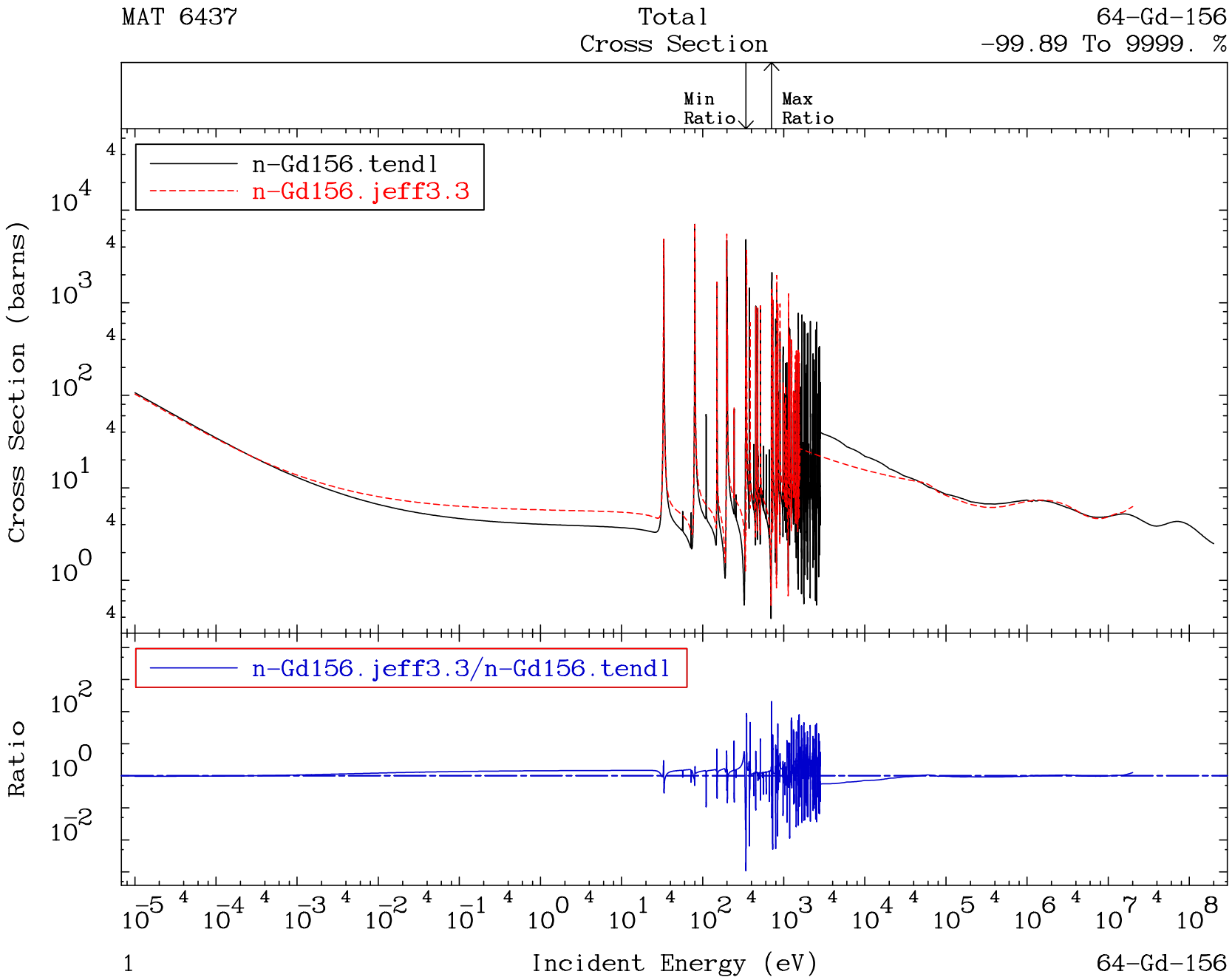
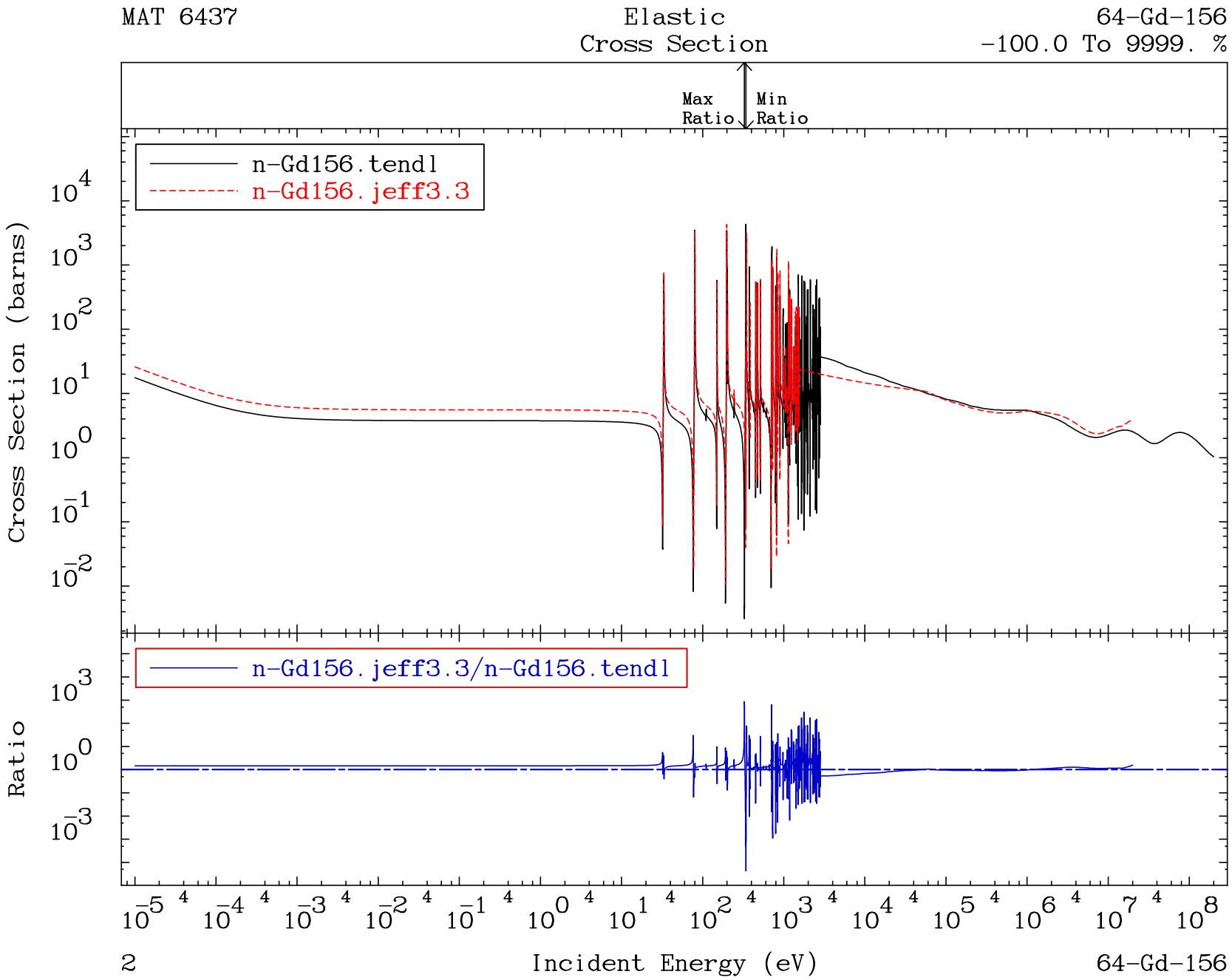
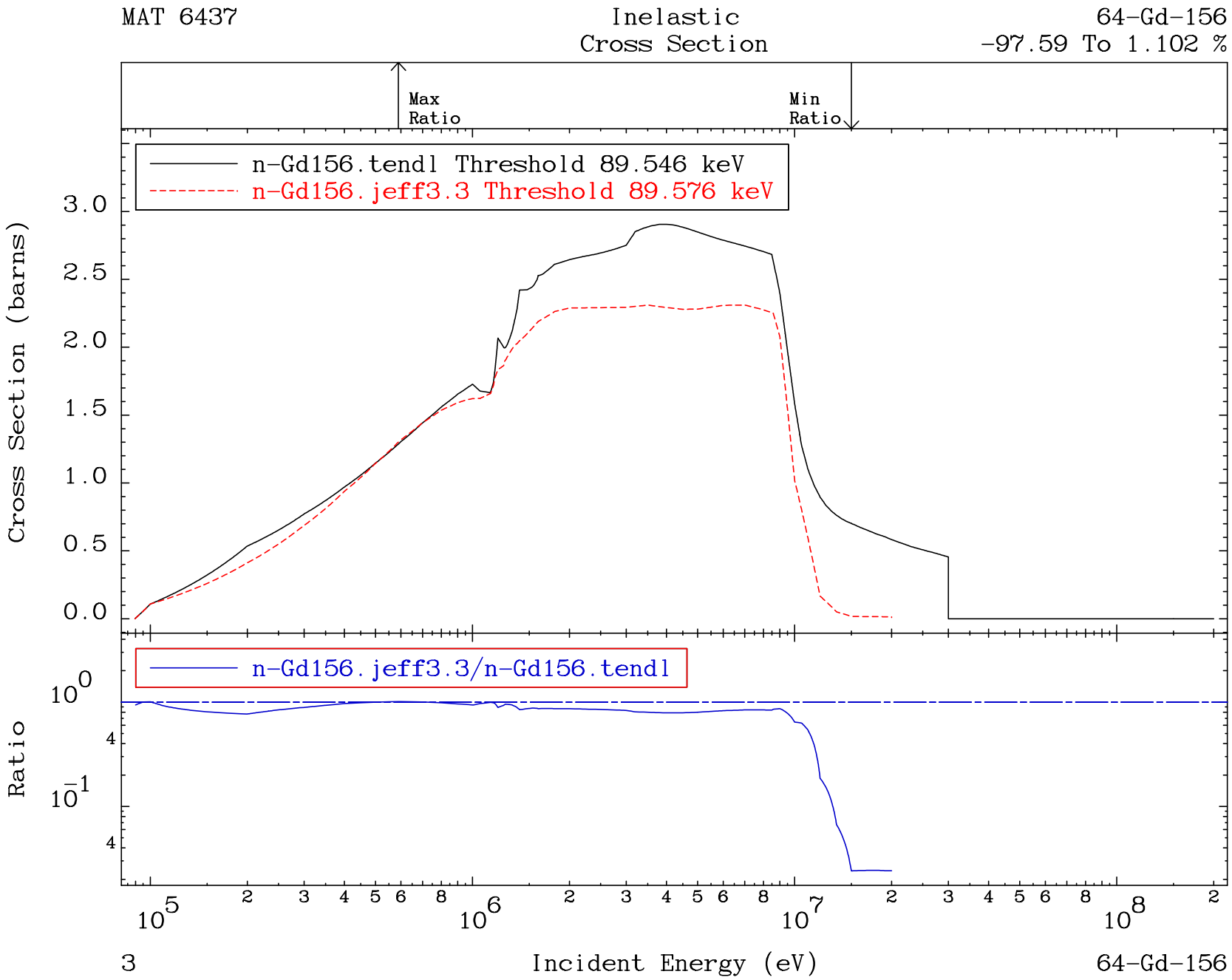
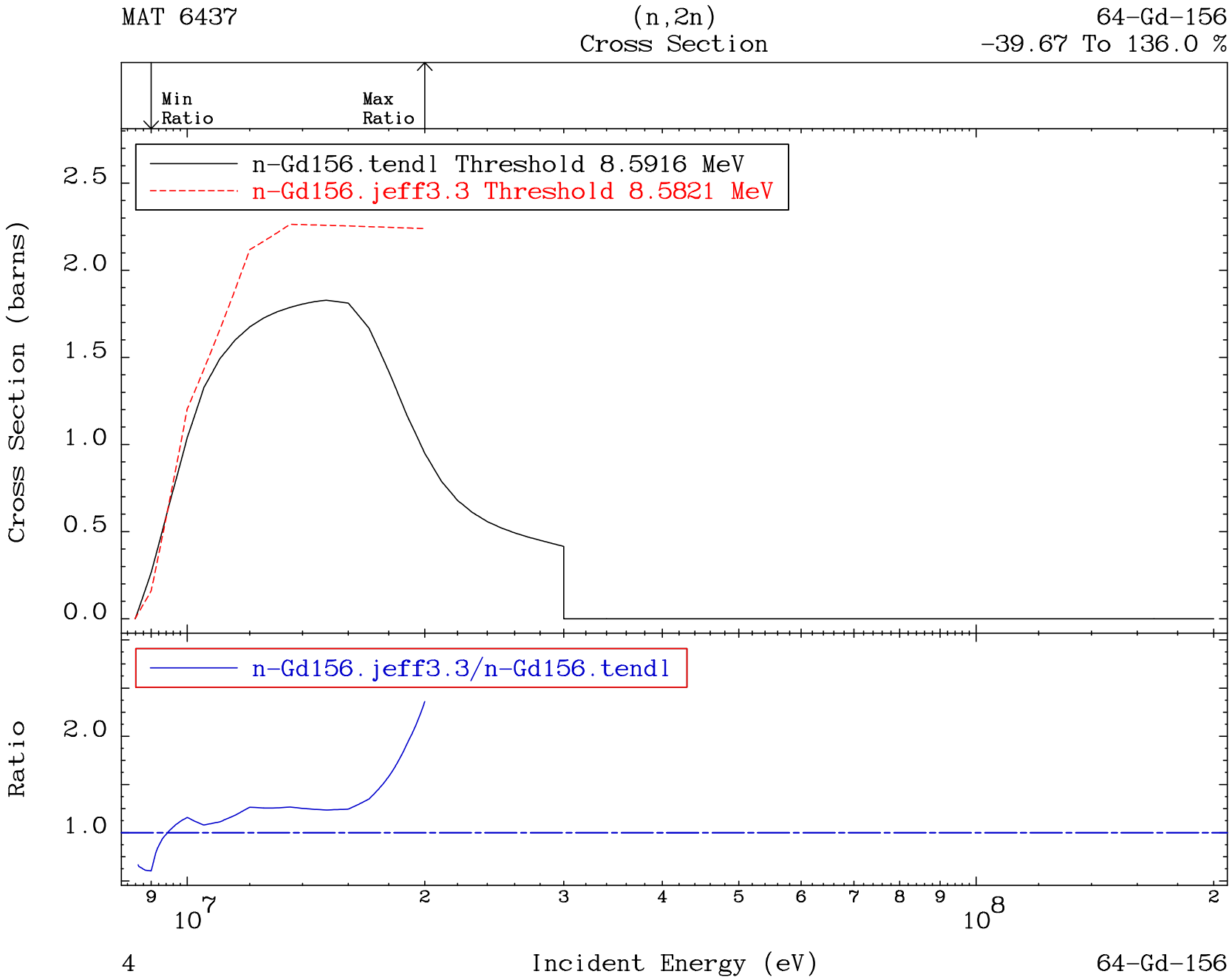
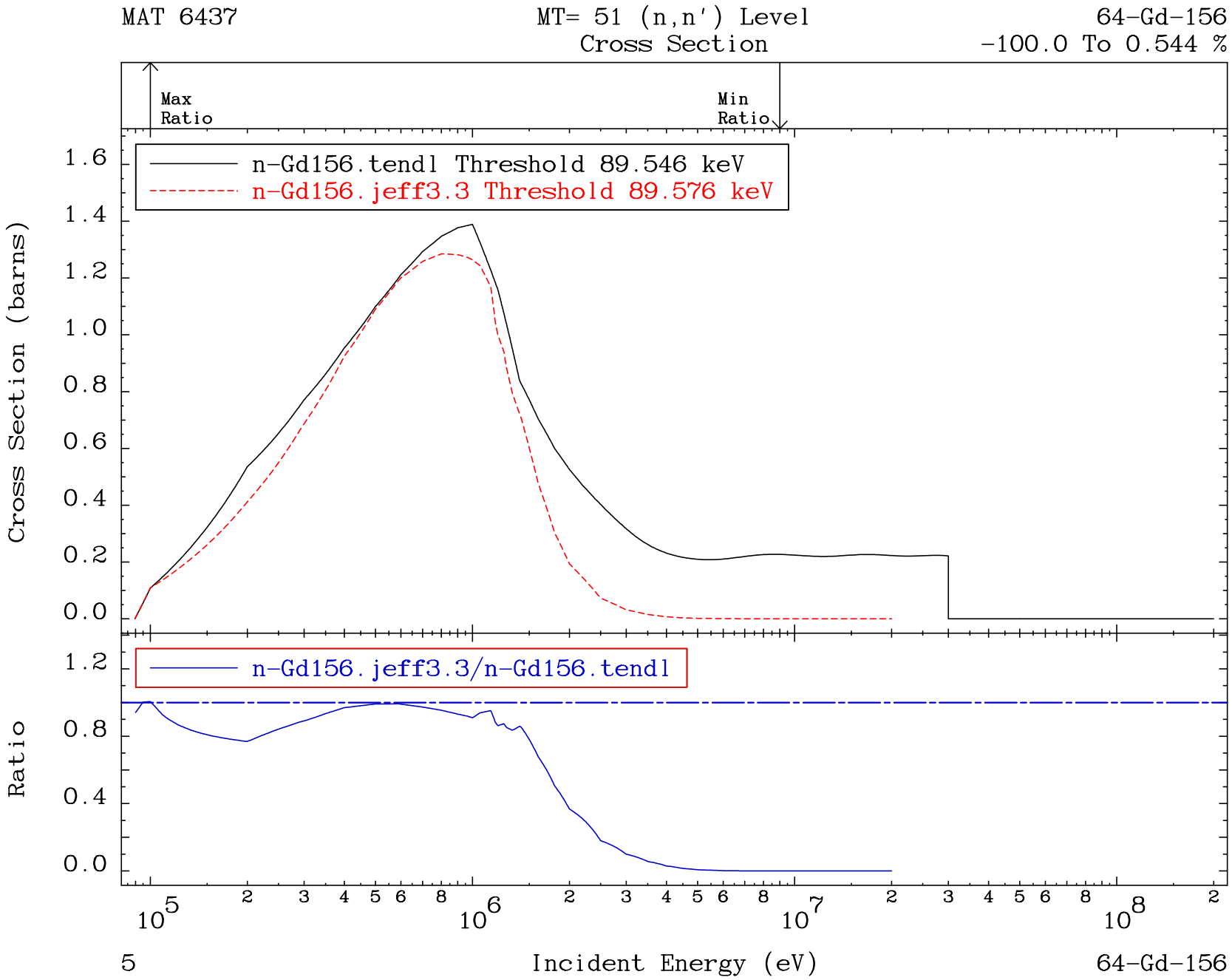
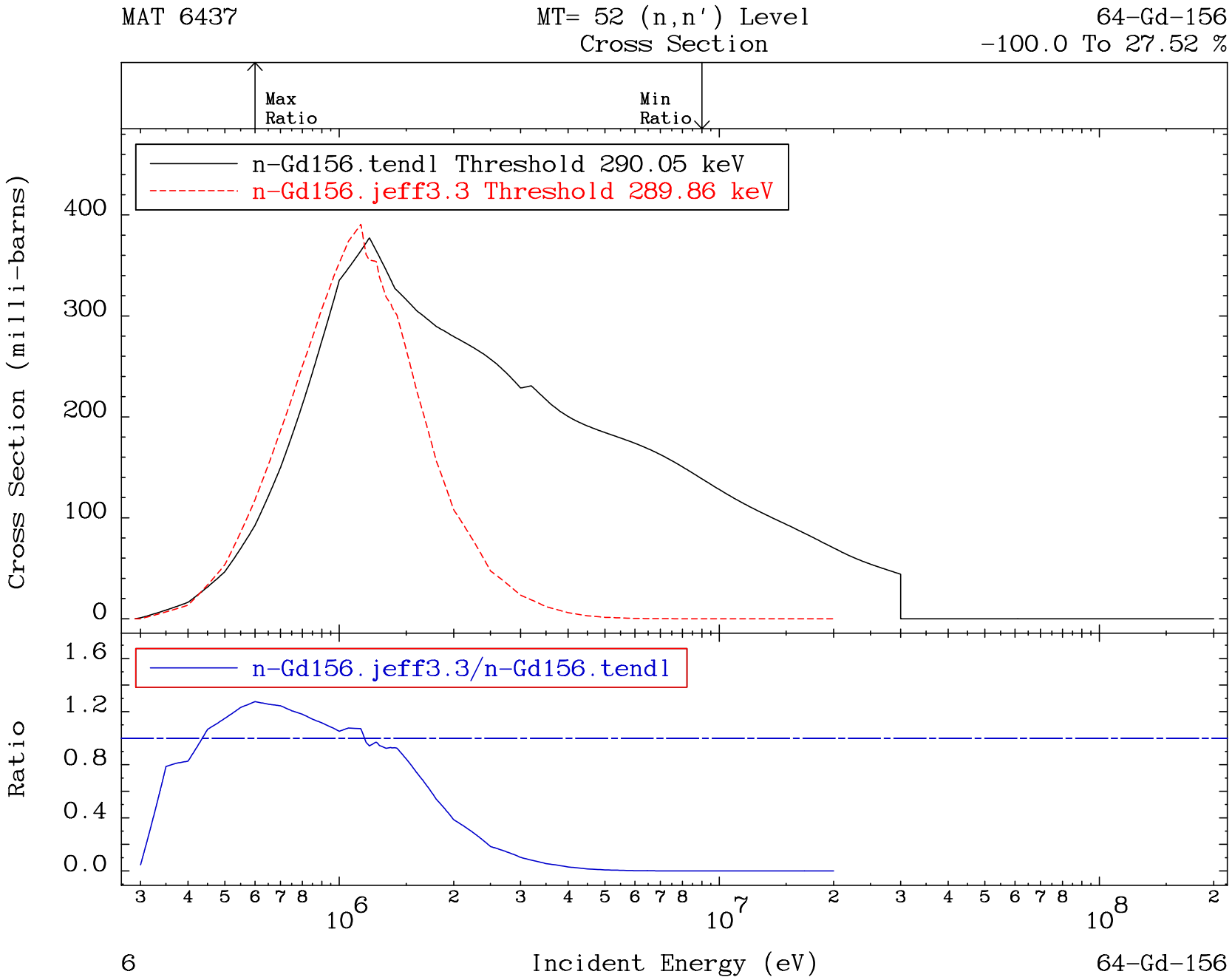

MAT 6437
Total
Cross Section
64-Gd-156
-99.89 To 9999. %
Min
Ratio
Max
Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
1
64-Gd-156

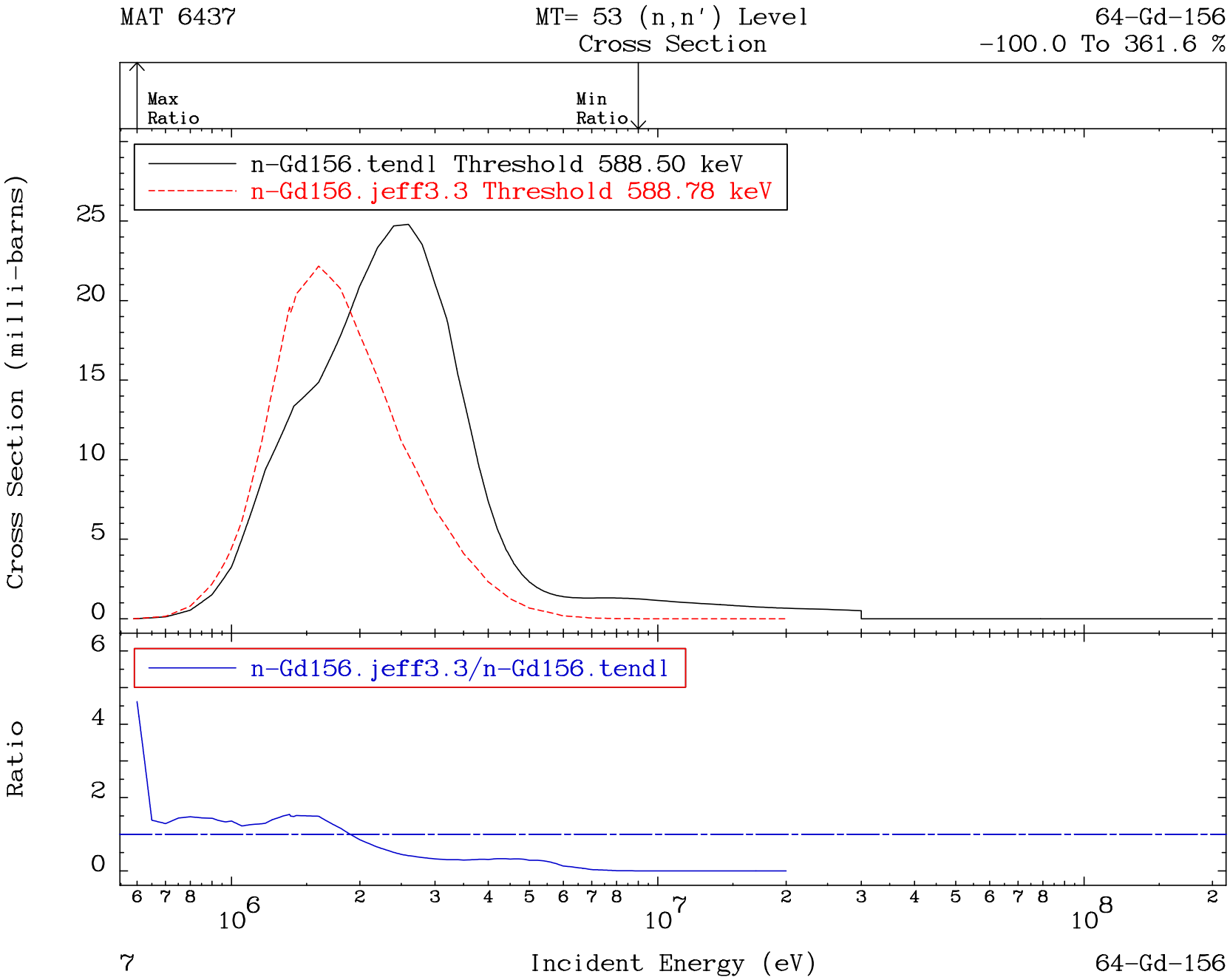

MAT 6437
Elastic
Cross Section
64-Gd-156
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
2
64-Gd-156

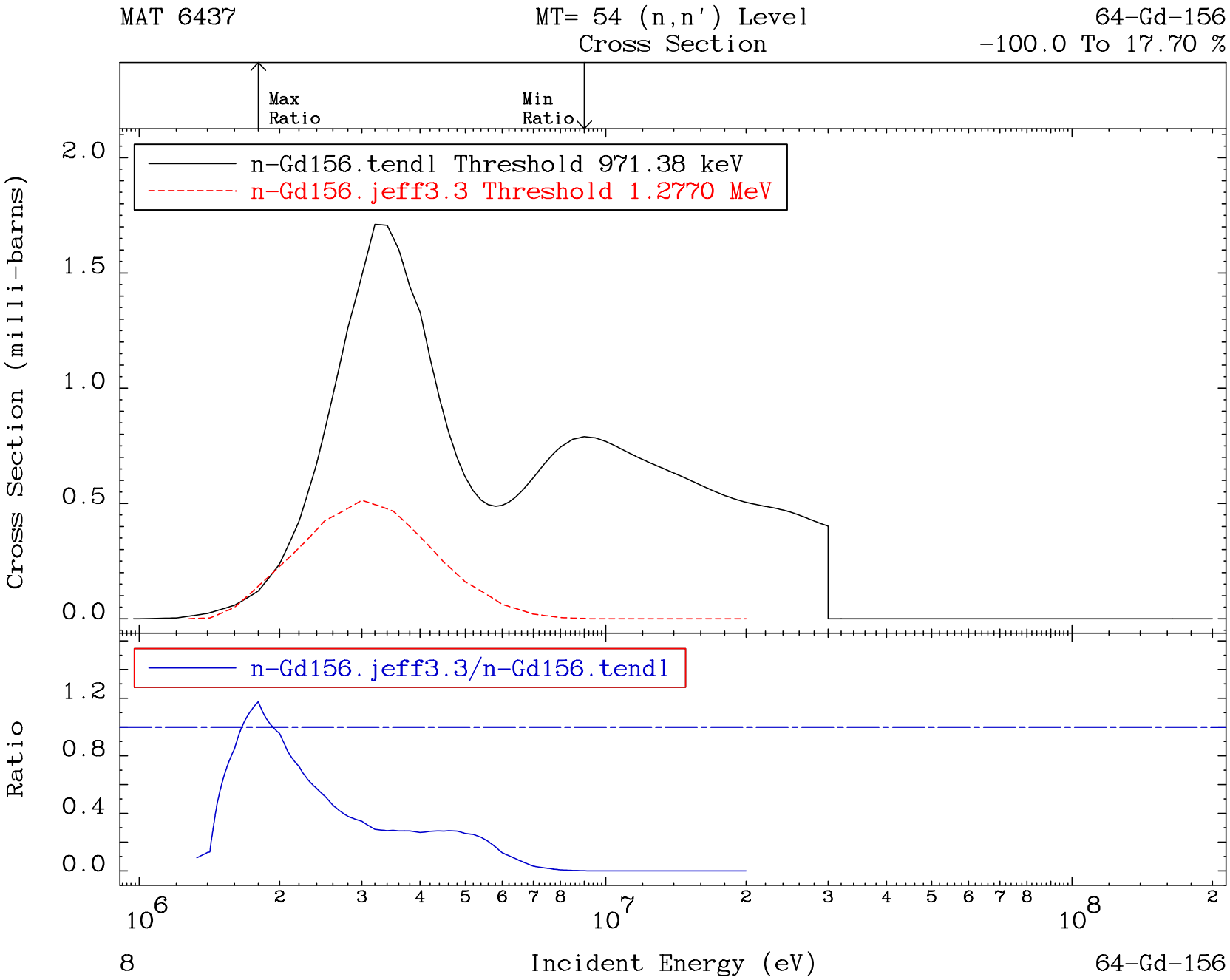

MAT 6437
Inelastic
Cross Section
64-Gd-156
-97.59 To 1.102 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 89.546 keV
n-Gd156.jeff3.3 Threshold 89.576 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^0
10^-1
10^5
10^6
10^7
10^8
Incident Energy (eV)
3
64-Gd-156

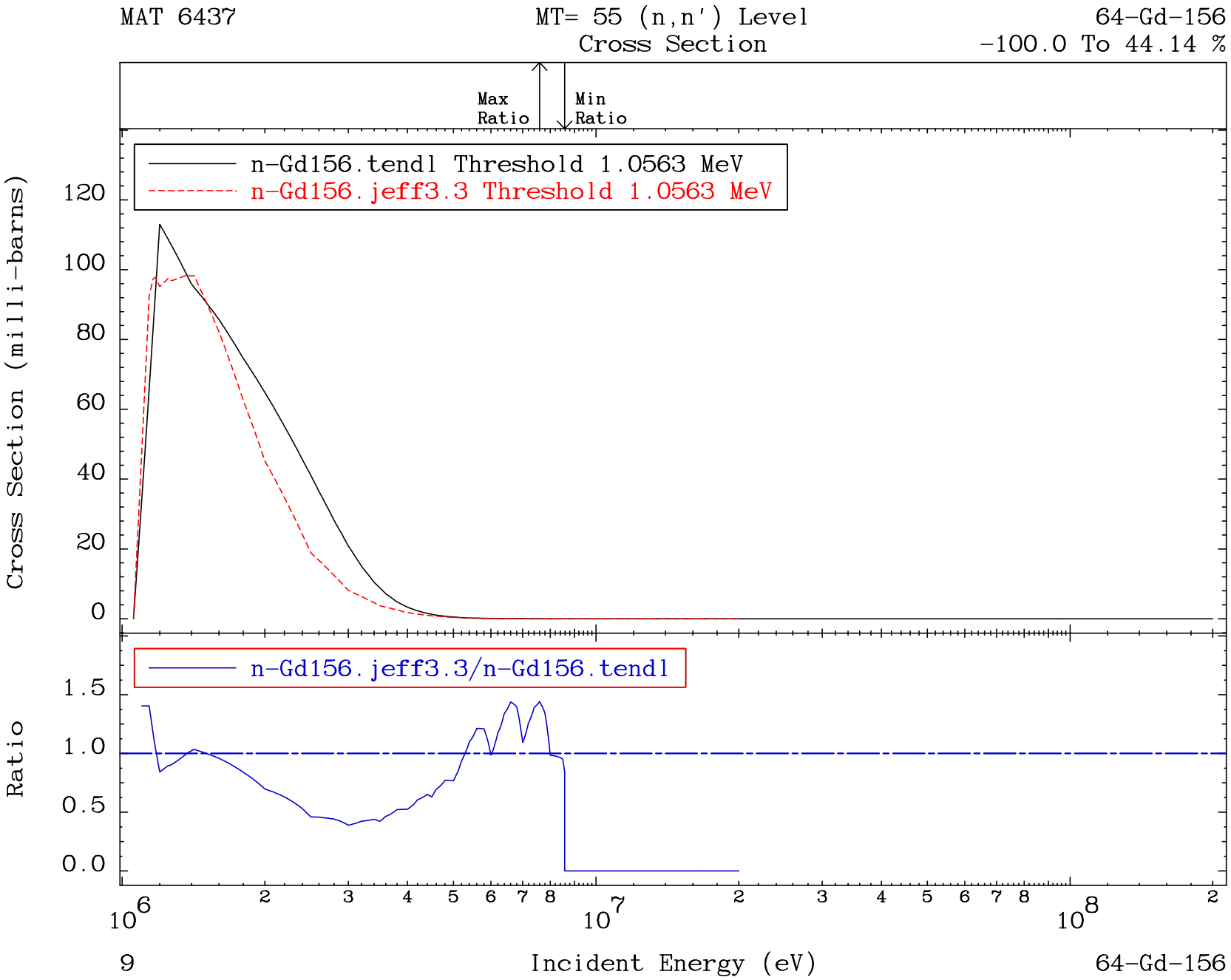

MAT 6437
(n,2n)
Cross Section
64-Gd-156
-39.67 To 136.0 %
Min Ratio
Max Ratio
n-Gd156.tendl Threshold 8.5916 MeV
n-Gd156.jeff3.3 Threshold 8.5821 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
2.0
1.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
64-Gd-156

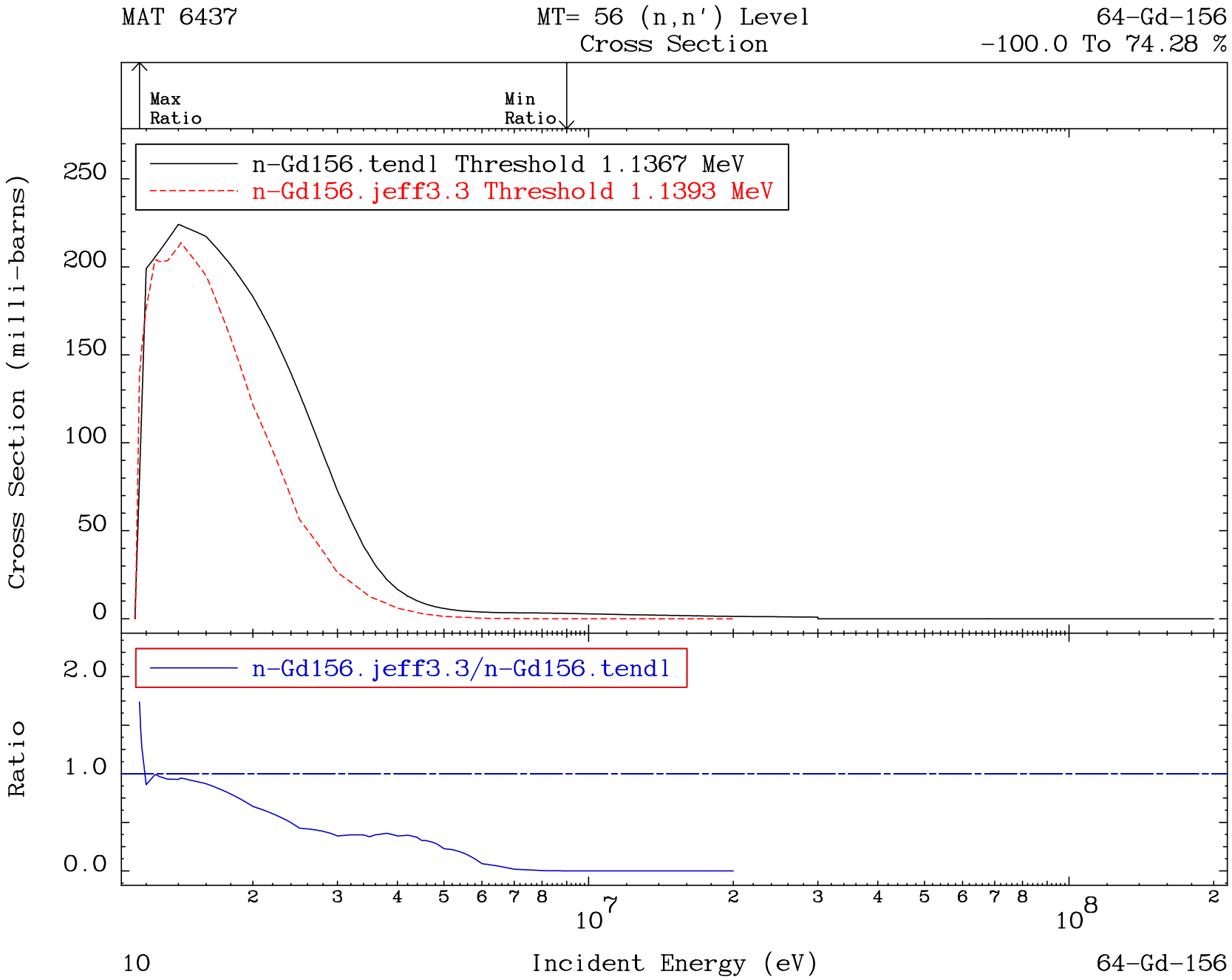

MAT 6437
MT= 51 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 0.544 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 89.546 keV
n-Gd156.jeff3.3 Threshold 89.576 keV
Cross Section (barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
1.2
0.8
0.4
0.0
10^5
2 3 4 5 6 8
10^6
2 3 4 5 6 8
10^7
2 3 4 5 6 8
10^8
2
5
Incident Energy (eV)
64-Gd-156

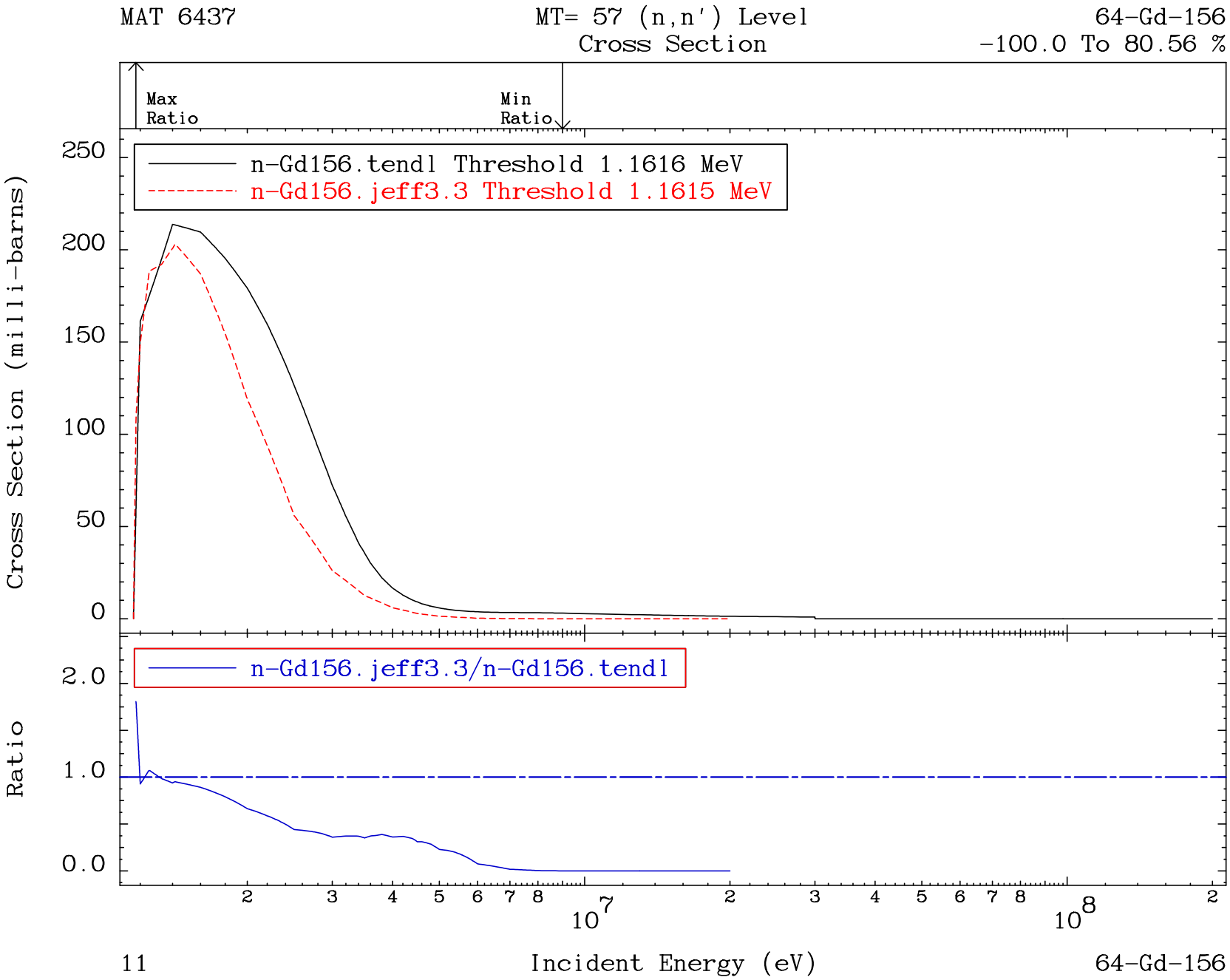

MAT 6437
MT= 52 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 27.52 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 290.05 keV
n-Gd156.jeff3.3 Threshold 289.86 keV
Cross Section (milli-barns)
400
300
200
100
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
1.6
1.2
0.8
0.4
0.0
3 4 5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
6
Incident Energy (eV)
64-Gd-156

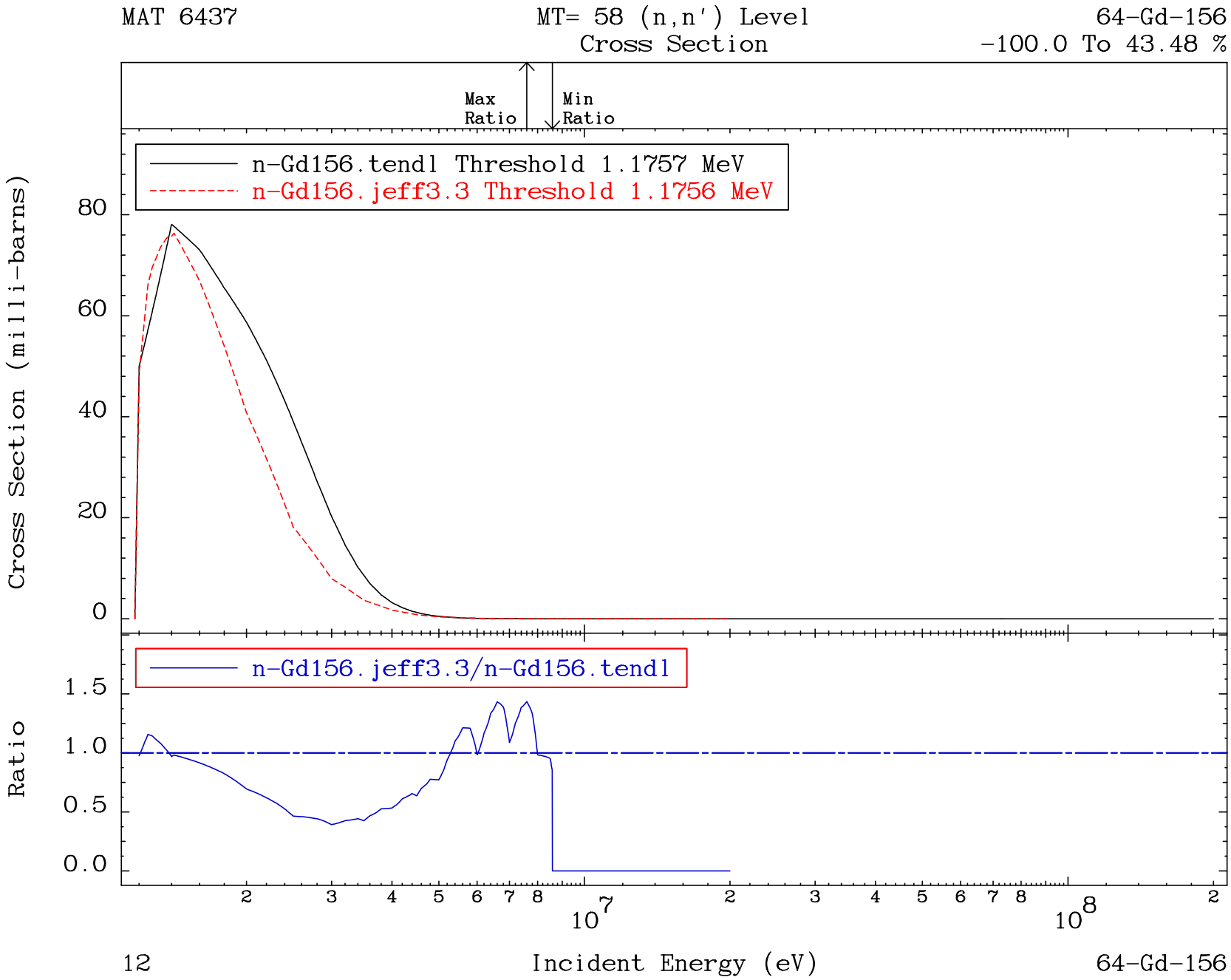

MAT 6437
MT= 53 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 361.6 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 588.50 keV
n-Gd156.jeff3.3 Threshold 588.78 keV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
6
4
2
0
6 7 8
10^6
2
3
4
5
6 7 8
10^7
2
3
4
5
6 7 8
10^8
2
7
Incident Energy (eV)
64-Gd-156

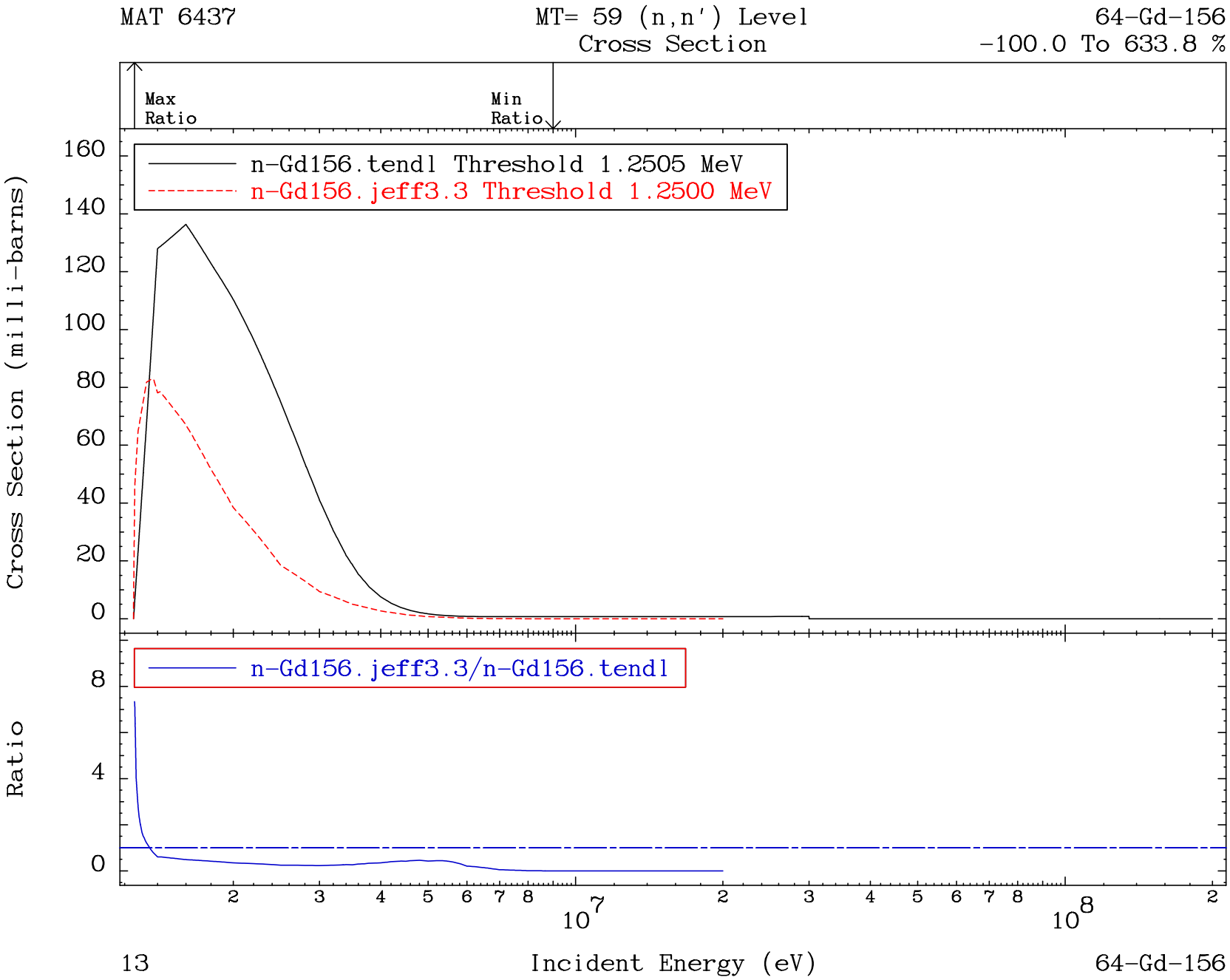

MAT 6437
MT= 54 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 17.70 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 971.38 keV
n-Gd156.jeff3.3 Threshold 1.2770 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
1.2
0.8
0.4
0.0
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
64-Gd-156

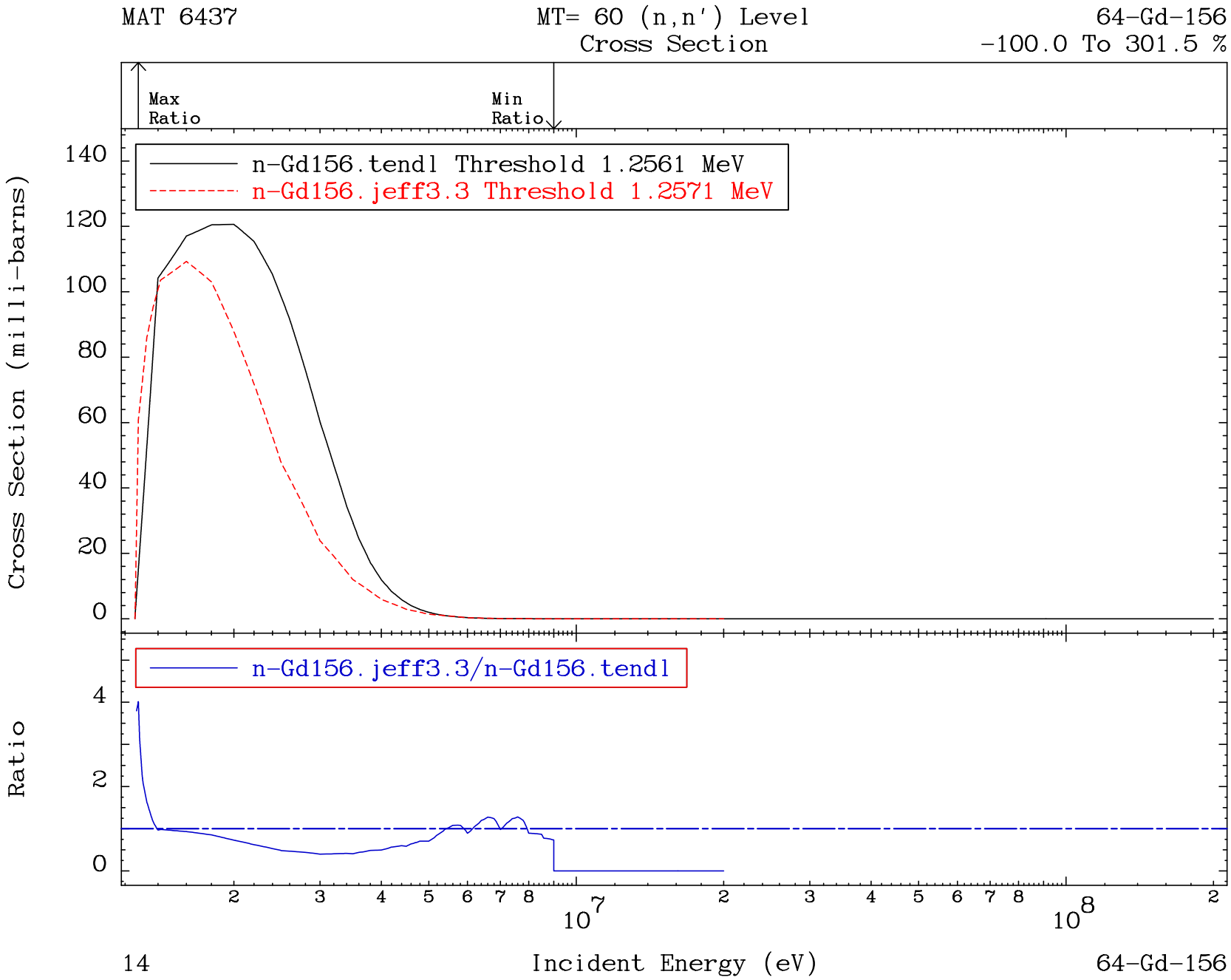

MAT 6437
MT= 55 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 44.14 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.0563 MeV
n-Gd156.jeff3.3 Threshold 1.0563 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
1.5
1.0
0.5
0.0
10^6
10^7
10^8
Incident Energy (eV)
9
64-Gd-156

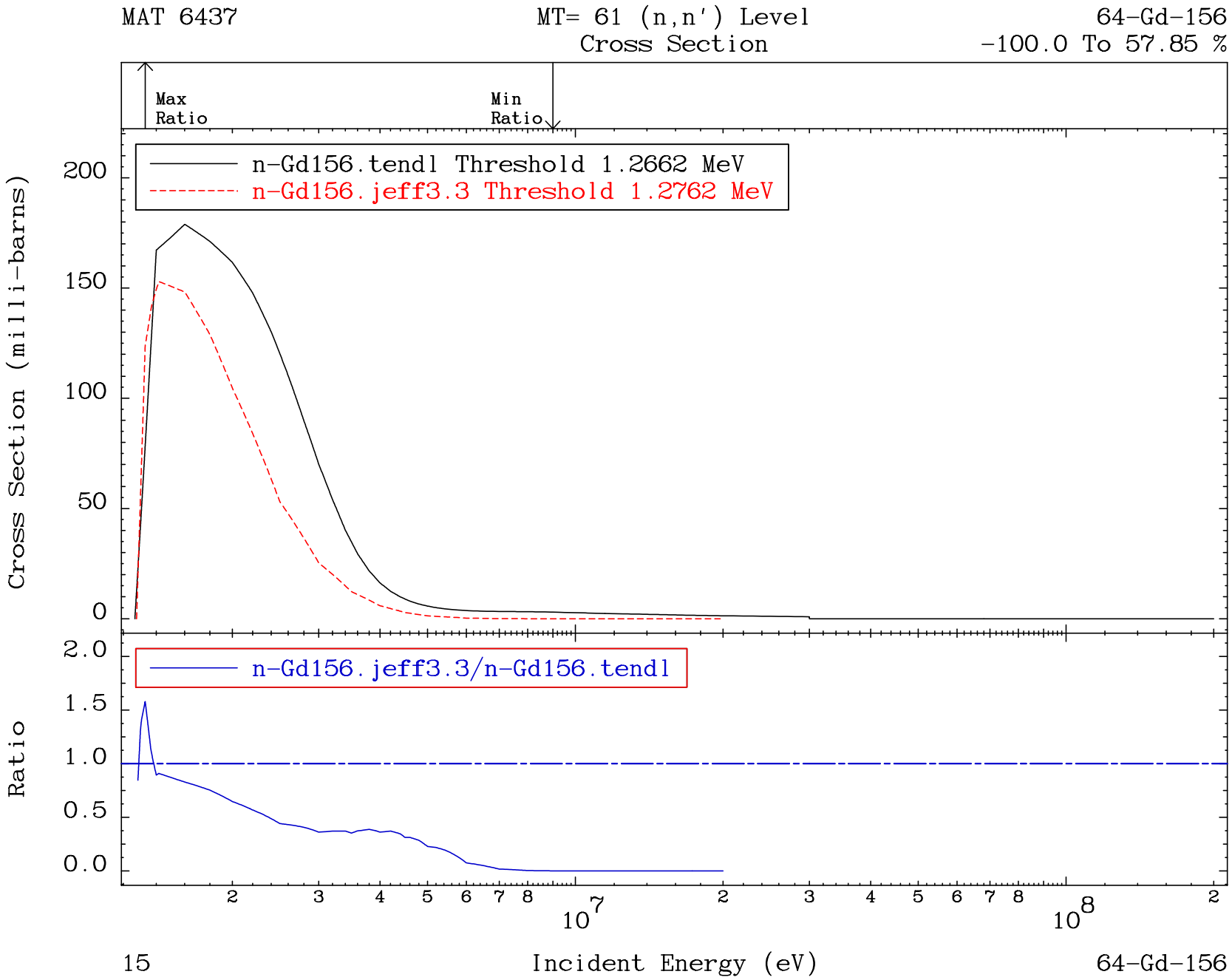

MAT 6437
MT= 56 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 74.28 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 1.1367 MeV
n-Gd156.jeff3.3 Threshold 1.1393 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
2.0
1.0
0.0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
10
Incident Energy (eV)
64-Gd-156

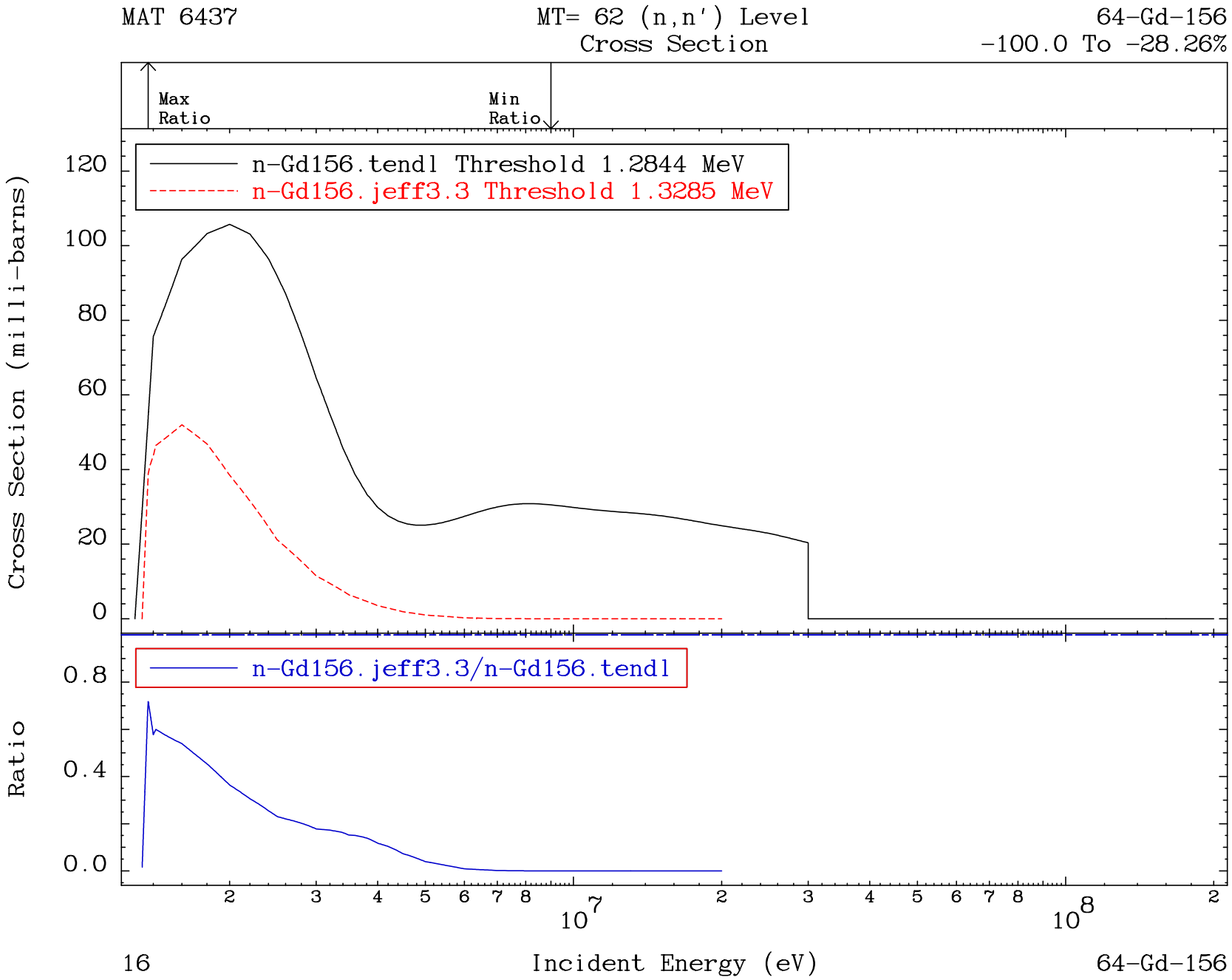

MAT 6437
MT= 57 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 80.56 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 1.1616 MeV
n-Gd156.jeff3.3 Threshold 1.1615 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
2.0
1.0
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
11
Incident Energy (eV)
64-Gd-156

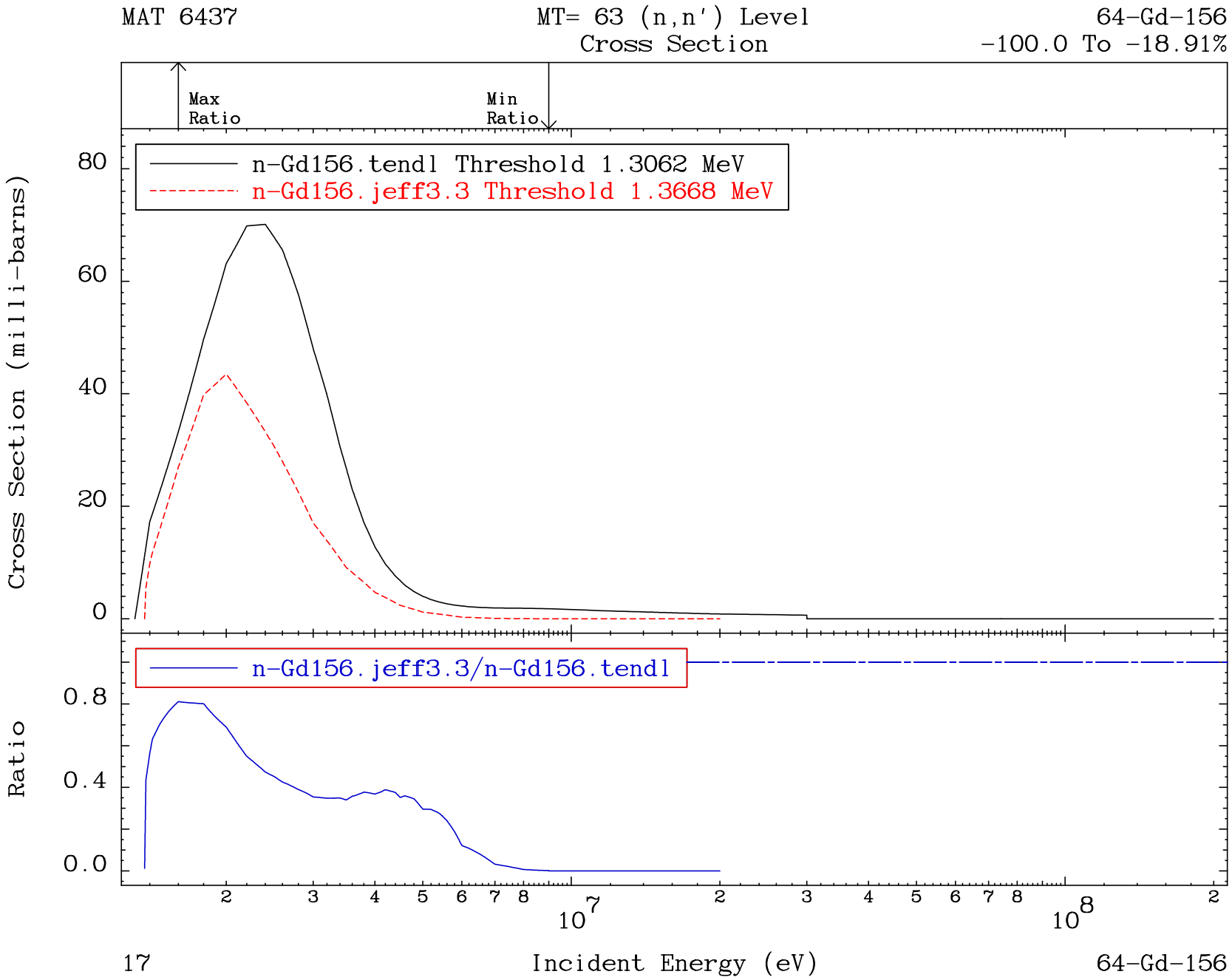

MAT 6437
MT= 58 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 43.48 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.1757 MeV
n-Gd156.jeff3.3 Threshold 1.1756 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
1.5
1.0
0.5
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
12
Incident Energy (eV)
64-Gd-156

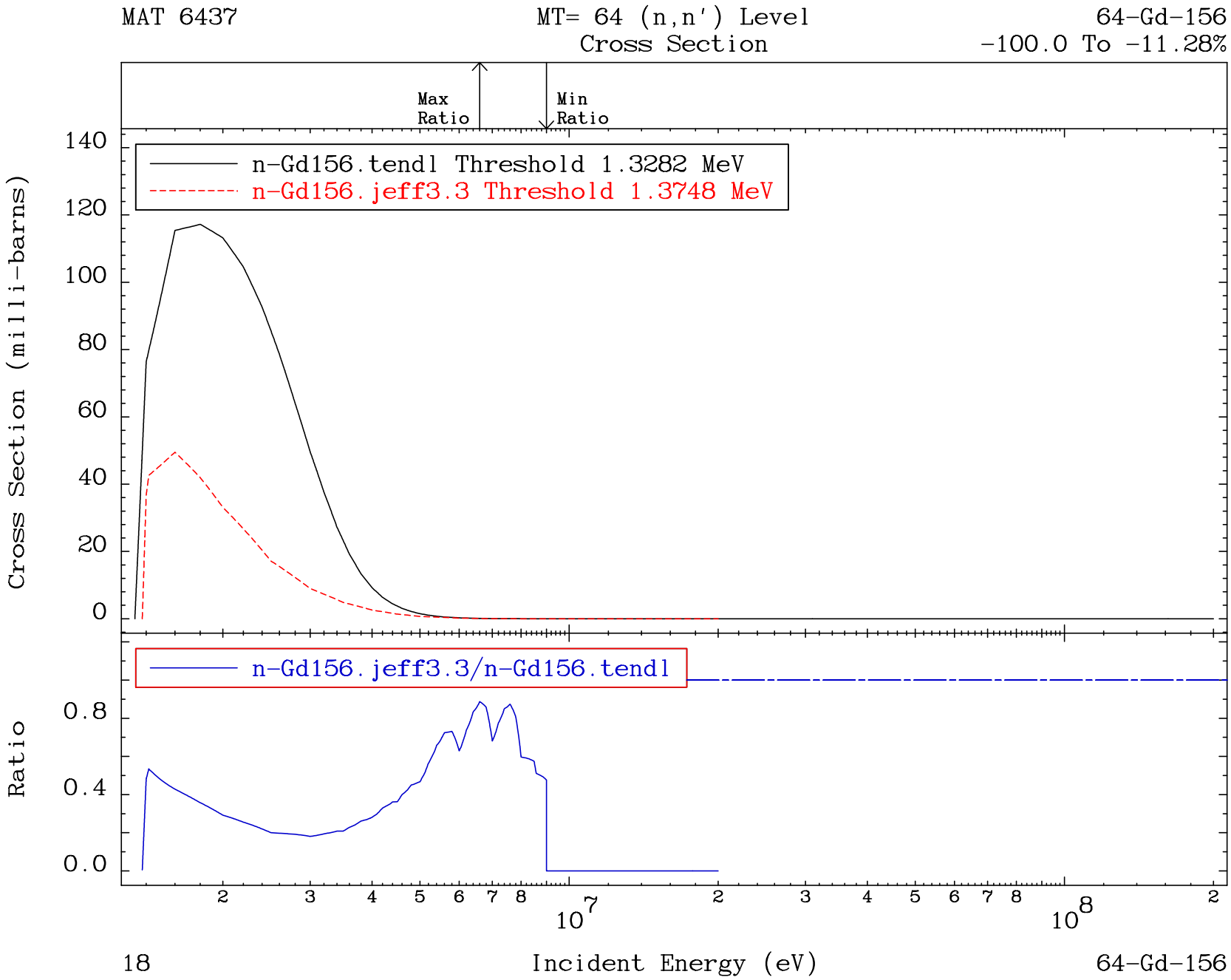

MAT 6437
MT= 59 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 633.8 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.2505 MeV
n-Gd156.jeff3.3 Threshold 1.2500 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
8
4
0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
13
Incident Energy (eV)
64-Gd-156

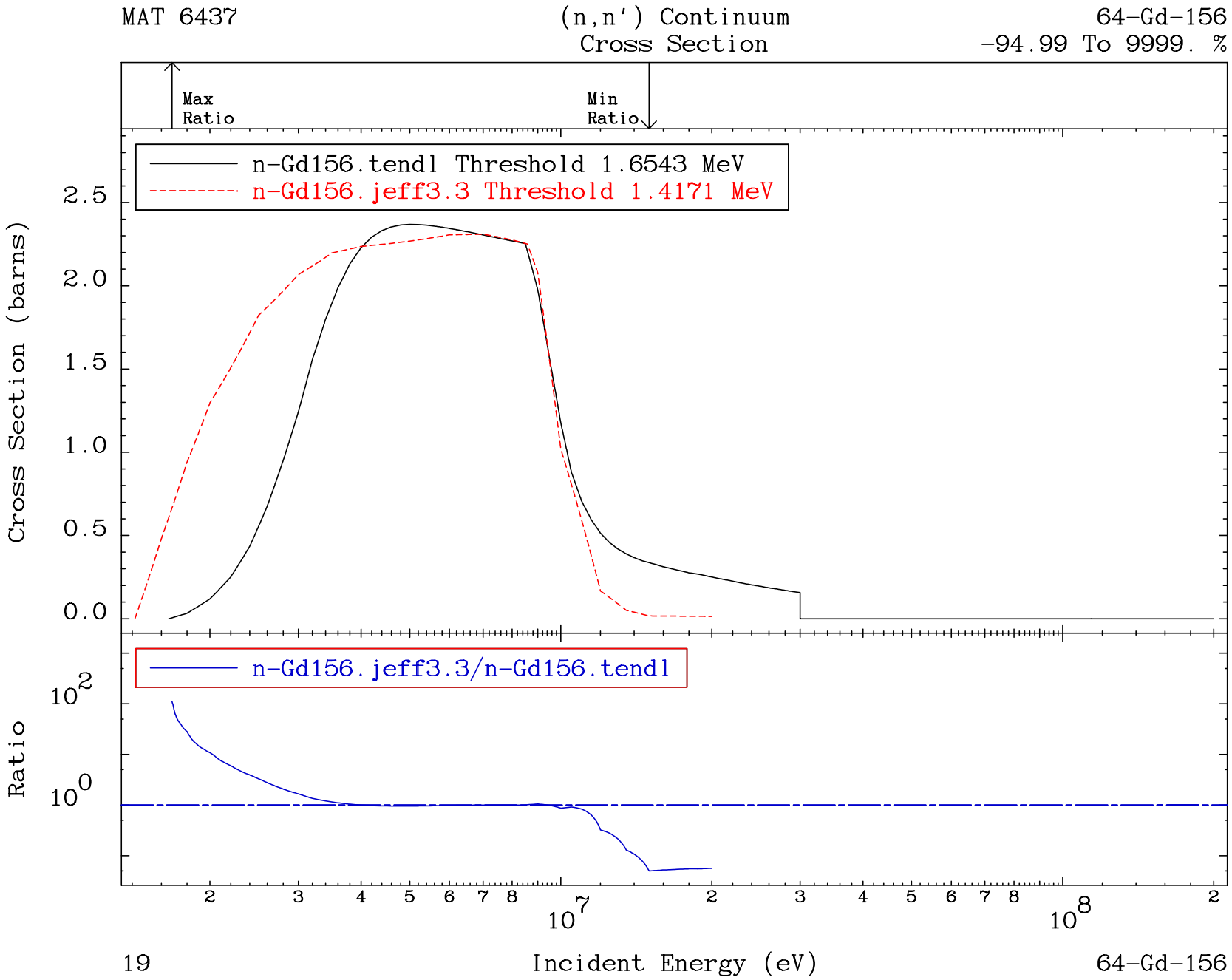

MAT 6437
MT= 60 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 301.5 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 1.2561 MeV
n-Gd156.jeff3.3 Threshold 1.2571 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
4
2
0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
14
Incident Energy (eV)
64-Gd-156

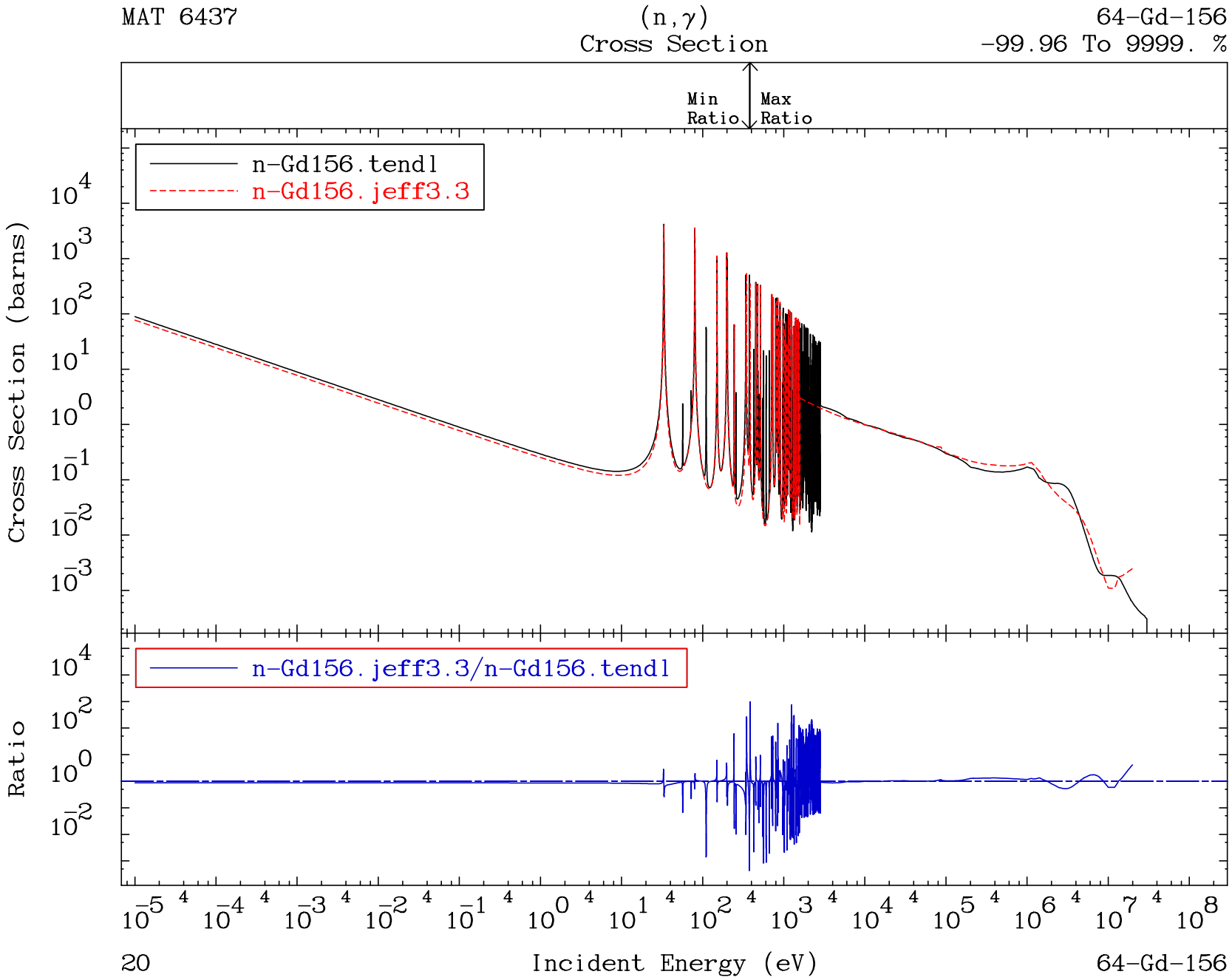

MAT 6437
MT= 61 (n,n') Level
Cross Section
64-Gd-156
-100.0 To 57.85 %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 1.2662 MeV
n-Gd156.jeff3.3 Threshold 1.2762 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
2.0
1.5
1.0
0.5
0.0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
15
Incident Energy (eV)
64-Gd-156

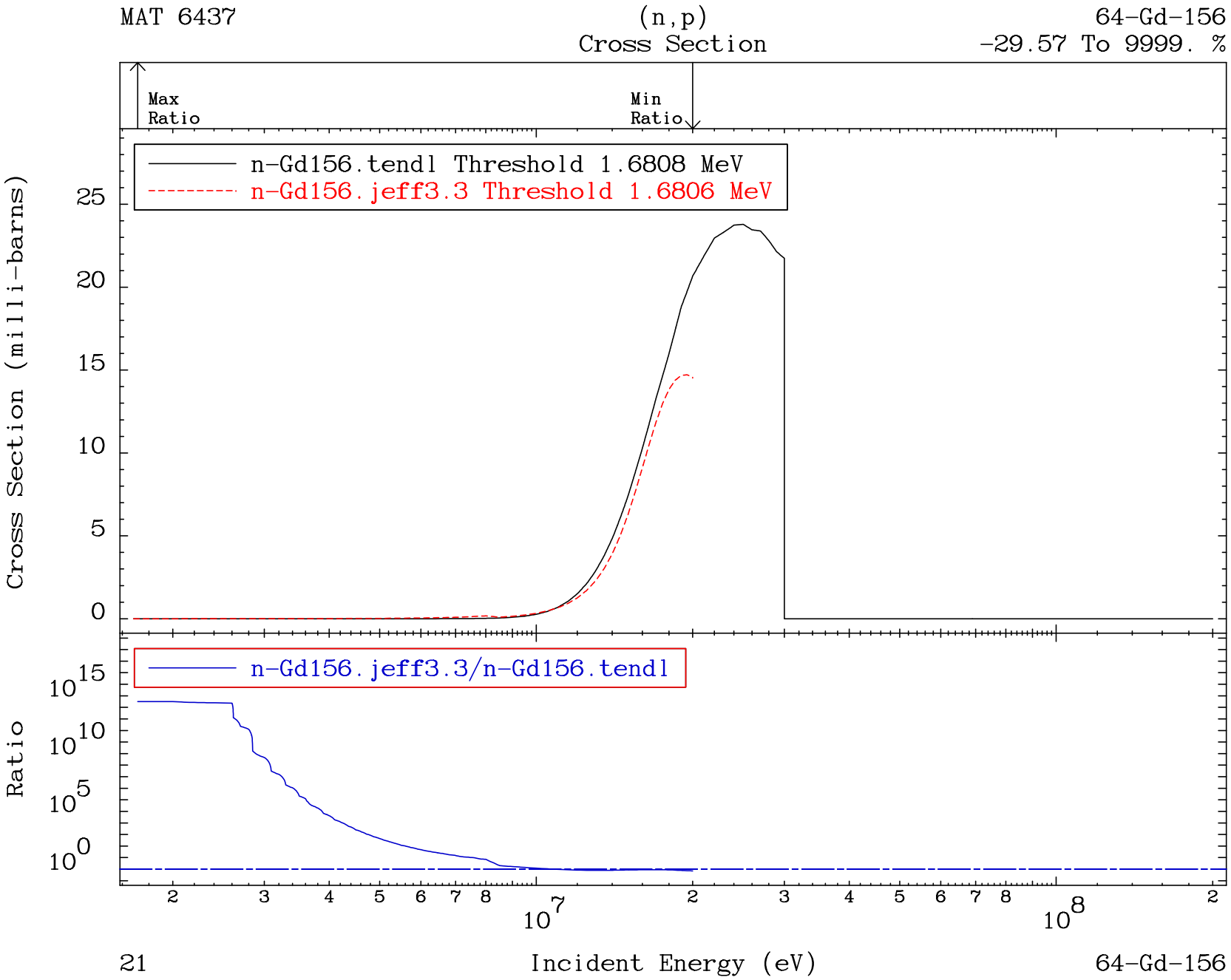

MAT 6437
MT= 62 (n,n') Level
Cross Section
64-Gd-156
-100.0 To -28.26%
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.2844 MeV
n-Gd156.jeff3.3 Threshold 1.3285 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
0.8
0.4
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
16
Incident Energy (eV)
64-Gd-156

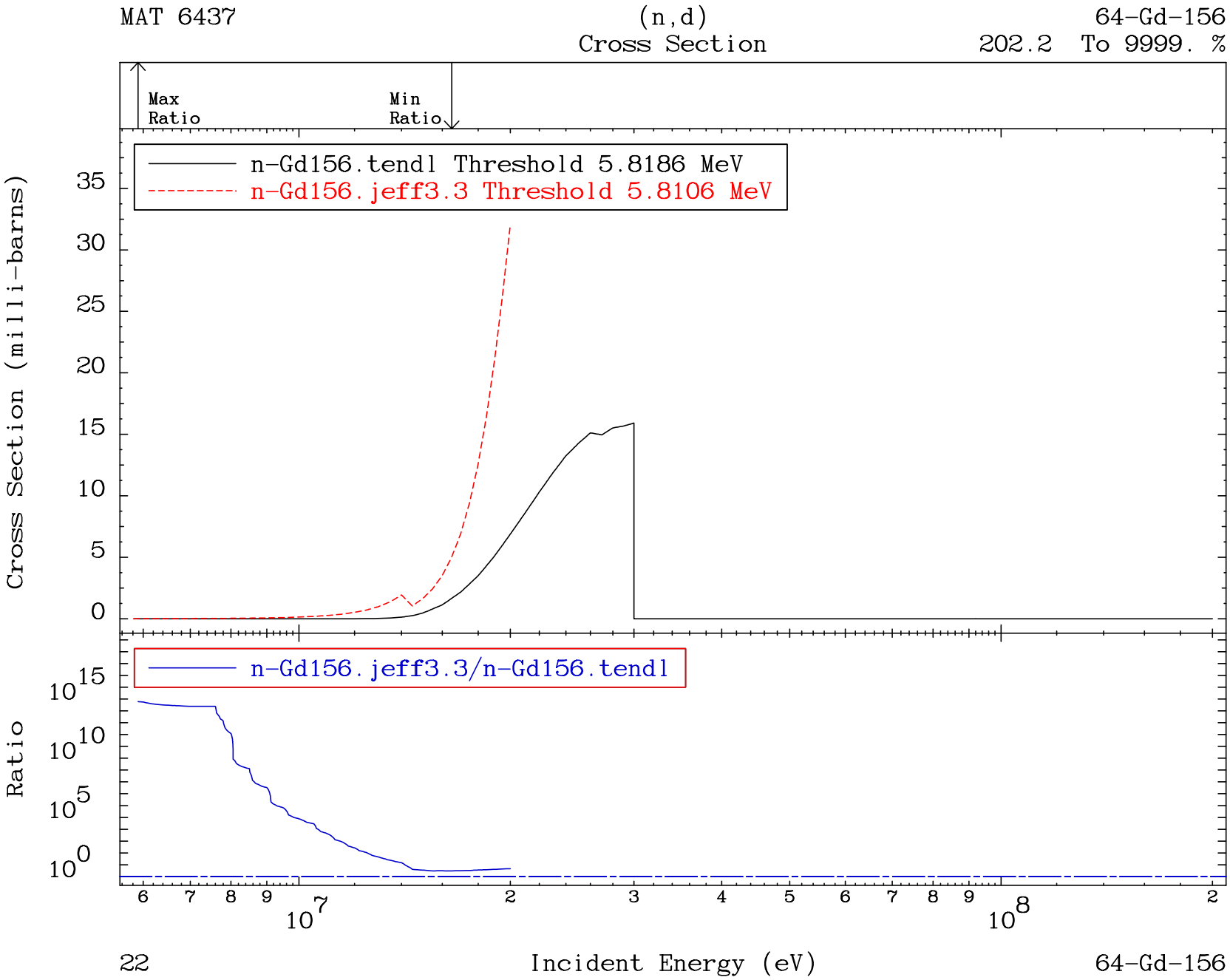

MAT 6437
MT= 63 (n,n') Level
Cross Section
64-Gd-156
-100.0 To -18.91%
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.3062 MeV
n-Gd156.jeff3.3 Threshold 1.3668 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
0.8
0.4
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
17
Incident Energy (eV)
64-Gd-156

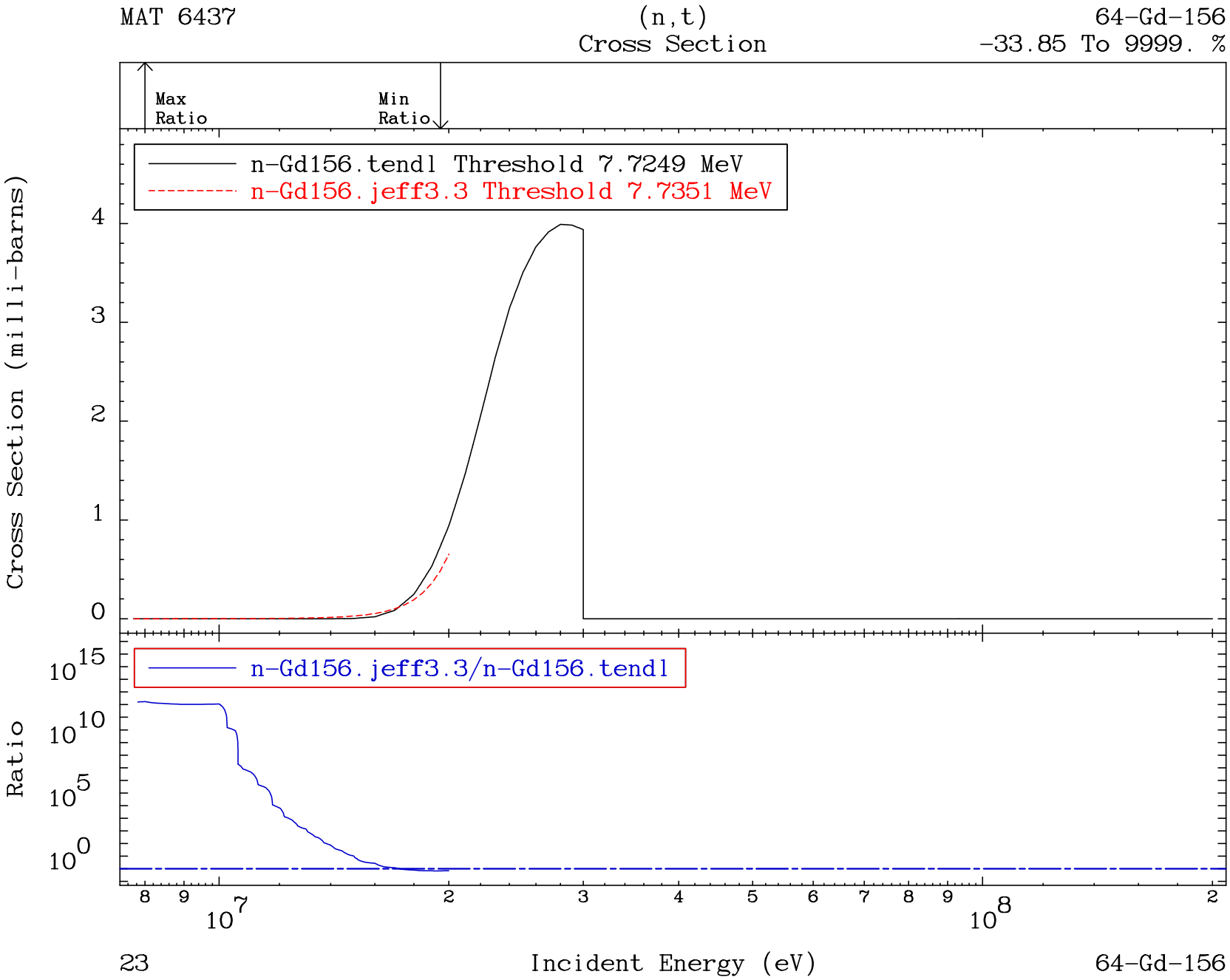

MAT 6437
MT= 64 (n,n') Level
Cross Section
64-Gd-156
-100.0 To -11.28%
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.3282 MeV
n-Gd156.jeff3.3 Threshold 1.3748 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
0.8
0.4
0.0
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
18
Incident Energy (eV)
64-Gd-156

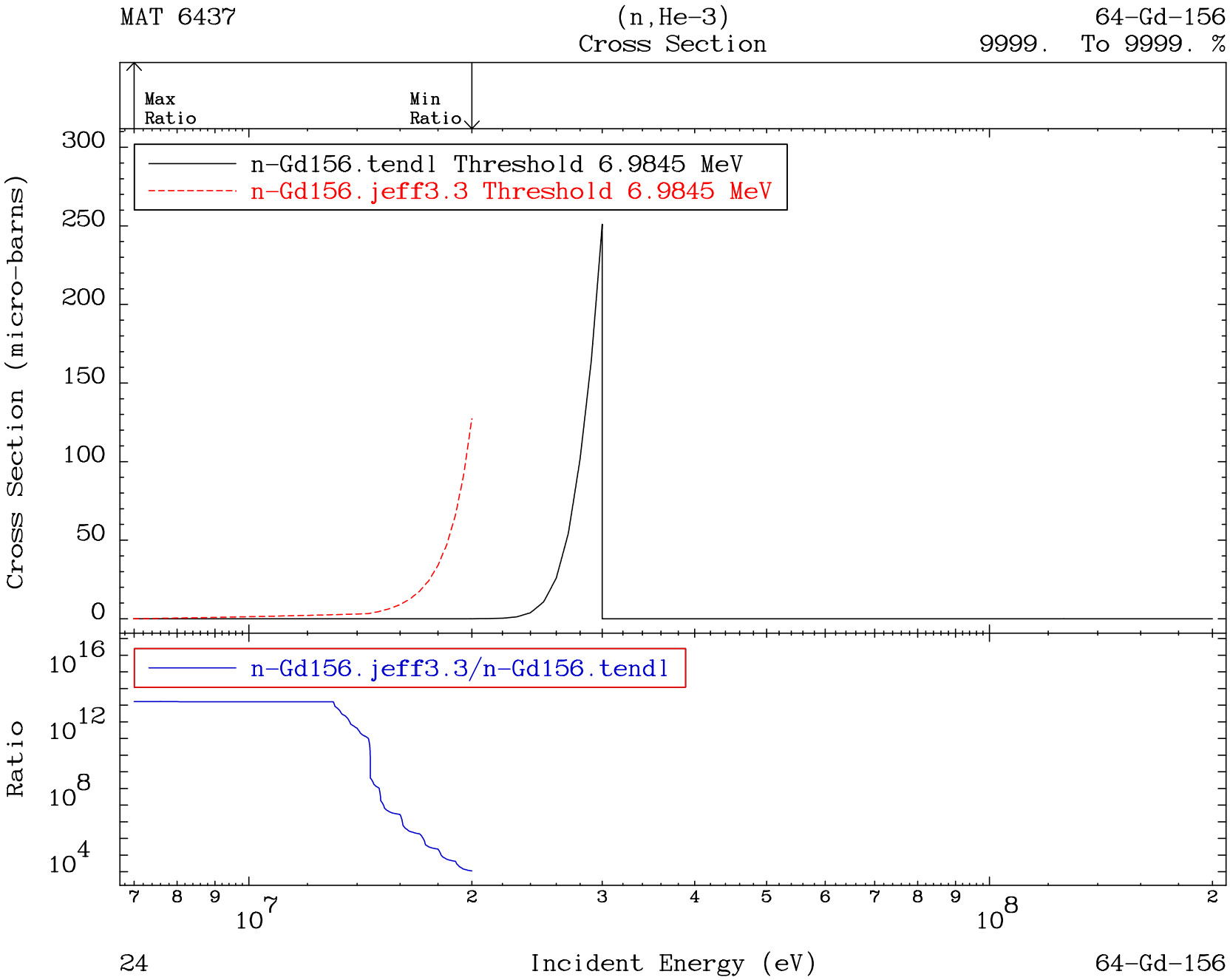

MAT 6437
(n,n') Continuum
Cross Section
64-Gd-156
-94.99 To 9999. %
Max
Ratio
Min
Ratio
n-Gd156.tendl Threshold 1.6543 MeV
n-Gd156.jeff3.3 Threshold 1.4171 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^2
10^0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
19
Incident Energy (eV)
64-Gd-156

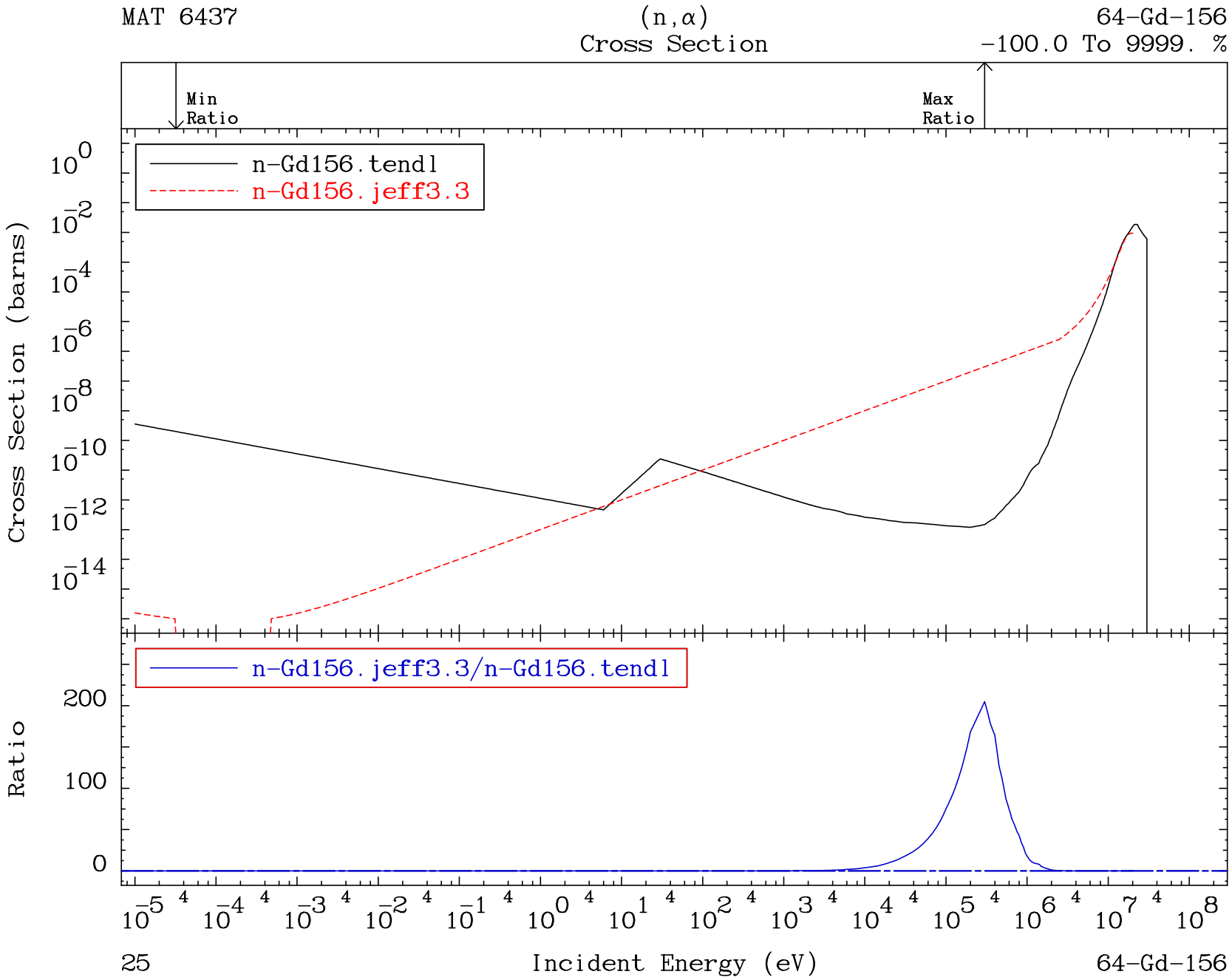

MAT 6437
(n,γ)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
20
64-Gd-156

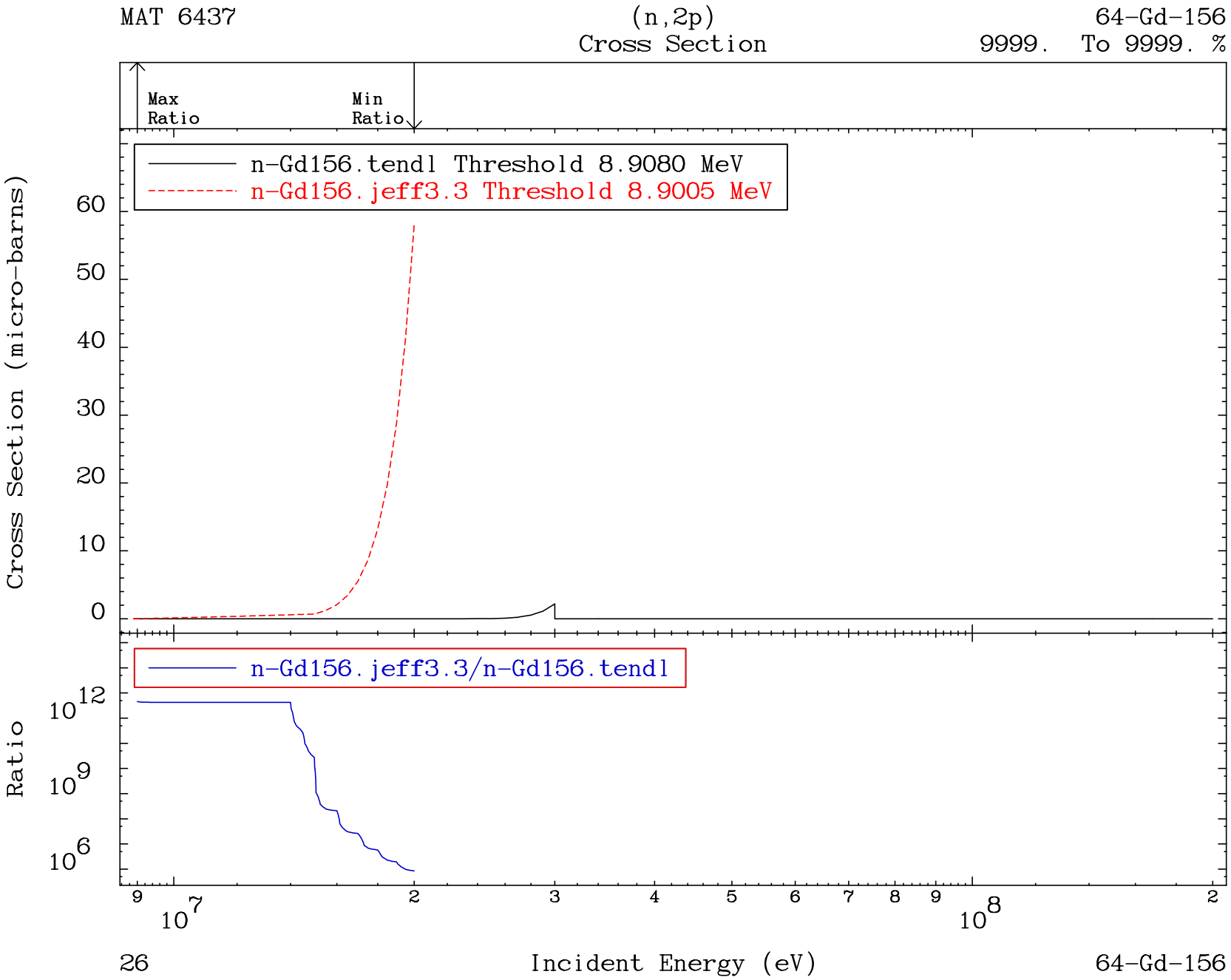

MAT 6437
(n,p)
Cross Section
64-Gd-156
-29.57 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.6808 MeV
n-Gd156.jeff3.3 Threshold 1.6806 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^15
10^10
10^5
10^0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
64-Gd-156

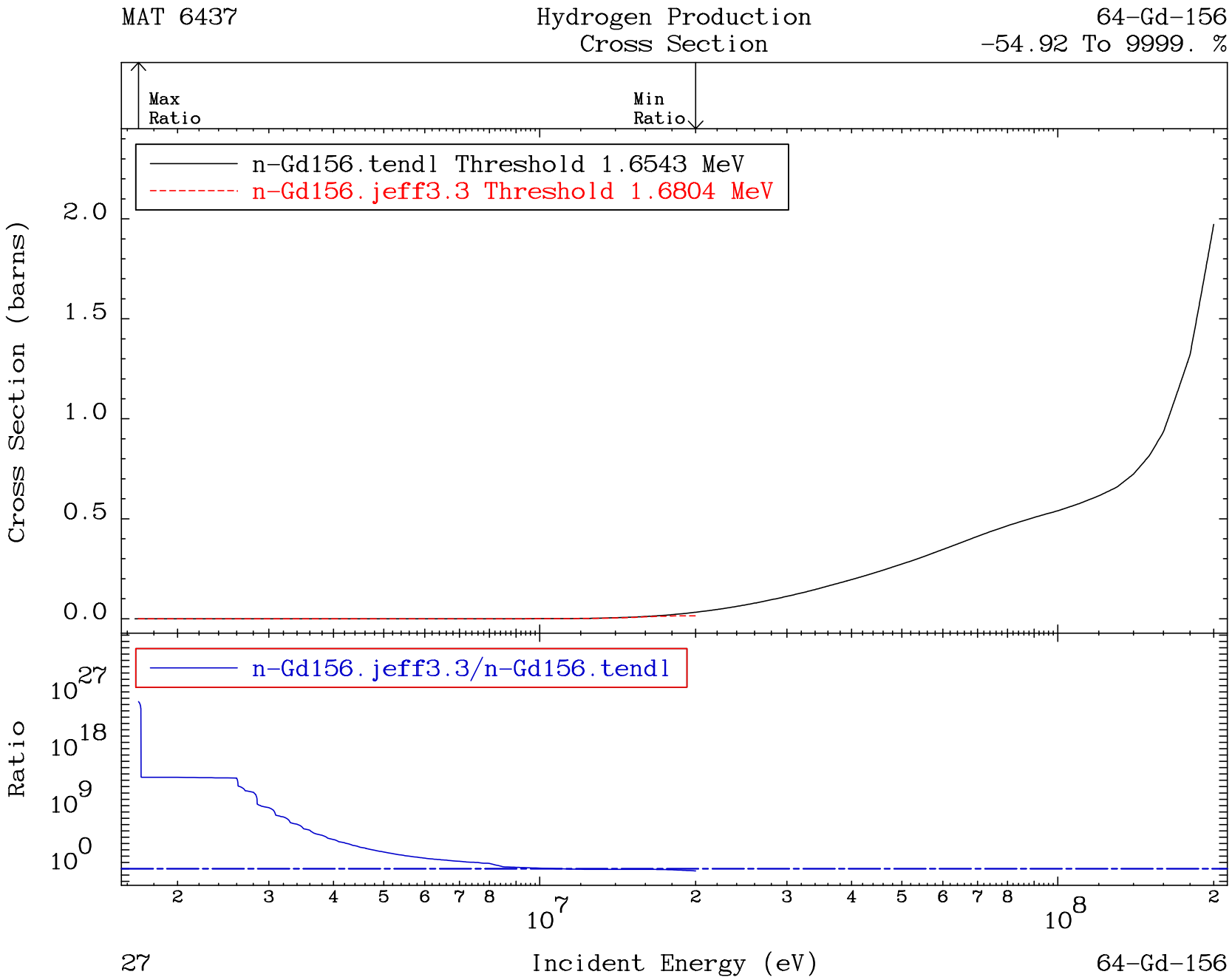

MAT 6437
(n,d)
Cross Section
64-Gd-156
202.2 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 5.8186 MeV
n-Gd156.jeff3.3 Threshold 5.8106 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^15
10^10
10^5
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
22
Incident Energy (eV)
64-Gd-156

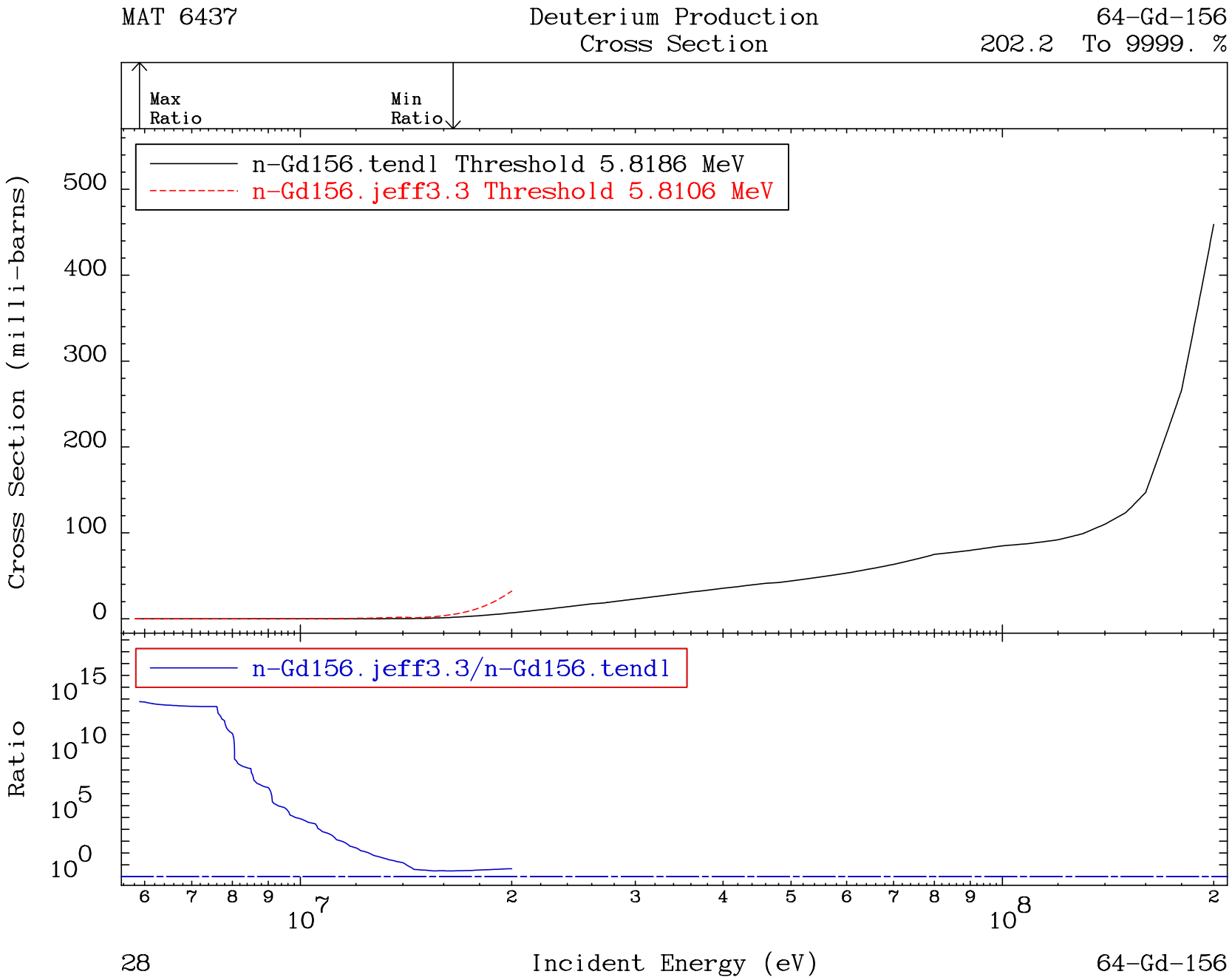

MAT 6437
(n,t)
Cross Section
64-Gd-156
-33.85 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 7.7249 MeV
n-Gd156.jeff3.3 Threshold 7.7351 MeV
Cross Section (milli-barns)
0
1
2
3
4
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^15
10^10
10^5
10^0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
23
Incident Energy (eV)
64-Gd-156

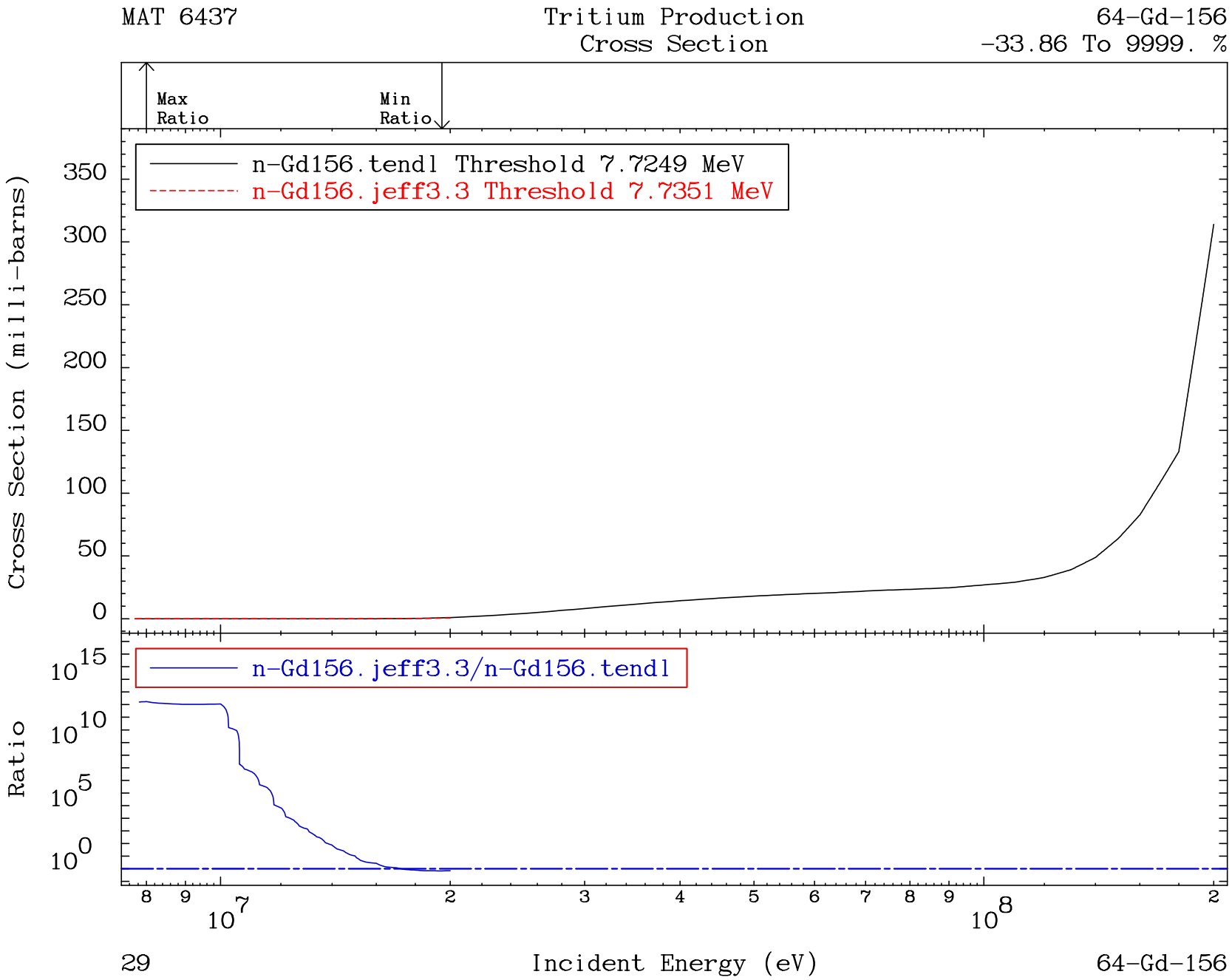

MAT 6437
(n,He-3)
Cross Section
64-Gd-156
9999. To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 6.9845 MeV
n-Gd156.jeff3.3 Threshold 6.9845 MeV
Cross Section (micro-barns)
300
250
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^16
10^12
10^8
10^4
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
24
Incident Energy (eV)
64-Gd-156

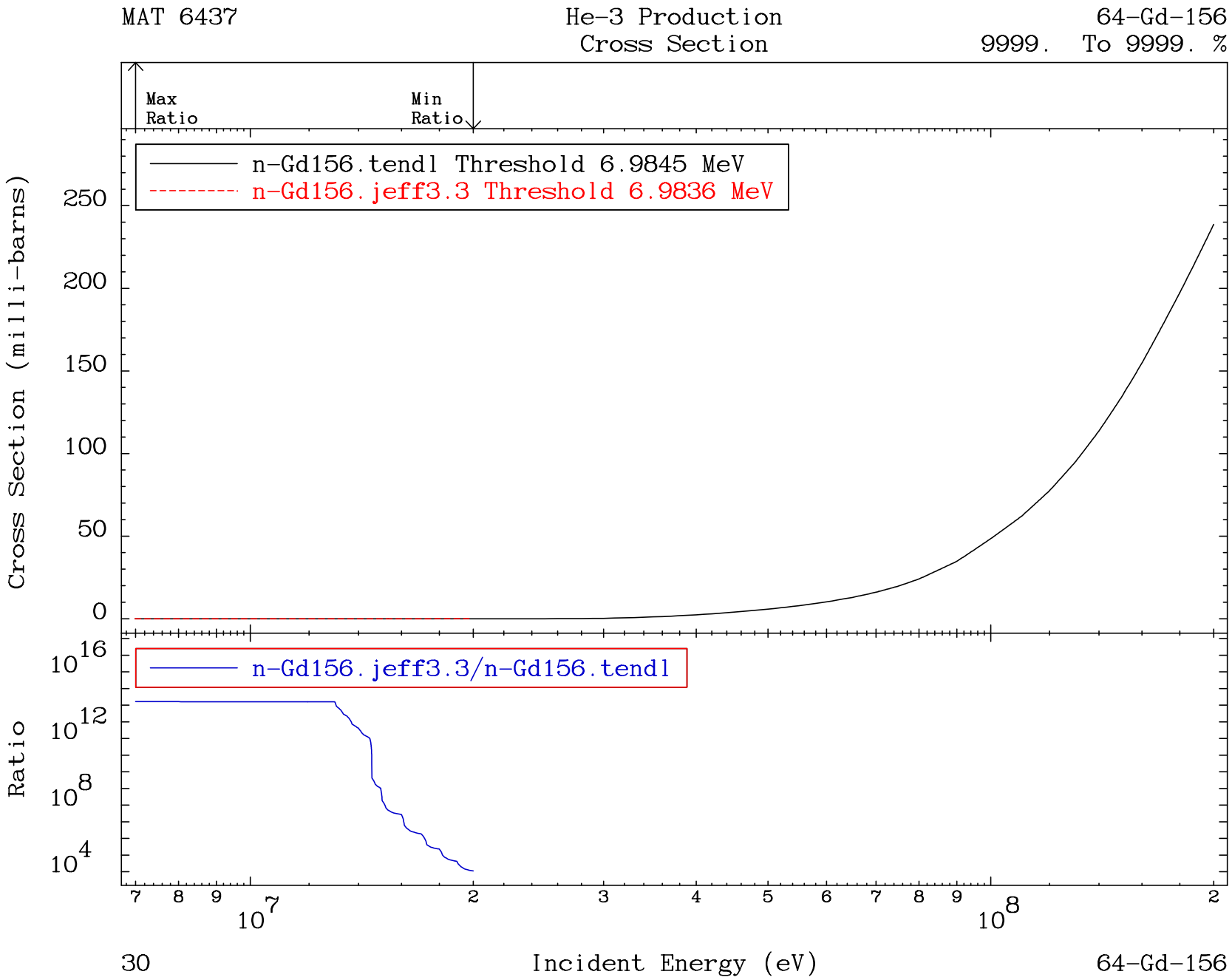

MAT 6437
(n,α)
Cross Section
64-Gd-156
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
25
64-Gd-156

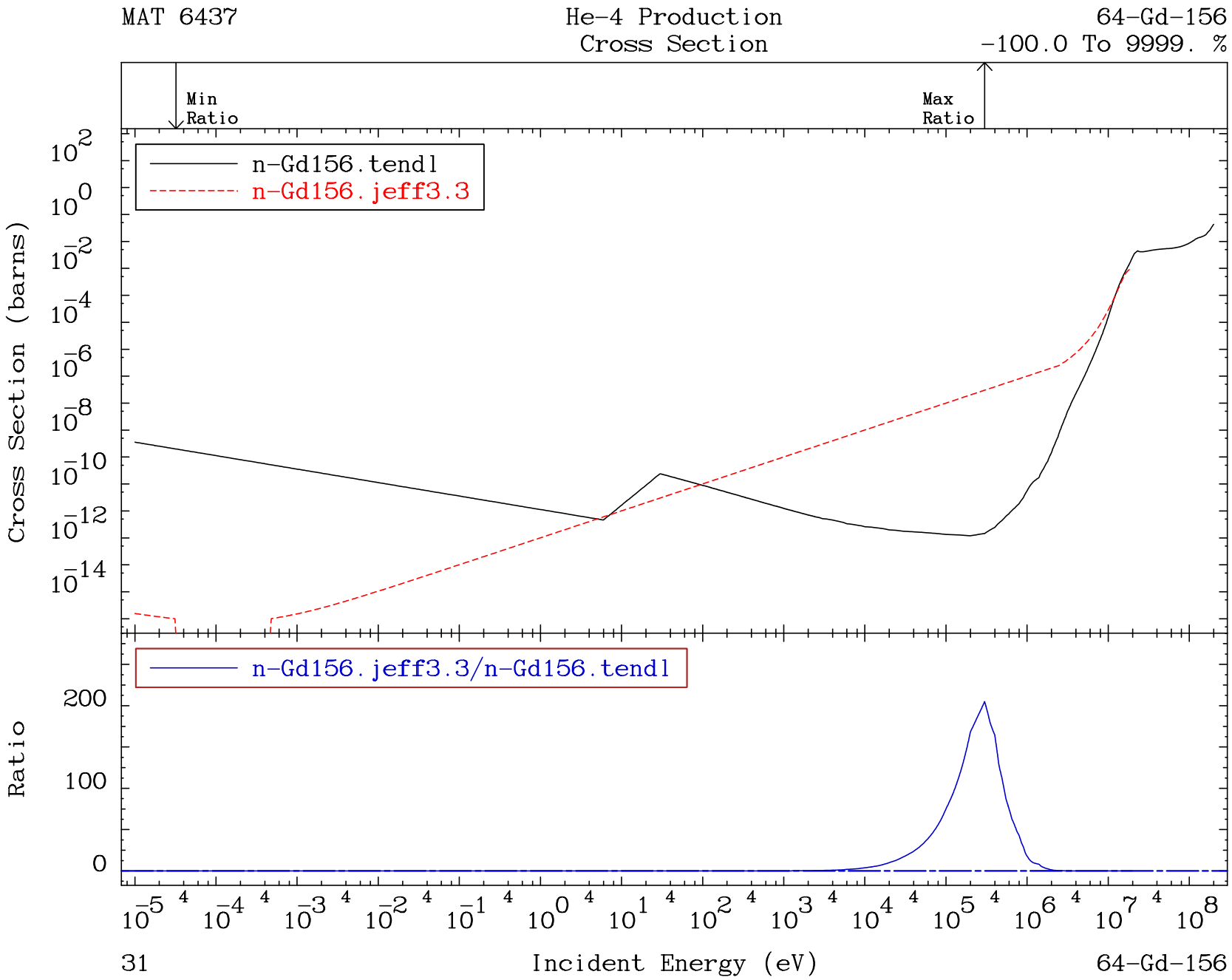

MAT 6437
(n,2p)
Cross Section
64-Gd-156
9999. To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 8.9080 MeV
n-Gd156.jeff3.3 Threshold 8.9005 MeV
Cross Section (micro-barns)
60
50
40
30
20
10
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^12
10^9
10^6
9
10^7
2
3
4
5
6
7
8
9
10^8
2
26
Incident Energy (eV)
64-Gd-156

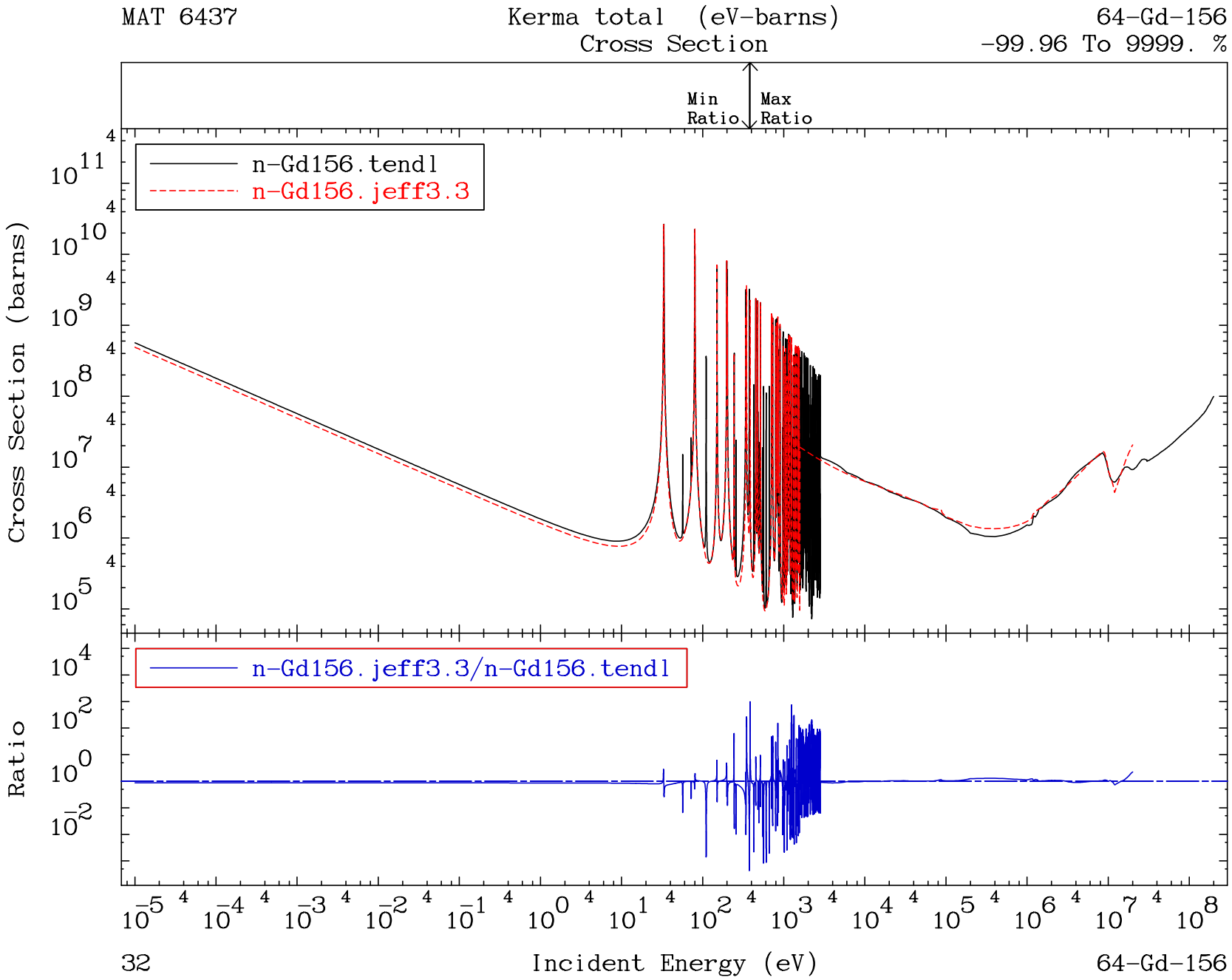

MAT 6437
Hydrogen Production
Cross Section
64-Gd-156
-54.92 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 1.6543 MeV
n-Gd156.jeff3.3 Threshold 1.6804 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^27
10^18
10^9
10^0
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
27
Incident Energy (eV)
64-Gd-156

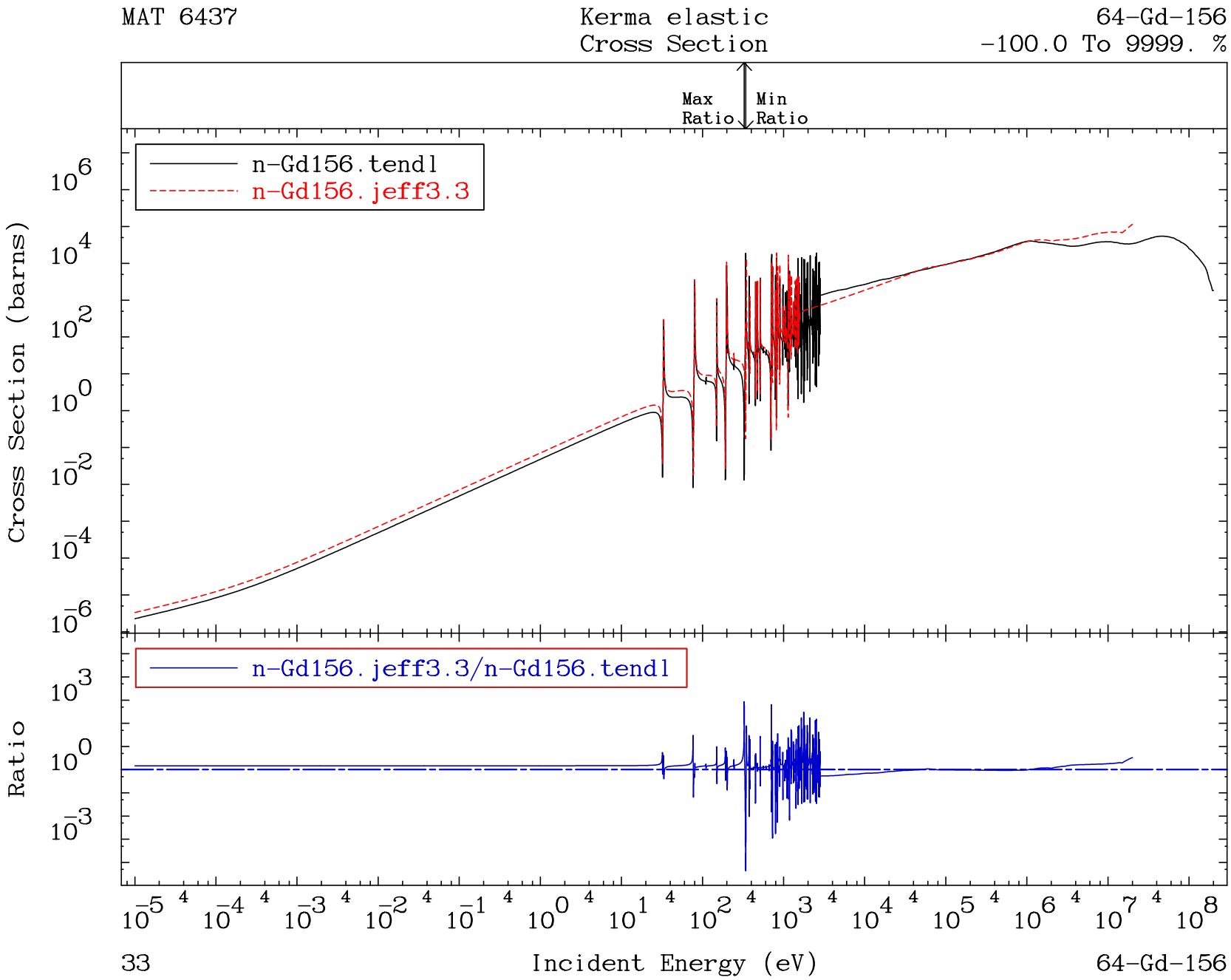

MAT 6437
Deuterium Production
Cross Section
64-Gd-156
202.2 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 5.8186 MeV
n-Gd156.jeff3.3 Threshold 5.8106 MeV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^15
10^10
10^5
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
64-Gd-156

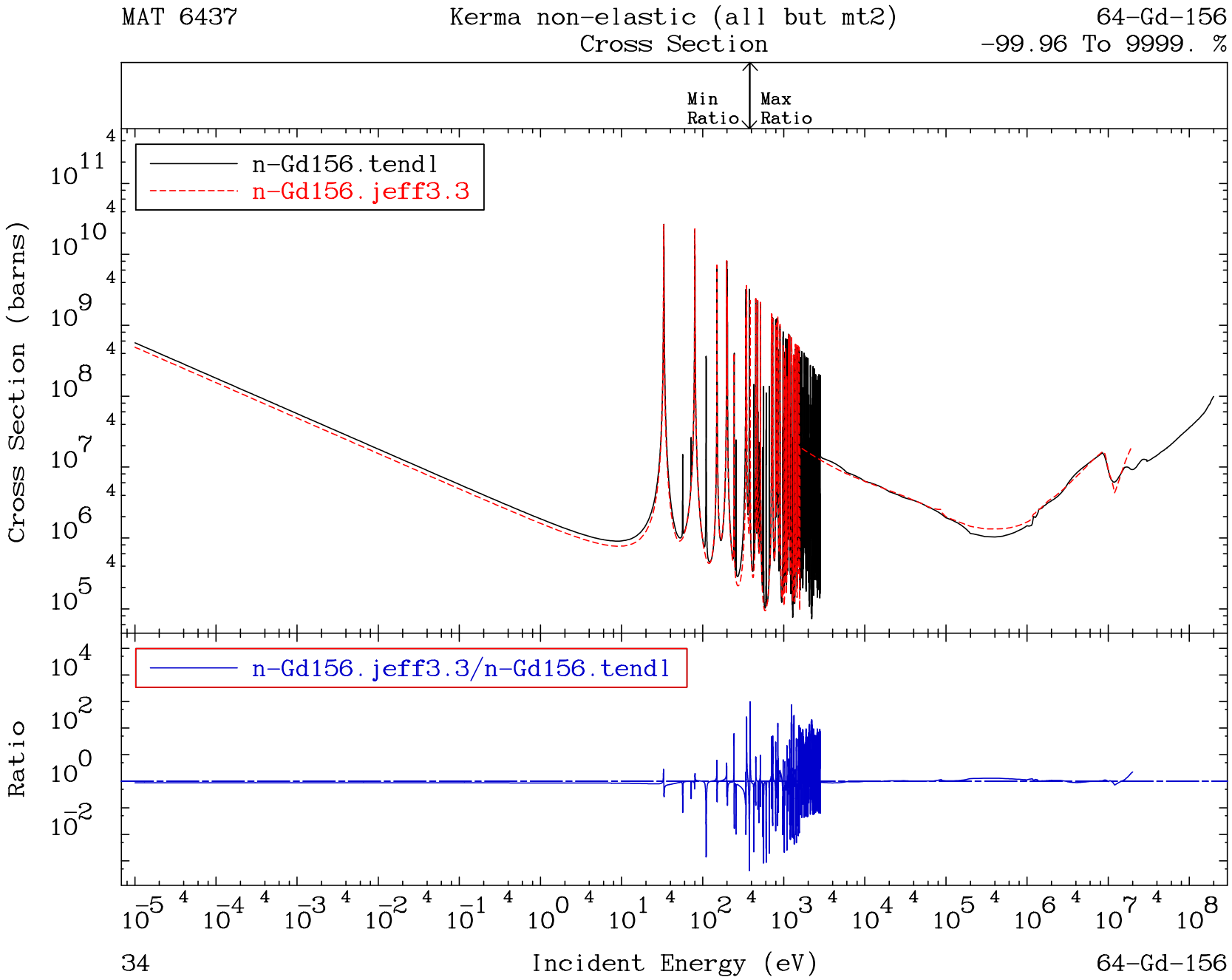

MAT 6437
Tritium Production
Cross Section
64-Gd-156
-33.86 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 7.7249 MeV
n-Gd156.jeff3.3 Threshold 7.7351 MeV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^15
10^10
10^5
10^0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
29
Incident Energy (eV)
64-Gd-156

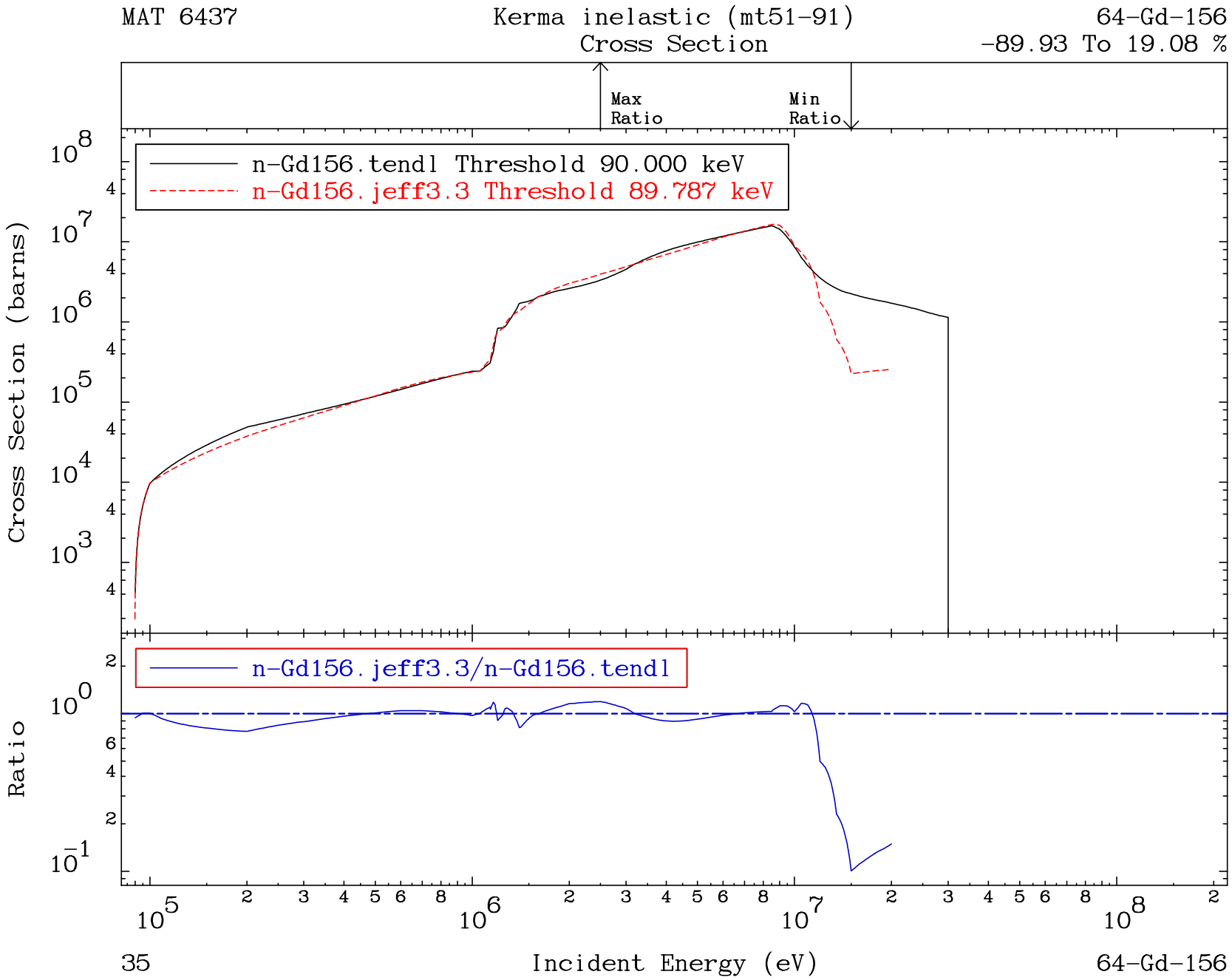

MAT 6437
He-3 Production
Cross Section
64-Gd-156
9999. To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 6.9845 MeV
n-Gd156.jeff3.3 Threshold 6.9836 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
10^16
10^12
10^8
10^4
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
30
Incident Energy (eV)
64-Gd-156

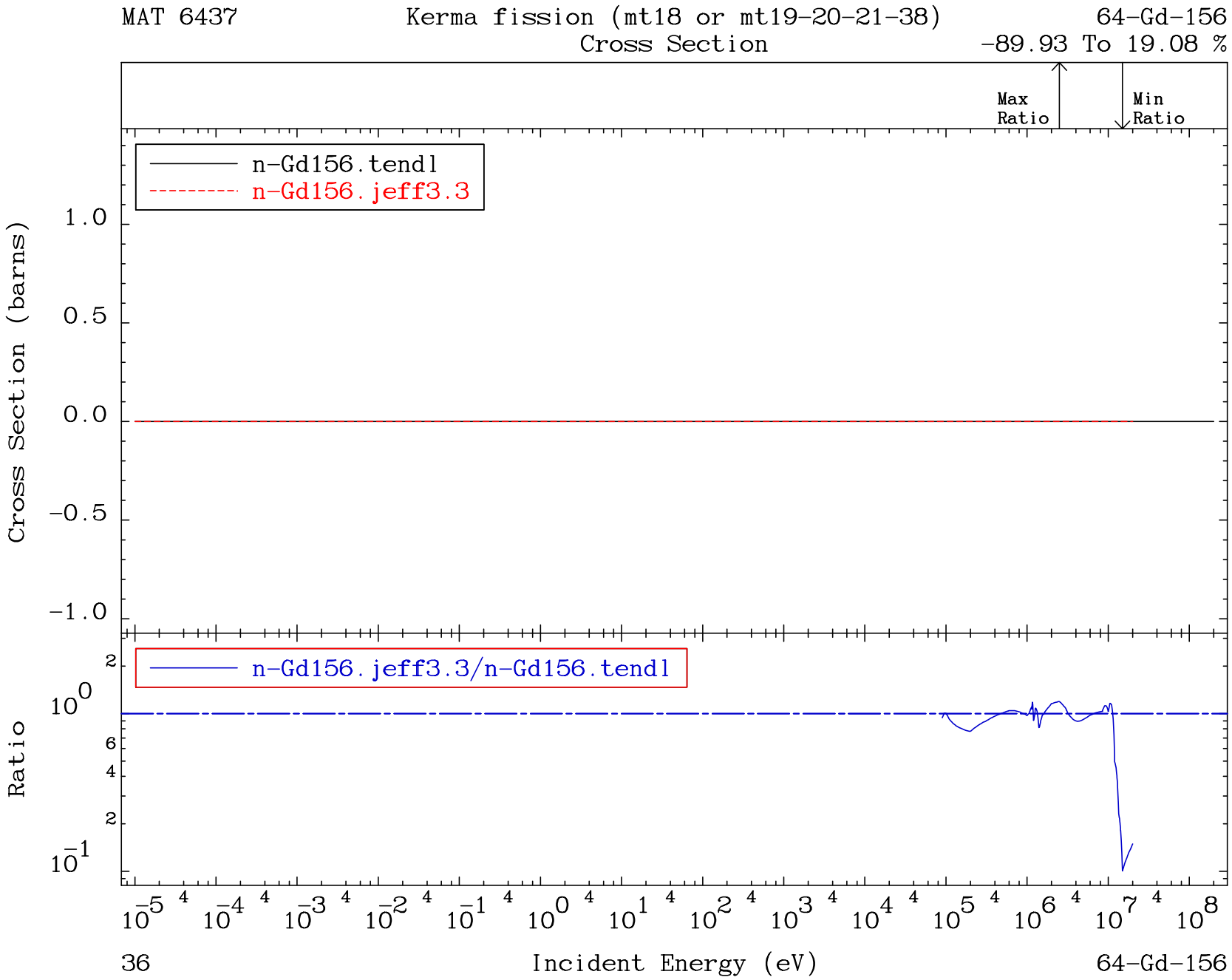

MAT 6437
He-4 Production
Cross Section
64-Gd-156
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
31
64-Gd-156

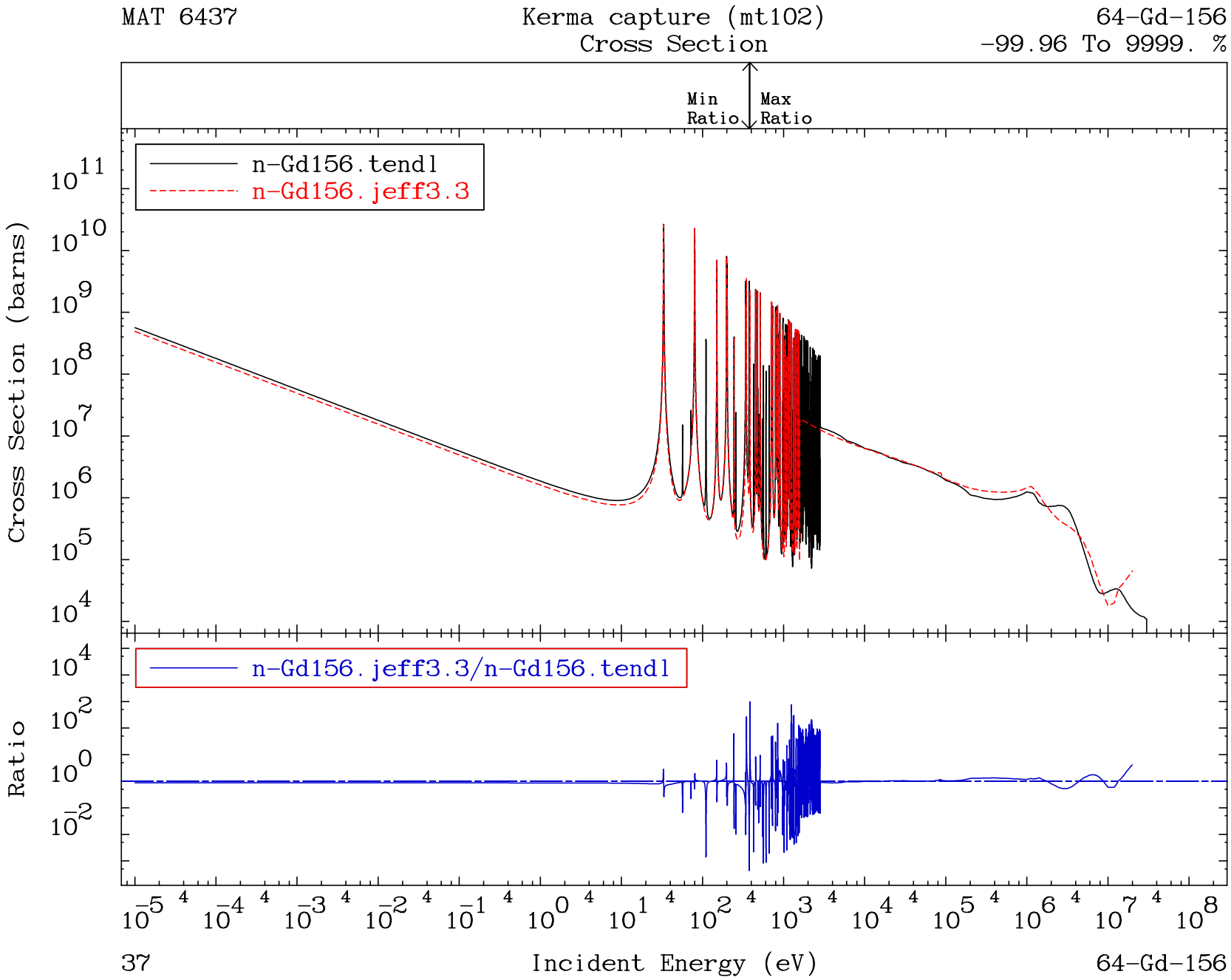

MAT 6437
Kerma total (eV-barns)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
32
64-Gd-156

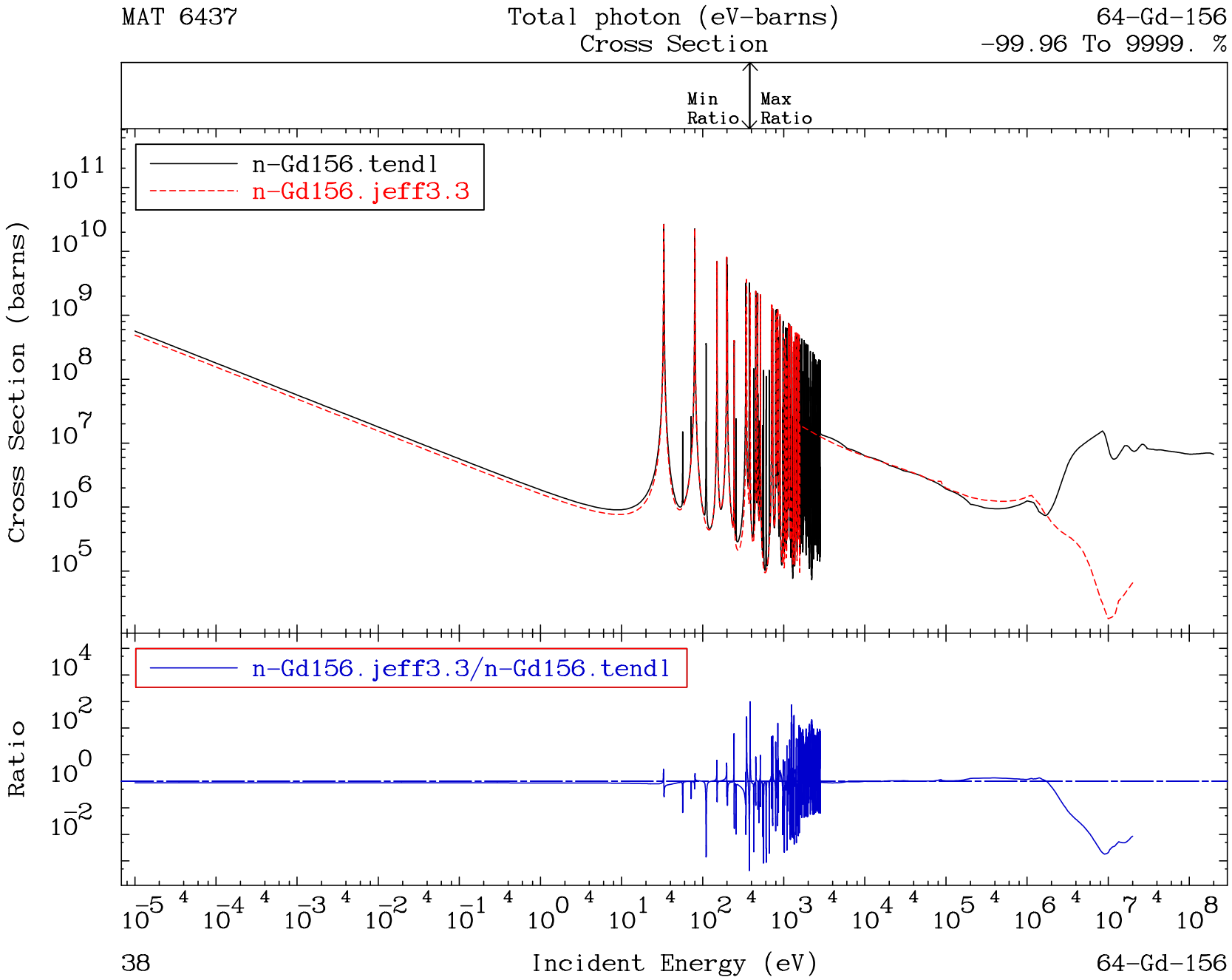

MAT 6437
Kerma elastic
Cross Section
64-Gd-156
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
33
64-Gd-156

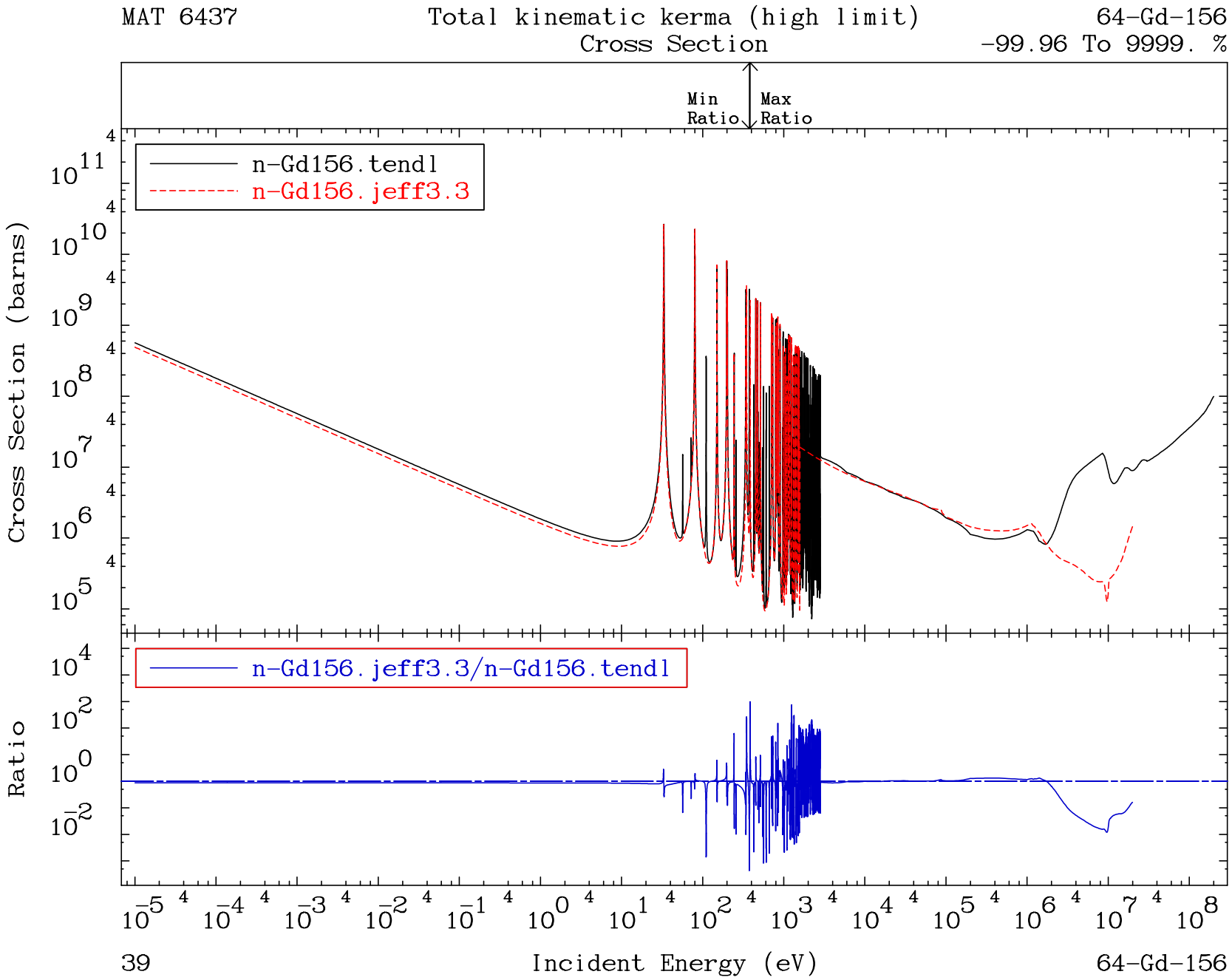

MAT 6437
Kerma non-elastic (all but mt2)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
34
Incident Energy (eV)
64-Gd-156

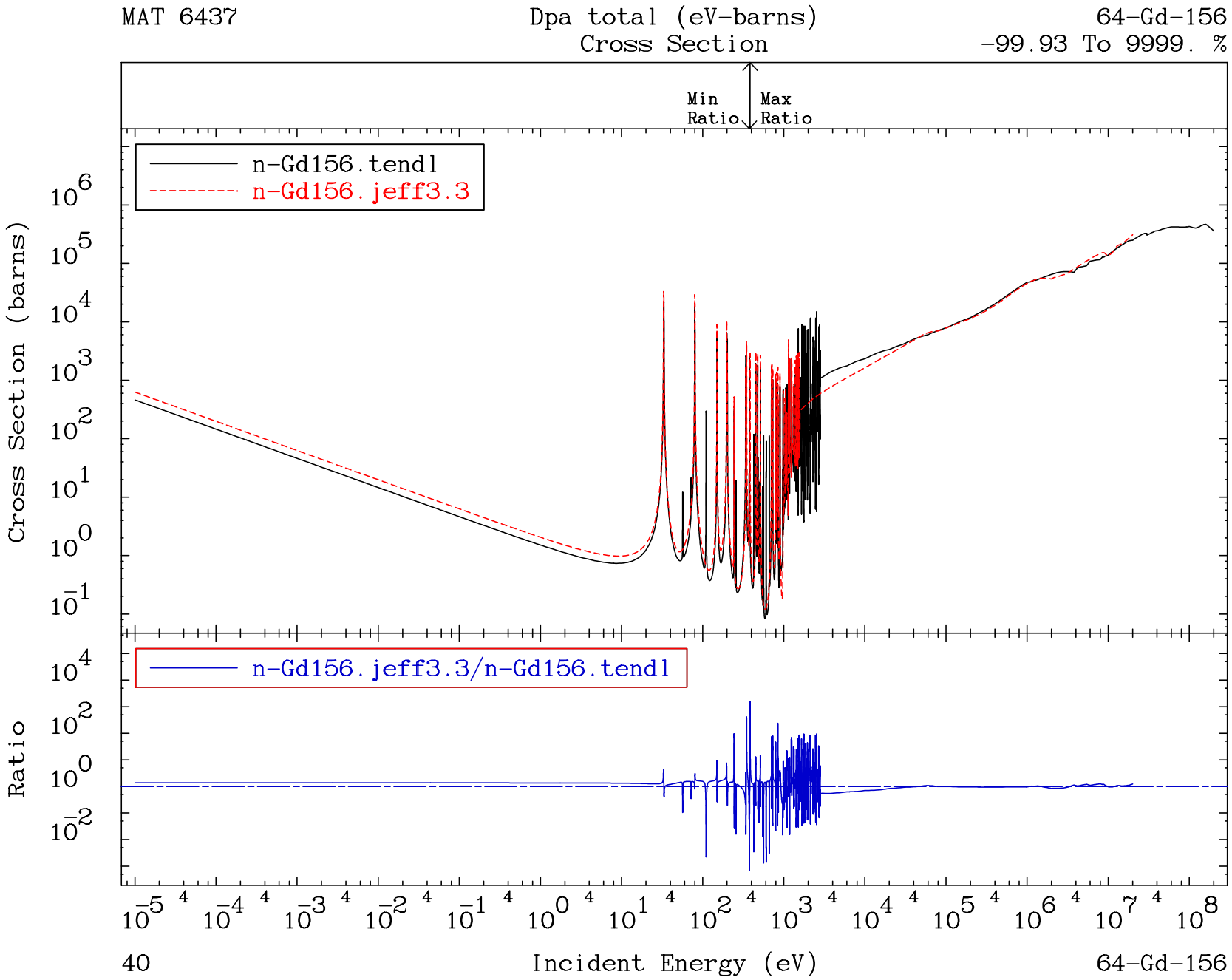

MAT 6437
Kerma inelastic (mt51-91)
Cross Section
64-Gd-156
-89.93 To 19.08 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 90.000 keV
n-Gd156.jeff3.3 Threshold 89.787 keV
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
35
64-Gd-156

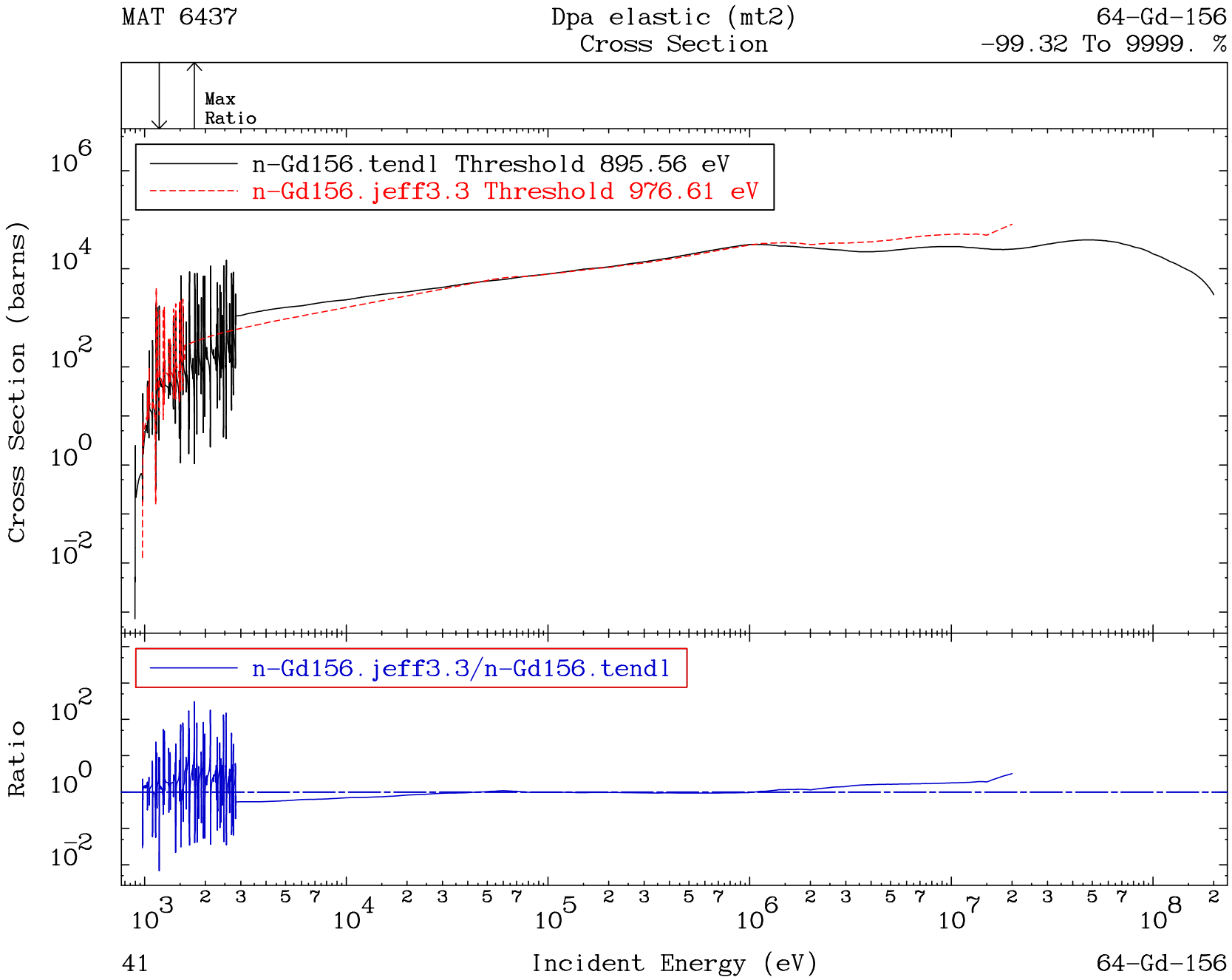

MAT 6437
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
64-Gd-156
-89.93 To 19.08 %
Max Ratio
Min Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
2
10^0
6
4
2
10^-1
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
36
Incident Energy (eV)
64-Gd-156

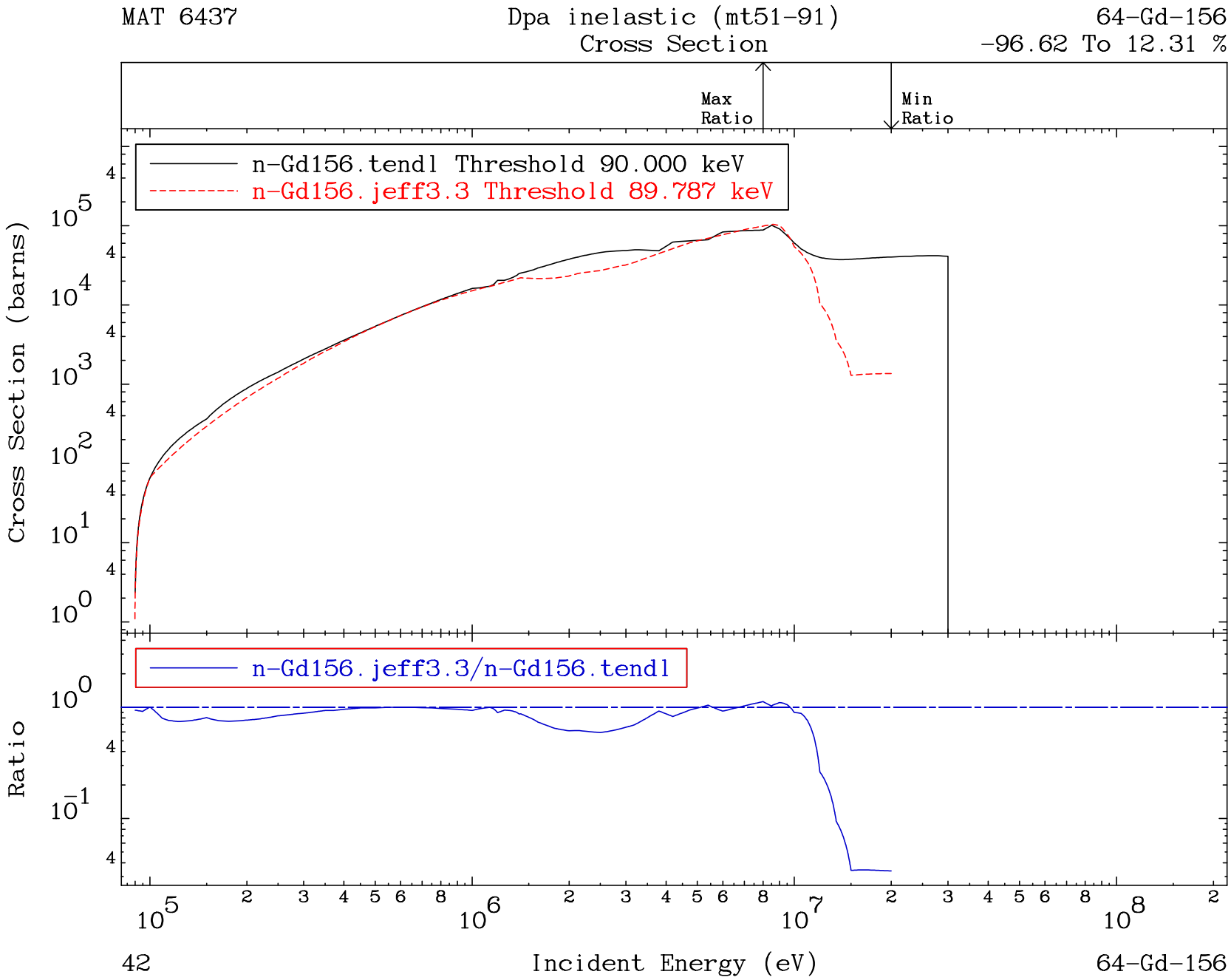

MAT 6437
Kerma capture (mt102)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
37
64-Gd-156

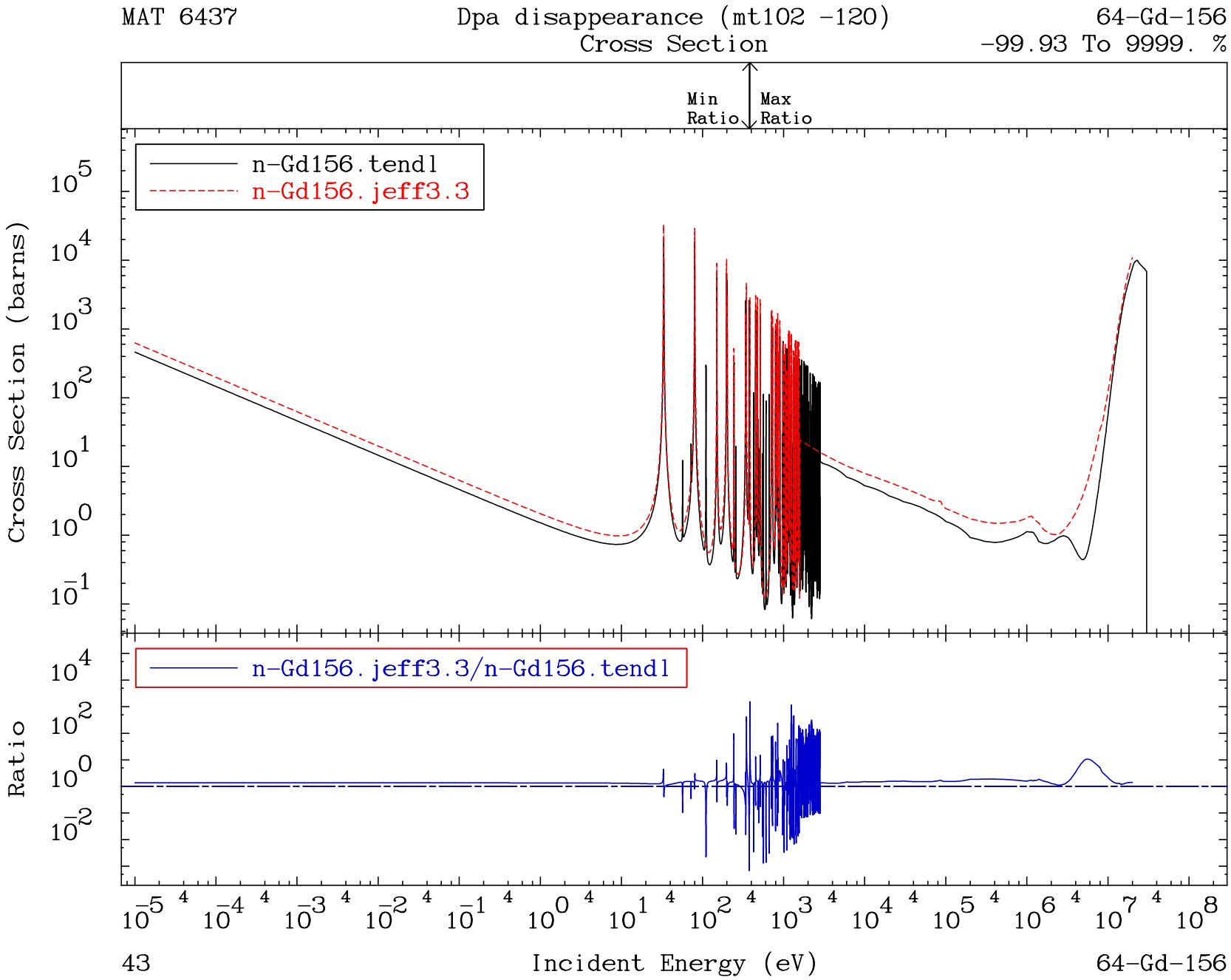

MAT 6437
Total photon (eV-barns)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
38
Incident Energy (eV)
64-Gd-156


MAT 6437
Total kinematic kerma (high limit)
Cross Section
64-Gd-156
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
39
Incident Energy (eV)
64-Gd-156


MAT 6437
Dpa total (eV-barns)
Cross Section
64-Gd-156
-99.93 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
40
64-Gd-156


MAT 6437
Dpa elastic (mt2)
Cross Section
64-Gd-156
-99.32 To 9999. %
Max
Ratio
n-Gd156.tendl Threshold 895.56 eV
n-Gd156.jeff3.3 Threshold 976.61 eV
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
41
64-Gd-156


MAT 6437
Dpa inelastic (mt51-91)
Cross Section
64-Gd-156
-96.62 To 12.31 %
Max Ratio
Min Ratio
n-Gd156.tendl Threshold 90.000 keV
n-Gd156.jeff3.3 Threshold 89.787 keV
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
42
64-Gd-156


MAT 6437
Dpa disappearance (mt102 -120)
Cross Section
64-Gd-156
-99.93 To 9999. %
Min Ratio
Max Ratio
n-Gd156.tendl
n-Gd156.jeff3.3
Cross Section (barns)
n-Gd156.jeff3.3/n-Gd156.tendl
Ratio
Incident Energy (eV)
43
64-Gd-156