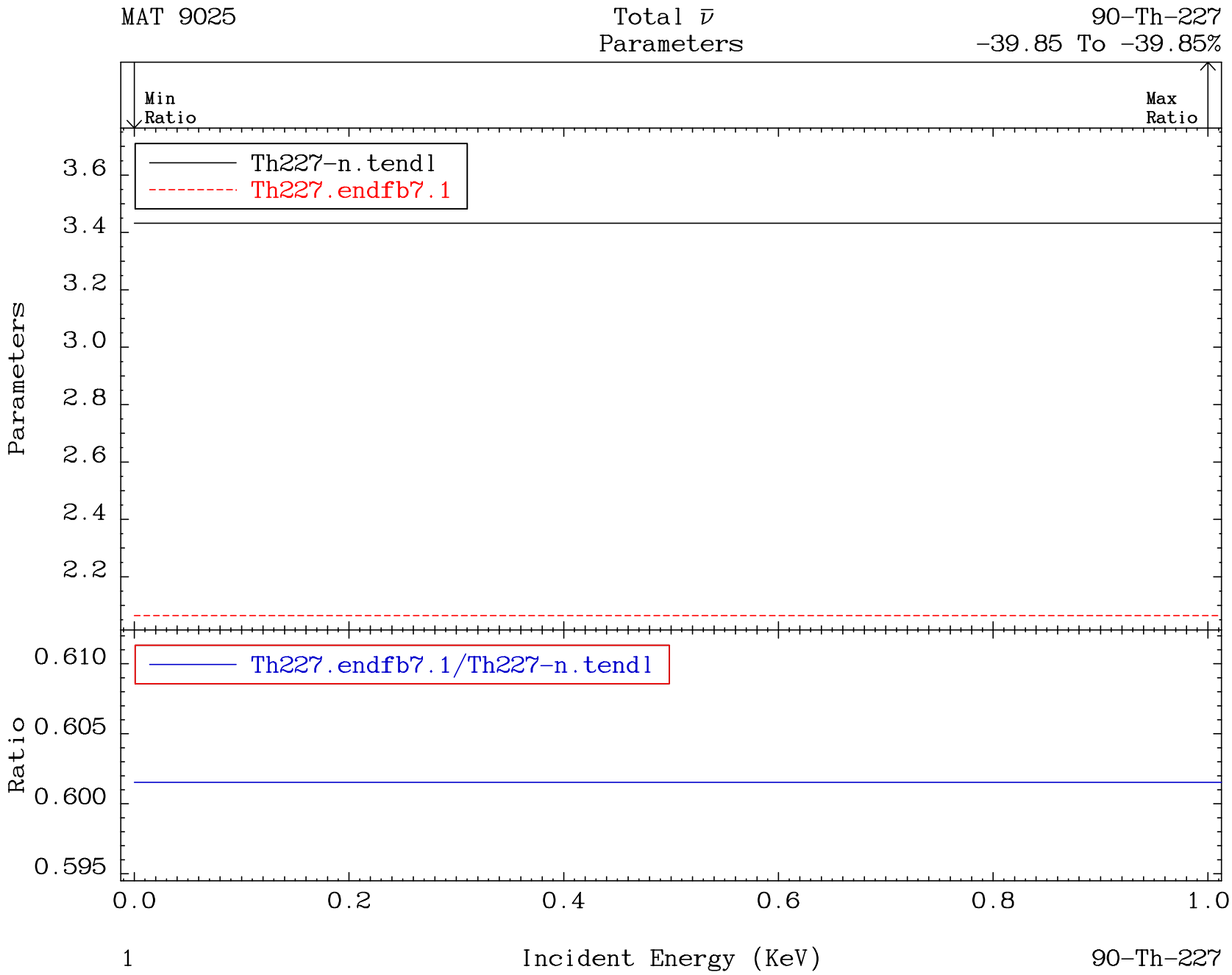
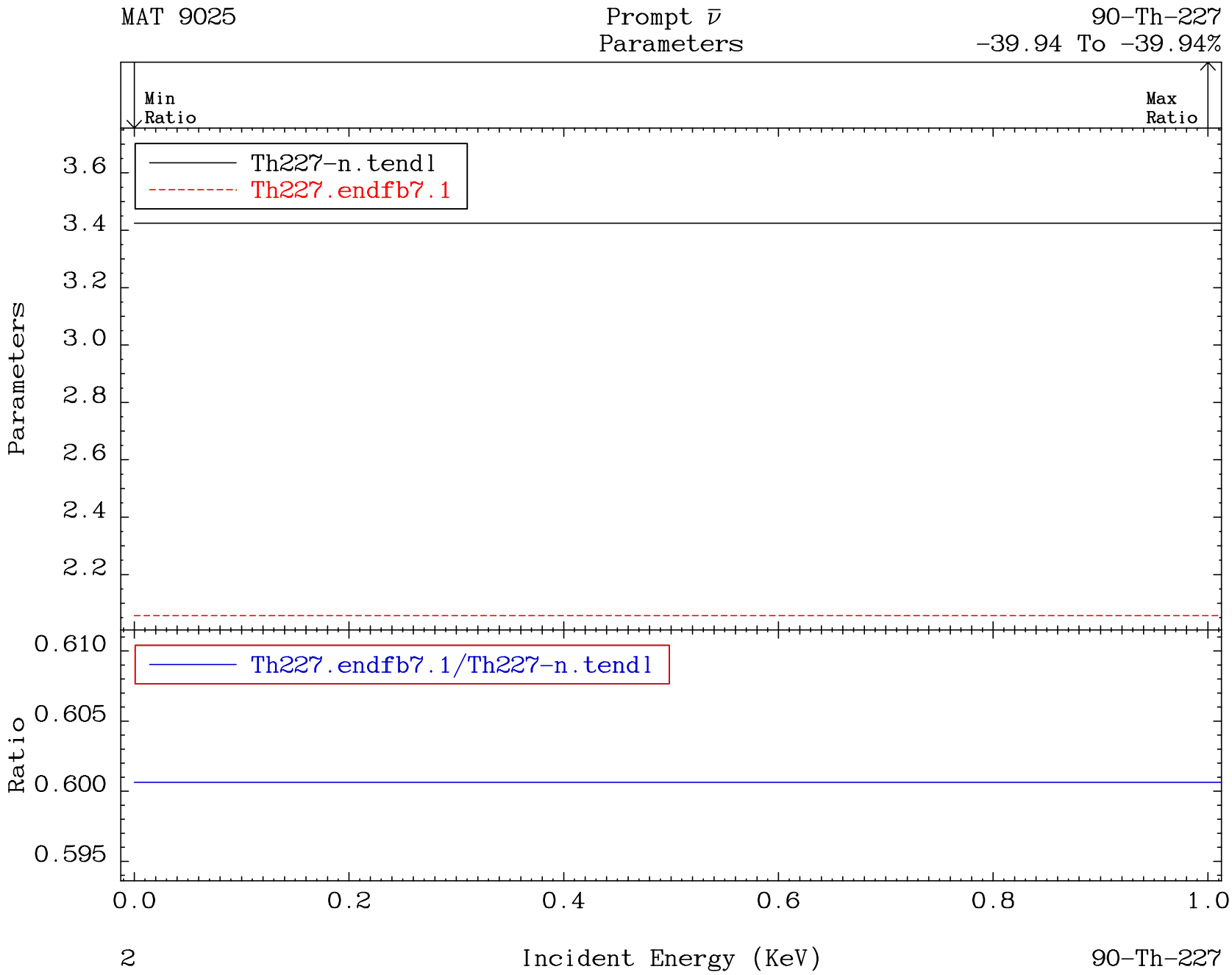
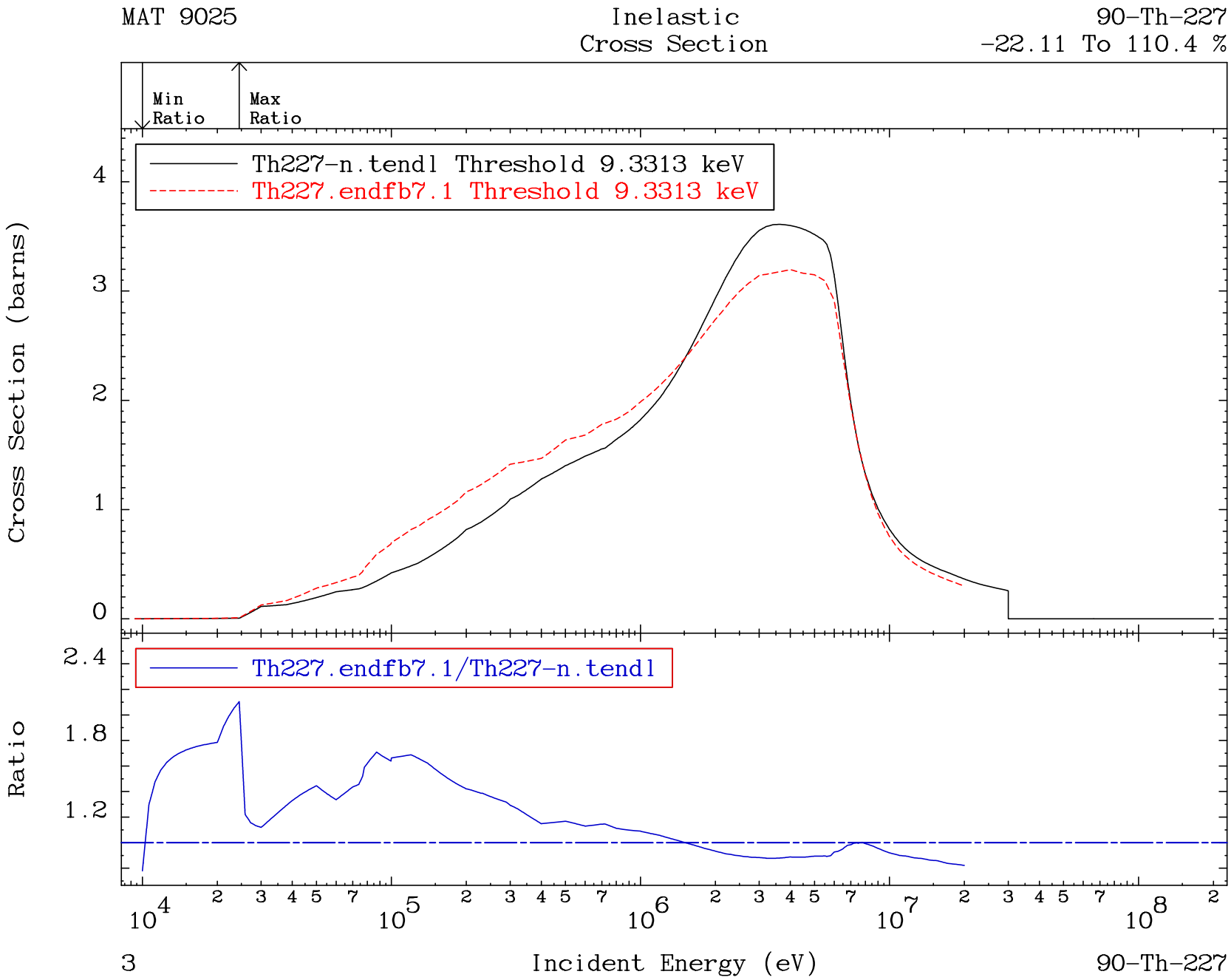
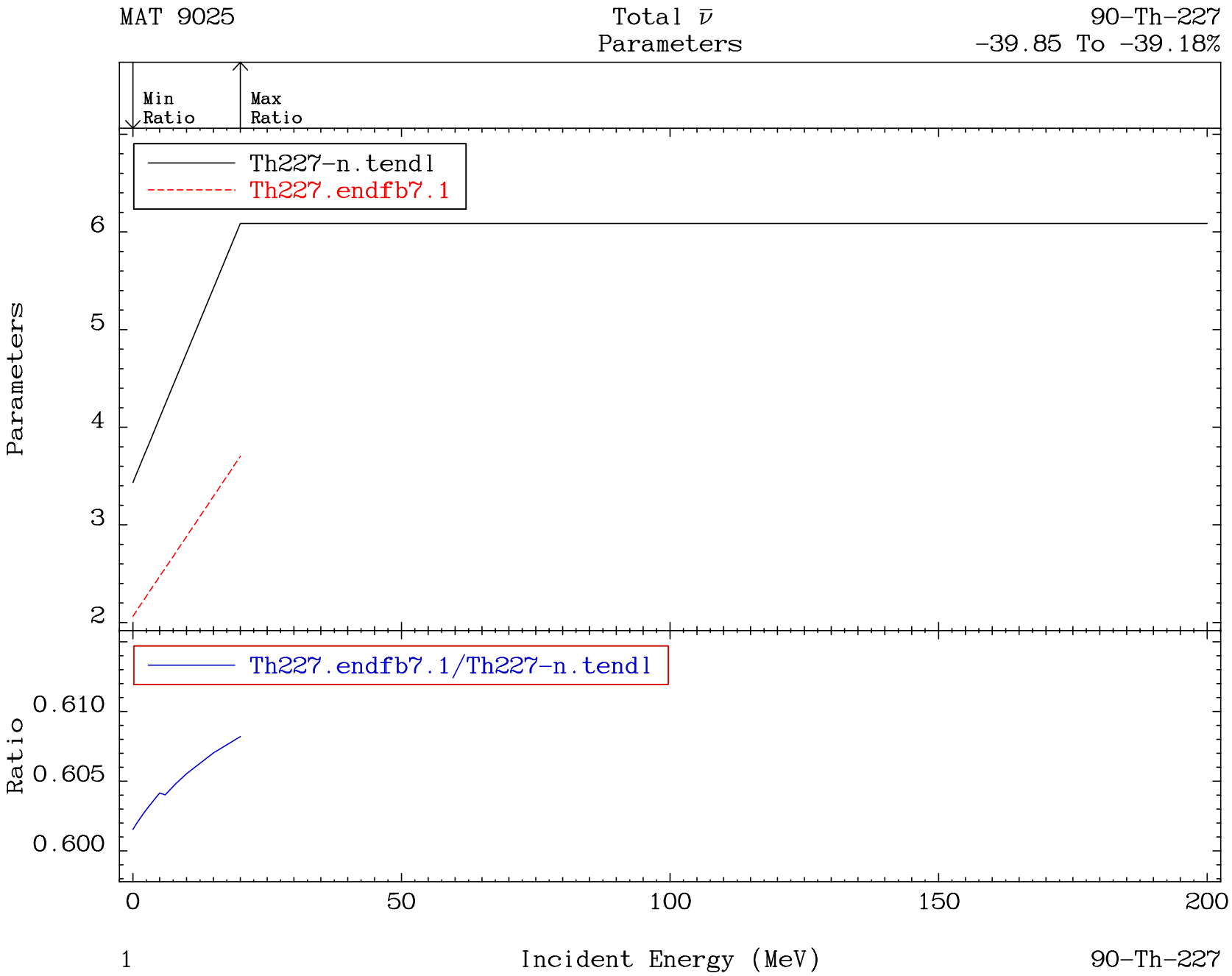
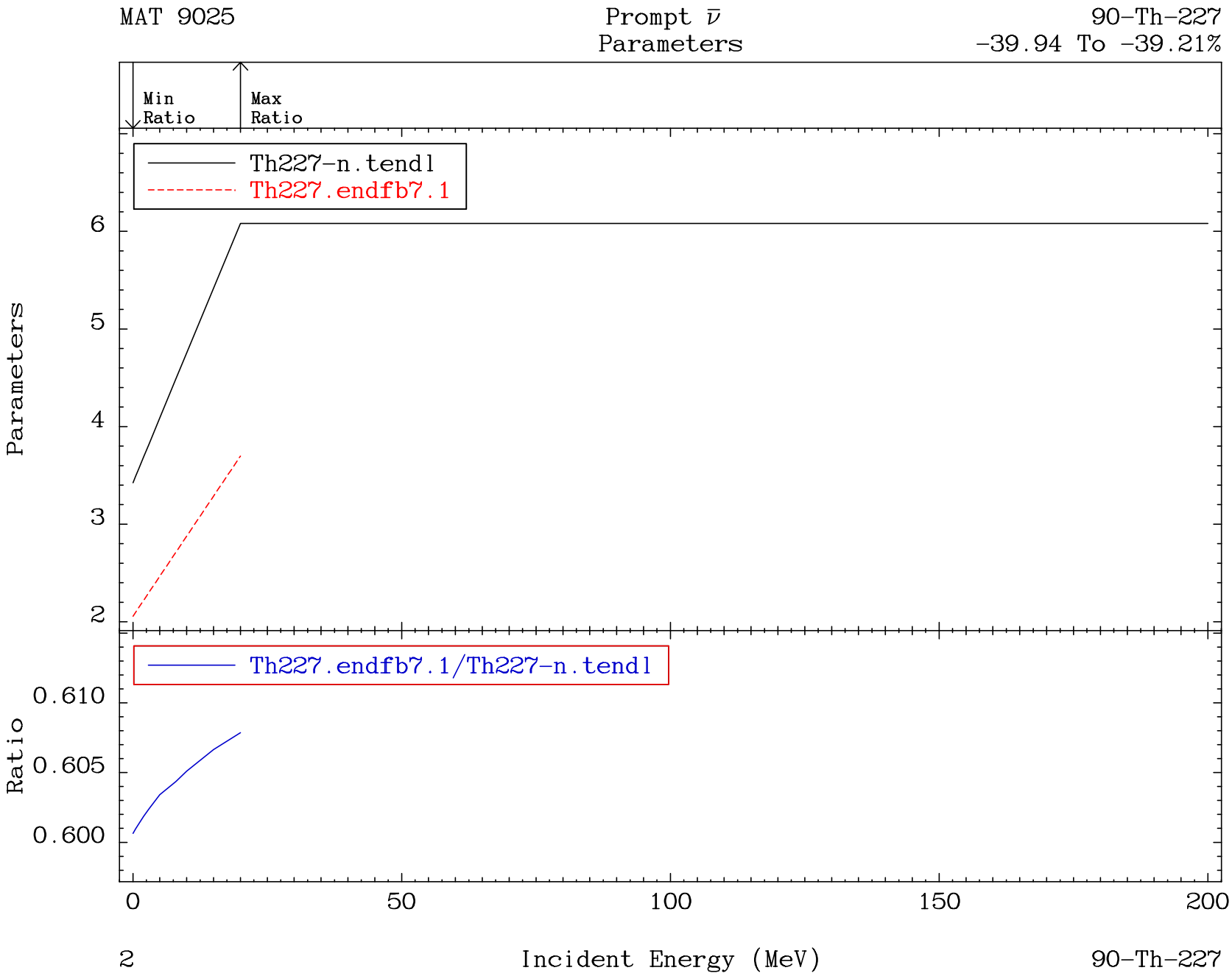
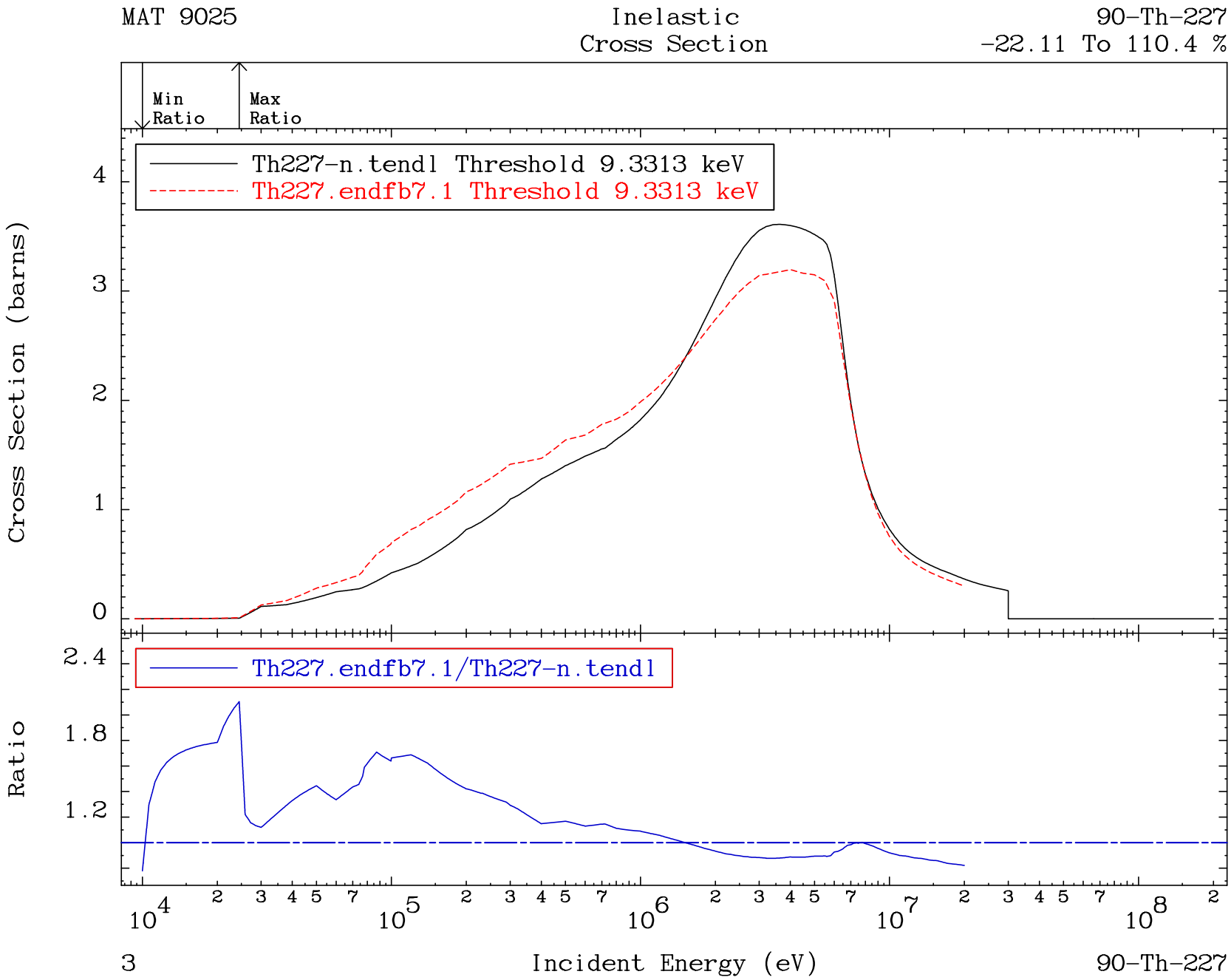

MAT 9025
Total $\bar{\nu}$
Parameters
90-Th-227
-39.85 To -39.85%
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Th227.endfb7.1/Th227-n.tendl
Parameters
Ratio
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
0.610
0.605
0.600
0.595
0.0
0.2
0.4
0.6
0.8
1.0
1
Incident Energy (KeV)
90-Th-227

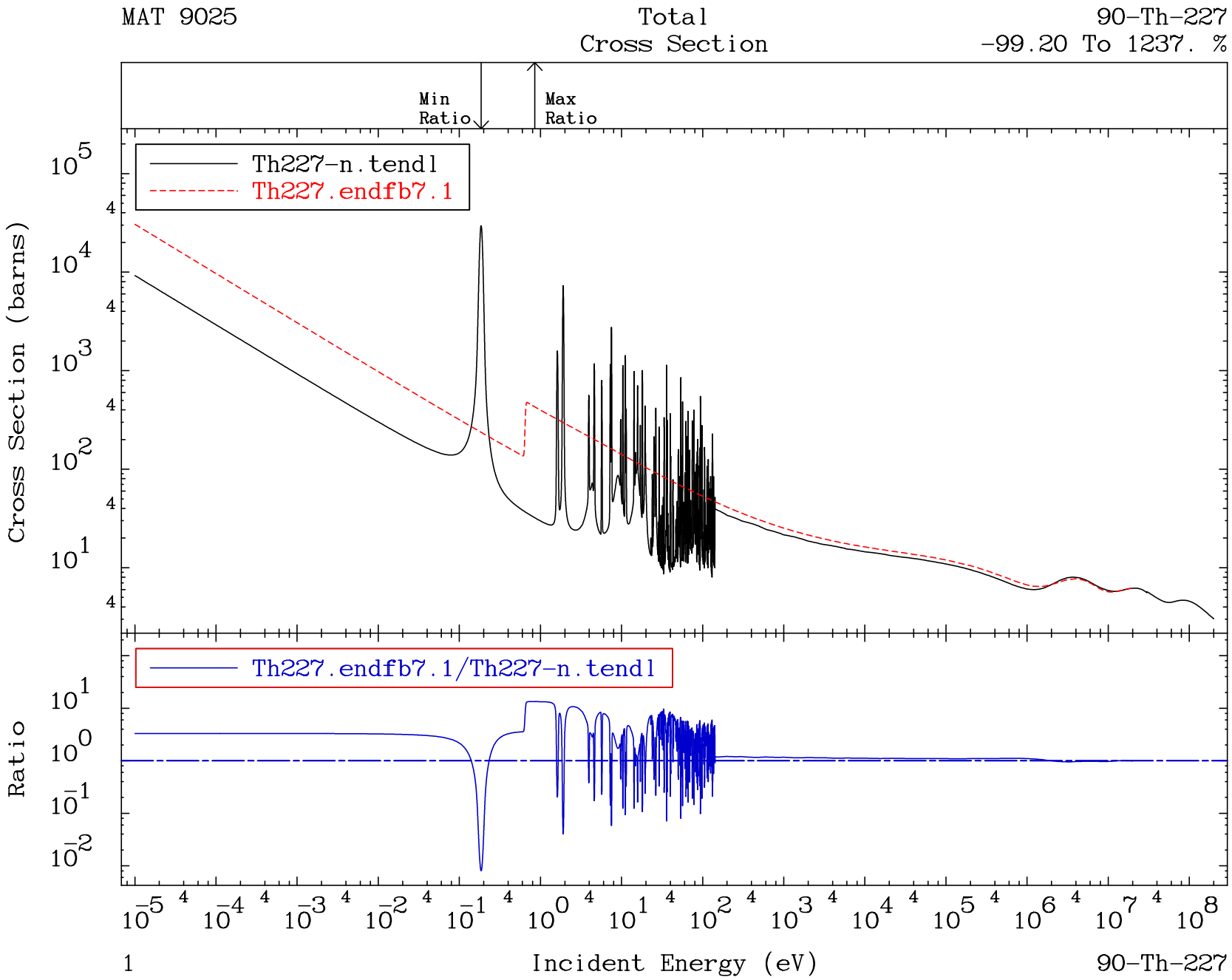

MAT 9025
Prompt $\bar{\nu}$
Parameters
90-Th-227
-39.94 To -39.94%
Min
Ratio
Max
Ratio
Th227-n.tendl
Th227.endfb7.1
Th227.endfb7.1/Th227-n.tendl
Parameters
Ratio
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
0.610
0.605
0.600
0.595
0.0
0.2
0.4
0.6
0.8
1.0
2
Incident Energy (KeV)
90-Th-227

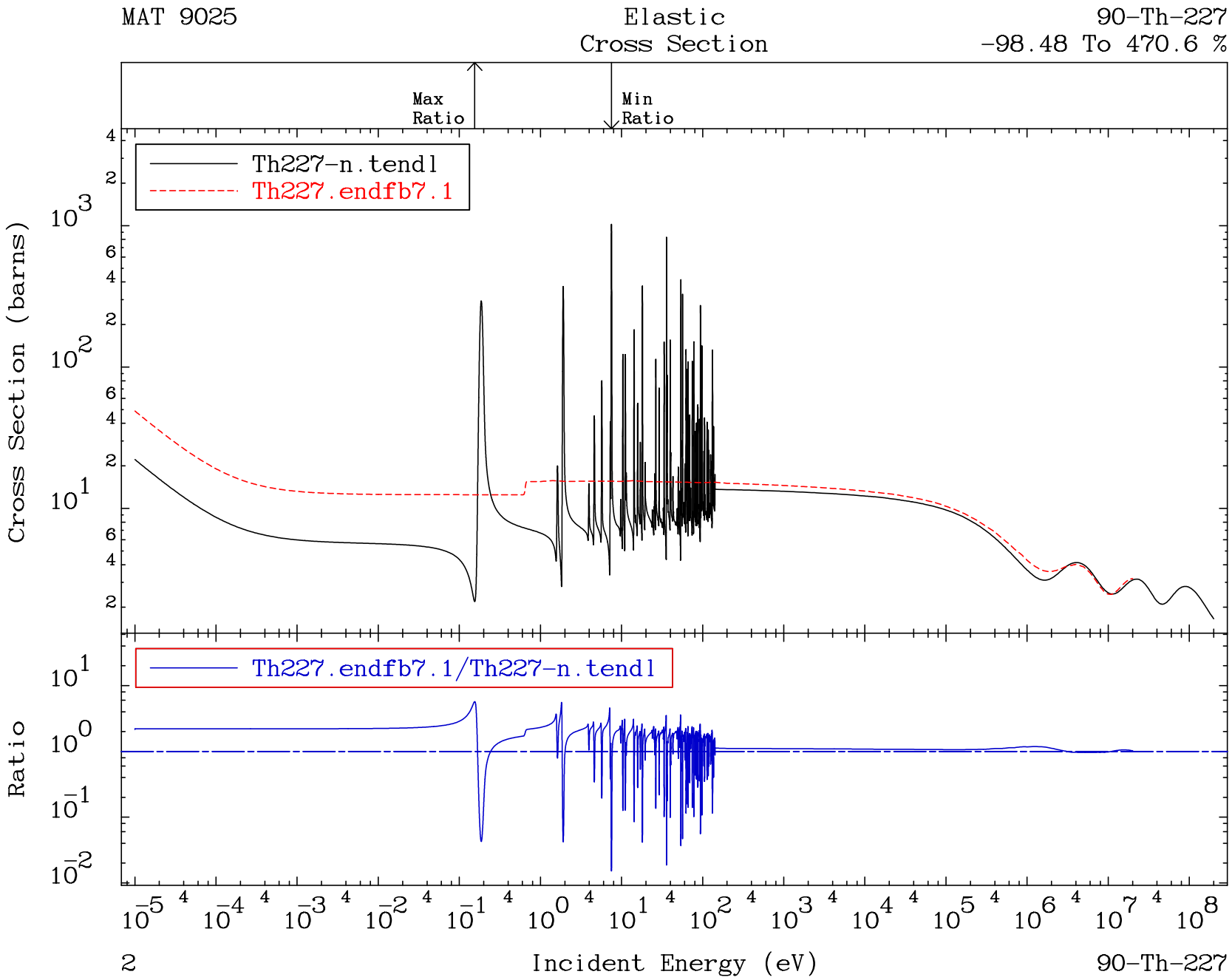

MAT 9025
Inelastic
Cross Section
90-Th-227
-22.11 To 110.4 %
Min Ratio
Max Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
3
90-Th-227

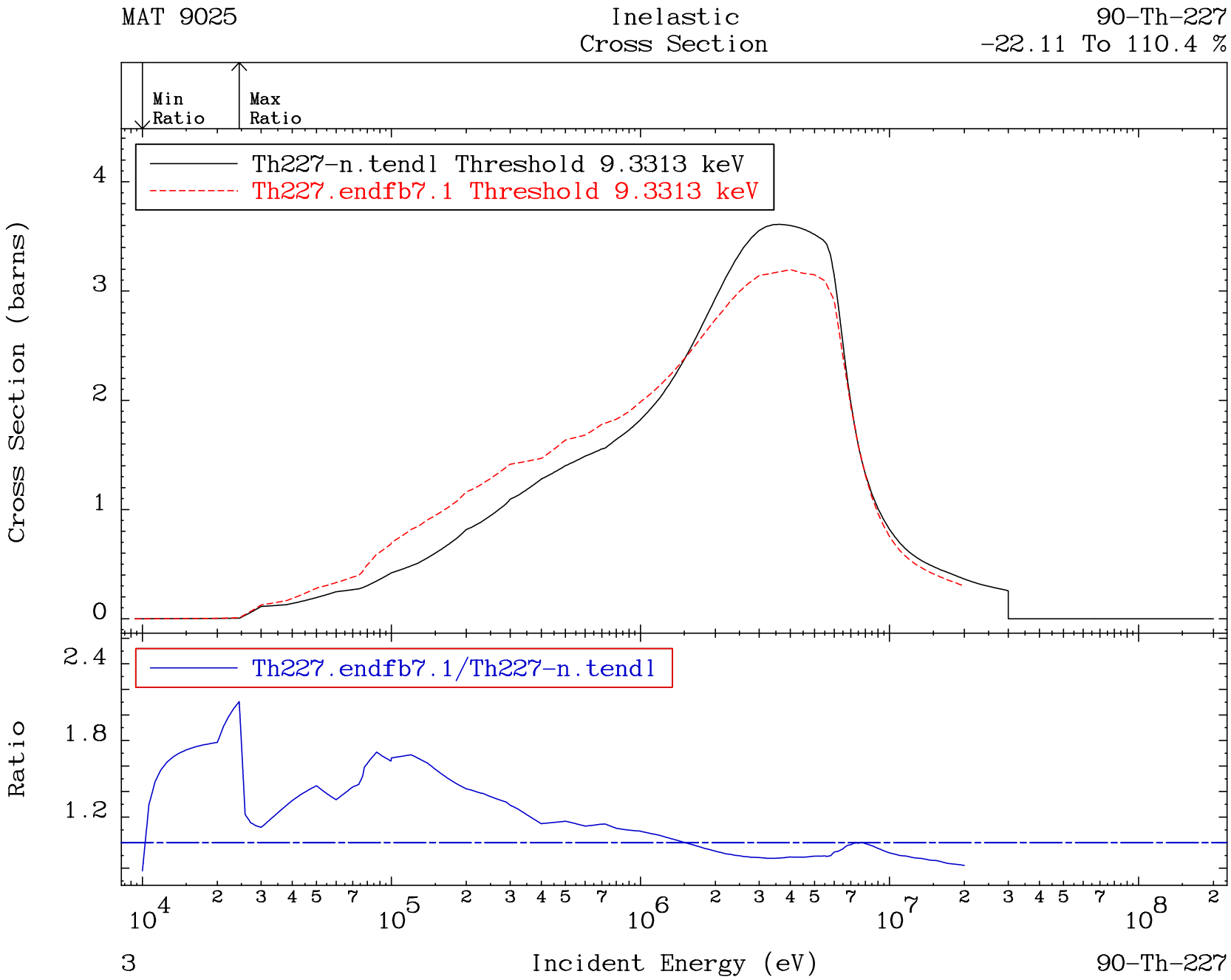

MAT 9025
Total $\bar{\nu}$
Parameters
90-Th-227
-39.85 To -39.18%
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Parameters
6
5
4
3
2
Th227.endfb7.1/Th227-n.tendl
Ratio
0.610
0.605
0.600
0
50
100
150
200
1
Incident Energy (MeV)
90-Th-227

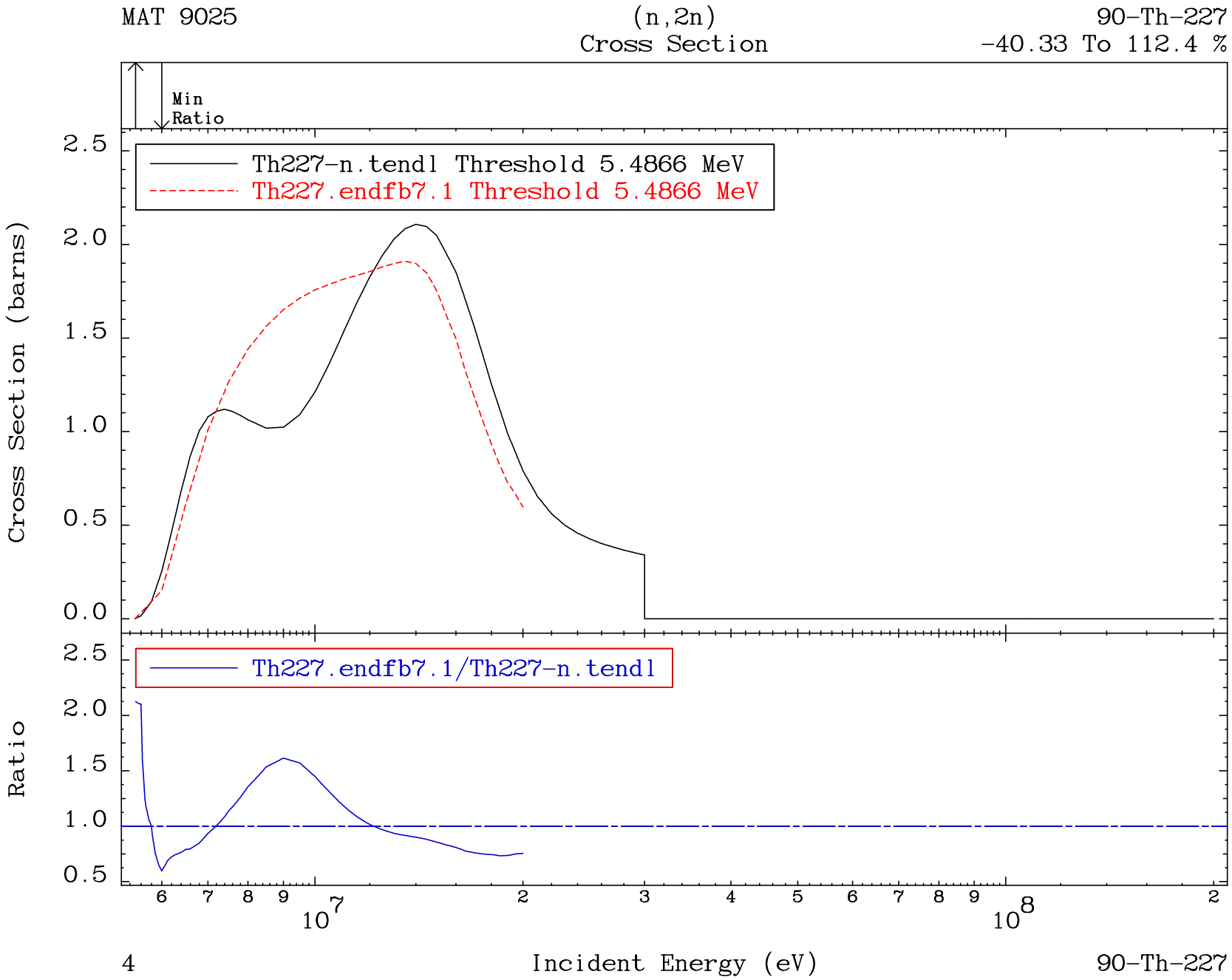

MAT 9025
Prompt $\bar{\nu}$
Parameters
90-Th-227
-39.94 To -39.21%
Min
Ratio
Max
Ratio
Th227-n.tendl
Th227.endfb7.1
Parameters
6
5
4
3
2
Th227.endfb7.1/Th227-n.tendl
Ratio
0.610
0.605
0.600
0
50
100
150
200
2
Incident Energy (MeV)
90-Th-227

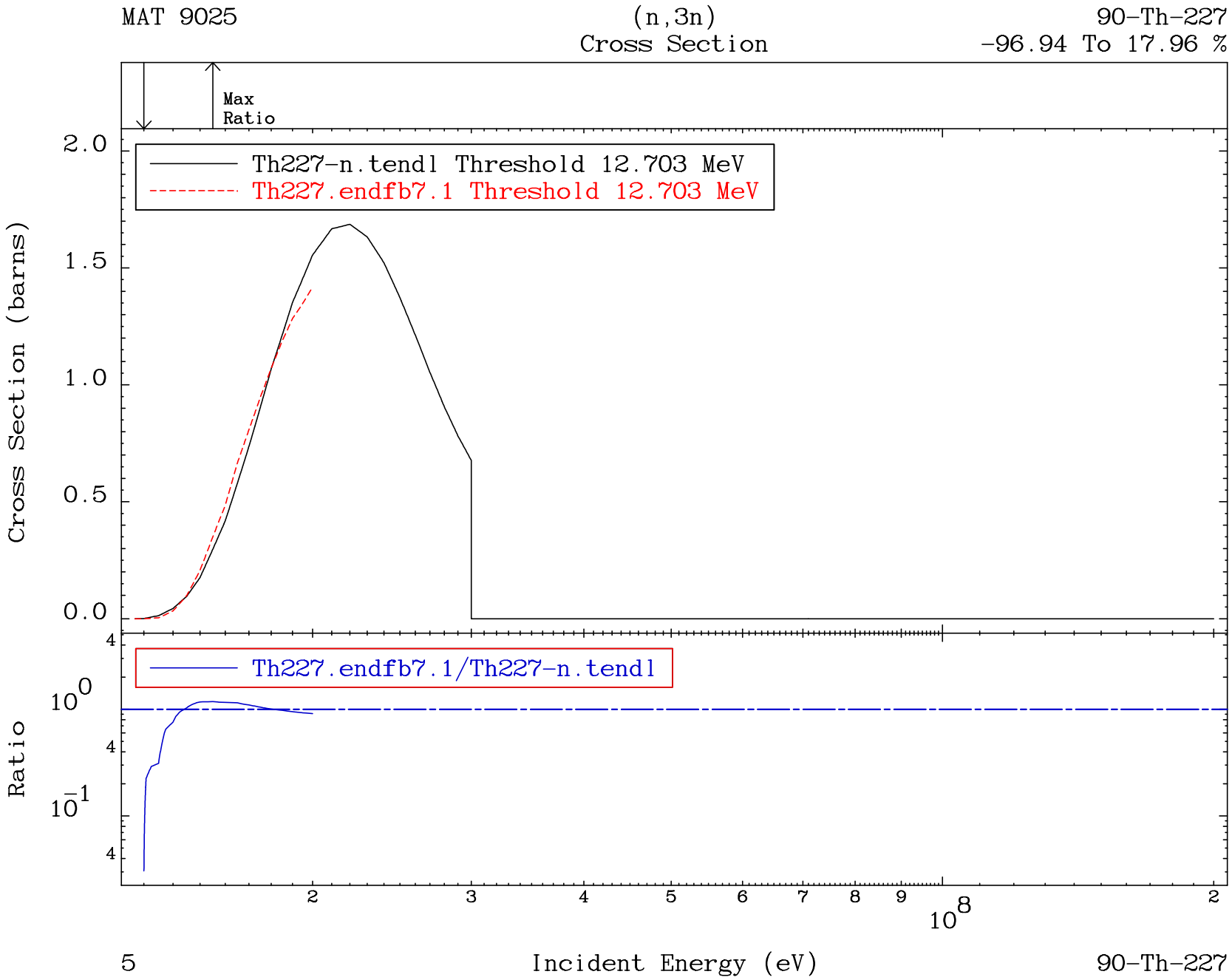

MAT 9025
Inelastic
Cross Section
90-Th-227
-22.11 To 110.4 %
Min Ratio
Max Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
3
90-Th-227

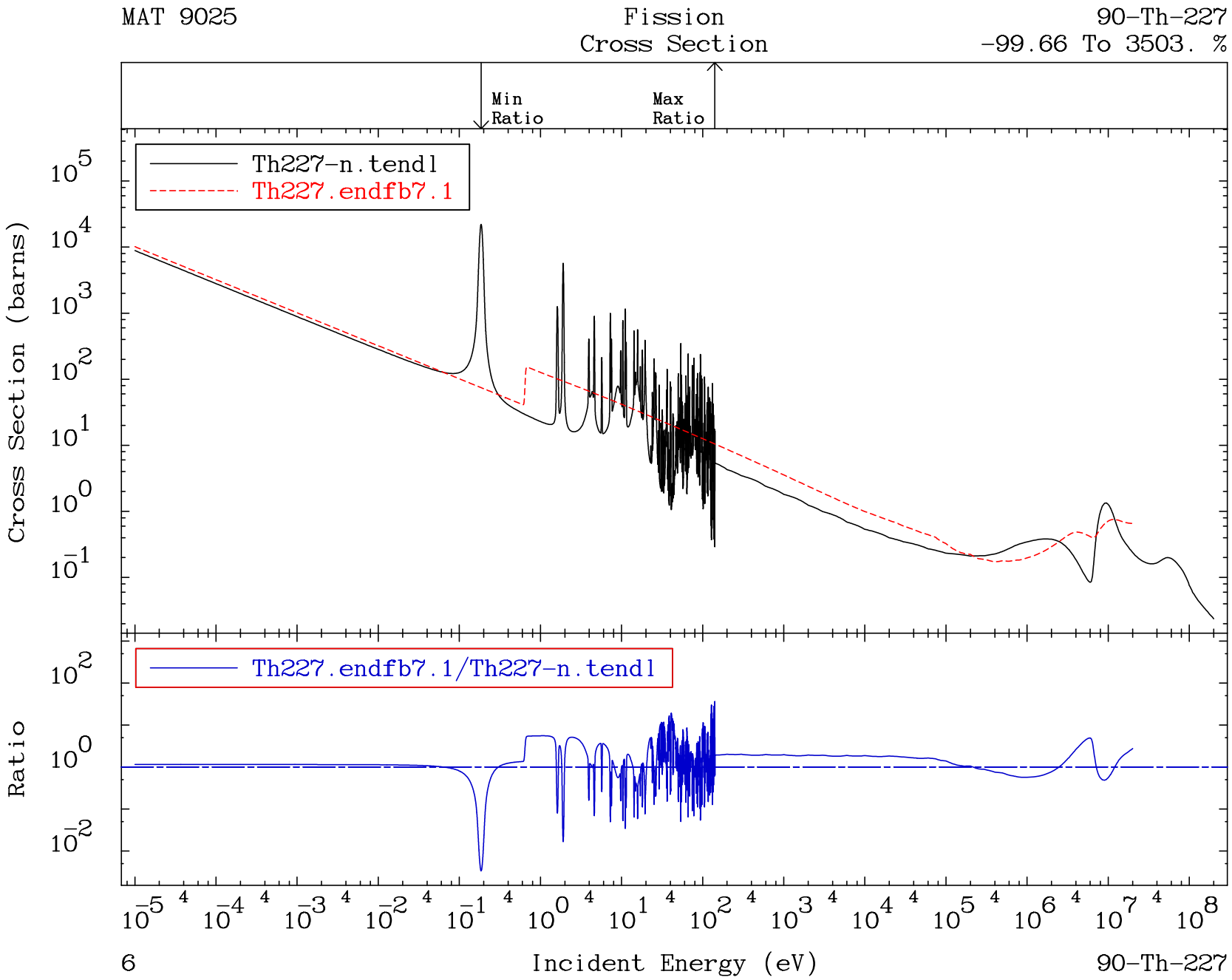

MAT 9025
Total
Cross Section
90-Th-227
-99.20 To 1237. %
Min
Ratio
Max
Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
1
90-Th-227

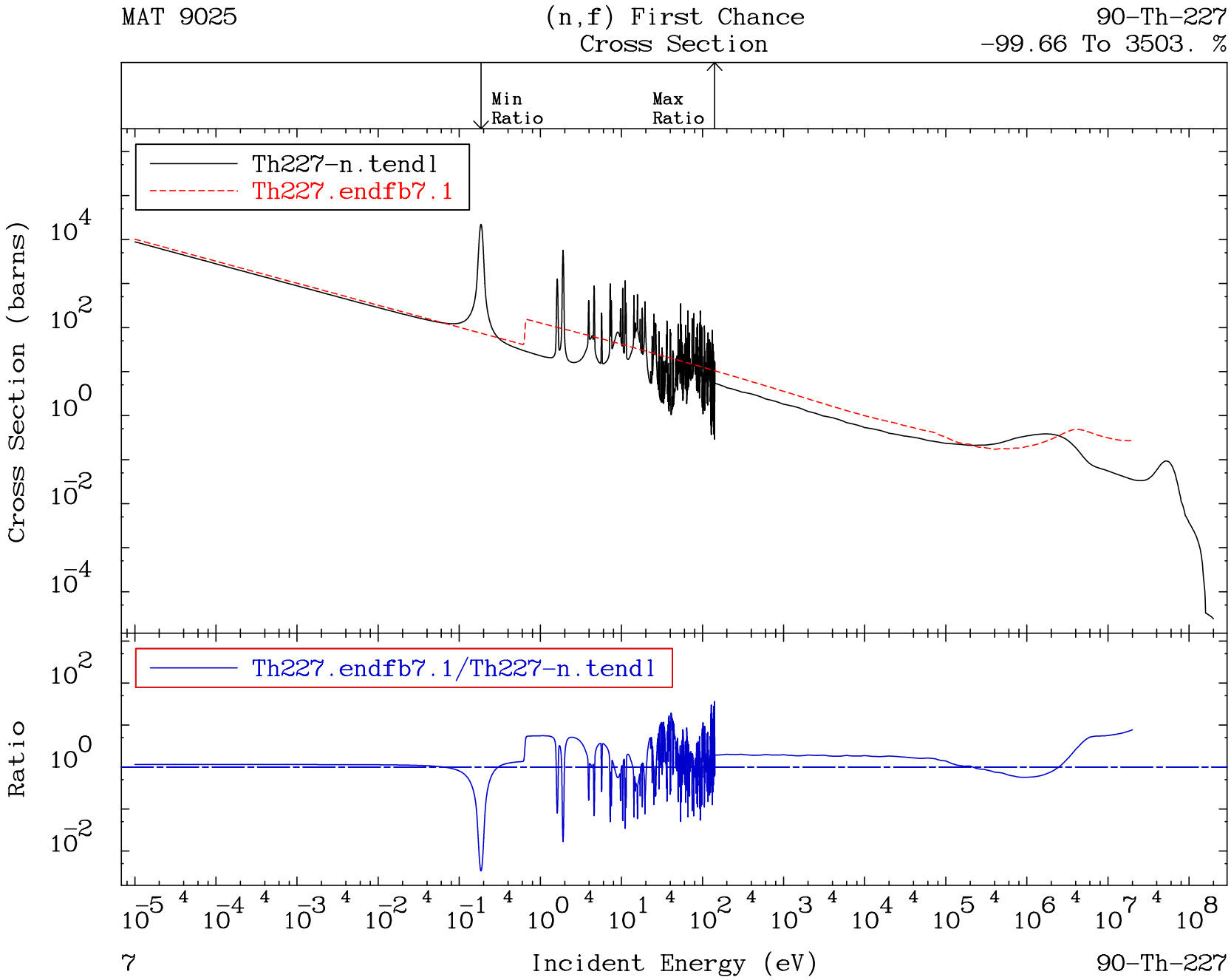

MAT 9025
Elastic
Cross Section
90-Th-227
-98.48 To 470.6 %
Max
Ratio
Min
Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
2
90-Th-227

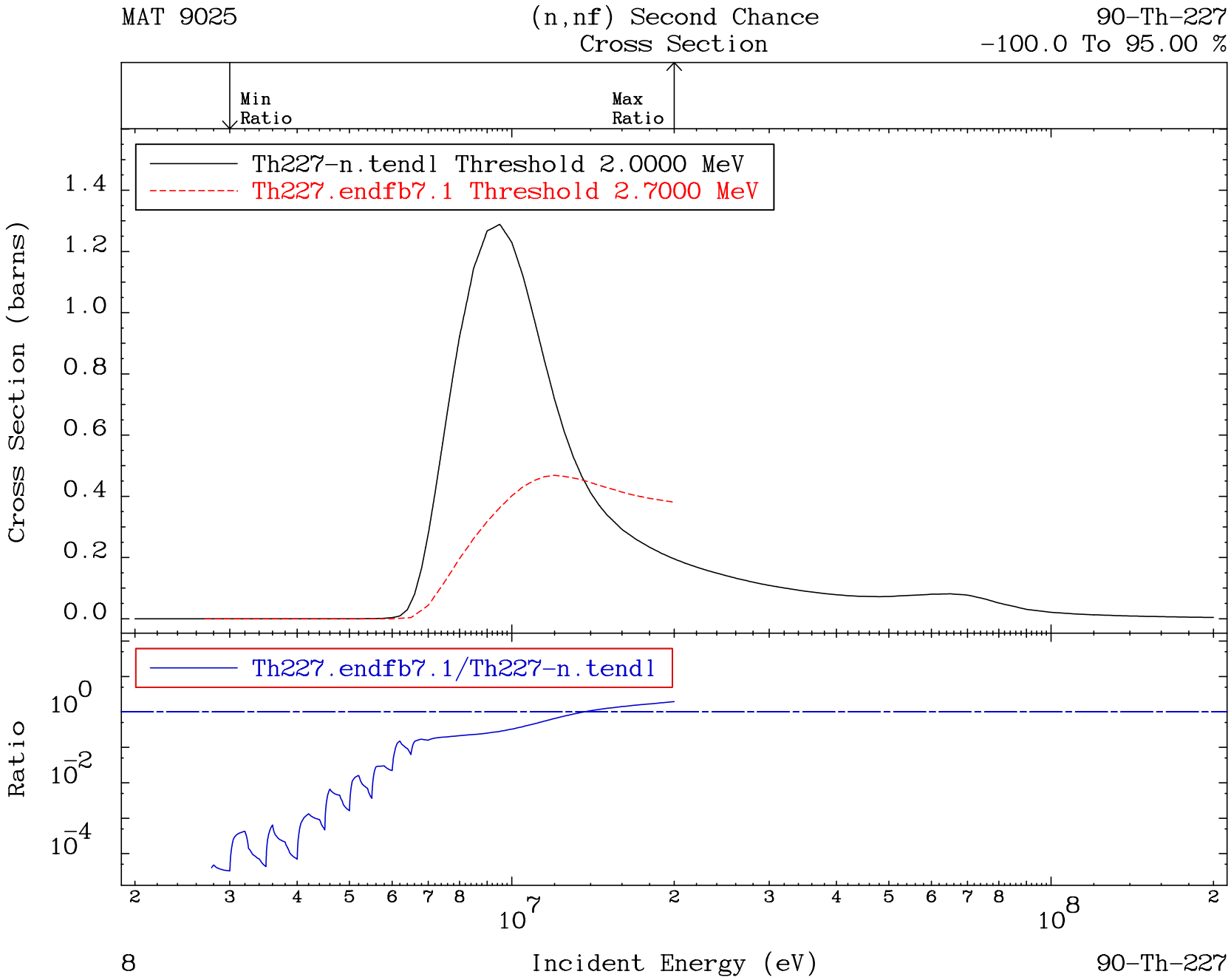

MAT 9025
Inelastic
Cross Section
90-Th-227
-22.11 To 110.4 %
Min Ratio
Max Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
3
90-Th-227

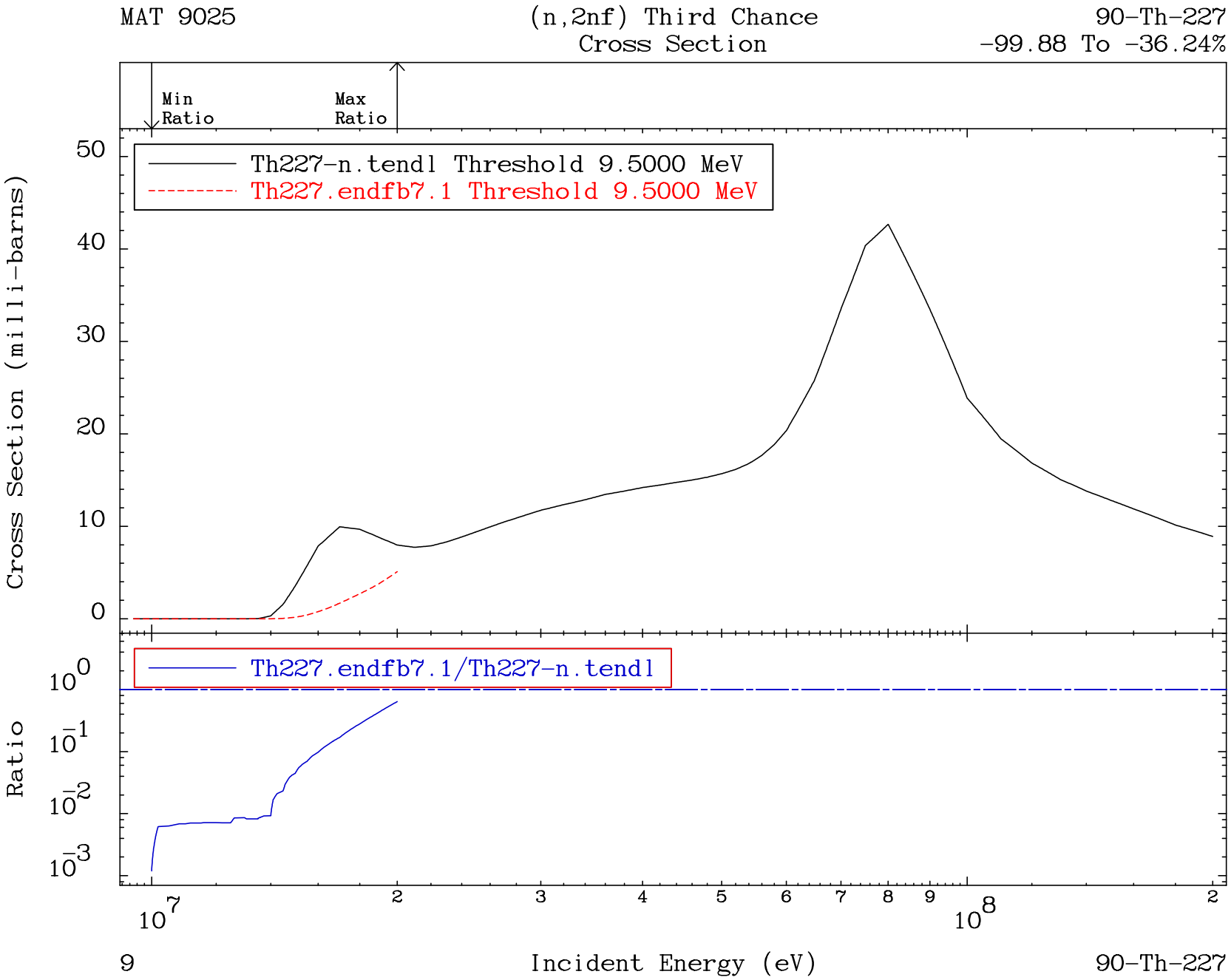

MAT 9025
(n,2n)
Cross Section
90-Th-227
-40.33 To 112.4 %
Min
Ratio
Th227-n.tendl Threshold 5.4866 MeV
Th227.endfb7.1 Threshold 5.4866 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
Th227.endfb7.1/Th227-n.tendl
Ratio
2.5
2.0
1.5
1.0
0.5
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
4
Incident Energy (eV)
90-Th-227

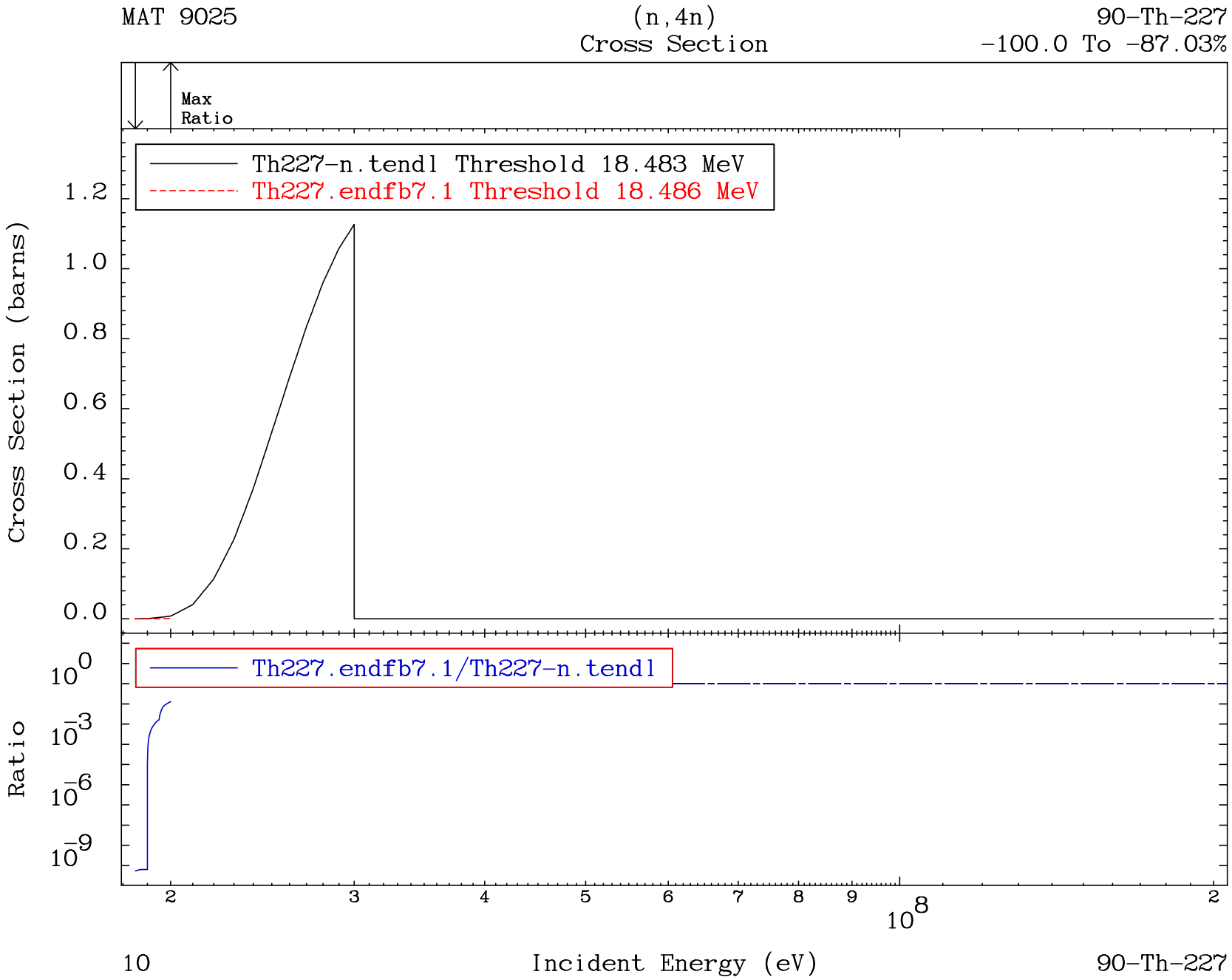

MAT 9025
(n,3n)
Cross Section
90-Th-227
-96.94 To 17.96 %
Max
Ratio
Th227-n.tendl Threshold 12.703 MeV
Th227.endfb7.1 Threshold 12.703 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^0
10^-1
4
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
90-Th-227

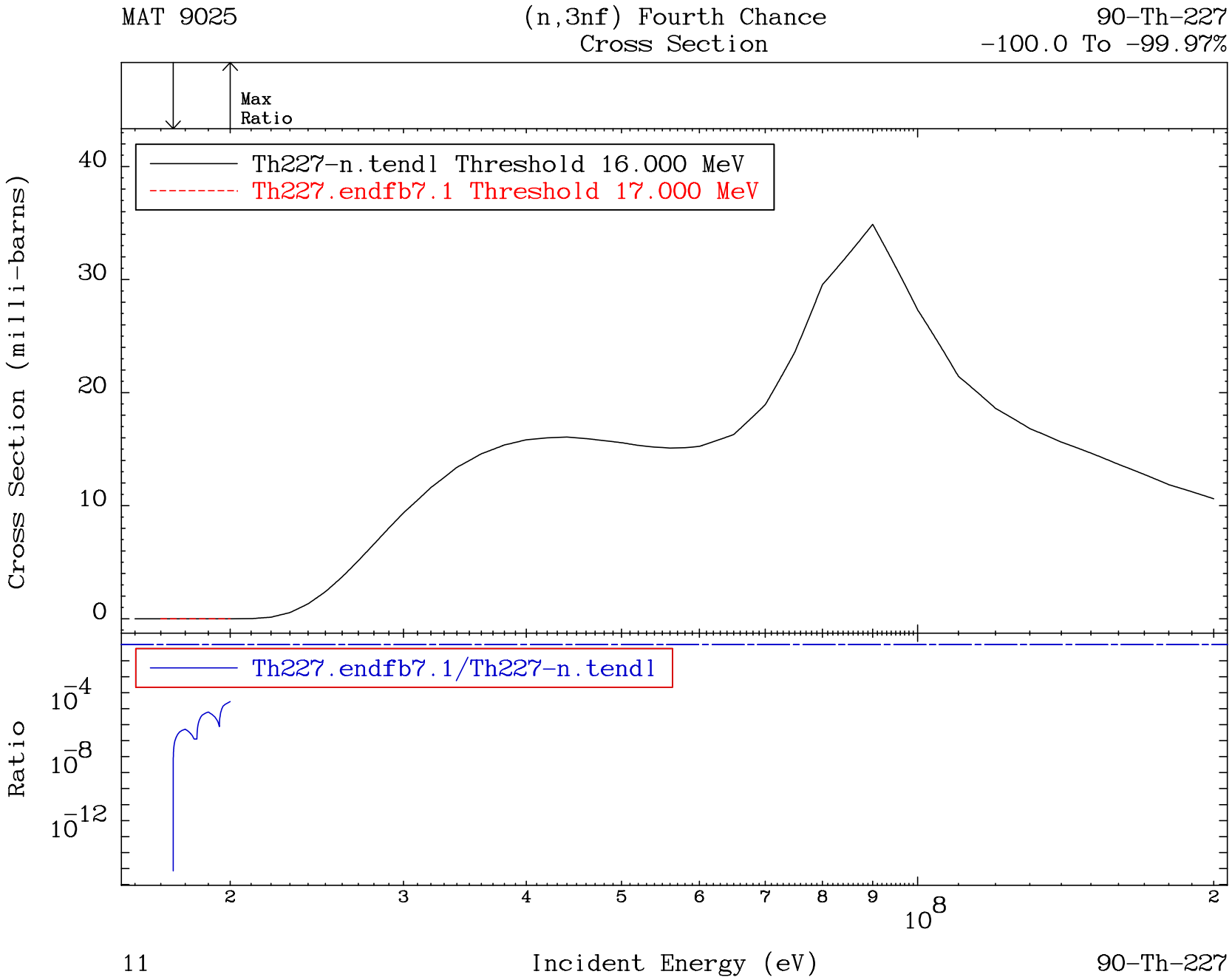

MAT 9025
Fission
Cross Section
90-Th-227
-99.66 To 3503. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
6
90-Th-227

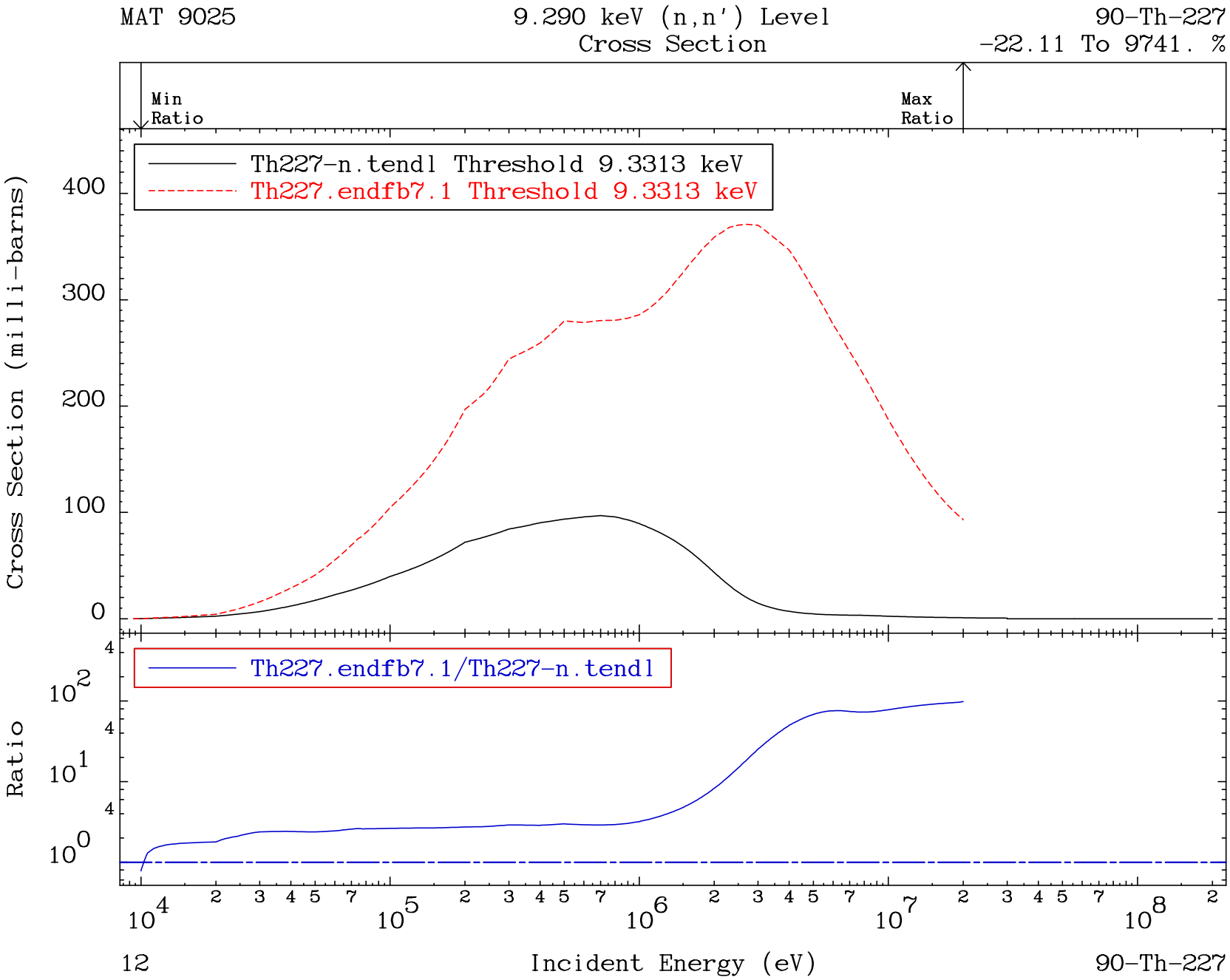

MAT 9025
(n,f) First Chance
Cross Section
90-Th-227
-99.66 To 3503. %
Min
Ratio
Max
Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
7
90-Th-227

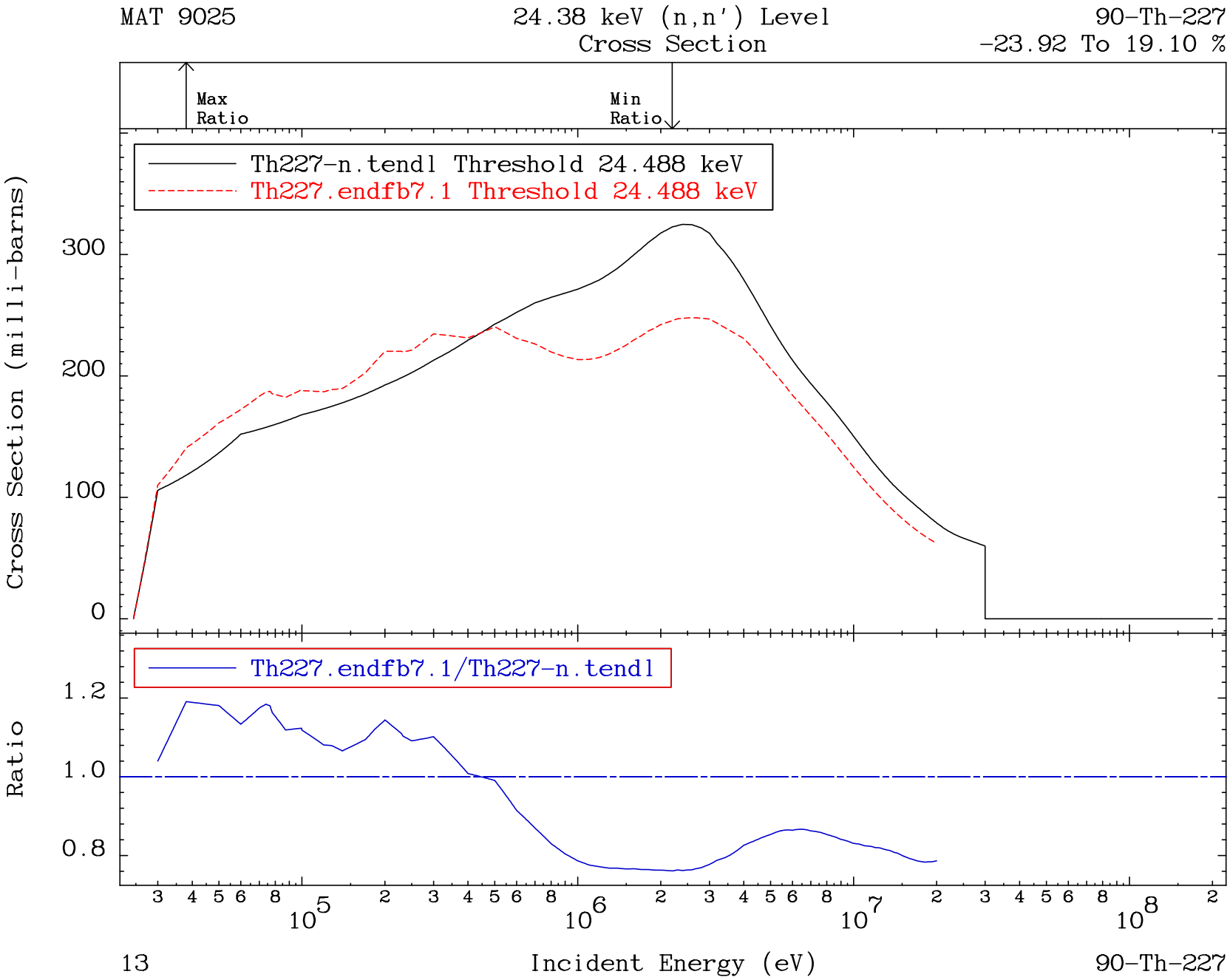

MAT 9025
(n,nf) Second Chance
Cross Section
90-Th-227
-100.0 To 95.00 %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 2.0000 MeV
Th227.endfb7.1 Threshold 2.7000 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^0
10^-2
10^-4
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
8
Incident Energy (eV)
90-Th-227

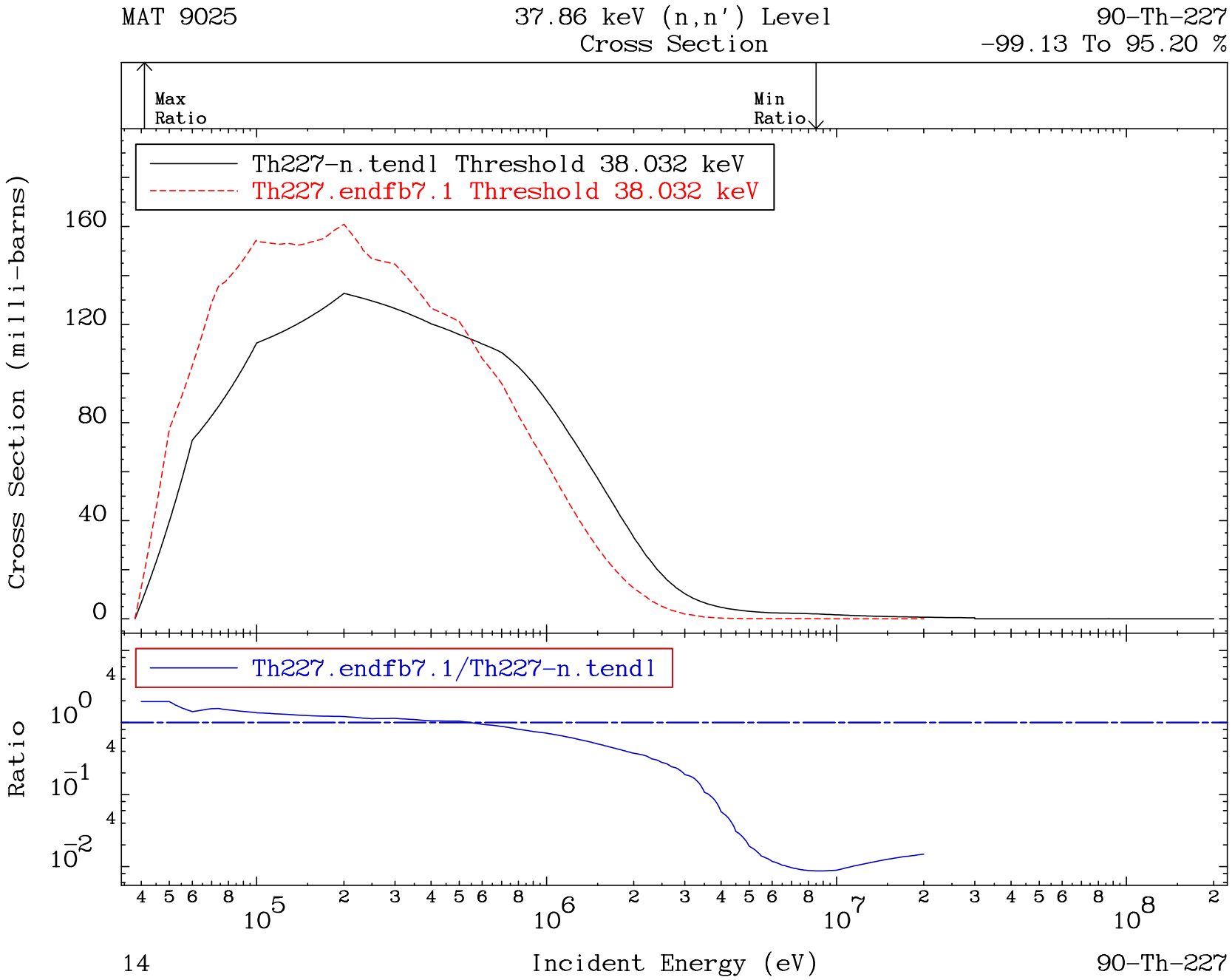

MAT 9025
(n,2nf) Third Chance
Cross Section
90-Th-227
-99.88 To -36.24%
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 9.5000 MeV
Th227.endfb7.1 Threshold 9.5000 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^0
10^-1
10^-2
10^-3
10^7
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
90-Th-227

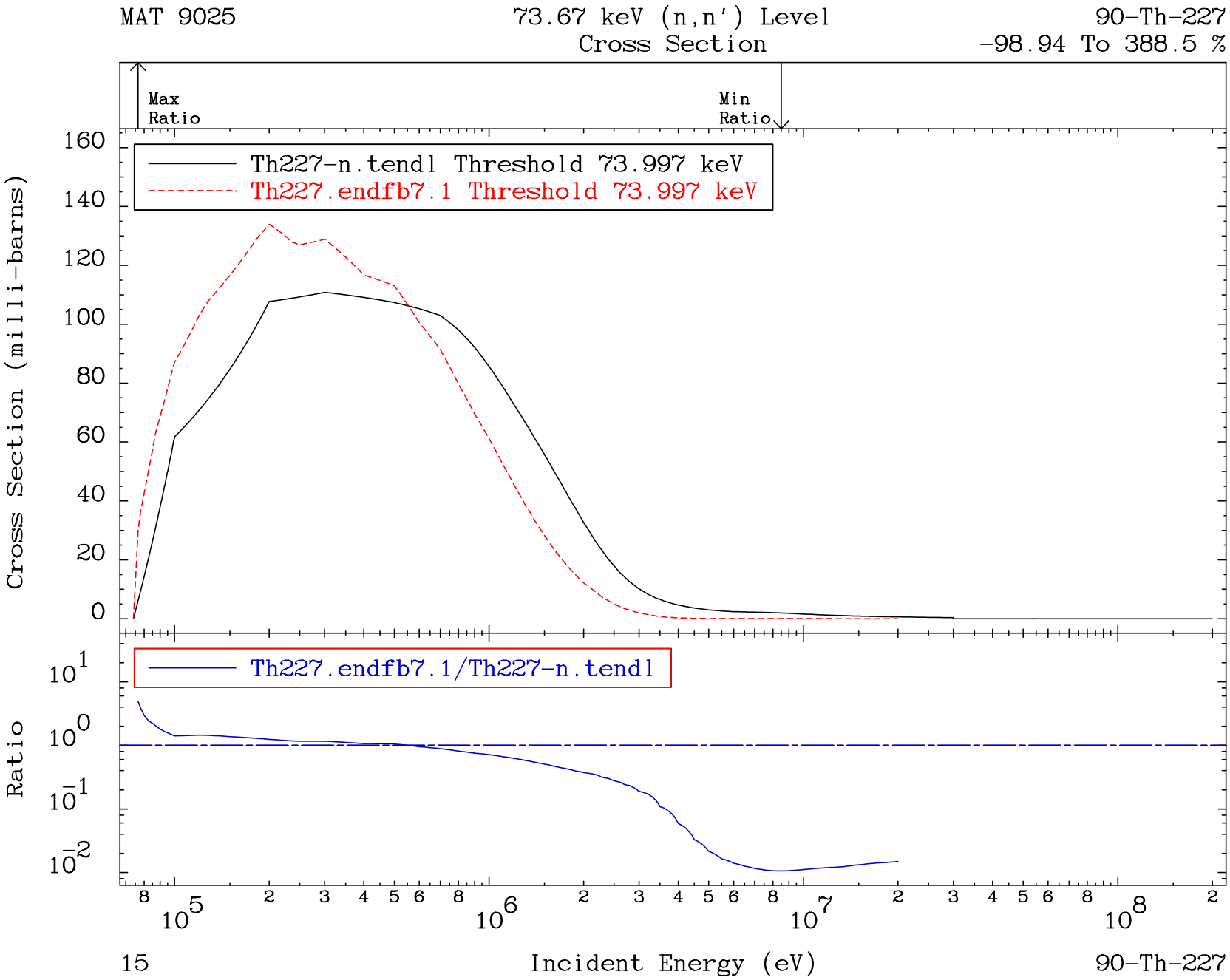

MAT 9025
(n,4n)
Cross Section
90-Th-227
-100.0 To -87.03%
Max
Ratio
Th227-n.tendl Threshold 18.483 MeV
Th227.endfb7.1 Threshold 18.486 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^0
10^-3
10^-6
10^-9
2
3
4
5
6
7
8
9
10^8
2
10
Incident Energy (eV)
90-Th-227

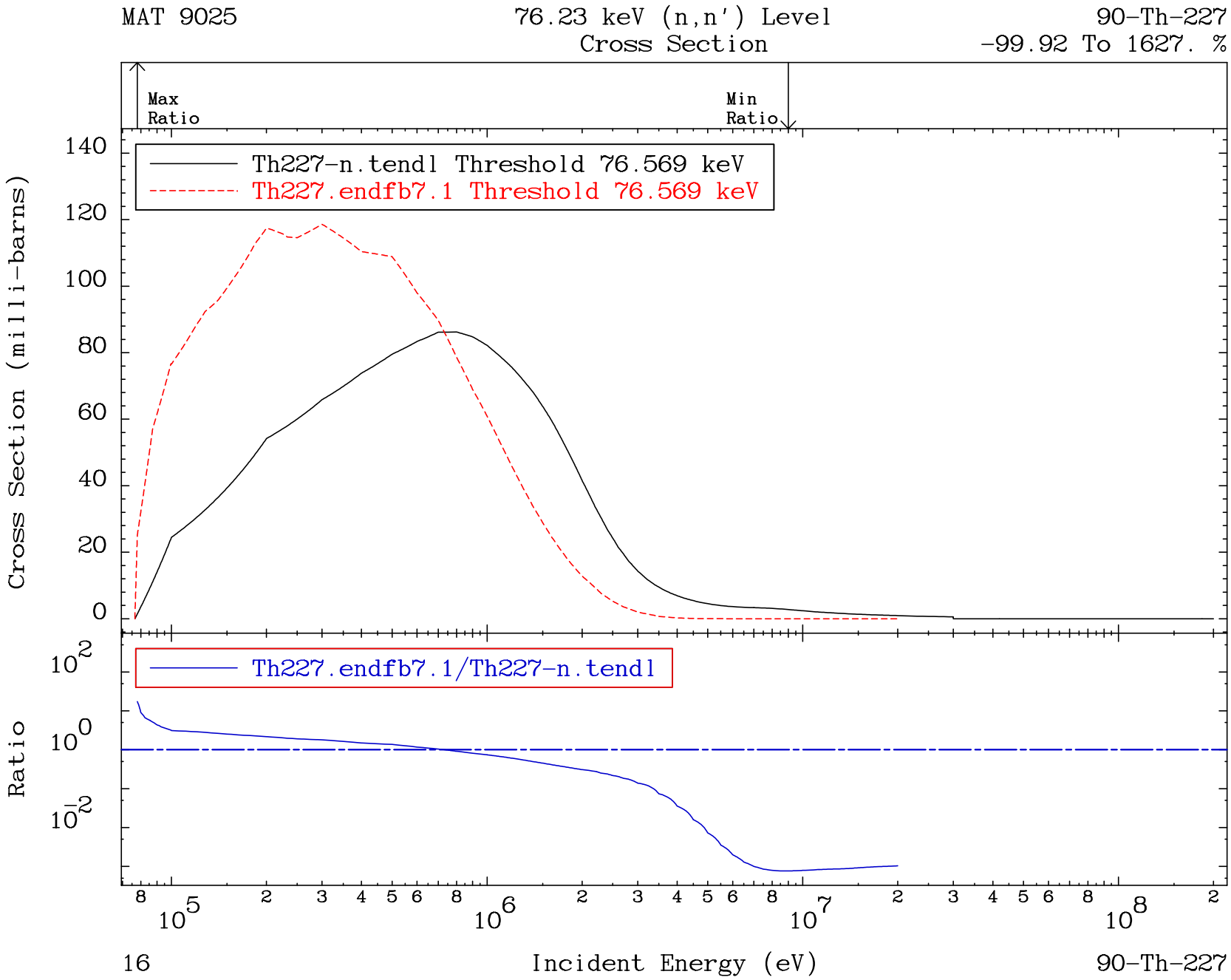

MAT 9025
(n,3nf) Fourth Chance
Cross Section
90-Th-227
-100.0 To -99.97%
Max
Ratio
Th227-n.tendl Threshold 16.000 MeV
Th227.endfb7.1 Threshold 17.000 MeV
Cross Section (milli-barns)
40
30
20
10
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^-4
10^-8
10^-12
2
3
4
5
6
7
8
9
10^8
2
11
Incident Energy (eV)
90-Th-227

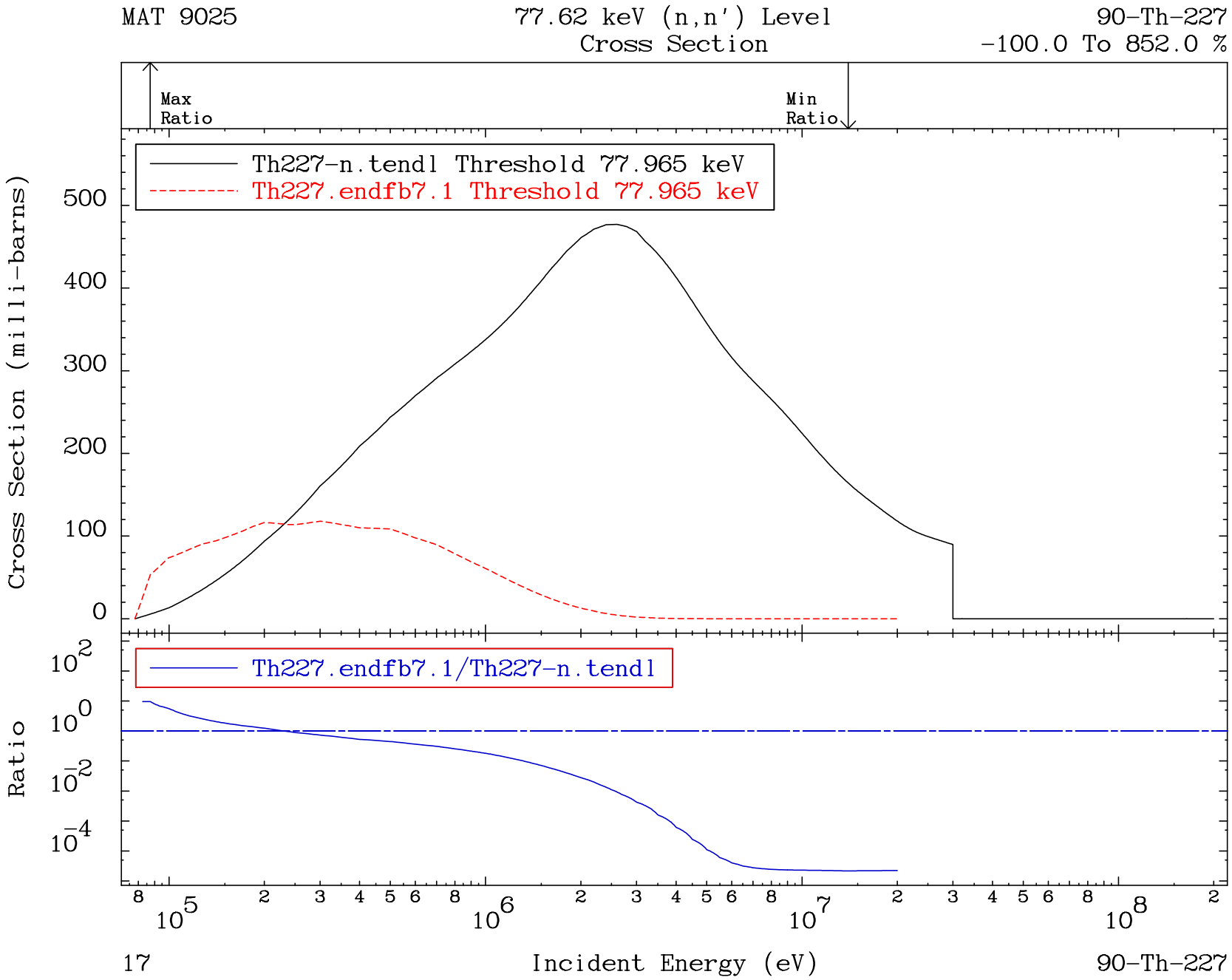

MAT 9025
9.290 keV (n,n') Level
Cross Section
90-Th-227
-22.11 To 9741. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (milli-barns)
400
300
200
100
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^2
10^1
10^0
10^4
10^5
10^6
10^7
10^8
12
Incident Energy (eV)
90-Th-227

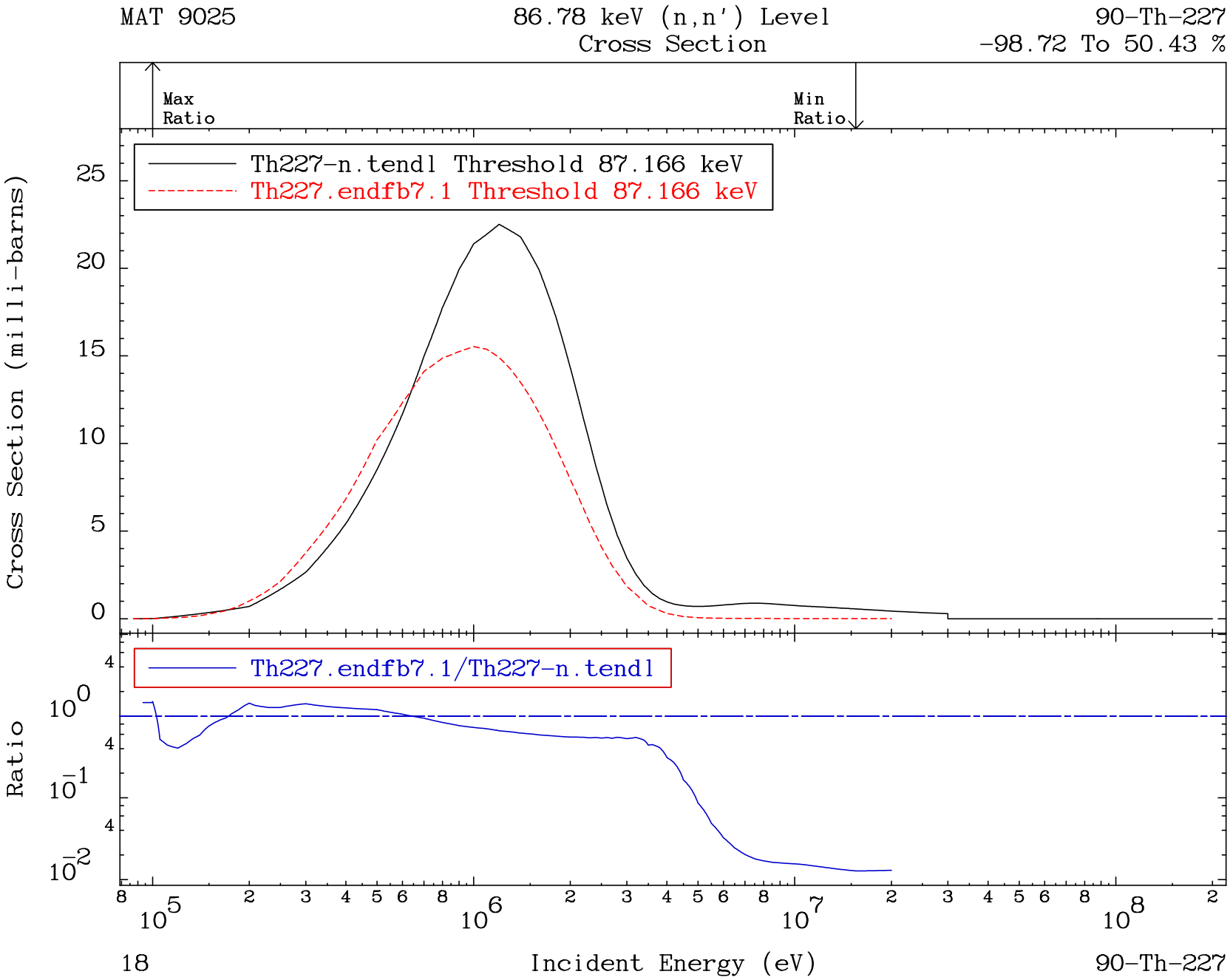

MAT 9025
24.38 keV (n,n') Level
Cross Section
90-Th-227
-23.92 To 19.10 %
Max Ratio
Min Ratio
Th227-n.tendl Threshold 24.488 keV
Th227.endfb7.1 Threshold 24.488 keV
Cross Section (milli-barns)
300
200
100
0
Th227.endfb7.1/Th227-n.tendl
Ratio
1.2
1.0
0.8
3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
13
Incident Energy (eV)
90-Th-227

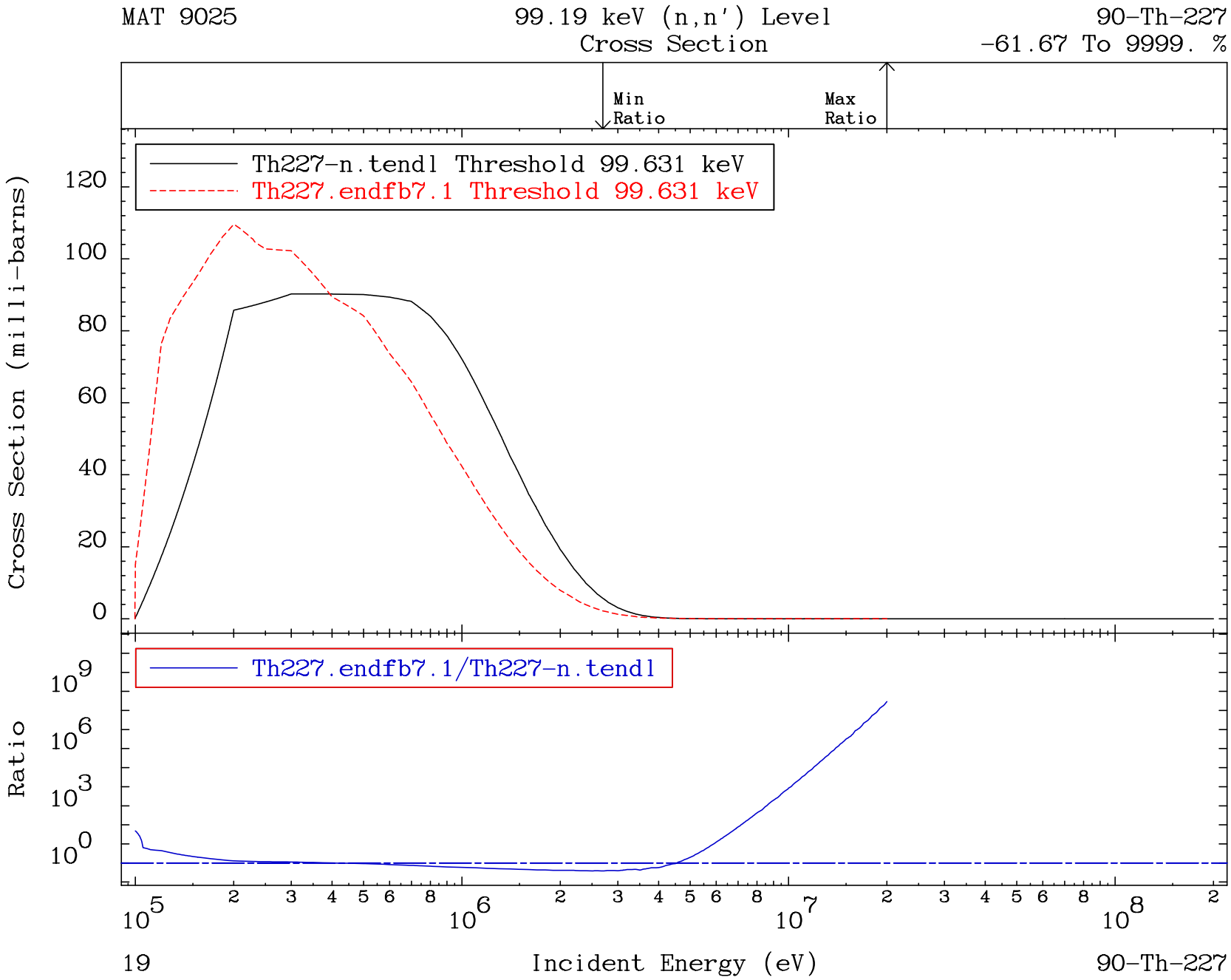

MAT 9025
37.86 keV (n,n') Level
Cross Section
90-Th-227
-99.13 To 95.20 %
Max
Ratio
Min
Ratio
Th227-n.tendl Threshold 38.032 keV
Th227.endfb7.1 Threshold 38.032 keV
Cross Section (milli-barns)
160
120
80
40
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^{0}
10^{-1}
10^{-2}
4 5 6 8 10^{5} 2 3 4 5 6 8 10^{6} 2 3 4 5 6 8 10^{7} 2 3 4 5 6 8 10^{8} 2
14
Incident Energy (eV)
90-Th-227

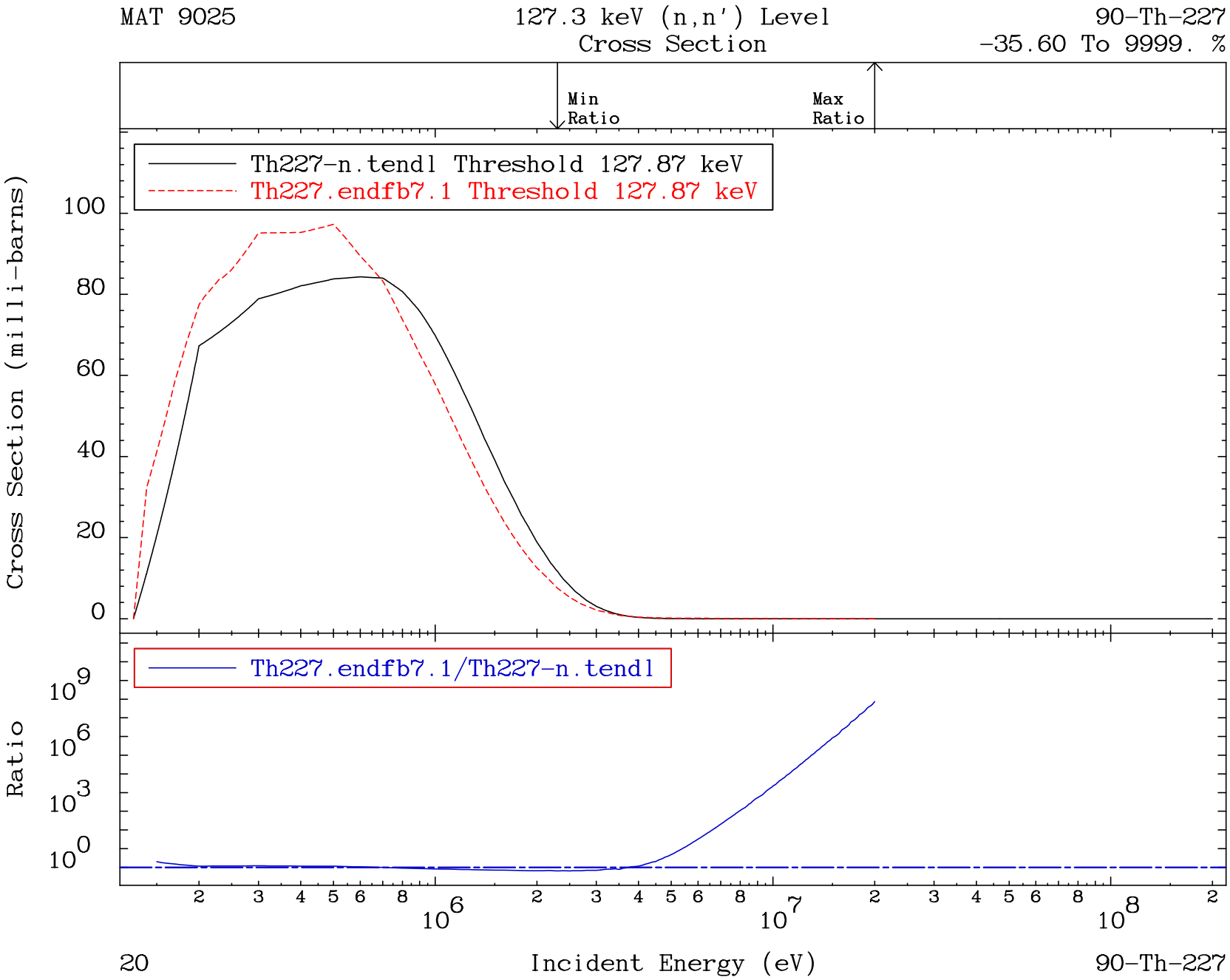

MAT 9025
73.67 keV (n,n') Level
Cross Section
90-Th-227
-98.94 To 388.5 %
Max Ratio
Min Ratio
Th227-n.tendl Threshold 73.997 keV
Th227.endfb7.1 Threshold 73.997 keV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^1
10^0
10^-1
10^-2
8
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
15
Incident Energy (eV)
90-Th-227

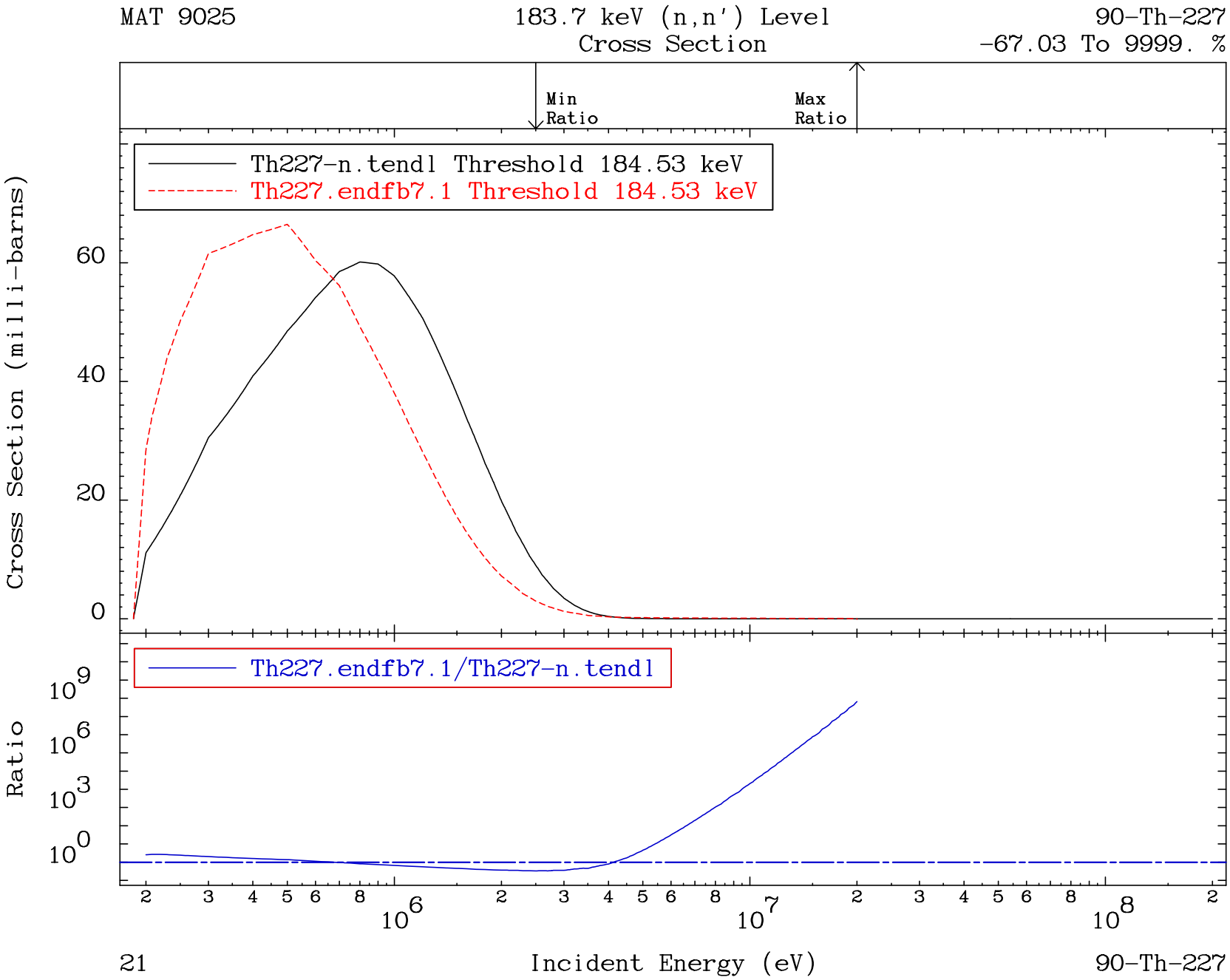

MAT 9025
76.23 keV (n,n') Level
Cross Section
90-Th-227
-99.92 To 1627. %
Max
Ratio
Min
Ratio
Th227-n.tendl Threshold 76.569 keV
Th227.endfb7.1 Threshold 76.569 keV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^2
10^0
10^-2
8
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
16
Incident Energy (eV)
90-Th-227

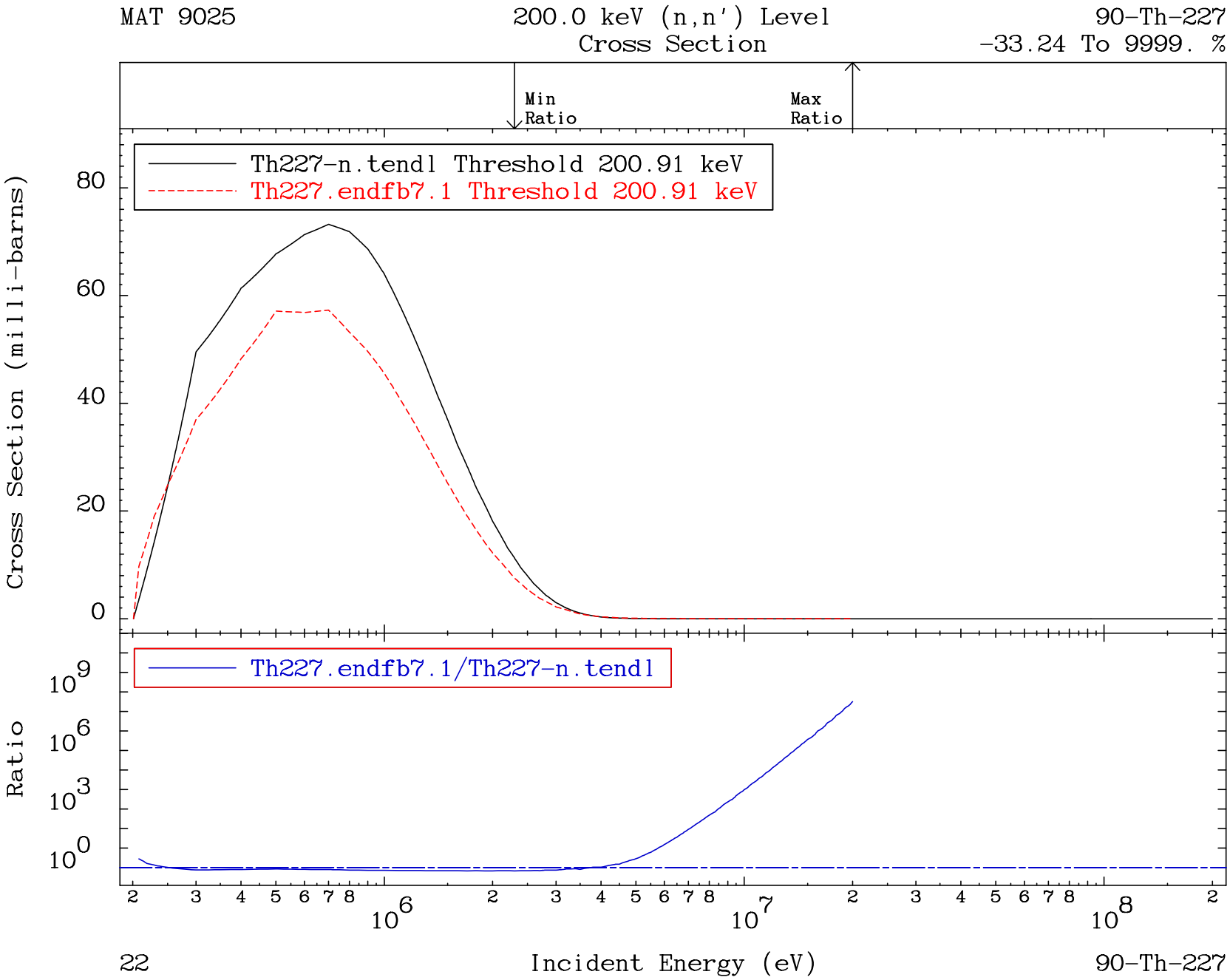

MAT 9025
77.62 keV (n,n') Level
Cross Section
90-Th-227
-100.0 To 852.0 %
Max
Ratio
Min
Ratio
Th227-n.tendl Threshold 77.965 keV
Th227.endfb7.1 Threshold 77.965 keV
Cross Section (milli-barns)
500
400
300
200
100
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^2
10^0
10^-2
10^-4
8
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
17
Incident Energy (eV)
90-Th-227

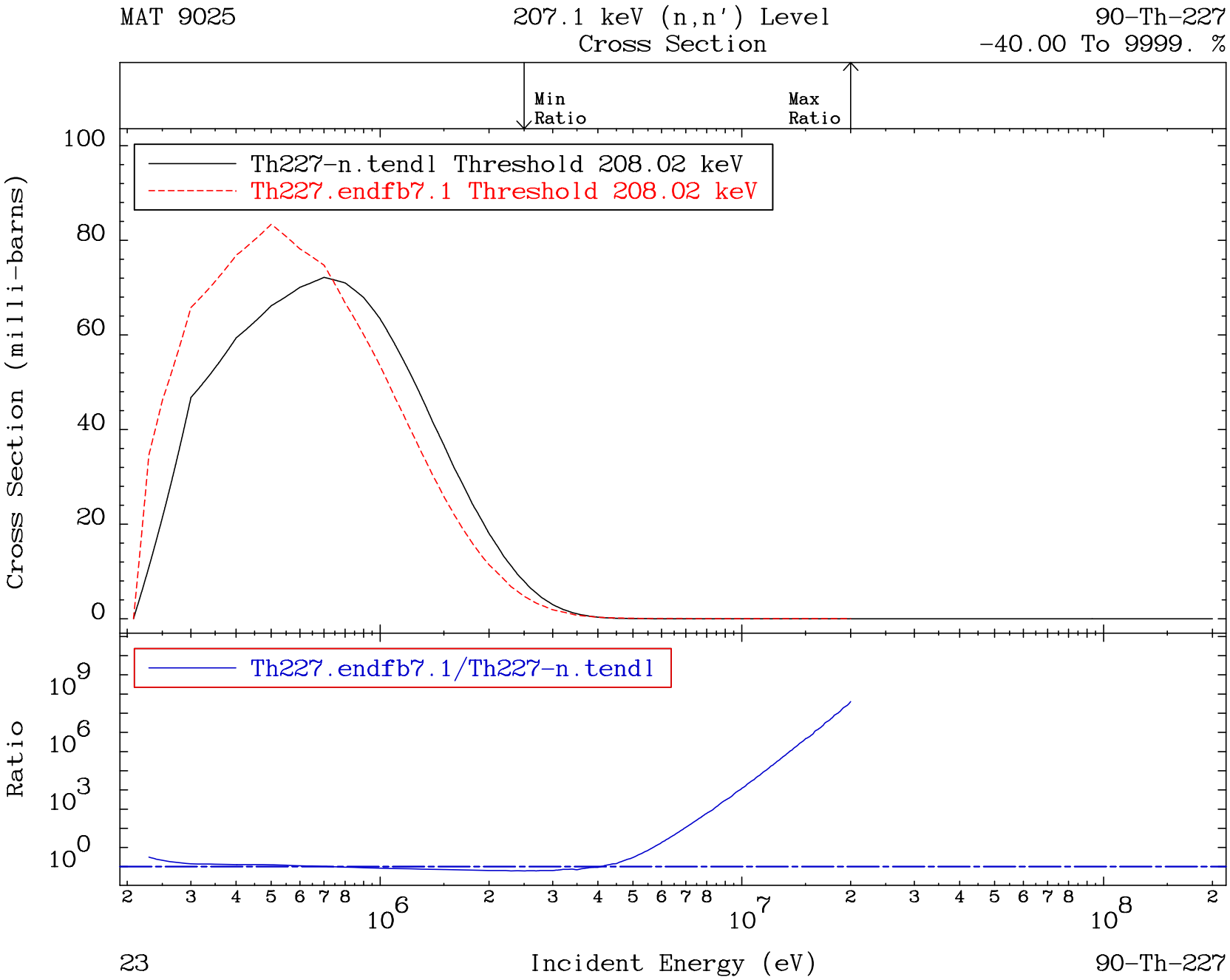

MAT 9025
86.78 keV (n,n') Level
Cross Section
90-Th-227
-98.72 To 50.43 %
Max Ratio
Min Ratio
Th227-n.tendl Threshold 87.166 keV
Th227.endfb7.1 Threshold 87.166 keV
Cross Section (milli-barns)
25
20
15
10
5
0
Th227.endfb7.1/Th227-n.tendl
Ratio
4
10^0
4
10^-1
4
10^-2
8
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
18
Incident Energy (eV)
90-Th-227

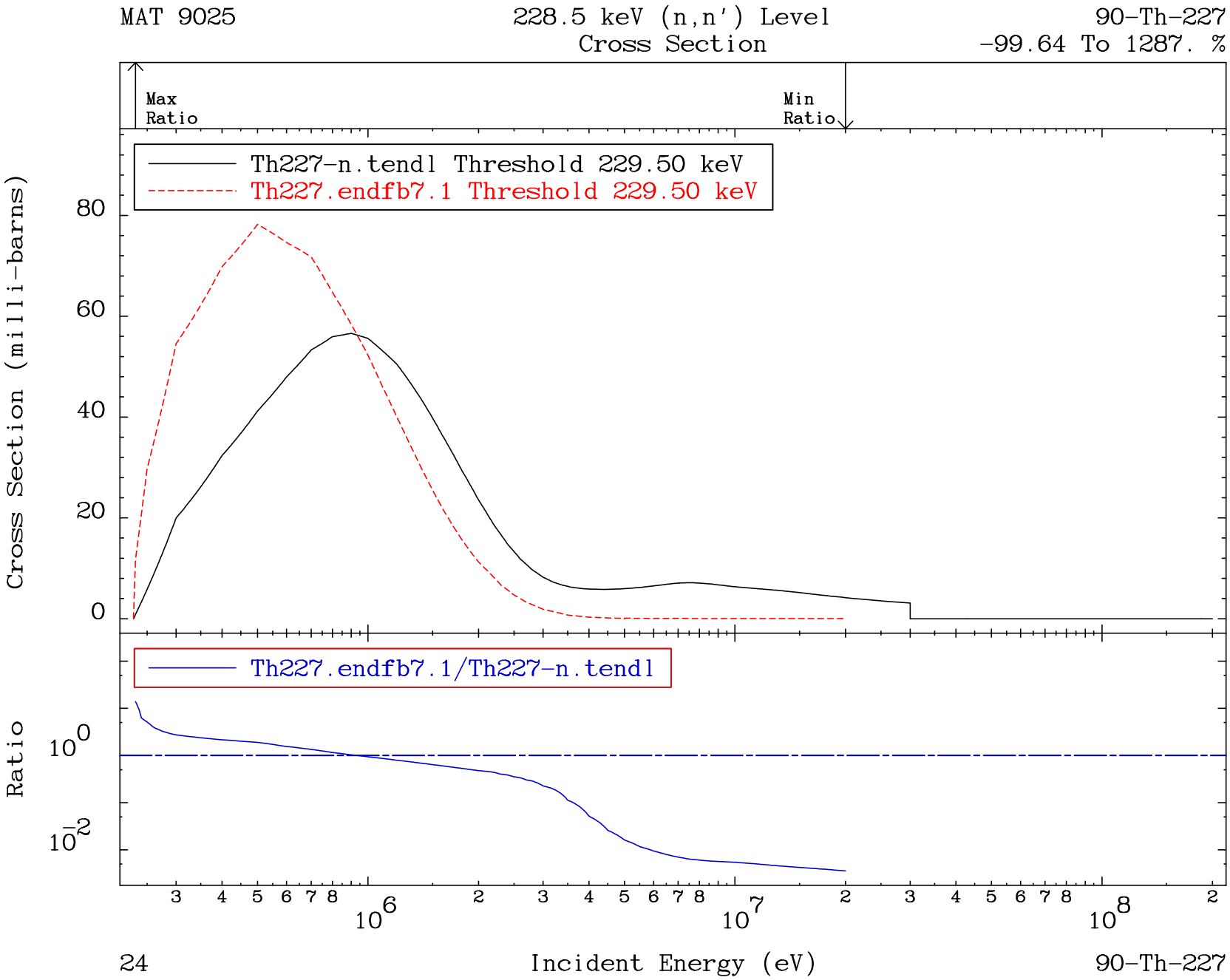

MAT 9025
99.19 keV (n,n') Level
Cross Section
90-Th-227
-61.67 To 9999. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 99.631 keV
Th227.endfb7.1 Threshold 99.631 keV
Cross Section (milli-barns)
120
100
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
19
Incident Energy (eV)
90-Th-227

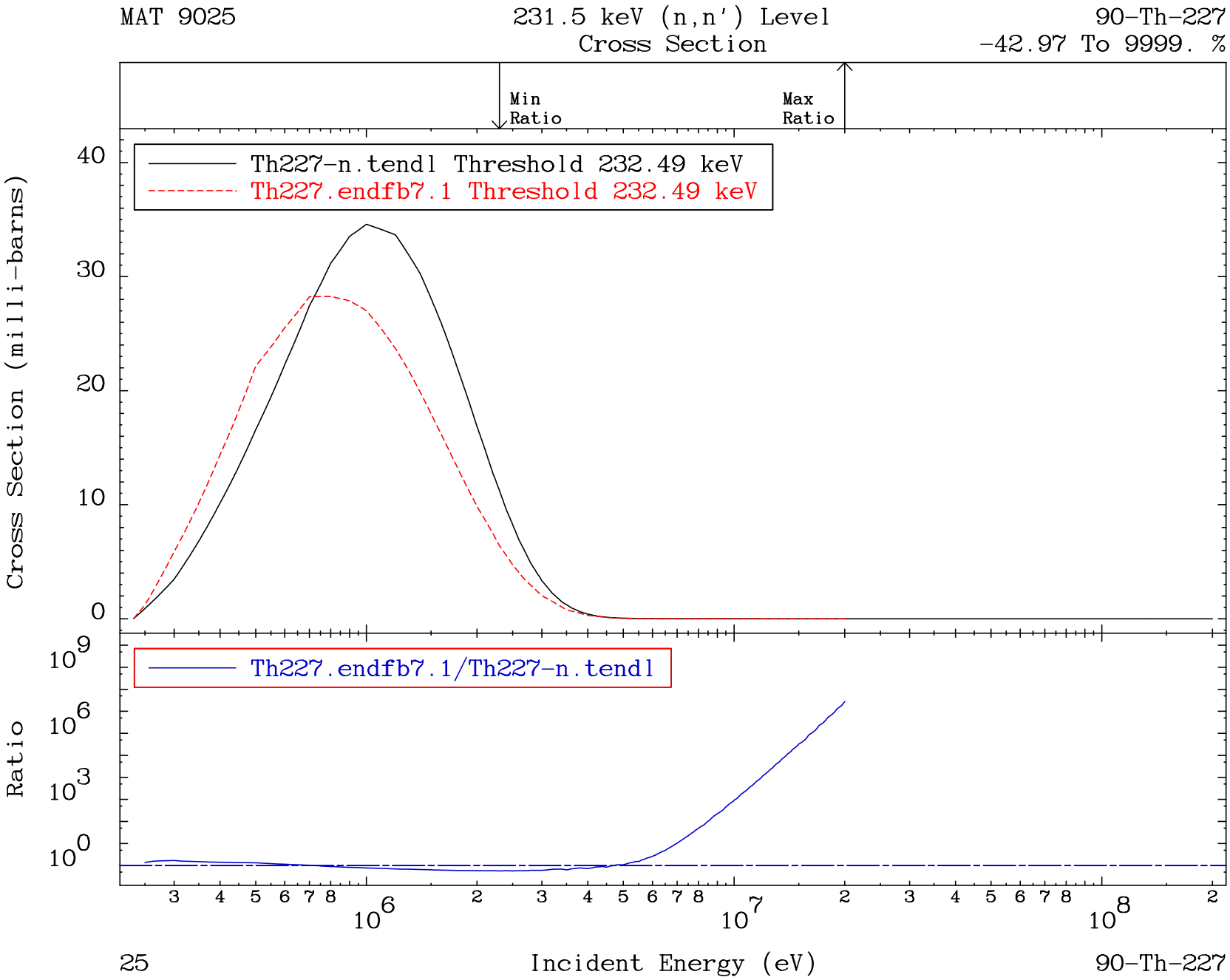

MAT 9025
127.3 keV (n,n') Level
Cross Section
90-Th-227
-35.60 To 9999. %
Min Ratio
Max Ratio
Th227-n.tendl Threshold 127.87 keV
Th227.endfb7.1 Threshold 127.87 keV
Cross Section (milli-barns)
100
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
20
Incident Energy (eV)
90-Th-227

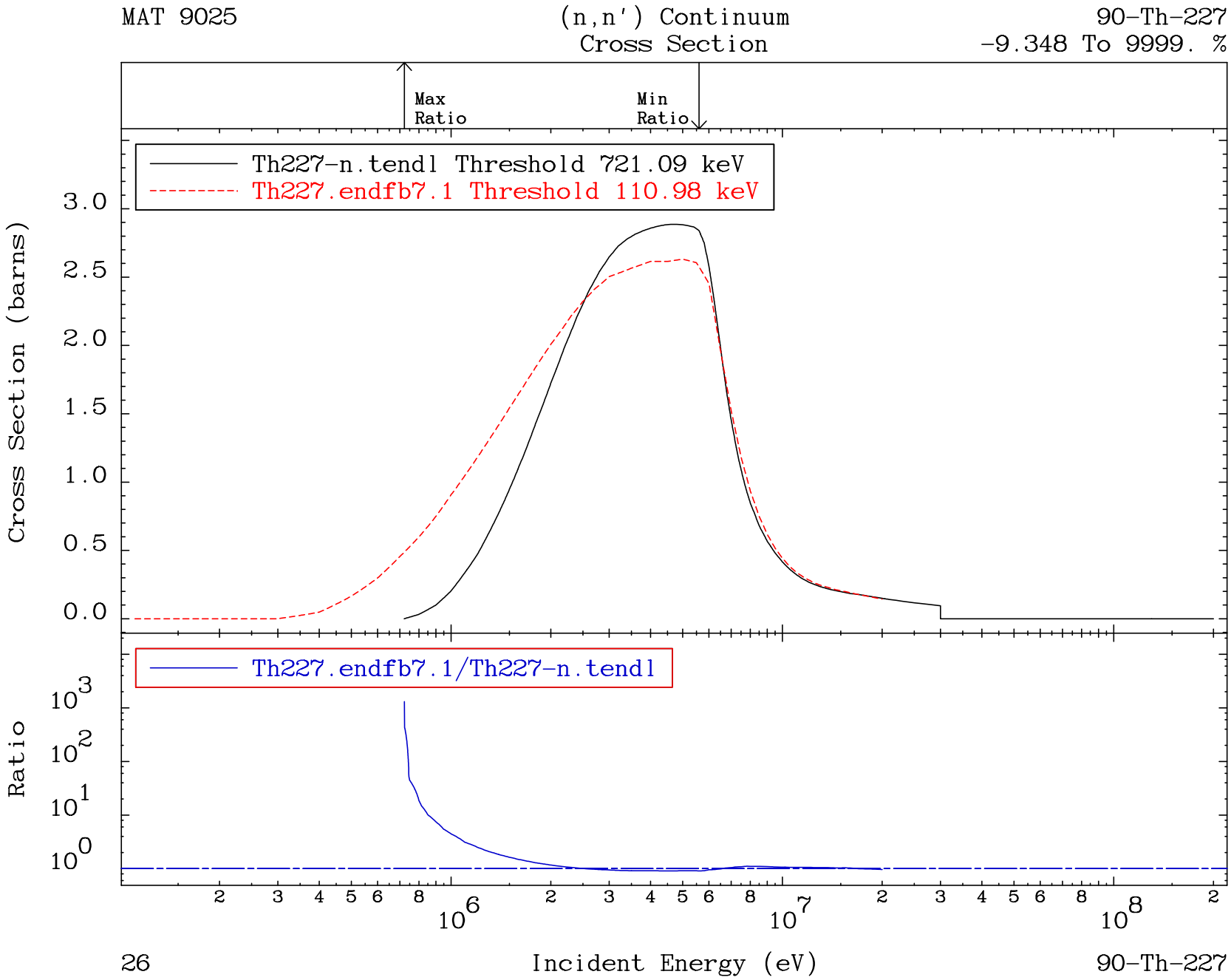

MAT 9025
183.7 keV (n,n') Level
Cross Section
90-Th-227
-67.03 To 9999. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 184.53 keV
Th227.endfb7.1 Threshold 184.53 keV
Cross Section (milli-barns)
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
21
Incident Energy (eV)
90-Th-227

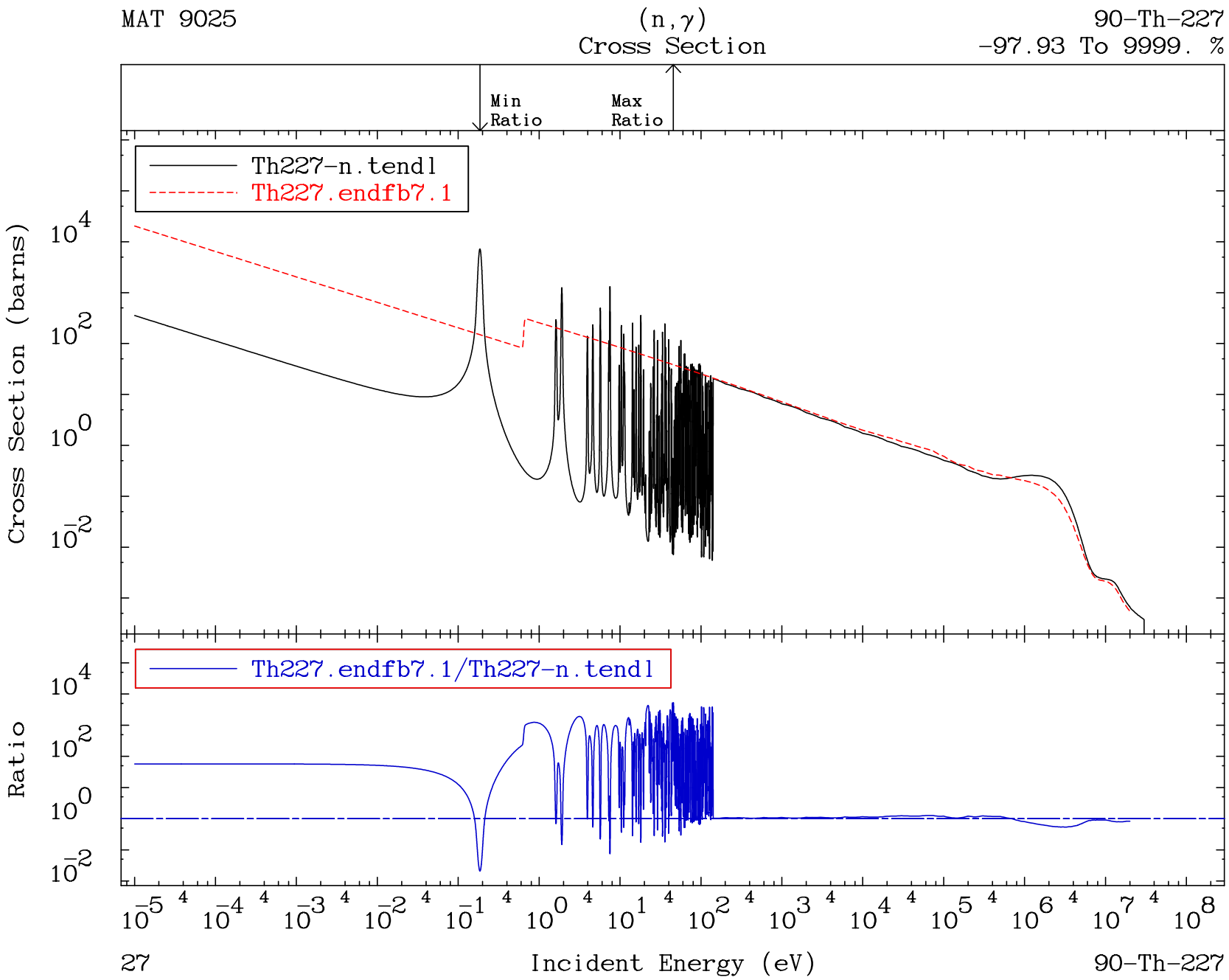

MAT 9025
200.0 keV (n,n') Level
Cross Section
90-Th-227
-33.24 To 9999. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 200.91 keV
Th227.endfb7.1 Threshold 200.91 keV
Cross Section (milli-barns)
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 4 5 6 7 8
10^6
10^7
10^8
22
Incident Energy (eV)
90-Th-227

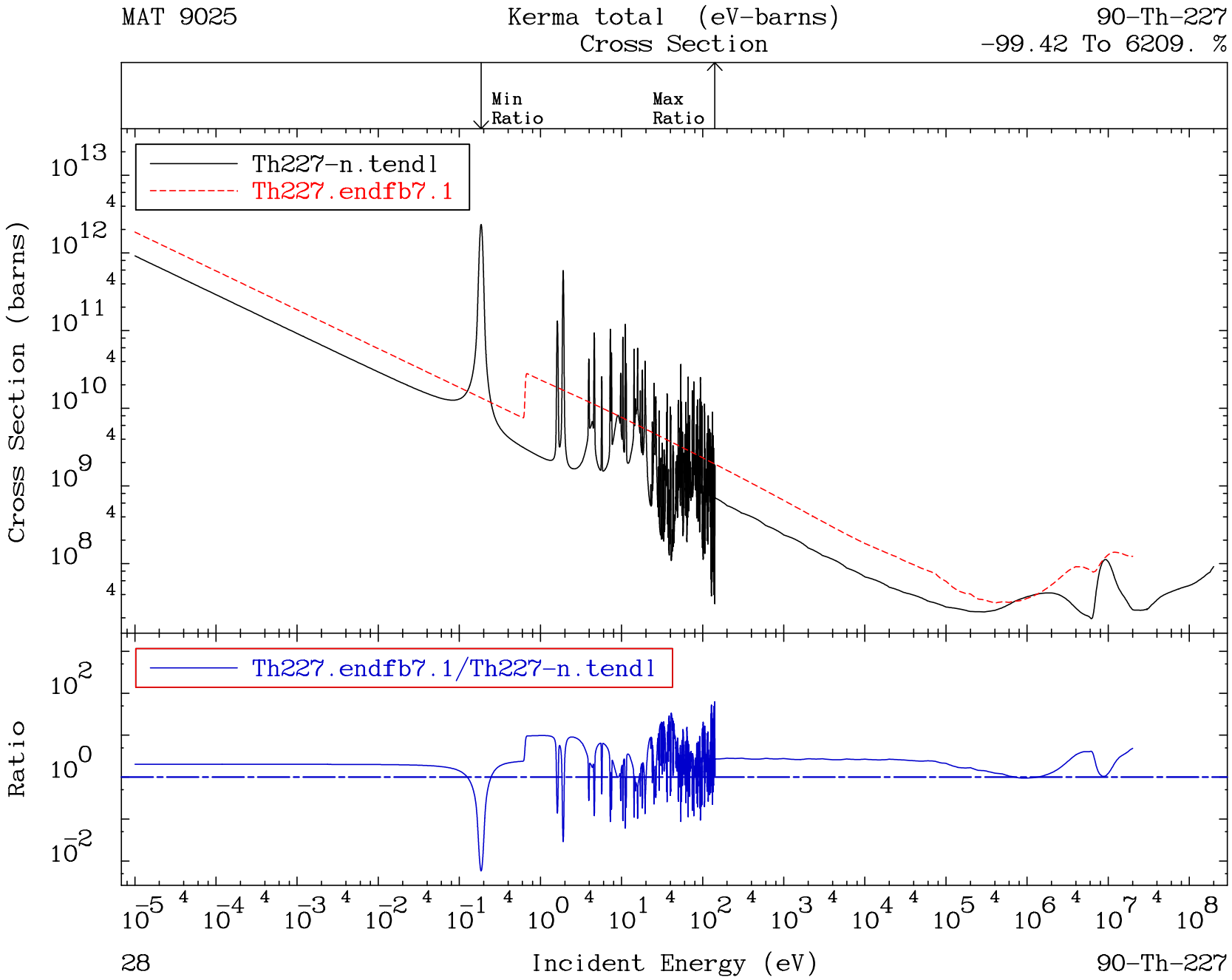

MAT 9025
207.1 keV (n,n') Level
Cross Section
90-Th-227
-40.00 To 9999. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 208.02 keV
Th227.endfb7.1 Threshold 208.02 keV
Cross Section (milli-barns)
100
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 4 5 6 7 8
10^6
10^7
10^8
23
Incident Energy (eV)
90-Th-227

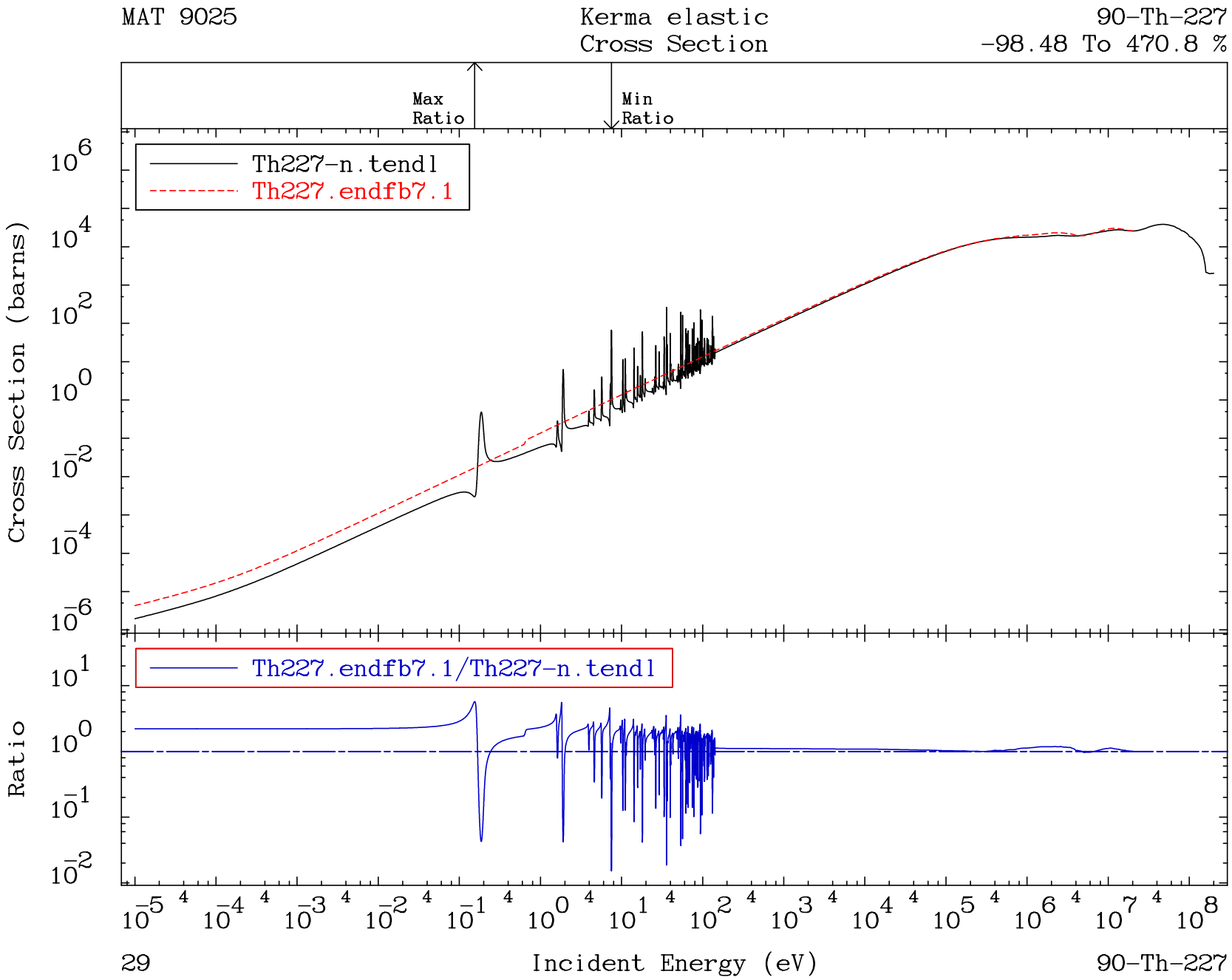

MAT 9025
228.5 keV (n,n') Level
Cross Section
90-Th-227
-99.64 To 1287. %
Max
Ratio
Min
Ratio
Th227-n.tendl Threshold 229.50 keV
Th227.endfb7.1 Threshold 229.50 keV
Cross Section (milli-barns)
80
60
40
20
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^0
10^-2
3 4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
24
Incident Energy (eV)
90-Th-227

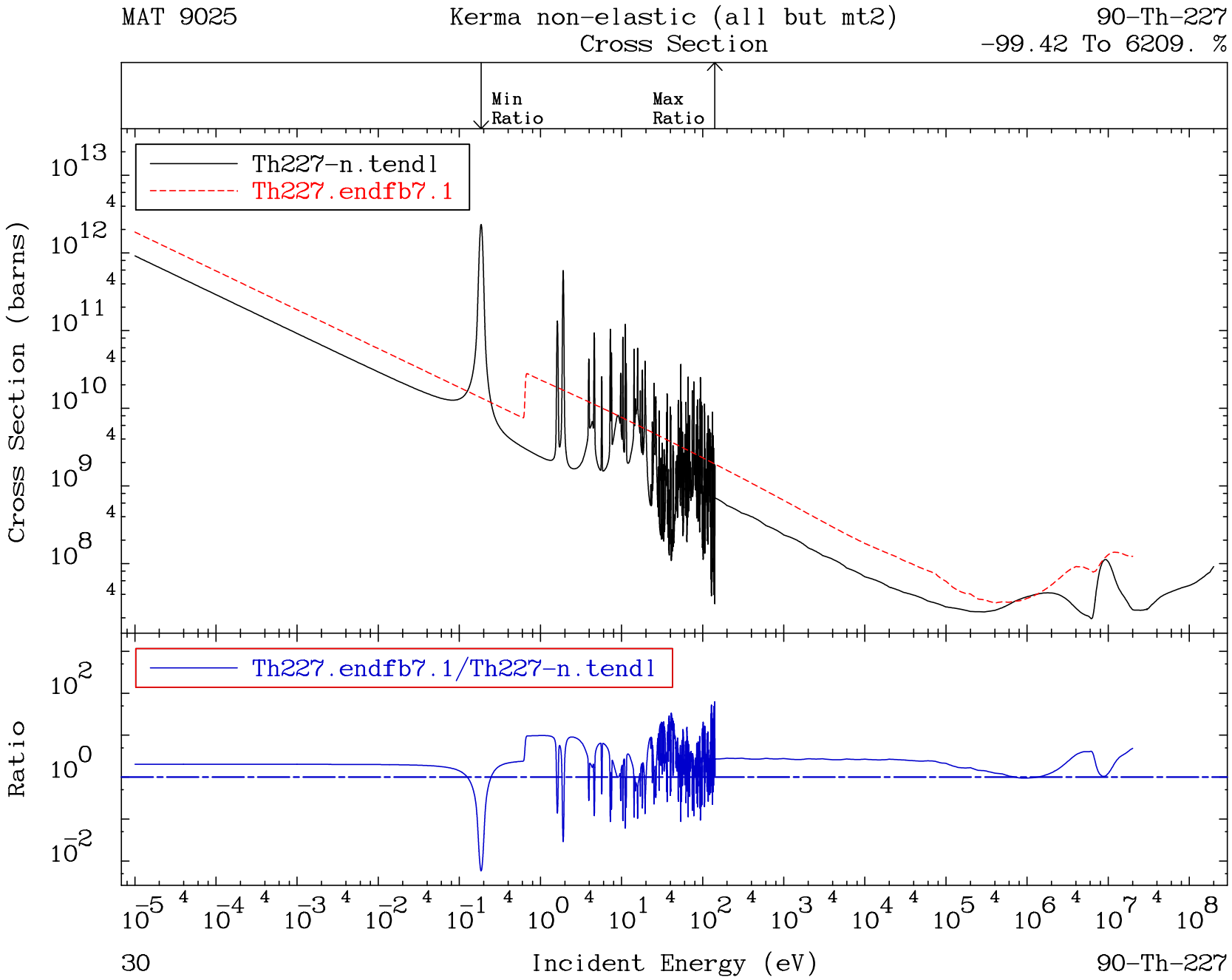

MAT 9025
231.5 keV (n,n') Level
Cross Section
90-Th-227
-42.97 To 9999. %
Min
Ratio
Max
Ratio
Th227-n.tendl Threshold 232.49 keV
Th227.endfb7.1 Threshold 232.49 keV
Cross Section (milli-barns)
40
30
20
10
0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^9
10^6
10^3
10^0
3 4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
25
Incident Energy (eV)
90-Th-227

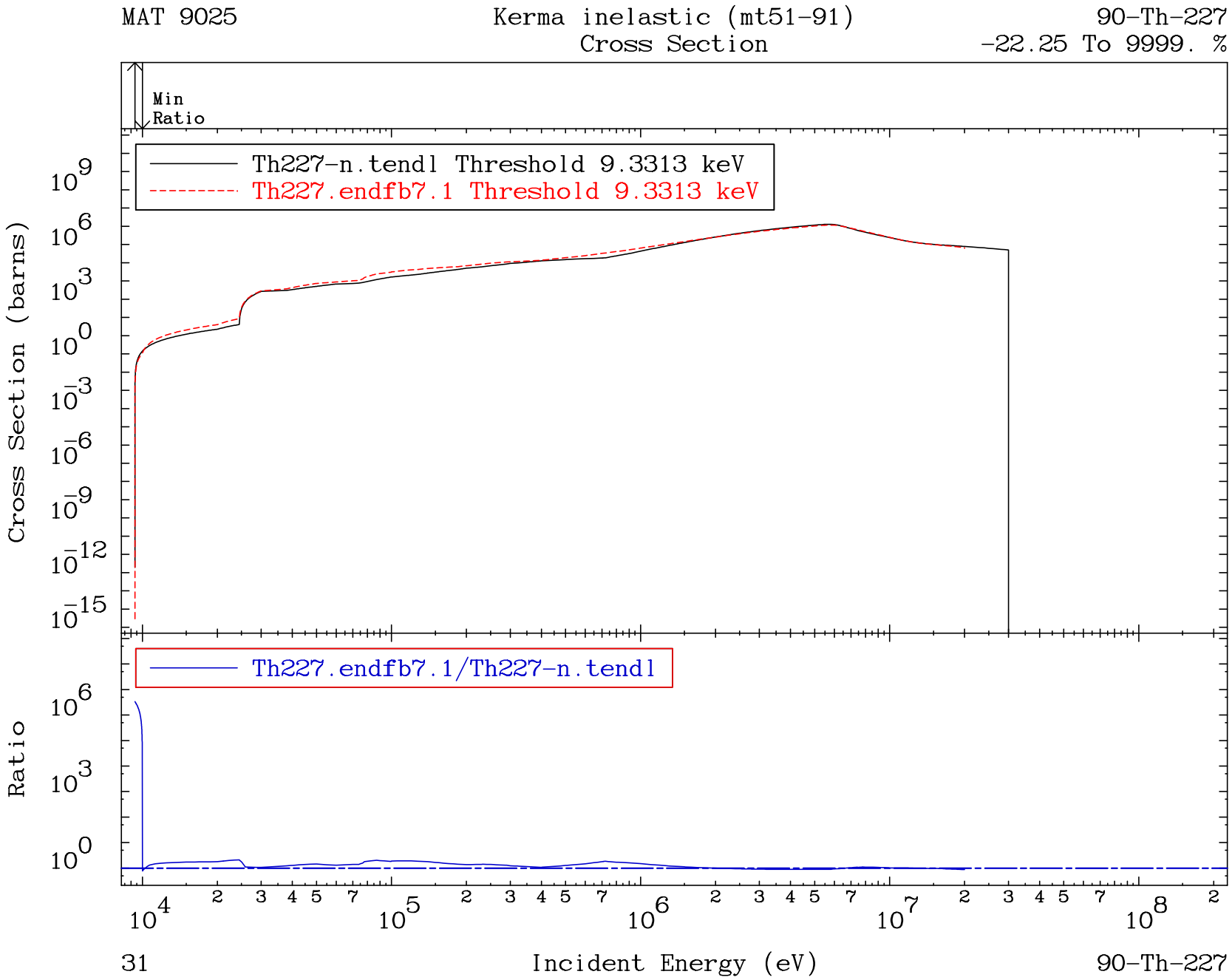

MAT 9025
(n,n') Continuum
Cross Section
90-Th-227
-9.348 To 9999. %
Max
Ratio
Min
Ratio
Th227-n.tendl Threshold 721.09 keV
Th227.endfb7.1 Threshold 110.98 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Th227.endfb7.1/Th227-n.tendl
Ratio
10^3
10^2
10^1
10^0
2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
26
Incident Energy (eV)
90-Th-227

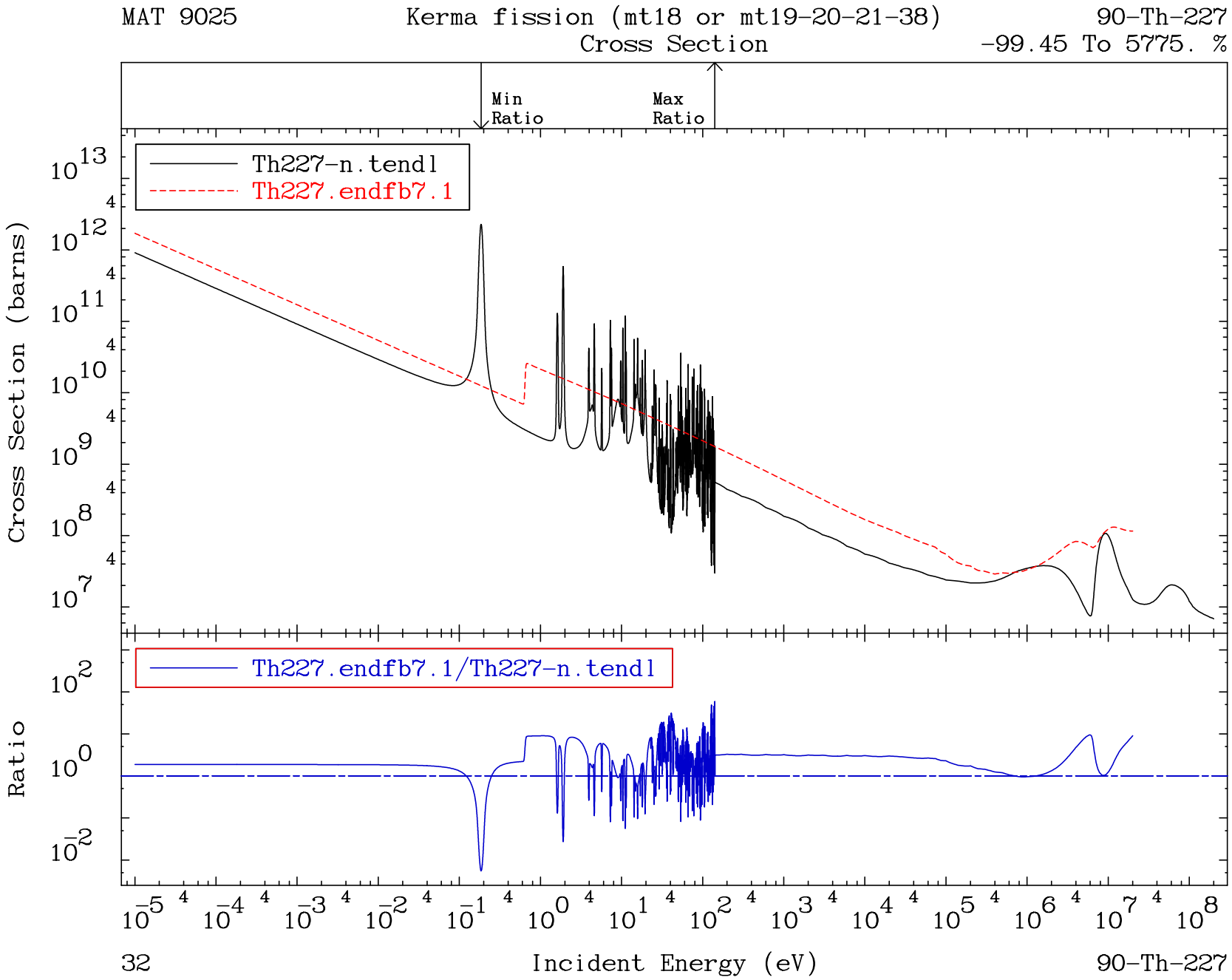

MAT 9025
(n,γ)
Cross Section
90-Th-227
-97.93 To 9999. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
27
90-Th-227

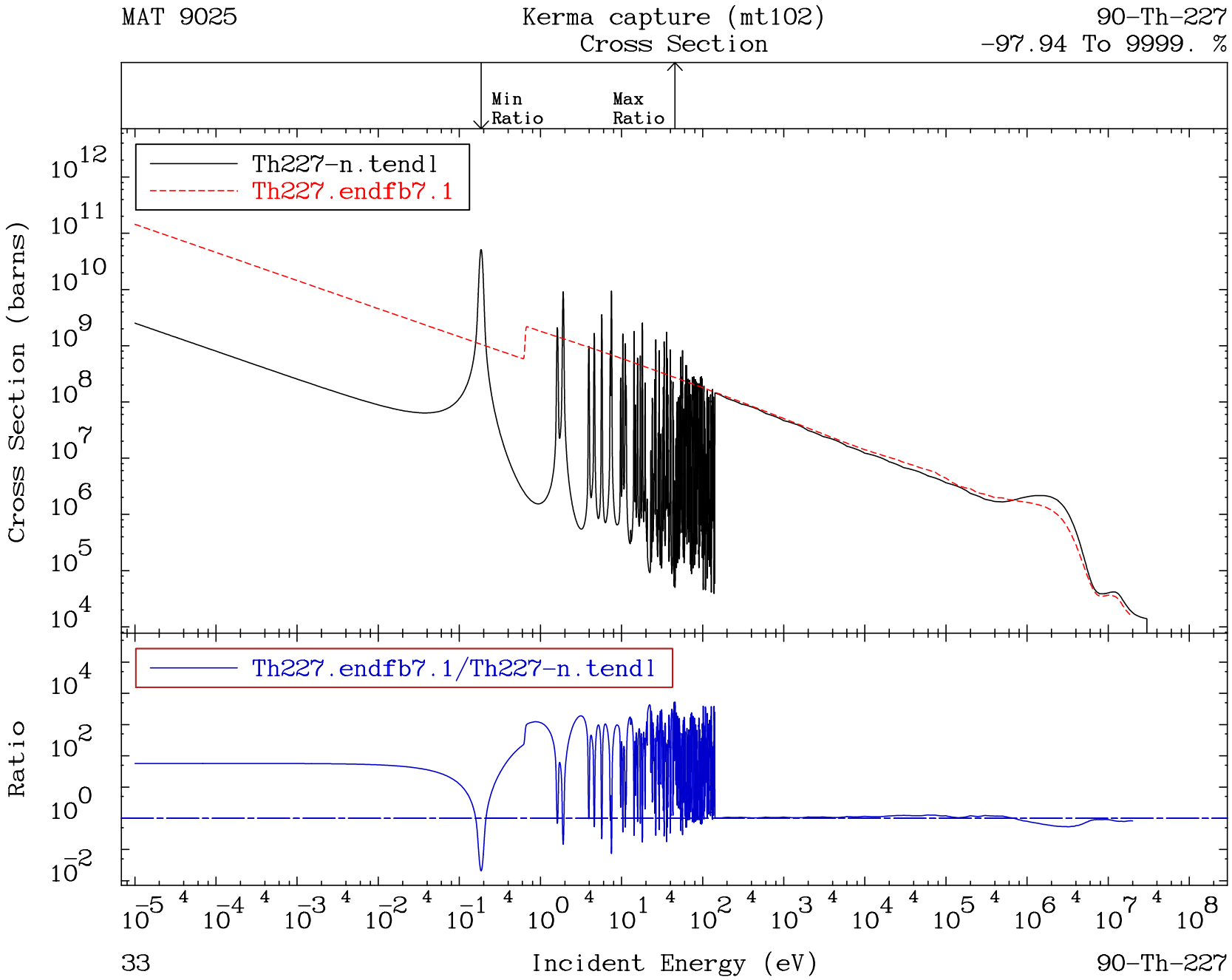

MAT 9025
Kerma total (eV-barns)
Cross Section
90-Th-227
-99.42 To 6209. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
28
90-Th-227

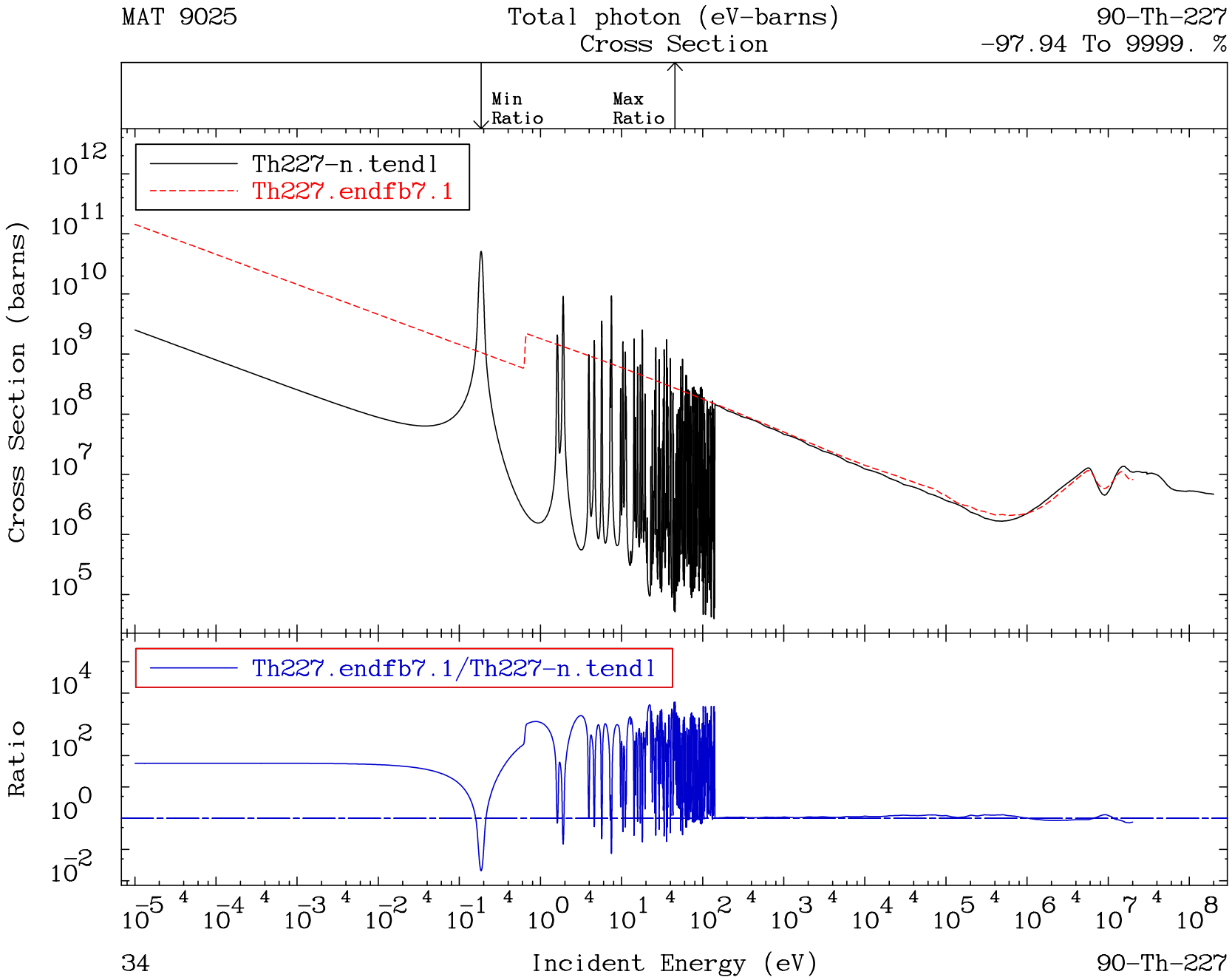

MAT 9025
Kerma elastic
Cross Section
90-Th-227
-98.48 To 470.8 %
Max
Ratio
Min
Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
29
90-Th-227

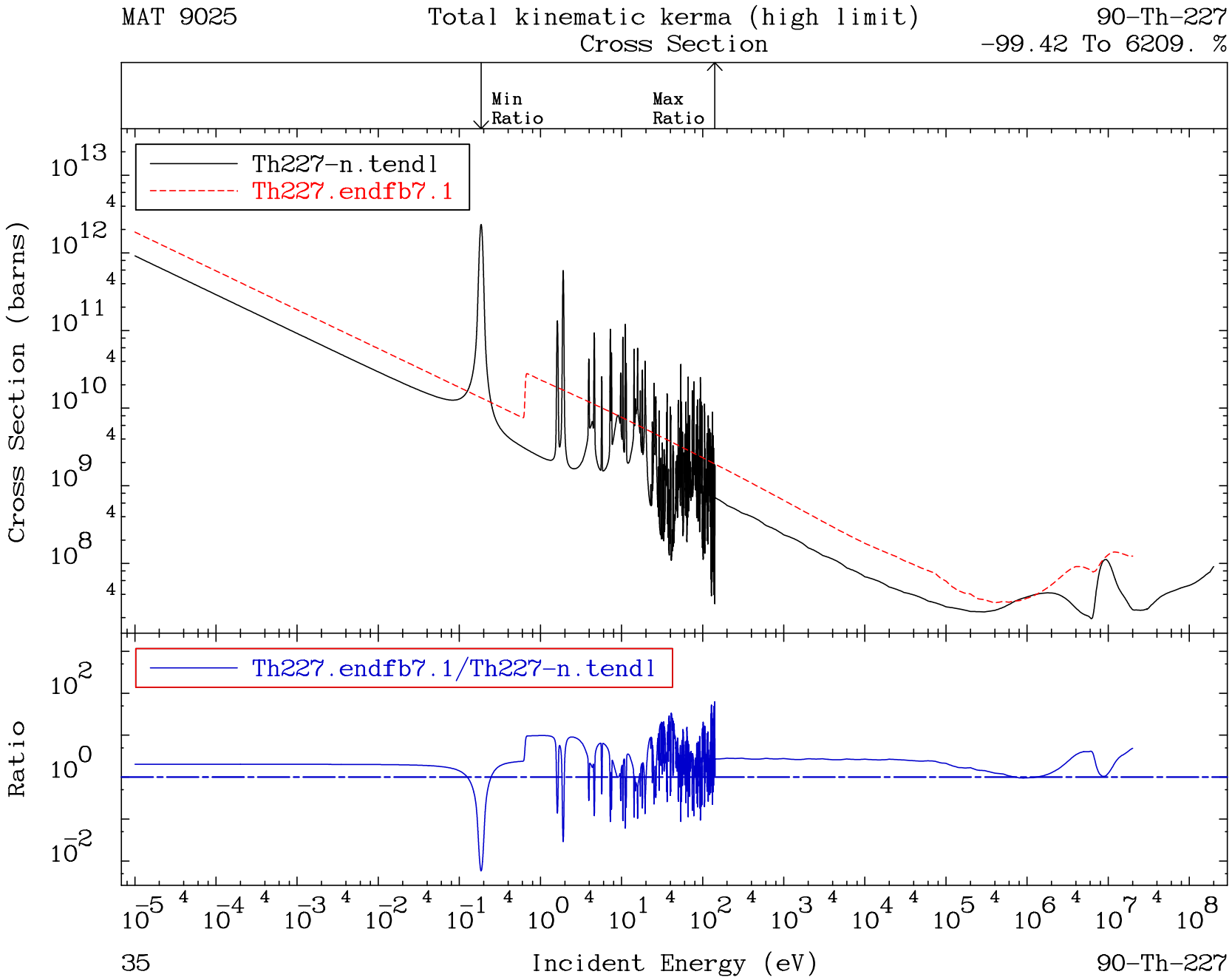

MAT 9025
Kerma non-elastic (all but mt2)
Cross Section
90-Th-227
-99.42 To 6209. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
30
90-Th-227

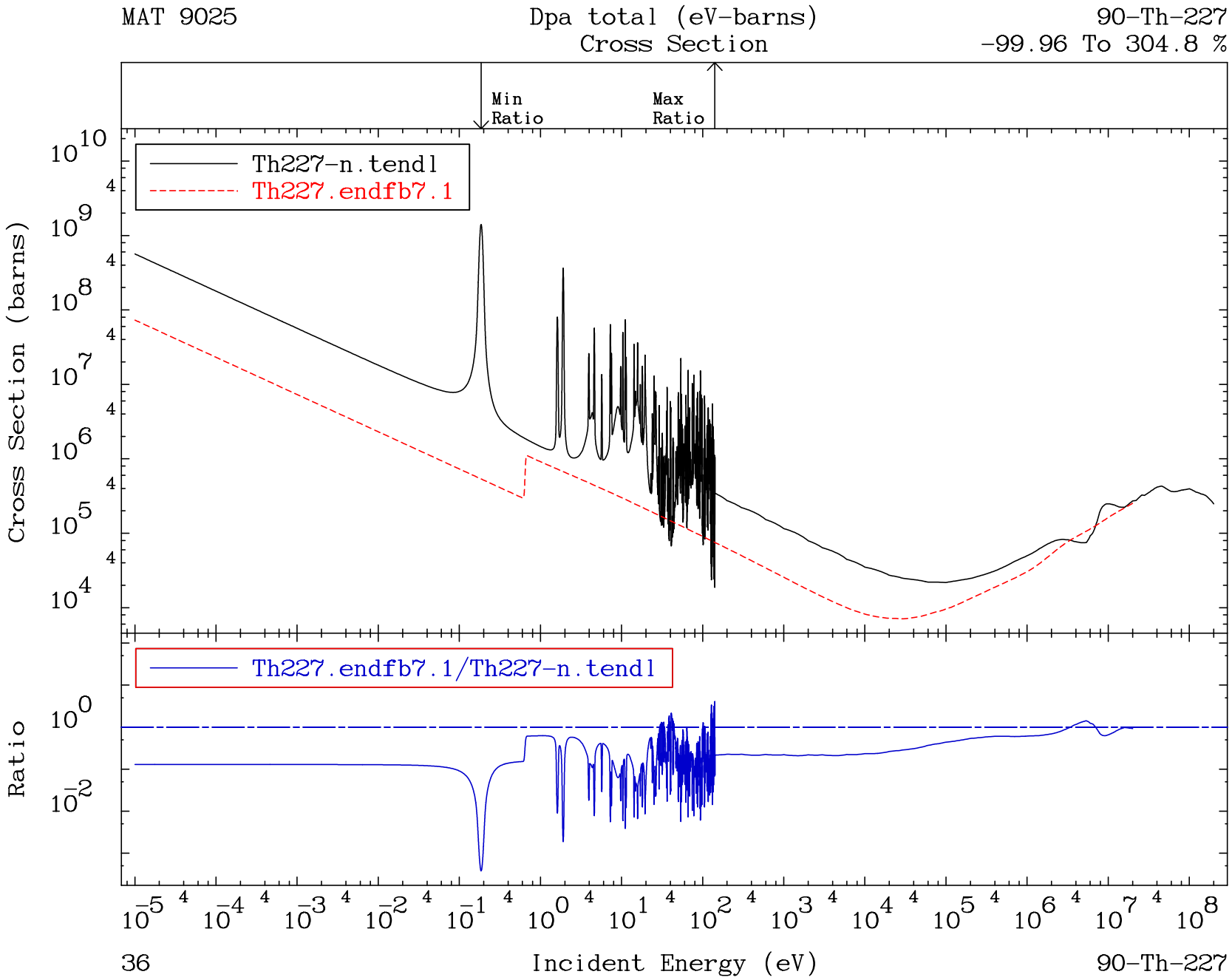

MAT 9025
Kerma inelastic (mt51-91)
Cross Section
90-Th-227
-22.25 To 9999. %
Min
Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
31
90-Th-227

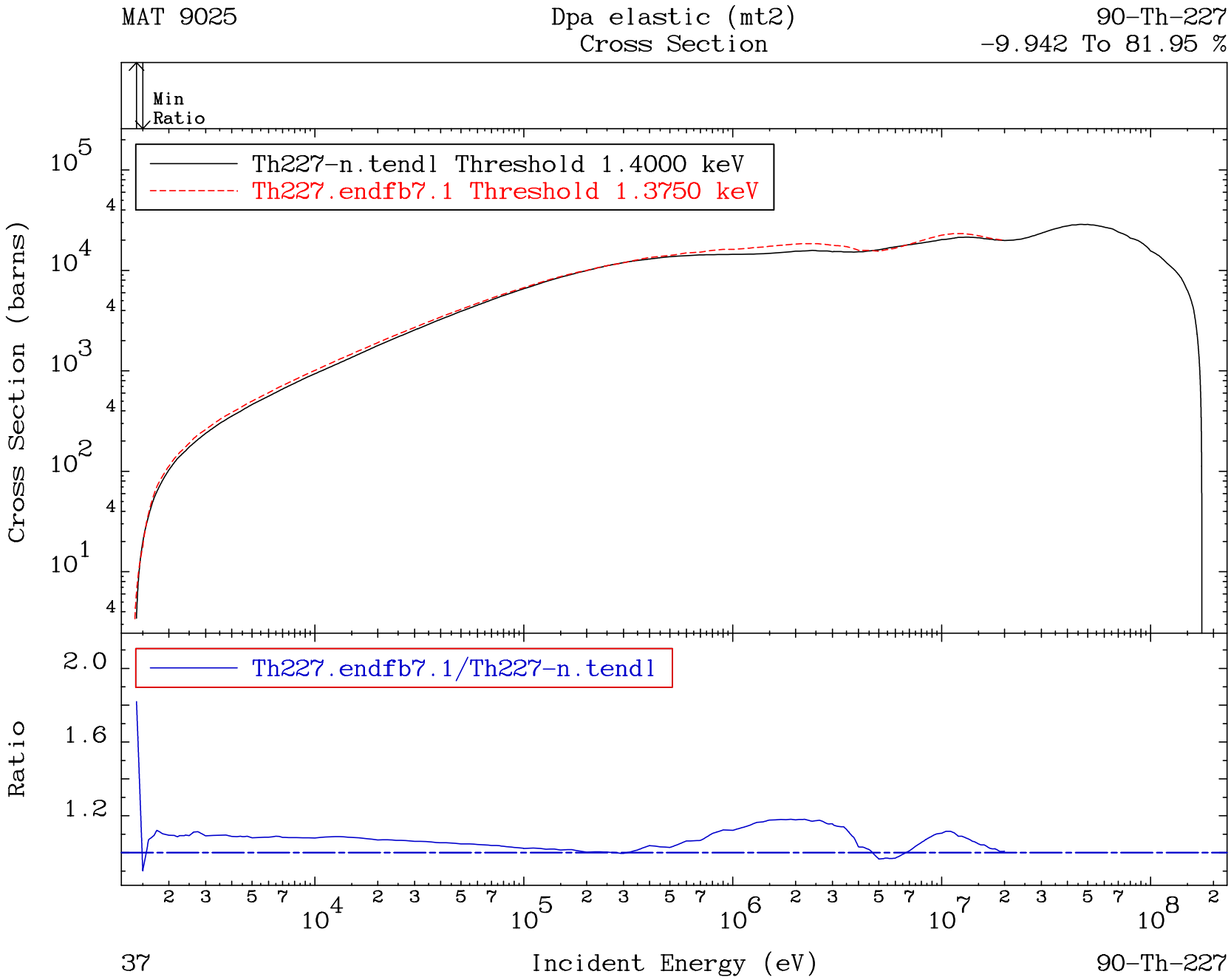

MAT 9025
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
90-Th-227
-99.45 To 5775. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
32
90-Th-227

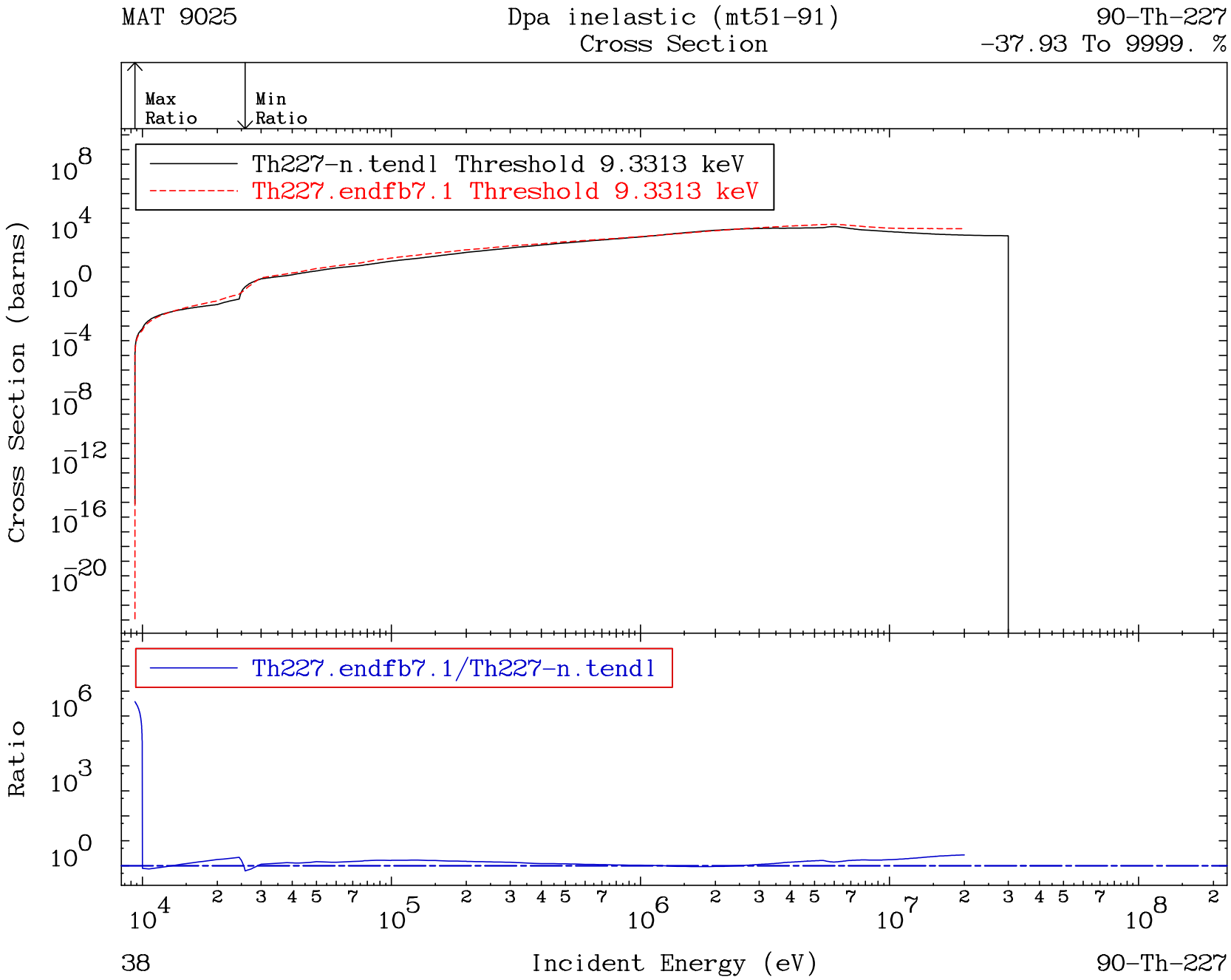

MAT 9025
Kerma capture (mt102)
Cross Section
90-Th-227
-97.94 To 9999. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
33
90-Th-227

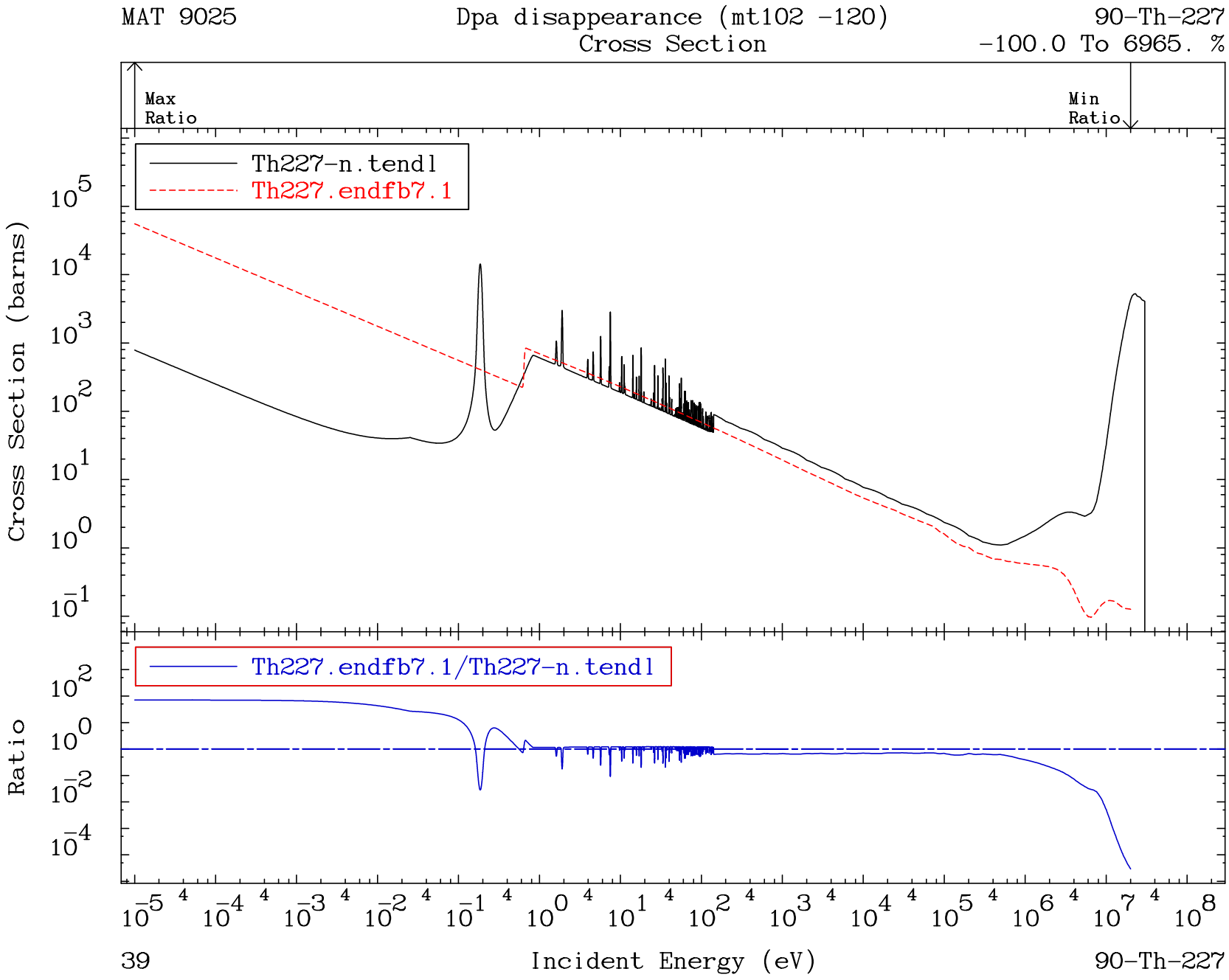

MAT 9025
Total photon (eV-barns)
Cross Section
90-Th-227
-97.94 To 9999. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
34
Incident Energy (eV)
90-Th-227


MAT 9025
Total kinematic kerma (high limit)
Cross Section
90-Th-227
-99.42 To 6209. %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
35
90-Th-227


MAT 9025
Dpa total (eV-barns)
Cross Section
90-Th-227
-99.96 To 304.8 %
Min Ratio
Max Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
36
Incident Energy (eV)
90-Th-227


MAT 9025
Dpa elastic (mt2)
Cross Section
90-Th-227
-9.942 To 81.95 %
Min
Ratio
Th227-n.tendl Threshold 1.4000 keV
Th227.endfb7.1 Threshold 1.3750 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
37
90-Th-227


MAT 9025
Dpa inelastic (mt51-91)
Cross Section
90-Th-227
-37.93 To 9999. %
Max Ratio
Min Ratio
Th227-n.tendl Threshold 9.3313 keV
Th227.endfb7.1 Threshold 9.3313 keV
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
Incident Energy (eV)
38
90-Th-227


MAT 9025
Dpa disappearance (mt102 -120)
Cross Section
90-Th-227
-100.0 To 6965. %
Max Ratio
Min Ratio
Th227-n.tendl
Th227.endfb7.1
Cross Section (barns)
Th227.endfb7.1/Th227-n.tendl
Ratio
39
Incident Energy (eV)
90-Th-227