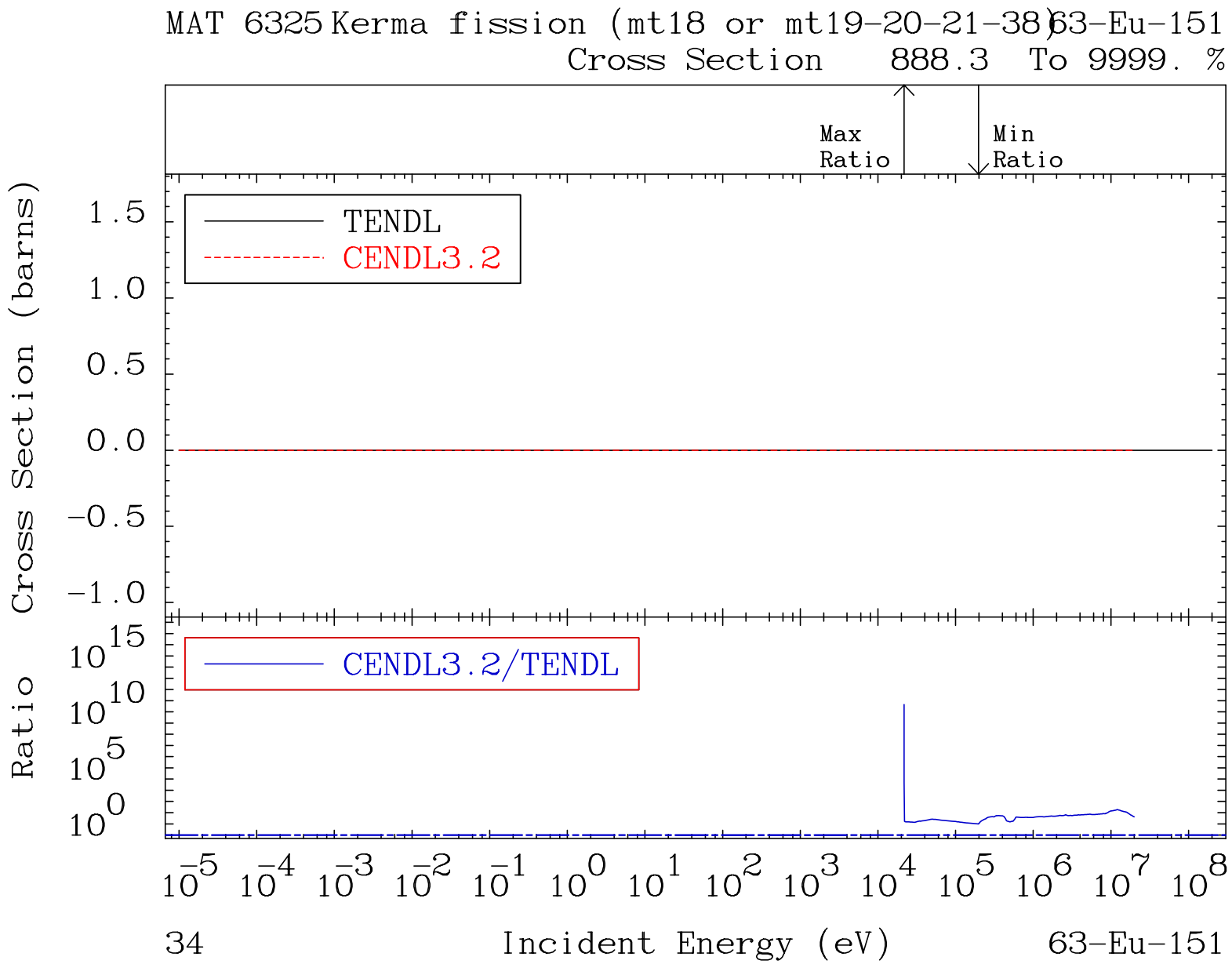

MAT 6325
He-4 Production
Cross Section
63-Eu-151
-99.19 To 5925. %
Min
Ratio
Max
Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
29
63-Eu-151

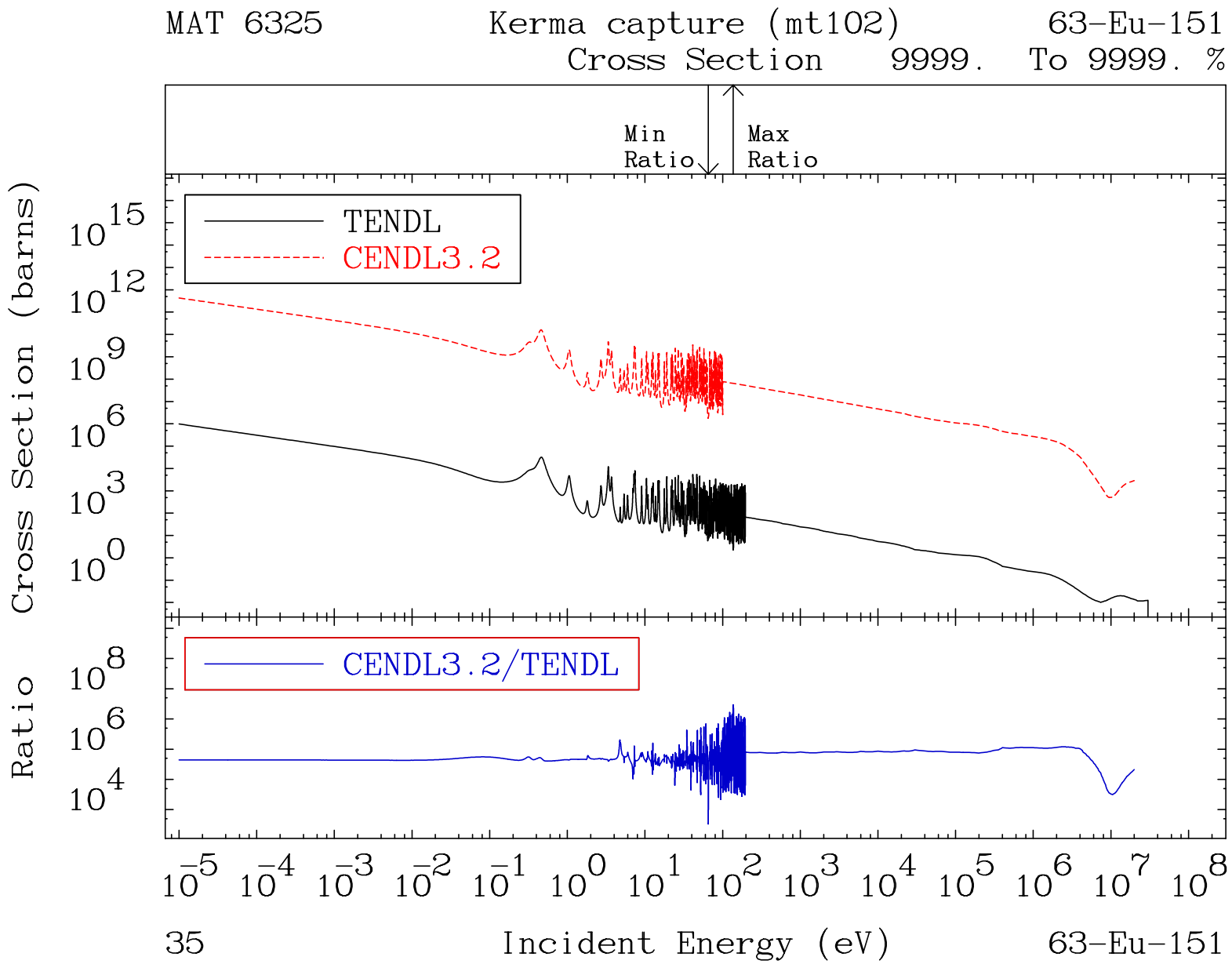

MAT 6325
Kerma total (eV-barns)
63-Eu-151
Cross Section 648.5 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
30
63-Eu-151

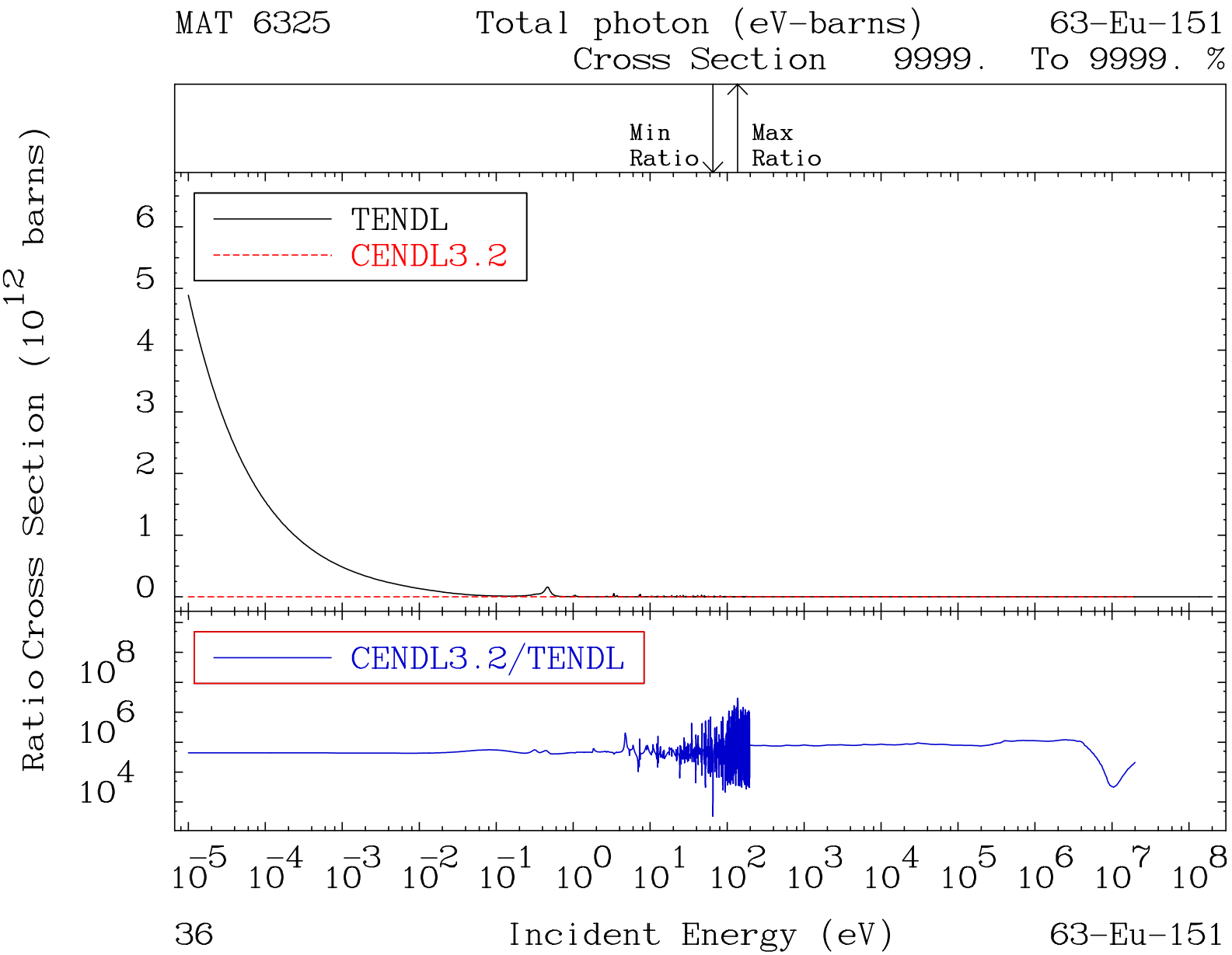

MAT 6325
Kerma elastic
Cross Section
63-Eu-151
-96.92 To 2215. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
31
63-Eu-151

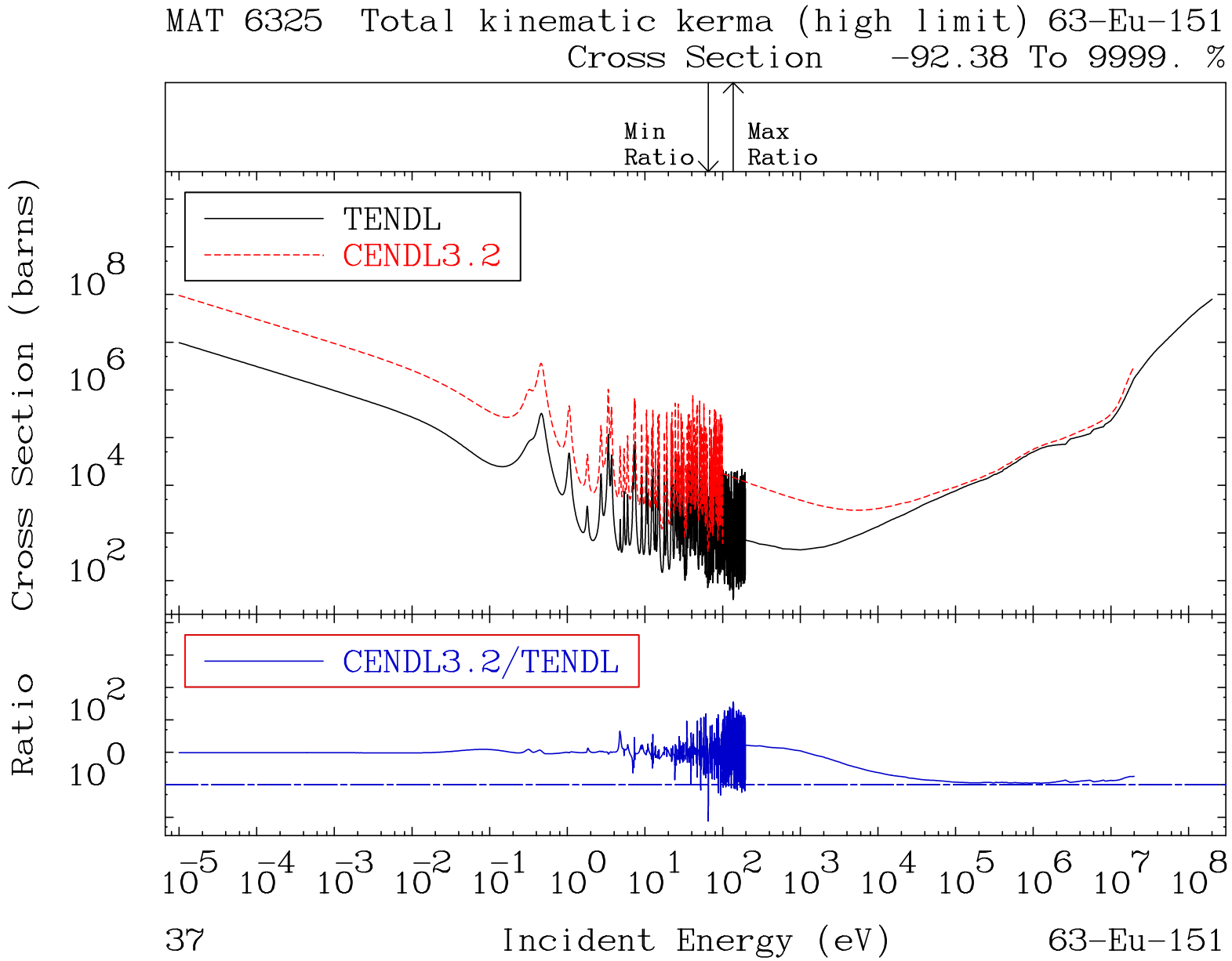

MAT 6325 Kerma non-elastic (all but mt2) 63-Eu-151
Cross Section 664.7 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
32
63-Eu-151

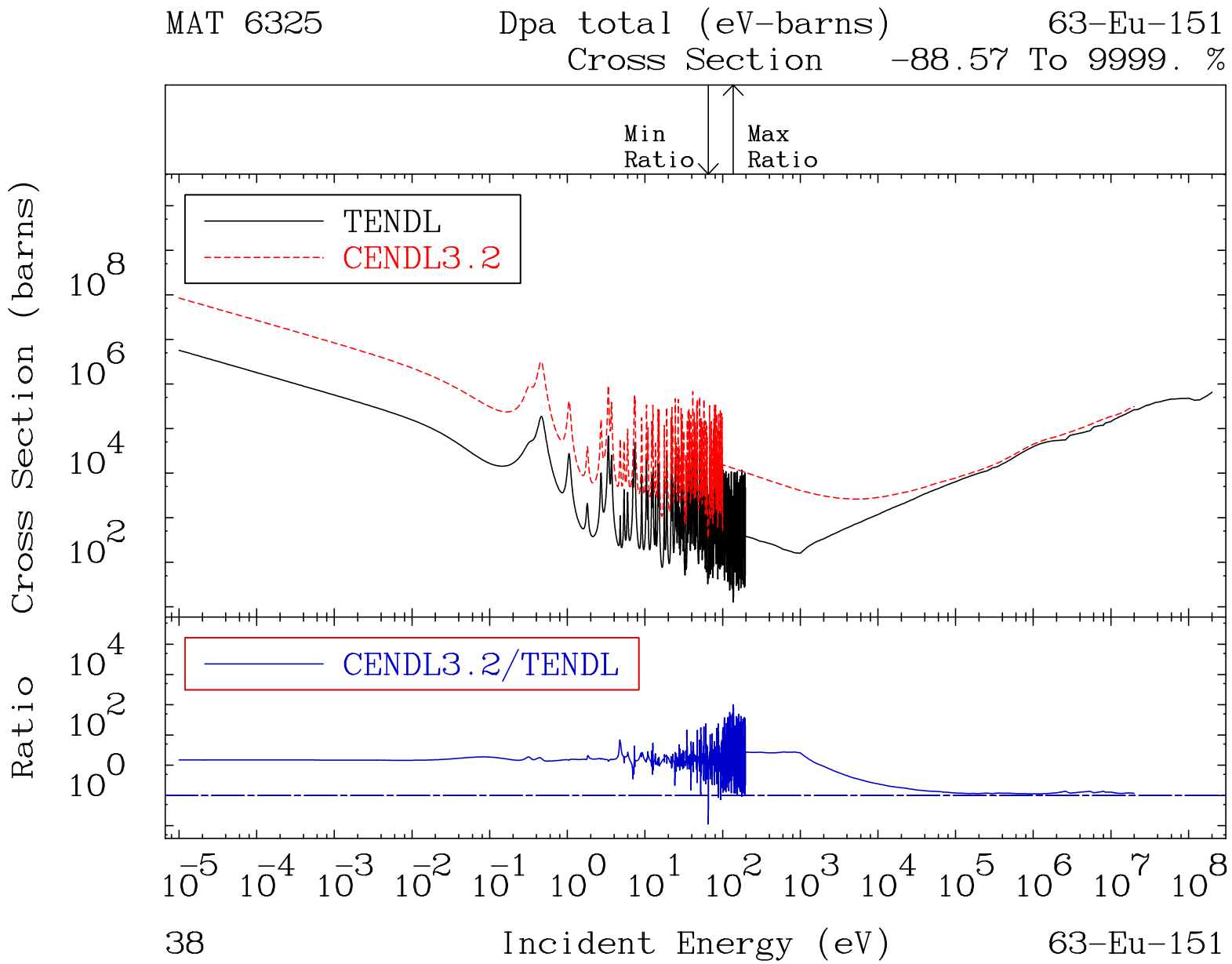

MAT 6325
Kerma inelastic (mt51-91)
63-Eu-151
Cross Section 888.3 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 21.685 keV
CENDL3.2 Threshold 21.644 keV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
33
63-Eu-151

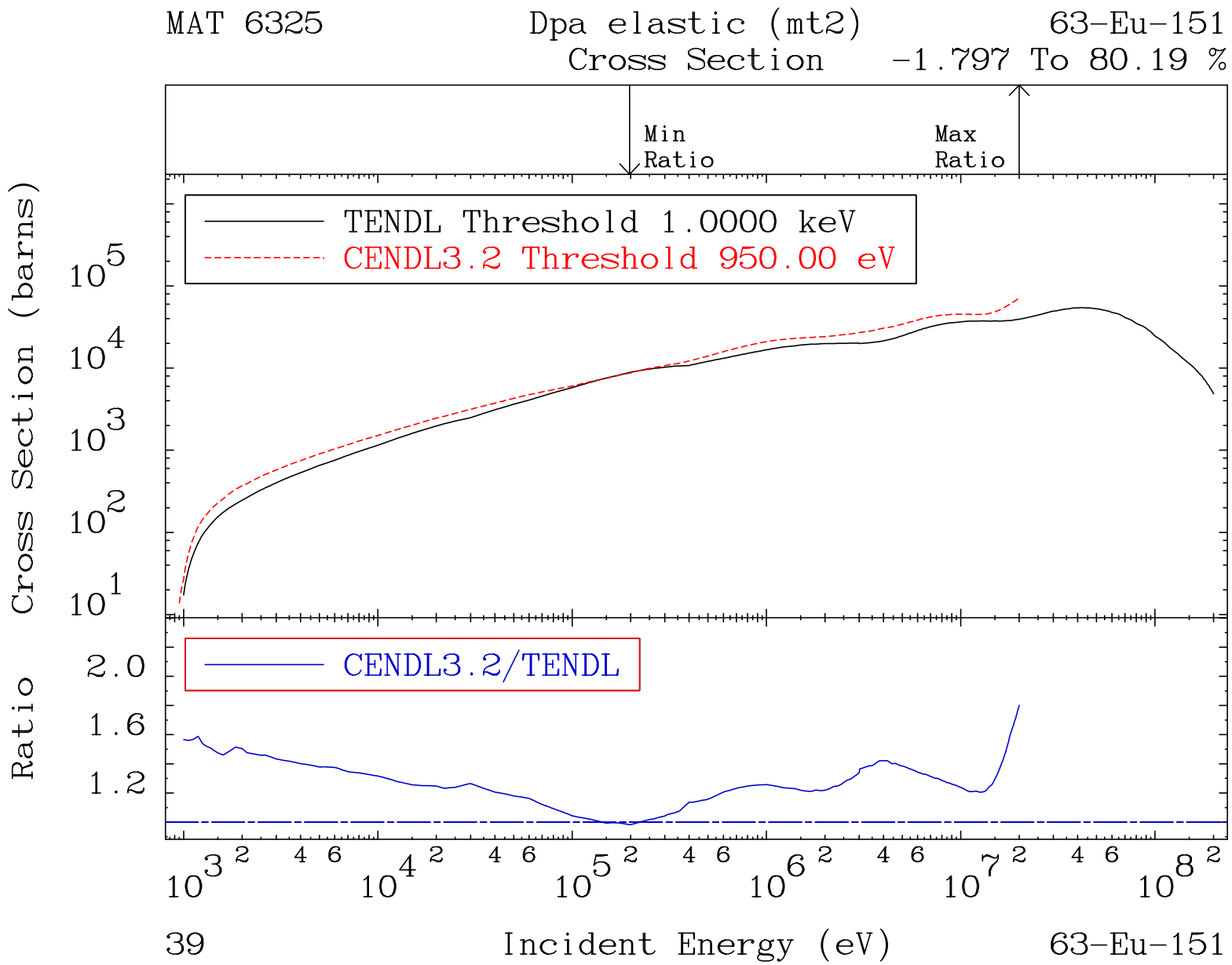

MAT 6325 Kerma fission (mt18 or mt19-20-21-38) 63-Eu-151
Cross Section 888.3 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{15}
10^{10}
10^{5}
10^{0}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
34
Incident Energy (eV)
63-Eu-151

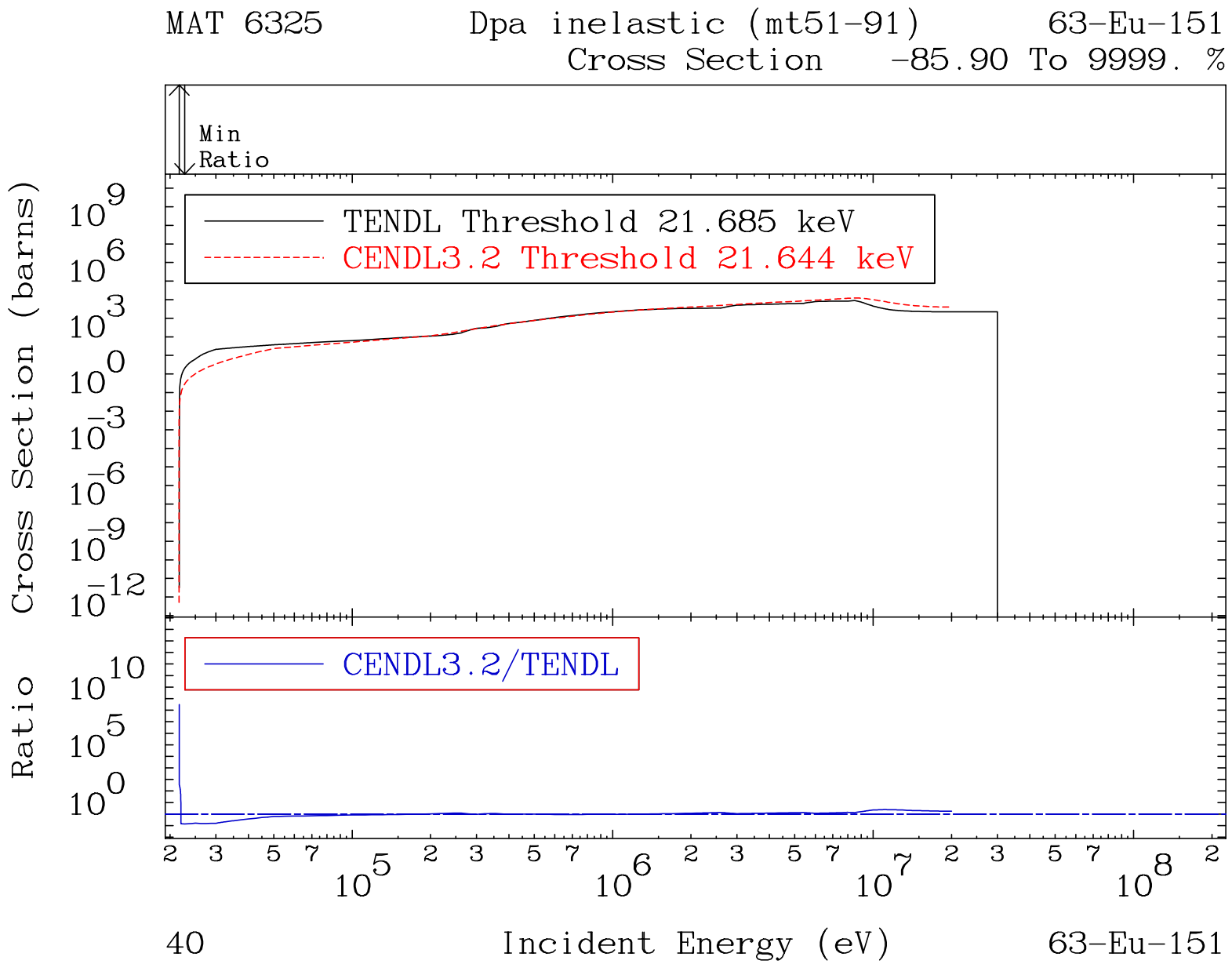

MAT 6325
Kerma capture (mt102)
63-Eu-151
Cross Section 9999. To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
35
63-Eu-151

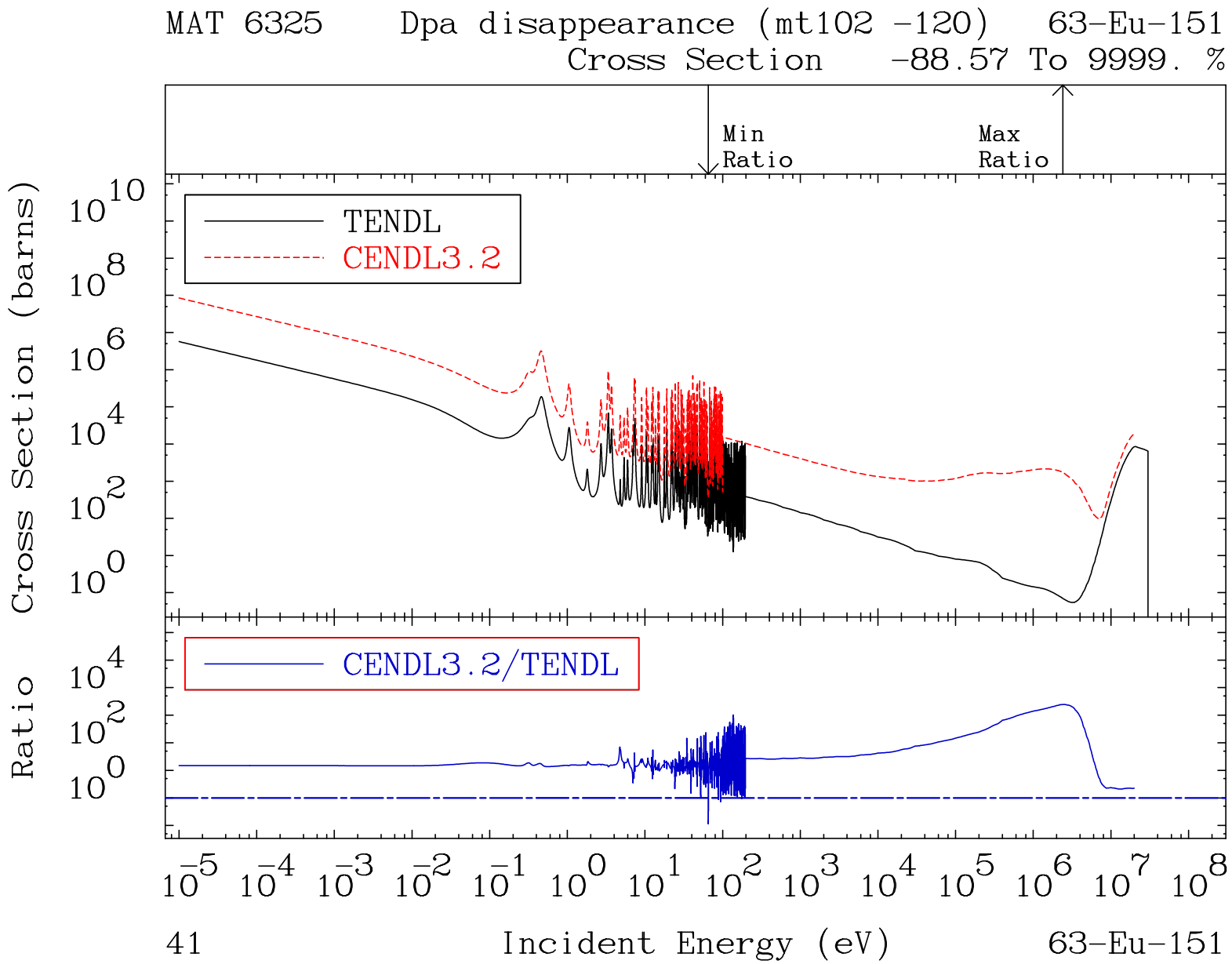

MAT 6325
Total photon (eV-barns)
63-Eu-151
Cross Section 9999. To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Ratio Cross Section (10^{12} barns)
0
1
2
3
4
5
6
10^{8}
10^{6}
10^{4}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
36
Incident Energy (eV)
63-Eu-151

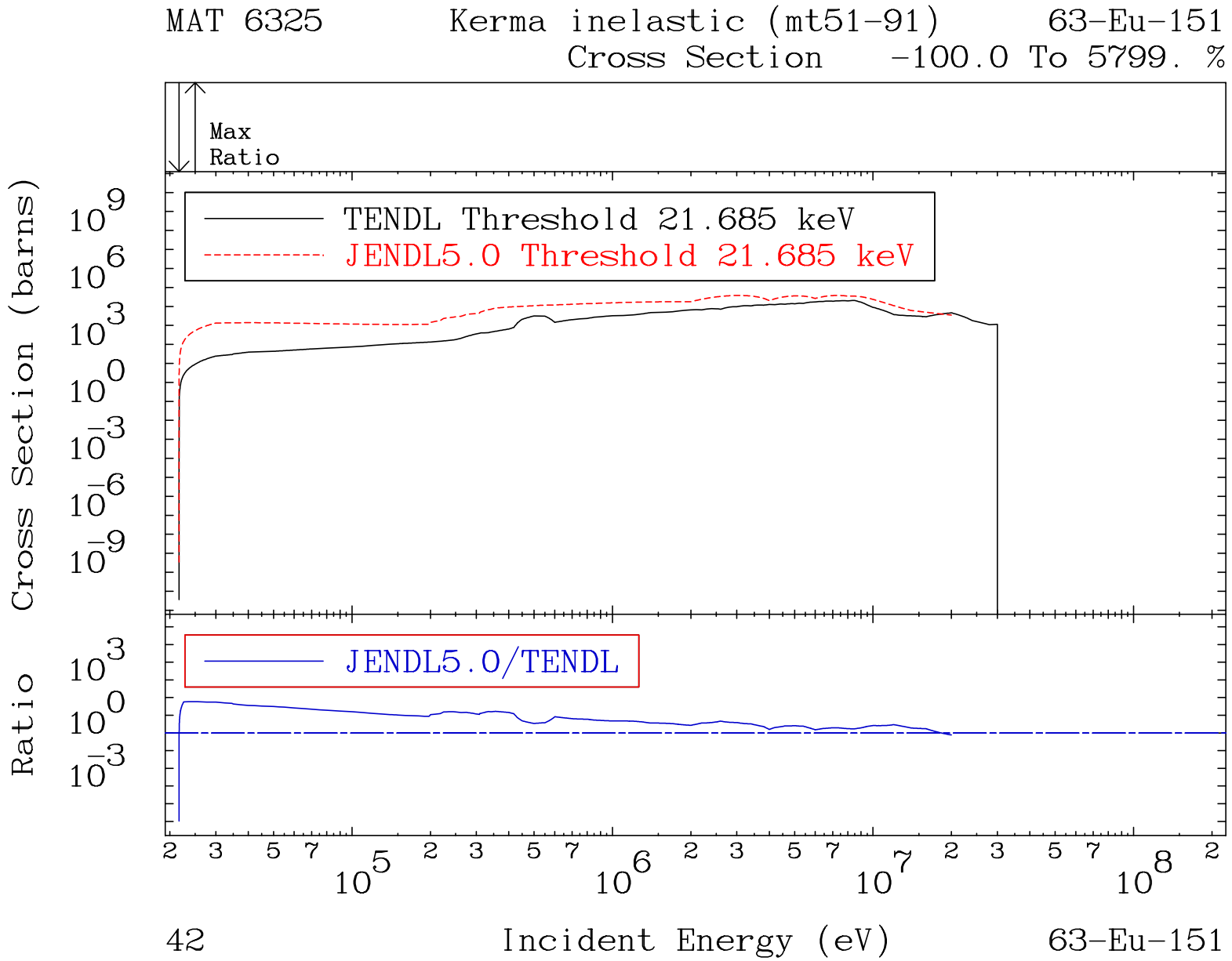

MAT 6325 Total kinematic kerma (high limit) 63-Eu-151
Cross Section -92.38 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
37
63-Eu-151

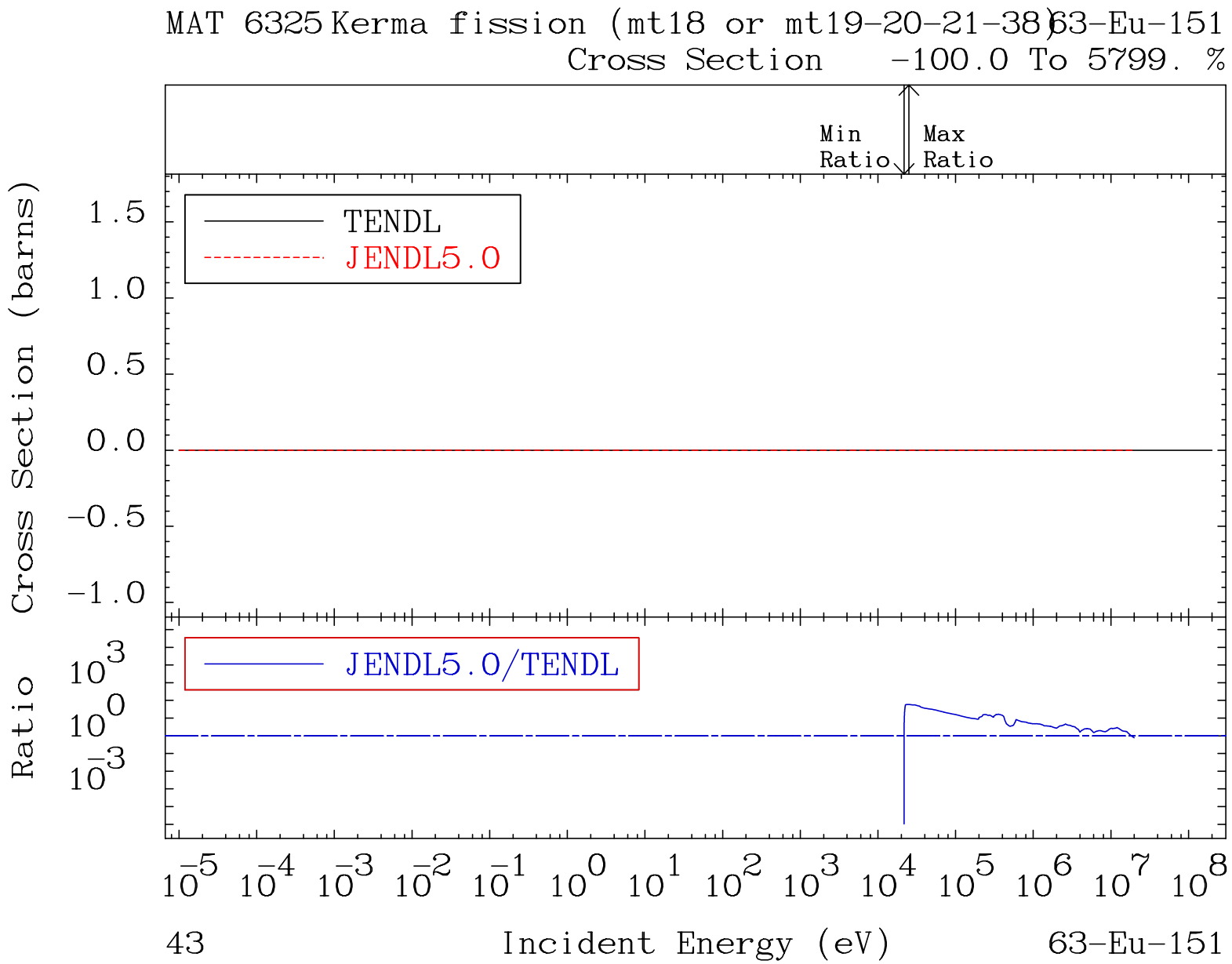

MAT 6325
Dpa total (eV-barns)
63-Eu-151
Cross Section -88.57 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
38
63-Eu-151

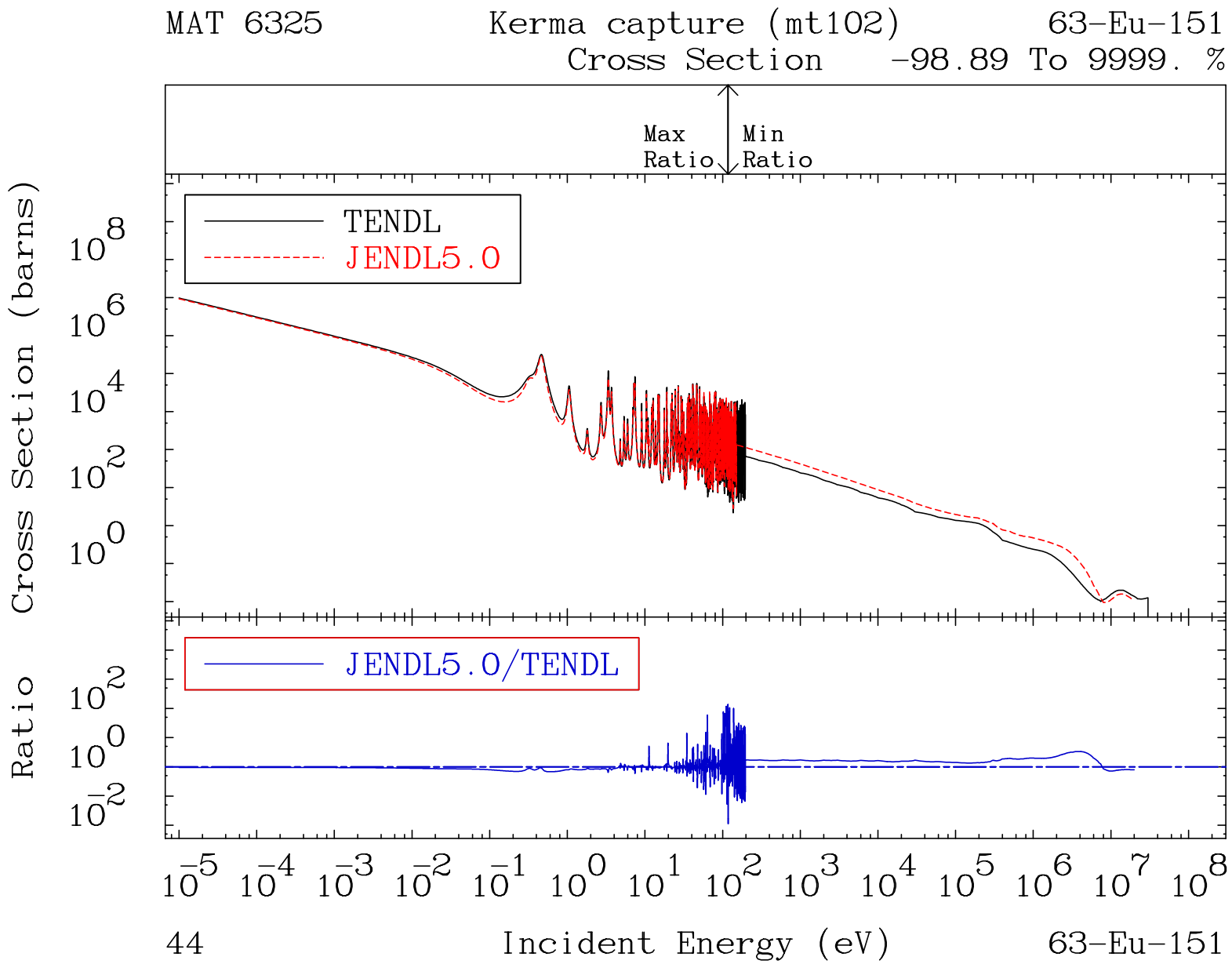

MAT 6325
Dpa elastic (mt2)
Cross Section
63-Eu-151
-1.797 To 80.19 %
Min Ratio
Max Ratio
TENDL Threshold 1.0000 keV
CENDL3.2 Threshold 950.00 eV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
39
63-Eu-151

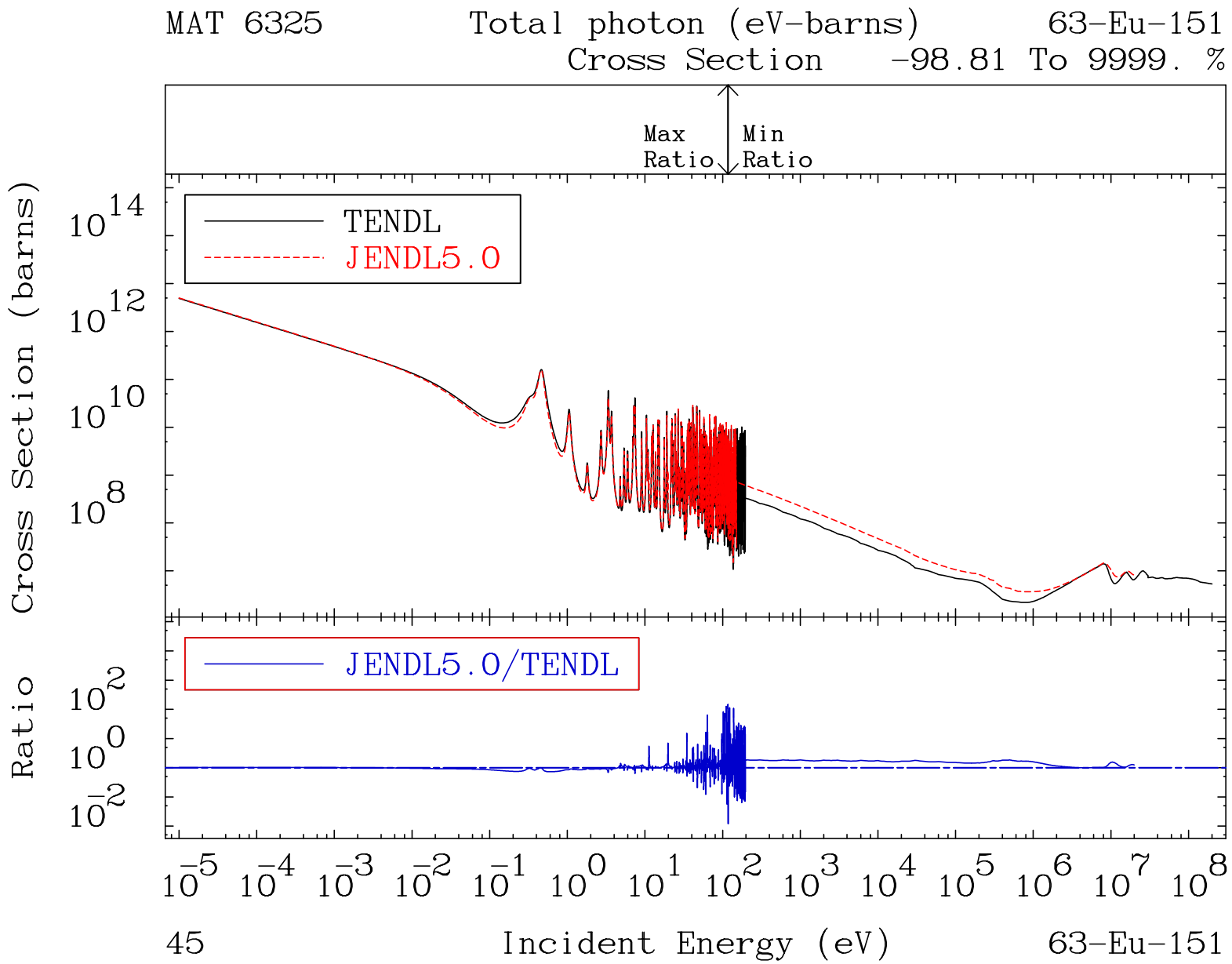

MAT 6325
Dpa inelastic (mt51-91)
63-Eu-151
Cross Section -85.90 To 9999. %
Min
Ratio
TENDL Threshold 21.685 keV
CENDL3.2 Threshold 21.644 keV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
40
63-Eu-151

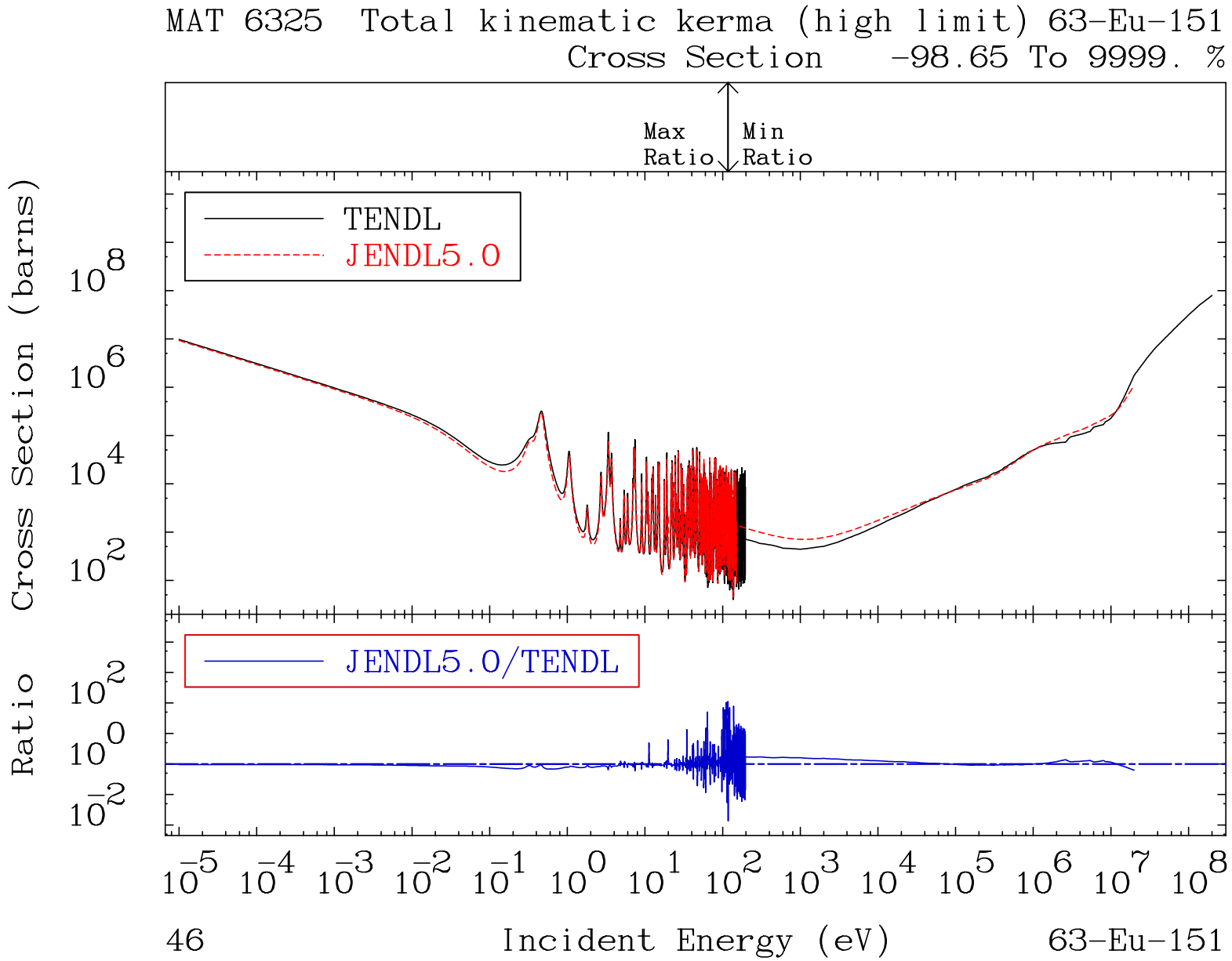

MAT 6325 Dpa disappearance (mt102 -120) 63-Eu-151
Cross Section -88.57 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
41
63-Eu-151

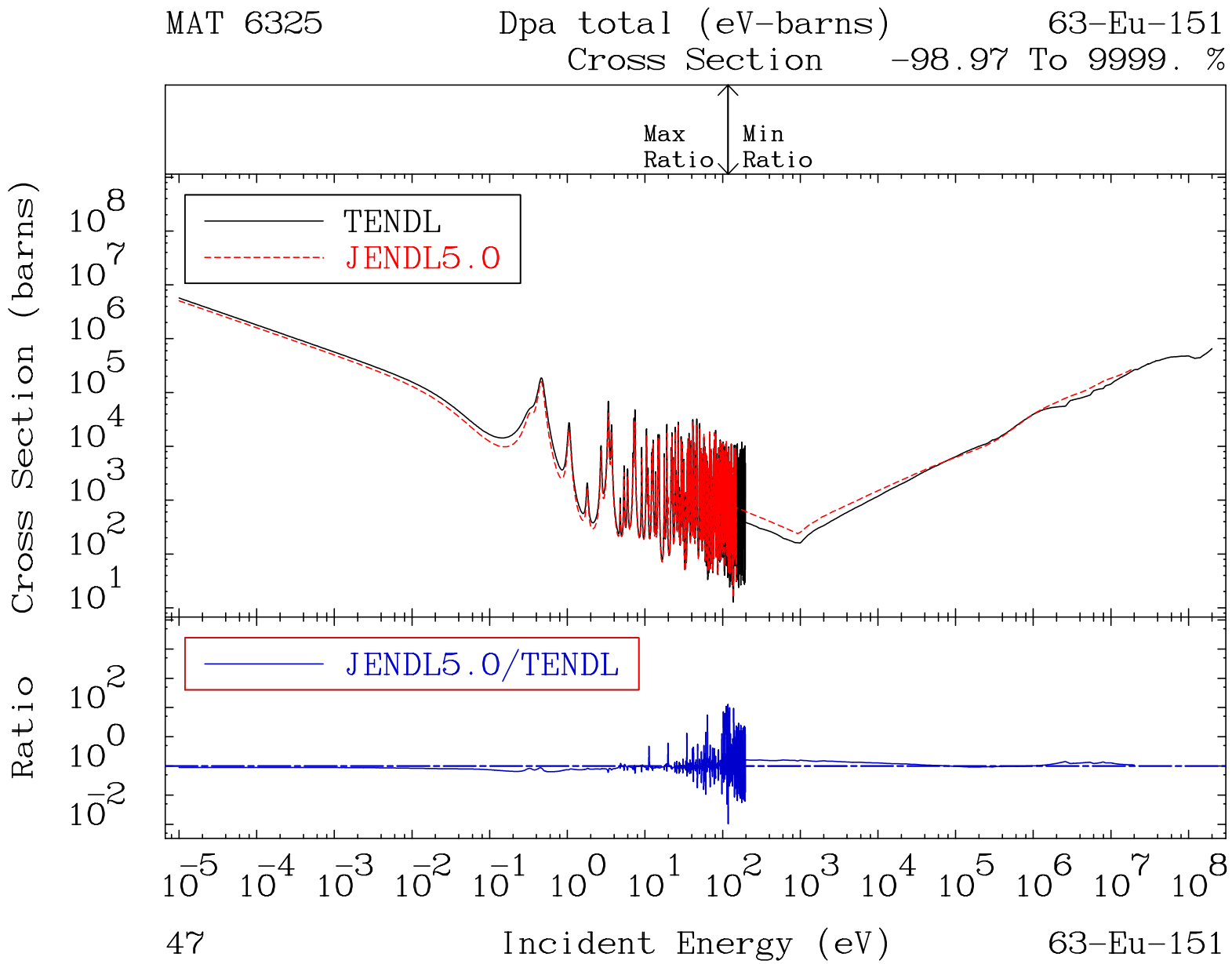

MAT 6325
Kerma inelastic (mt51-91)
63-Eu-151
Cross Section -100.0 To 5799. %
Max
Ratio
TENDL Threshold 21.685 keV
JENDL5.0 Threshold 21.685 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
63-Eu-151

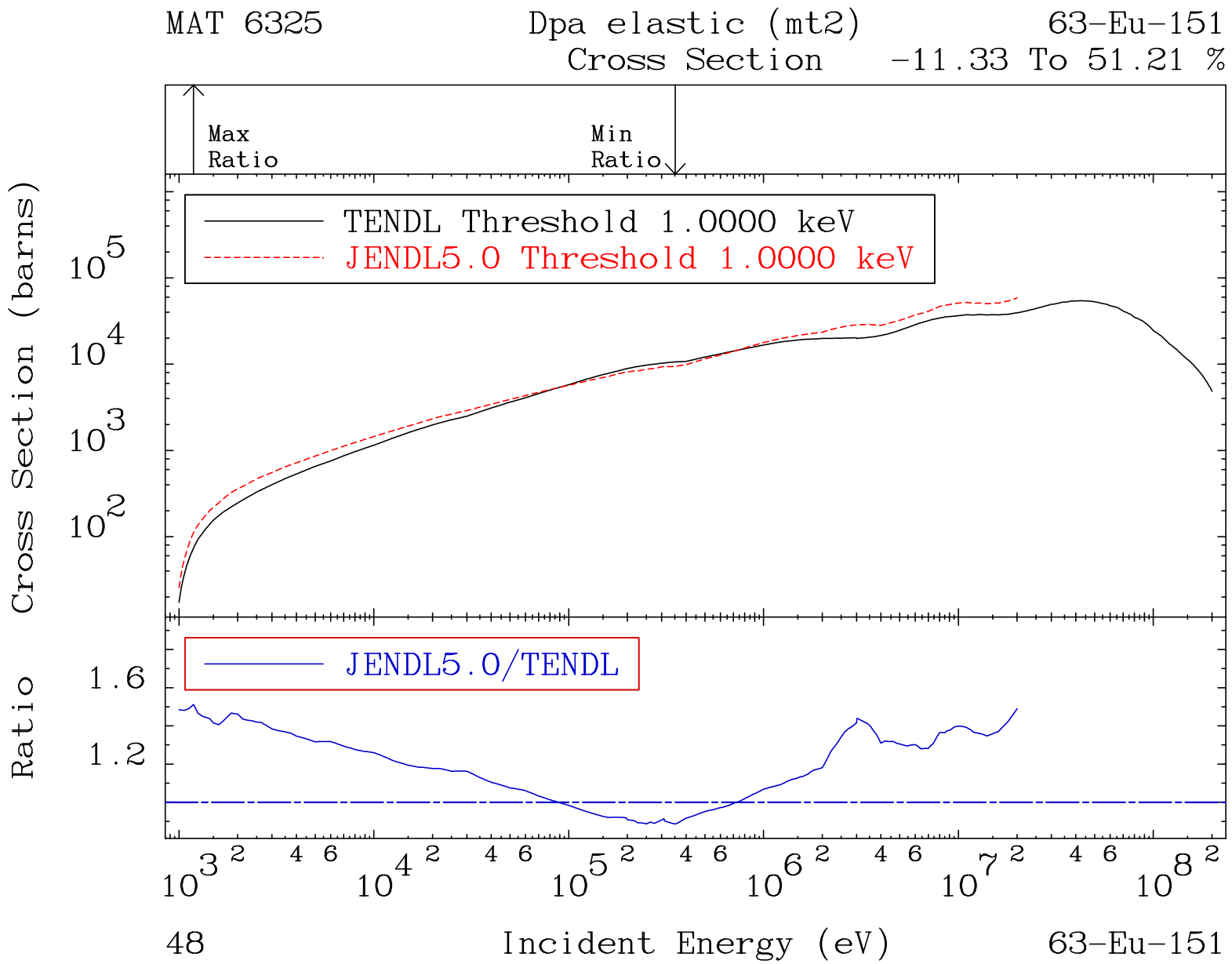

MAT 6325 Kerma fission (mt18 or mt19-20-21-38) 63-Eu-151
Cross Section -100.0 To 5799. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{3}
10^{0}
10^{-3}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
43
Incident Energy (eV)
63-Eu-151

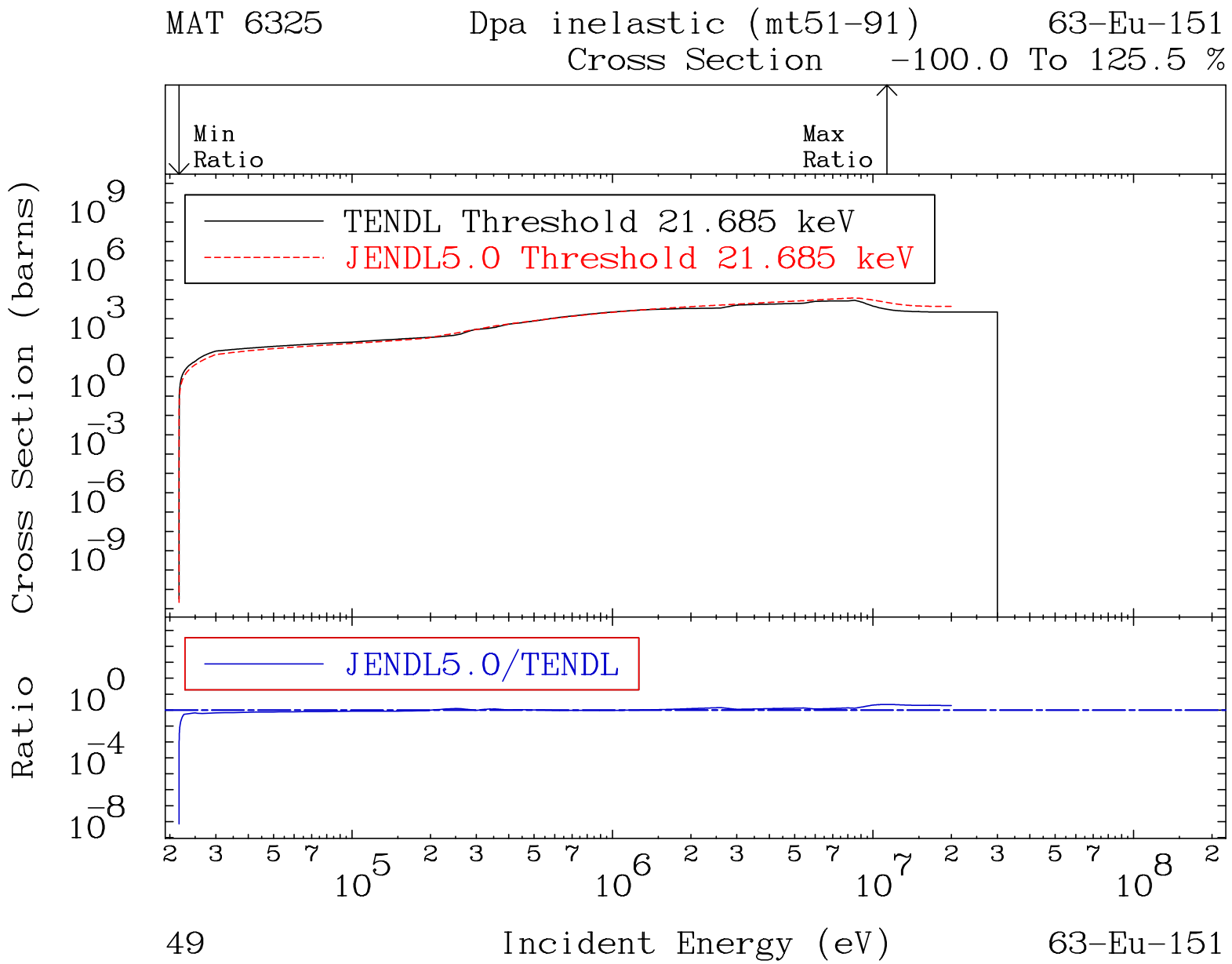

MAT 6325
Kerma capture (mt102)
63-Eu-151
Cross Section -98.89 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
44
63-Eu-151

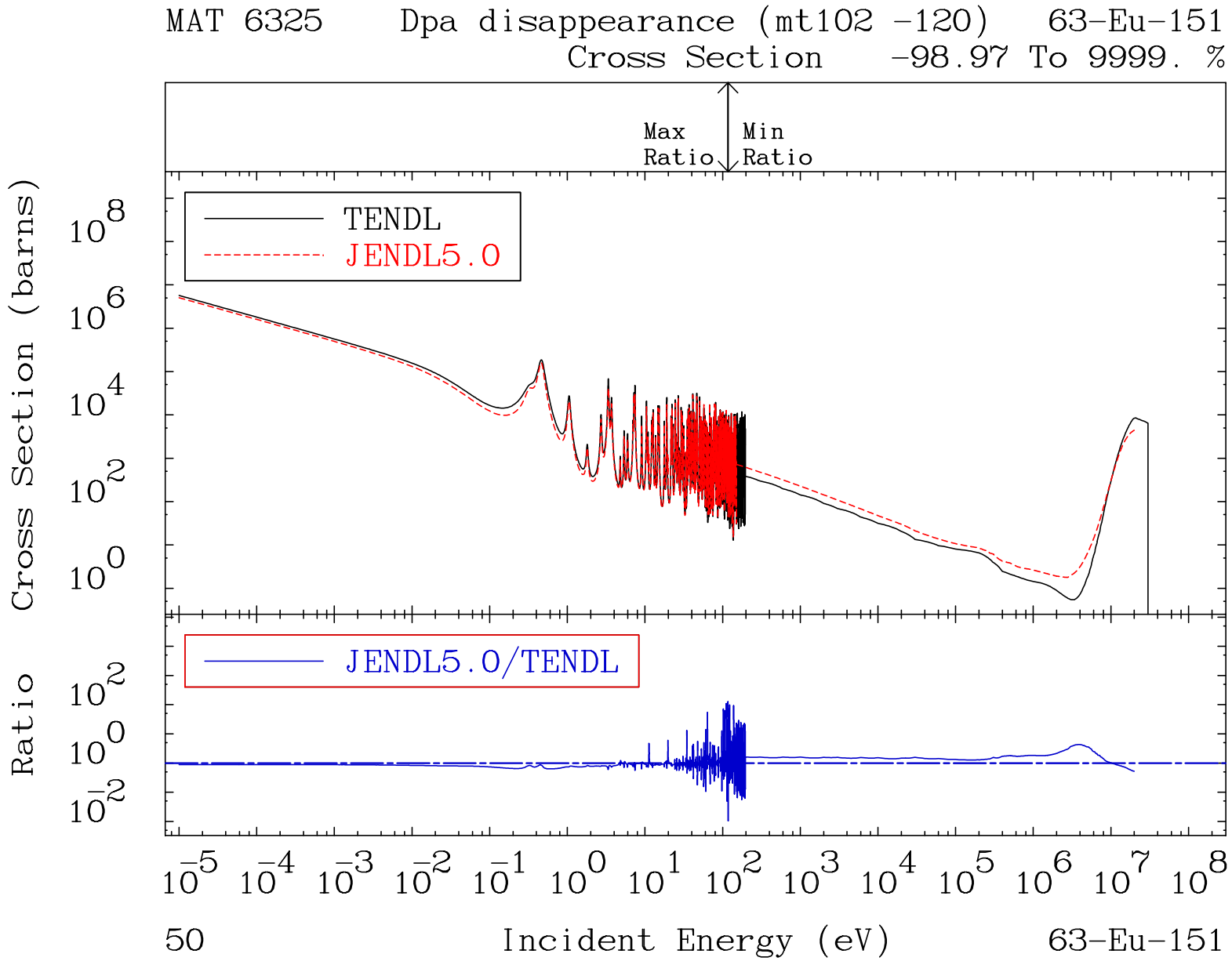

MAT 6325
Total photon (eV-barns)
63-Eu-151
Cross Section -98.81 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
45
63-Eu-151

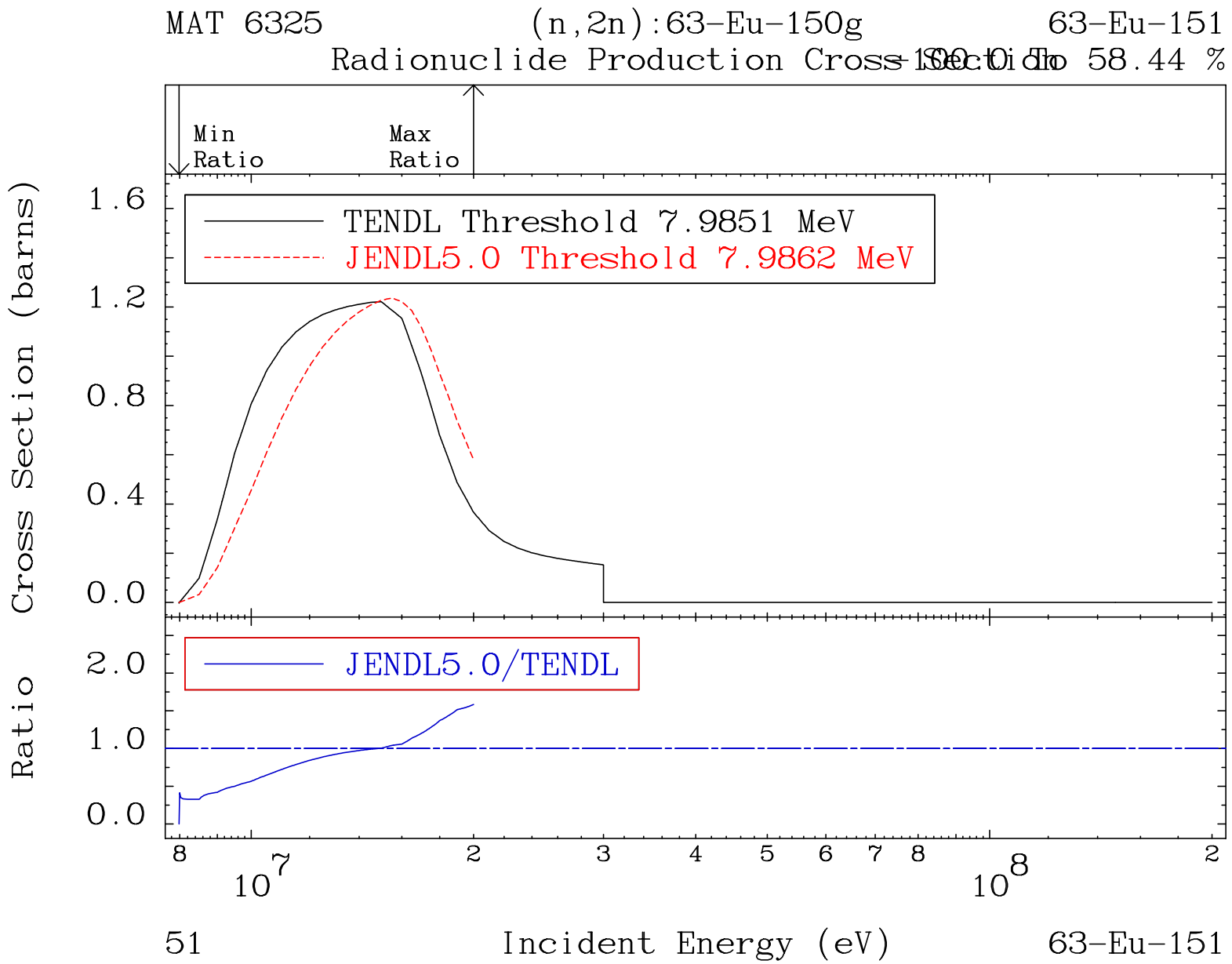

MAT 6325 Total kinematic kerma (high limit) 63-Eu-151
Cross Section -98.65 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
46
63-Eu-151

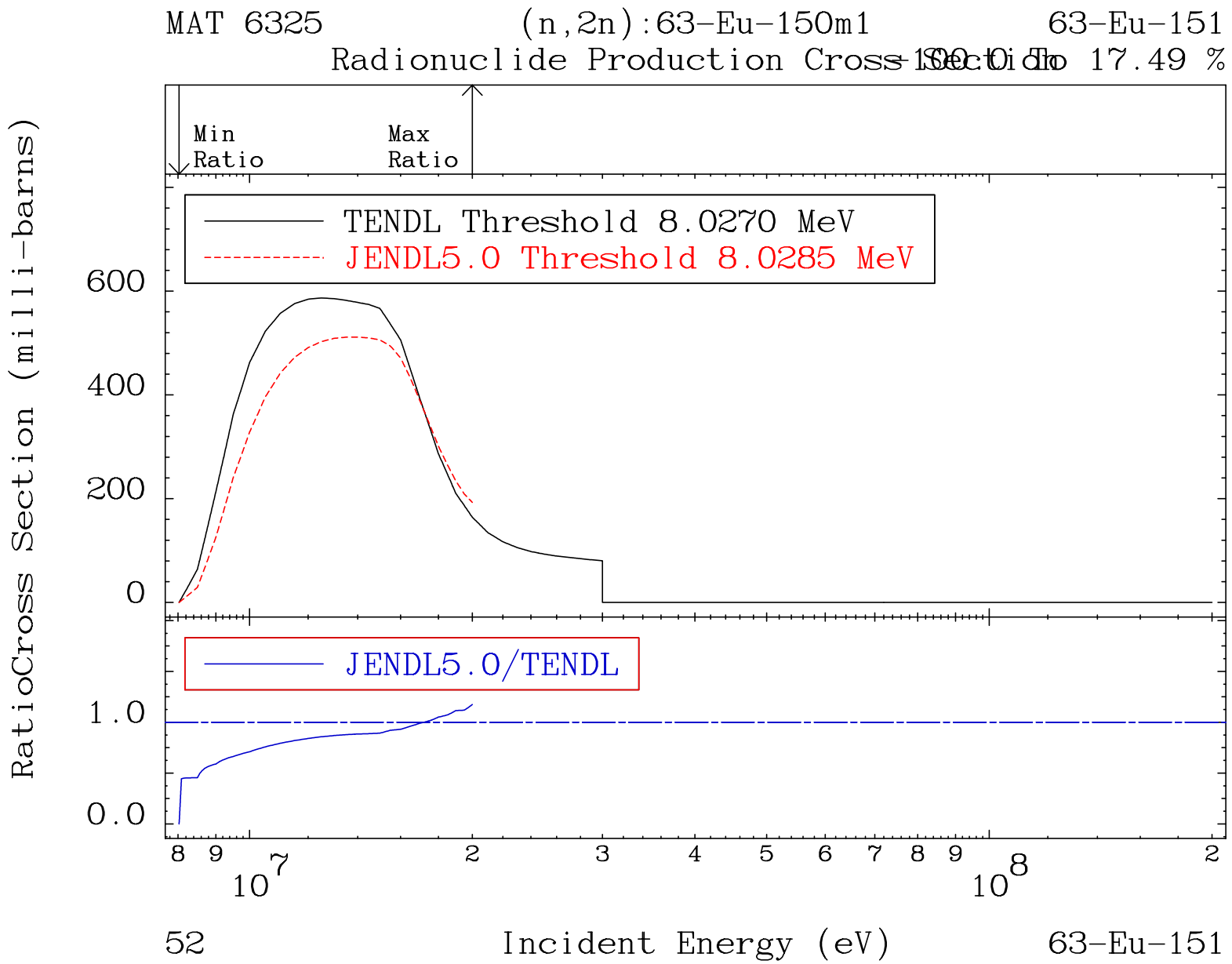

MAT 6325
Dpa total (eV-barns)
63-Eu-151
Cross Section
-98.97 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
47
Incident Energy (eV)
63-Eu-151


MAT 6325
Dpa elastic (mt2)
Cross Section
63-Eu-151
-11.33 To 51.21 %
Max Ratio
Min Ratio
TENDL Threshold 1.0000 keV
JENDL5.0 Threshold 1.0000 keV
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
48
63-Eu-151


MAT 6325
Dpa inelastic (mt51-91)
63-Eu-151
Cross Section -100.0 To 125.5 %
Min Ratio
Max Ratio
TENDL Threshold 21.685 keV
JENDL5.0 Threshold 21.685 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
49
63-Eu-151


MAT 6325 Dpa disappearance (mt102 -120) 63-Eu-151
Cross Section -98.97 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
50
63-Eu-151


MAT 6325
(n,2n):63-Eu-150g
63-Eu-151
Radionuclide Production Cross Section To 58.44 %
Min Ratio
Max Ratio
TENDL Threshold 7.9851 MeV
JENDL5.0 Threshold 7.9862 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
2.0
1.0
0.0
8
10^7
2
3
4
5
6
7
8
10^8
2
51
Incident Energy (eV)
63-Eu-151


MAT 6325
(n,2n):63-Eu-150m1
63-Eu-151
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 8.0270 MeV
JENDL5.0 Threshold 8.0285 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
600
400
200
0
1.0
0.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
52
Incident Energy (eV)
63-Eu-151