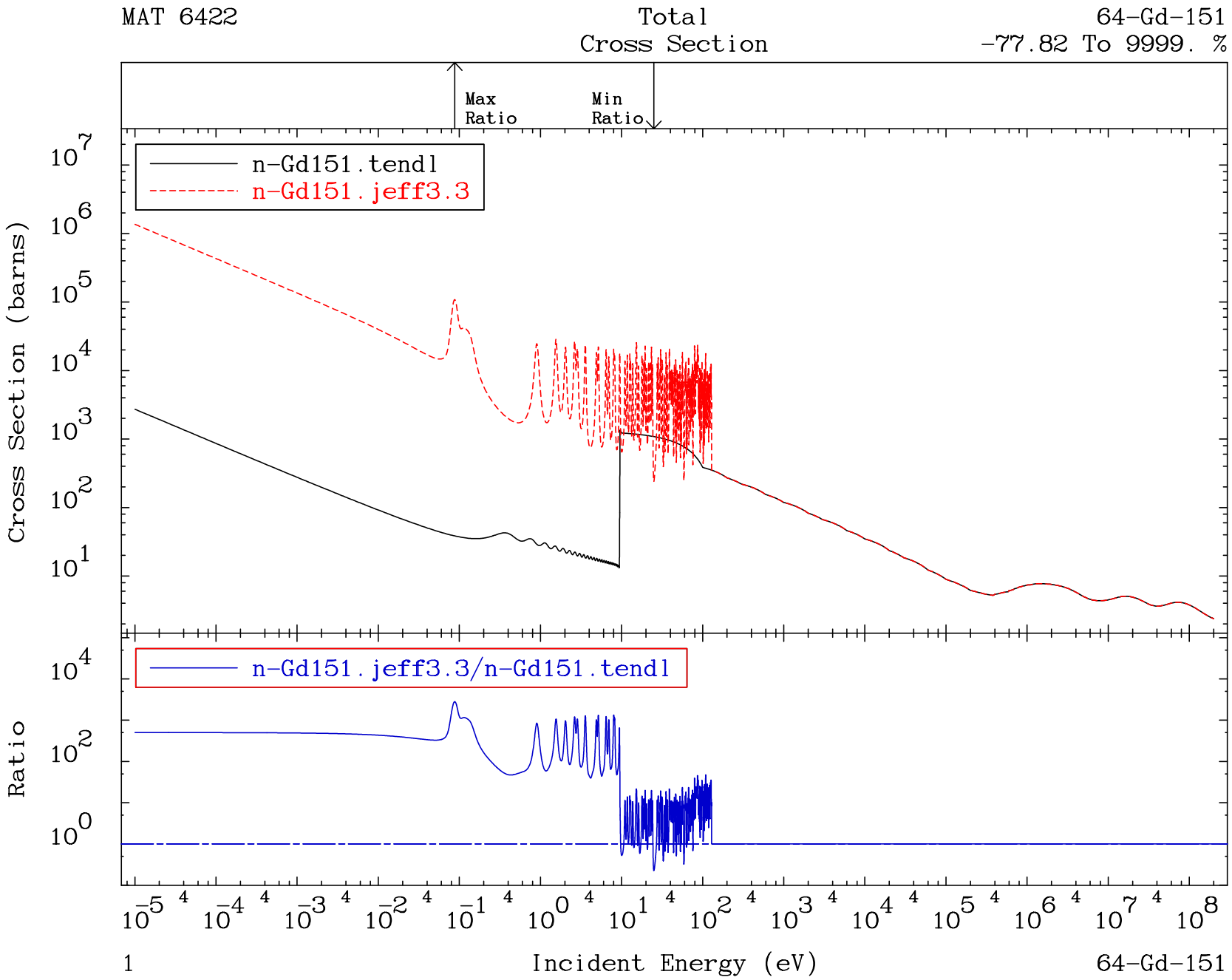
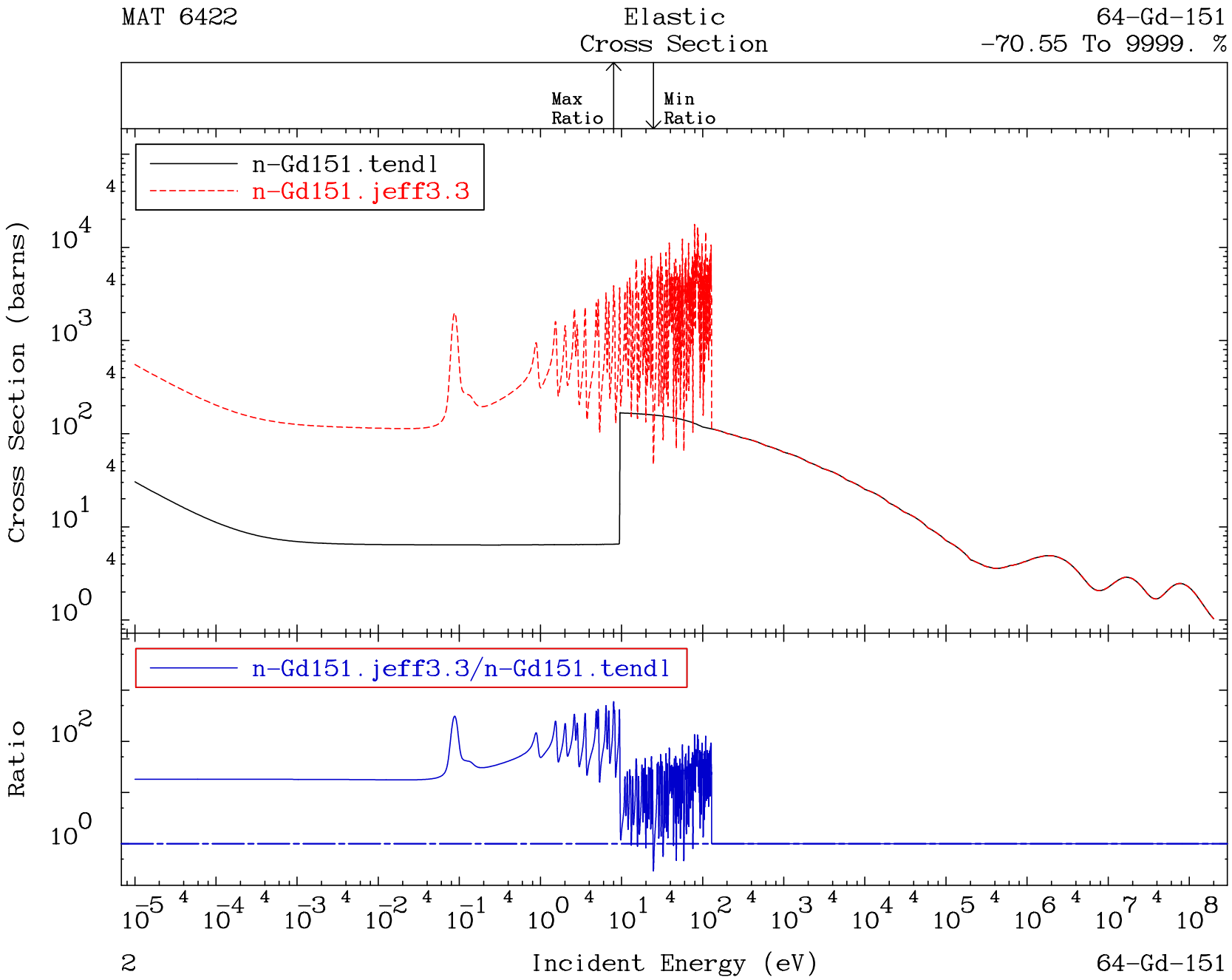
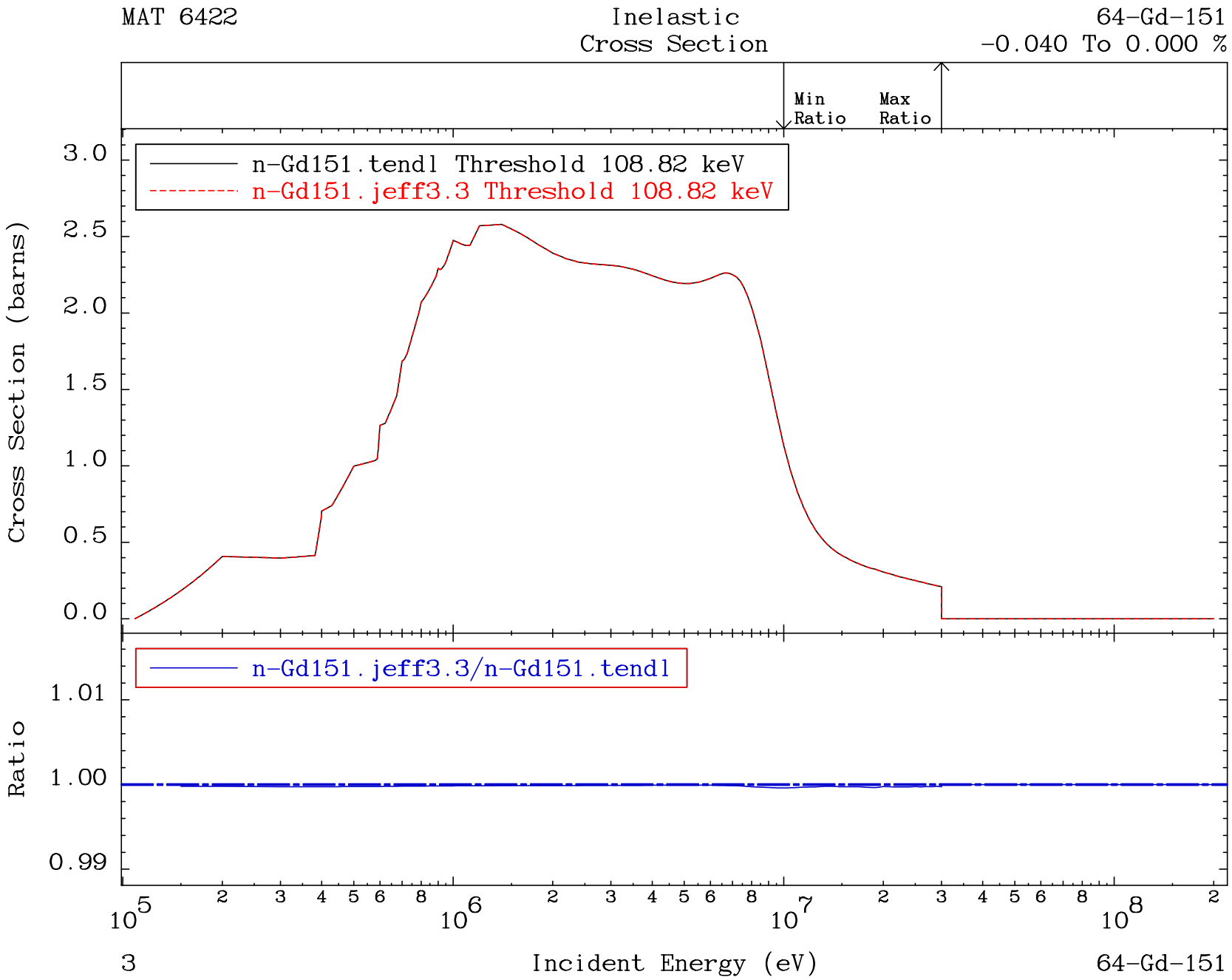
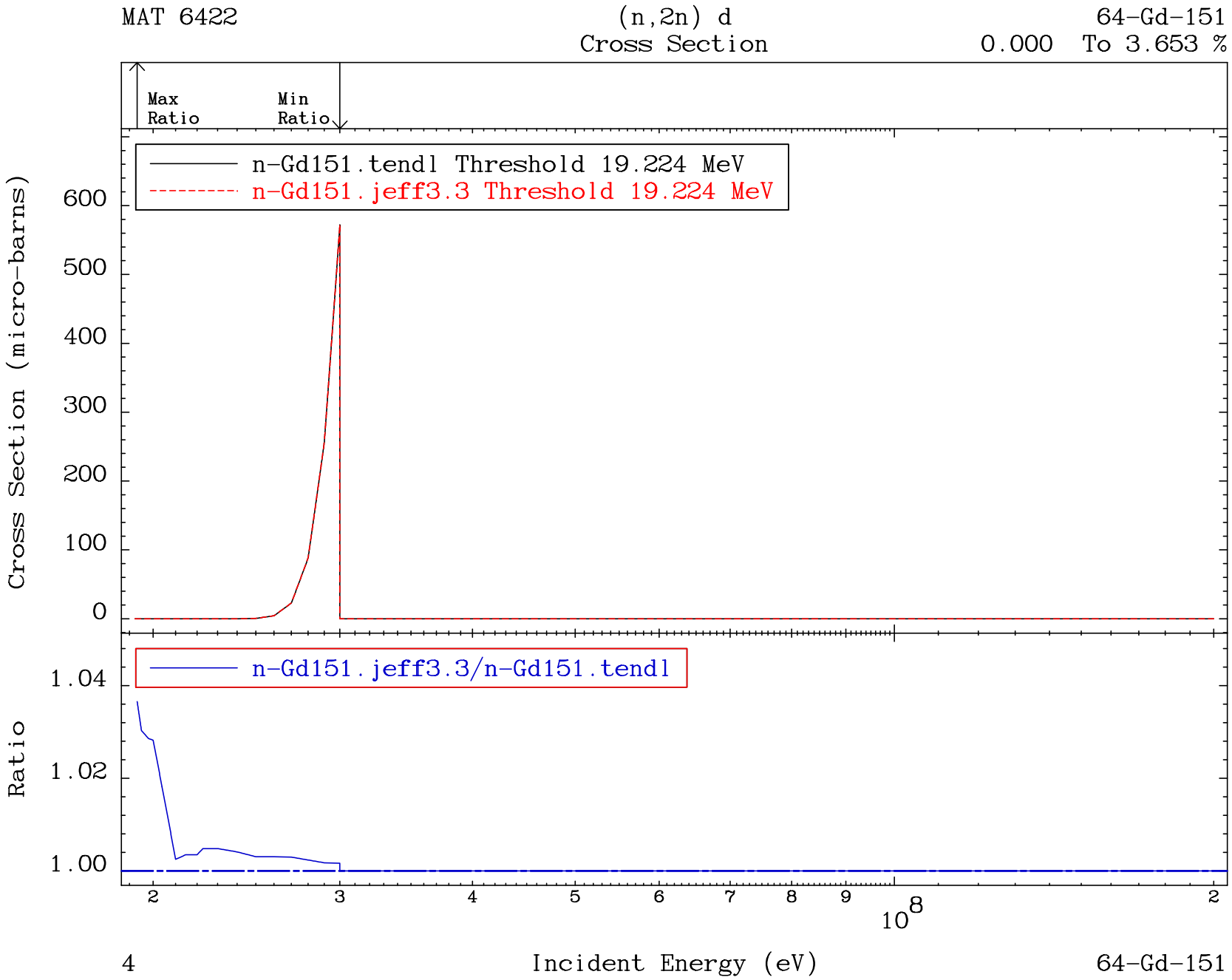
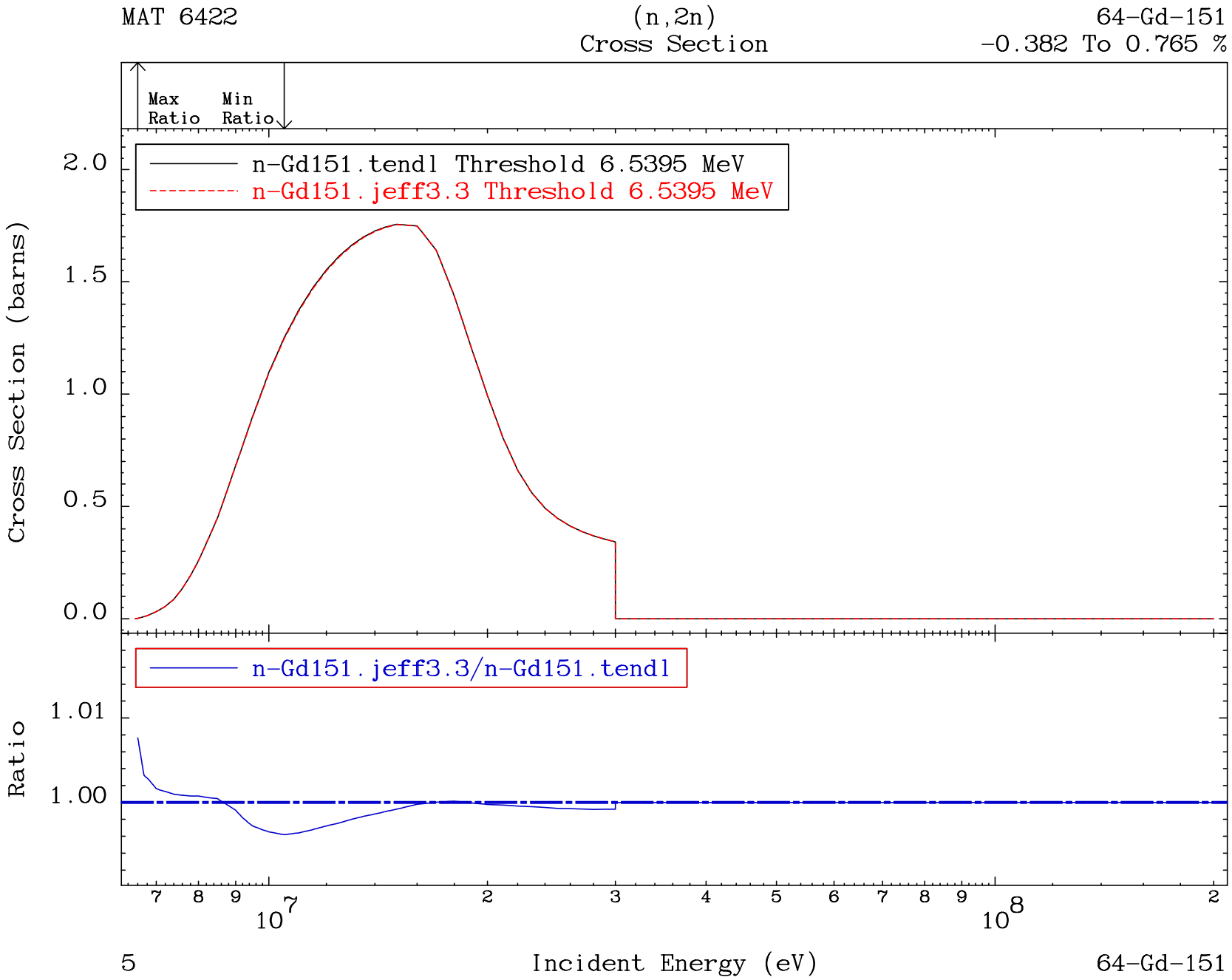
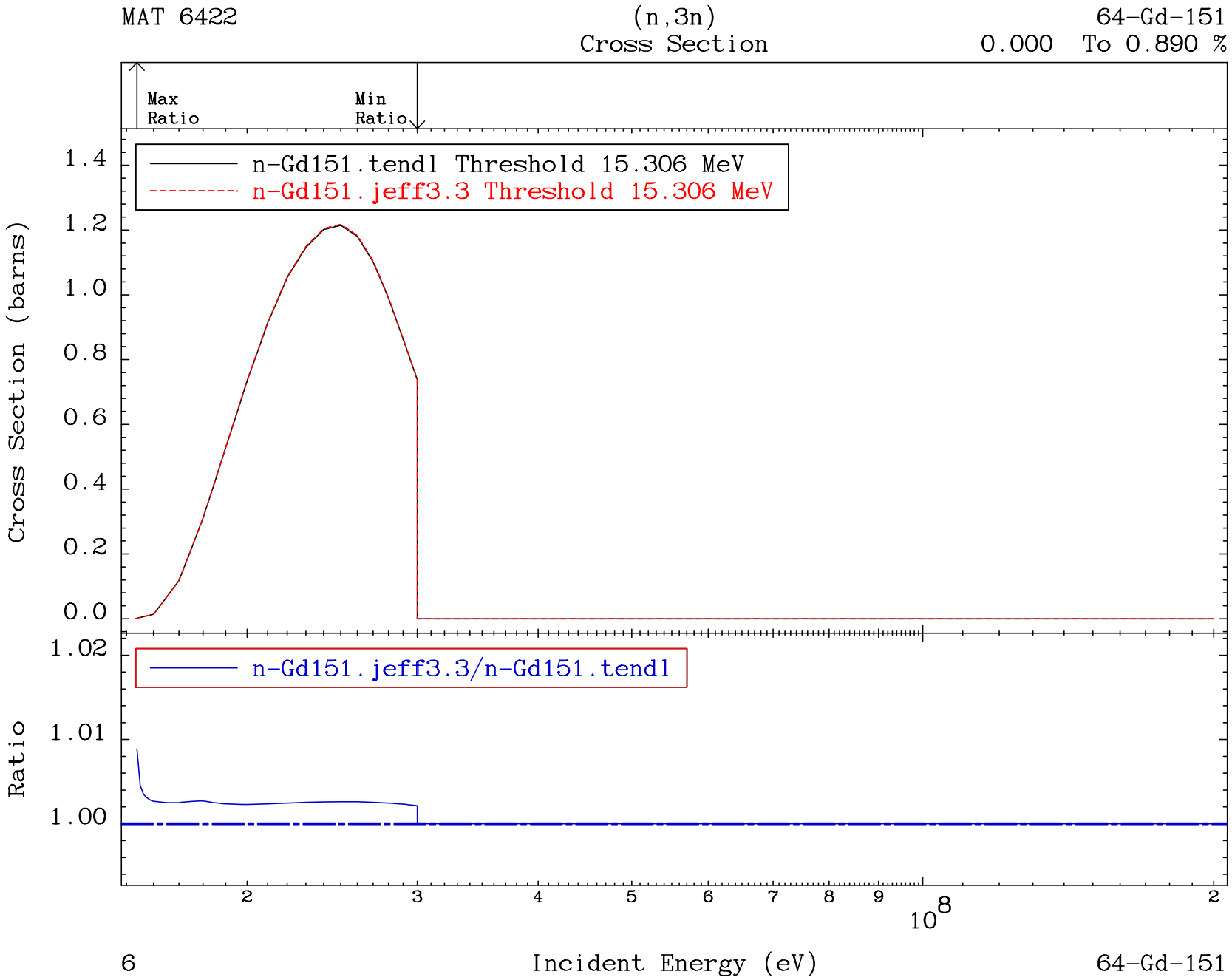

MAT 6422
Total
Cross Section
64-Gd-151
-77.82 To 9999. %
Max
Ratio
Min
Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
1
64-Gd-151

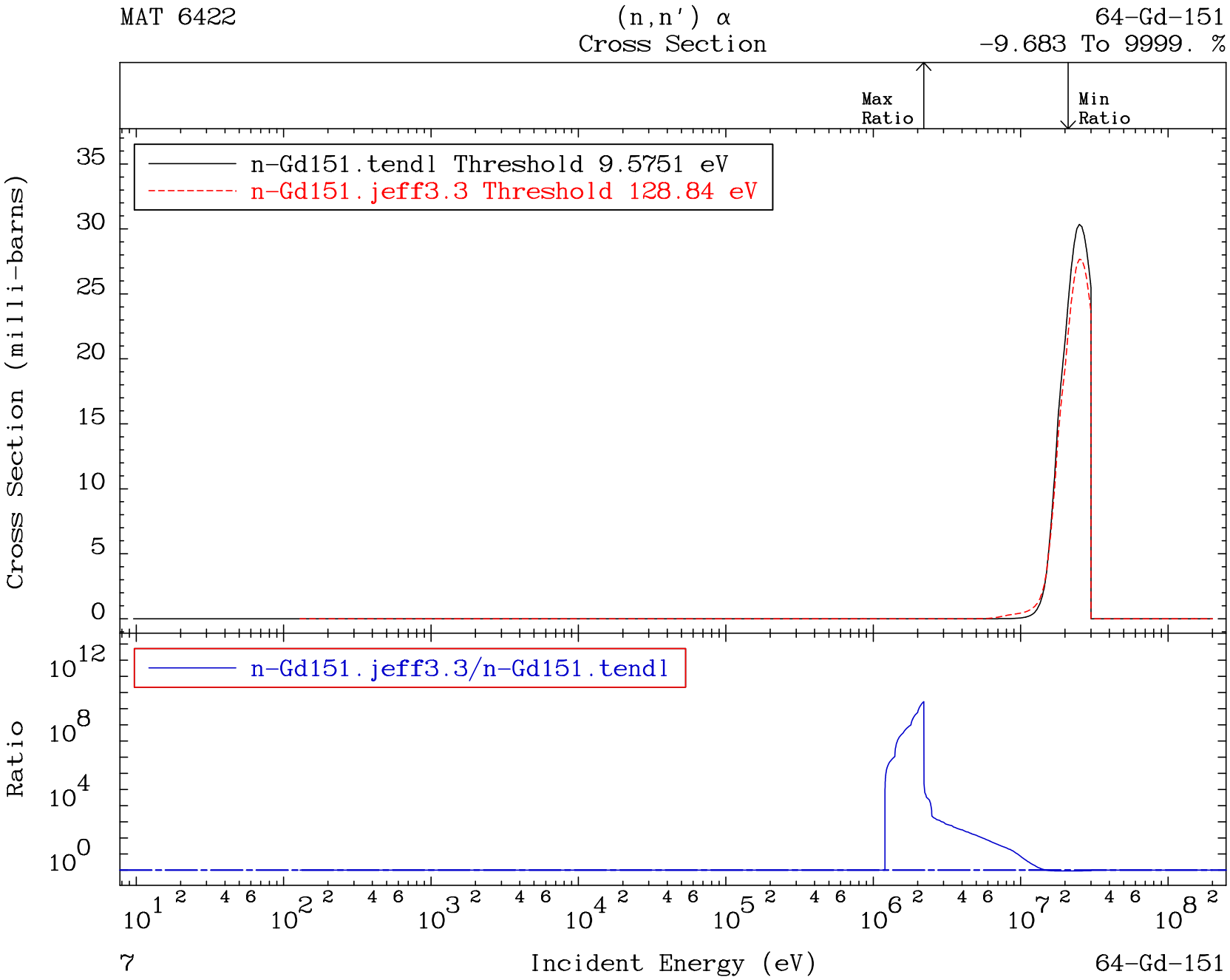

MAT 6422
Elastic
Cross Section
64-Gd-151
-70.55 To 9999. %
Max
Ratio
Min
Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
2
64-Gd-151

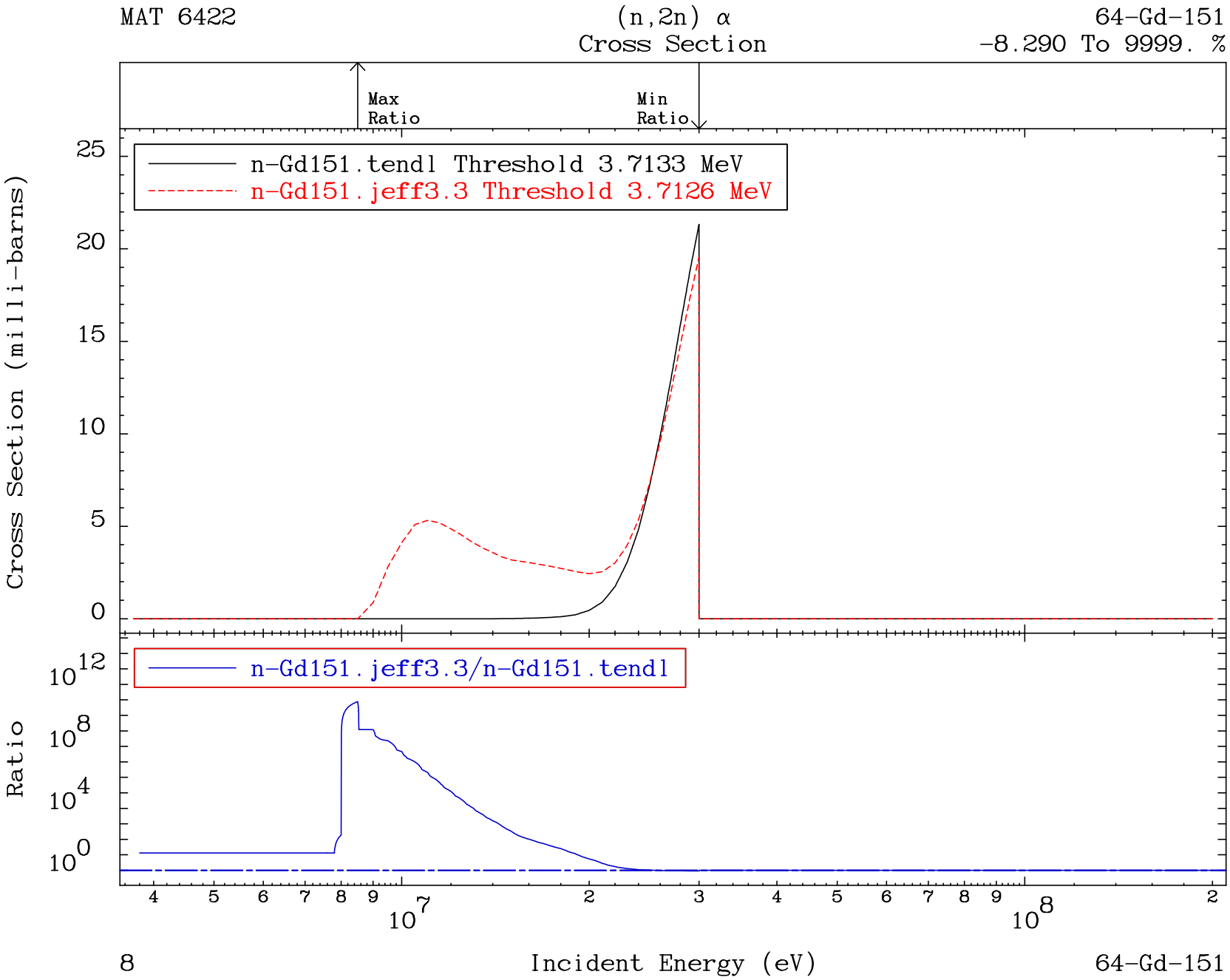

MAT 6422
Inelastic
Cross Section
64-Gd-151
-0.040 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 108.82 keV
n-Gd151.jeff3.3 Threshold 108.82 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^5
10^6
10^7
10^8
Incident Energy (eV)
3
64-Gd-151

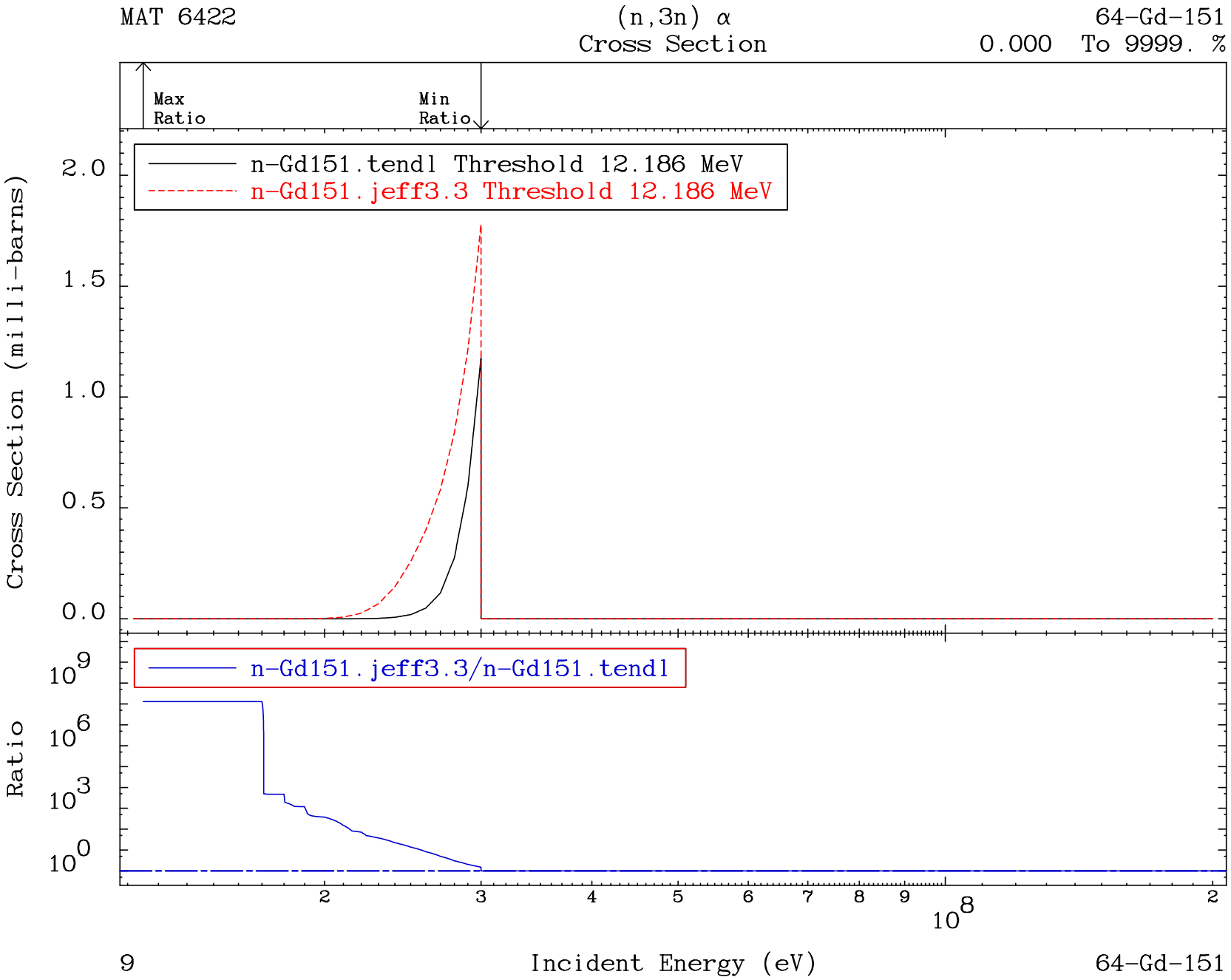

MAT 6422
(n,2n) d
Cross Section
64-Gd-151
0.000 To 3.653 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 19.224 MeV
n-Gd151.jeff3.3 Threshold 19.224 MeV
Cross Section (micro-barns)
600
500
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.04
1.02
1.00
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
64-Gd-151

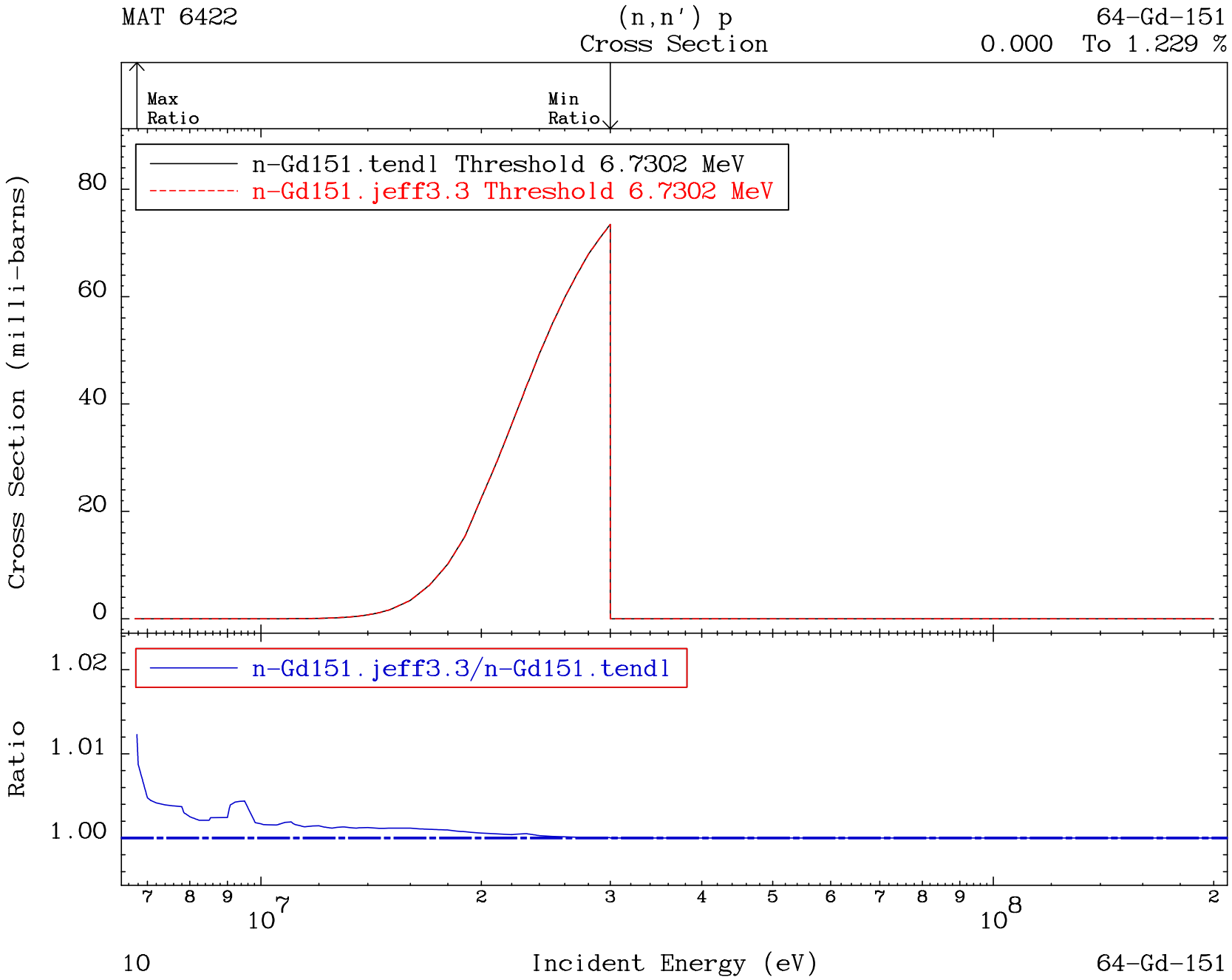

MAT 6422
(n,2n)
Cross Section
64-Gd-151
-0.382 To 0.765 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 6.5395 MeV
n-Gd151.jeff3.3 Threshold 6.5395 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
5
Incident Energy (eV)
64-Gd-151

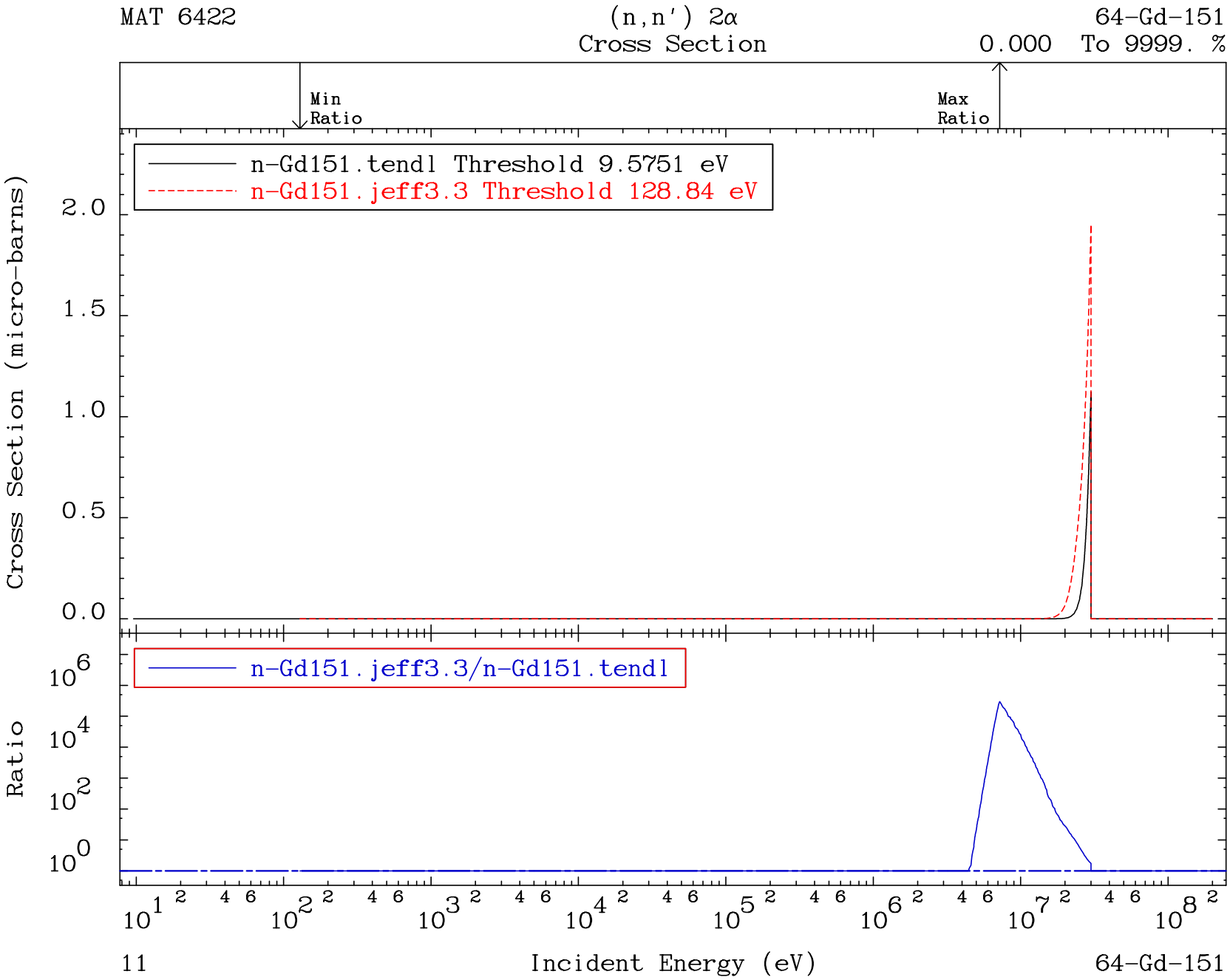

MAT 6422
(n,3n)
Cross Section
64-Gd-151
0.000 To 0.890 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 15.306 MeV
n-Gd151.jeff3.3 Threshold 15.306 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
64-Gd-151

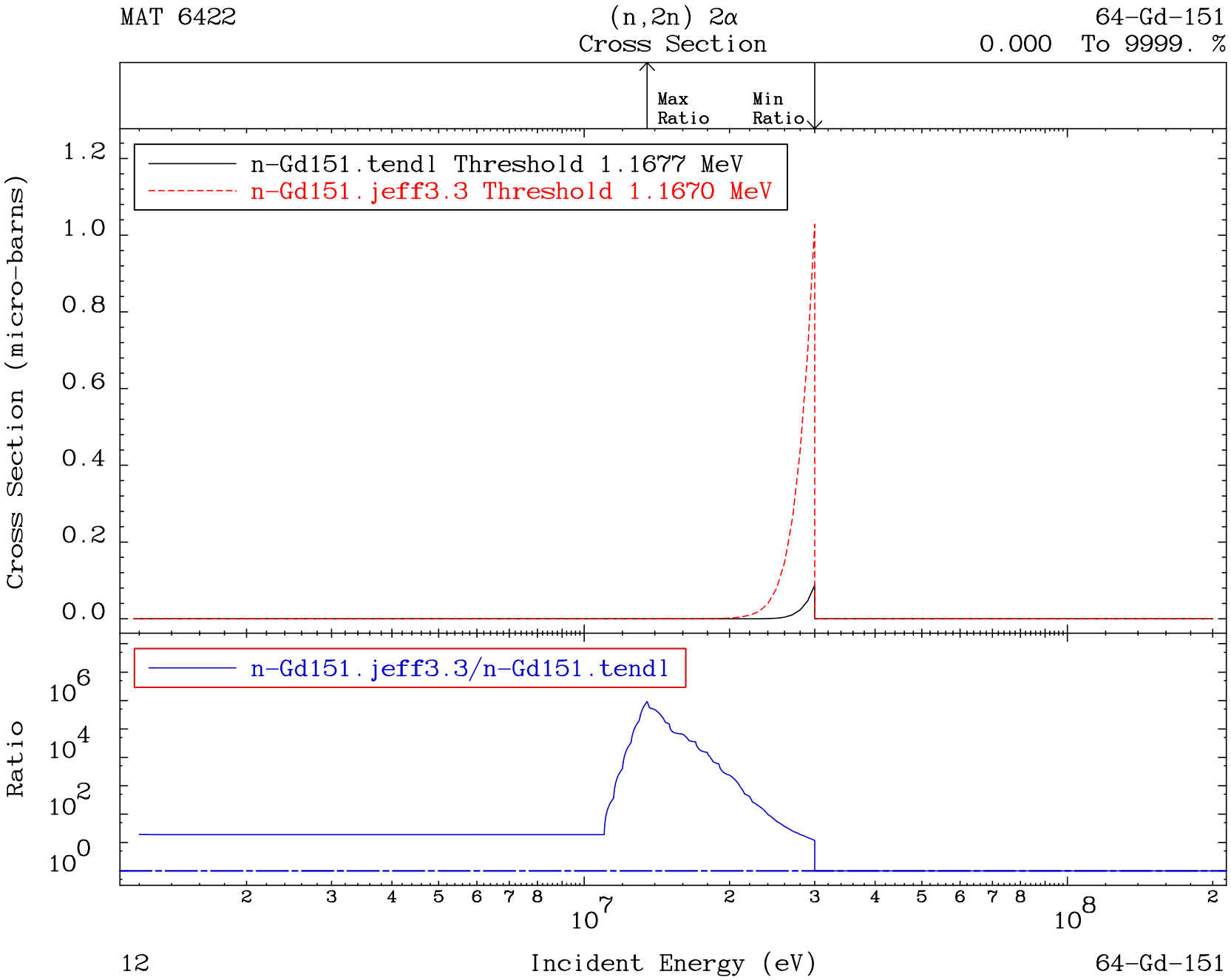

MAT 6422
(n,n') α
Cross Section
64-Gd-151
-9.683 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 9.5751 eV
n-Gd151.jeff3.3 Threshold 128.84 eV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^12
10^8
10^4
10^0
10^1 2 4 6 10^2 2 4 6 10^3 2 4 6 10^4 2 4 6 10^5 2 4 6 10^6 2 4 6 10^7 2 4 6 10^8 2
7
Incident Energy (eV)
64-Gd-151

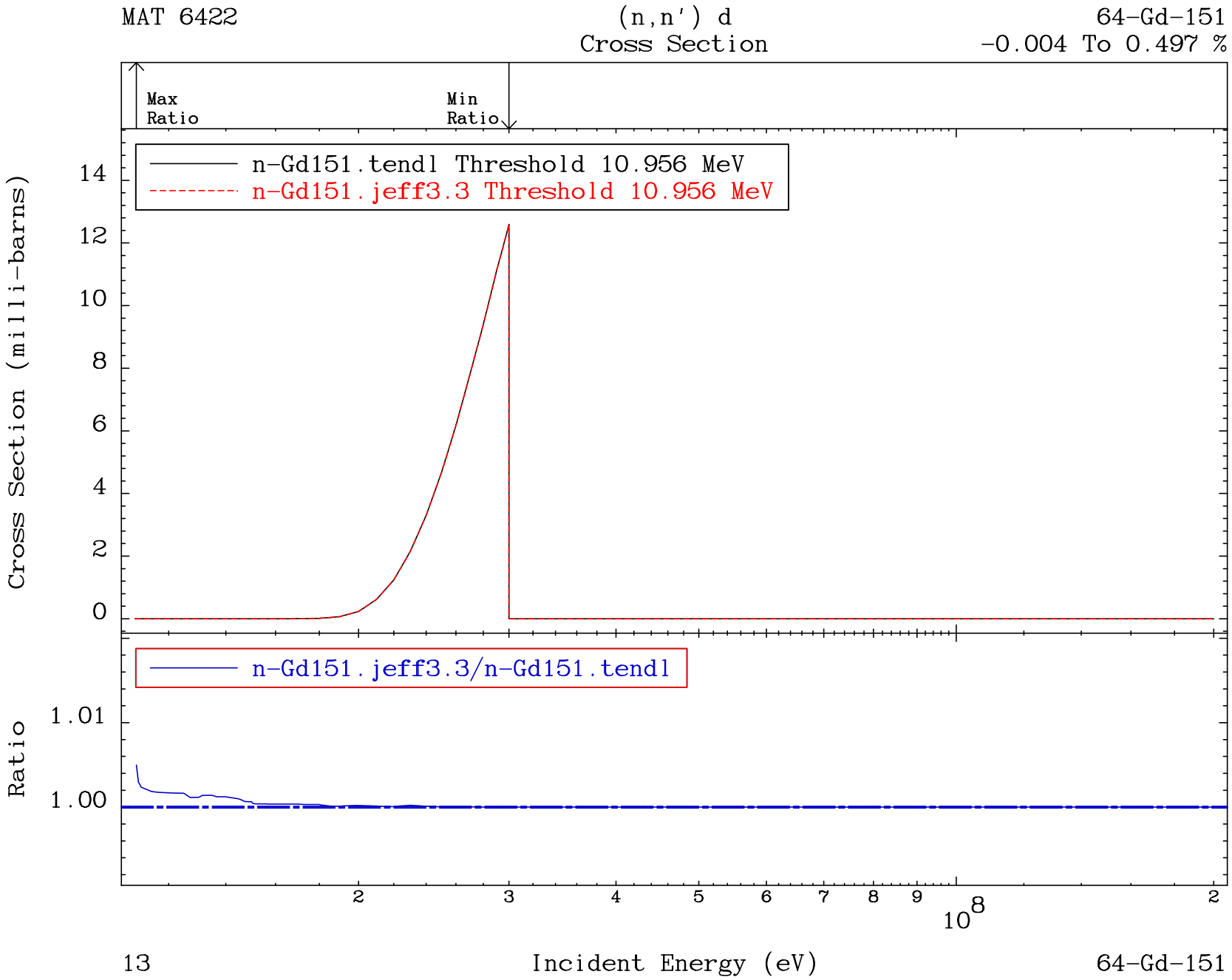

MAT 6422
(n,2n) α
Cross Section
64-Gd-151
-8.290 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 3.7133 MeV
n-Gd151.jeff3.3 Threshold 3.7126 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^12
10^8
10^4
10^0
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
8
Incident Energy (eV)
64-Gd-151

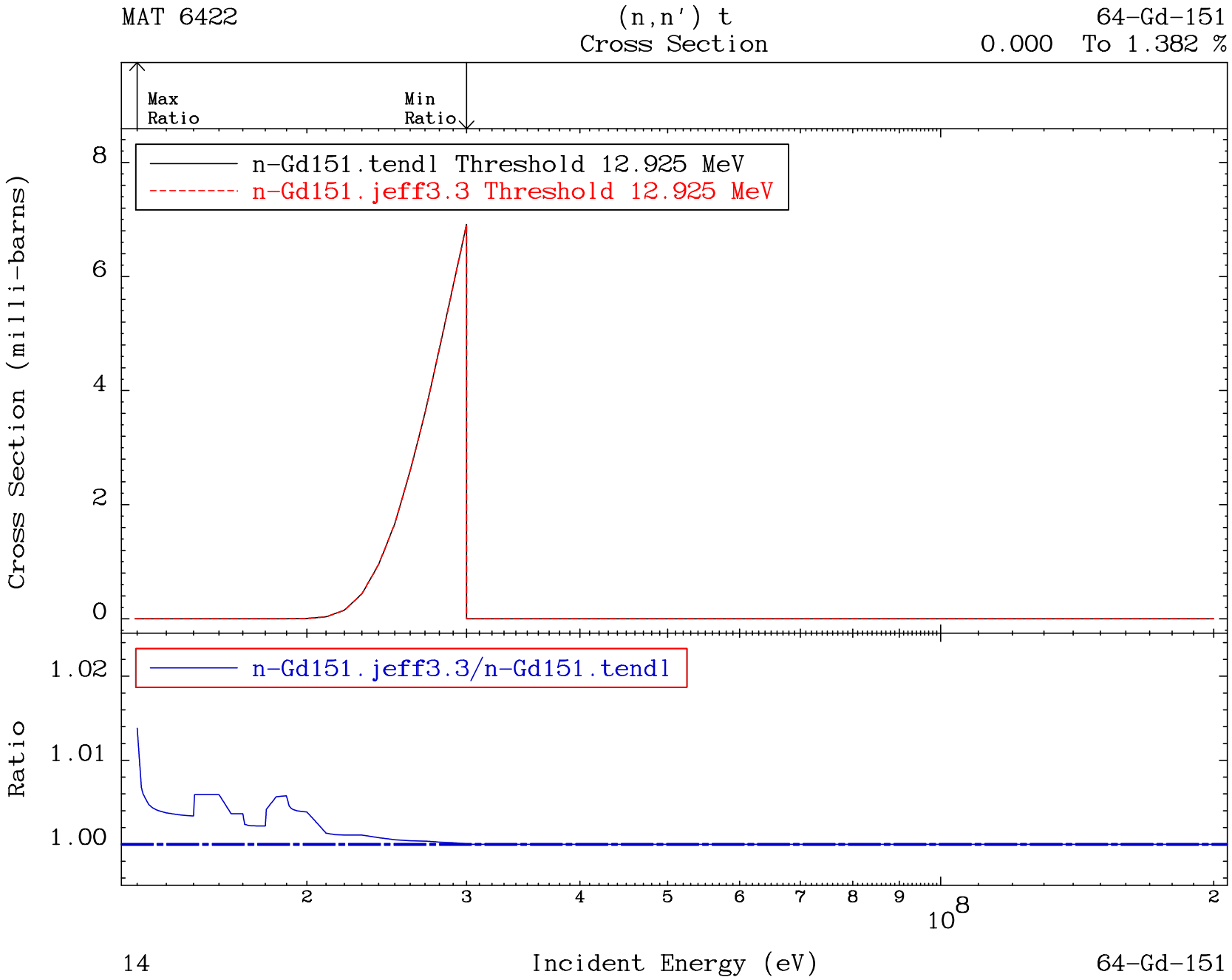

MAT 6422
(n,3n) α
Cross Section
64-Gd-151
0.000 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 12.186 MeV
n-Gd151.jeff3.3 Threshold 12.186 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^9
10^6
10^3
10^0
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
64-Gd-151

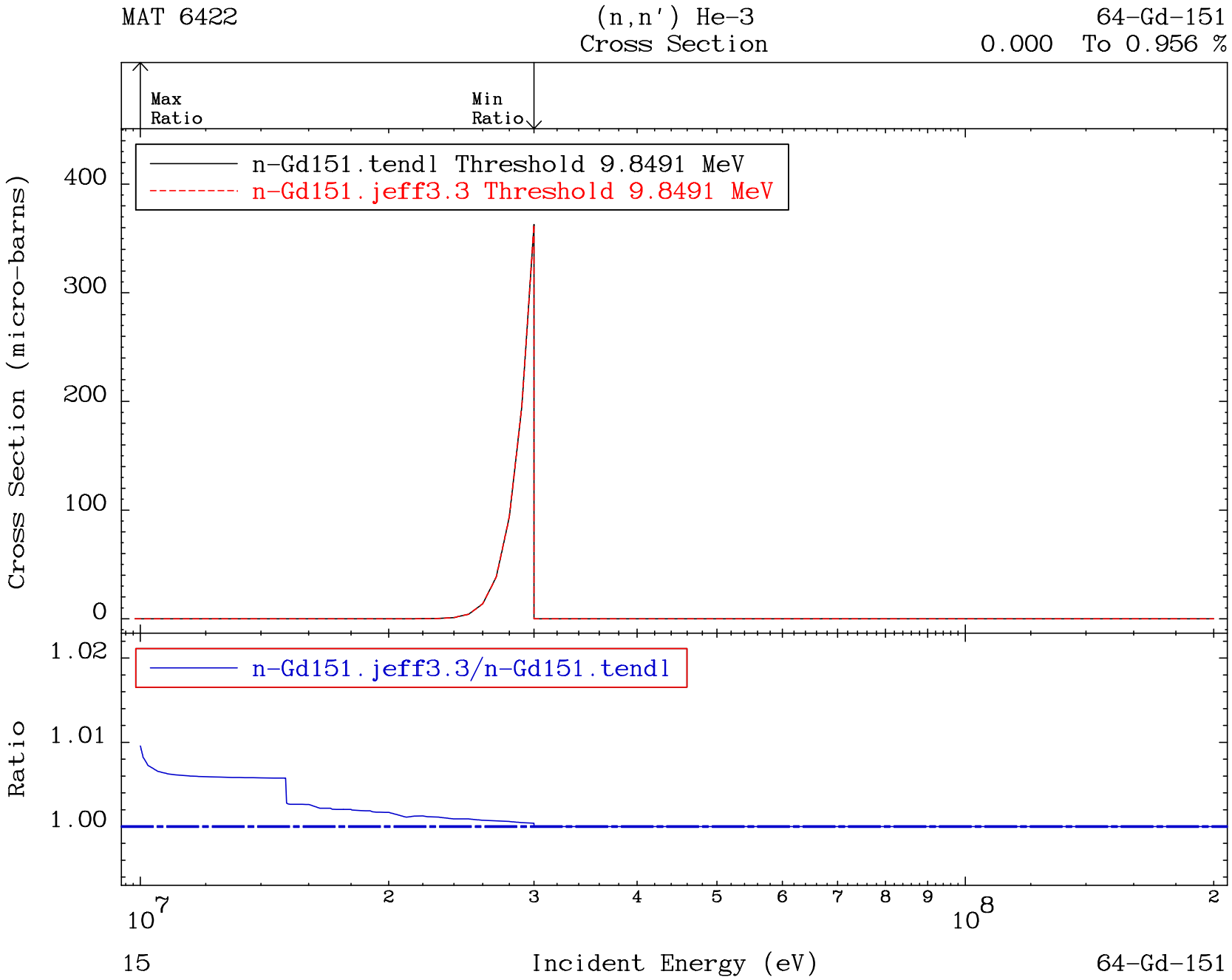

MAT 6422
(n,n') p
Cross Section
64-Gd-151
0.000 To 1.229 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 6.7302 MeV
n-Gd151.jeff3.3 Threshold 6.7302 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
64-Gd-151

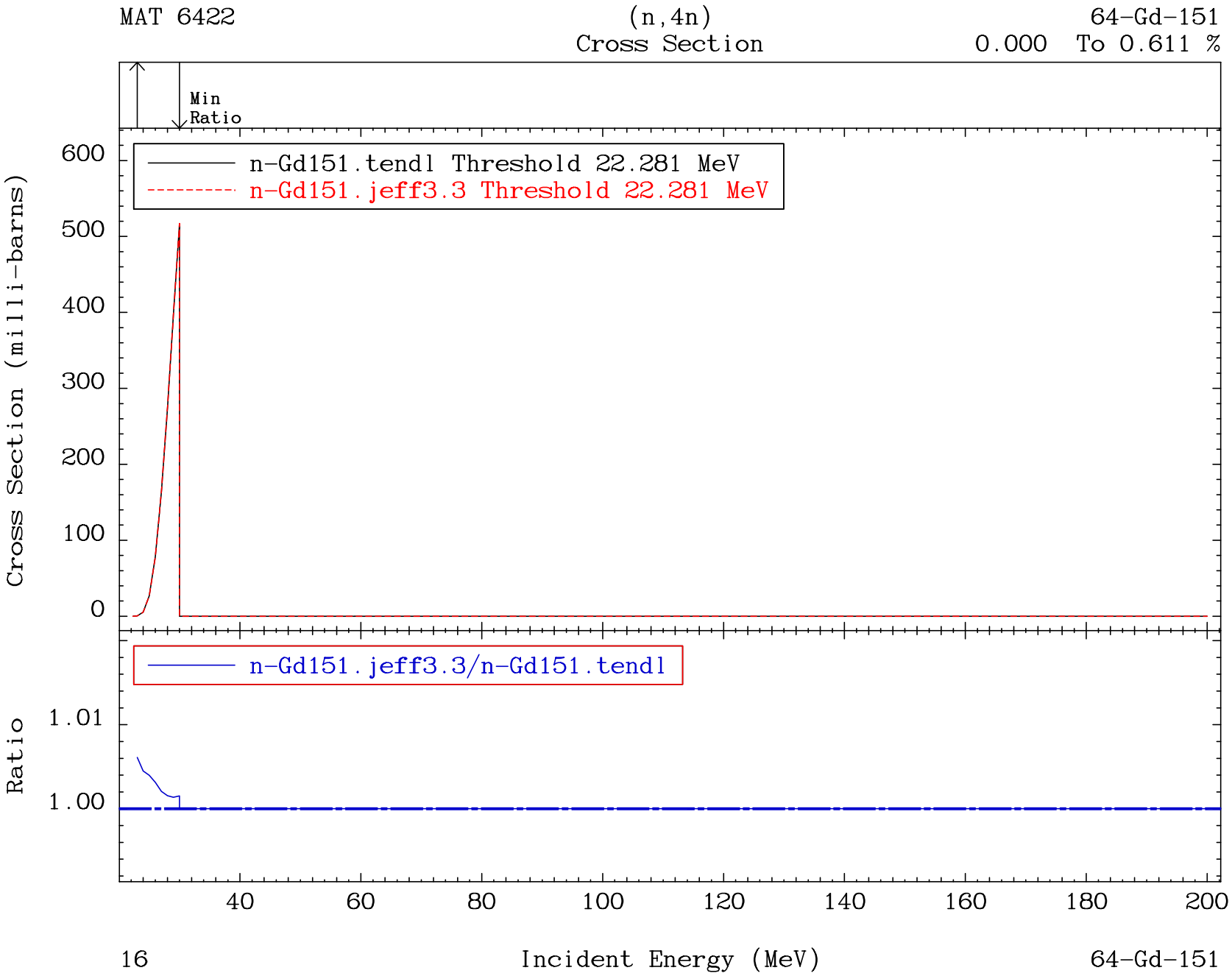

MAT 6422
(n,n') 2α
Cross Section
64-Gd-151
0.000 To 9999. %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 9.5751 eV
n-Gd151.jeff3.3 Threshold 128.84 eV
Cross Section (micro-barns)
2.0
1.5
1.0
0.5
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^6
10^4
10^2
10^0
10^1 2 4 6 10^2 2 4 6 10^3 2 4 6 10^4 2 4 6 10^5 2 4 6 10^6 2 4 6 10^7 2 4 6 10^8 2
11
Incident Energy (eV)
64-Gd-151

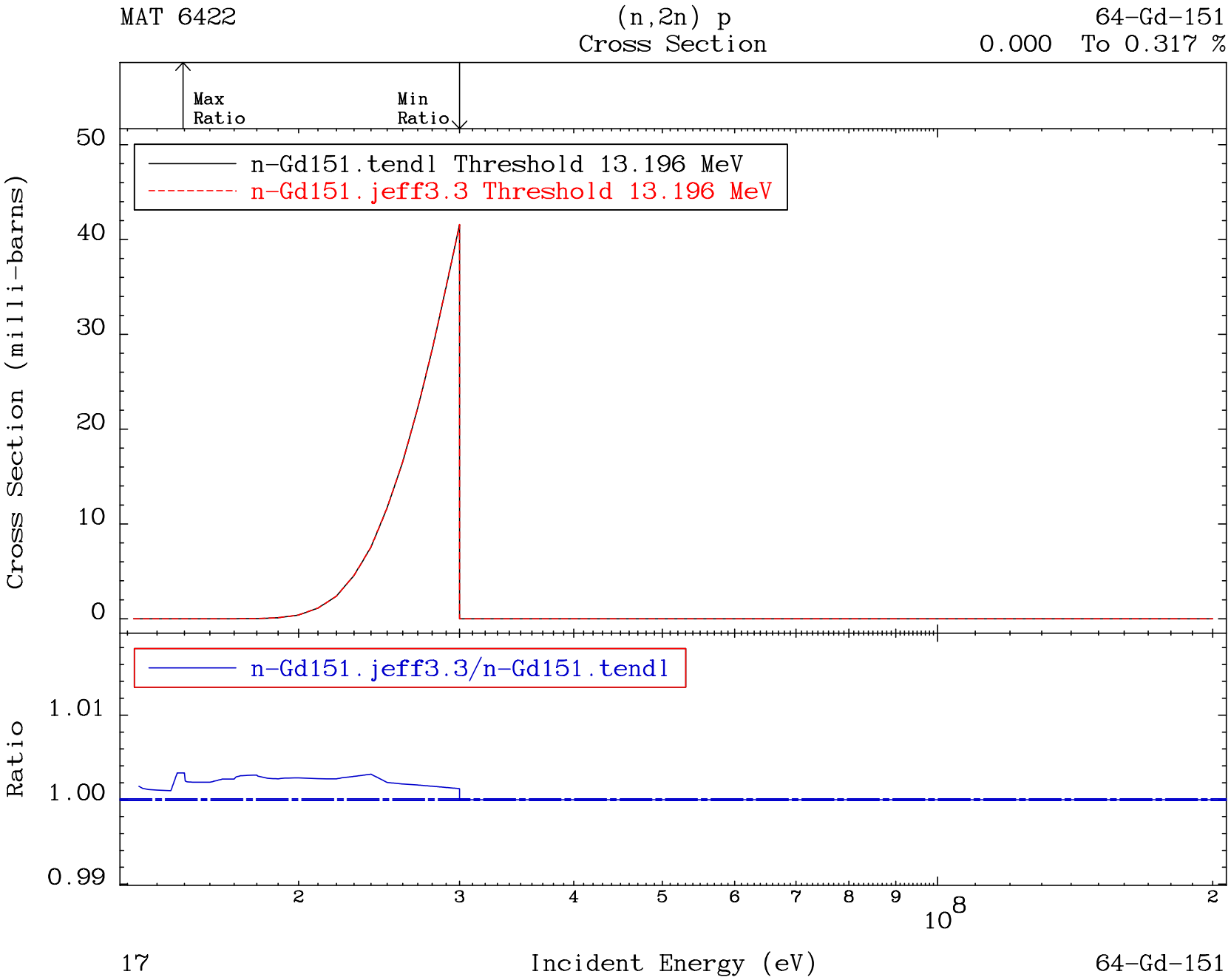

MAT 6422
(n,2n) 2α
Cross Section
64-Gd-151
0.000 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 1.1677 MeV
n-Gd151.jeff3.3 Threshold 1.1670 MeV
Cross Section (micro-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^6
10^4
10^2
10^0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
12
Incident Energy (eV)
64-Gd-151

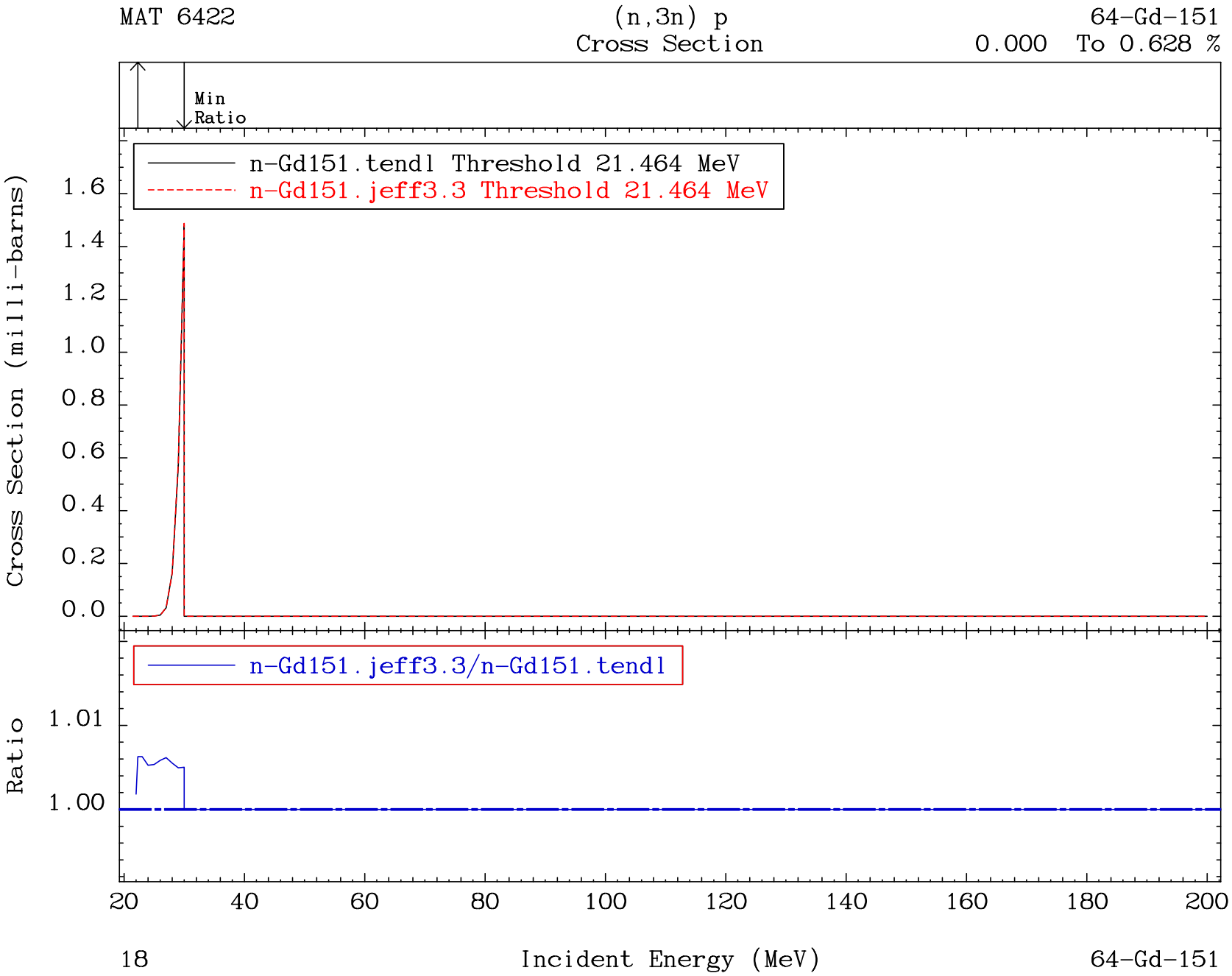

MAT 6422
(n,n') d
Cross Section
64-Gd-151
-0.004 To 0.497 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 10.956 MeV
n-Gd151.jeff3.3 Threshold 10.956 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
13
Incident Energy (eV)
64-Gd-151

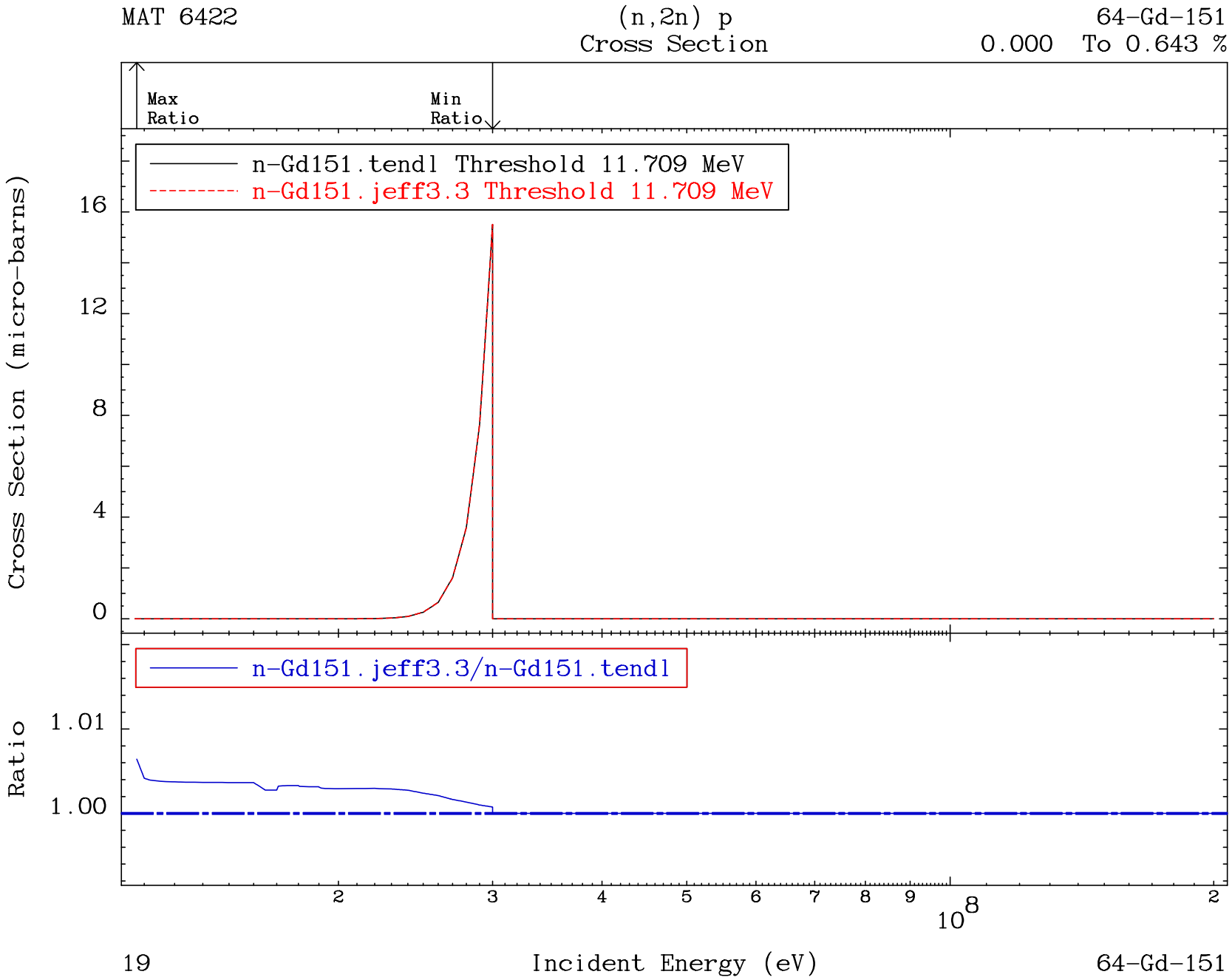

MAT 6422
(n,n') t
Cross Section
64-Gd-151
0.000 To 1.382 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 12.925 MeV
n-Gd151.jeff3.3 Threshold 12.925 MeV
Cross Section (milli-barns)
8
6
4
2
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
64-Gd-151

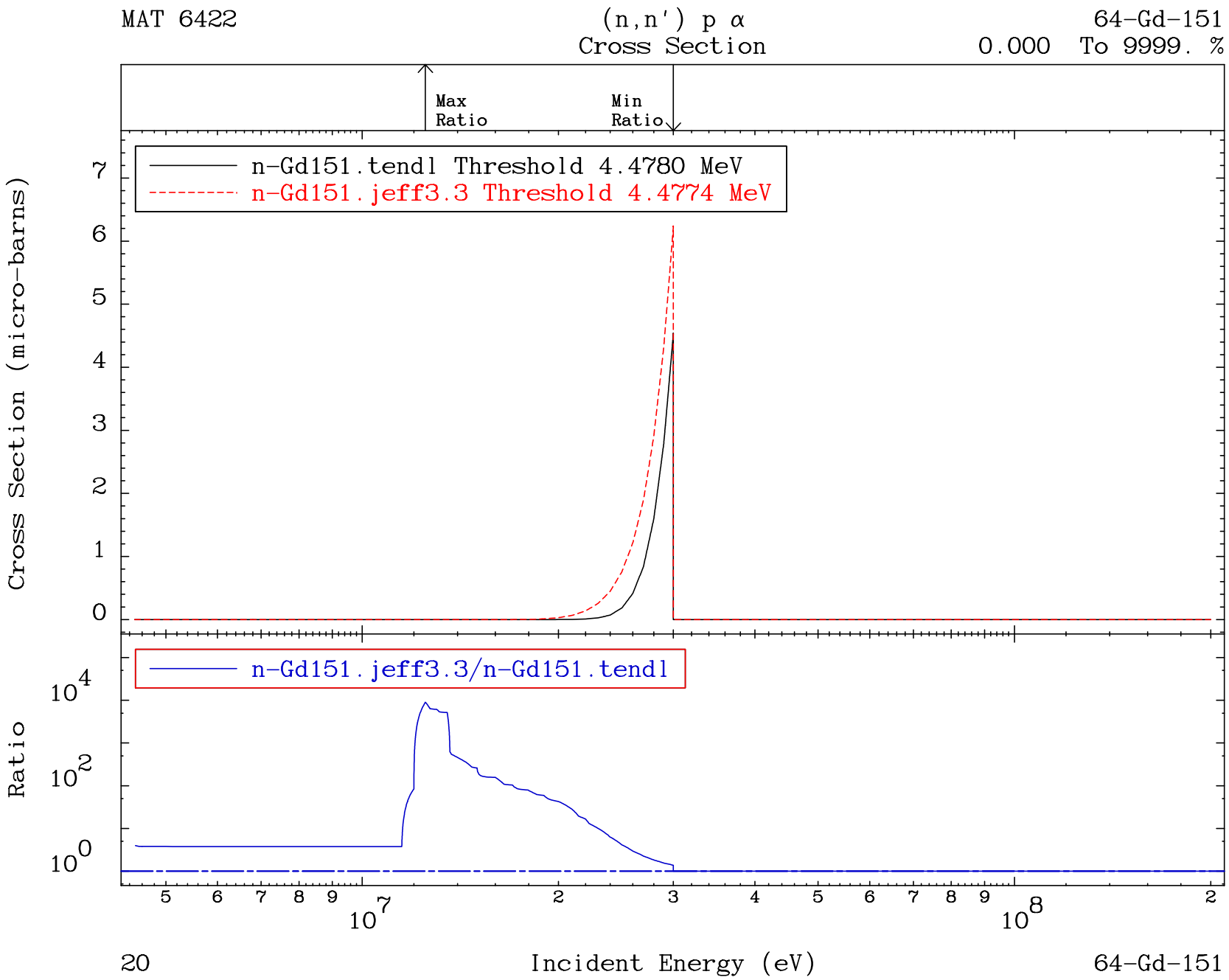

MAT 6422
(n,n') He-3
Cross Section
64-Gd-151
0.000 To 0.956 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 9.8491 MeV
n-Gd151.jeff3.3 Threshold 9.8491 MeV
Cross Section (micro-barns)
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
10^7
2
3
4
5
6
7
8
9
10^8
2
15
Incident Energy (eV)
64-Gd-151

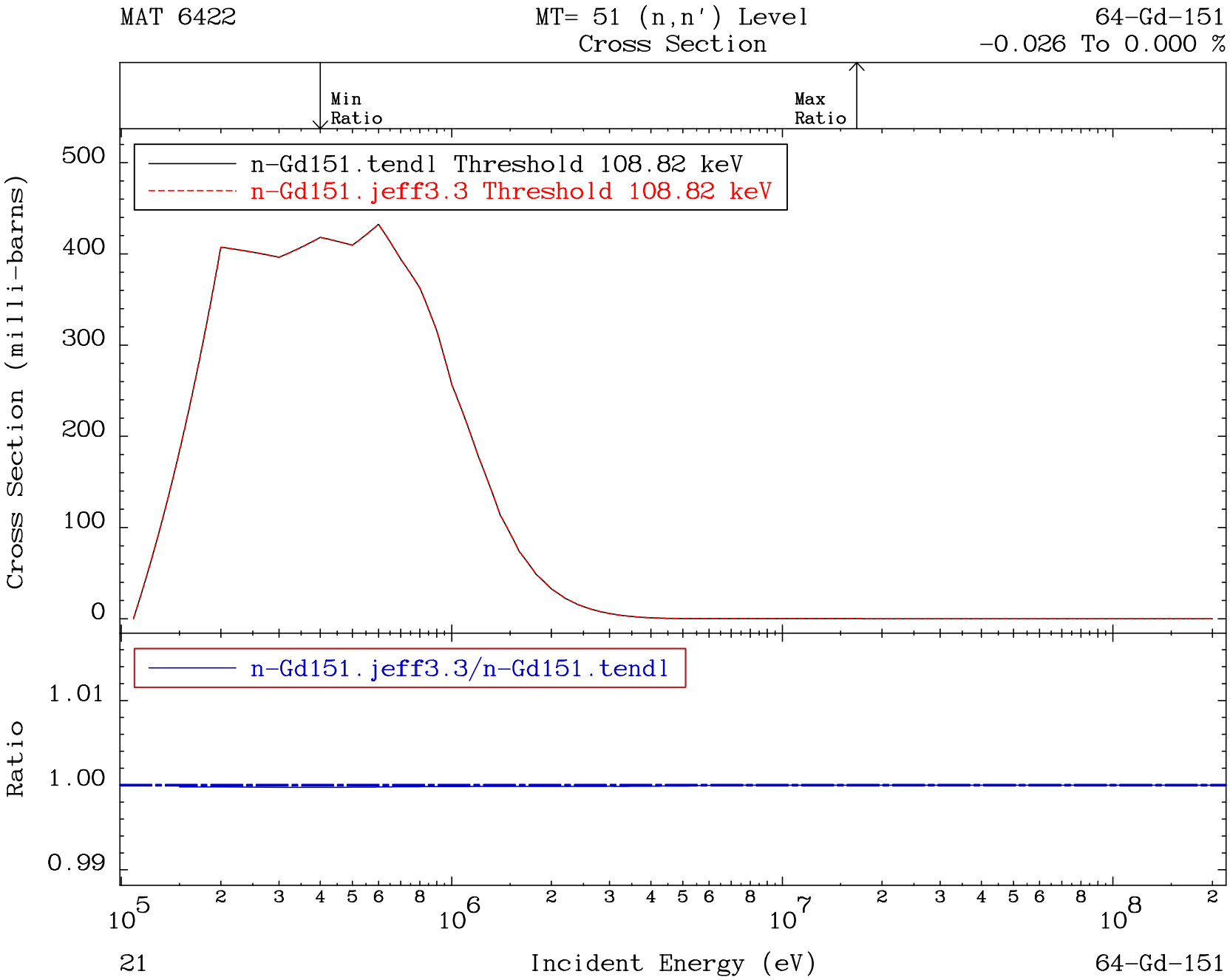

MAT 6422
(n,4n)
Cross Section
64-Gd-151
0.000 To 0.611 %
Min
Ratio
n-Gd151.tendl Threshold 22.281 MeV
n-Gd151.jeff3.3 Threshold 22.281 MeV
Cross Section (milli-barns)
600
500
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
40
60
80
100
120
140
160
180
200
16
Incident Energy (MeV)
64-Gd-151

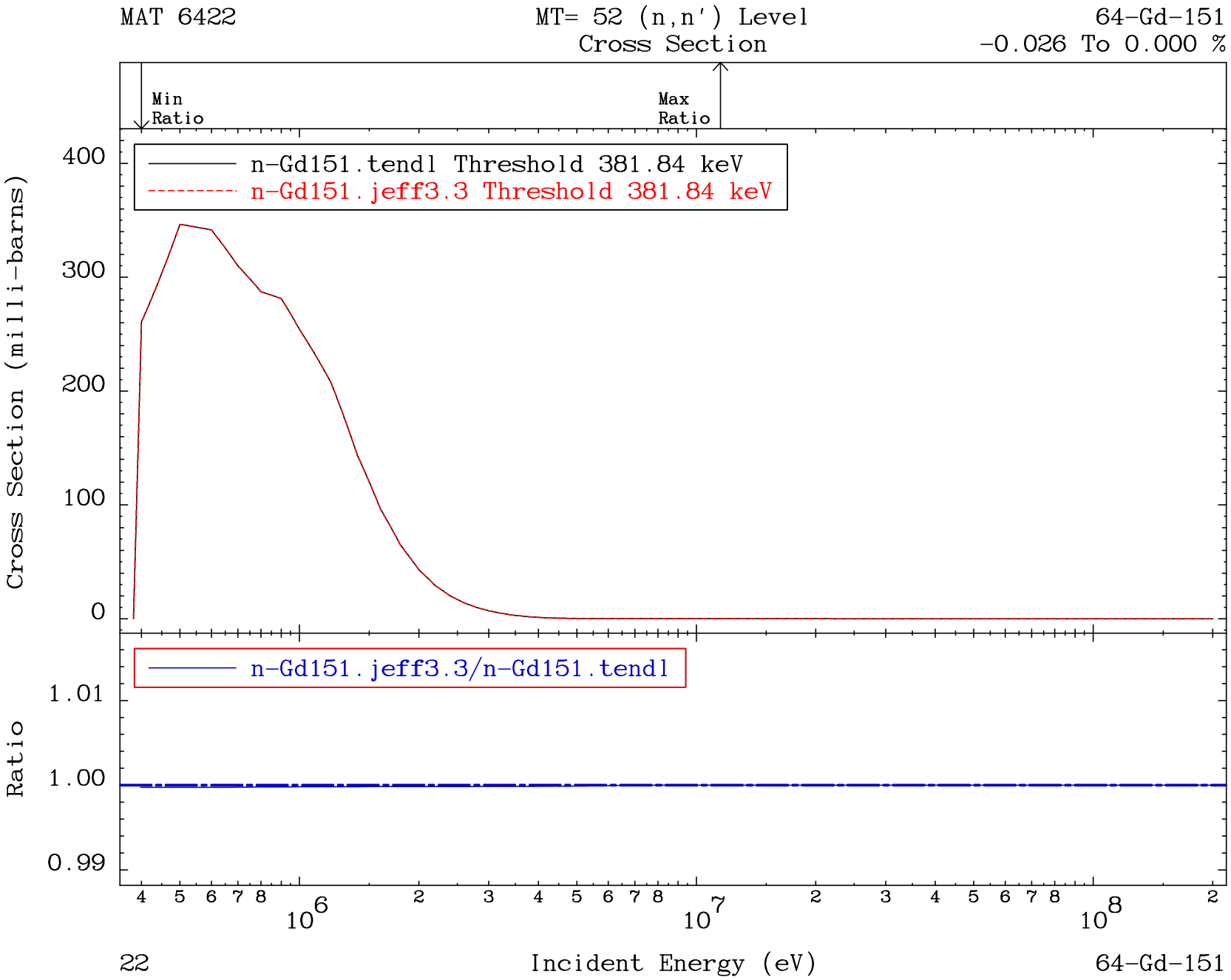

MAT 6422
(n,2n) p
Cross Section
64-Gd-151
0.000 To 0.317 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 13.196 MeV
n-Gd151.jeff3.3 Threshold 13.196 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
64-Gd-151

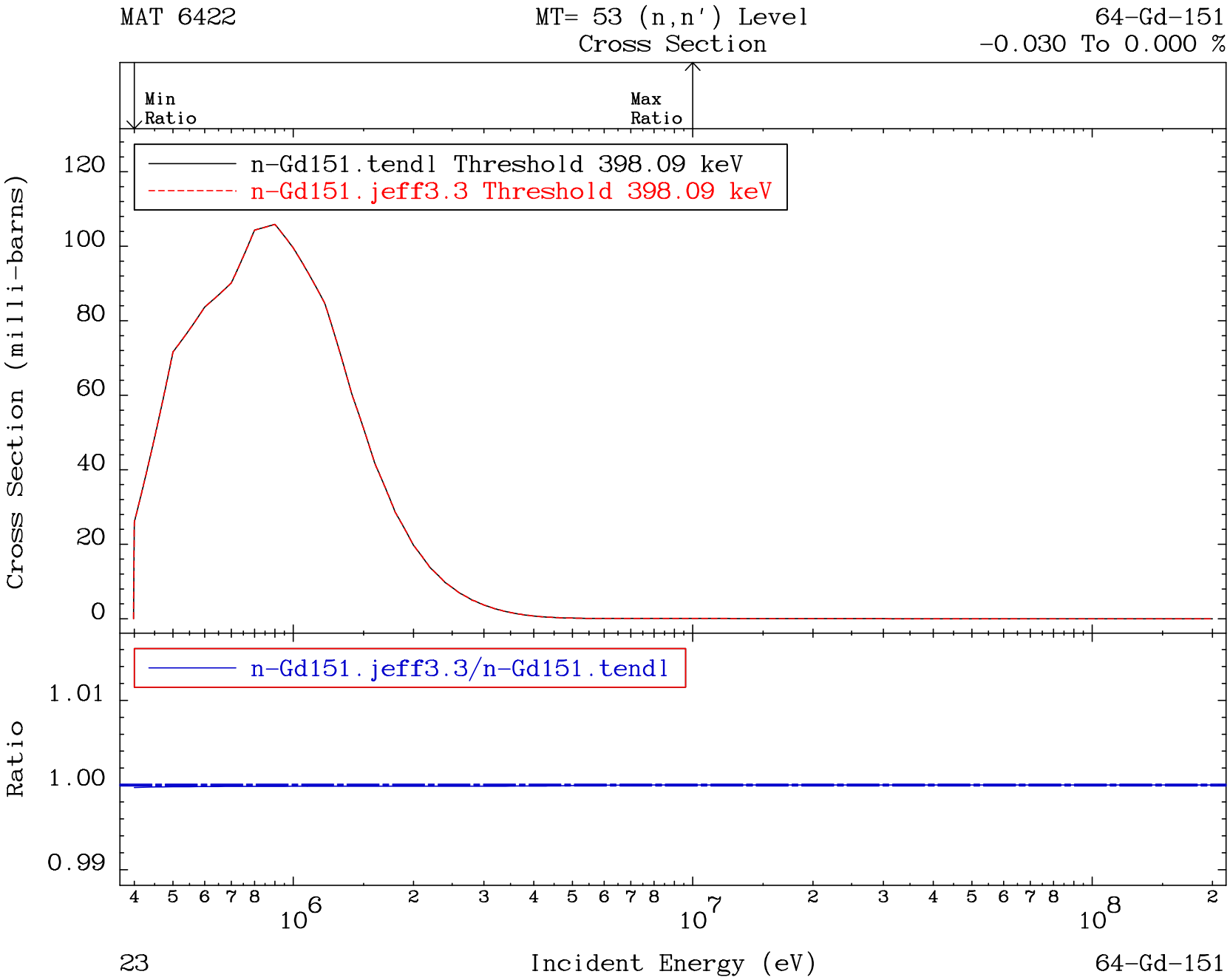

MAT 6422
(n,3n) p
Cross Section
64-Gd-151
0.000 To 0.628 %
Min
Ratio
n-Gd151.tendl Threshold 21.464 MeV
n-Gd151.jeff3.3 Threshold 21.464 MeV
Cross Section (milli-barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
20
40
60
80
100
120
140
160
180
200
18
Incident Energy (MeV)
64-Gd-151

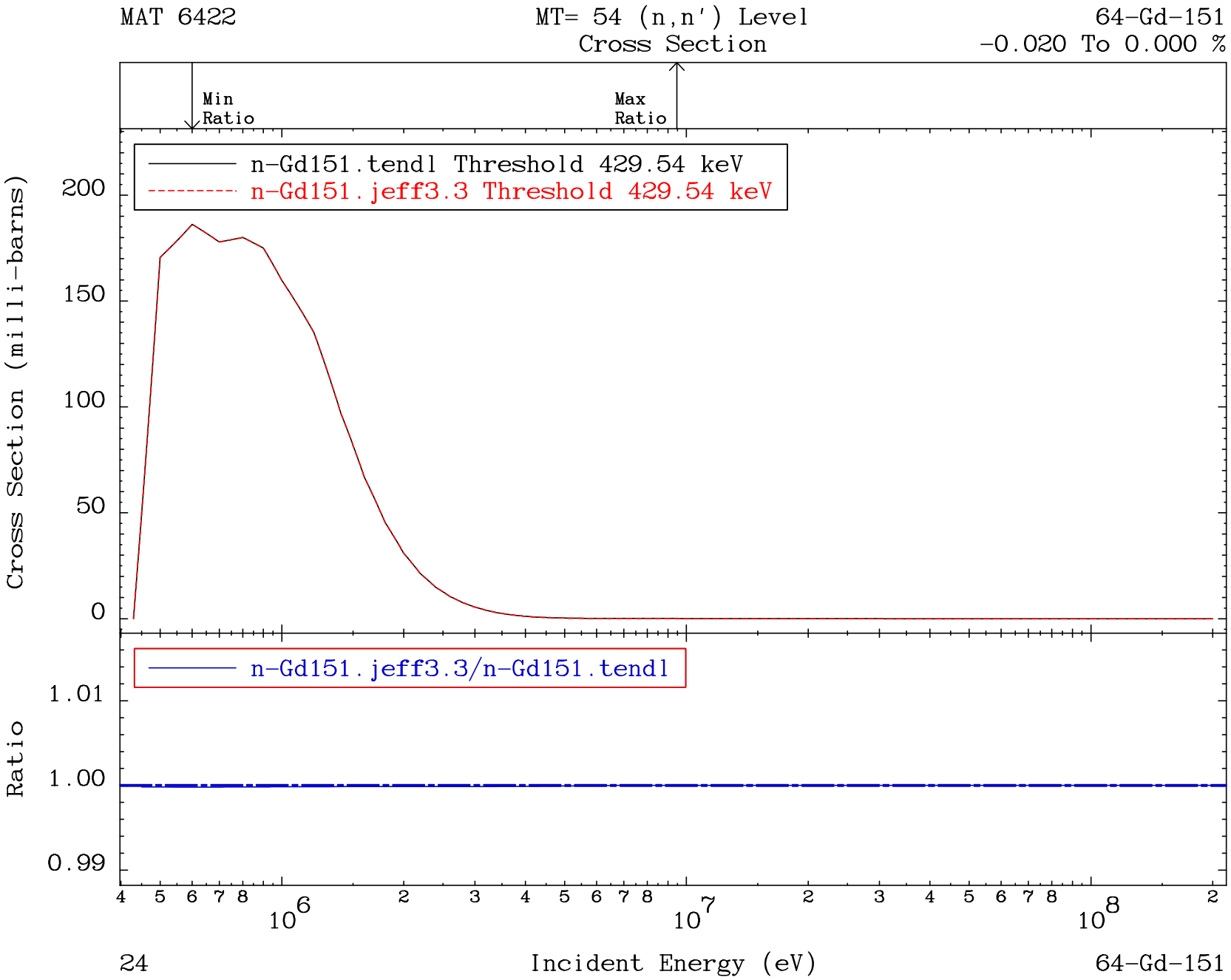

MAT 6422
(n,2n) p
Cross Section
64-Gd-151
0.000 To 0.643 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 11.709 MeV
n-Gd151.jeff3.3 Threshold 11.709 MeV
Cross Section (micro-barns)
16
12
8
4
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
64-Gd-151

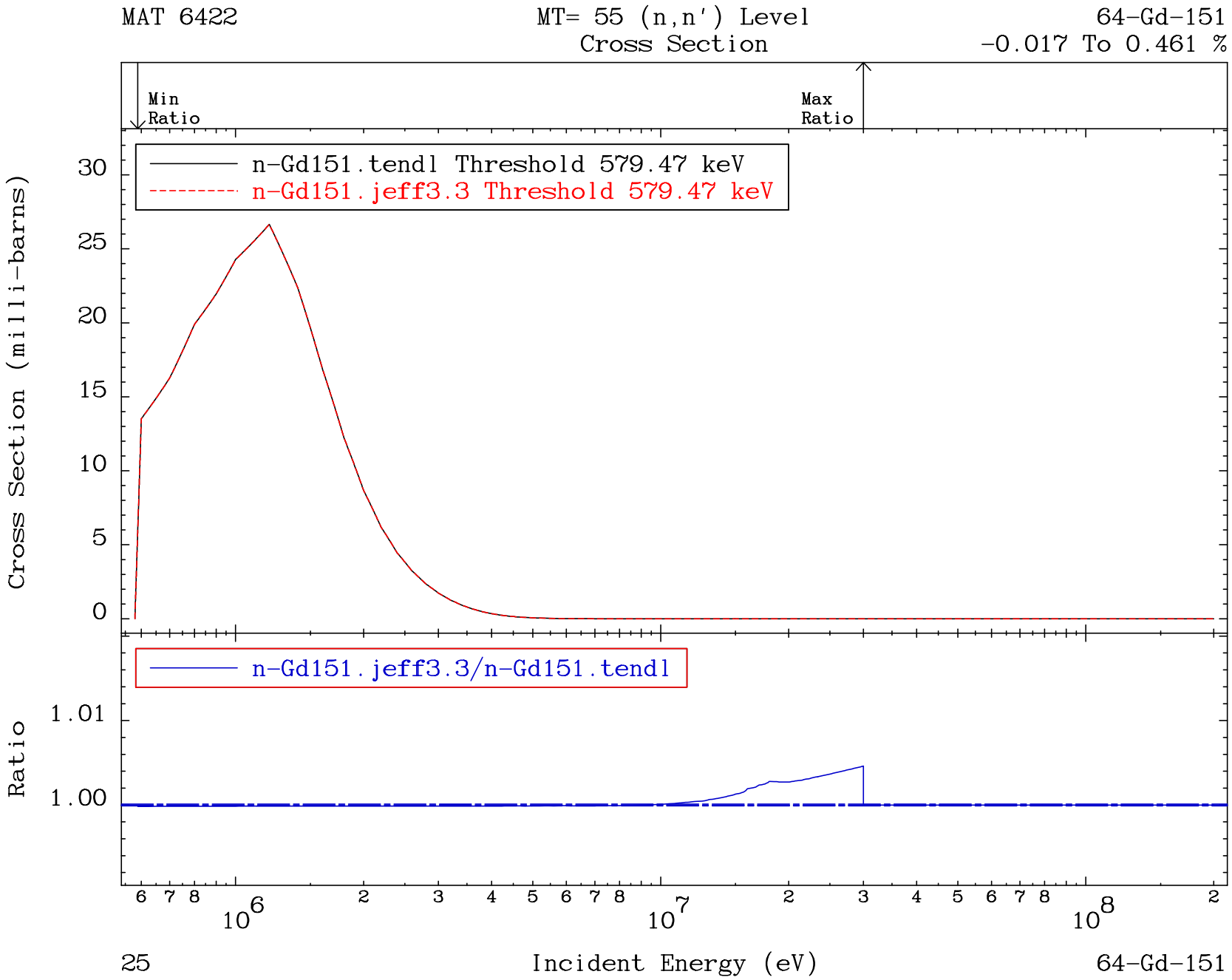

MAT 6422
(n,n') p α
Cross Section
64-Gd-151
0.000 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 4.4780 MeV
n-Gd151.jeff3.3 Threshold 4.4774 MeV
Cross Section (micro-barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
20
64-Gd-151

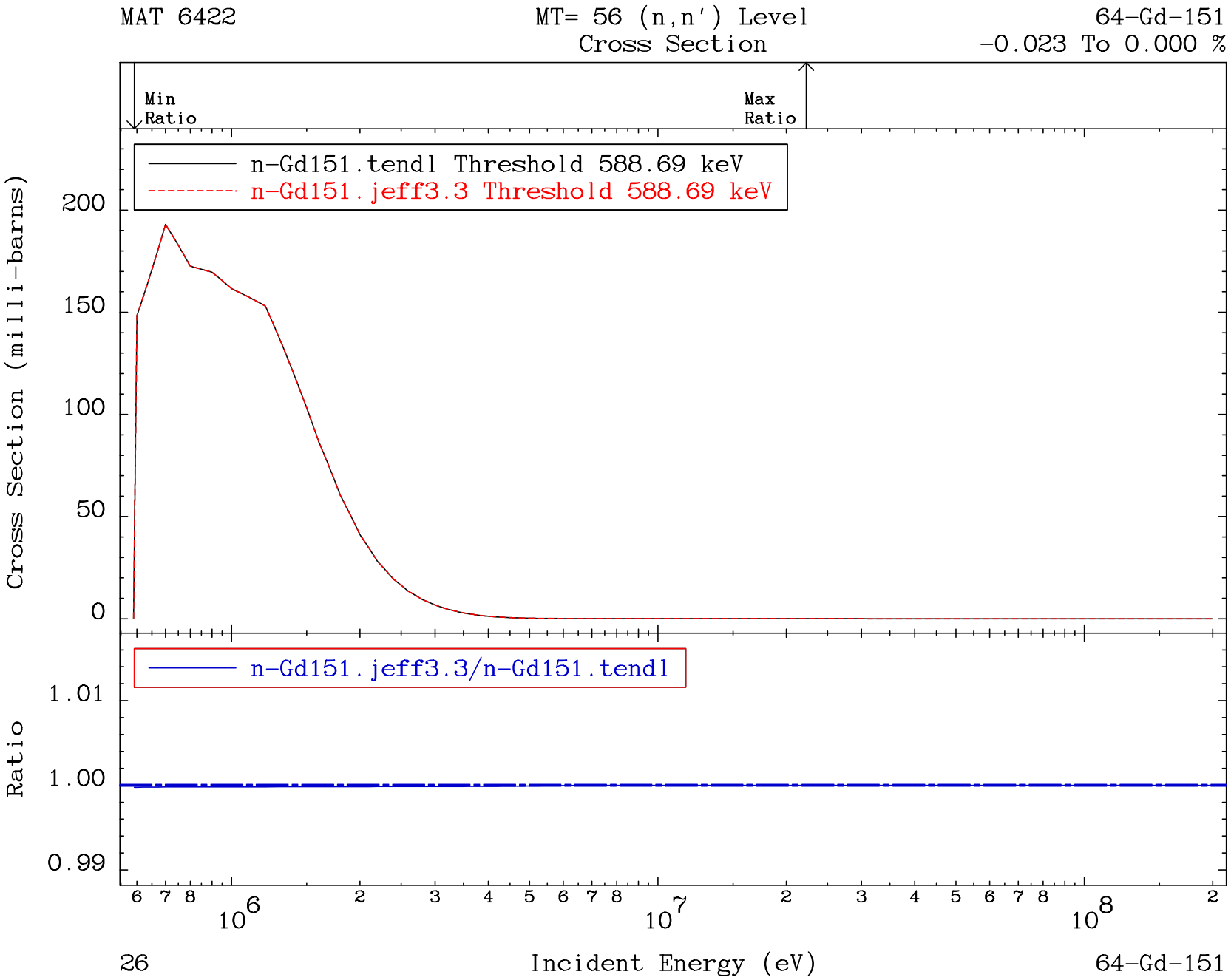

MAT 6422
MT= 51 (n,n') Level
Cross Section
64-Gd-151
-0.026 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 108.82 keV
n-Gd151.jeff3.3 Threshold 108.82 keV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^5
10^6
10^7
10^8
21
Incident Energy (eV)
64-Gd-151

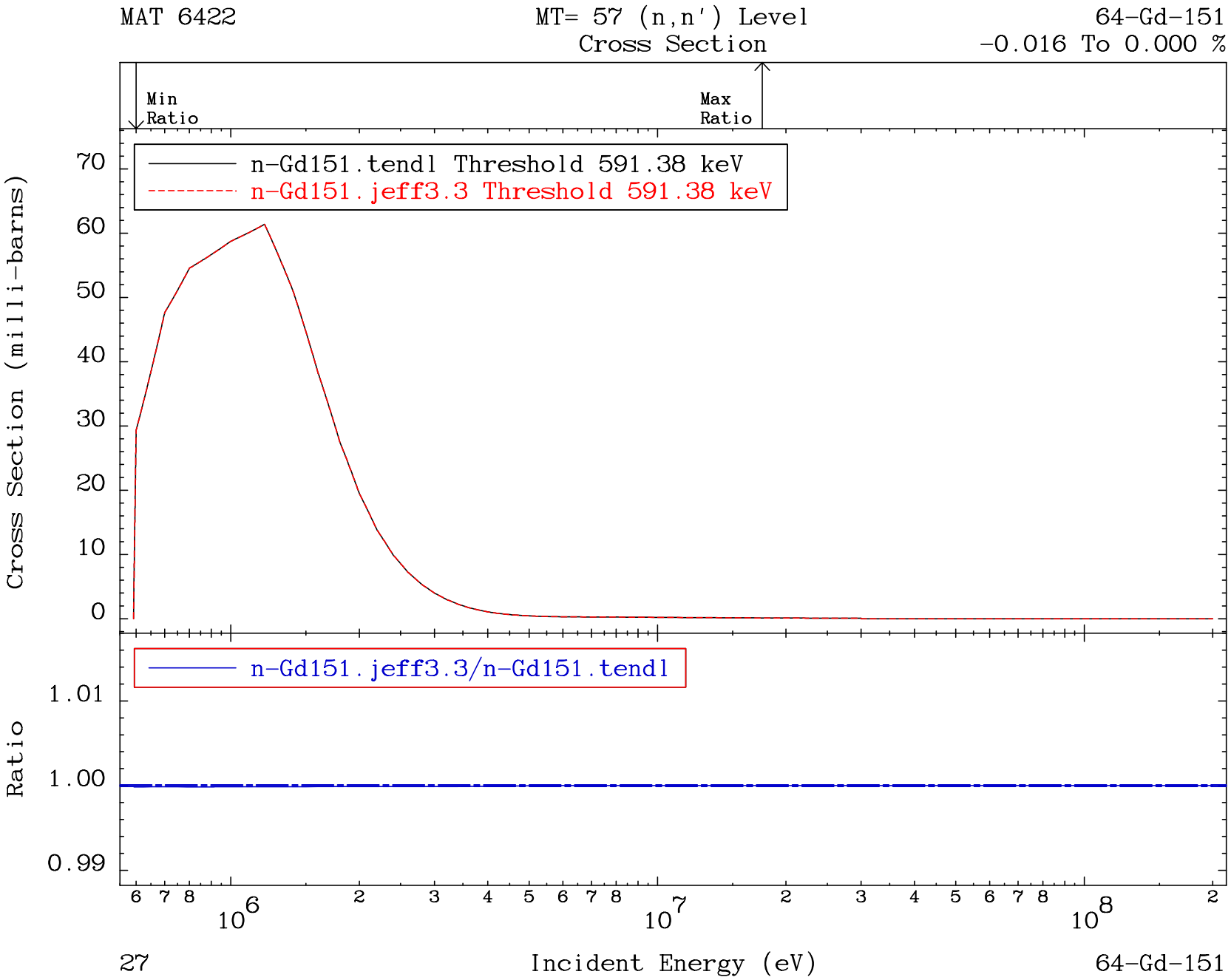

MAT 6422
MT= 52 (n,n') Level
Cross Section
64-Gd-151
-0.026 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 381.84 keV
n-Gd151.jeff3.3 Threshold 381.84 keV
Cross Section (milli-barns)
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
64-Gd-151

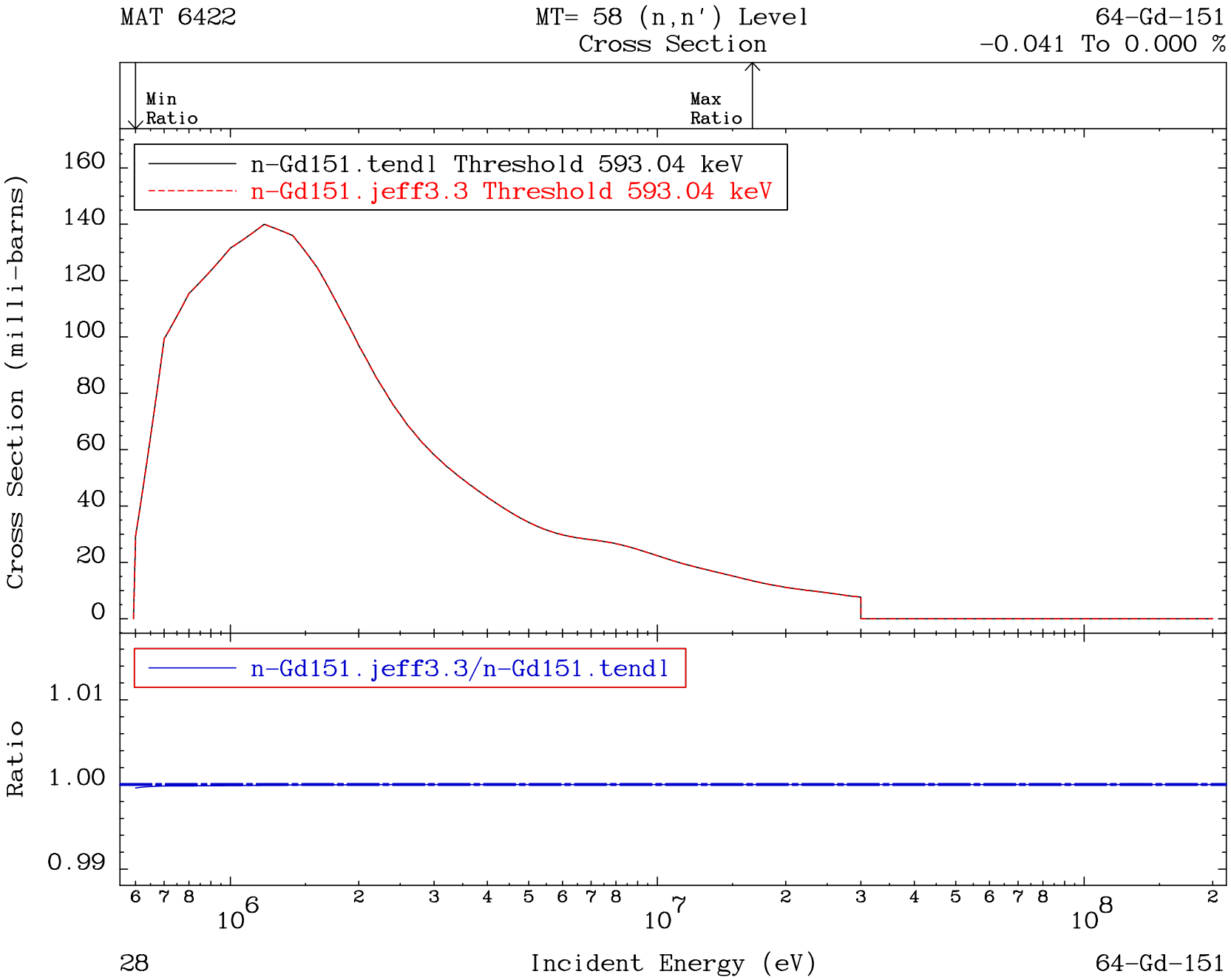

MAT 6422
MT= 53 (n,n') Level
Cross Section
64-Gd-151
-0.030 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 398.09 keV
n-Gd151.jeff3.3 Threshold 398.09 keV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
64-Gd-151

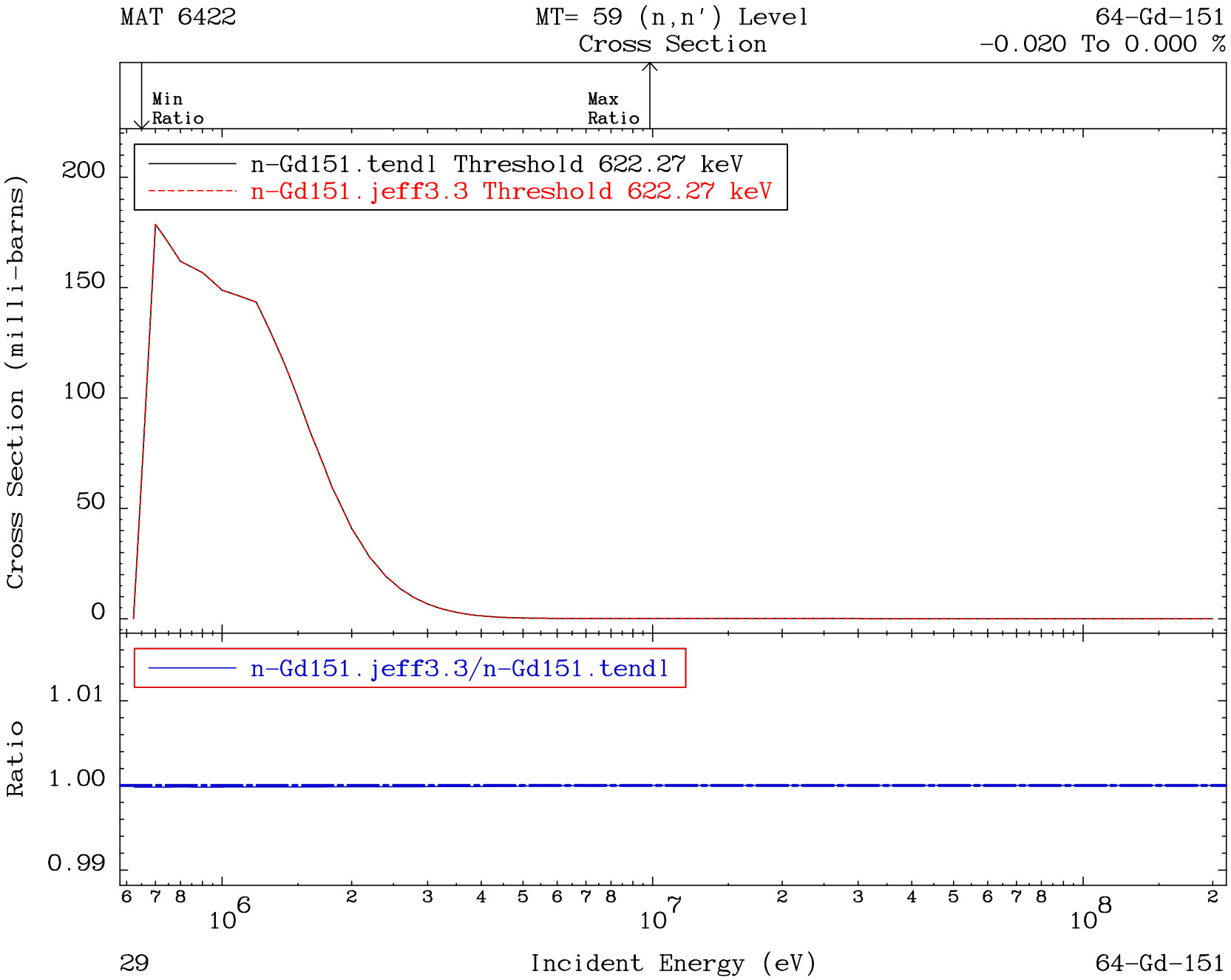

MAT 6422
MT= 54 (n,n') Level
Cross Section
64-Gd-151
-0.020 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 429.54 keV
n-Gd151.jeff3.3 Threshold 429.54 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
4 5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
24
Incident Energy (eV)
64-Gd-151

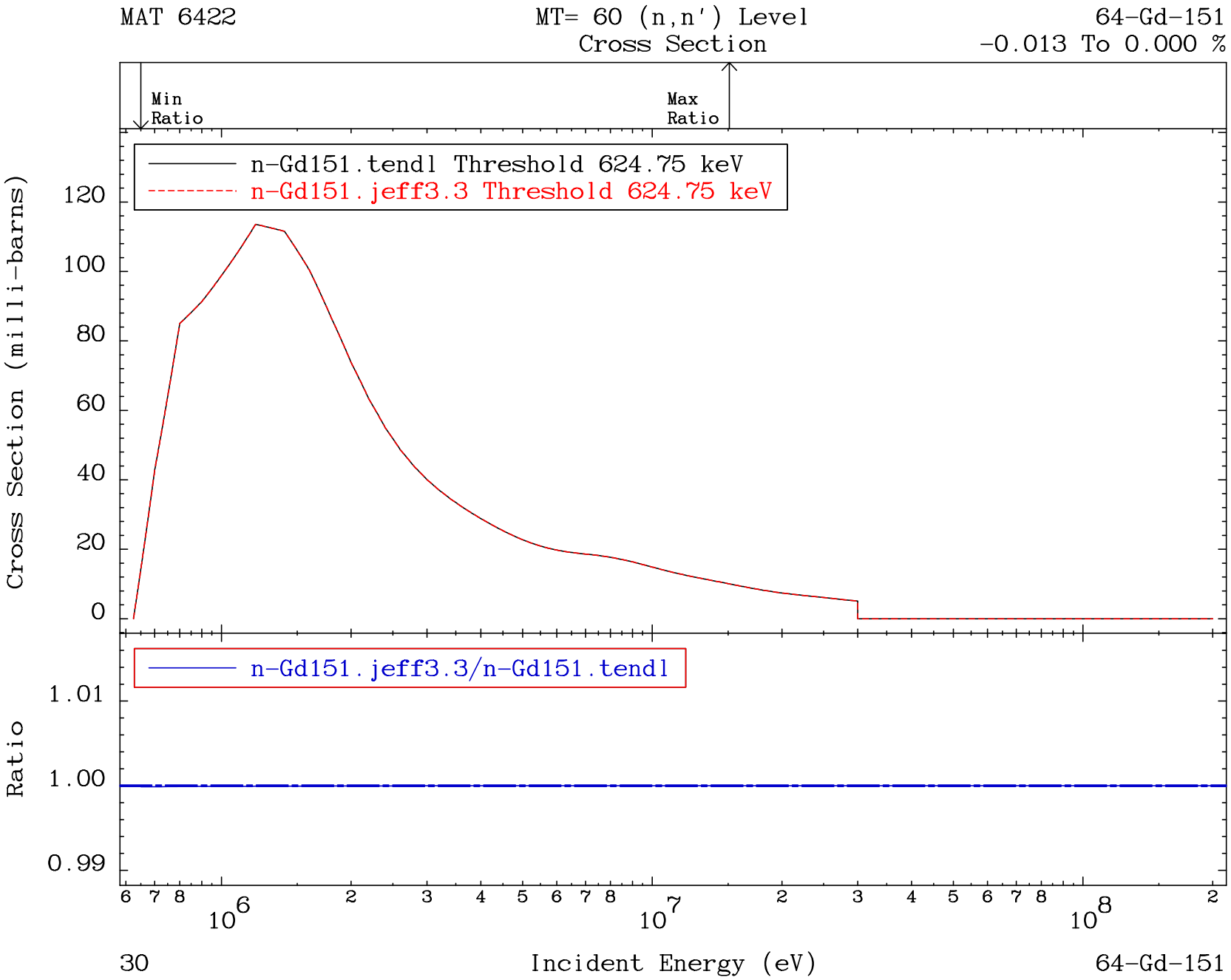

MAT 6422
MT= 55 (n,n') Level
Cross Section
64-Gd-151
-0.017 To 0.461 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 579.47 keV
n-Gd151.jeff3.3 Threshold 579.47 keV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
25
Incident Energy (eV)
64-Gd-151

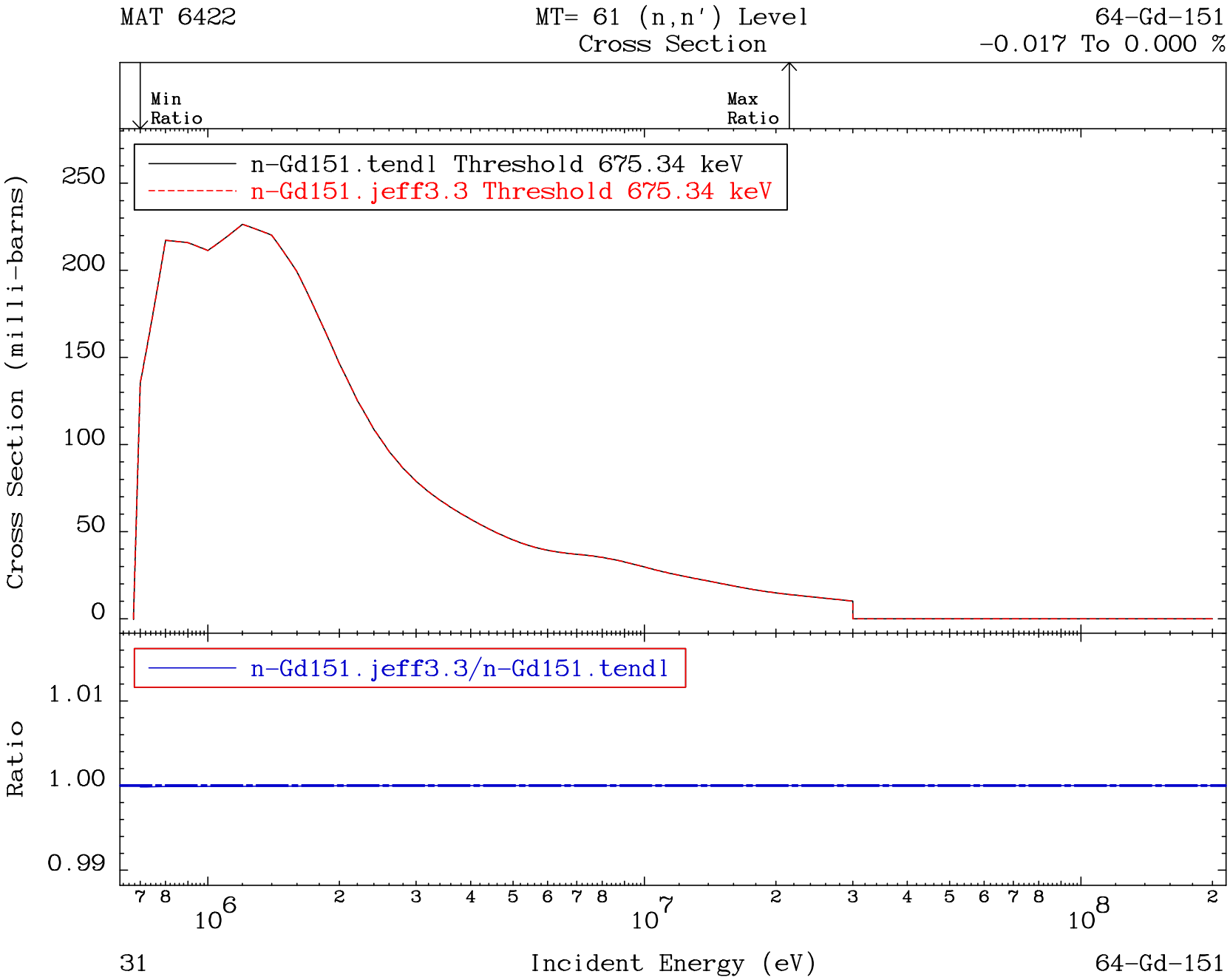

MAT 6422
MT= 56 (n,n') Level
Cross Section
64-Gd-151
-0.023 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 588.69 keV
n-Gd151.jeff3.3 Threshold 588.69 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
26
Incident Energy (eV)
64-Gd-151

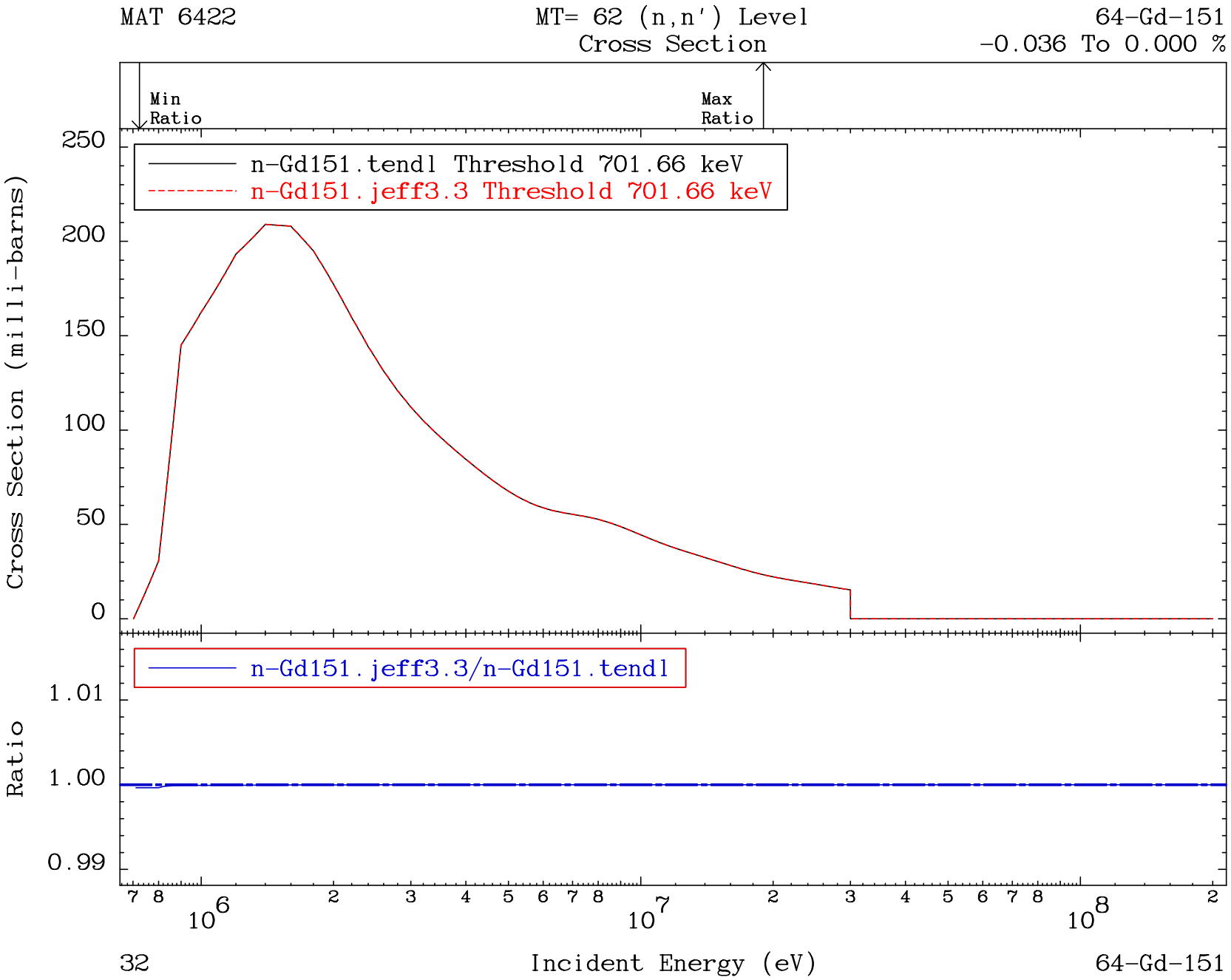

MAT 6422
MT= 57 (n,n') Level
Cross Section
64-Gd-151
-0.016 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 591.38 keV
n-Gd151.jeff3.3 Threshold 591.38 keV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
27
Incident Energy (eV)
64-Gd-151

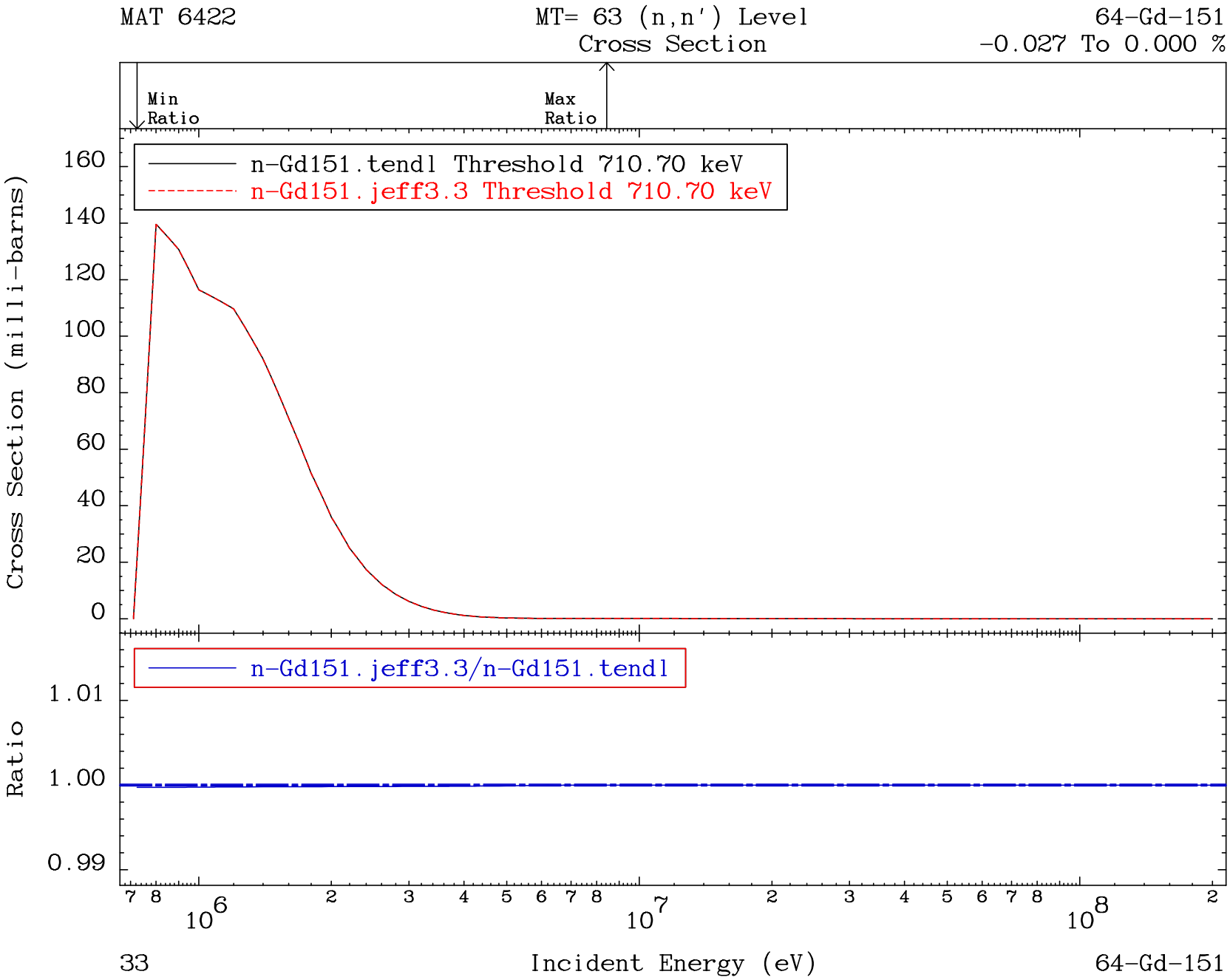

MAT 6422
MT= 58 (n,n') Level
Cross Section
64-Gd-151
-0.041 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 593.04 keV
n-Gd151.jeff3.3 Threshold 593.04 keV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
64-Gd-151

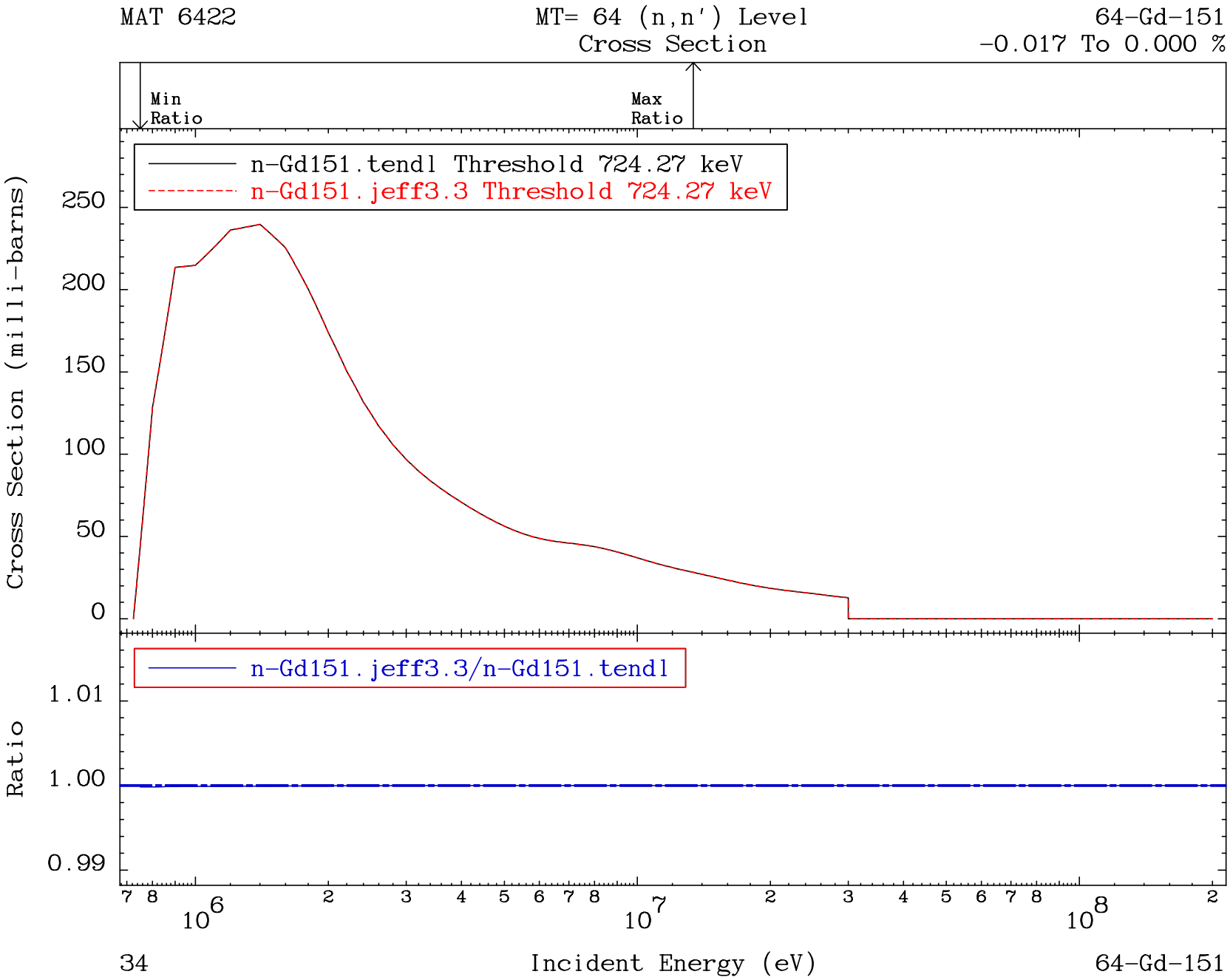

MAT 6422
MT= 59 (n,n') Level
Cross Section
64-Gd-151
-0.020 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 622.27 keV
n-Gd151.jeff3.3 Threshold 622.27 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
29
Incident Energy (eV)
64-Gd-151

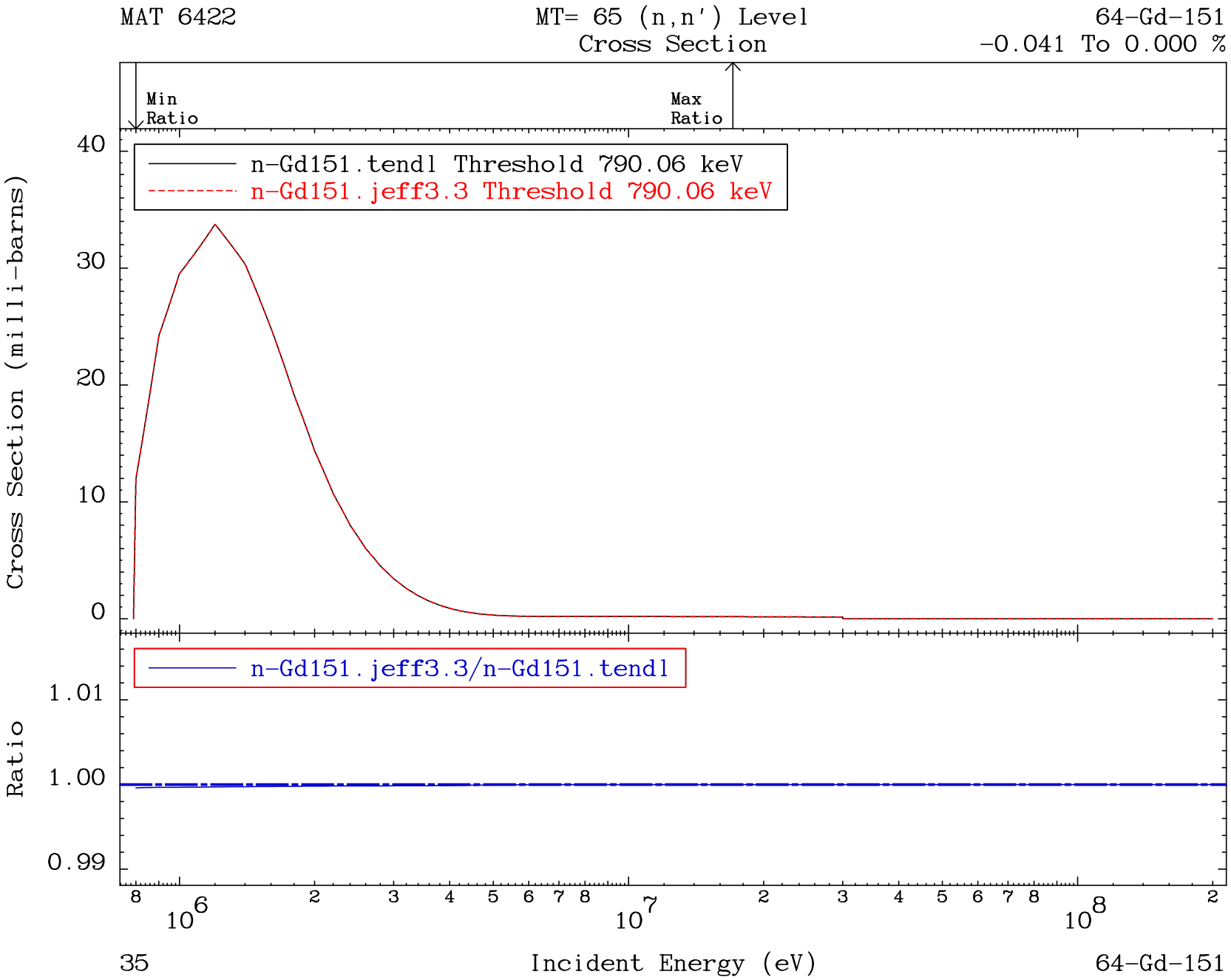

MAT 6422
MT= 60 (n,n') Level
Cross Section
64-Gd-151
-0.013 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 624.75 keV
n-Gd151.jeff3.3 Threshold 624.75 keV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
30
Incident Energy (eV)
64-Gd-151

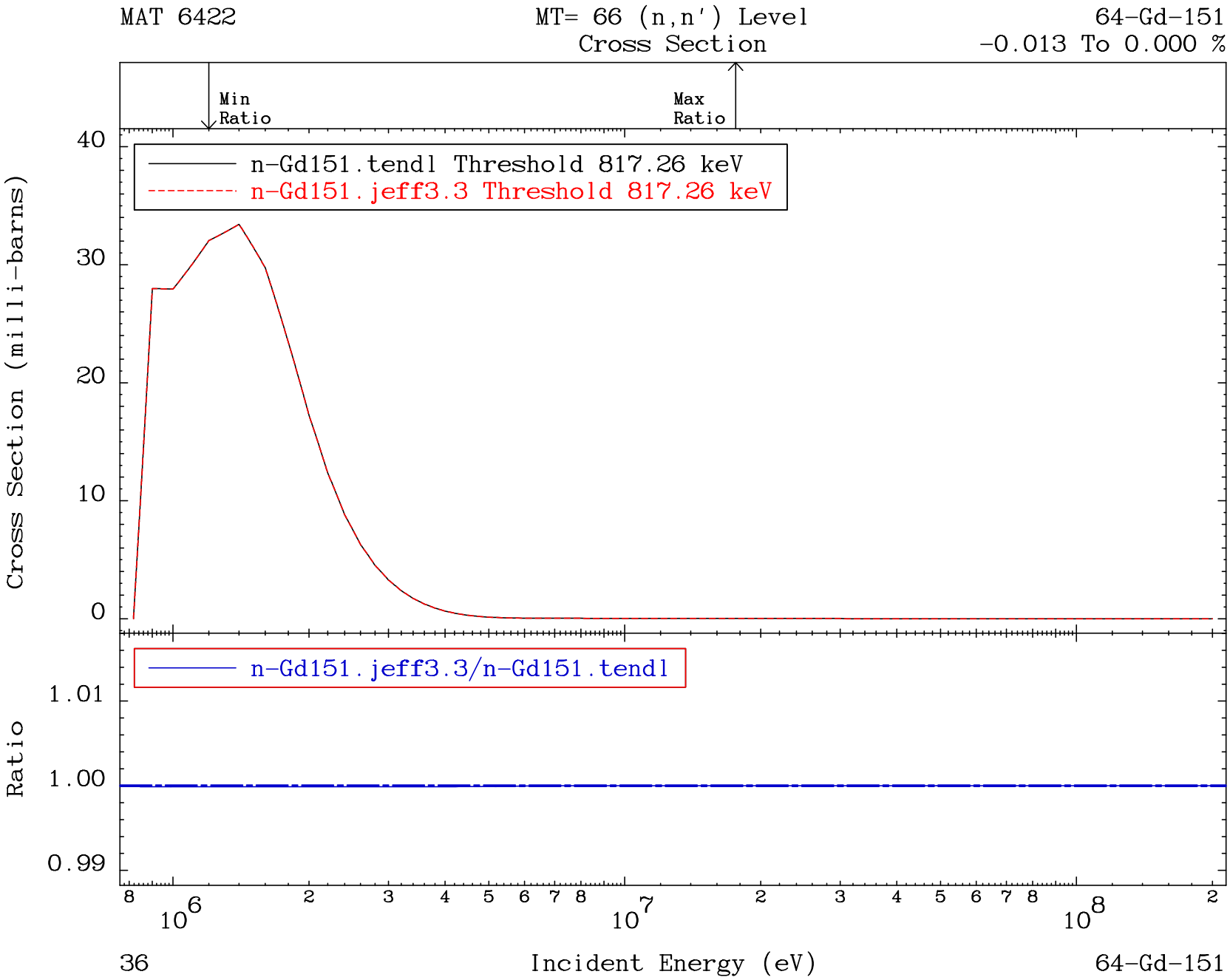

MAT 6422
MT= 61 (n,n') Level
Cross Section
64-Gd-151
-0.017 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 675.34 keV
n-Gd151.jeff3.3 Threshold 675.34 keV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
31
Incident Energy (eV)
64-Gd-151

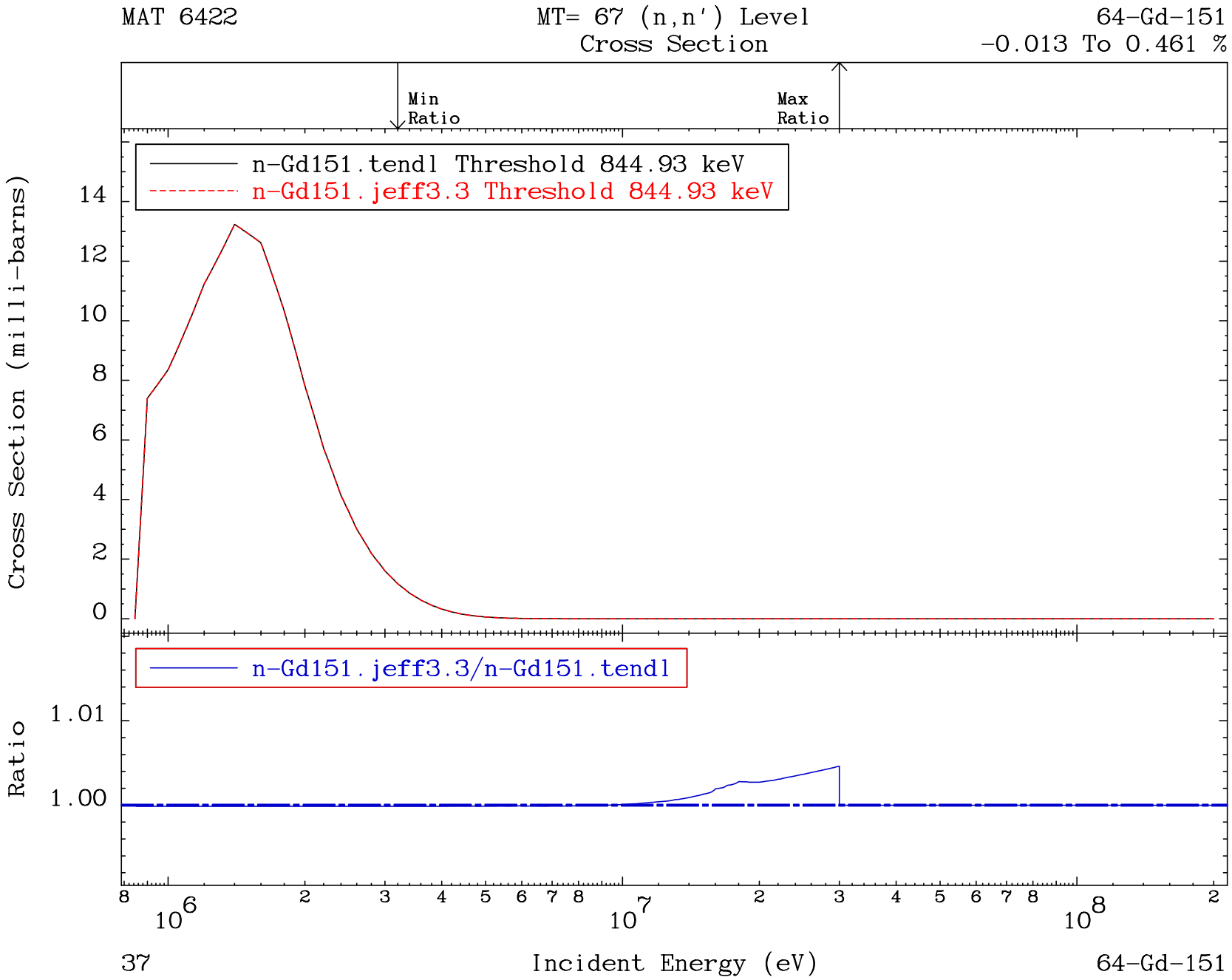

MAT 6422
MT= 62 (n,n') Level
Cross Section
64-Gd-151
-0.036 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 701.66 keV
n-Gd151.jeff3.3 Threshold 701.66 keV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
32
Incident Energy (eV)
64-Gd-151

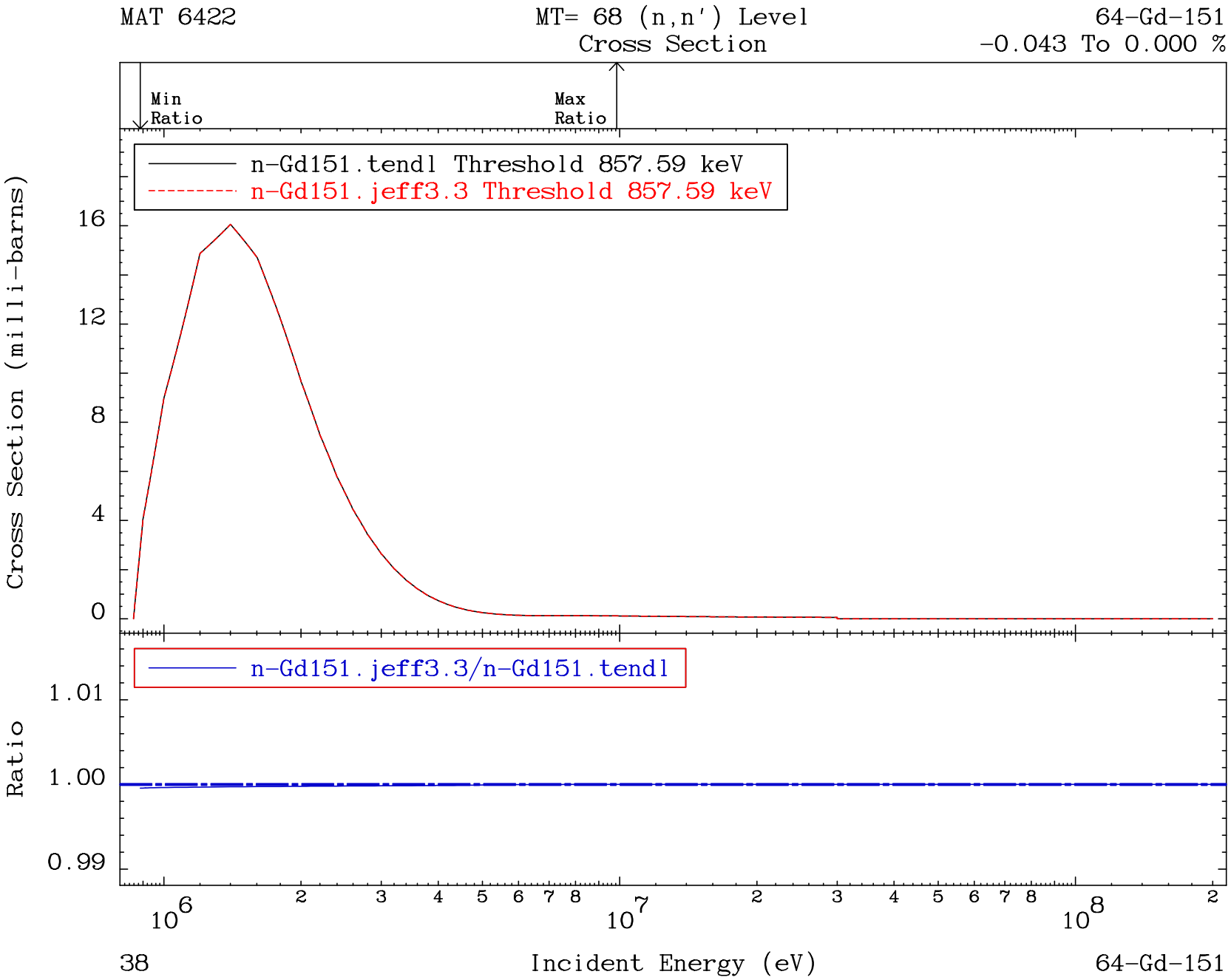

MAT 6422
MT= 63 (n,n') Level
Cross Section
64-Gd-151
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 710.70 keV
n-Gd151.jeff3.3 Threshold 710.70 keV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
33
Incident Energy (eV)
64-Gd-151

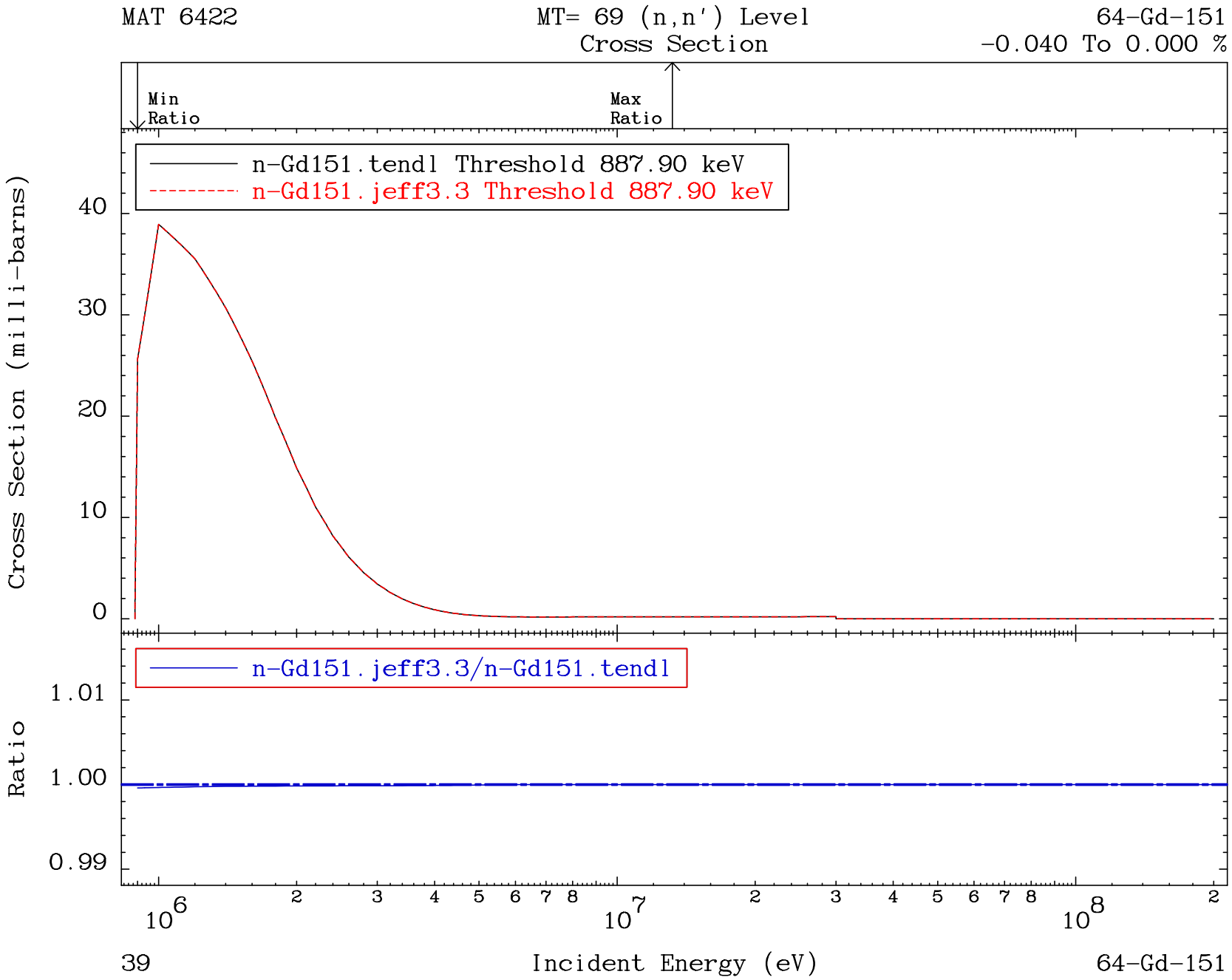

MAT 6422
MT= 64 (n,n') Level
Cross Section
64-Gd-151
-0.017 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 724.27 keV
n-Gd151.jeff3.3 Threshold 724.27 keV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
34
Incident Energy (eV)
64-Gd-151

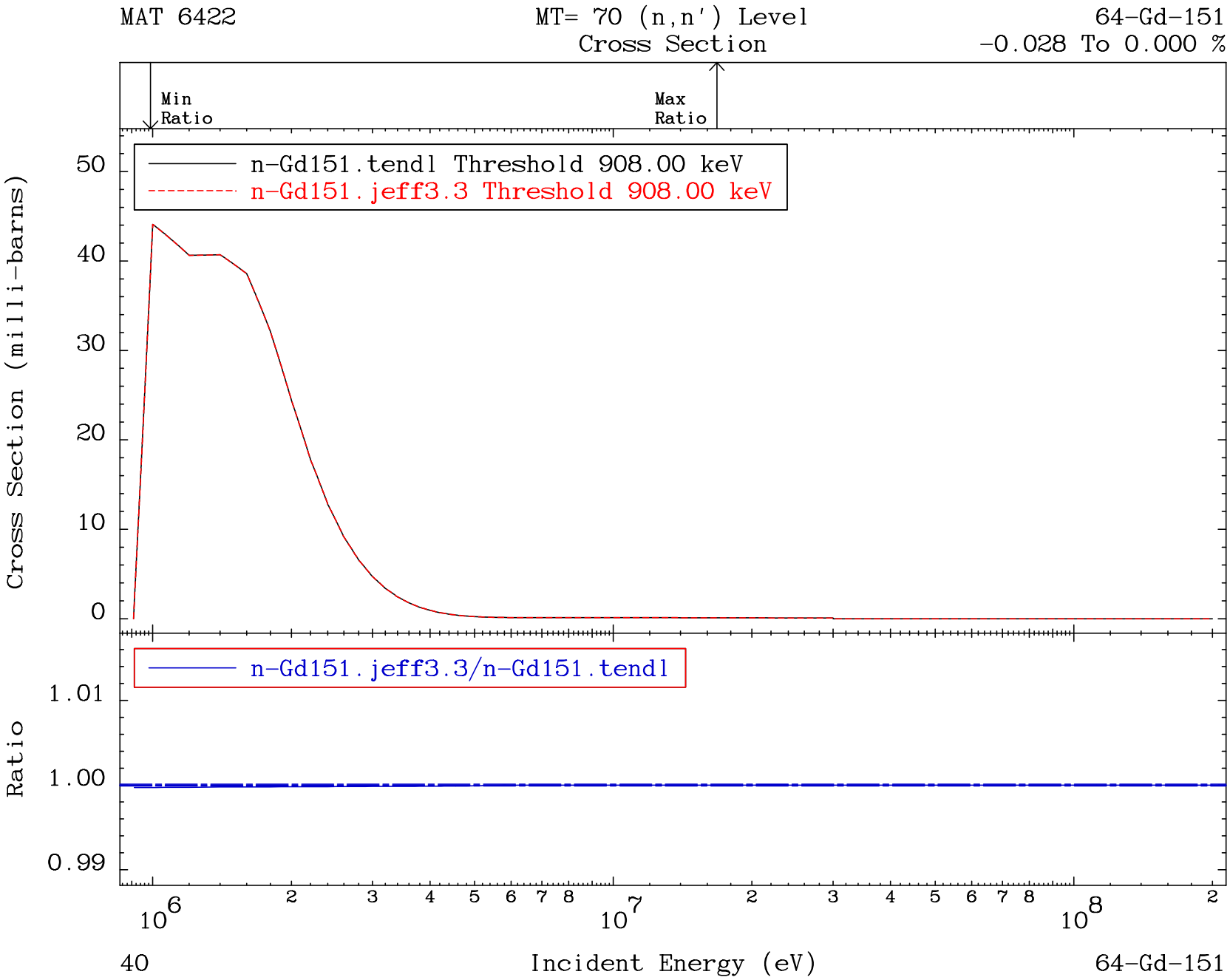

MAT 6422
MT= 65 (n,n') Level
Cross Section
64-Gd-151
-0.041 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 790.06 keV
n-Gd151.jeff3.3 Threshold 790.06 keV
Cross Section (milli-barns)
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
35
Incident Energy (eV)
64-Gd-151

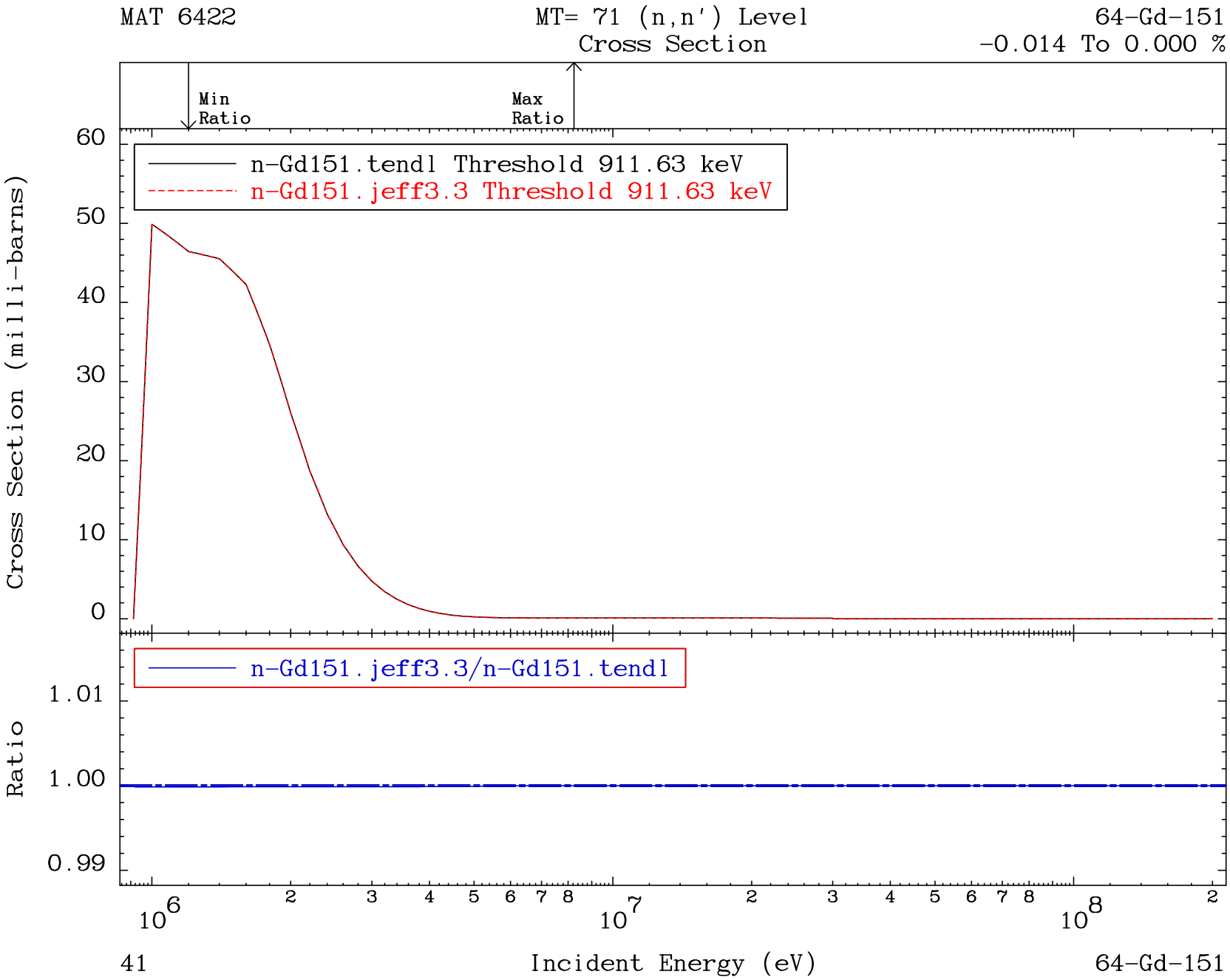

MAT 6422
MT= 66 (n,n') Level
Cross Section
64-Gd-151
-0.013 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 817.26 keV
n-Gd151.jeff3.3 Threshold 817.26 keV
Cross Section (milli-barns)
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
36
Incident Energy (eV)
64-Gd-151

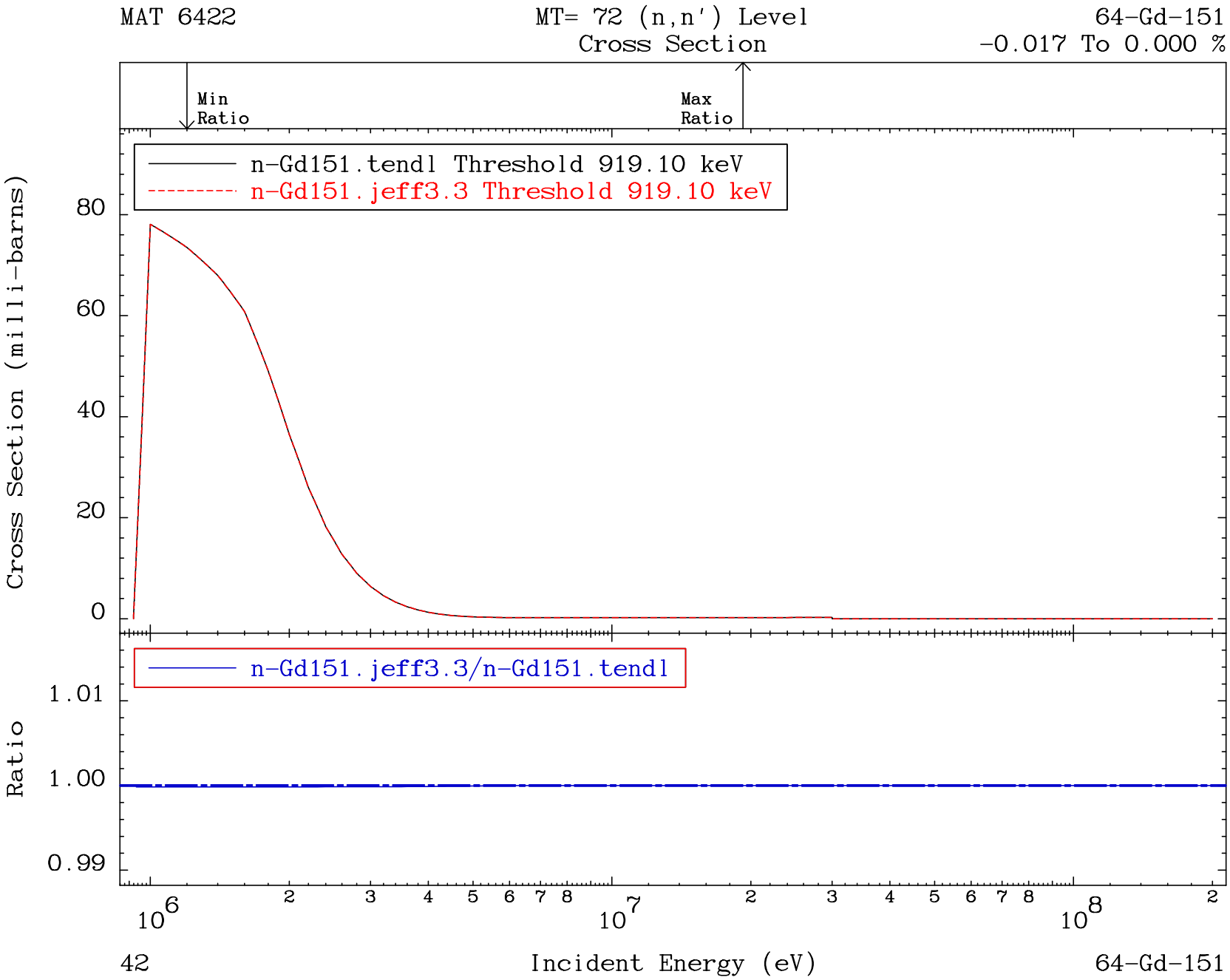

MAT 6422
MT= 67 (n,n') Level
Cross Section
64-Gd-151
-0.013 To 0.461 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 844.93 keV
n-Gd151.jeff3.3 Threshold 844.93 keV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
37
Incident Energy (eV)
64-Gd-151

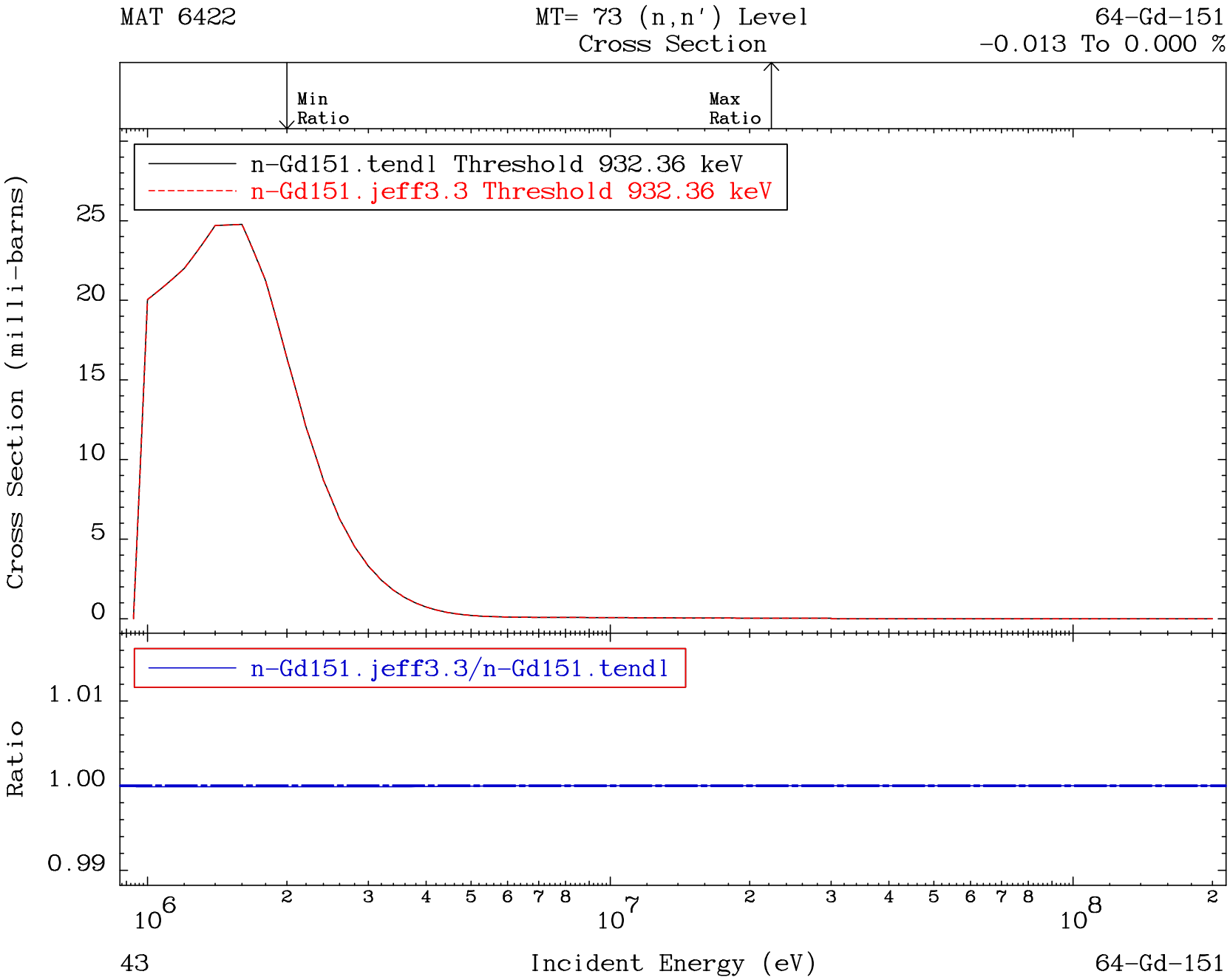

MAT 6422
MT= 68 (n,n') Level
Cross Section
64-Gd-151
-0.043 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 857.59 keV
n-Gd151.jeff3.3 Threshold 857.59 keV
Cross Section (milli-barns)
16
12
8
4
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
38
Incident Energy (eV)
64-Gd-151

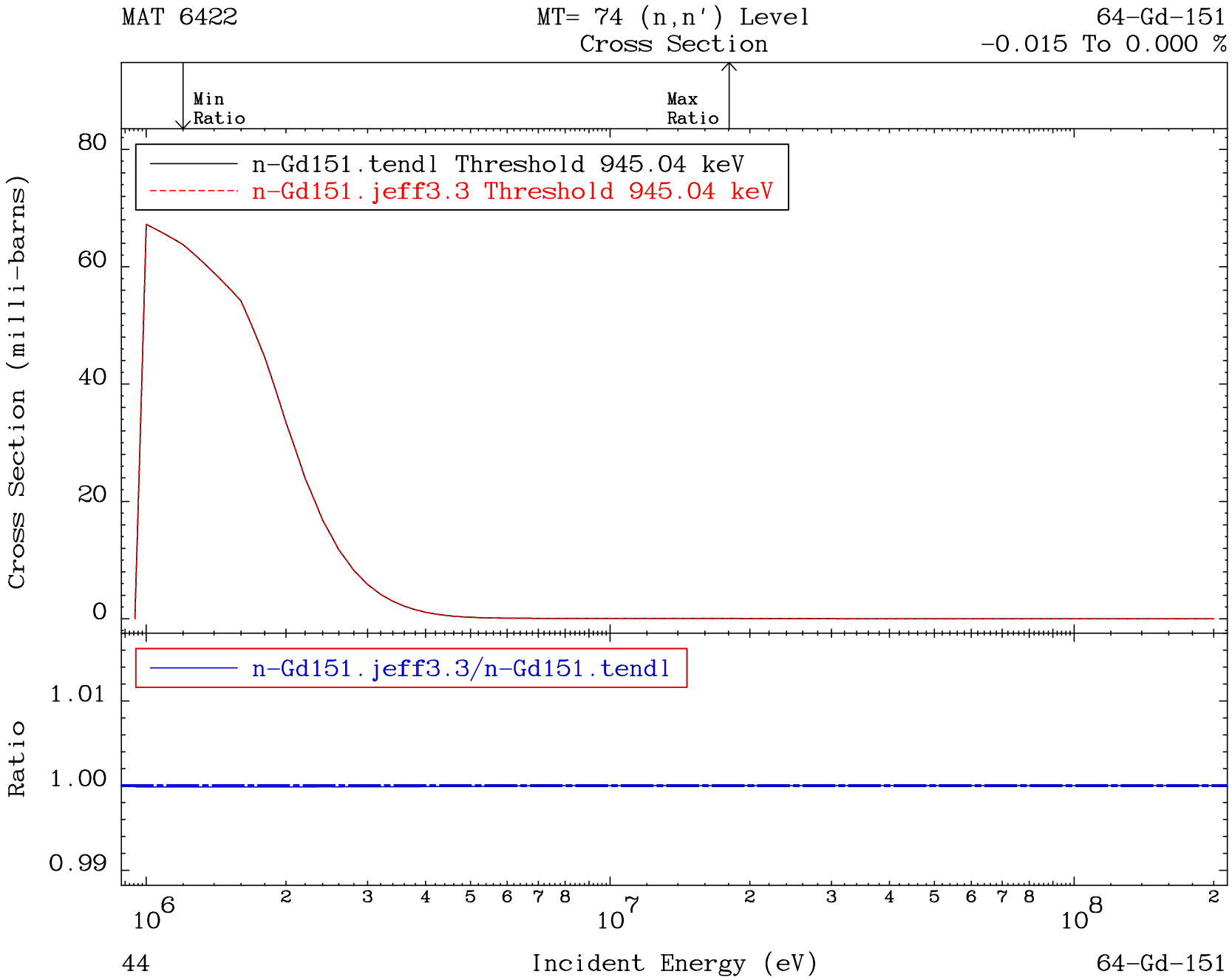

MAT 6422
MT= 69 (n,n') Level
Cross Section
64-Gd-151
-0.040 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 887.90 keV
n-Gd151.jeff3.3 Threshold 887.90 keV
Cross Section (milli-barns)
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
39
Incident Energy (eV)
64-Gd-151

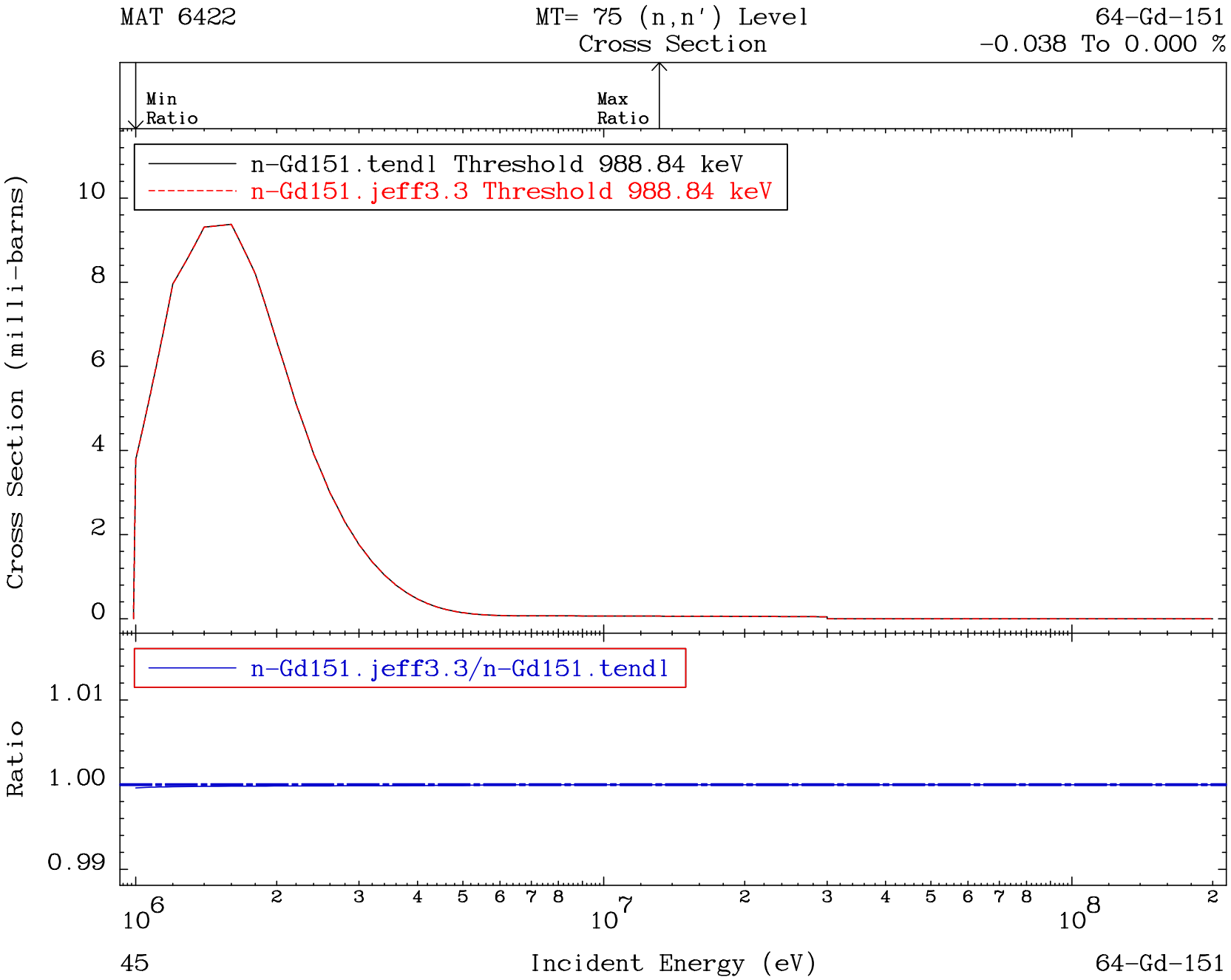

MAT 6422
MT= 70 (n,n') Level
Cross Section
64-Gd-151
-0.028 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 908.00 keV
n-Gd151.jeff3.3 Threshold 908.00 keV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
40
Incident Energy (eV)
64-Gd-151

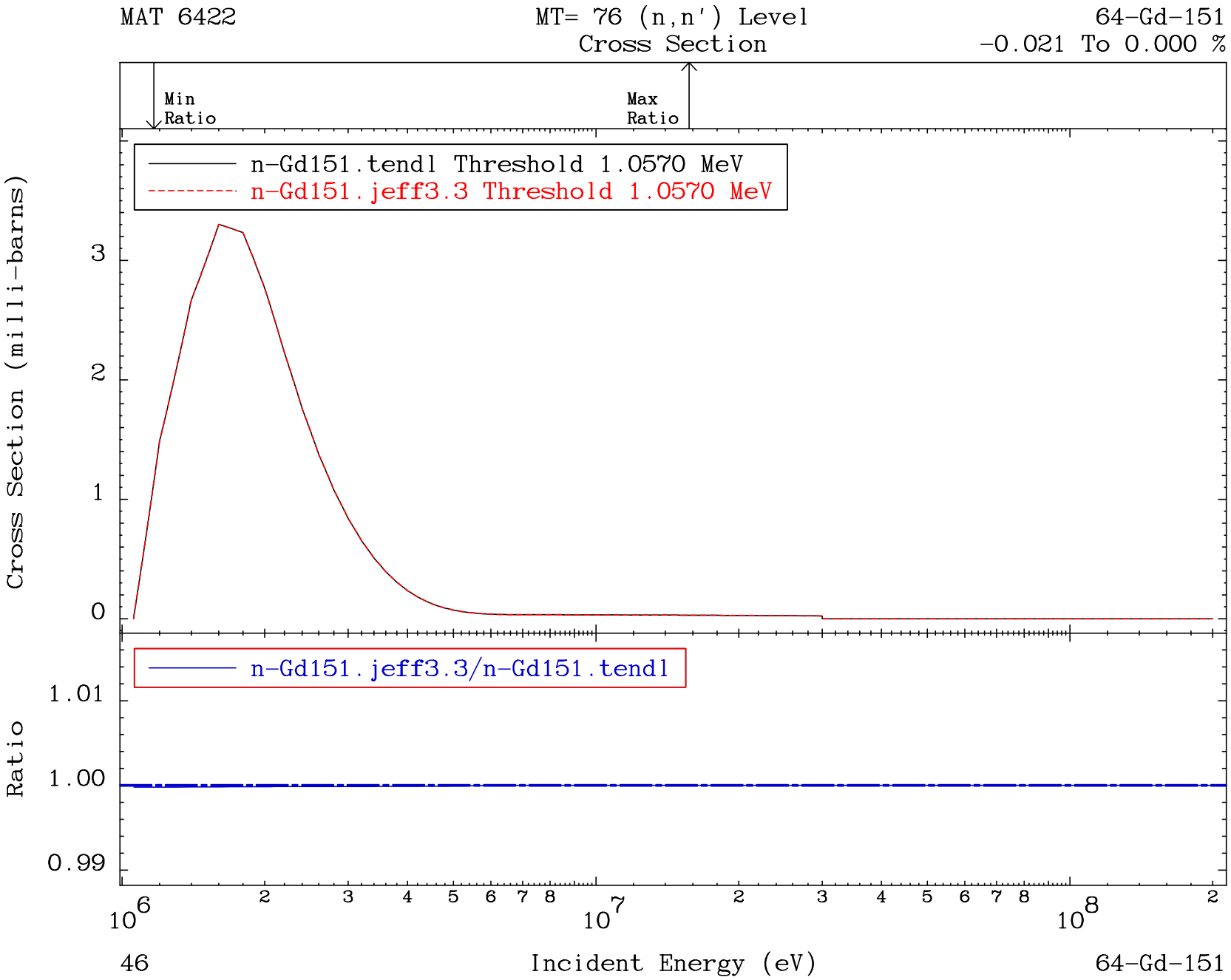

MAT 6422
MT= 71 (n,n') Level
Cross Section
64-Gd-151
-0.014 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 911.63 keV
n-Gd151.jeff3.3 Threshold 911.63 keV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
41
Incident Energy (eV)
64-Gd-151

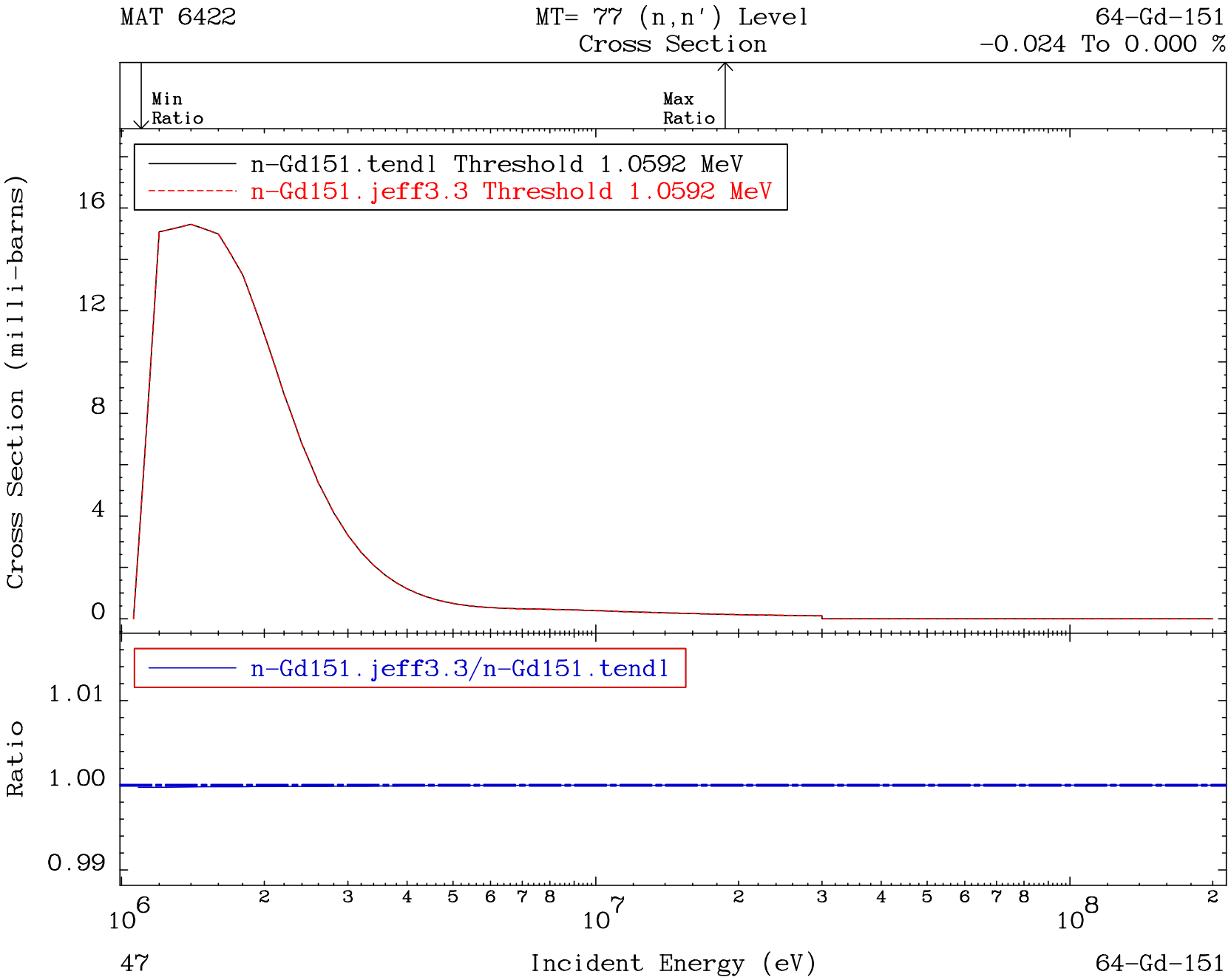

MAT 6422
MT= 72 (n,n') Level
Cross Section
64-Gd-151
-0.017 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 919.10 keV
n-Gd151.jeff3.3 Threshold 919.10 keV
Cross Section (milli-barns)
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
42
Incident Energy (eV)
64-Gd-151

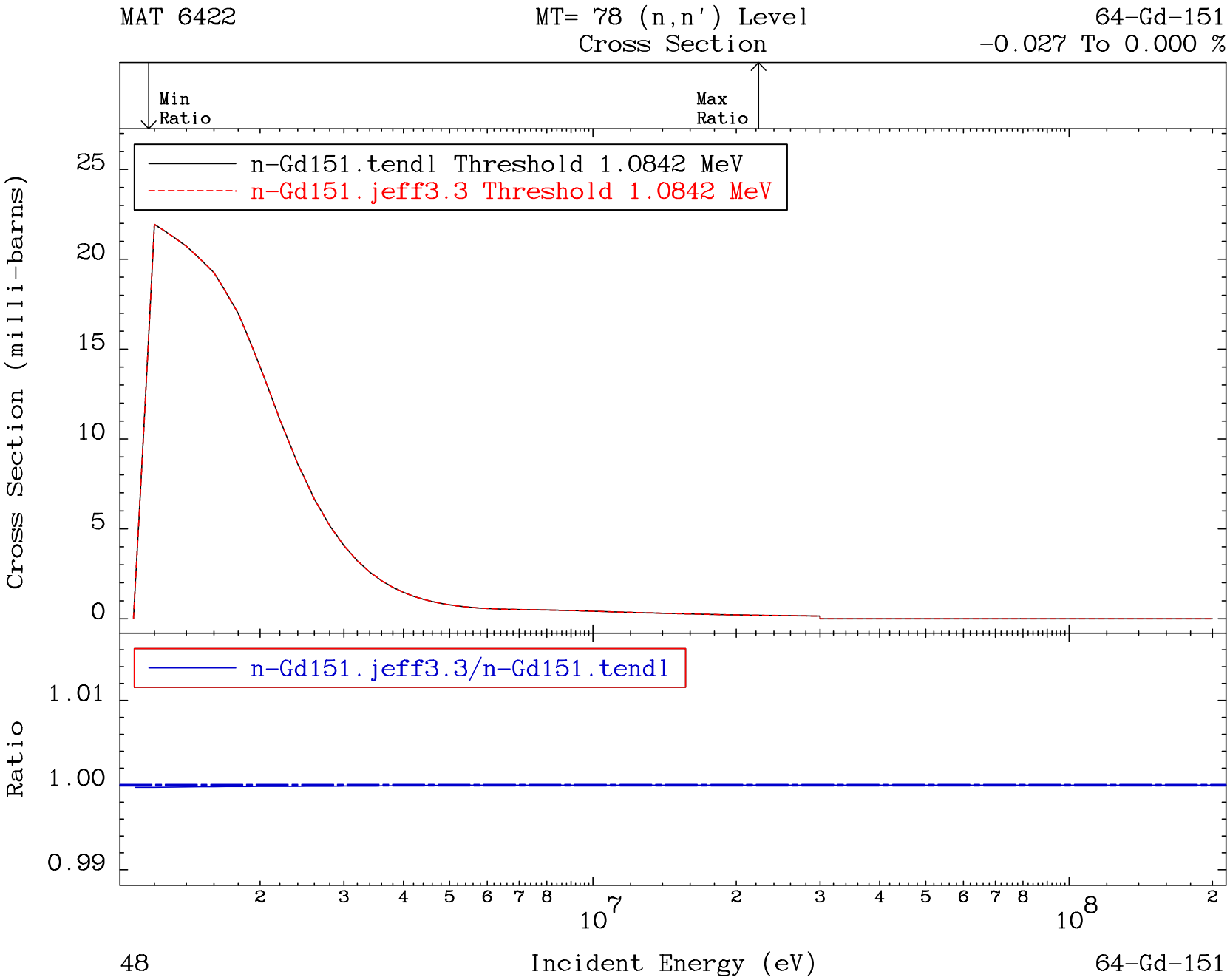

MAT 6422
MT= 73 (n,n') Level
Cross Section
64-Gd-151
-0.013 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 932.36 keV
n-Gd151.jeff3.3 Threshold 932.36 keV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
43
Incident Energy (eV)
64-Gd-151

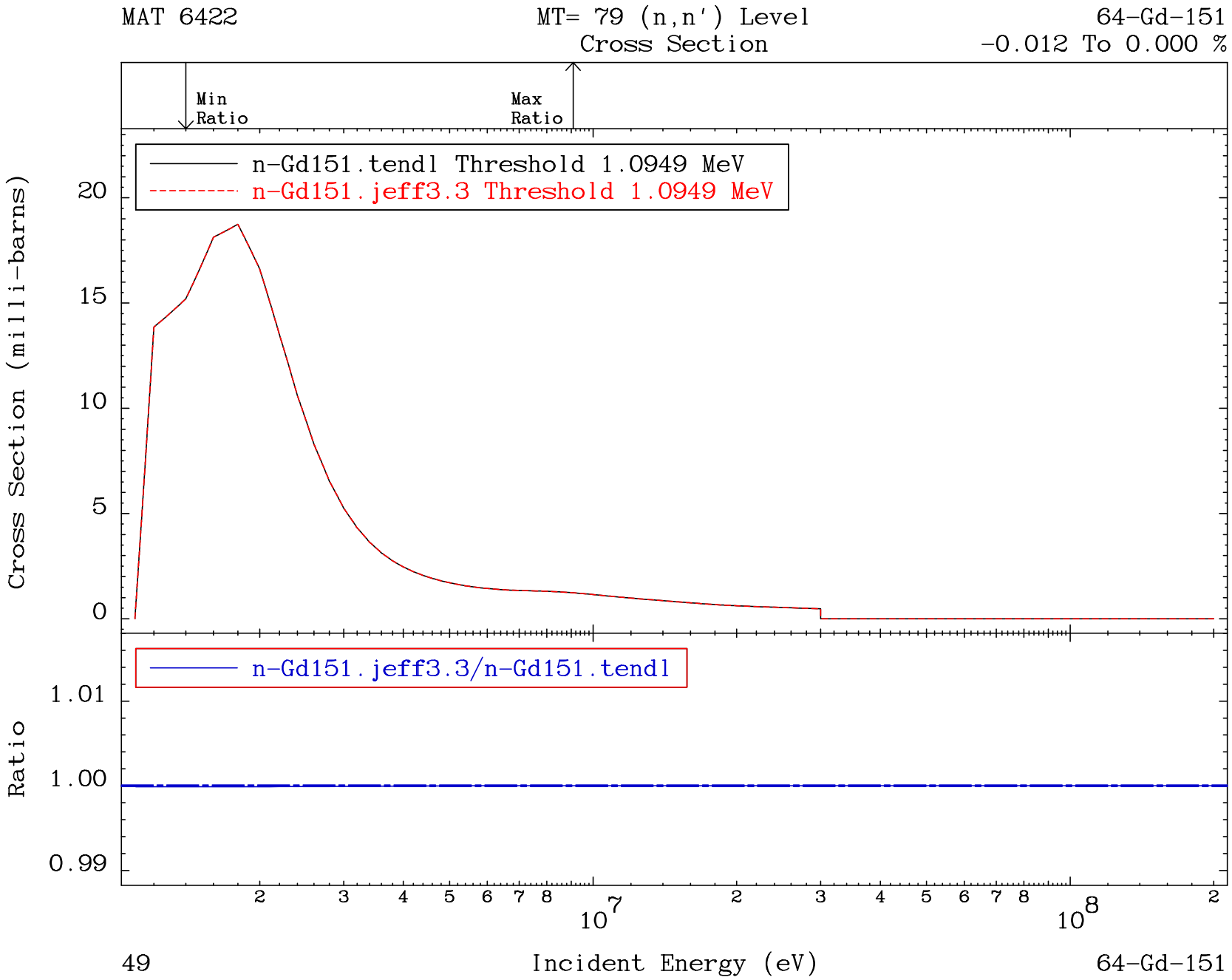

MAT 6422
MT= 74 (n,n') Level
Cross Section
64-Gd-151
-0.015 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 945.04 keV
n-Gd151.jeff3.3 Threshold 945.04 keV
Cross Section (milli-barns)
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
44
Incident Energy (eV)
64-Gd-151

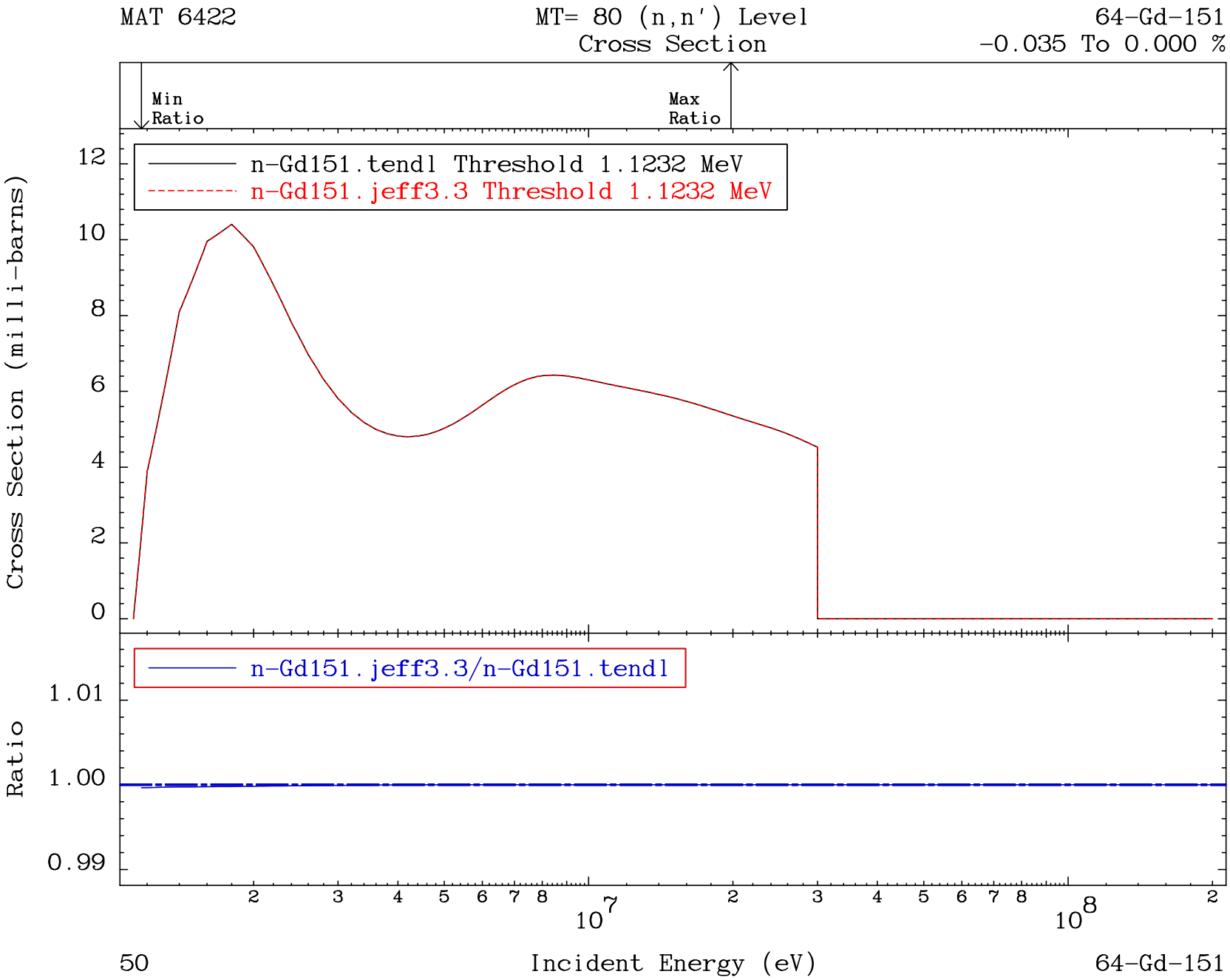

MAT 6422
MT= 75 (n,n') Level
Cross Section
64-Gd-151
-0.038 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 988.84 keV
n-Gd151.jeff3.3 Threshold 988.84 keV
Cross Section (milli-barns)
10
8
6
4
2
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
45
Incident Energy (eV)
64-Gd-151

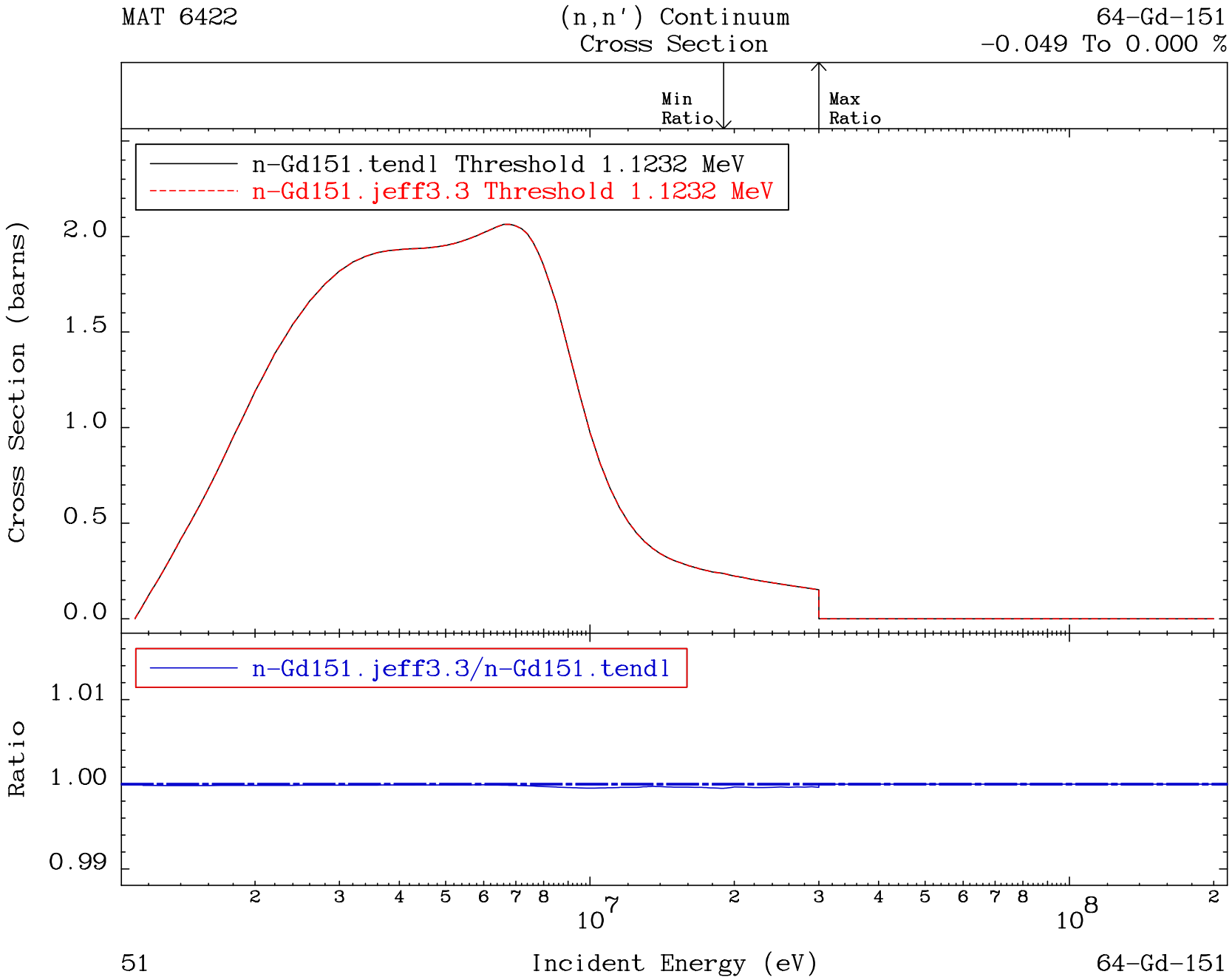

MAT 6422
MT= 76 (n,n') Level
Cross Section
64-Gd-151
-0.021 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 1.0570 MeV
n-Gd151.jeff3.3 Threshold 1.0570 MeV
Cross Section (milli-barns)
0
1
2
3
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
0.99
1.00
1.01
10^6
10^7
10^8
Incident Energy (eV)
46
64-Gd-151

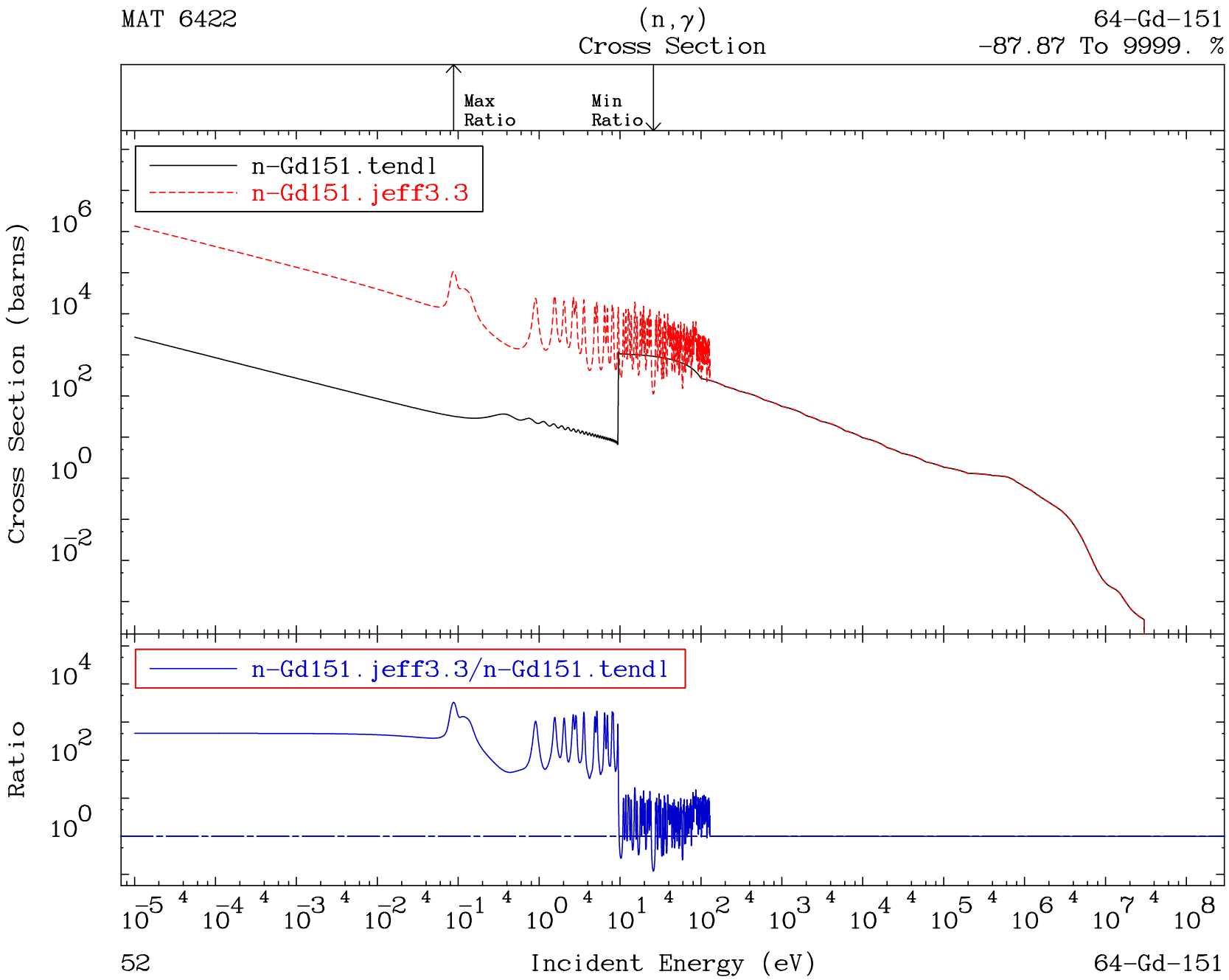

MAT 6422
MT= 77 (n,n') Level
Cross Section
64-Gd-151
-0.024 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 1.0592 MeV
n-Gd151.jeff3.3 Threshold 1.0592 MeV
Cross Section (milli-barns)
16
12
8
4
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
47
Incident Energy (eV)
64-Gd-151

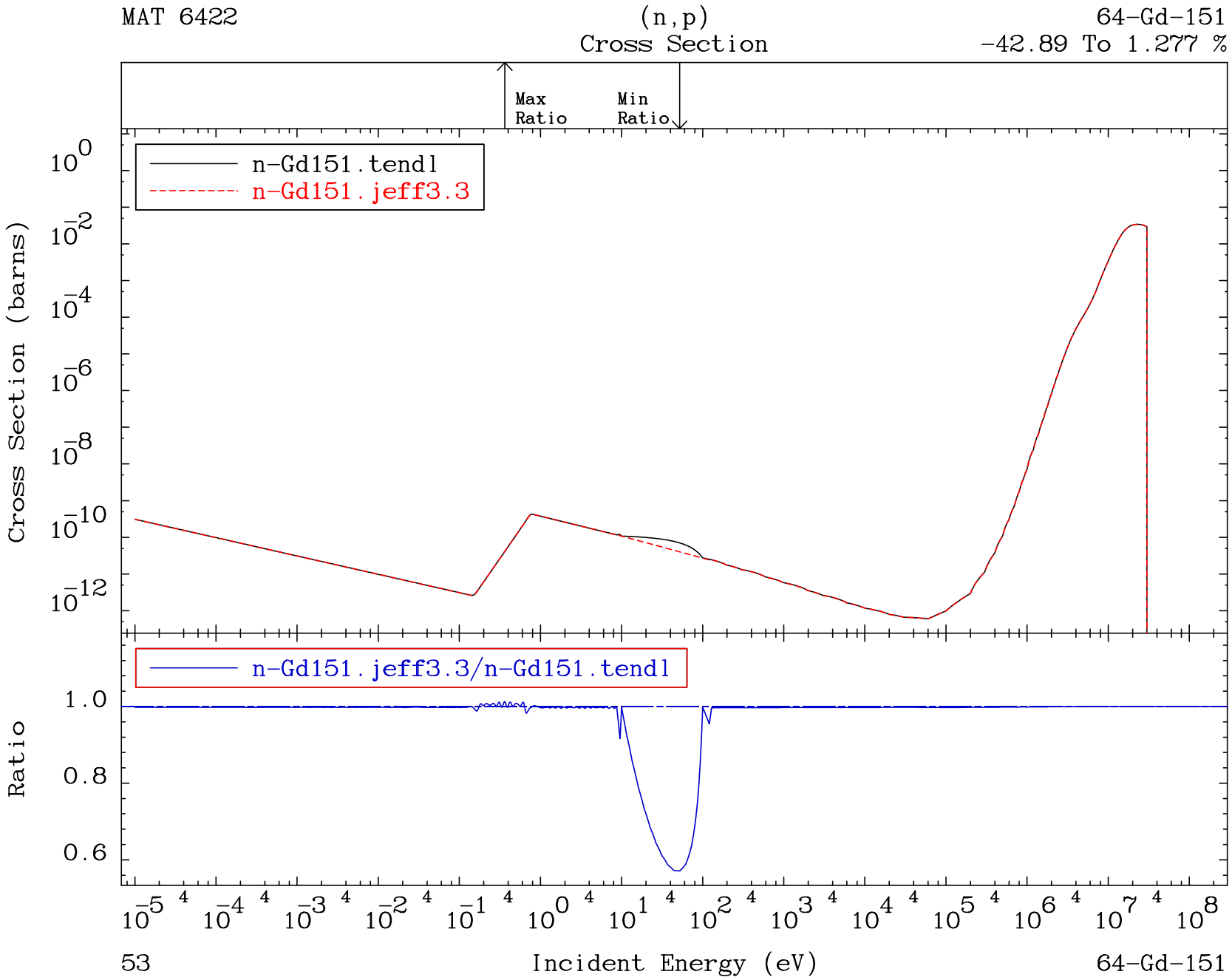

MAT 6422
MT= 78 (n,n') Level
Cross Section
64-Gd-151
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 1.0842 MeV
n-Gd151.jeff3.3 Threshold 1.0842 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
48
Incident Energy (eV)
64-Gd-151

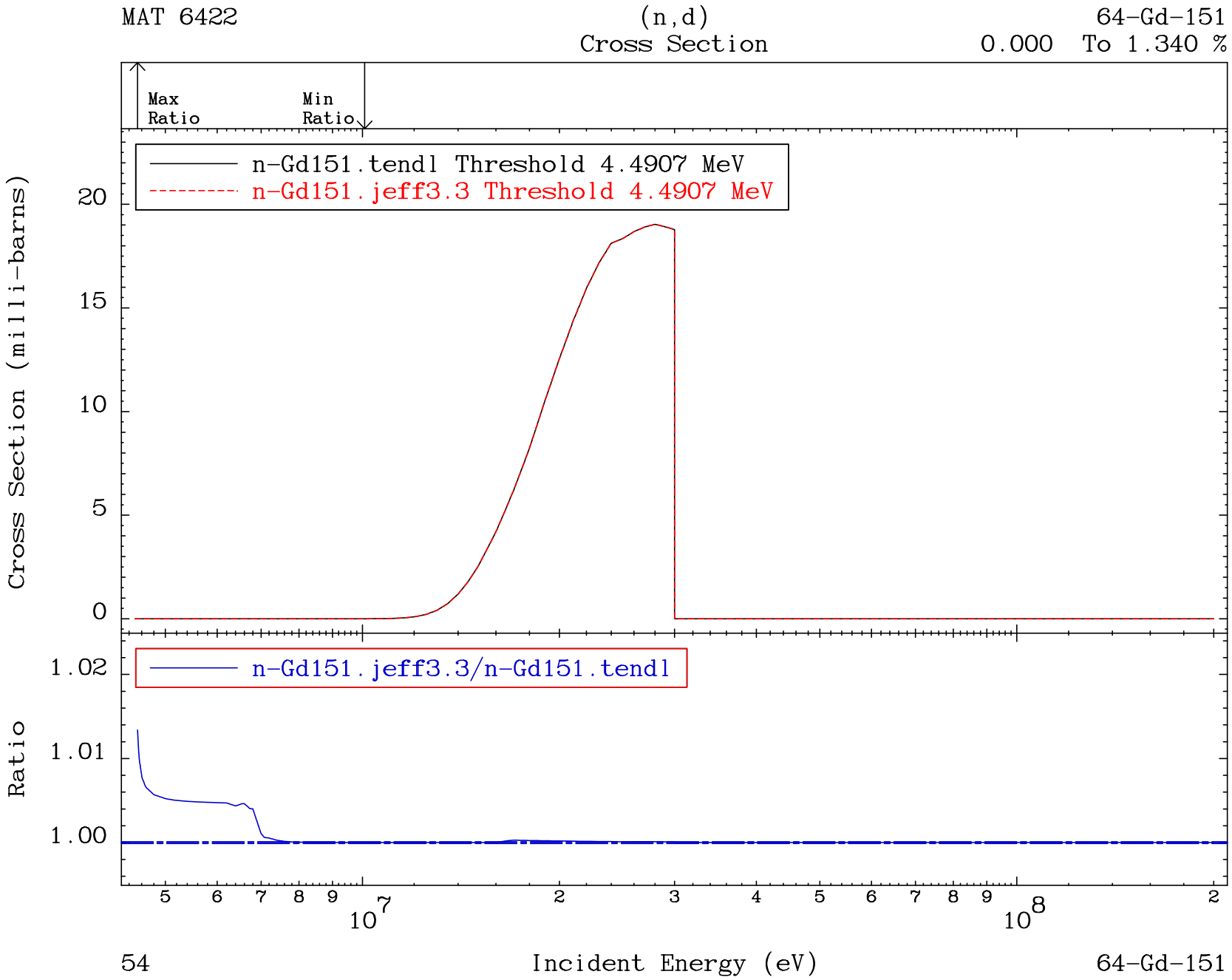

MAT 6422
MT= 79 (n,n') Level
Cross Section
64-Gd-151
-0.012 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 1.0949 MeV
n-Gd151.jeff3.3 Threshold 1.0949 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
49
Incident Energy (eV)
64-Gd-151

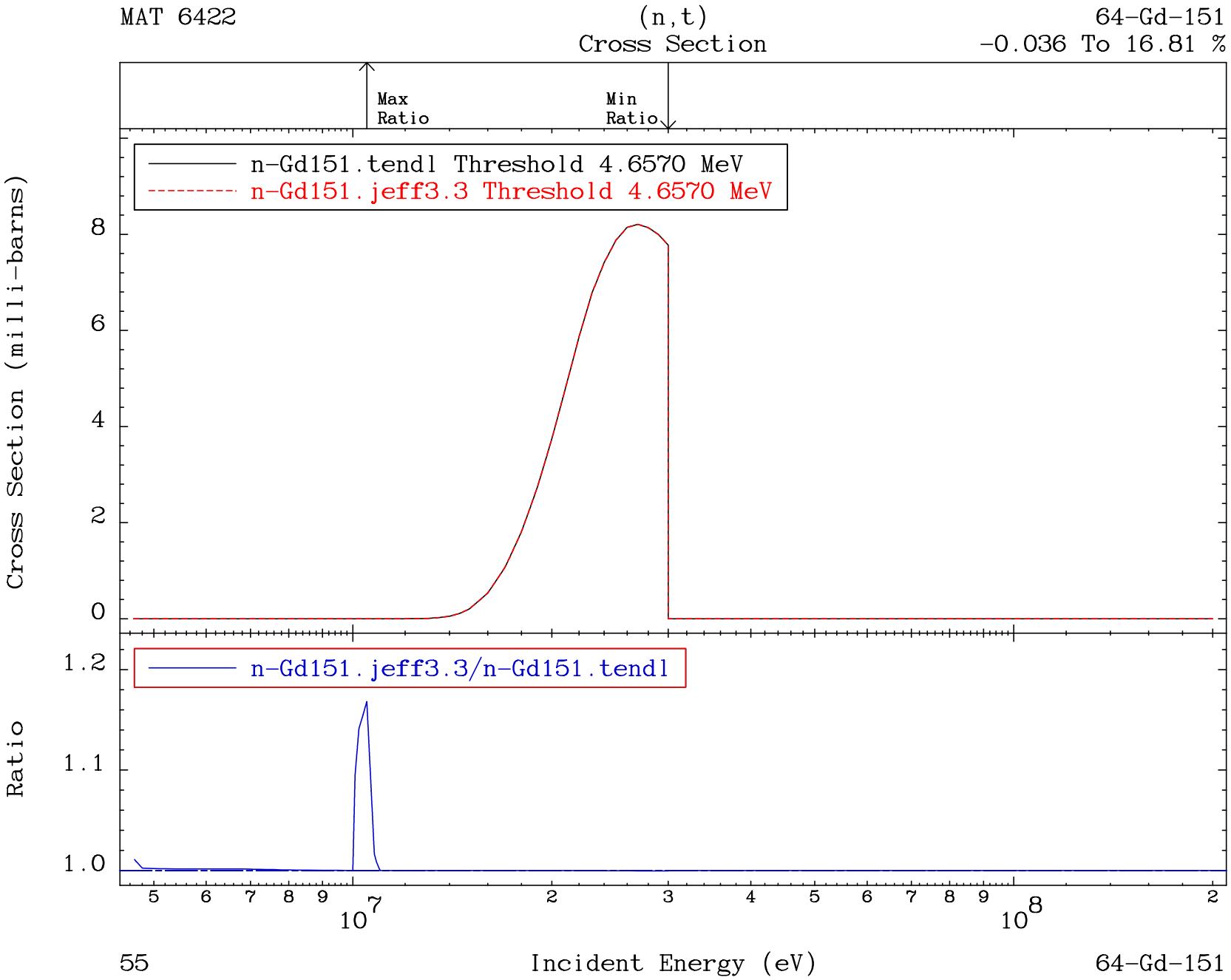

MAT 6422
MT= 80 (n,n') Level
Cross Section
64-Gd-151
-0.035 To 0.000 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 1.1232 MeV
n-Gd151.jeff3.3 Threshold 1.1232 MeV
Cross Section (milli-barns)
12
10
8
6
4
2
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
50
Incident Energy (eV)
64-Gd-151

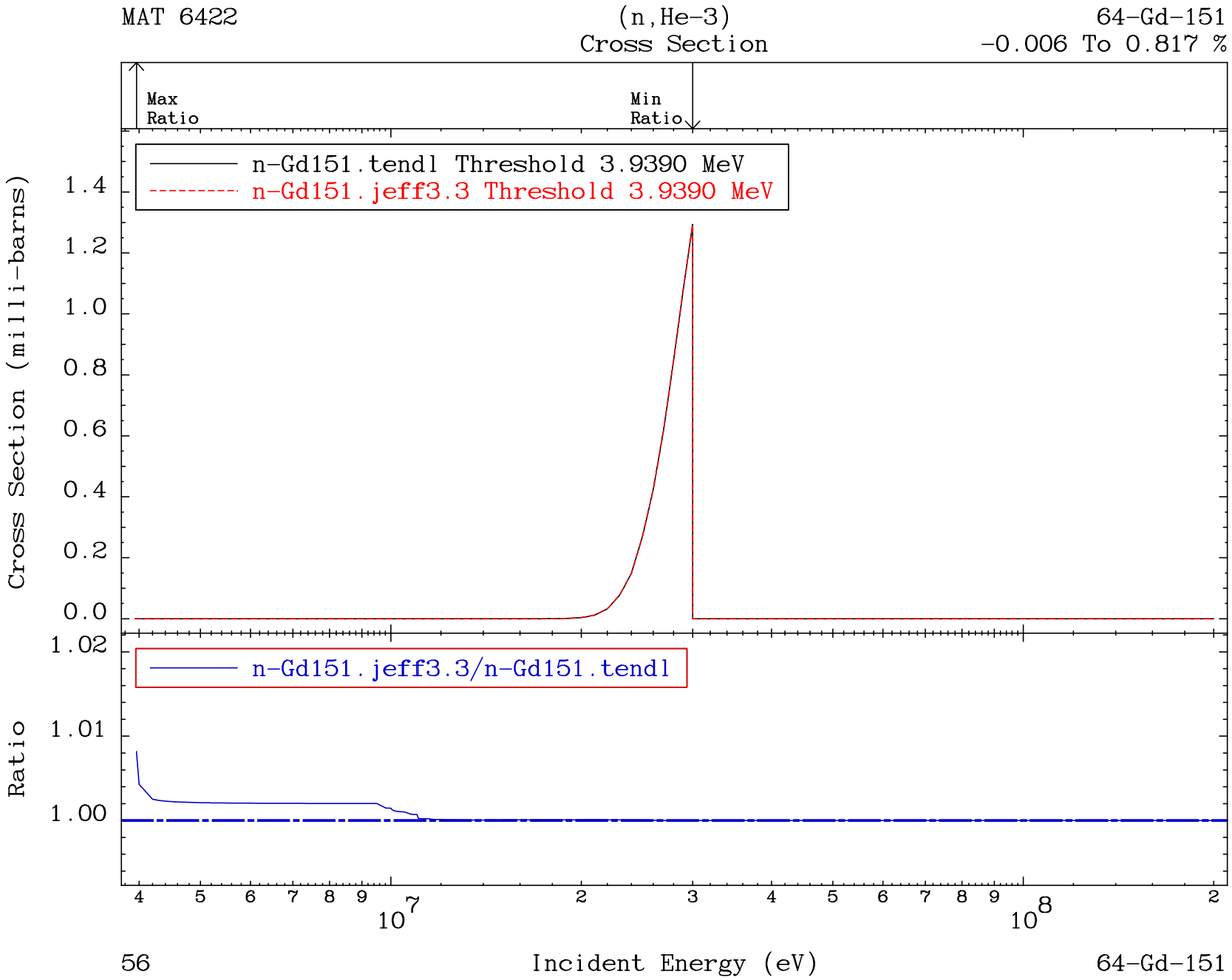

MAT 6422
(n,n') Continuum
Cross Section
64-Gd-151
-0.049 To 0.000 %
Min
Ratio
Max
Ratio
n-Gd151.tendl Threshold 1.1232 MeV
n-Gd151.jeff3.3 Threshold 1.1232 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
51
Incident Energy (eV)
64-Gd-151

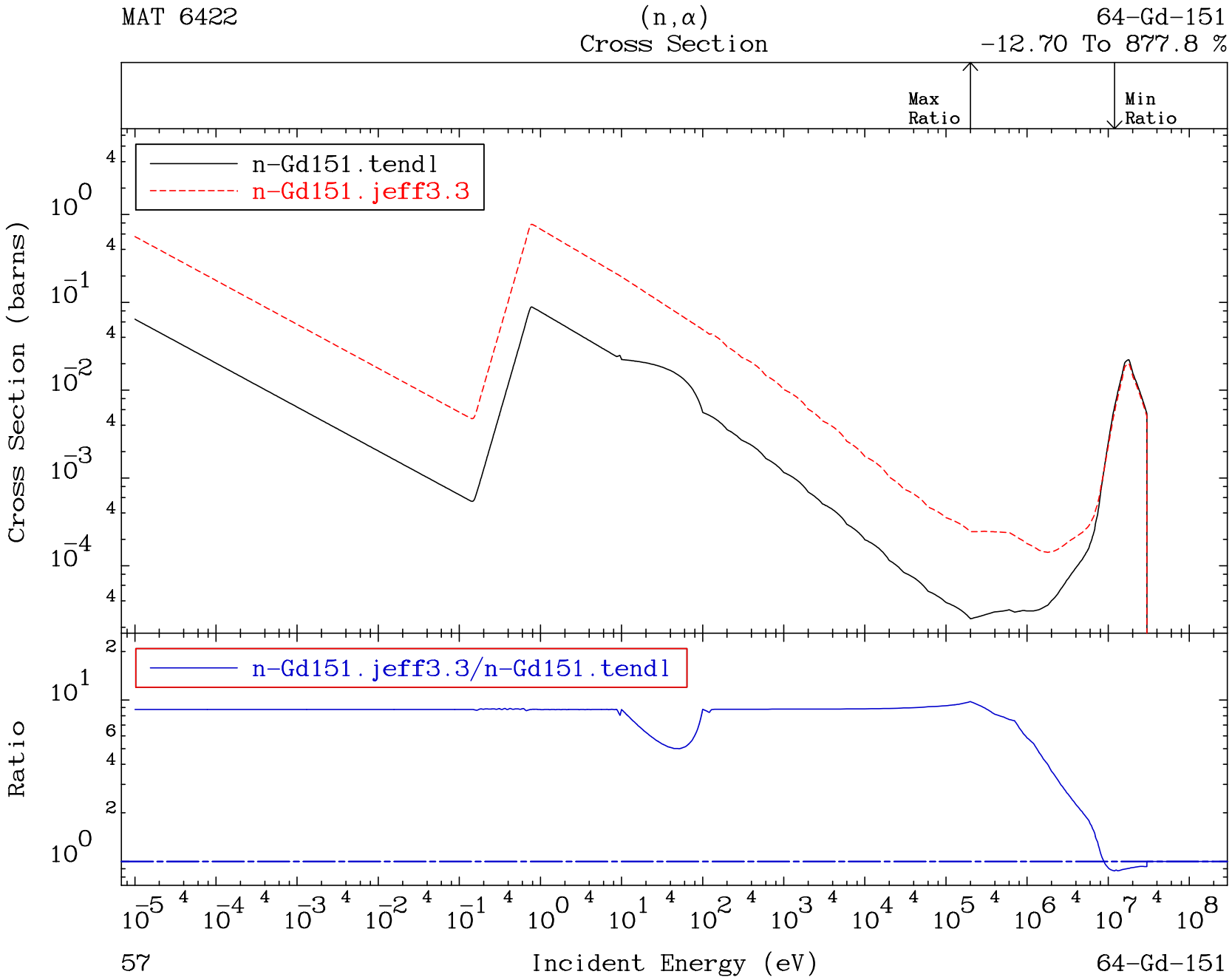

MAT 6422
(n,γ)
Cross Section
64-Gd-151
-87.87 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
52
64-Gd-151

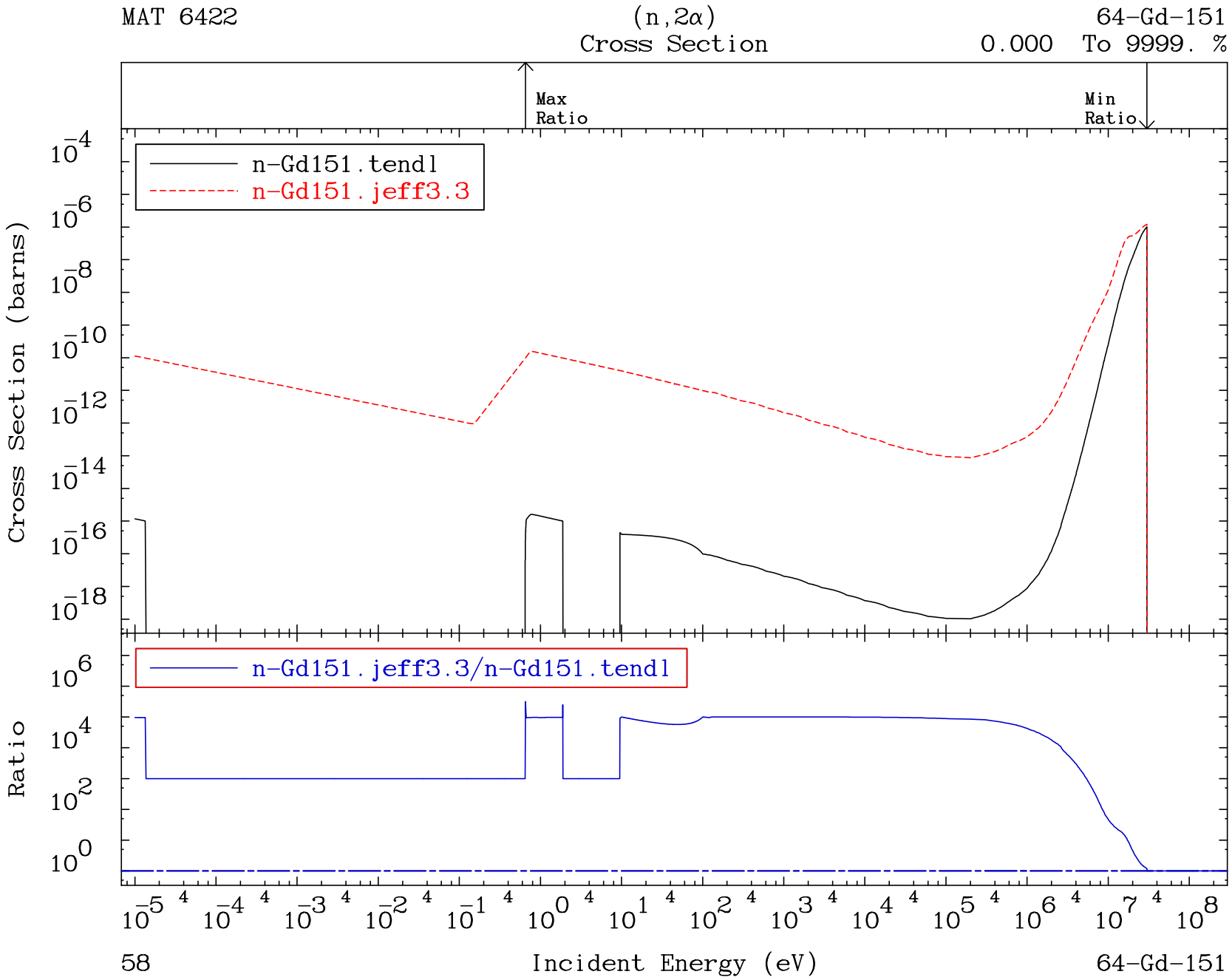

MAT 6422
(n,p)
Cross Section
64-Gd-151
-42.89 To 1.277 %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
53
64-Gd-151

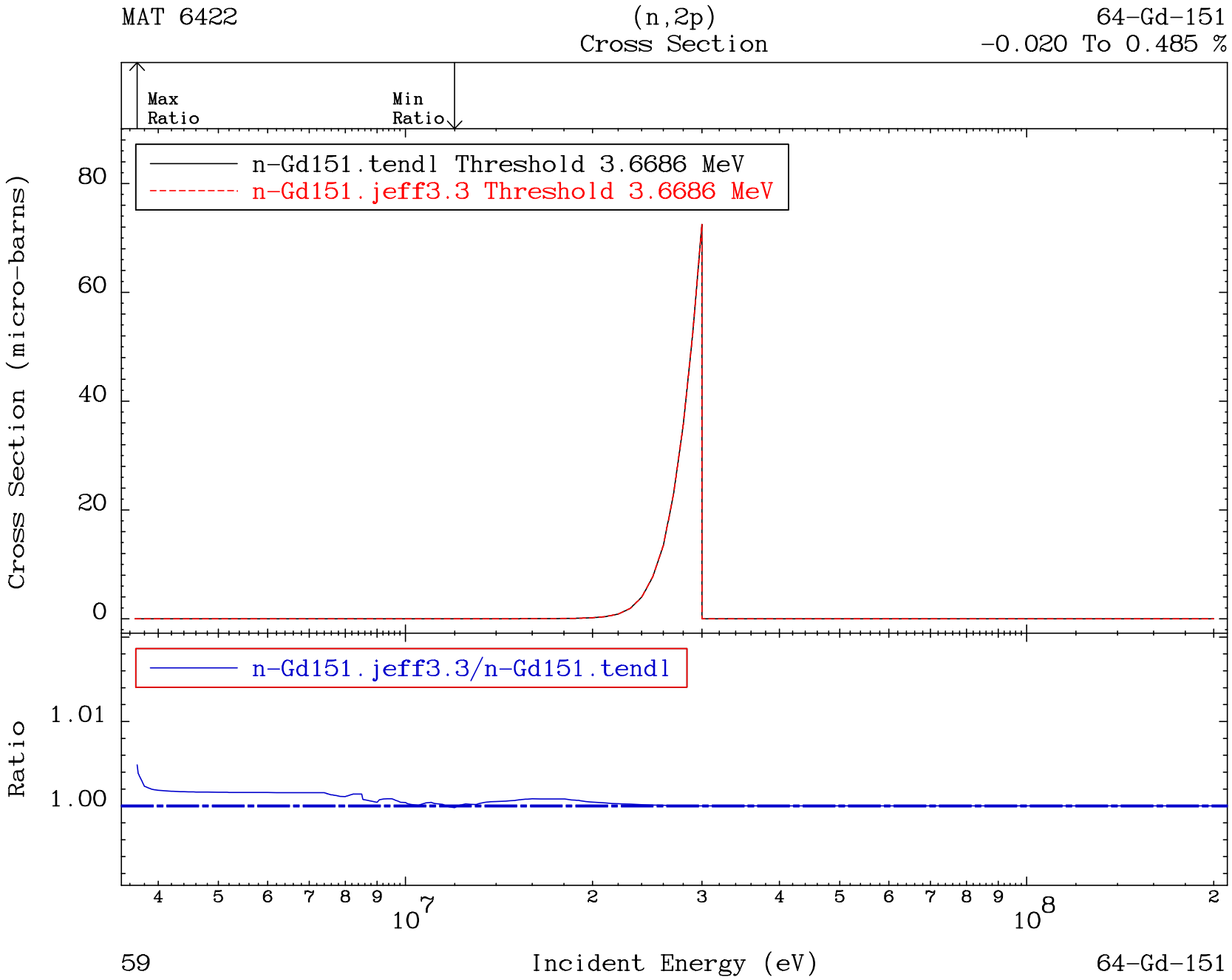

MAT 6422
(n,d)
Cross Section
64-Gd-151
0.000 To 1.340 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 4.4907 MeV
n-Gd151.jeff3.3 Threshold 4.4907 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
54
Incident Energy (eV)
64-Gd-151

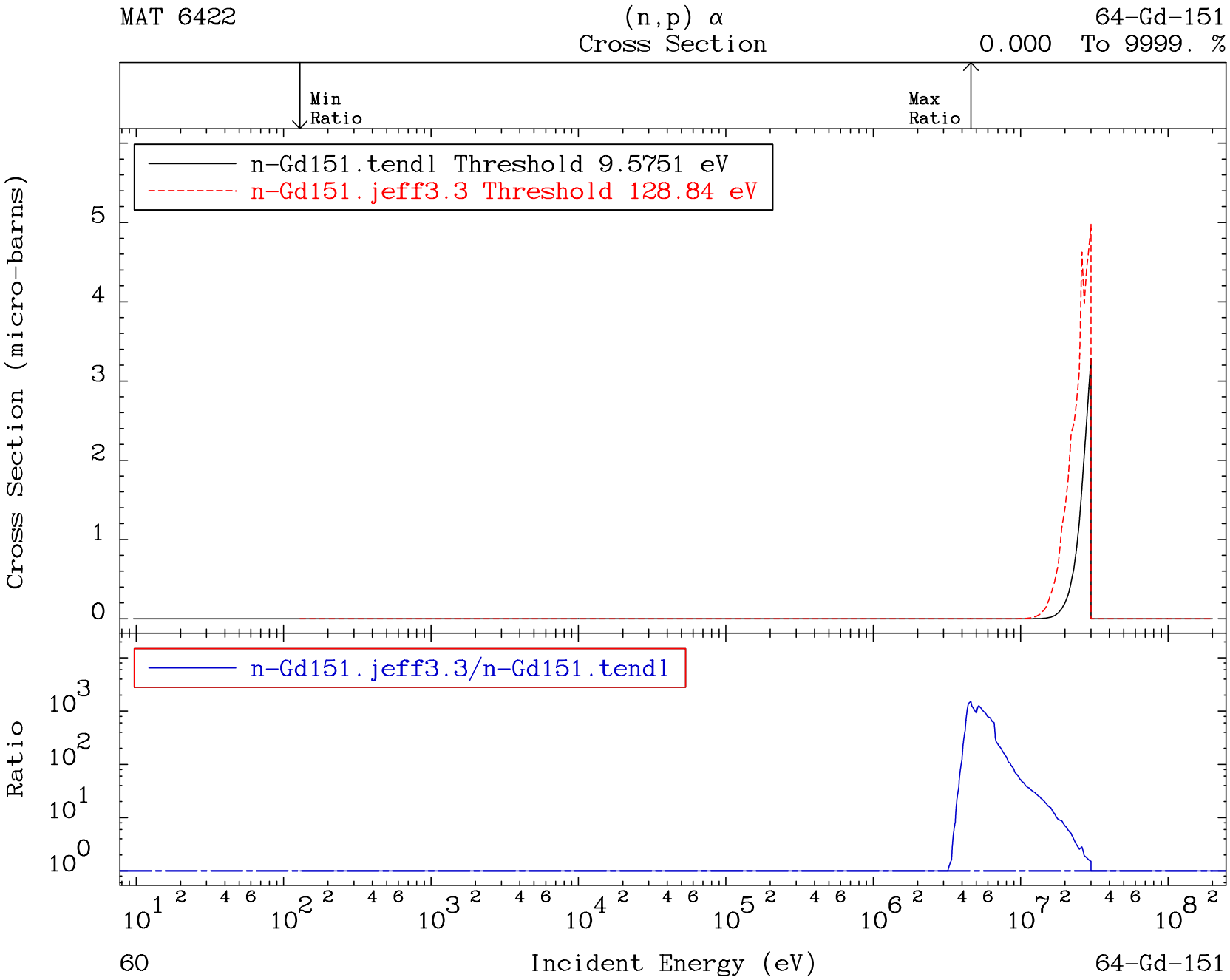

MAT 6422
(n,t)
Cross Section
64-Gd-151
-0.036 To 16.81 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 4.6570 MeV
n-Gd151.jeff3.3 Threshold 4.6570 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.0
1.1
1.2
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
55
Incident Energy (eV)
64-Gd-151

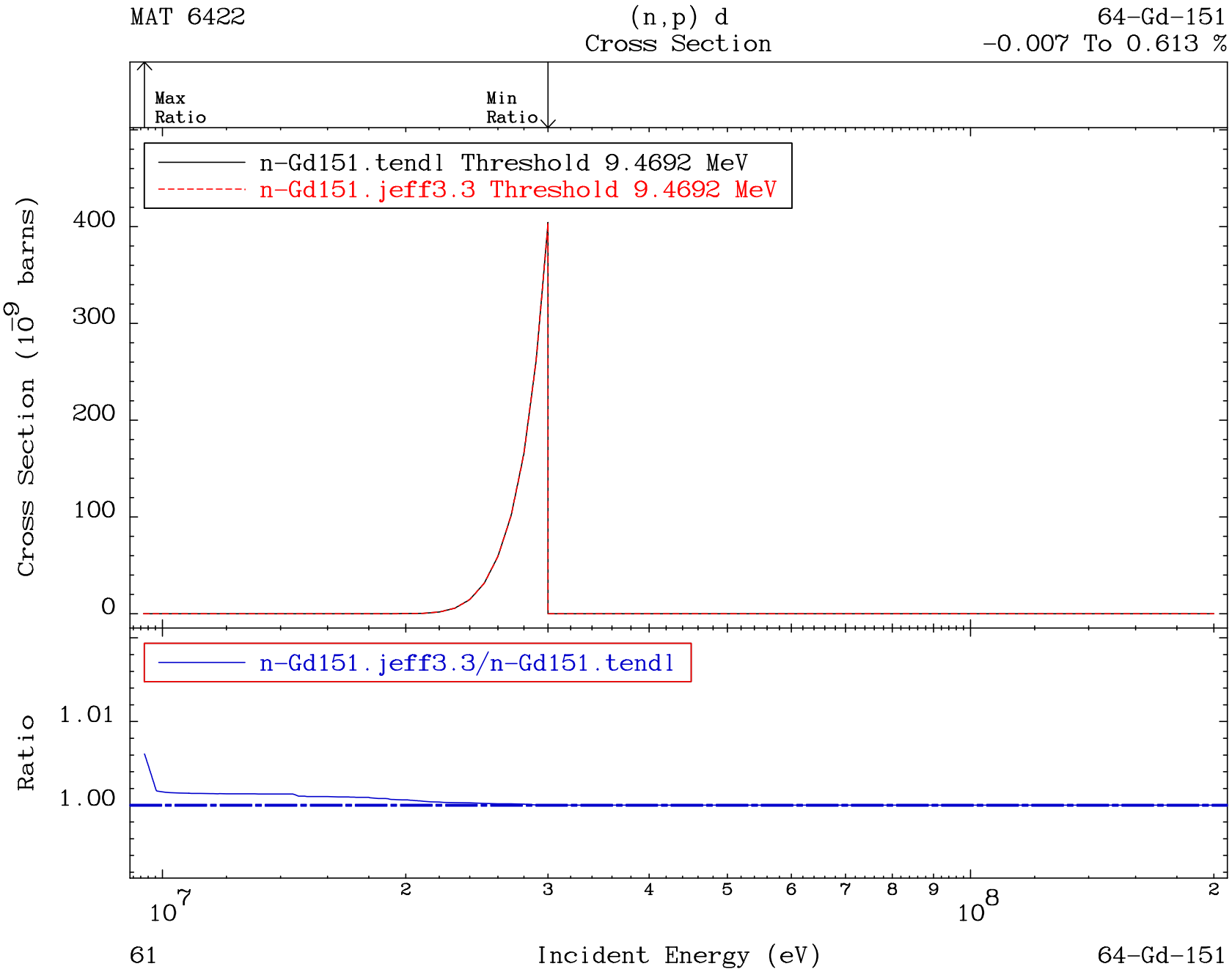

MAT 6422
(n,He-3)
Cross Section
64-Gd-151
-0.006 To 0.817 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 3.9390 MeV
n-Gd151.jeff3.3 Threshold 3.9390 MeV
Cross Section (milli-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
56
Incident Energy (eV)
64-Gd-151

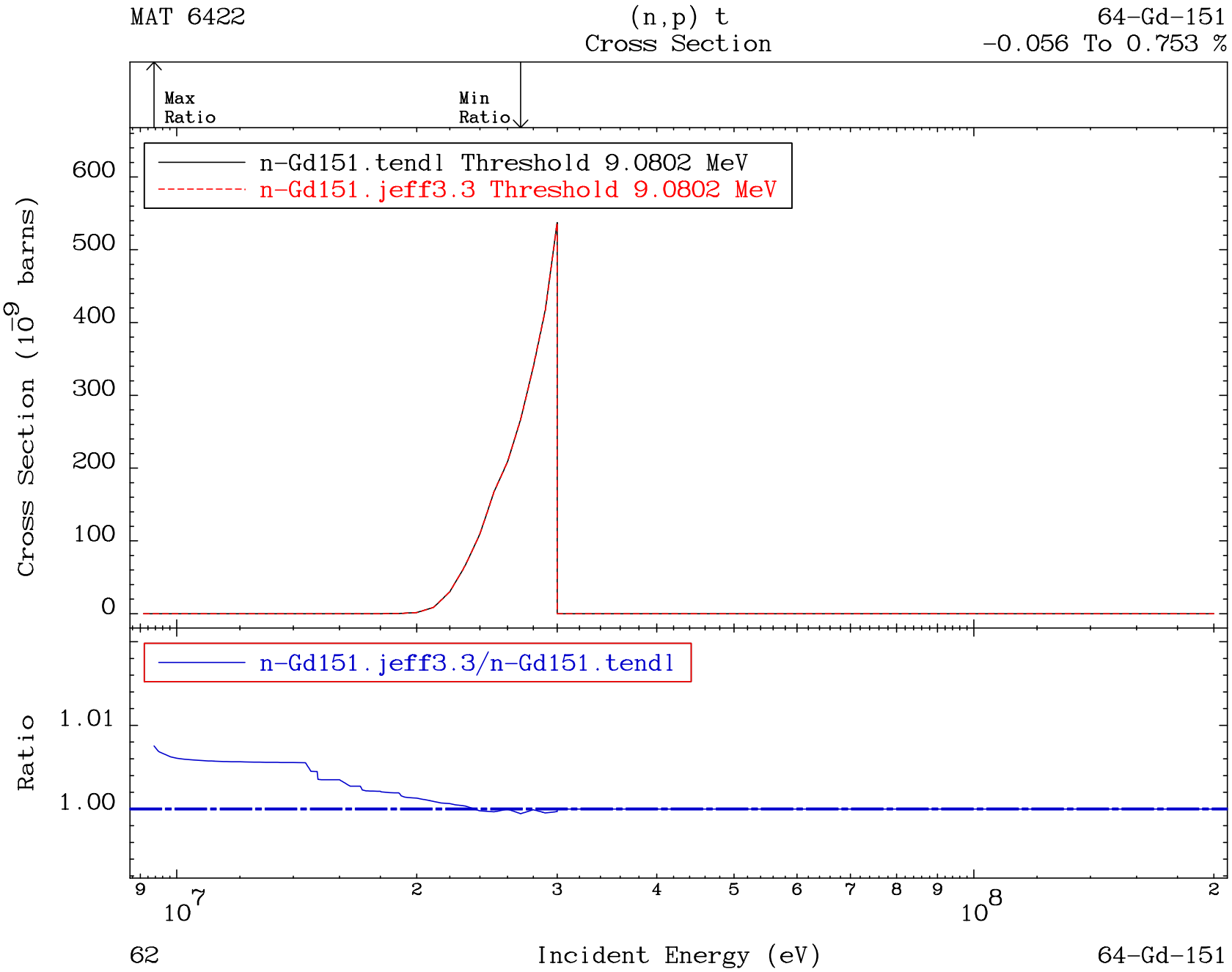

MAT 6422
(n,α)
Cross Section
64-Gd-151
-12.70 To 877.8 %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
57
64-Gd-151

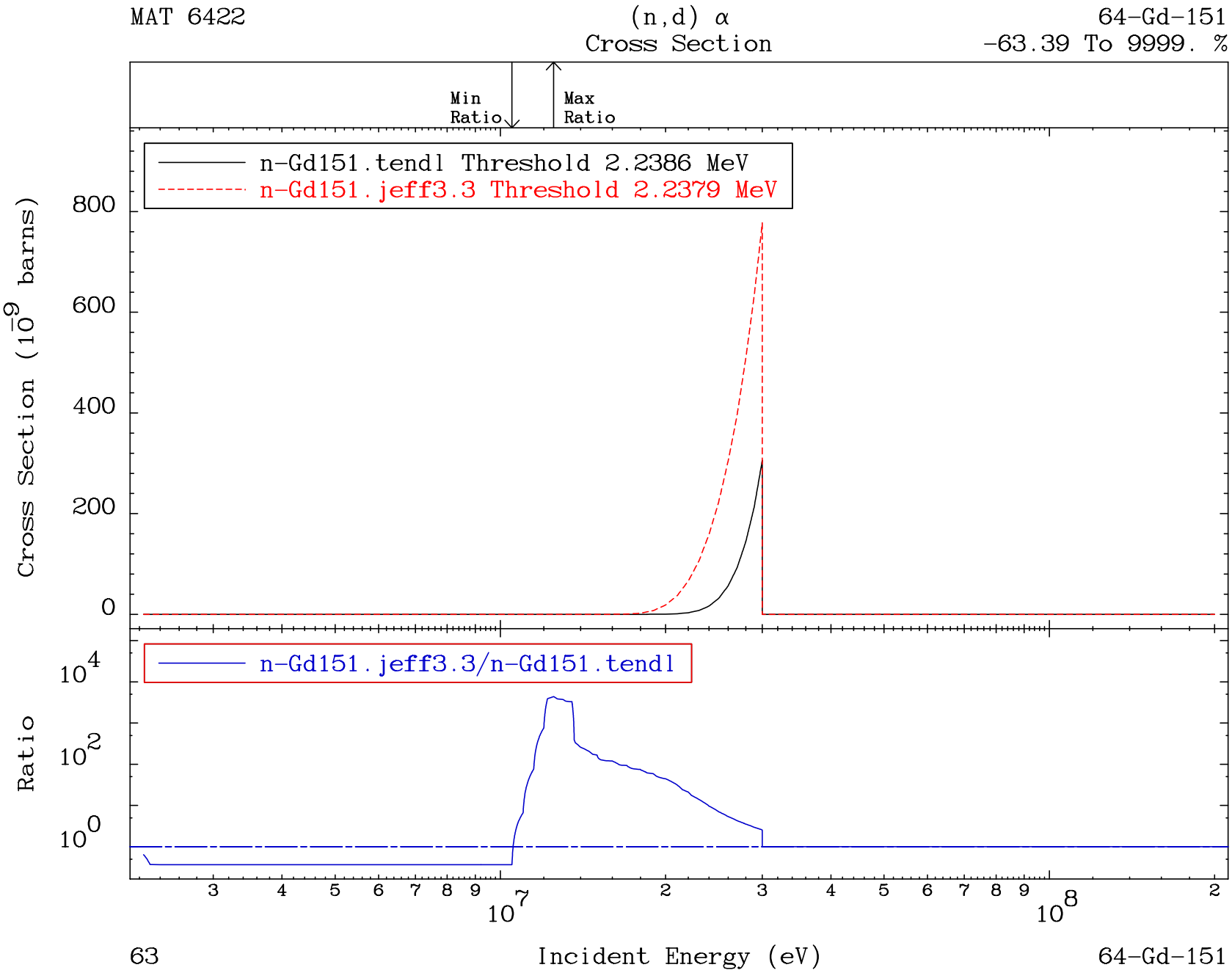

MAT 6422
(n,2α)
Cross Section
64-Gd-151
0.000 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
58
Incident Energy (eV)
64-Gd-151

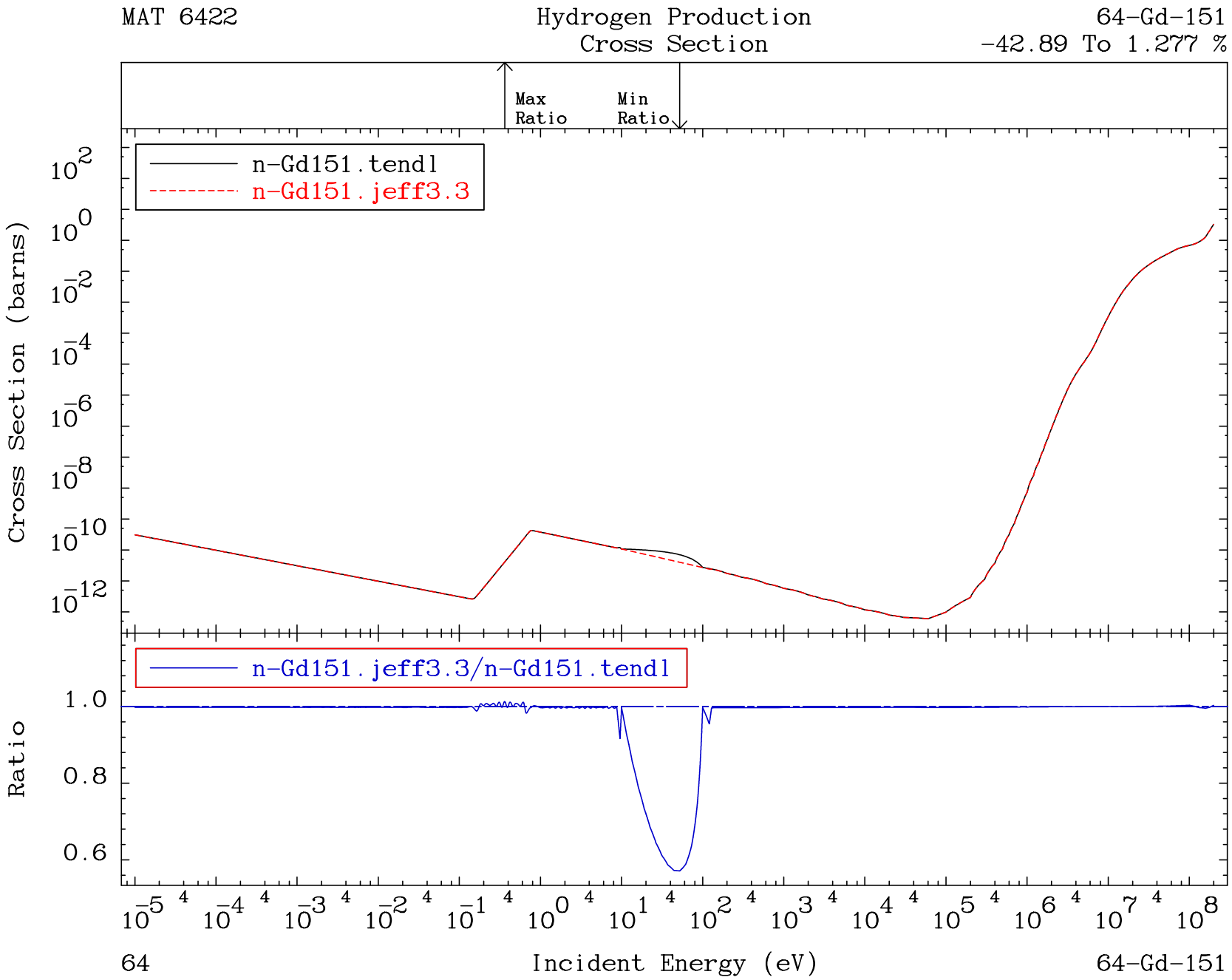

MAT 6422
(n,2p)
Cross Section
64-Gd-151
-0.020 To 0.485 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 3.6686 MeV
n-Gd151.jeff3.3 Threshold 3.6686 MeV
Cross Section (micro-barns)
80
60
40
20
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
59
Incident Energy (eV)
64-Gd-151

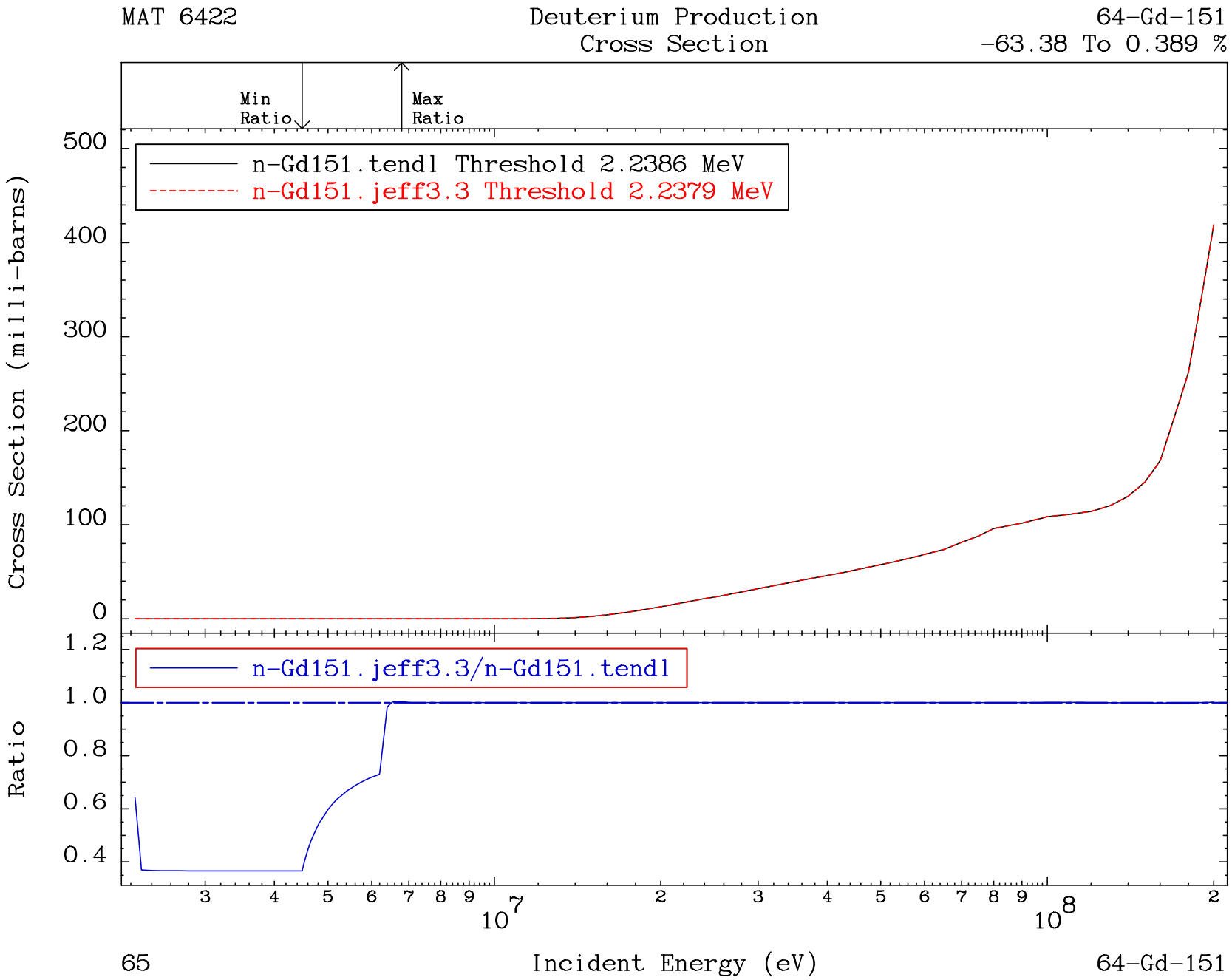

MAT 6422
(n,p) α
Cross Section
64-Gd-151
0.000 To 9999. %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 9.5751 eV
n-Gd151.jeff3.3 Threshold 128.84 eV
Cross Section (micro-barns)
0
1
2
3
4
5
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^0
10^1
10^2
10^3
10^1 2 4 6 10^2 2 4 6 10^3 2 4 6 10^4 2 4 6 10^5 2 4 6 10^6 2 4 6 10^7 2 4 6 10^8 2
60
Incident Energy (eV)
64-Gd-151

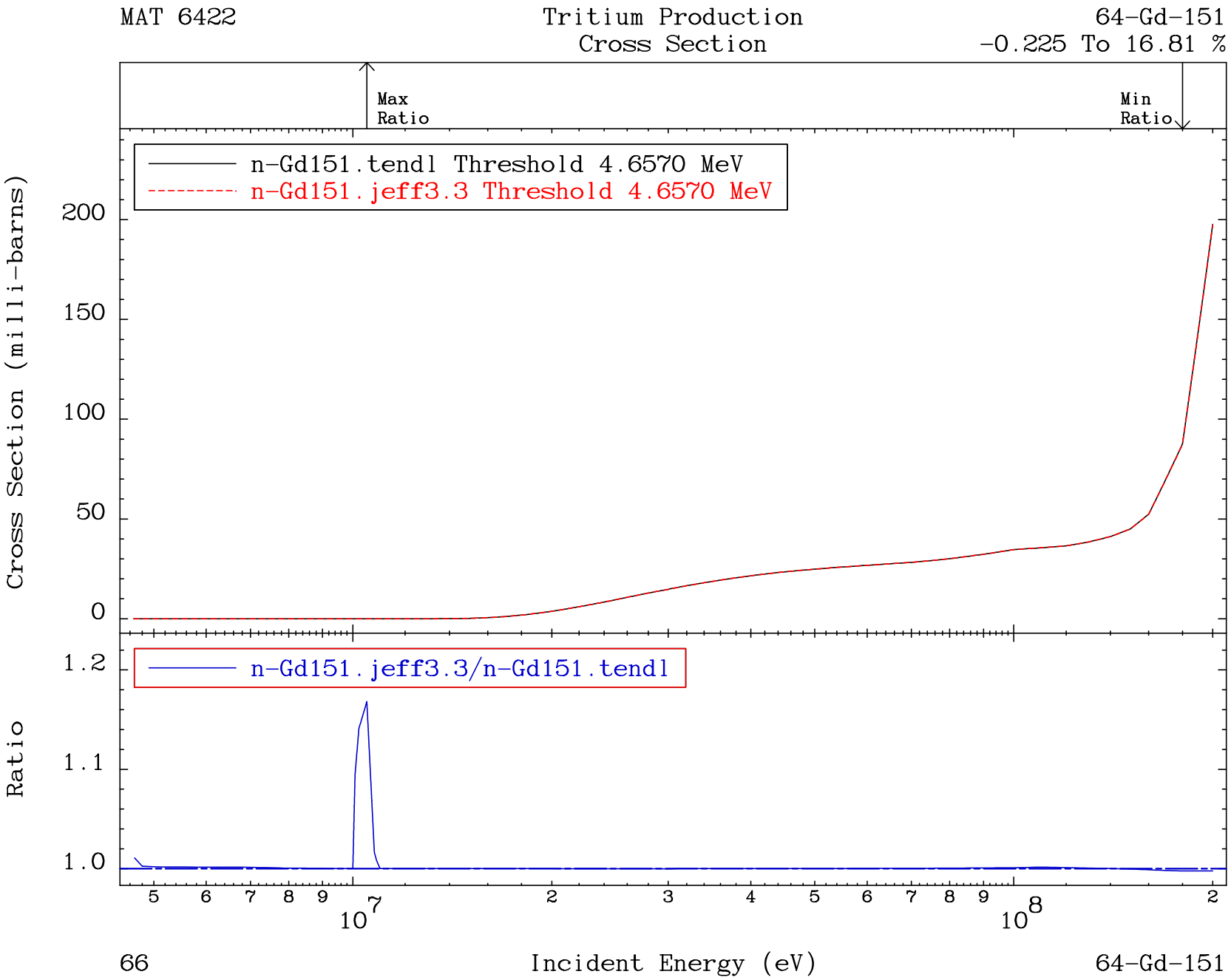

MAT 6422
(n,p) d
Cross Section
64-Gd-151
-0.007 To 0.613 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 9.4692 MeV
n-Gd151.jeff3.3 Threshold 9.4692 MeV
Cross Section (10^{-9} barns)
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
10^7
2
3
4
5
6
7
8
9
10^8
2
61
Incident Energy (eV)
64-Gd-151

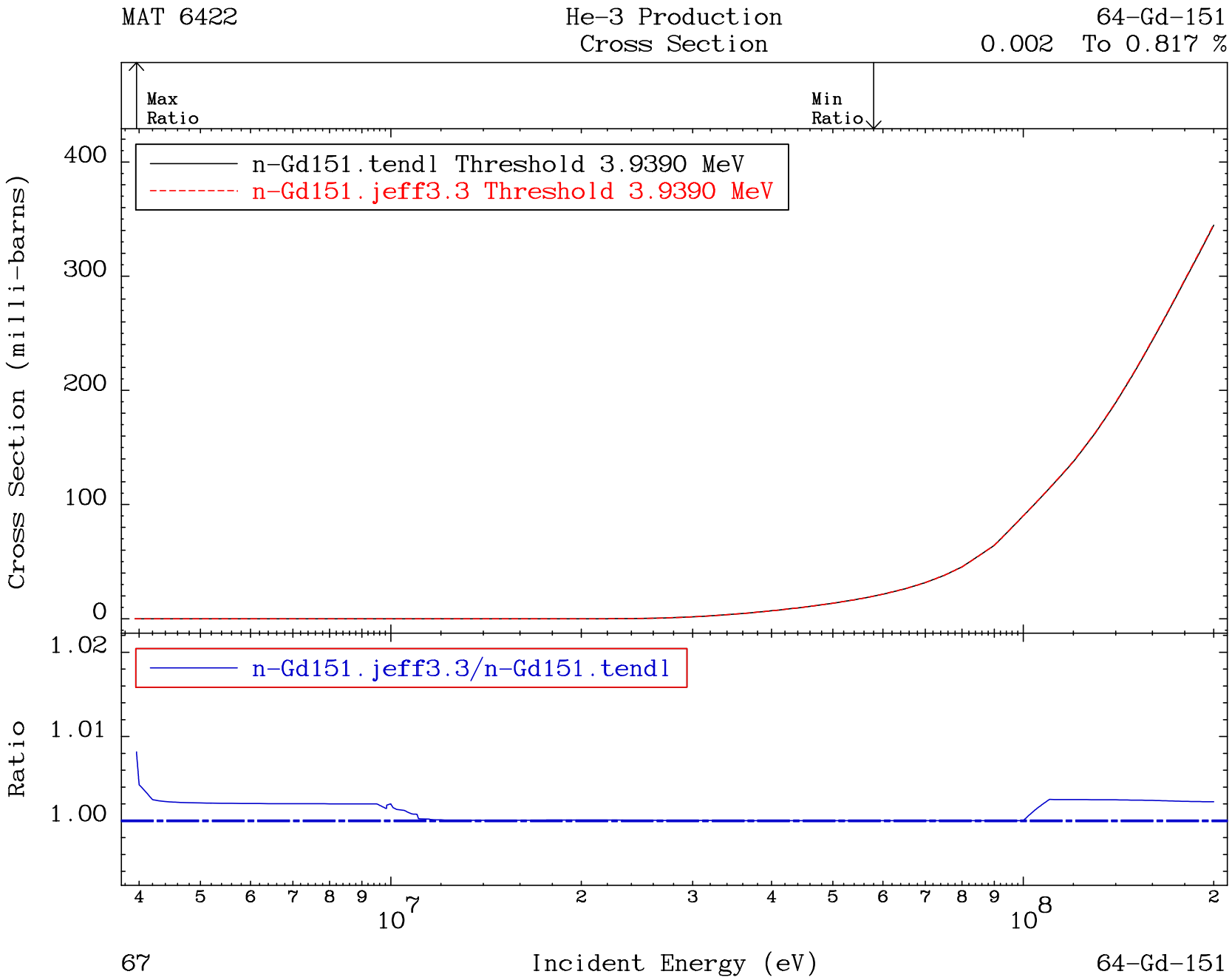

MAT 6422
(n,p) t
Cross Section
64-Gd-151
-0.056 To 0.753 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 9.0802 MeV
n-Gd151.jeff3.3 Threshold 9.0802 MeV
Cross Section (10^{-9} barns)
600
500
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
9
10^{7}
2
3
4
5
6
7
8
9
10^{8}
2
62
Incident Energy (eV)
64-Gd-151

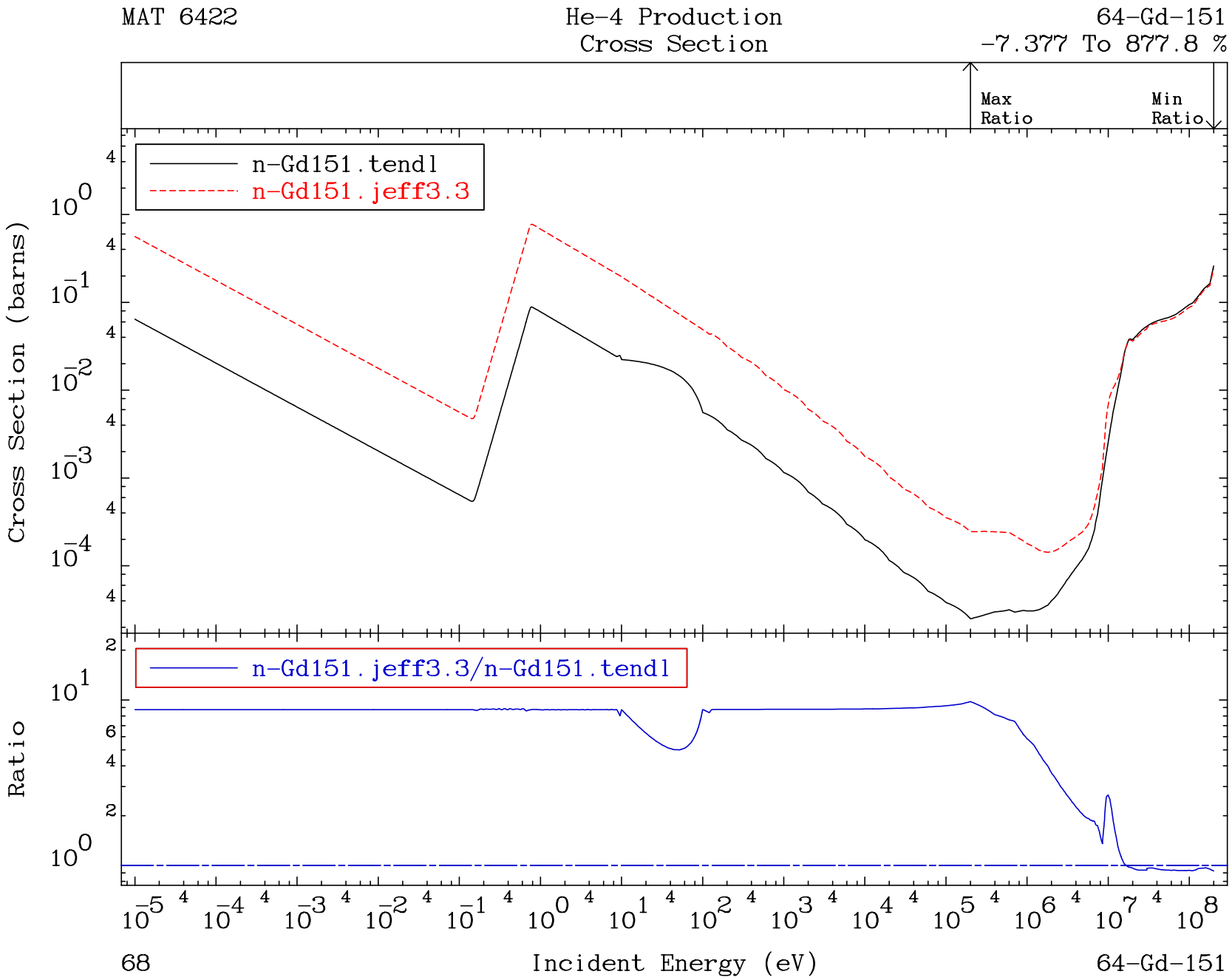

MAT 6422
(n,d) α
Cross Section
64-Gd-151
-63.39 To 9999. %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 2.2386 MeV
n-Gd151.jeff3.3 Threshold 2.2379 MeV
Cross Section (10^-9 barns)
800
600
400
200
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
10^4
10^2
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
63
Incident Energy (eV)
64-Gd-151

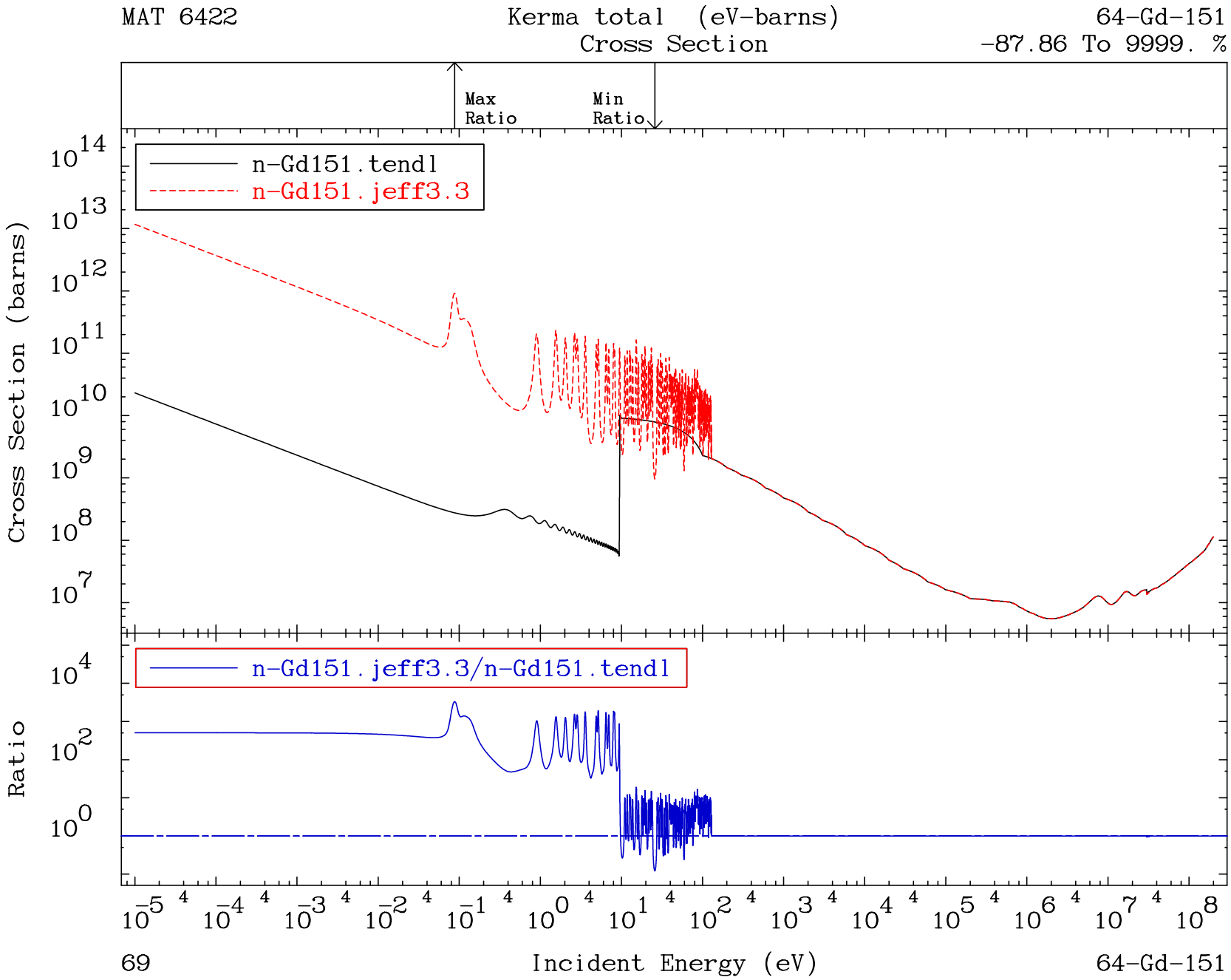

MAT 6422
Hydrogen Production
Cross Section
64-Gd-151
-42.89 To 1.277 %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
64
64-Gd-151

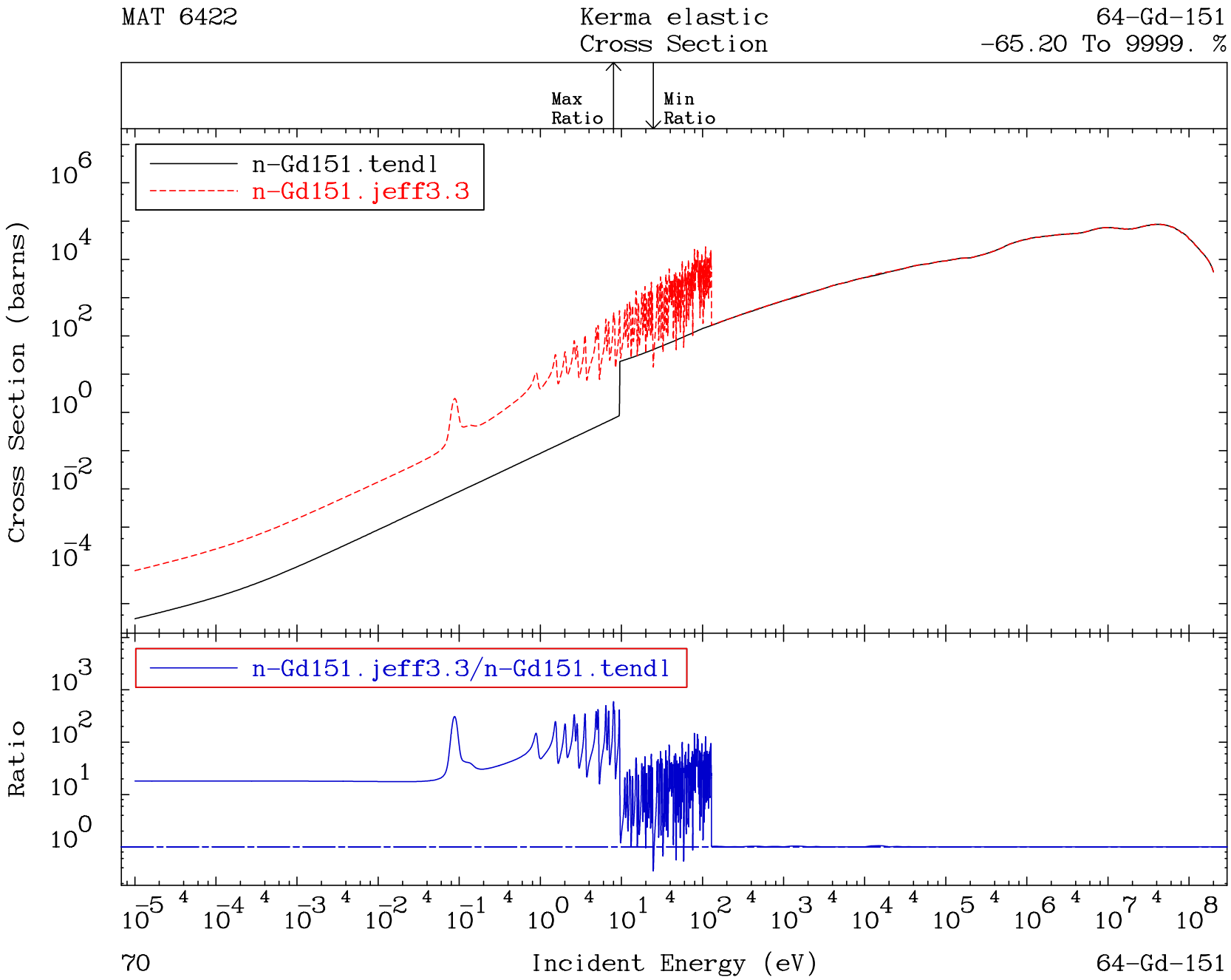

MAT 6422
Deuterium Production
Cross Section
64-Gd-151
-63.38 To 0.389 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 2.2386 MeV
n-Gd151.jeff3.3 Threshold 2.2379 MeV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.2
1.0
0.8
0.6
0.4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
65
Incident Energy (eV)
64-Gd-151

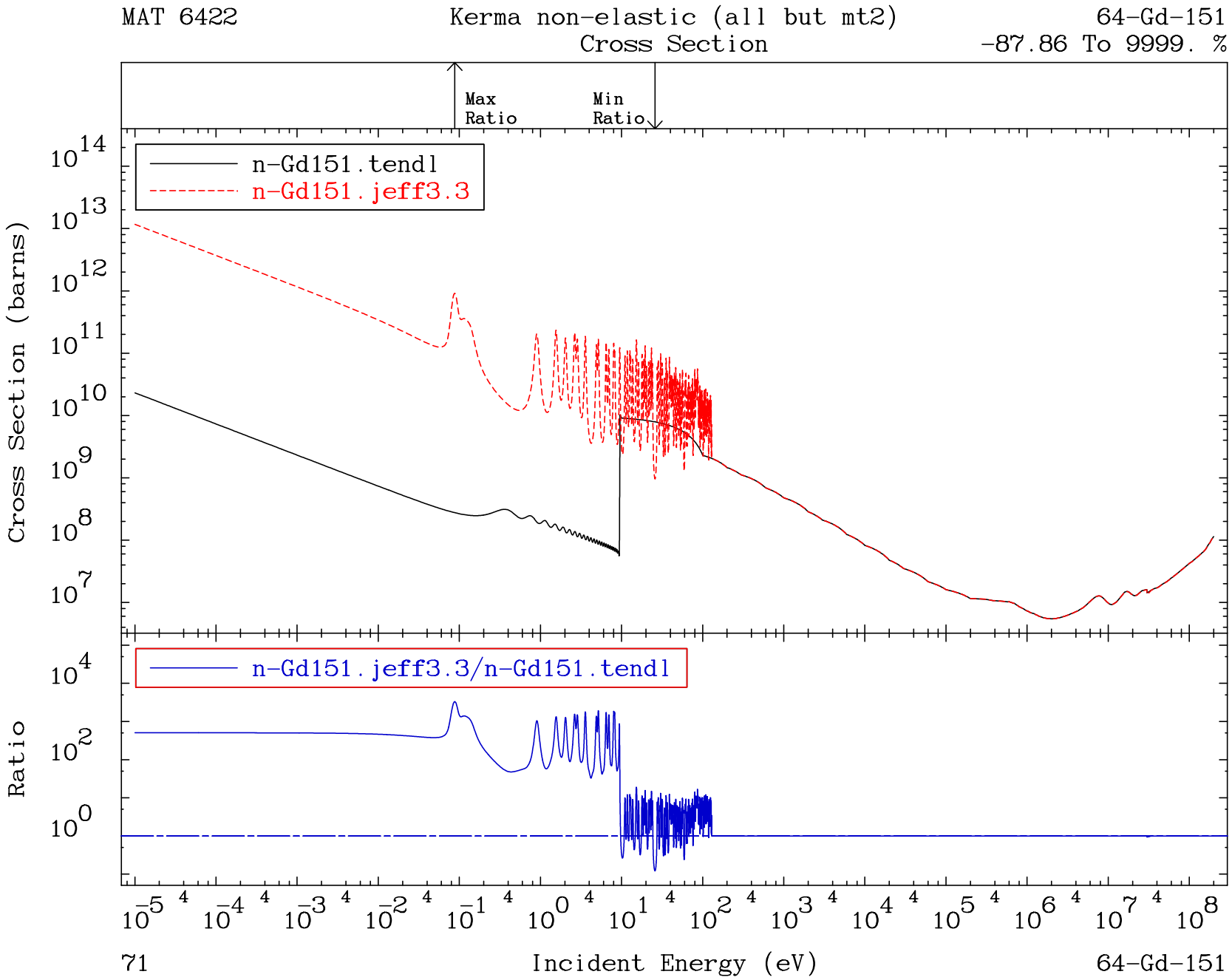

MAT 6422
Tritium Production
Cross Section
64-Gd-151
-0.225 To 16.81 %
Max
Ratio
Min
Ratio
n-Gd151.tendl Threshold 4.6570 MeV
n-Gd151.jeff3.3 Threshold 4.6570 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.2
1.1
1.0
5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
66
Incident Energy (eV)
64-Gd-151

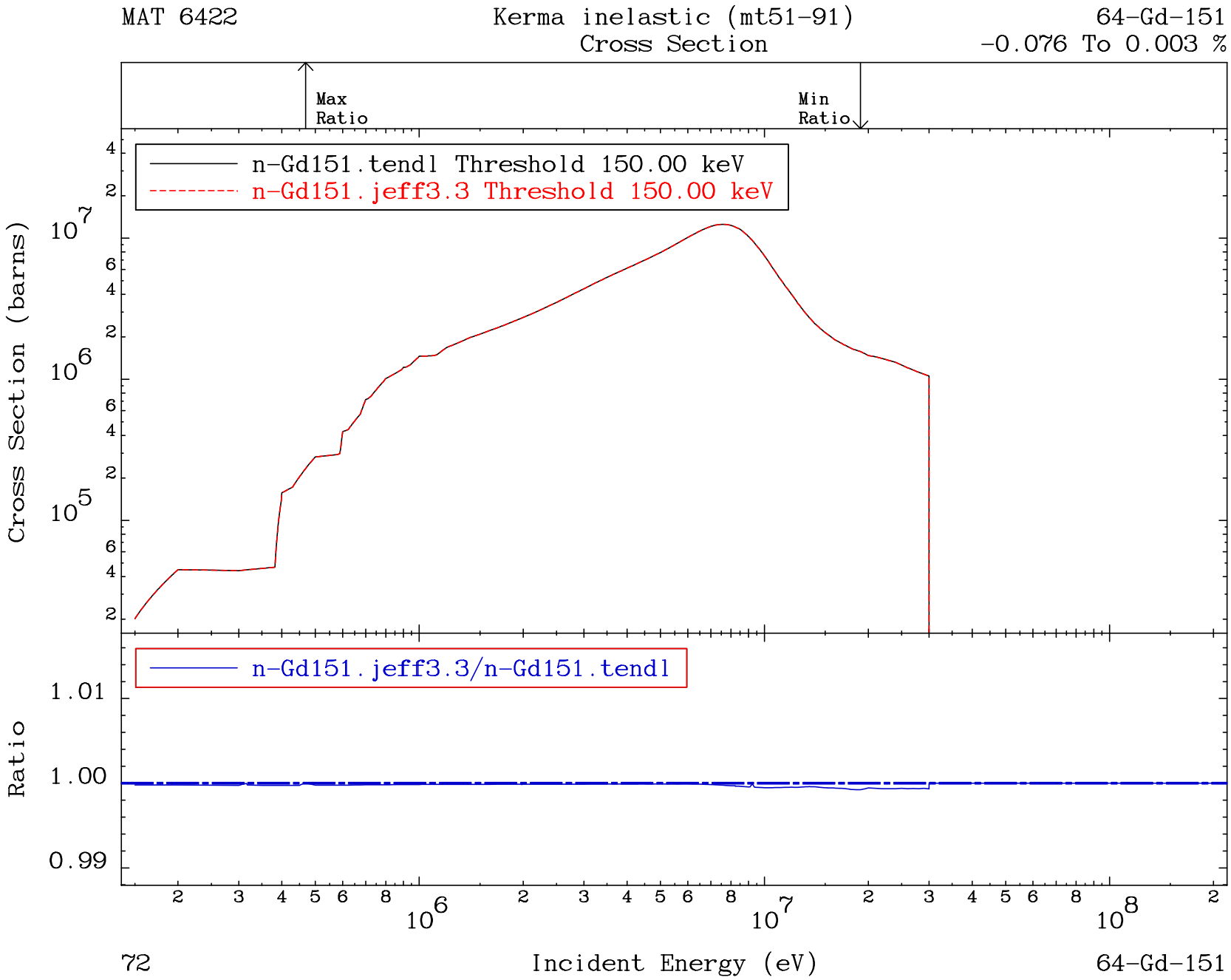

MAT 6422
He-3 Production
Cross Section
64-Gd-151
0.002 To 0.817 %
Max
Ratio
Min
Ratio
n-Gd151.tendl Threshold 3.9390 MeV
n-Gd151.jeff3.3 Threshold 3.9390 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
67
Incident Energy (eV)
64-Gd-151

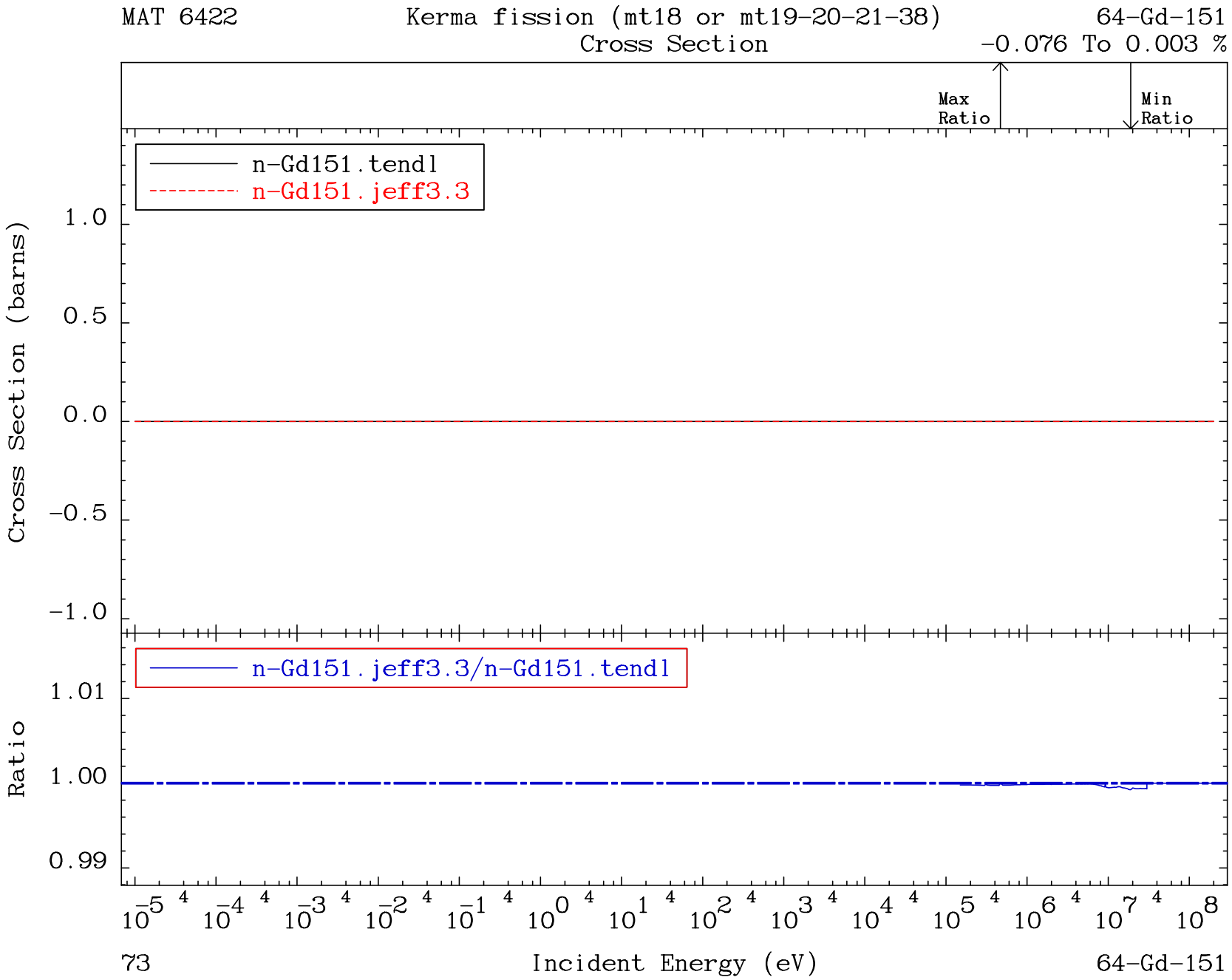

MAT 6422
He-4 Production
Cross Section
64-Gd-151
-7.377 To 877.8 %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
68
64-Gd-151

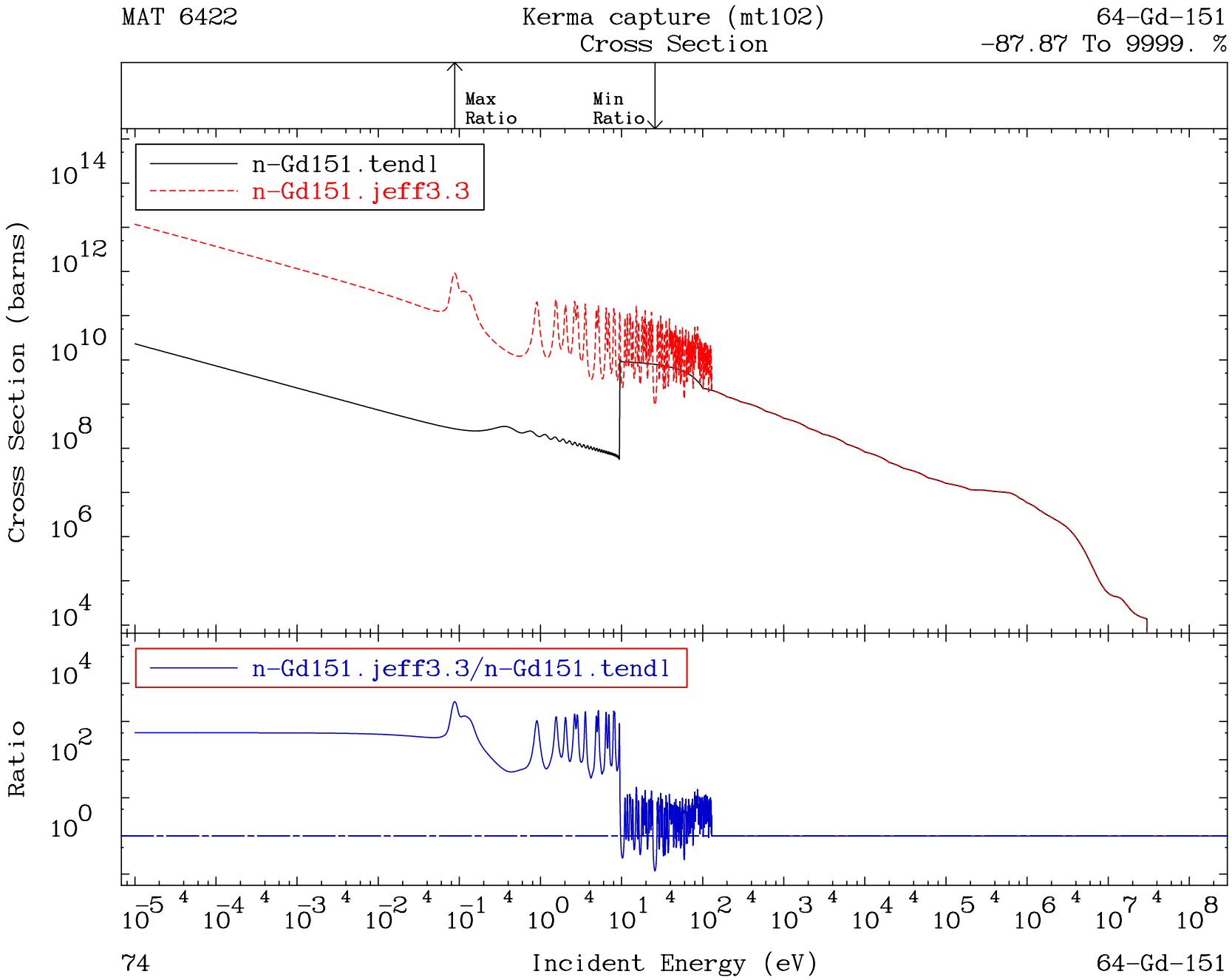

MAT 6422
Kerma total (eV-barns)
Cross Section
64-Gd-151
-87.86 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
69
64-Gd-151

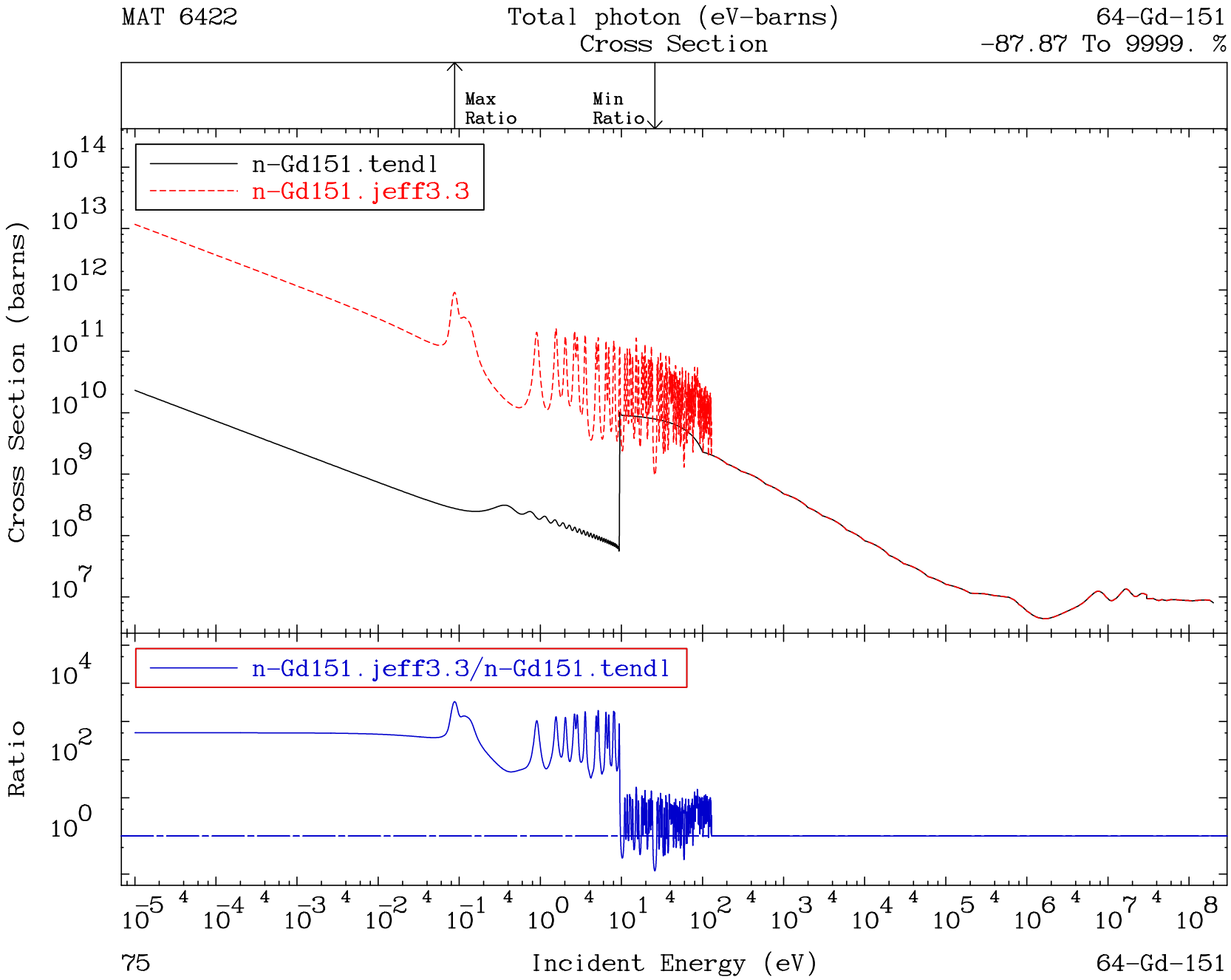

MAT 6422
Kerma elastic
Cross Section
64-Gd-151
-65.20 To 9999. %
Max
Ratio
Min
Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
70
64-Gd-151

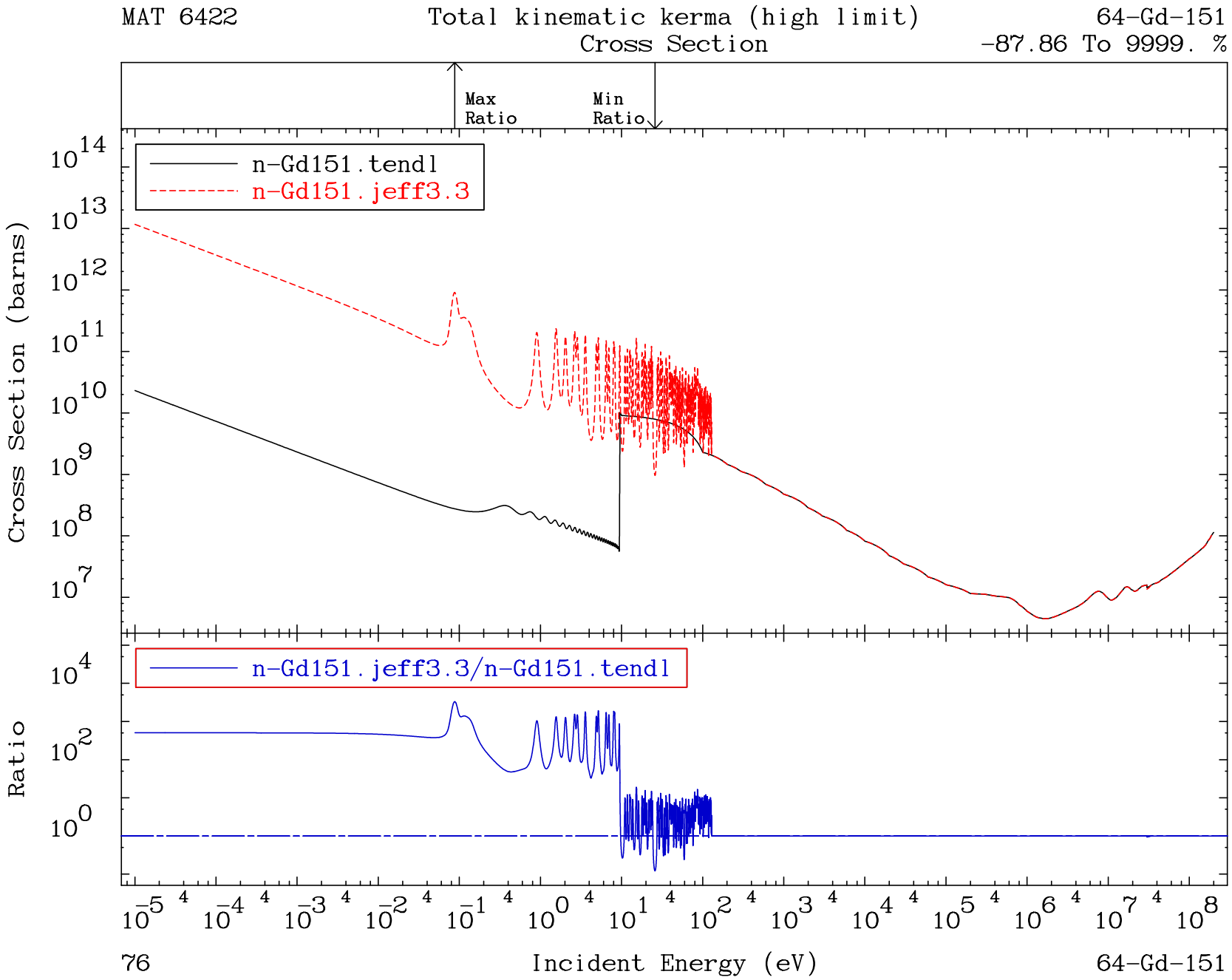

MAT 6422
Kerma non-elastic (all but mt2)
Cross Section
64-Gd-151
-87.86 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
71
64-Gd-151

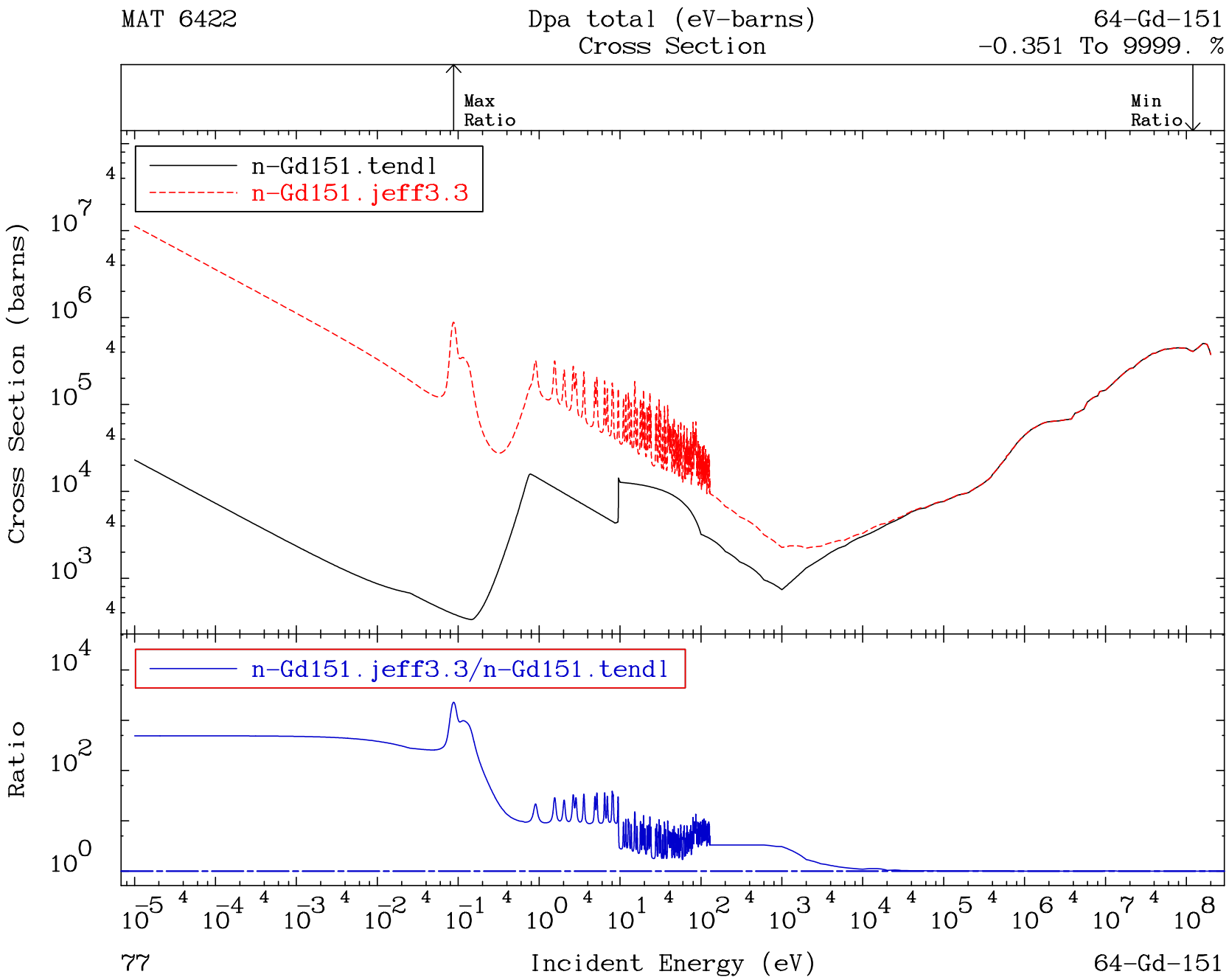

MAT 6422
Kerma inelastic (mt51-91)
Cross Section
64-Gd-151
-0.076 To 0.003 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 150.00 keV
n-Gd151.jeff3.3 Threshold 150.00 keV
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
72
64-Gd-151

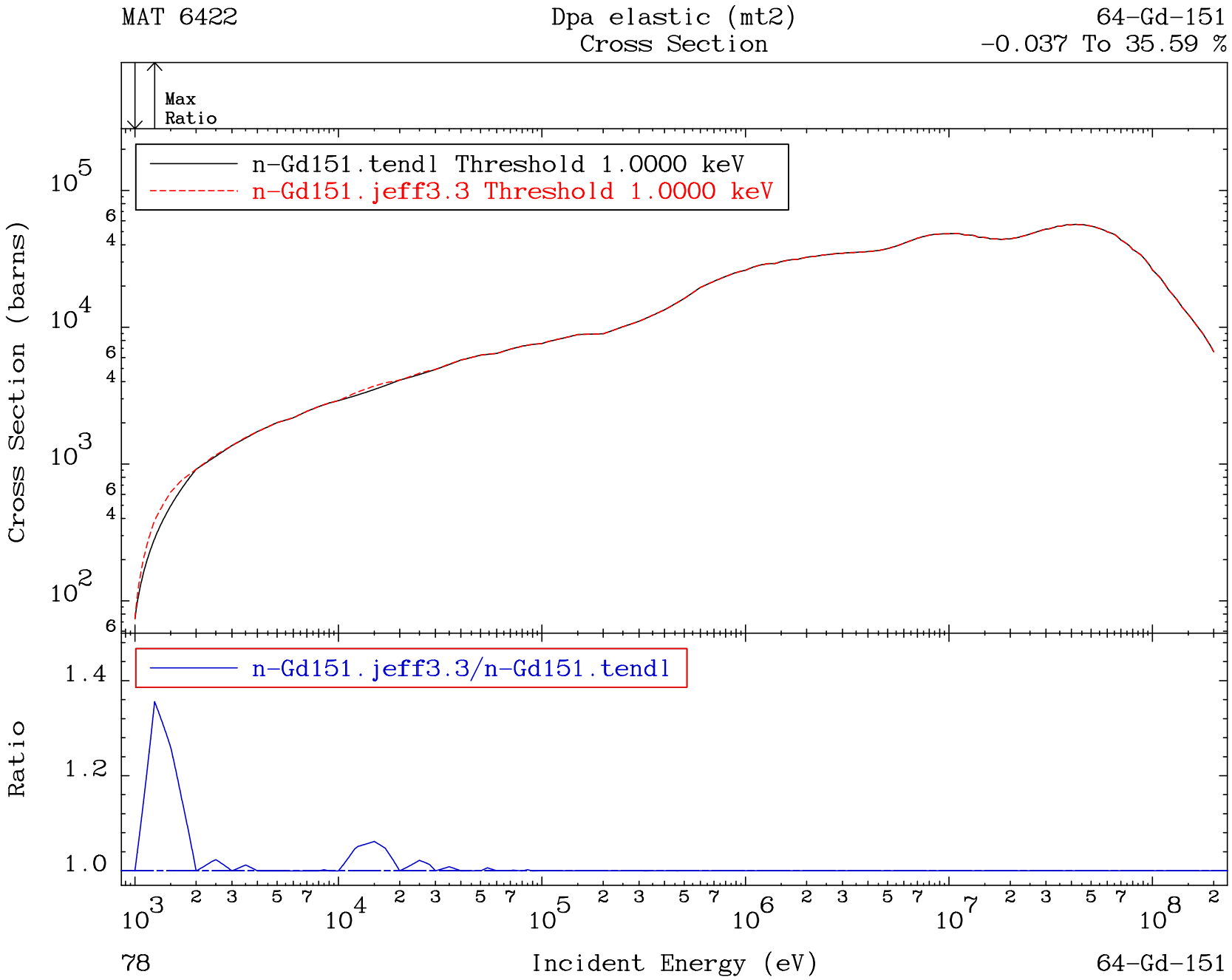

MAT 6422
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
64-Gd-151
-0.076 To 0.003 %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.01
1.00
0.99
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
73
Incident Energy (eV)
64-Gd-151

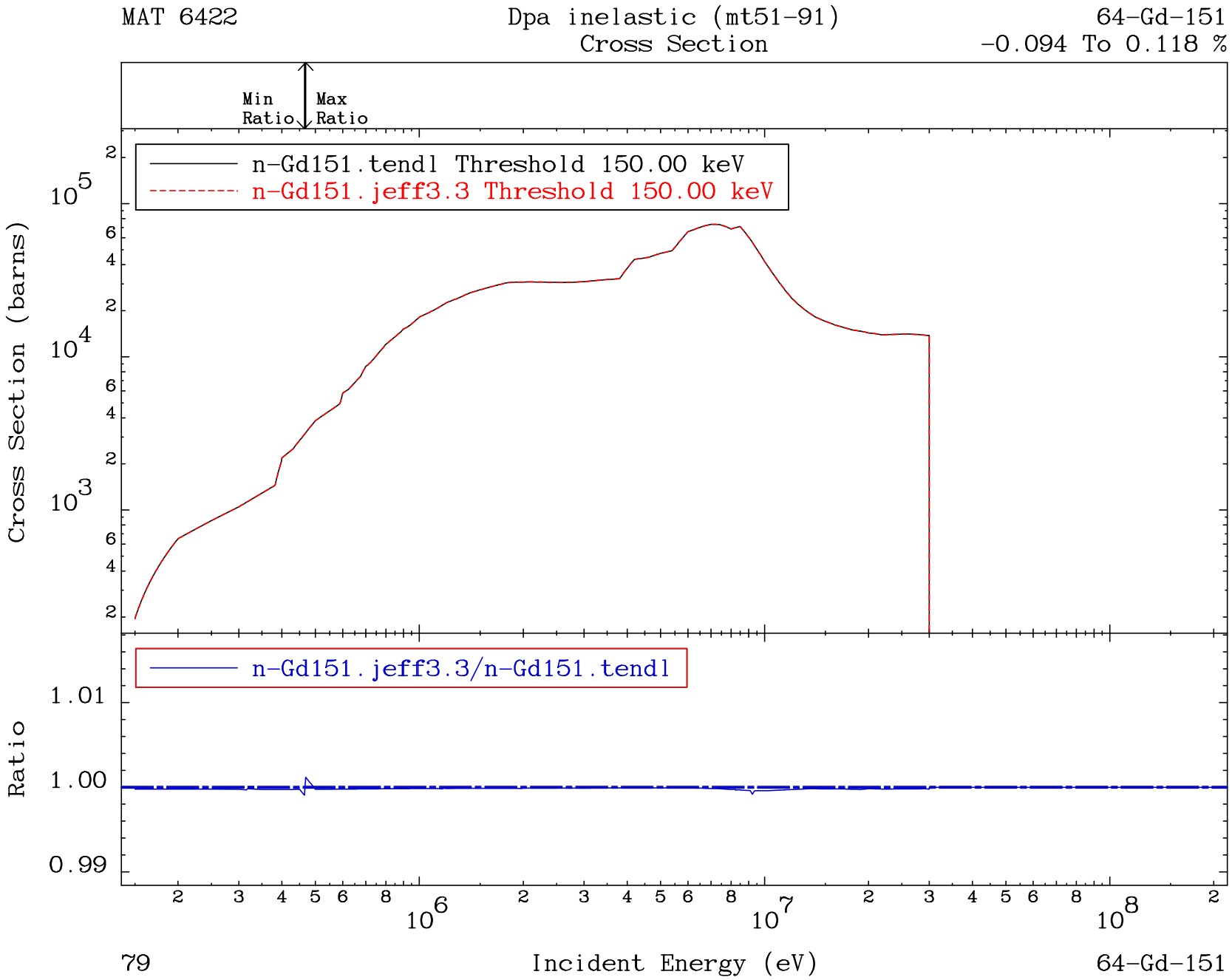

MAT 6422
Kerma capture (mt102)
Cross Section
64-Gd-151
-87.87 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
74
64-Gd-151

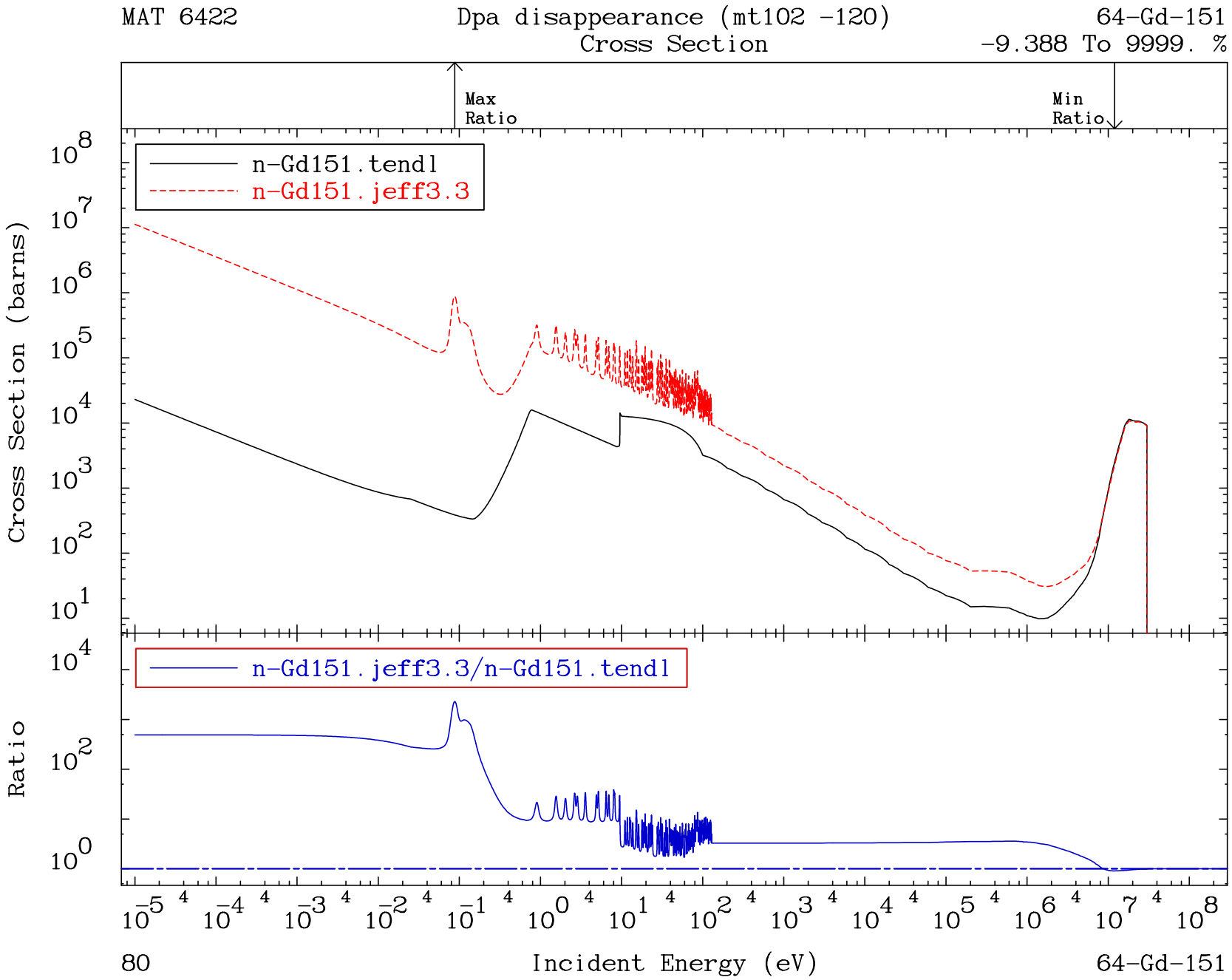

MAT 6422
Total photon (eV-barns)
Cross Section
64-Gd-151
-87.87 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
75
64-Gd-151

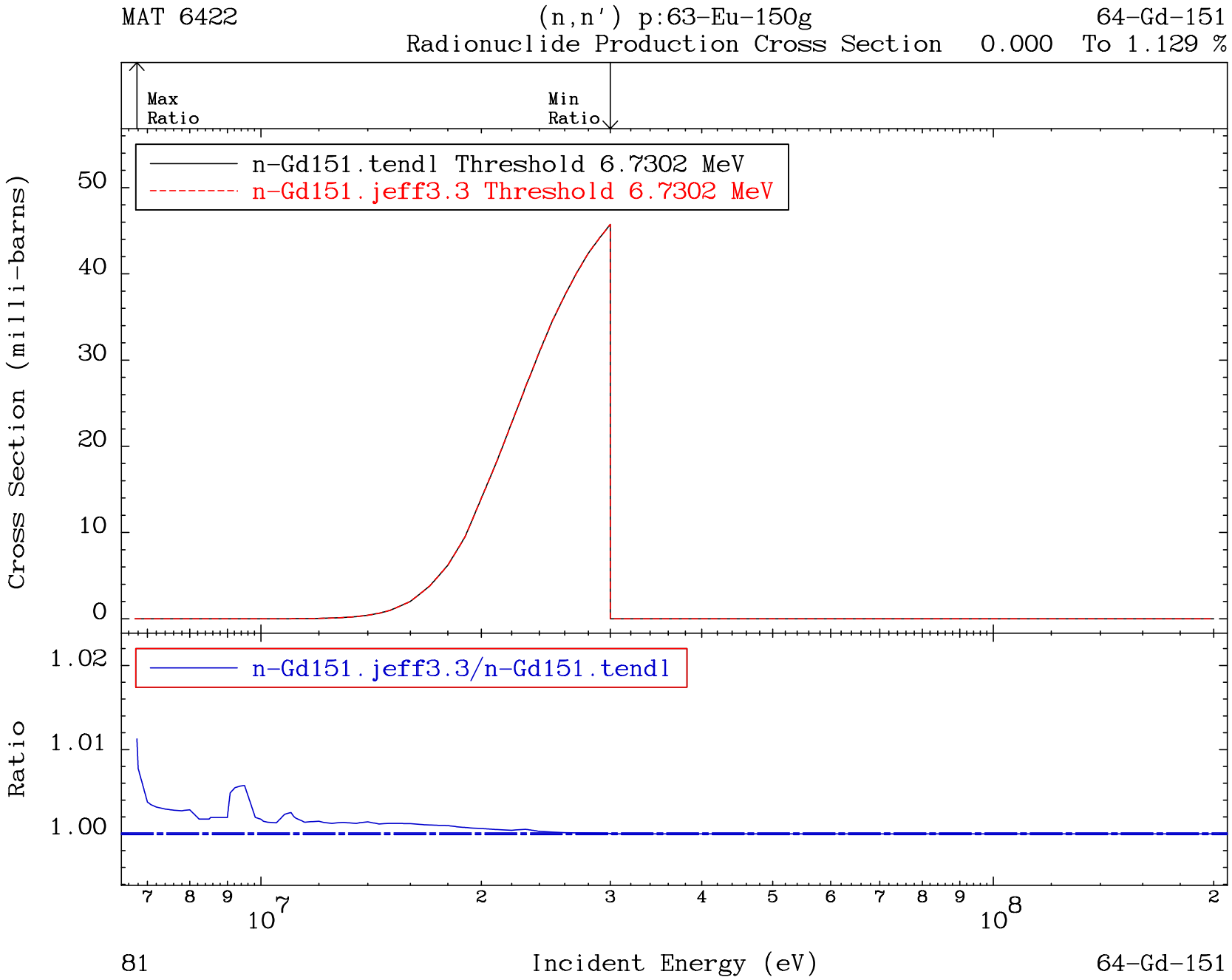

MAT 6422
Total kinematic kerma (high limit)
Cross Section
64-Gd-151
-87.86 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
76
64-Gd-151

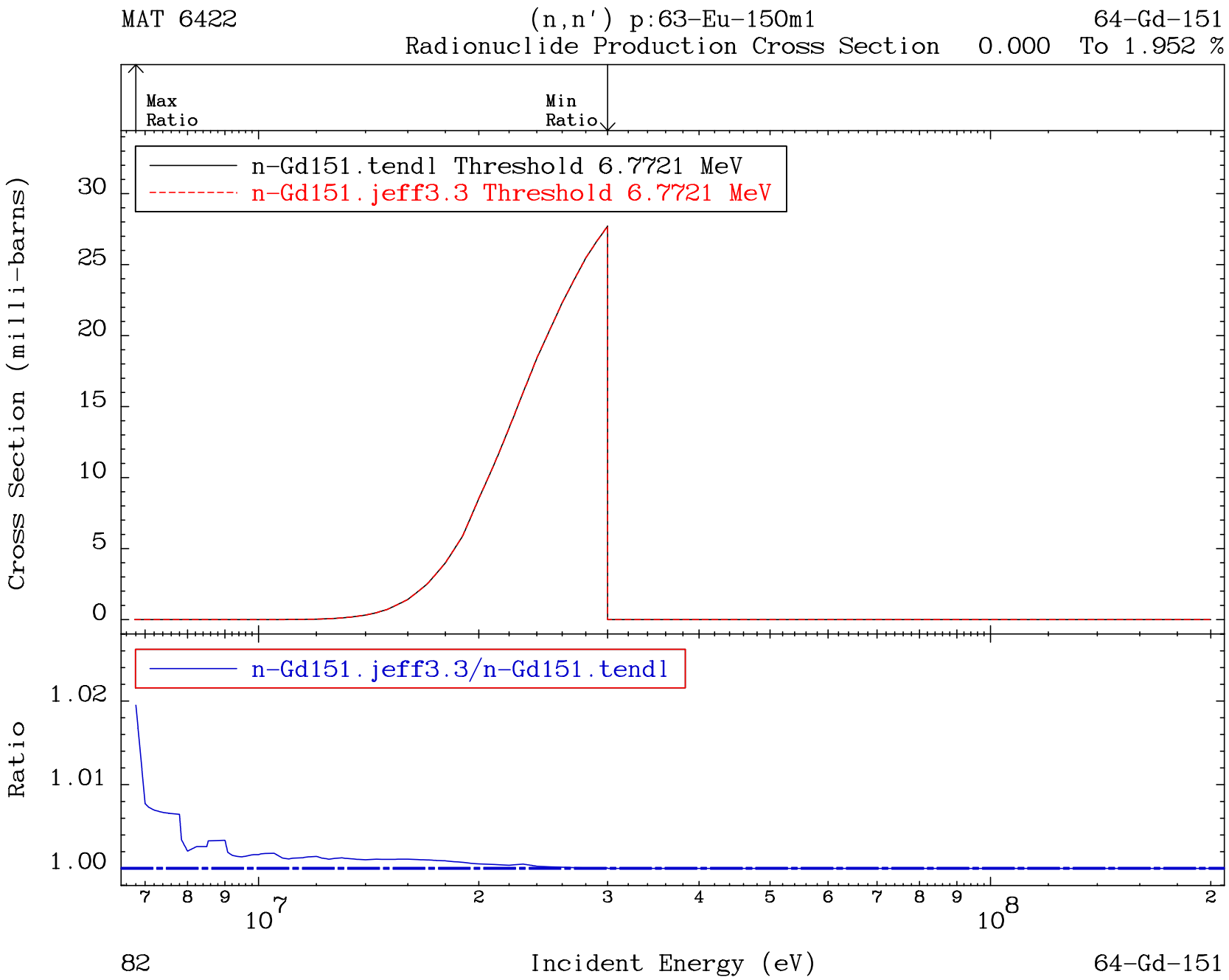

MAT 6422
Dpa total (eV-barns)
Cross Section
64-Gd-151
-0.351 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
77
64-Gd-151

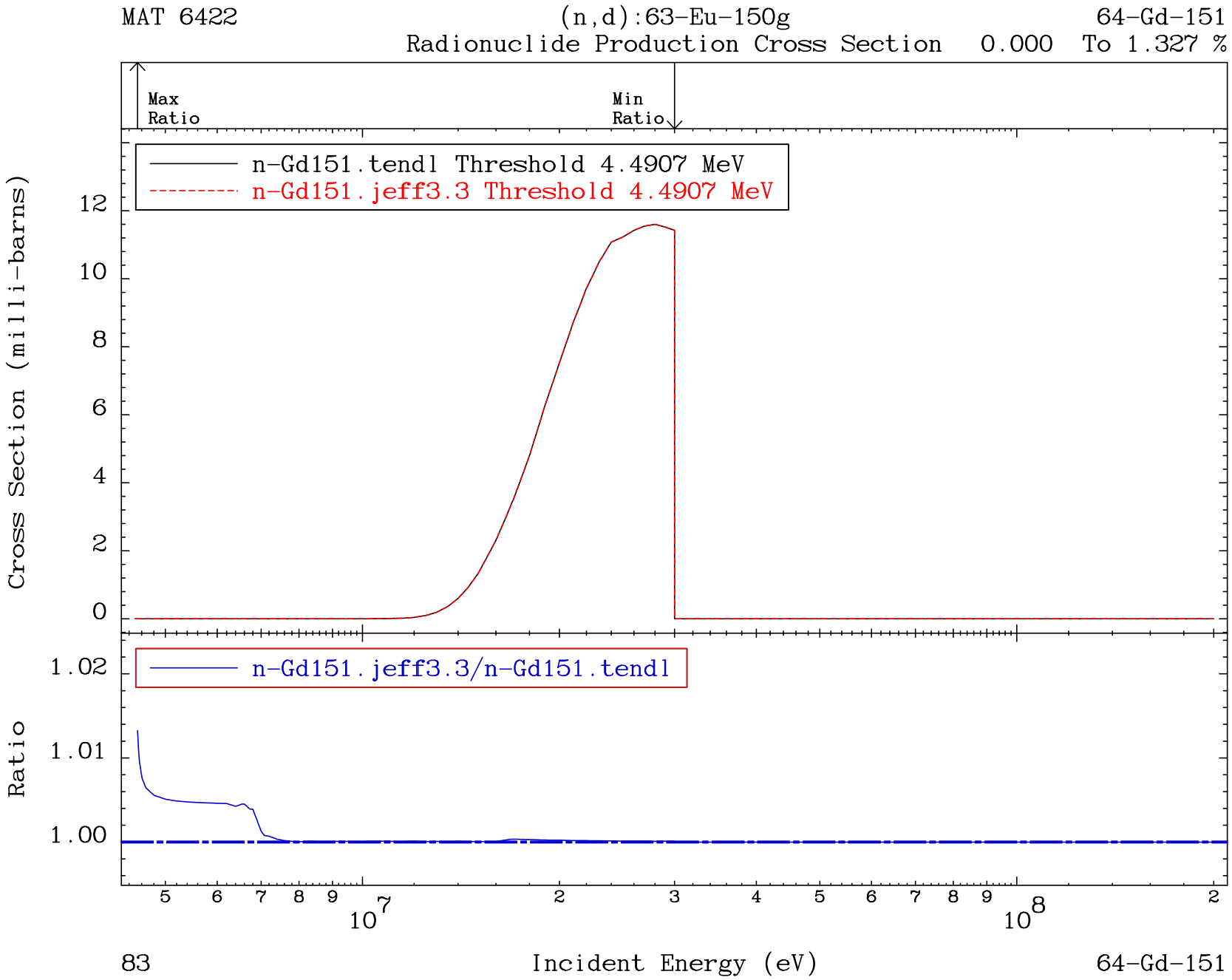

MAT 6422
Dpa elastic (mt2)
Cross Section
64-Gd-151
-0.037 To 35.59 %
Max
Ratio
n-Gd151.tendl Threshold 1.0000 keV
n-Gd151.jeff3.3 Threshold 1.0000 keV
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
78
64-Gd-151

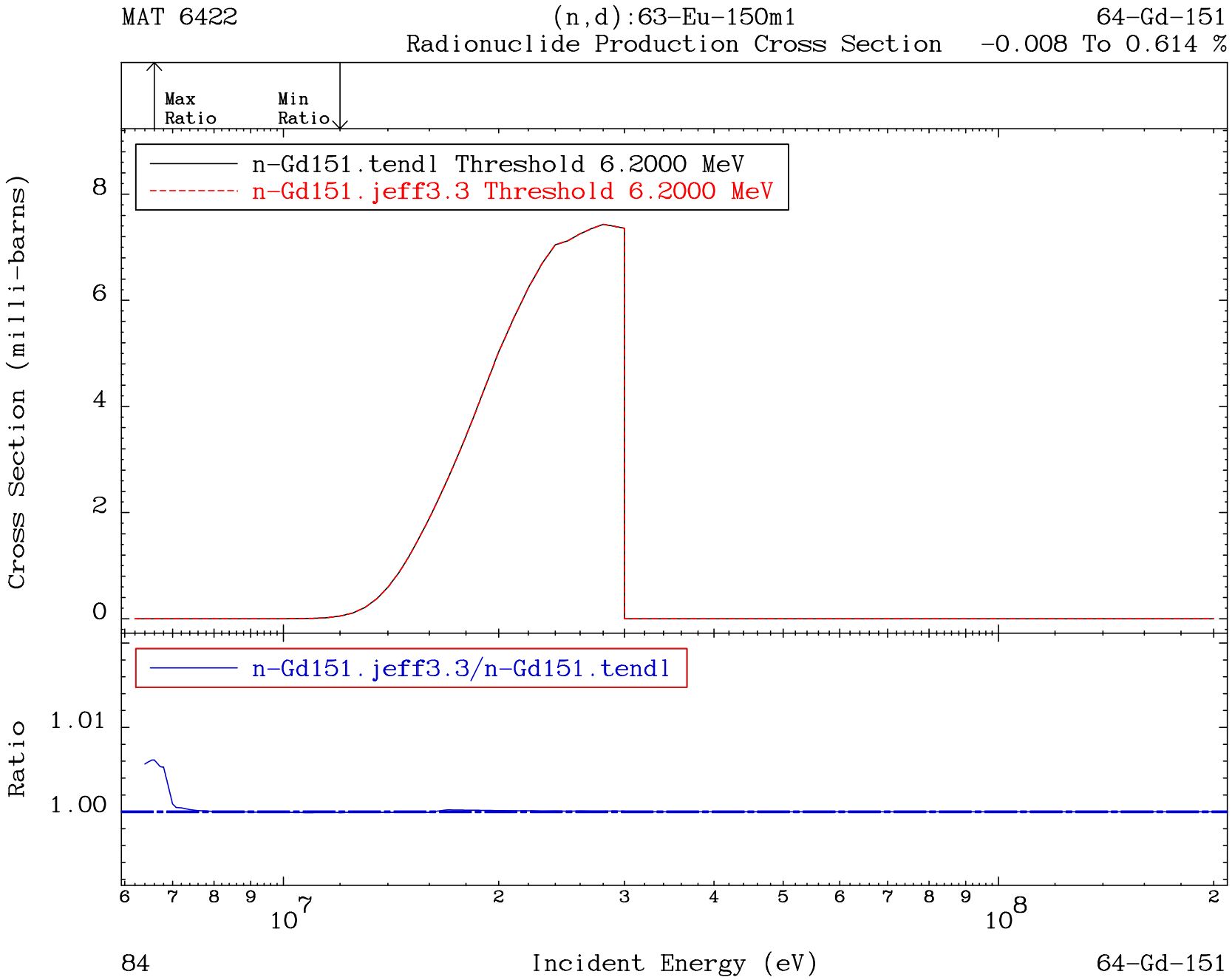

MAT 6422
Dpa inelastic (mt51-91)
Cross Section
64-Gd-151
-0.094 To 0.118 %
Min Ratio
Max Ratio
n-Gd151.tendl Threshold 150.00 keV
n-Gd151.jeff3.3 Threshold 150.00 keV
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
79
64-Gd-151


MAT 6422
Dpa disappearance (mt102 -120)
Cross Section
64-Gd-151
-9.388 To 9999. %
Max Ratio
Min Ratio
n-Gd151.tendl
n-Gd151.jeff3.3
Cross Section (barns)
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
Incident Energy (eV)
80
64-Gd-151


MAT 6422
(n,n') p:63-Eu-150g
64-Gd-151
Radionuclide Production Cross Section 0.000 To 1.129 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 6.7302 MeV
n-Gd151.jeff3.3 Threshold 6.7302 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
81
Incident Energy (eV)
64-Gd-151


MAT 6422
(n,n') p:63-Eu-150m1
64-Gd-151
Radionuclide Production Cross Section 0.000 To 1.952 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 6.7721 MeV
n-Gd151.jeff3.3 Threshold 6.7721 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.02
1.01
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
82
Incident Energy (eV)
64-Gd-151


MAT 6422
(n,d):63-Eu-150g
64-Gd-151
Radionuclide Production Cross Section 0.000 To 1.327 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 4.4907 MeV
n-Gd151.jeff3.3 Threshold 4.4907 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.00
1.01
1.02
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
Incident Energy (eV)
83
64-Gd-151


MAT 6422
(n,d):63-Eu-150m1
64-Gd-151
Radionuclide Production Cross Section -0.008 To 0.614 %
Max Ratio
Min Ratio
n-Gd151.tendl Threshold 6.2000 MeV
n-Gd151.jeff3.3 Threshold 6.2000 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Gd151.jeff3.3/n-Gd151.tendl
Ratio
1.00
1.01
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
84
Incident Energy (eV)
64-Gd-151