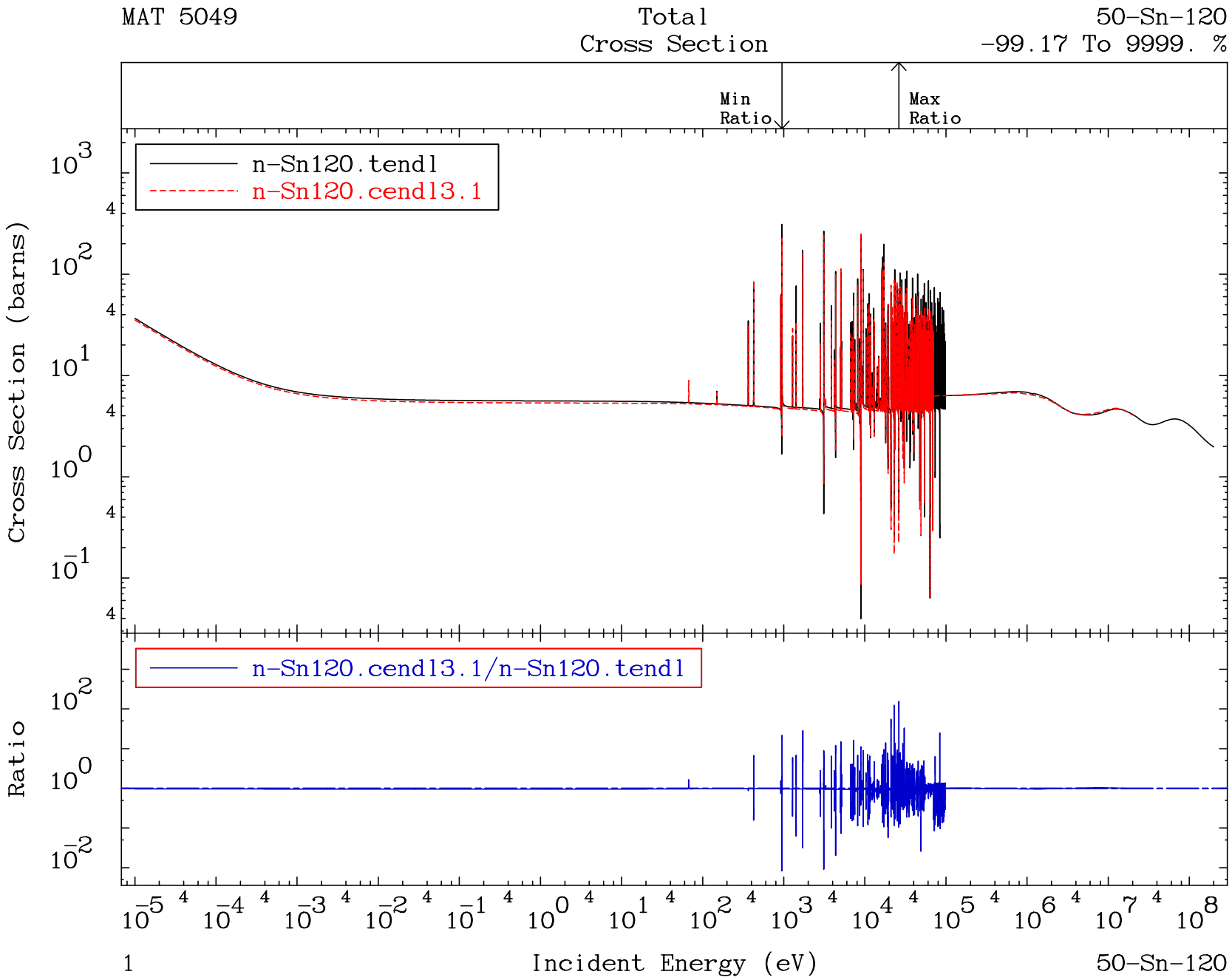
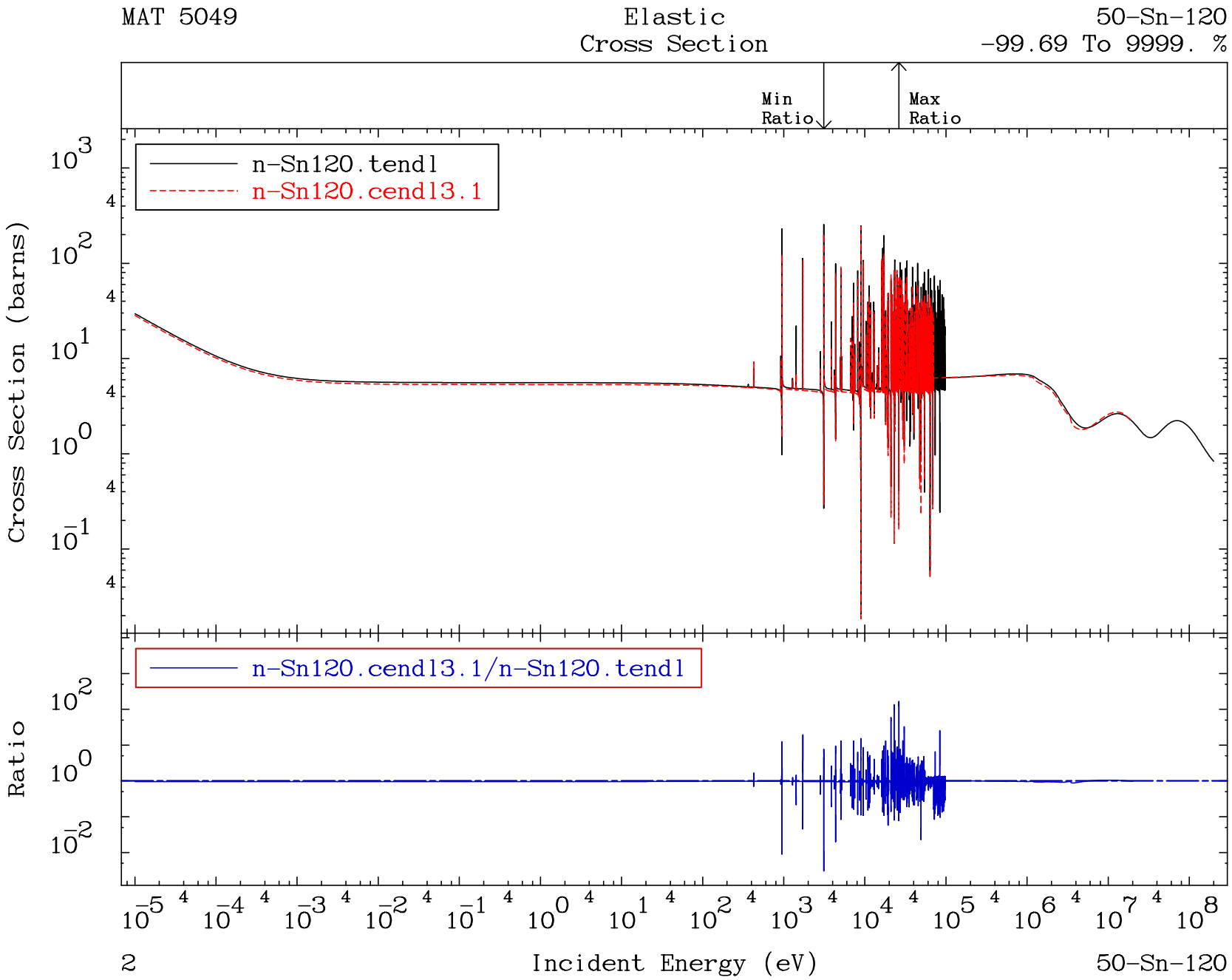
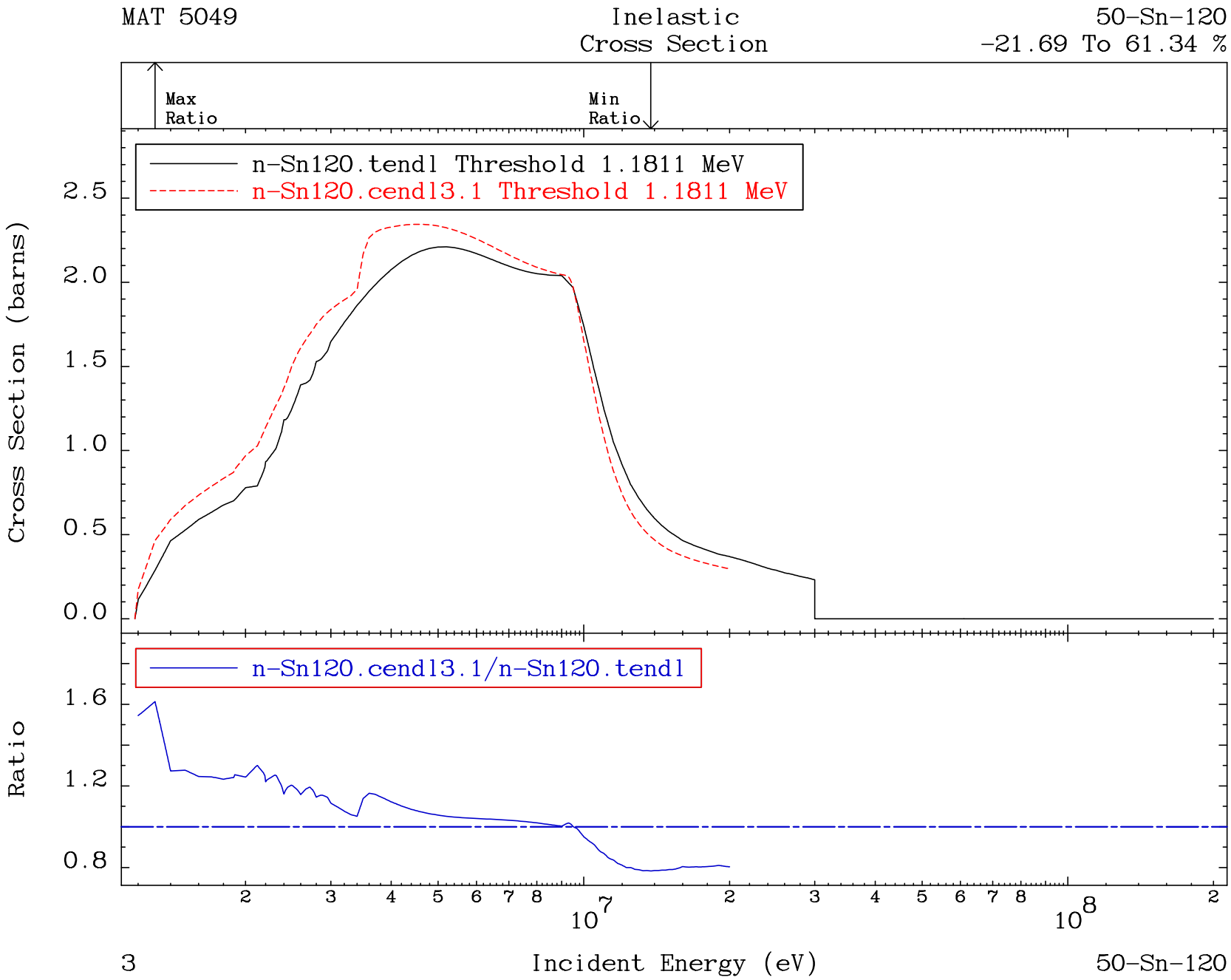
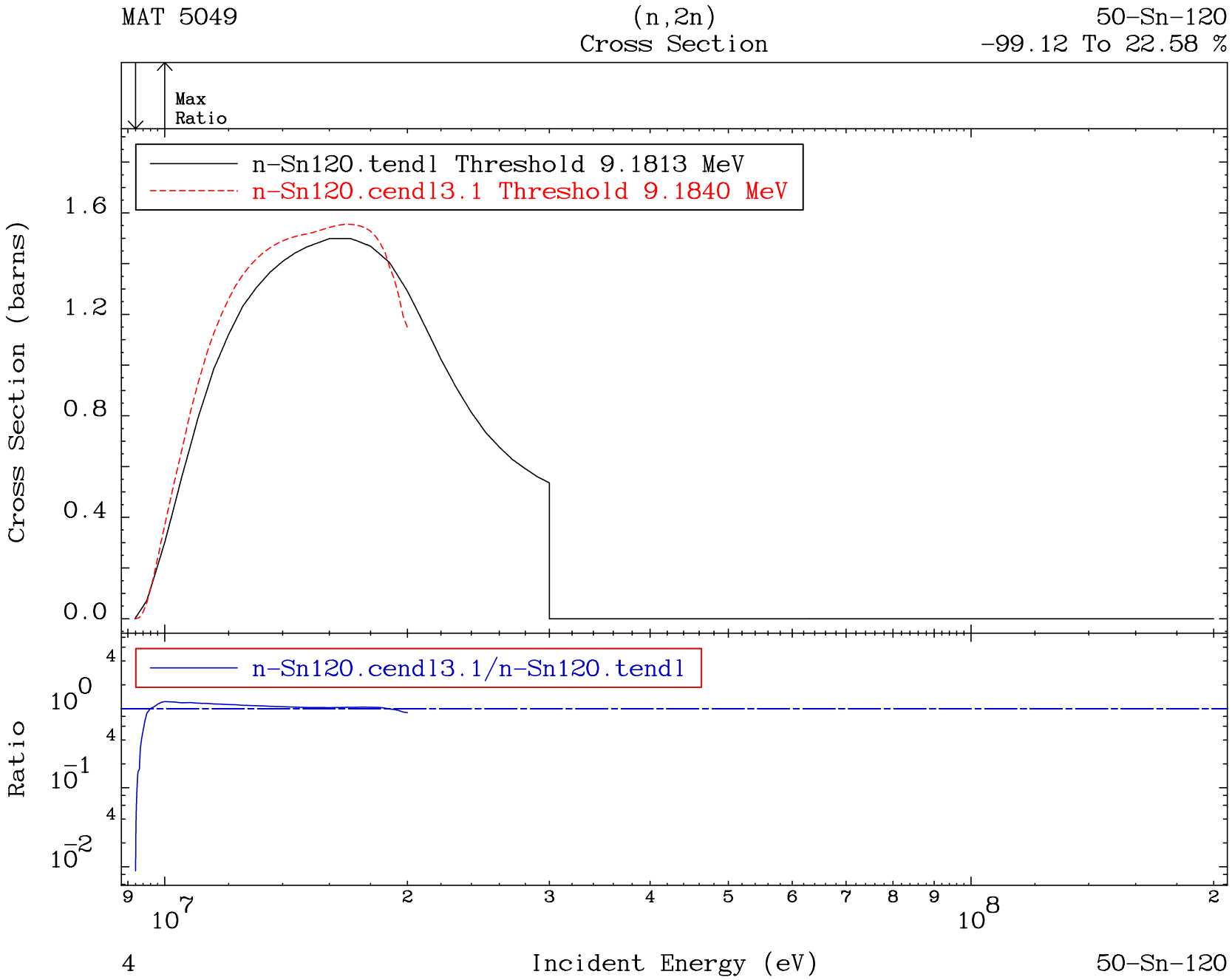
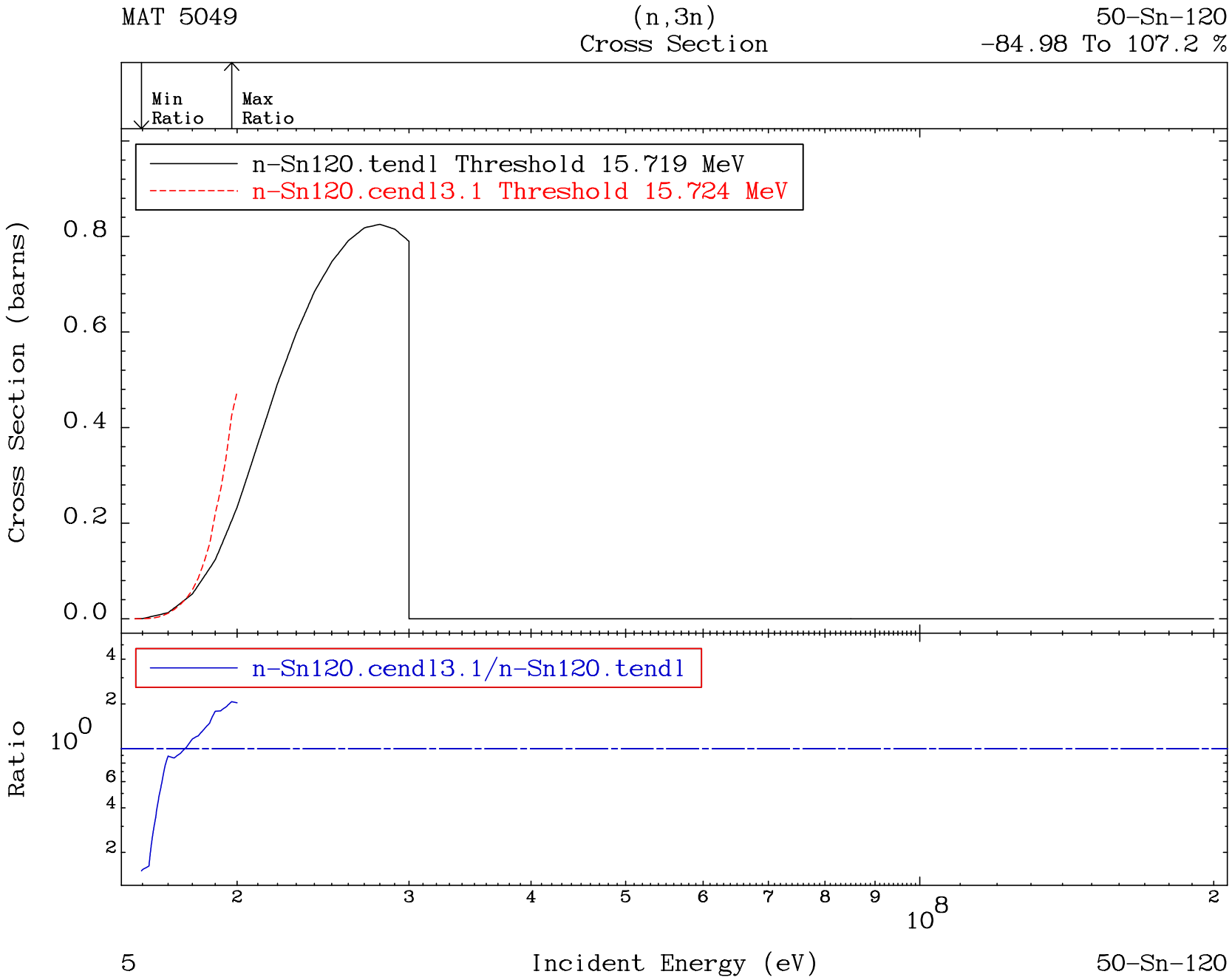
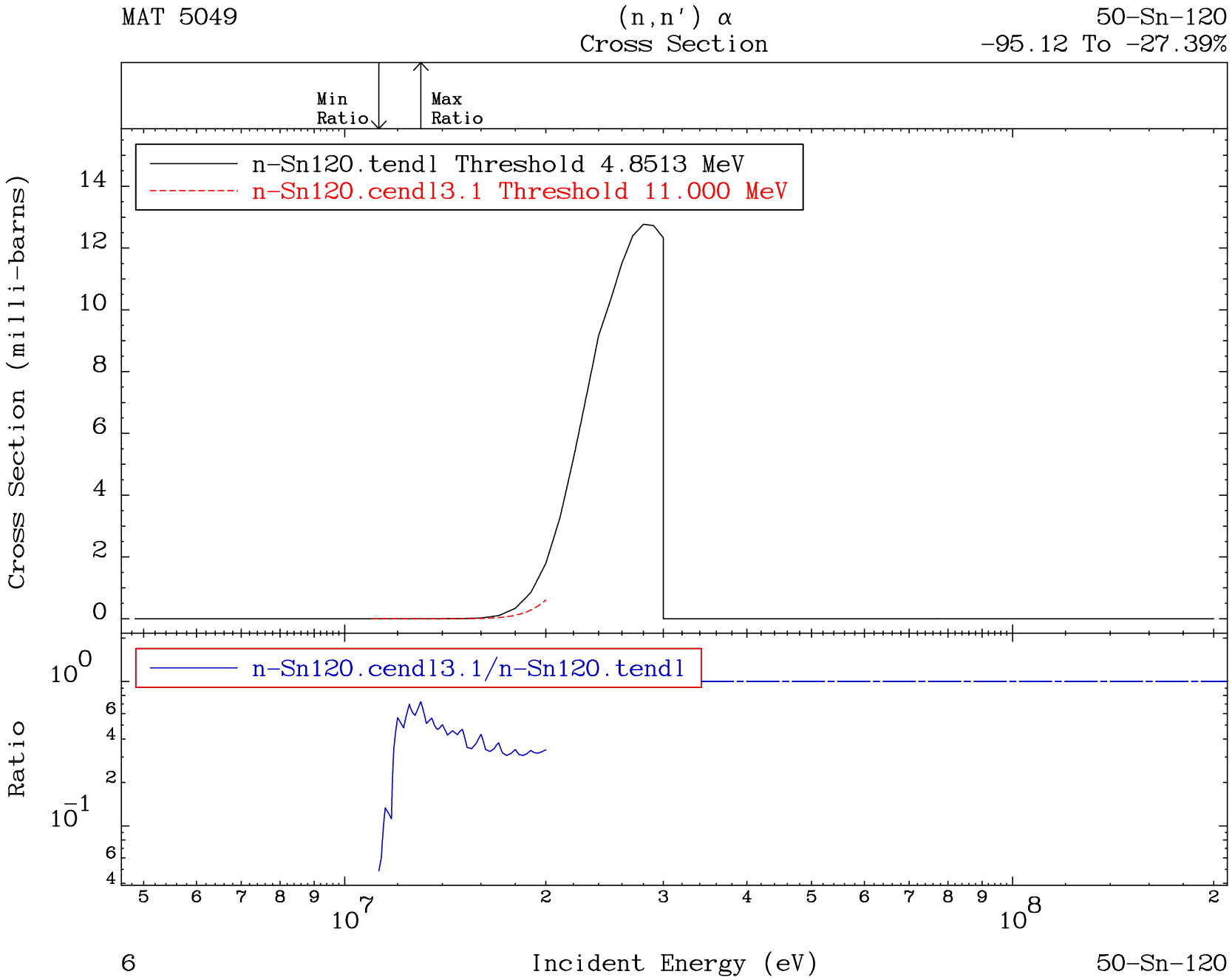

MAT 5049
Total
Cross Section
50-Sn-120
-99.17 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
1
50-Sn-120

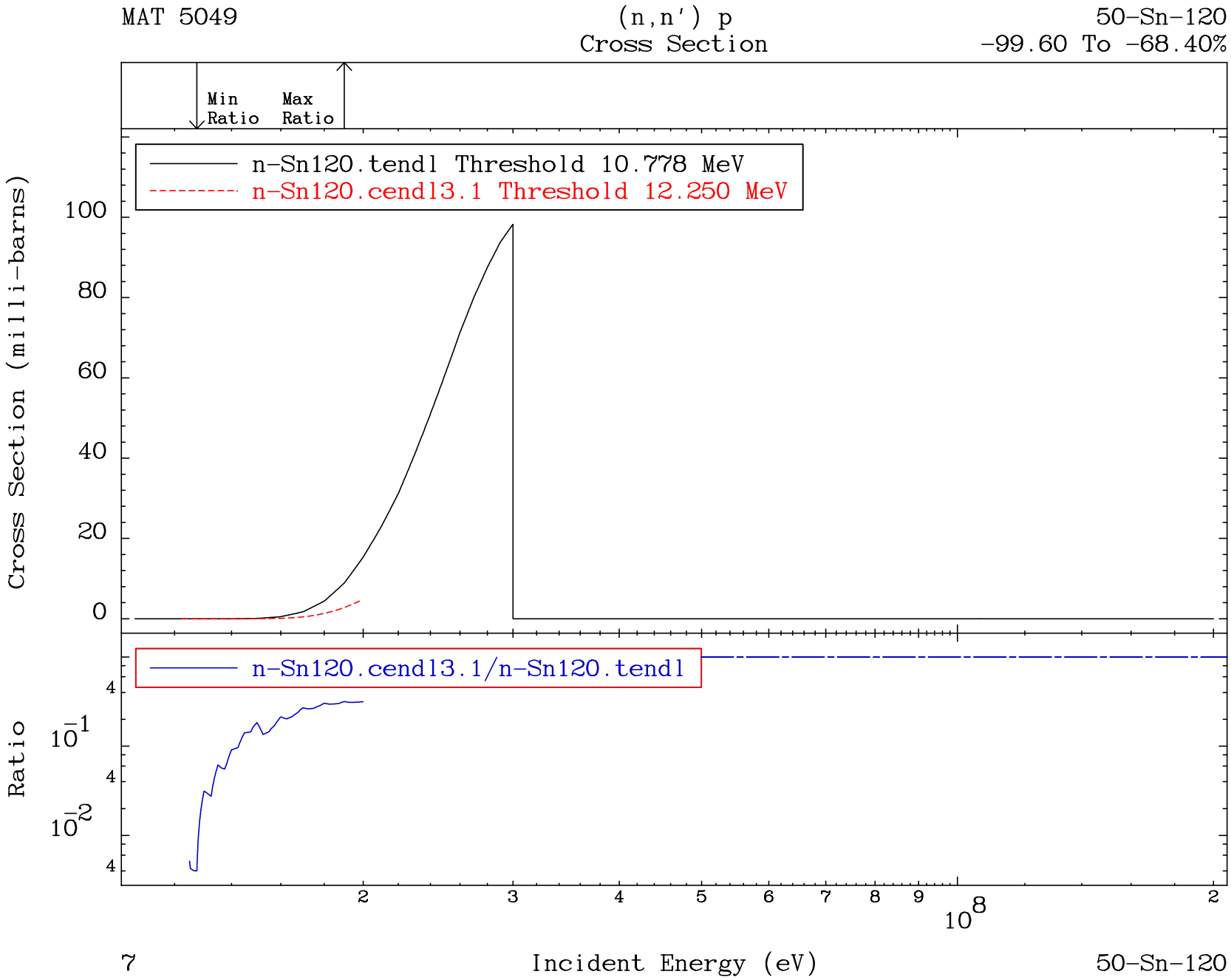

MAT 5049
Elastic
Cross Section
50-Sn-120
-99.69 To 9999. %
Min
Ratio
Max
Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
2
50-Sn-120

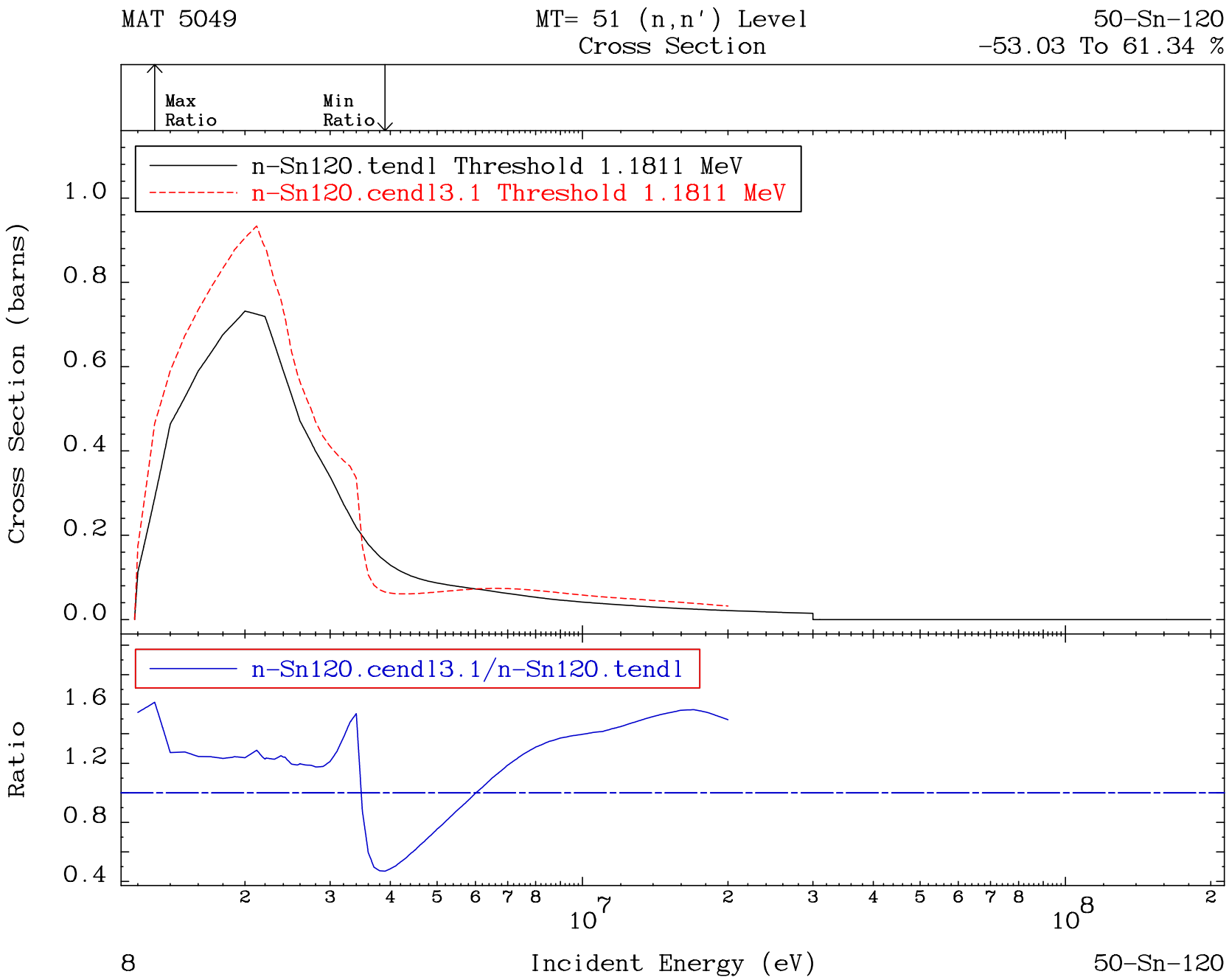

MAT 5049
Inelastic
Cross Section
50-Sn-120
-21.69 To 61.34 %
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 1.1811 MeV
n-Sn120.cendl3.1 Threshold 1.1811 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
1.6
1.2
0.8
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
3
Incident Energy (eV)
50-Sn-120

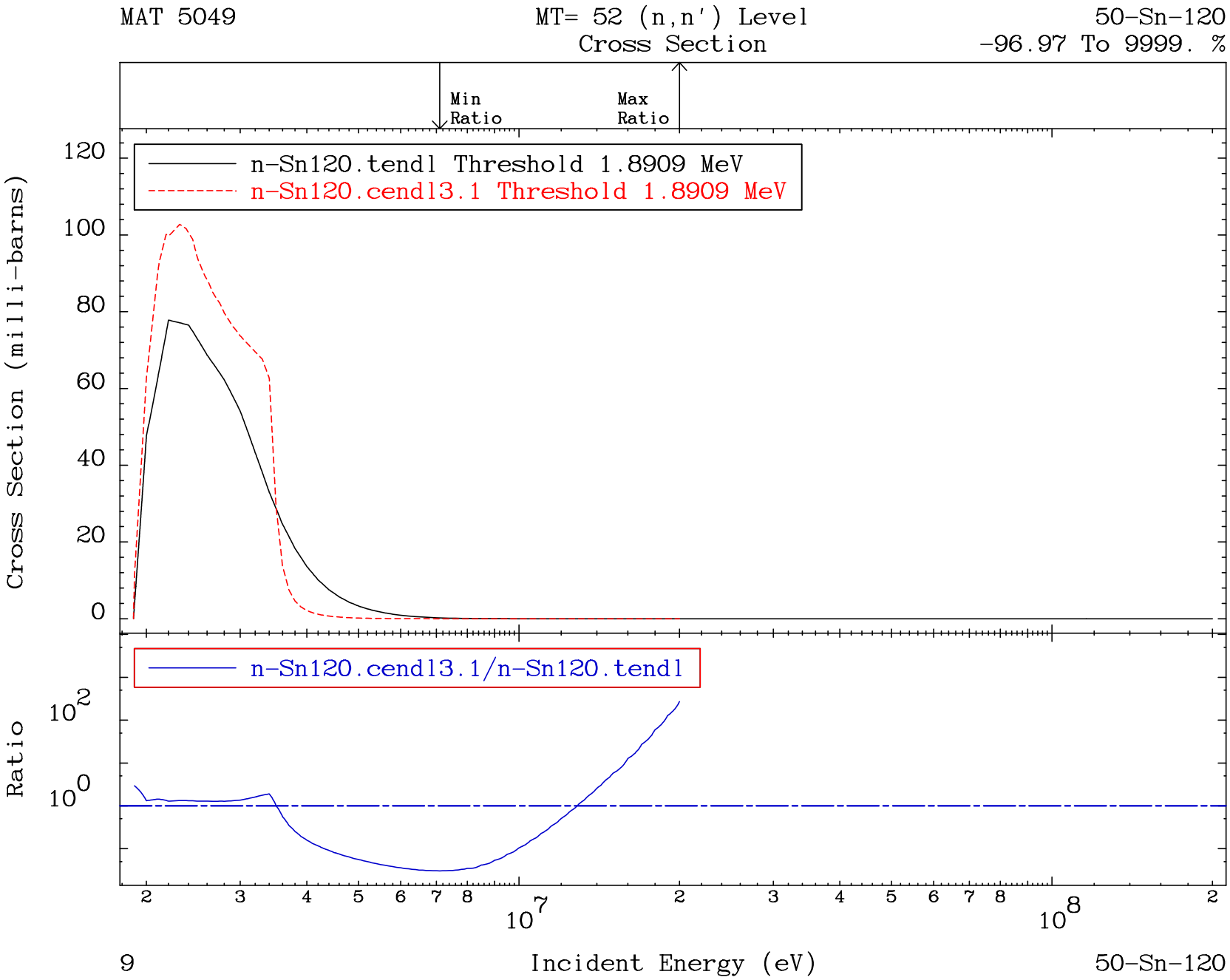

MAT 5049
(n,2n)
Cross Section
50-Sn-120
-99.12 To 22.58 %
Max
Ratio
n-Sn120.tendl Threshold 9.1813 MeV
n-Sn120.cendl3.1 Threshold 9.1840 MeV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
50-Sn-120
4

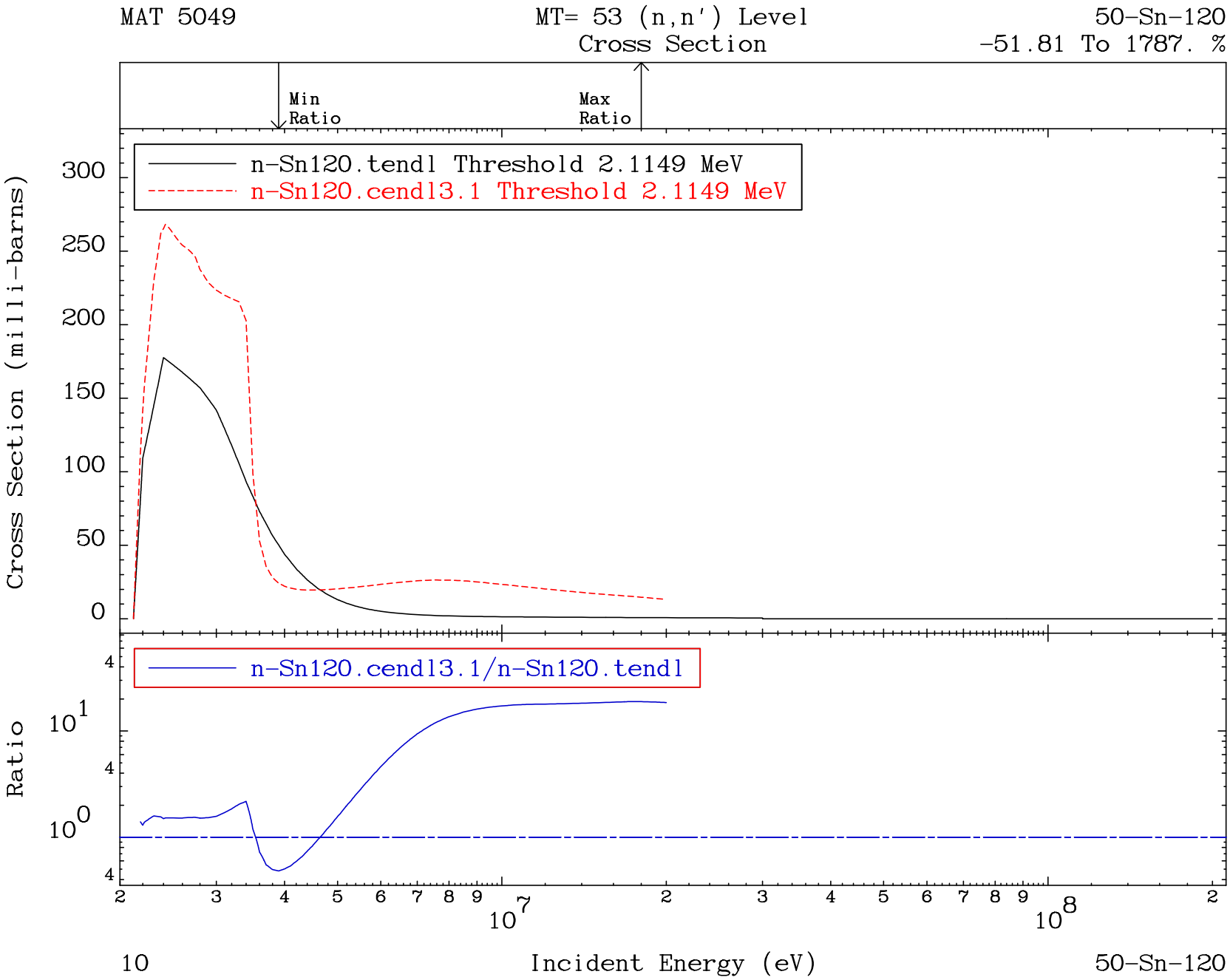

MAT 5049
(n,3n)
Cross Section
50-Sn-120
-84.98 To 107.2 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 15.719 MeV
n-Sn120.cendl3.1 Threshold 15.724 MeV
Cross Section (barns)
0.0
0.2
0.4
0.6
0.8
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
Incident Energy (eV)
10^8
5
50-Sn-120

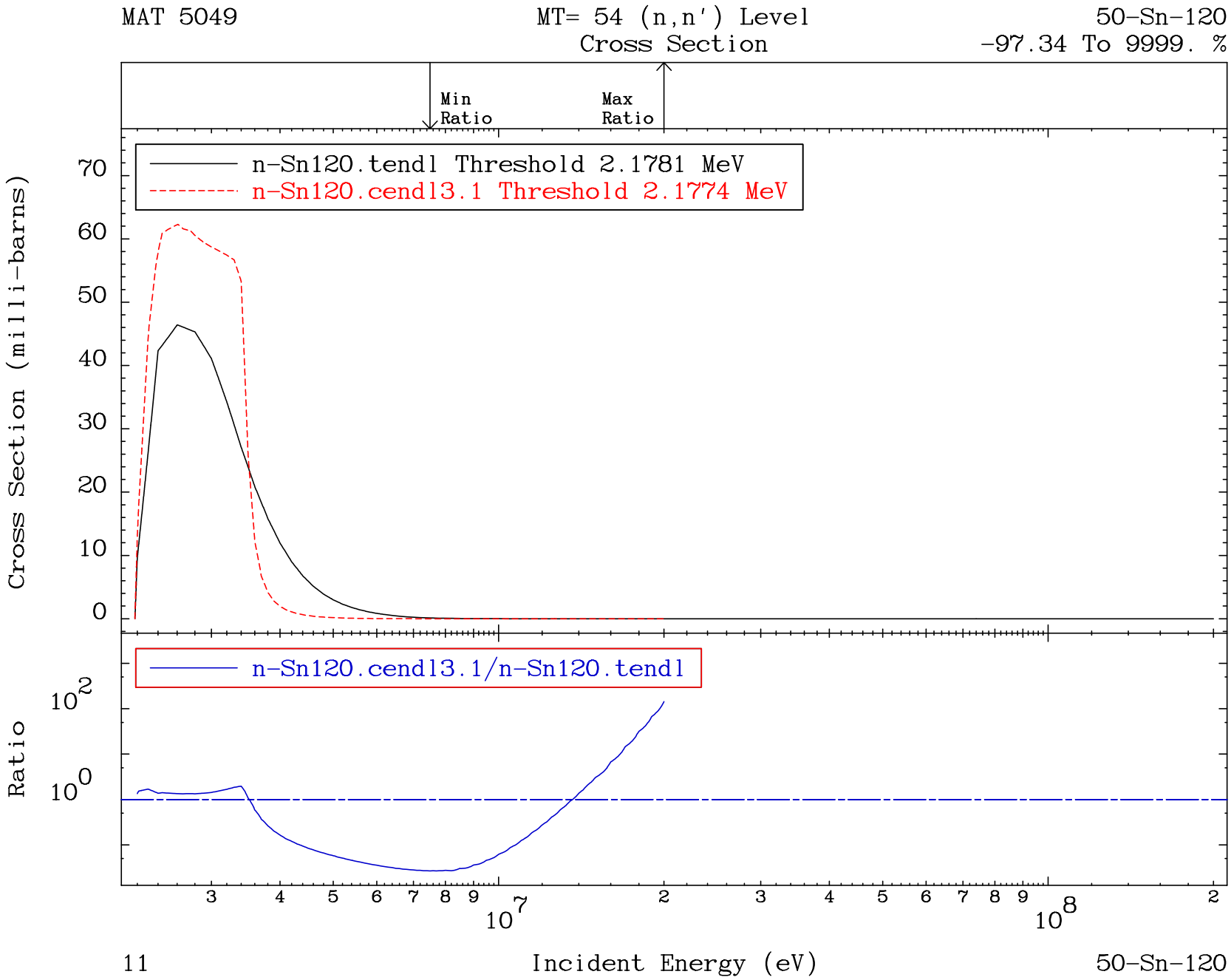

MAT 5049
(n,n') α
Cross Section
50-Sn-120
-95.12 To -27.39%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 4.8513 MeV
n-Sn120.cendl3.1 Threshold 11.000 MeV
Cross Section (milli-barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
6
50-Sn-120

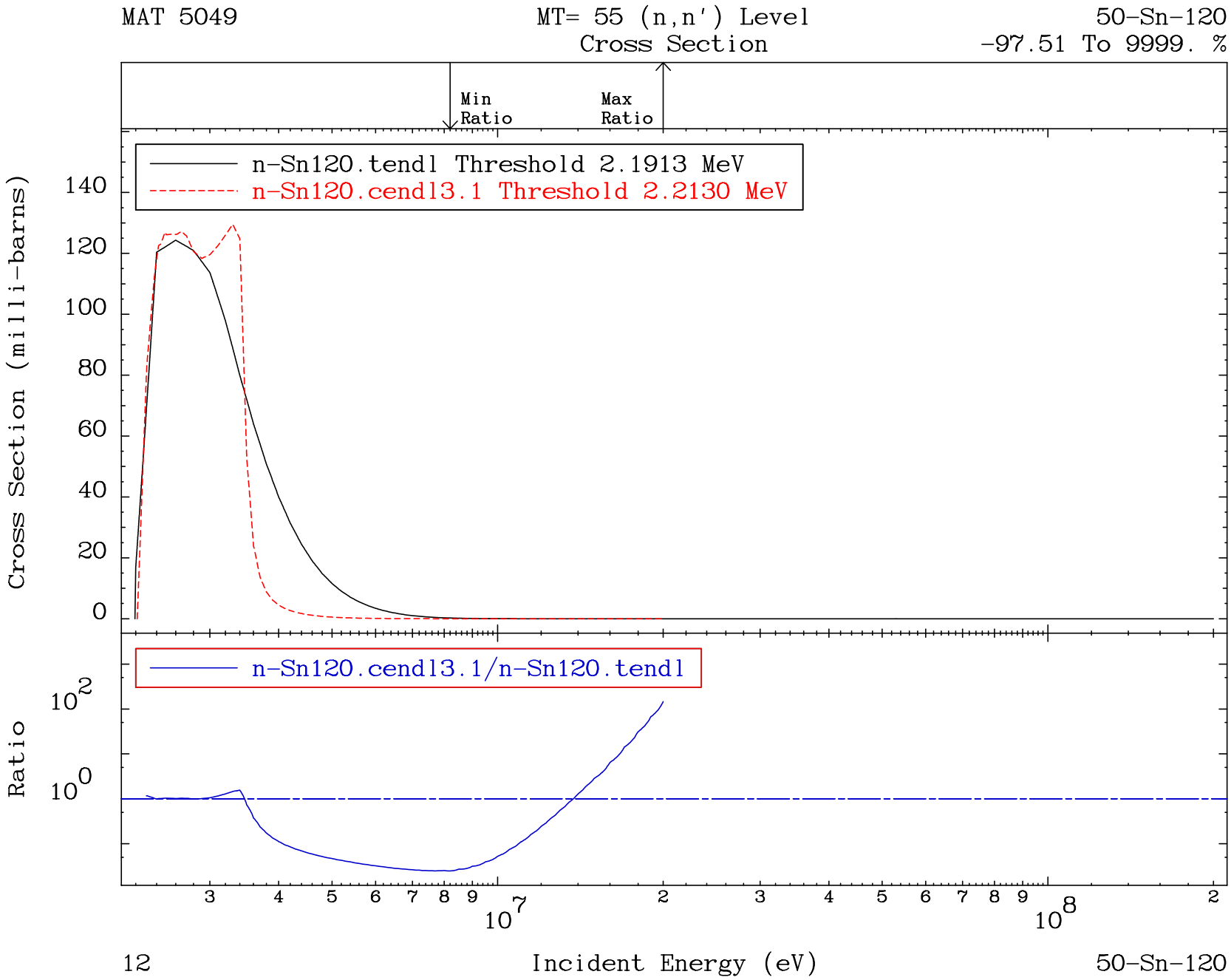

MAT 5049
(n,n') p
Cross Section
50-Sn-120
-99.60 To -68.40%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 10.778 MeV
n-Sn120.cendl3.1 Threshold 12.250 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10-1
10-2
2
3
4
5
6
7
8
9
10 8
2
7
Incident Energy (eV)
50-Sn-120

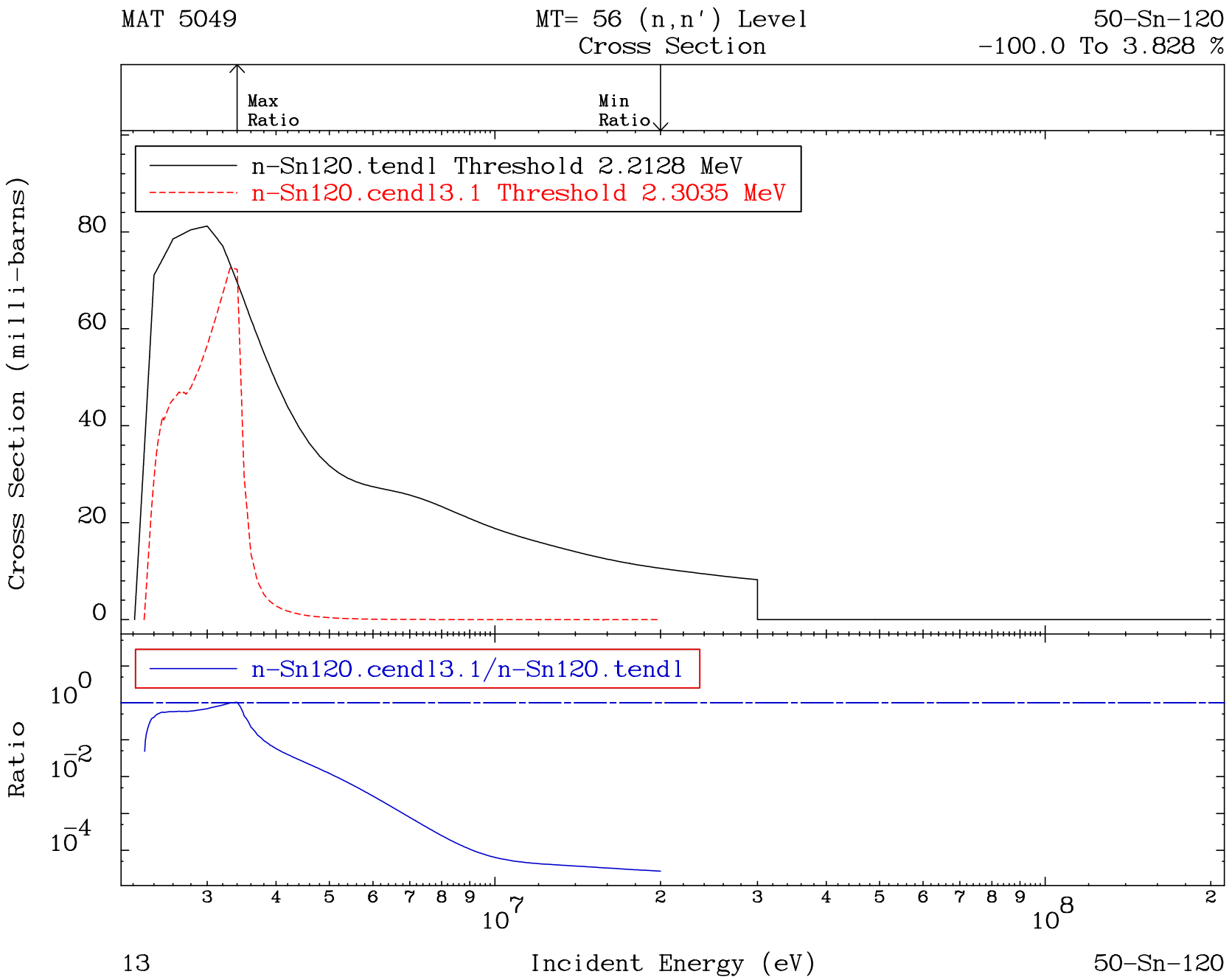

MAT 5049
MT= 51 (n,n') Level
Cross Section
50-Sn-120
-53.03 To 61.34 %
Max Ratio
Min Ratio
n-Sn120.tendl Threshold 1.1811 MeV
n-Sn120.cendl3.1 Threshold 1.1811 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
1.6
1.2
0.8
0.4
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
50-Sn-120

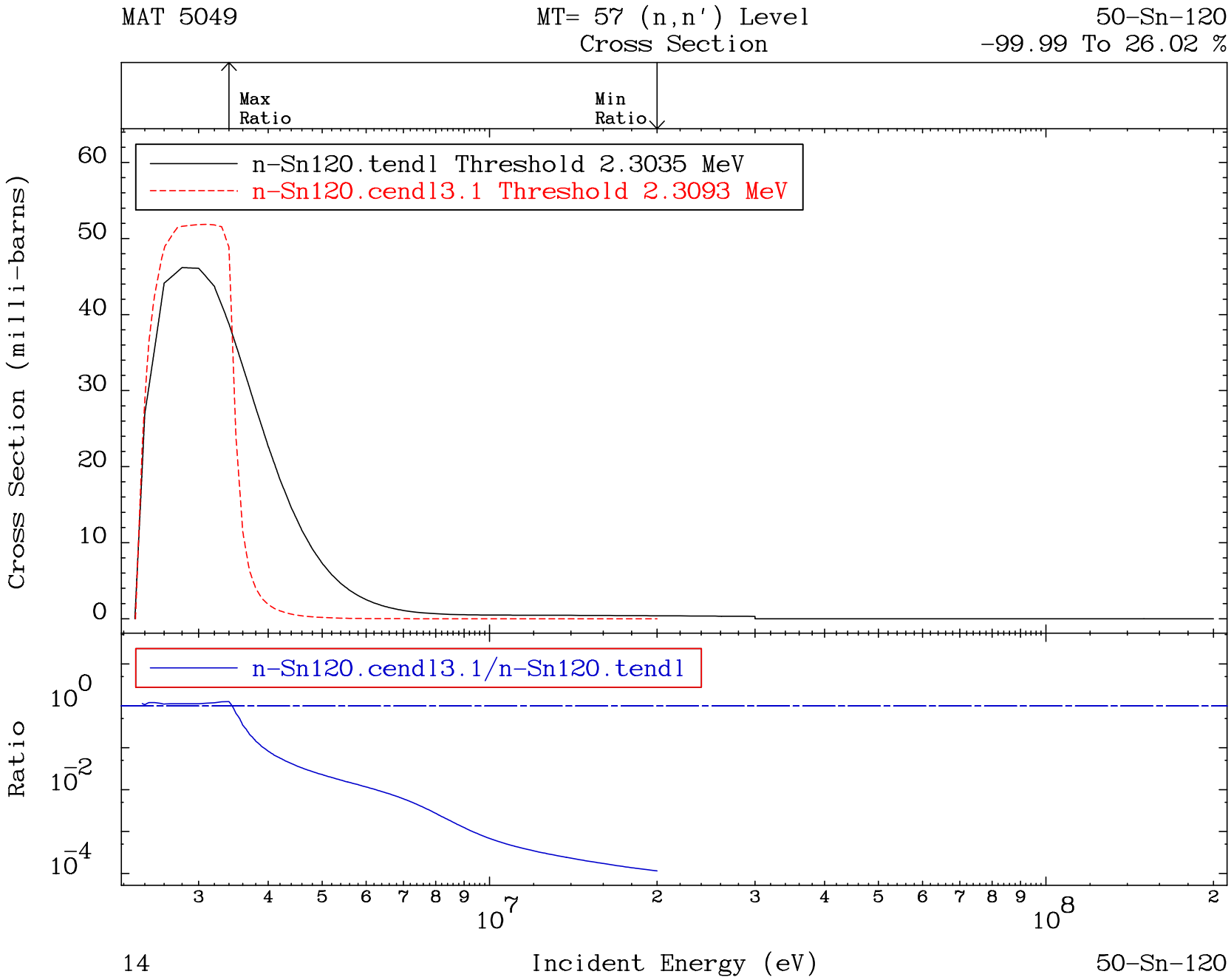

MAT 5049
MT= 52 (n,n') Level
Cross Section
50-Sn-120
-96.97 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 1.8909 MeV
n-Sn120.cendl3.1 Threshold 1.8909 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
9
Incident Energy (eV)
50-Sn-120

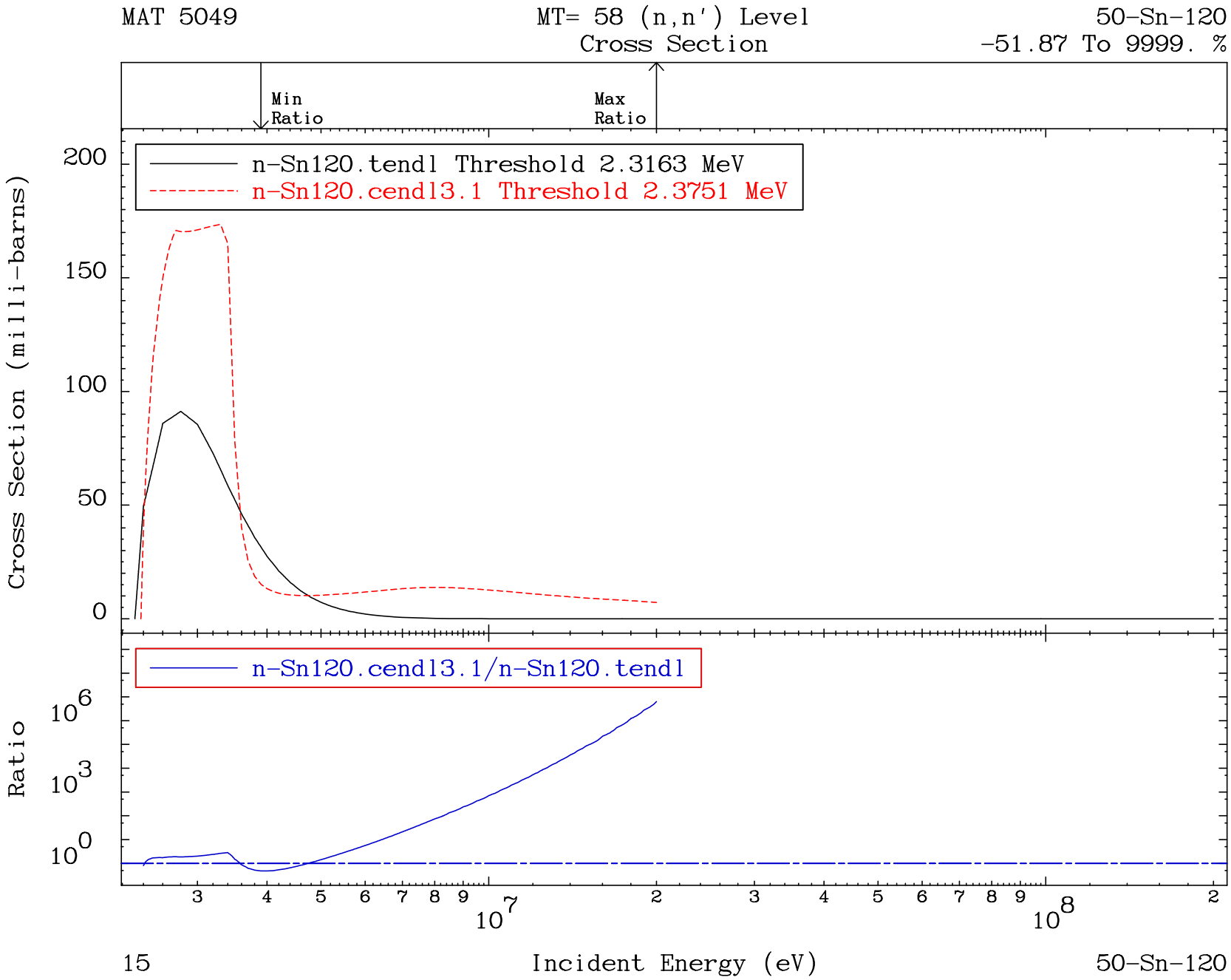

MAT 5049
MT= 53 (n,n') Level
Cross Section
50-Sn-120
-51.81 To 1787. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.1149 MeV
n-Sn120.cendl3.1 Threshold 2.1149 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^1
10^0
2
3
4
5
6
7
8
9
10^7
10^8
10
Incident Energy (eV)
50-Sn-120

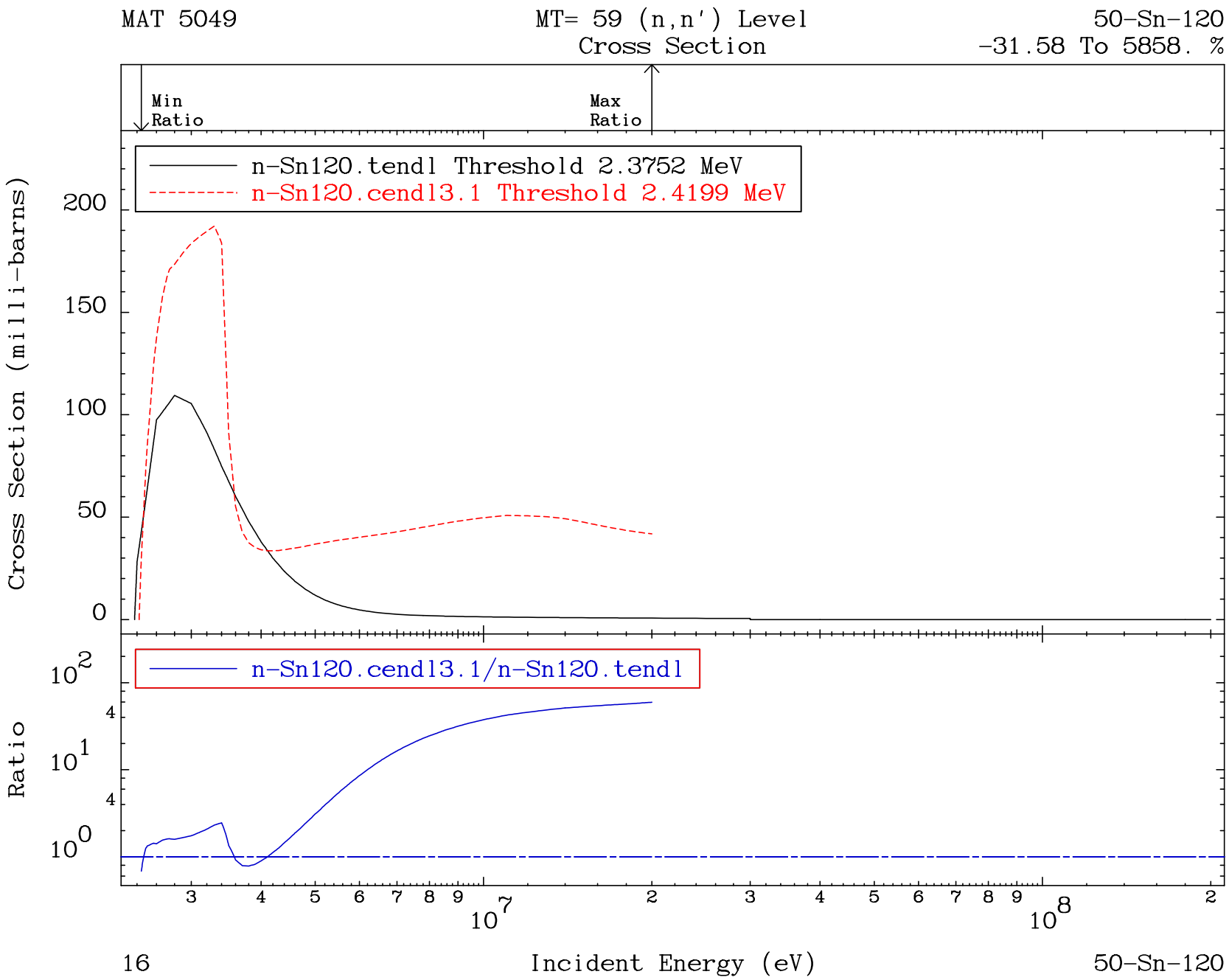

MAT 5049
MT= 54 (n,n') Level
Cross Section
50-Sn-120
-97.34 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.1781 MeV
n-Sn120.cendl3.1 Threshold 2.1774 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
11
Incident Energy (eV)
50-Sn-120

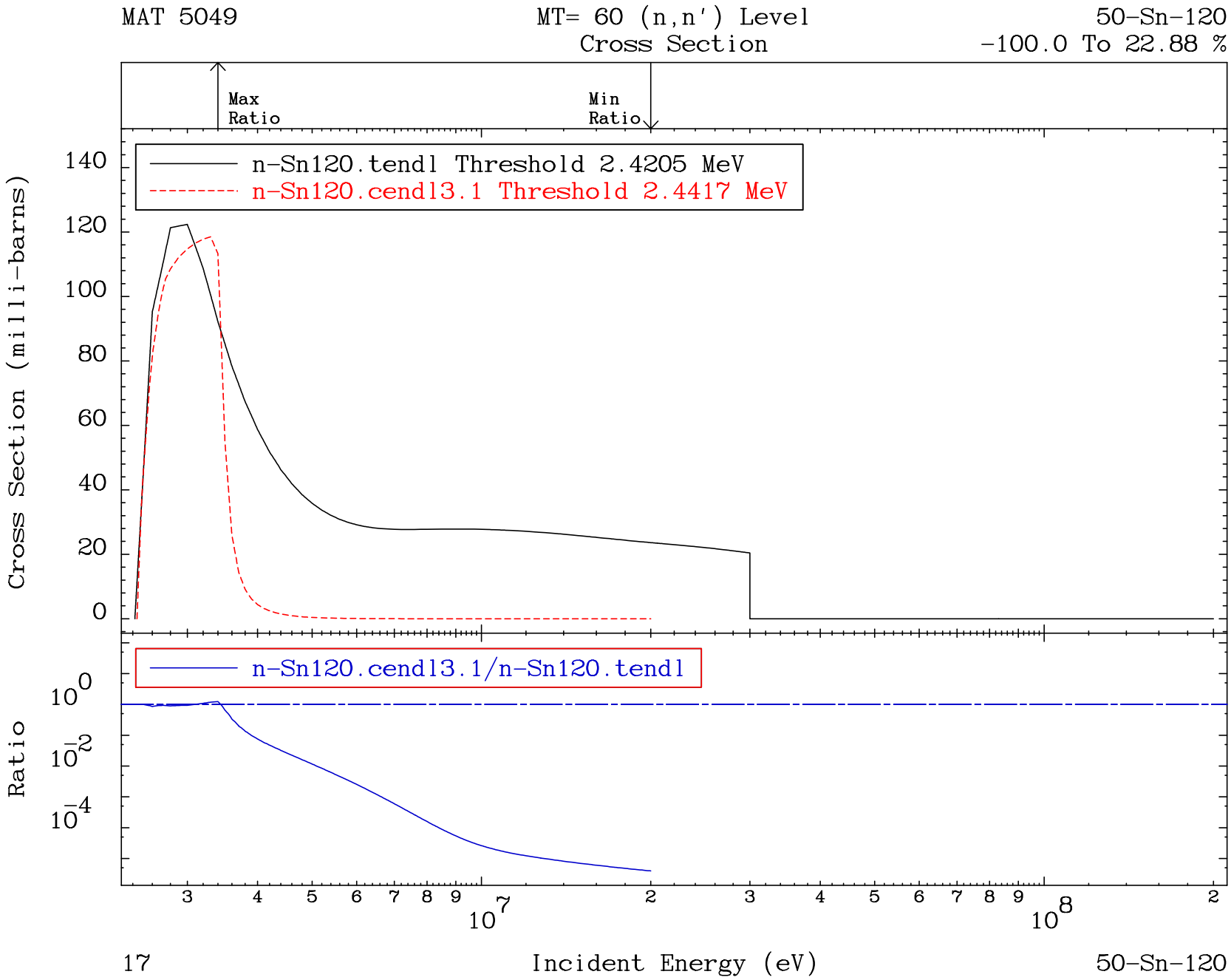

MAT 5049
MT= 55 (n,n') Level
Cross Section
50-Sn-120
-97.51 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.1913 MeV
n-Sn120.cendl3.1 Threshold 2.2130 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
50-Sn-120

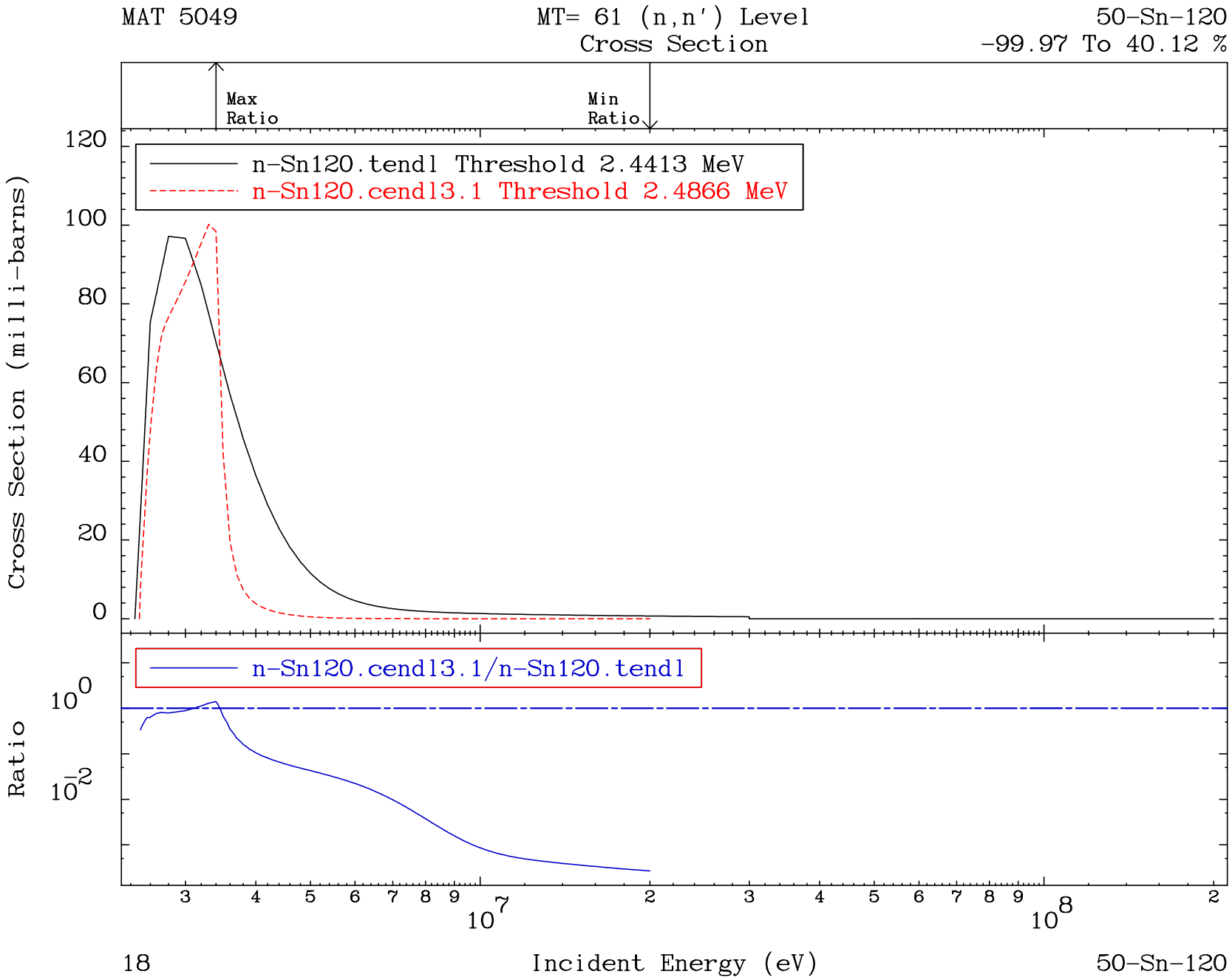

MAT 5049
MT= 56 (n,n') Level
Cross Section
50-Sn-120
-100.0 To 3.828 %
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 2.2128 MeV
n-Sn120.cendl3.1 Threshold 2.3035 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
10^-4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
50-Sn-120

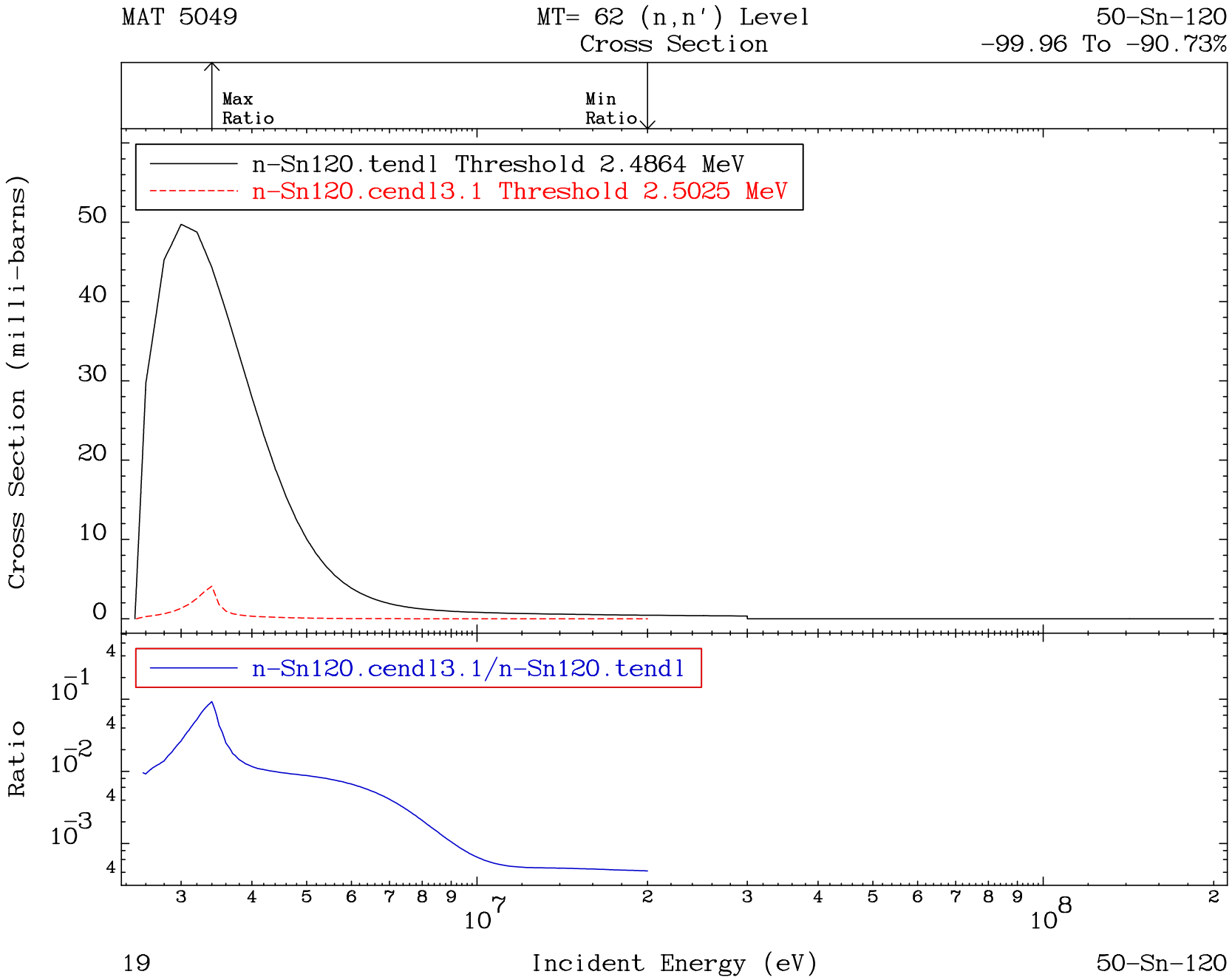

MAT 5049
MT= 57 (n,n') Level
Cross Section
50-Sn-120
-99.99 To 26.02 %
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 2.3035 MeV
n-Sn120.cendl3.1 Threshold 2.3093 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
10^-4
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
50-Sn-120

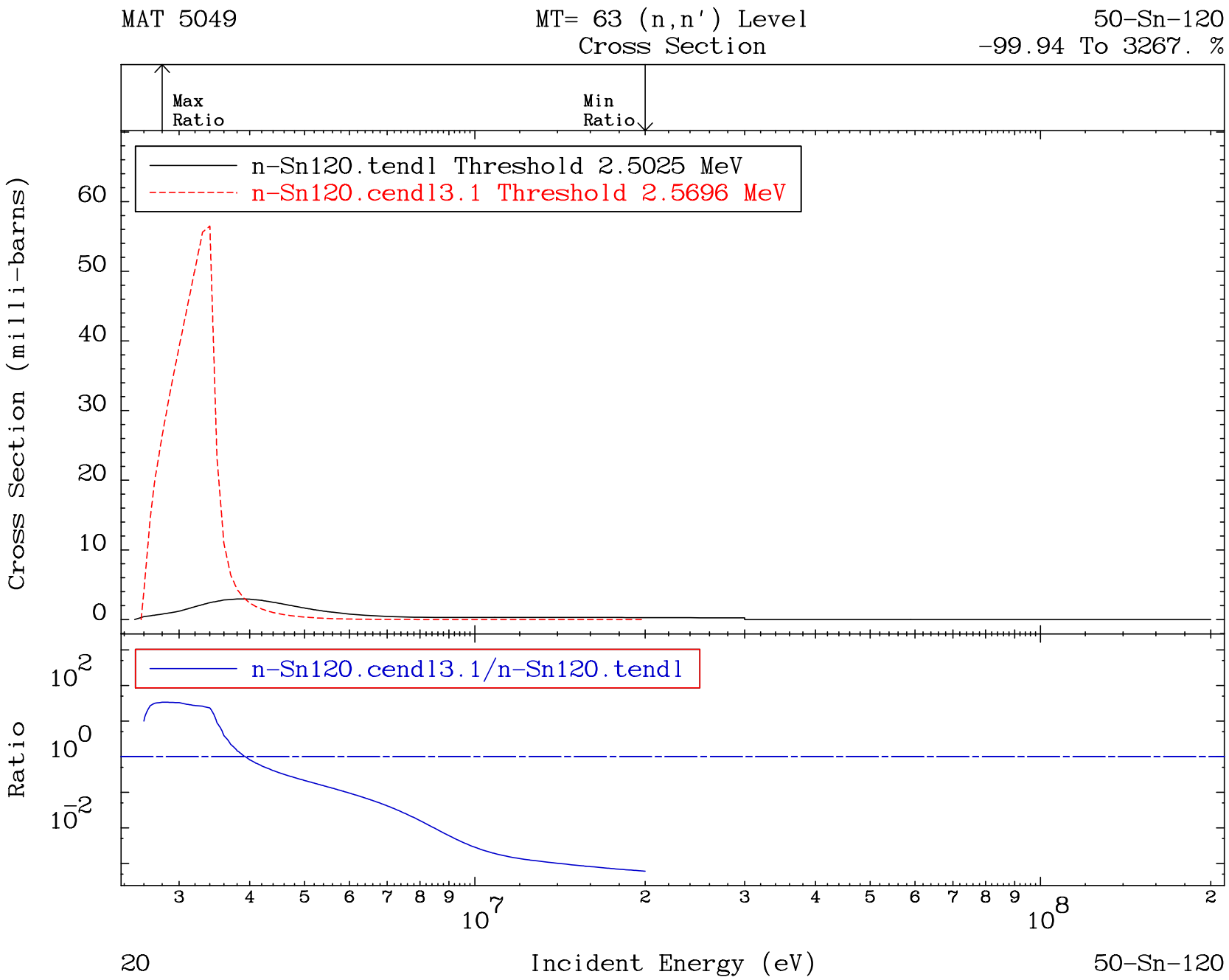

MAT 5049
MT= 58 (n,n') Level
Cross Section
50-Sn-120
-51.87 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.3163 MeV
n-Sn120.cendl3.1 Threshold 2.3751 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^6
10^3
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
50-Sn-120

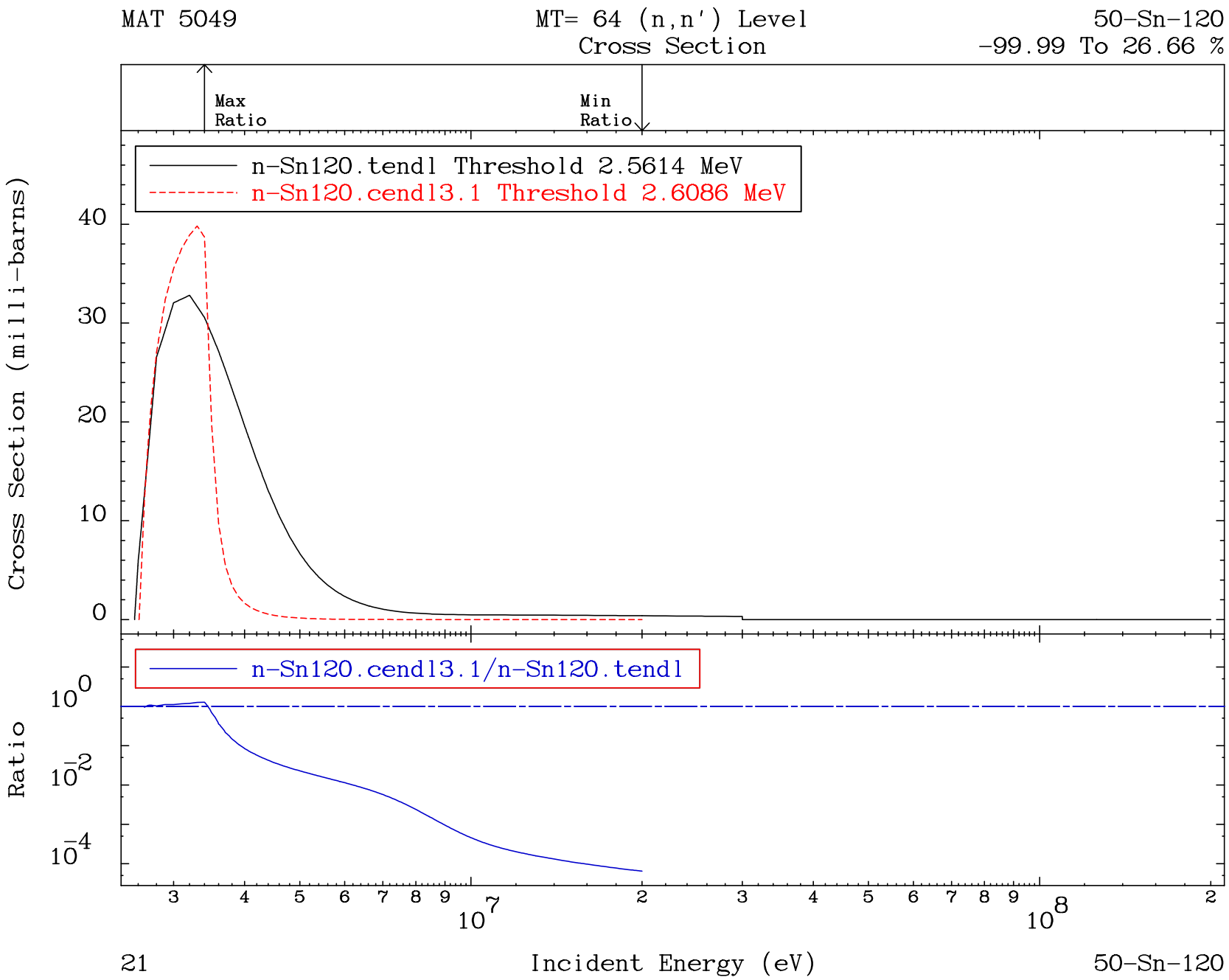

MAT 5049
MT= 59 (n,n') Level
Cross Section
50-Sn-120
-31.58 To 5858. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.3752 MeV
n-Sn120.cendl3.1 Threshold 2.4199 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^1
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
16
Incident Energy (eV)
50-Sn-120

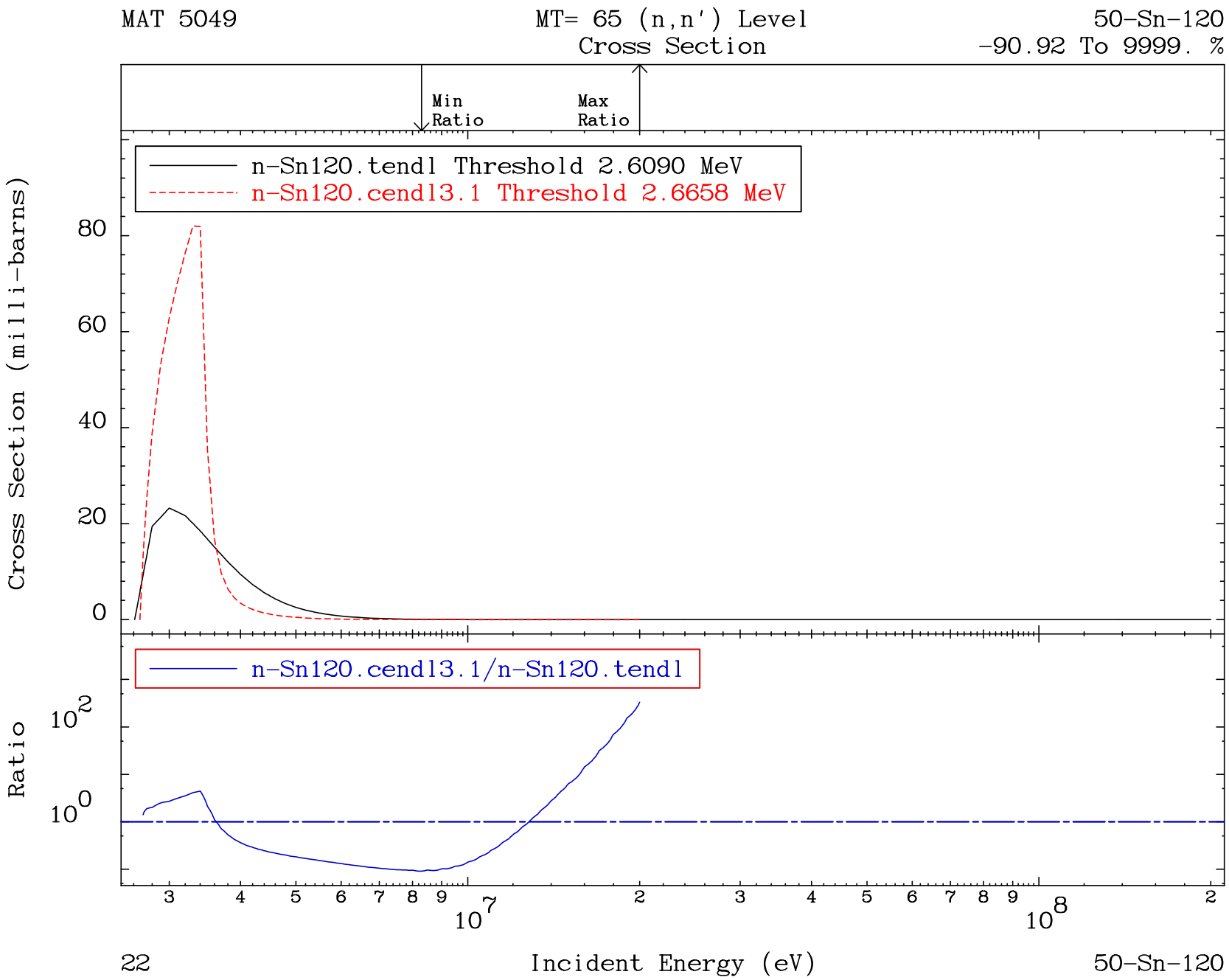

MAT 5049
MT= 60 (n,n') Level
Cross Section
50-Sn-120
-100.0 To 22.88 %
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 2.4205 MeV
n-Sn120.cendl3.1 Threshold 2.4417 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
10^-4
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
50-Sn-120

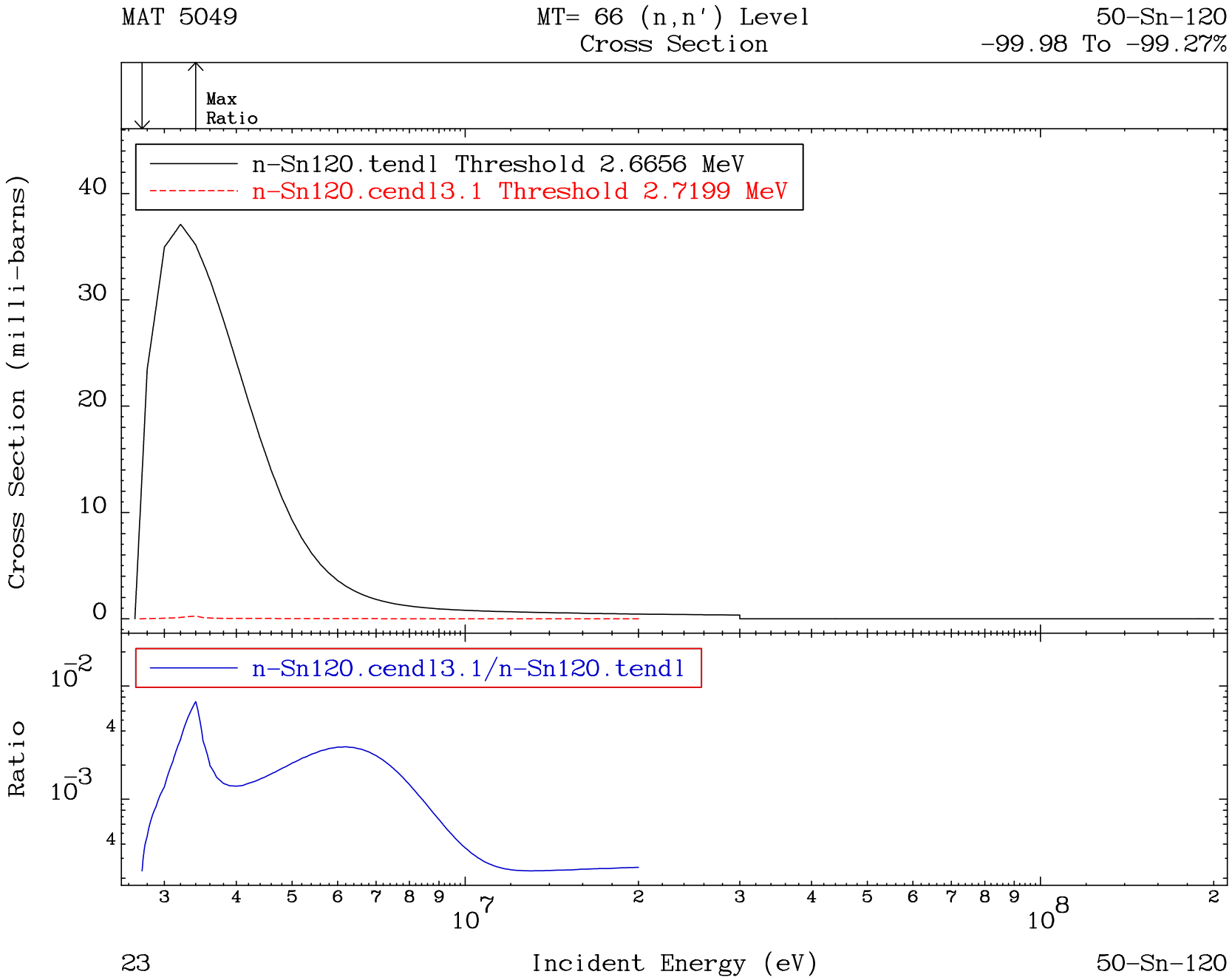

MAT 5049
MT= 61 (n,n') Level
Cross Section
50-Sn-120
-99.97 To 40.12 %
Max Ratio
Min Ratio
n-Sn120.tendl Threshold 2.4413 MeV
n-Sn120.cendl3.1 Threshold 2.4866 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
18
Incident Energy (eV)
50-Sn-120

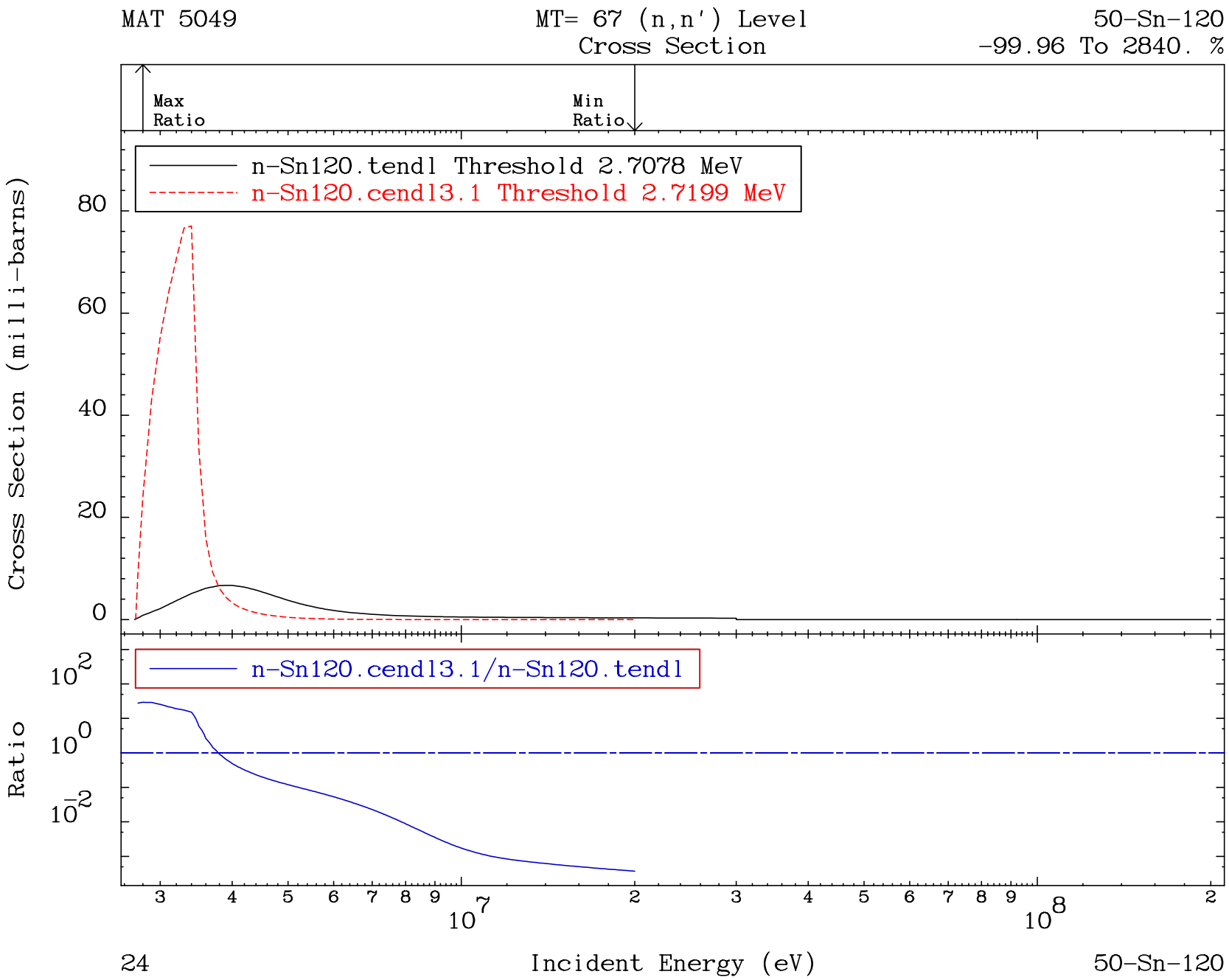

MAT 5049
MT= 62 (n,n') Level
Cross Section
50-Sn-120
-99.96 To -90.73%
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 2.4864 MeV
n-Sn120.cendl3.1 Threshold 2.5025 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^-1
10^-2
10^-3
4
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
50-Sn-120

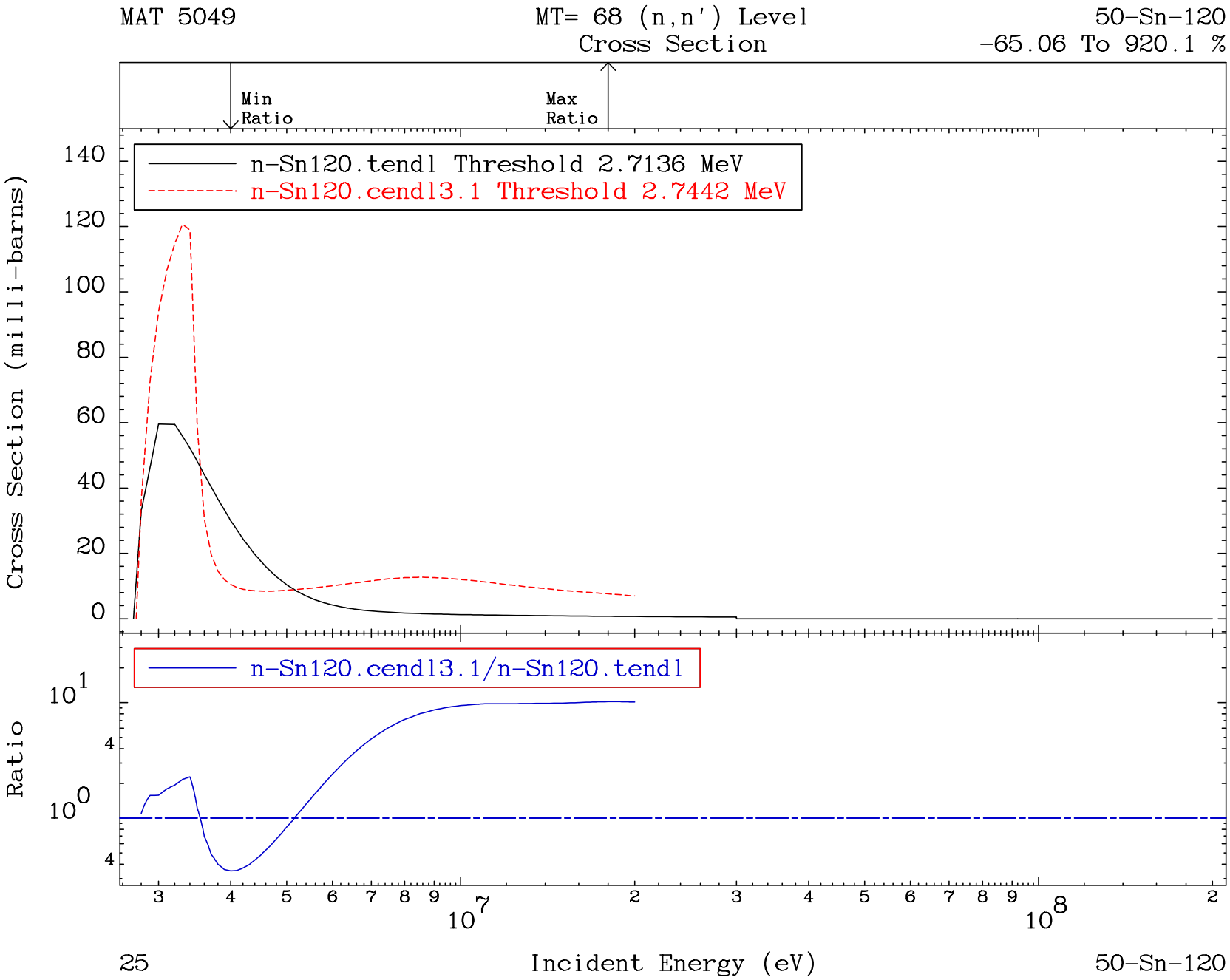

MAT 5049
MT= 63 (n,n') Level
Cross Section
50-Sn-120
-99.94 To 3267. %
Max Ratio
Min Ratio
n-Sn120.tendl Threshold 2.5025 MeV
n-Sn120.cendl3.1 Threshold 2.5696 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
10^-2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
20
Incident Energy (eV)
50-Sn-120

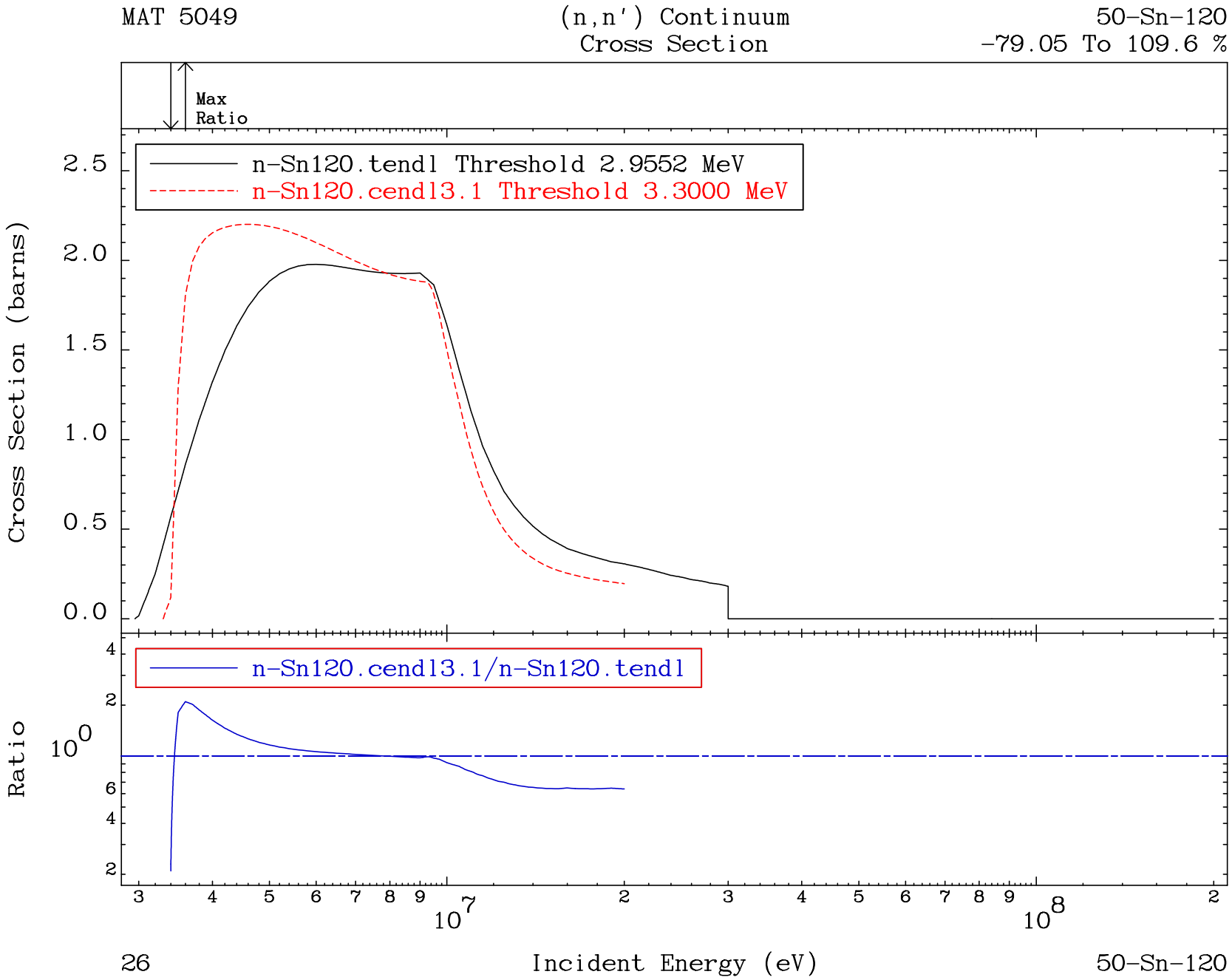

MAT 5049
MT= 64 (n,n') Level
Cross Section
50-Sn-120
-99.99 To 26.66 %
Max
Ratio
Min
Ratio
n-Sn120.tendl Threshold 2.5614 MeV
n-Sn120.cendl3.1 Threshold 2.6086 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
10^-4
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
21
Incident Energy (eV)
50-Sn-120

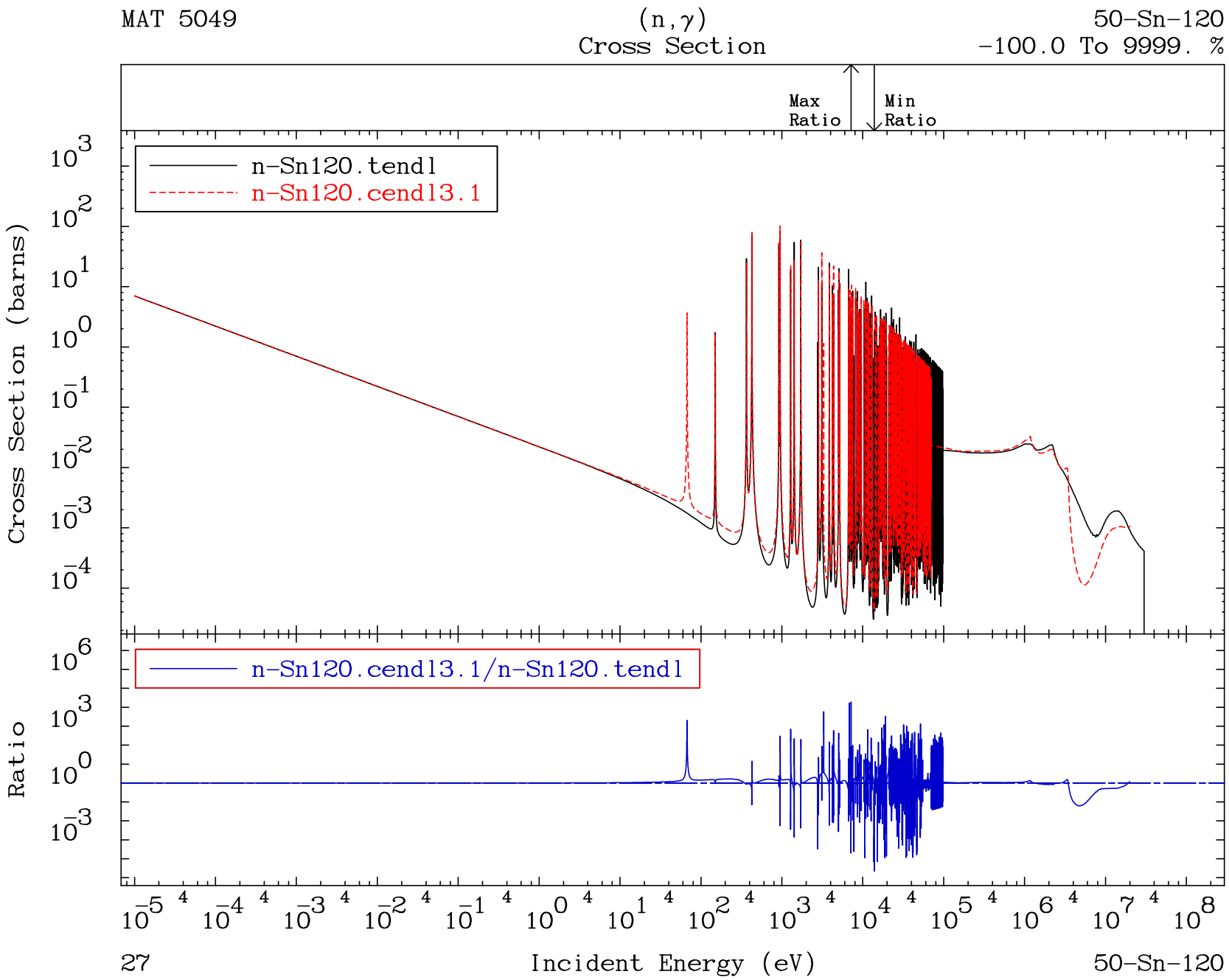

MAT 5049
MT= 65 (n,n') Level
Cross Section
50-Sn-120
-90.92 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 2.6090 MeV
n-Sn120.cendl3.1 Threshold 2.6658 MeV
Cross Section (milli-barns)
0
20
40
60
80
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
22
Incident Energy (eV)
50-Sn-120

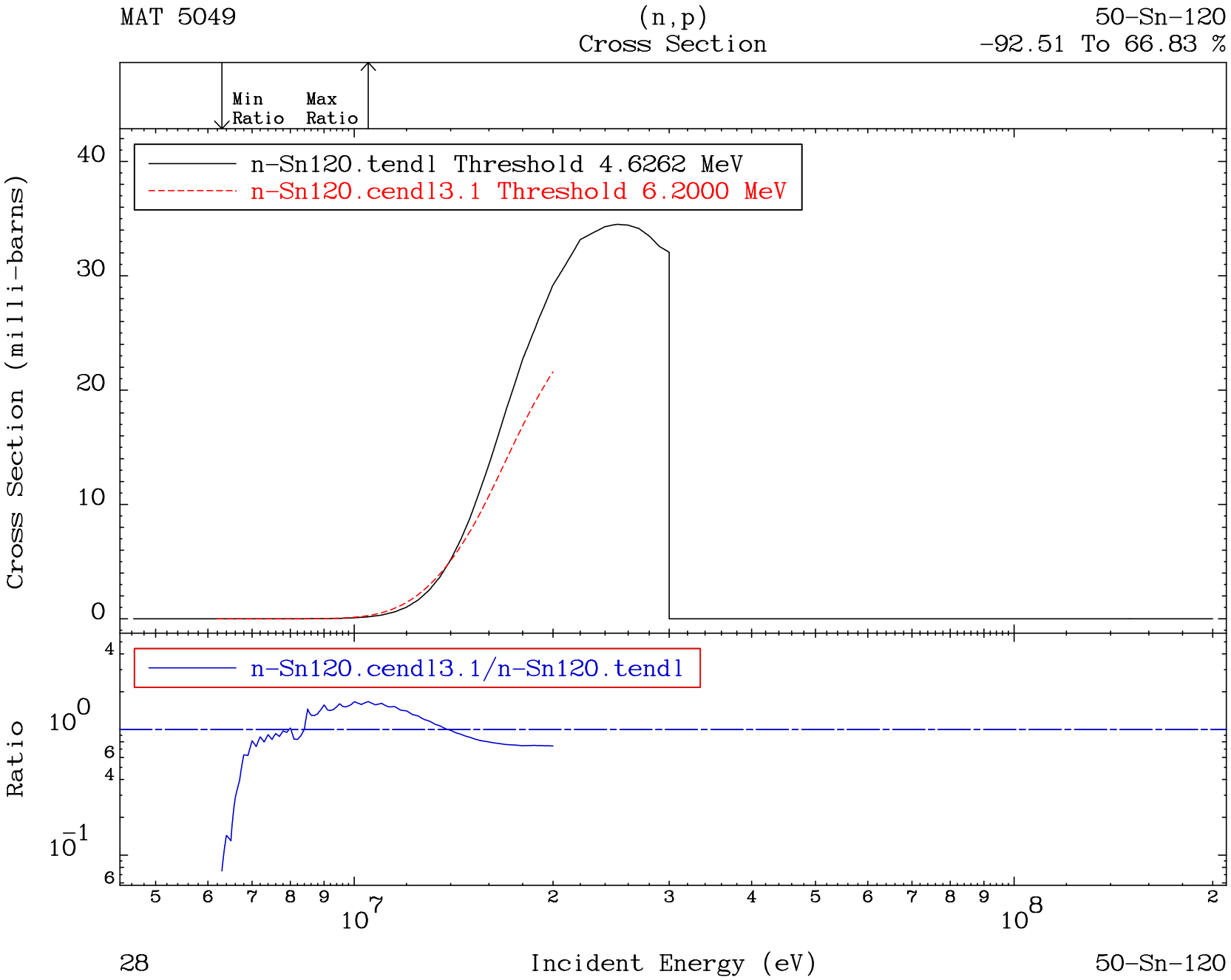

MAT 5049
MT= 66 (n,n') Level
Cross Section
50-Sn-120
-99.98 To -99.27%
Max
Ratio
n-Sn120.tendl Threshold 2.6656 MeV
n-Sn120.cendl3.1 Threshold 2.7199 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10-2
4
10-3
4
3
4
5
6
7
8
9
10 7
2
3
4
5
6
7
8
9
10 8
2
23
Incident Energy (eV)
50-Sn-120

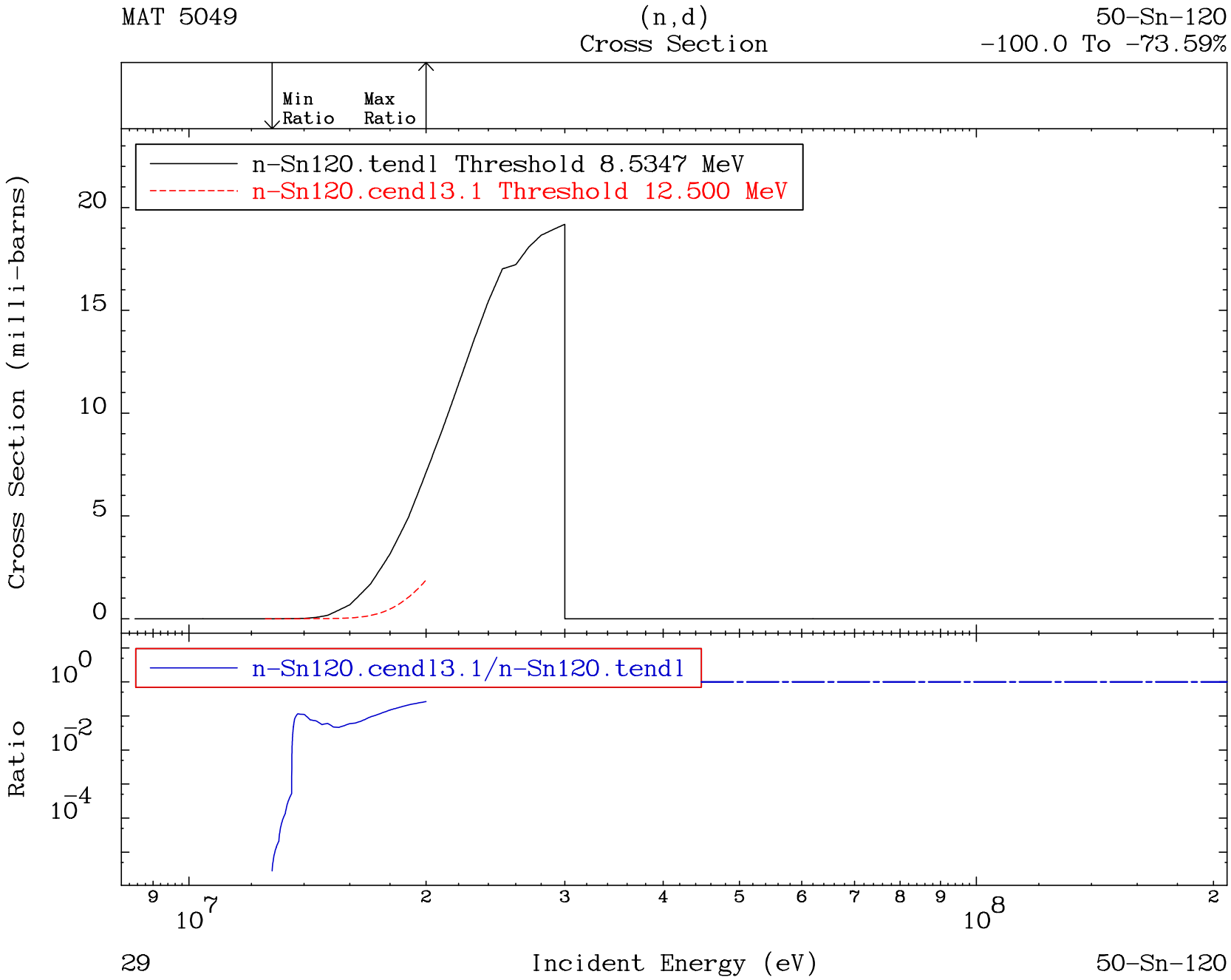

MAT 5049
MT= 67 (n,n') Level
Cross Section
50-Sn-120
-99.96 To 2840. %
Max Ratio
Min Ratio
n-Sn120.tendl Threshold 2.7078 MeV
n-Sn120.cendl3.1 Threshold 2.7199 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^2
10^0
10^-2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
24
Incident Energy (eV)
50-Sn-120

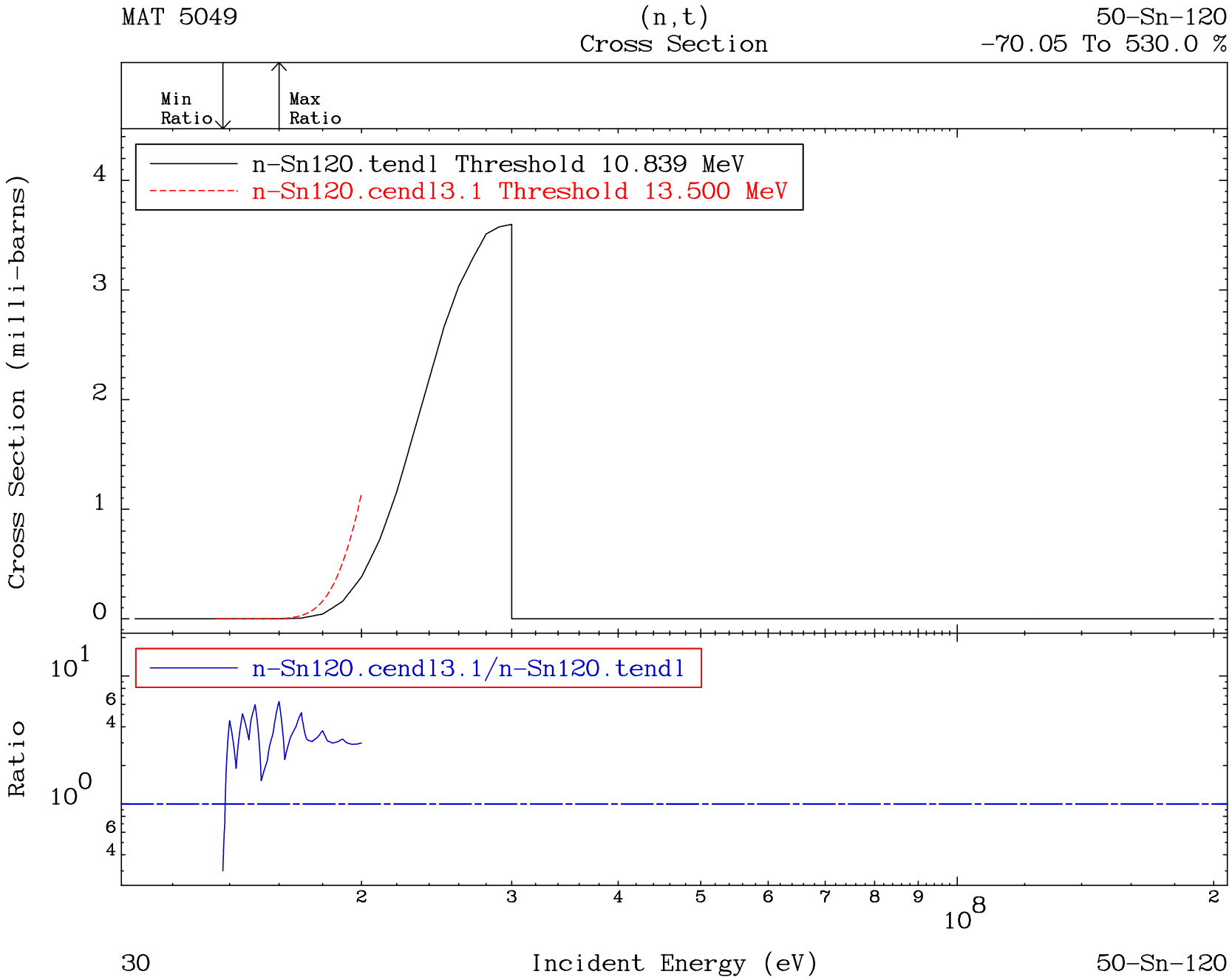

MAT 5049
MT= 68 (n,n') Level
Cross Section
50-Sn-120
-65.06 To 920.1 %
Min
Ratio
Max
Ratio
n-Sn120.tendl Threshold 2.7136 MeV
n-Sn120.cendl3.1 Threshold 2.7442 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^1
4
10^0
4
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
25
Incident Energy (eV)
50-Sn-120

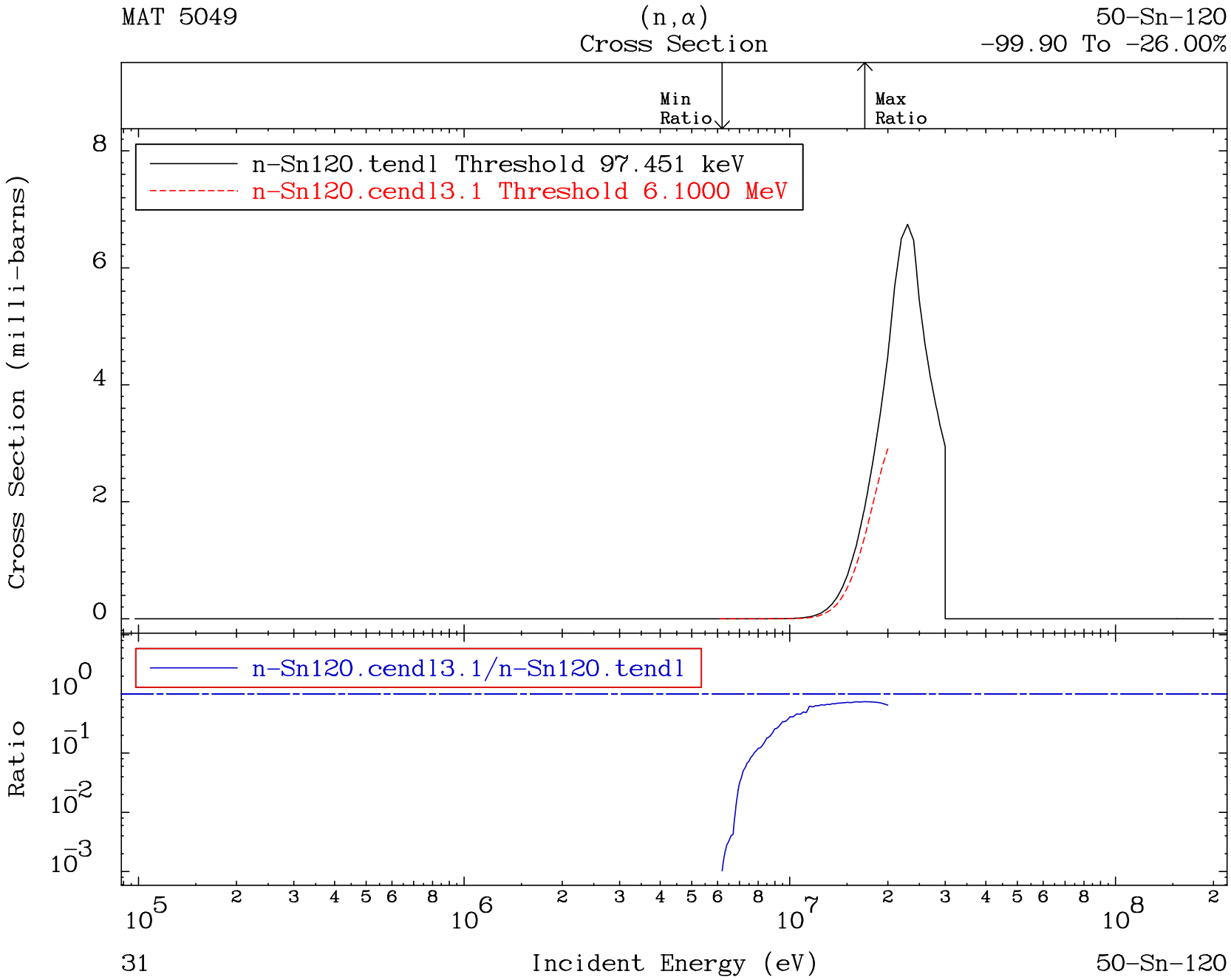

MAT 5049
(n,n') Continuum
Cross Section
50-Sn-120
-79.05 To 109.6 %
Max
Ratio
n-Sn120.tendl Threshold 2.9552 MeV
n-Sn120.cendl3.1 Threshold 3.3000 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
4
2
10^0
6
4
2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
26
Incident Energy (eV)
50-Sn-120

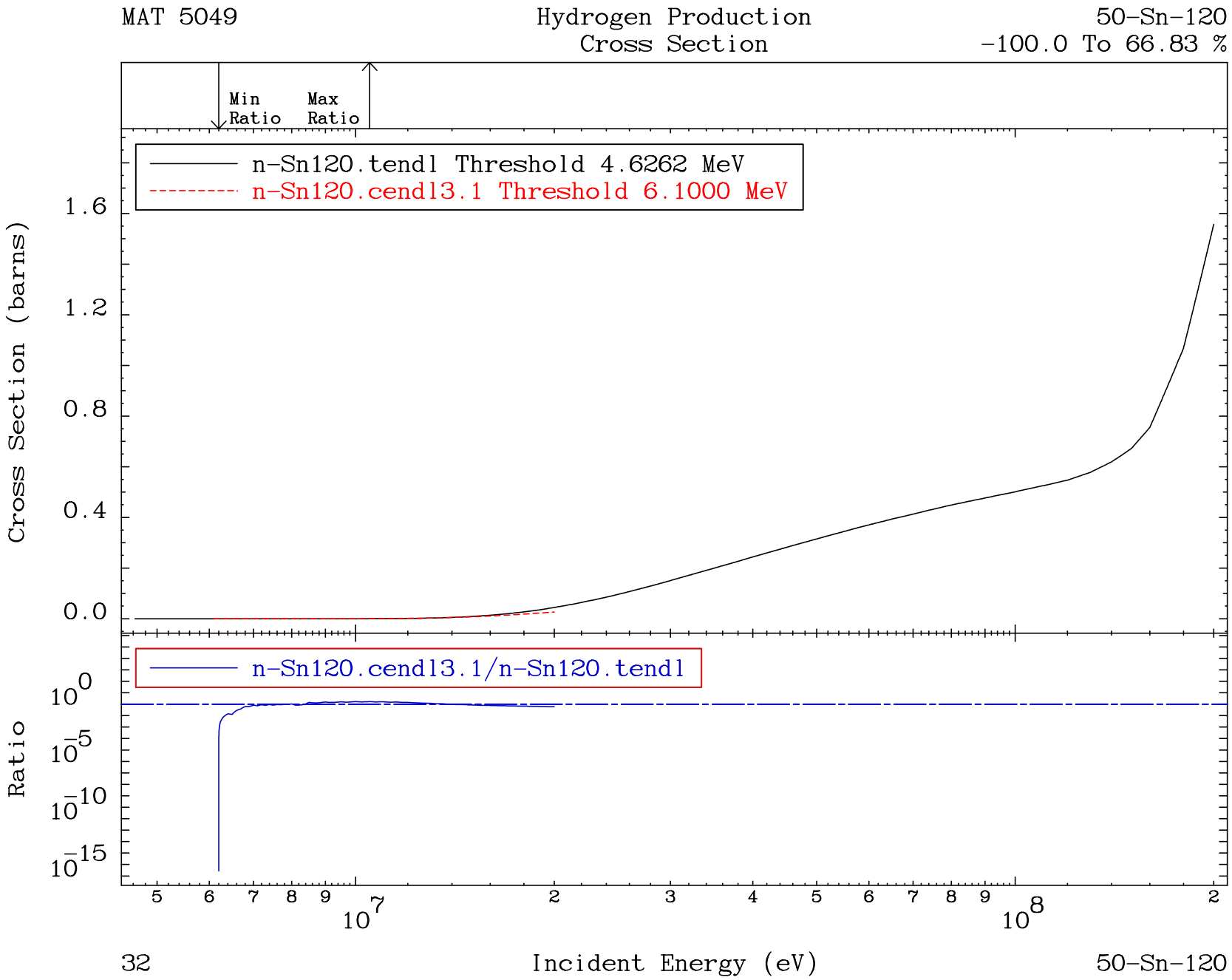

MAT 5049
(n,γ)
Cross Section
50-Sn-120
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
27
50-Sn-120

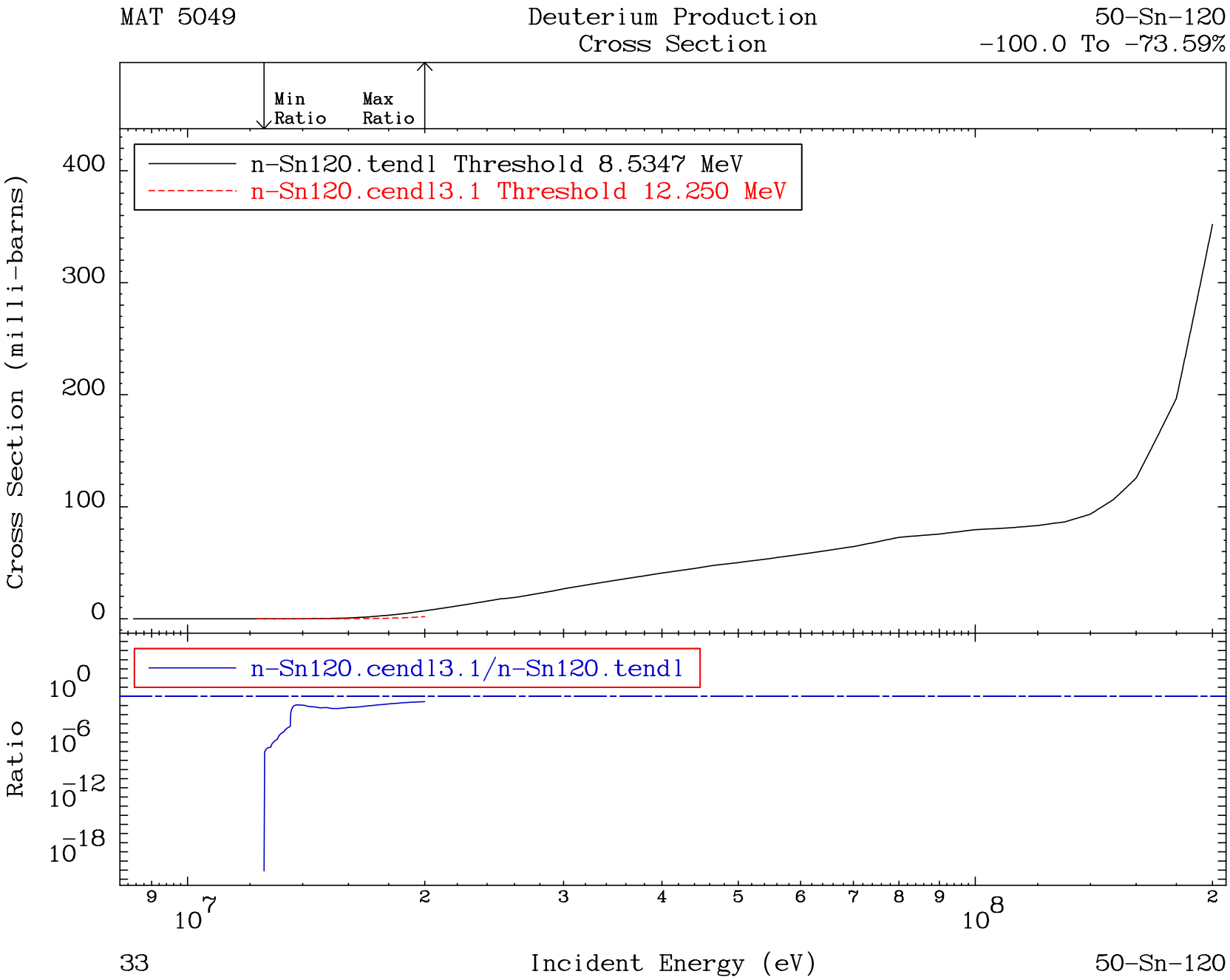

MAT 5049
(n,p)
Cross Section
50-Sn-120
-92.51 To 66.83 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 4.6262 MeV
n-Sn120.cendl3.1 Threshold 6.2000 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
4
10^0
6
4
10^{-1}
6
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
50-Sn-120

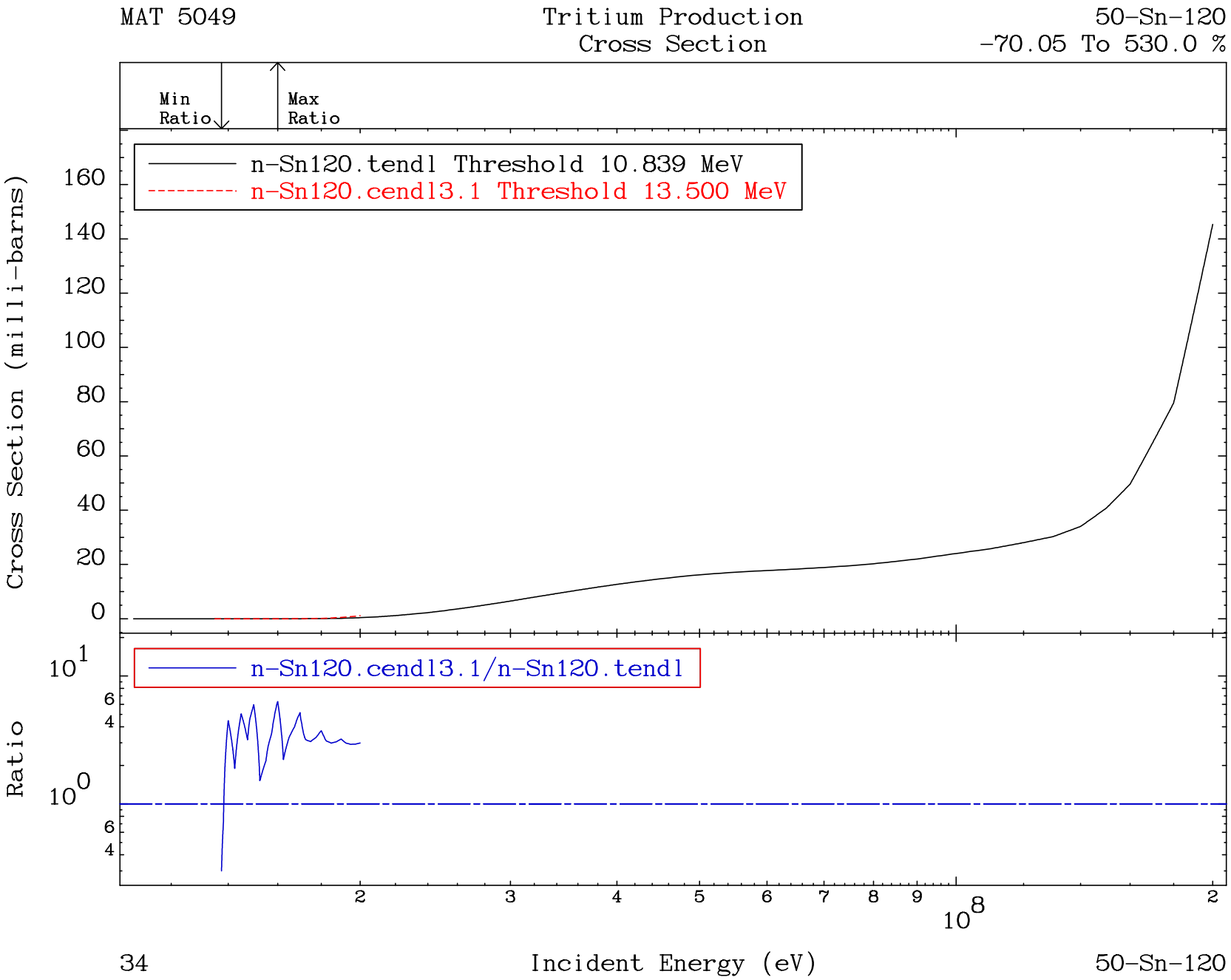

MAT 5049
(n,d)
Cross Section
50-Sn-120
-100.0 To -73.59%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 8.5347 MeV
n-Sn120.cendl3.1 Threshold 12.500 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-2
10^-4
9
10^7
2
3
4
5
6
7
8
9
10^8
2
29
Incident Energy (eV)
50-Sn-120

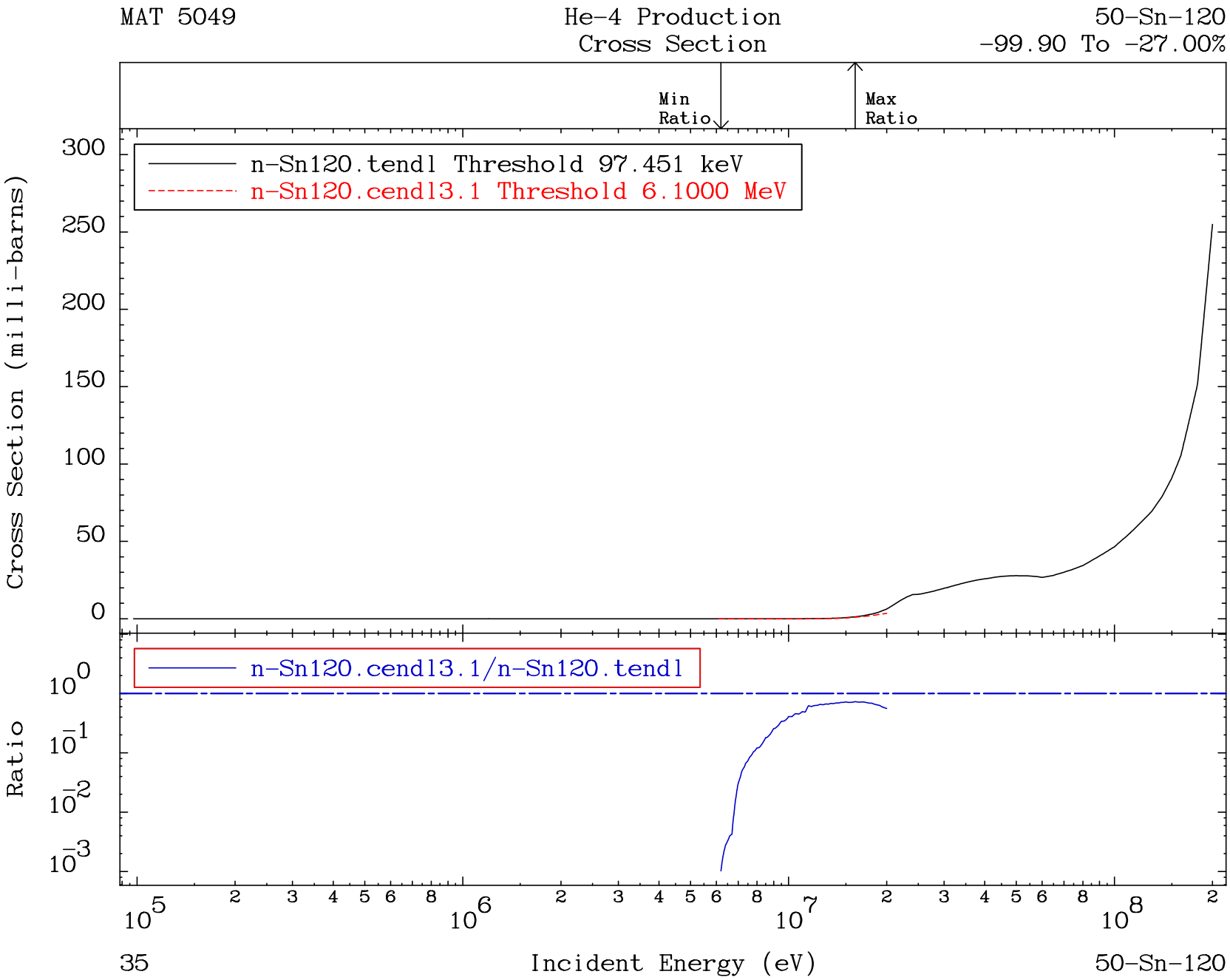

MAT 5049
(n,t)
Cross Section
50-Sn-120
-70.05 To 530.0 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 10.839 MeV
n-Sn120.cendl3.1 Threshold 13.500 MeV
Cross Section (milli-barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
30
50-Sn-120

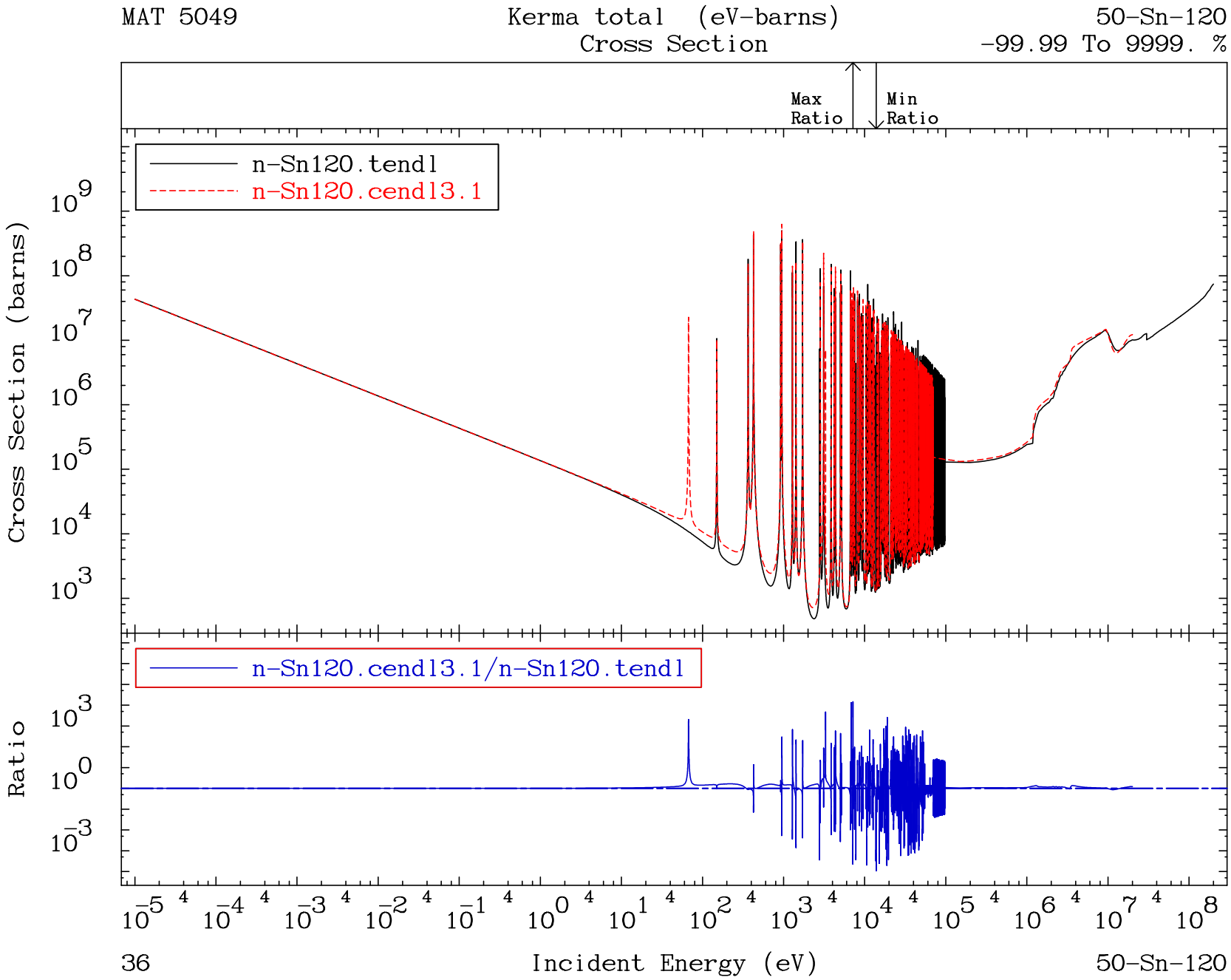

MAT 5049
(n,α)
Cross Section
50-Sn-120
-99.90 To -26.00%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 97.451 keV
n-Sn120.cendl3.1 Threshold 6.1000 MeV
Cross Section (milli-barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
31
50-Sn-120

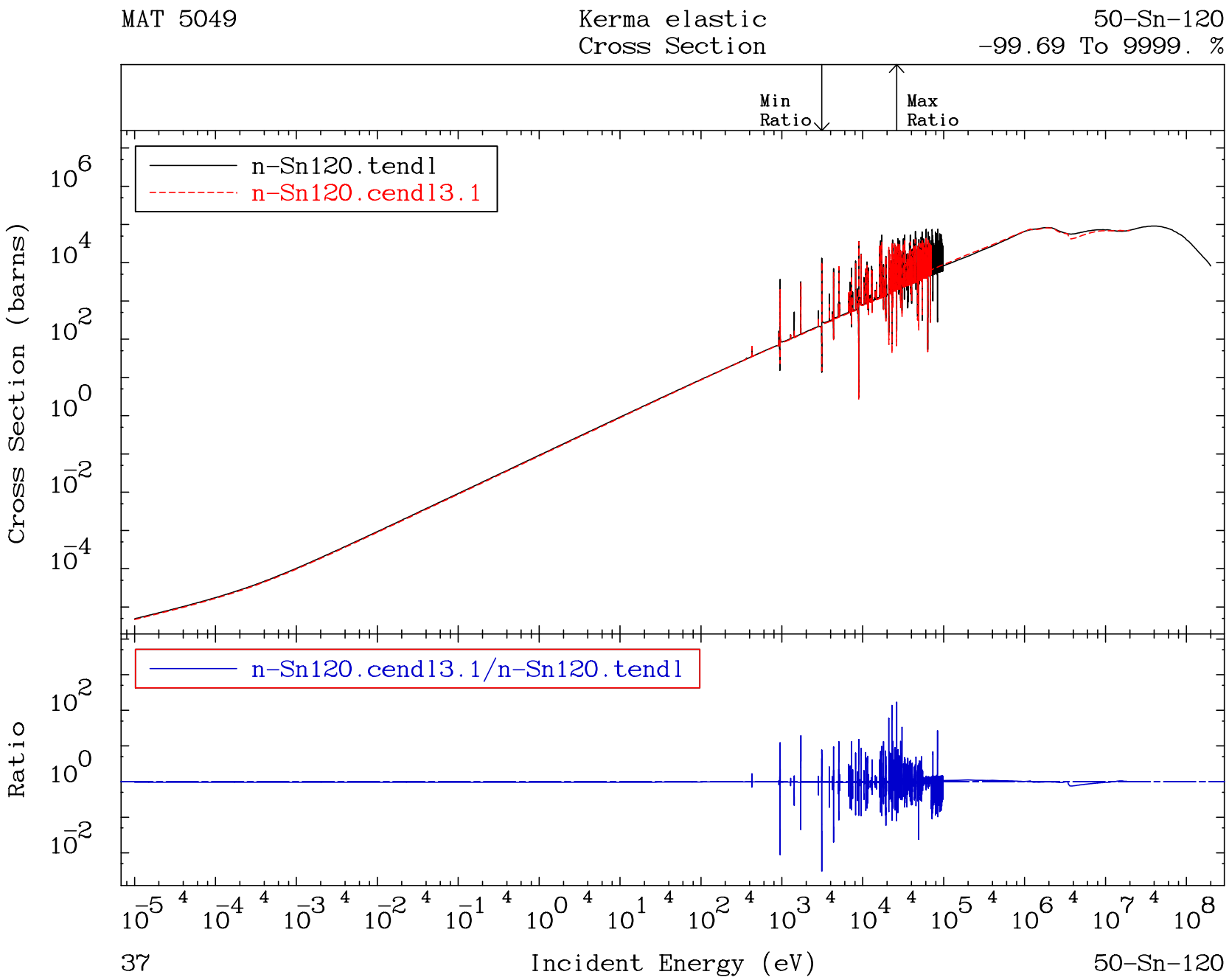

MAT 5049
Hydrogen Production
Cross Section
50-Sn-120
-100.0 To 66.83 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 4.6262 MeV
n-Sn120.cendl3.1 Threshold 6.1000 MeV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-5
10^-10
10^-15
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
32
Incident Energy (eV)
50-Sn-120

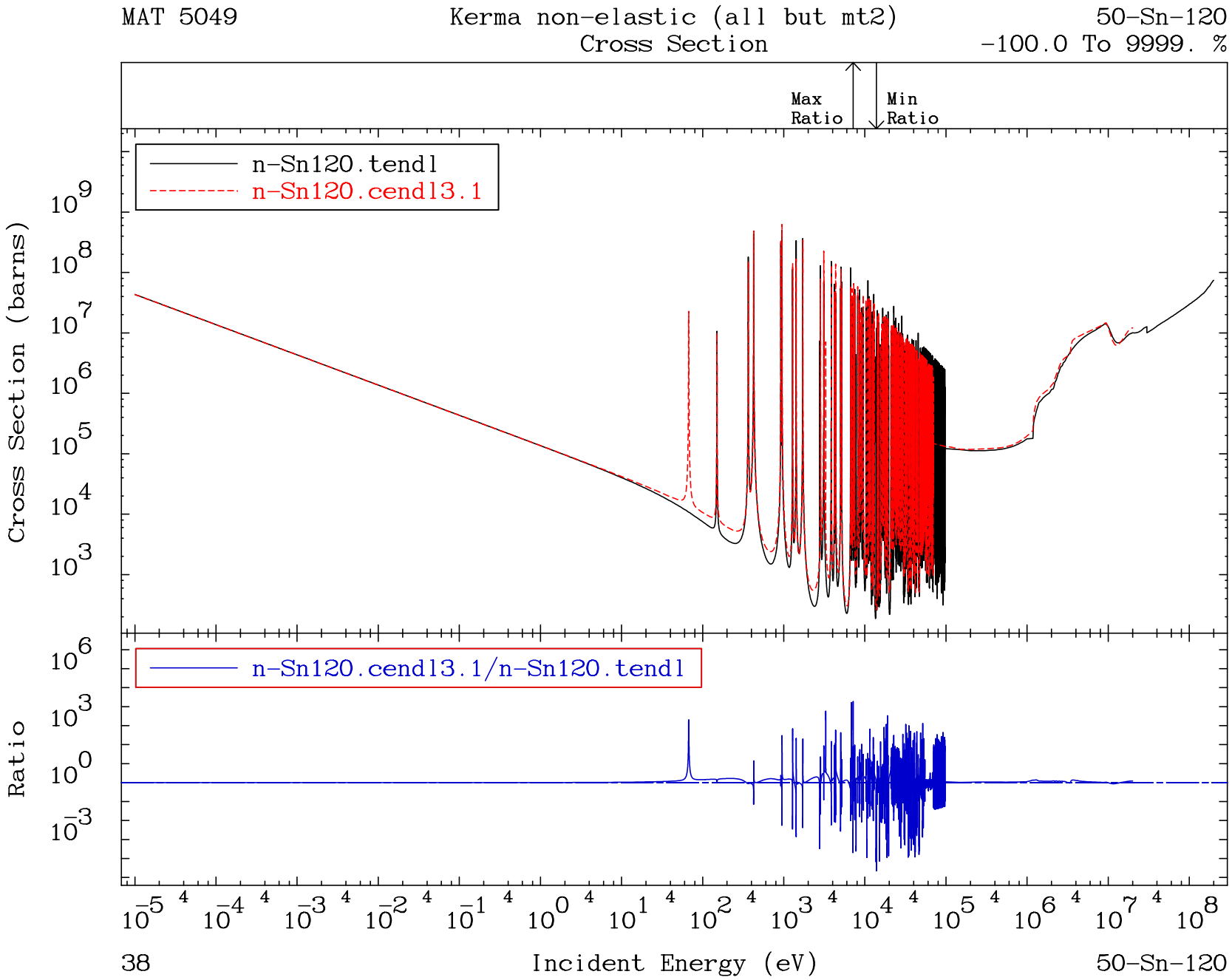

MAT 5049
Deuterium Production
Cross Section
50-Sn-120
-100.0 To -73.59%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 8.5347 MeV
n-Sn120.cendl3.1 Threshold 12.250 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-6
10^-12
10^-18
9
10^7
2
3
4
5
6
7
8
9
10^8
2
33
Incident Energy (eV)
50-Sn-120

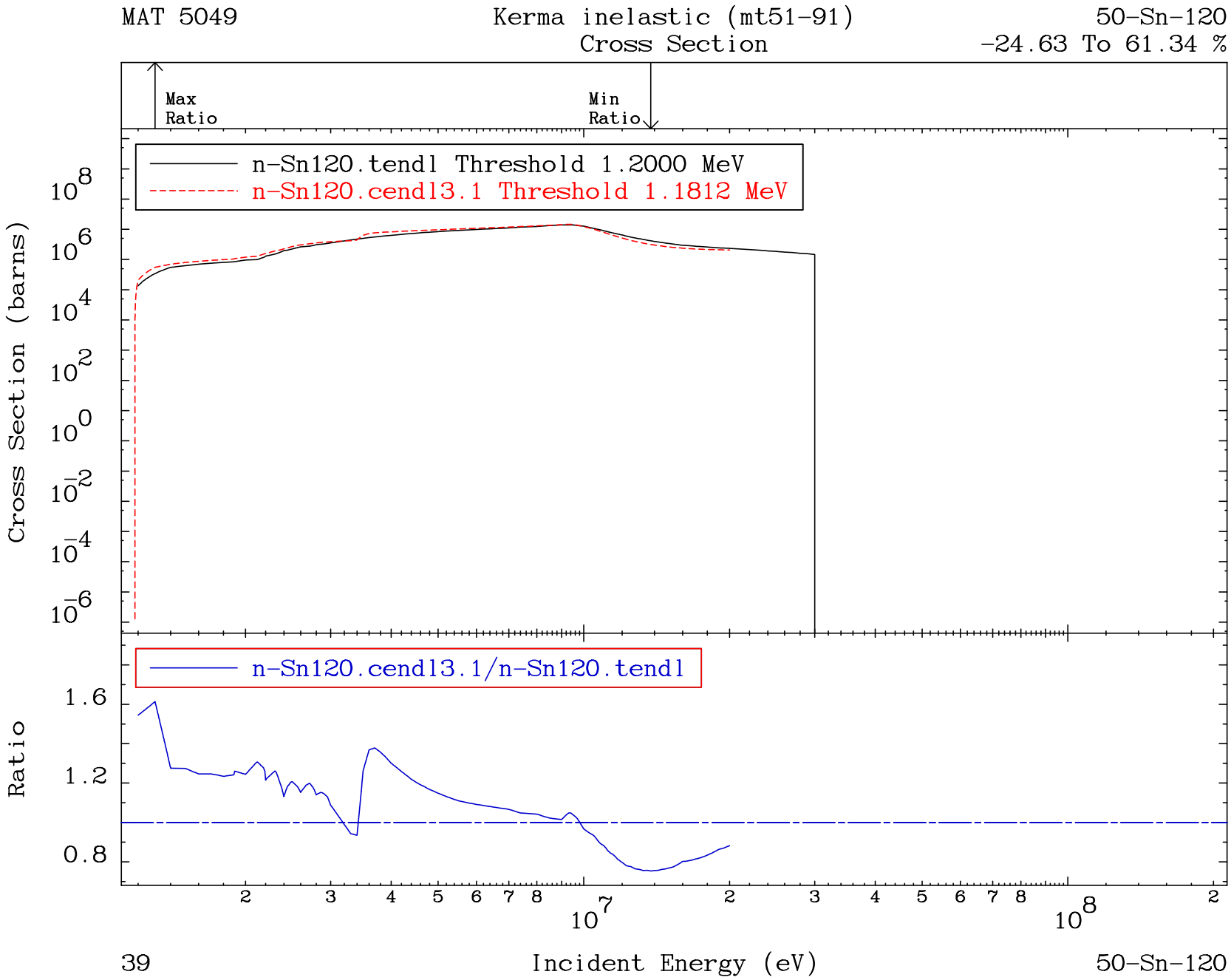

MAT 5049
Tritium Production
Cross Section
50-Sn-120
-70.05 To 530.0 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 10.839 MeV
n-Sn120.cendl3.1 Threshold 13.500 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^1
10^0
6
4
6
4
2
3
4
5
6
7
8
9
10^8
2
34
Incident Energy (eV)
50-Sn-120

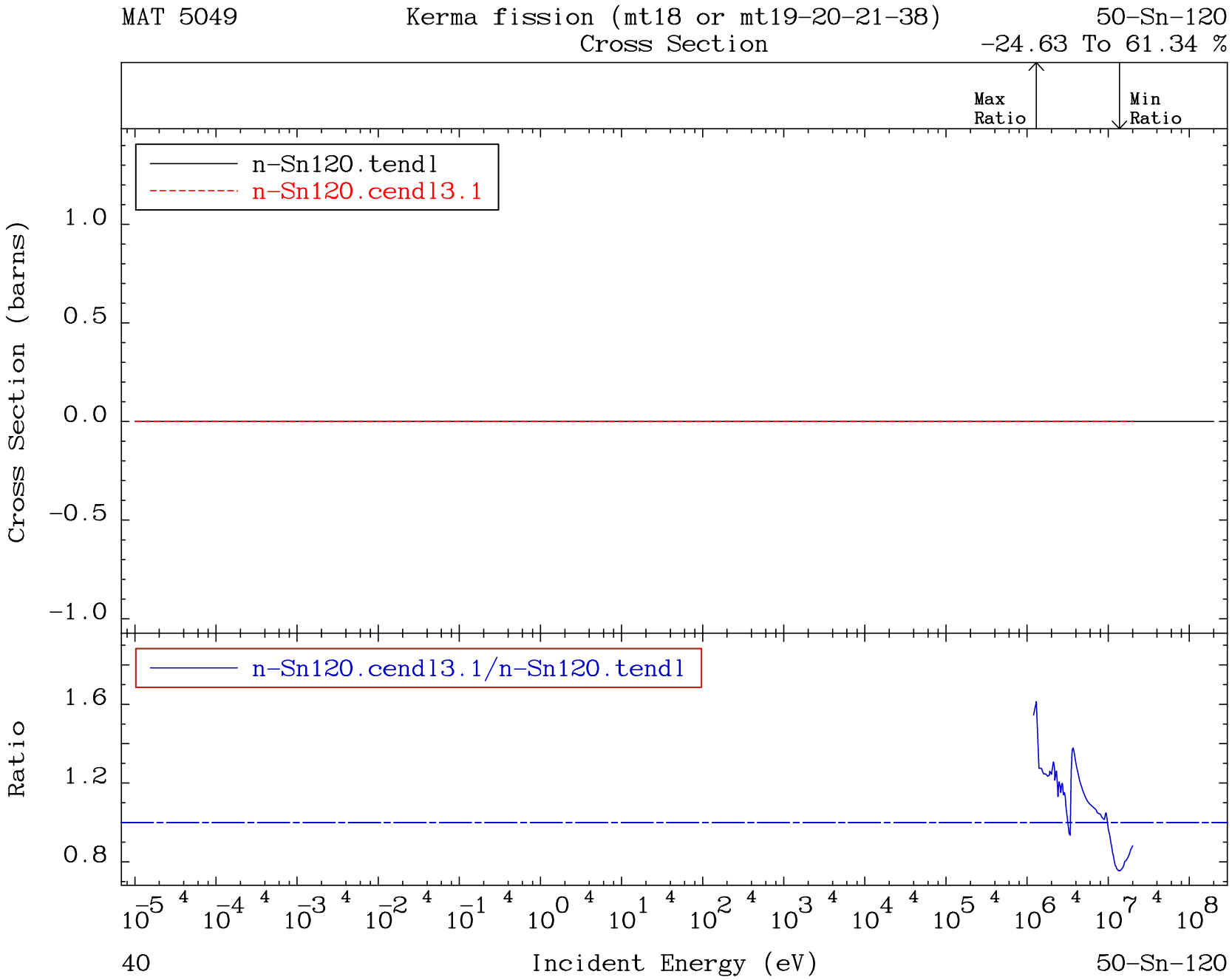

MAT 5049
He-4 Production
Cross Section
50-Sn-120
-99.90 To -27.00%
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 97.451 keV
n-Sn120.cendl3.1 Threshold 6.1000 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
10^0
10^-1
10^-2
10^-3
10^5
2 3 4 5 6 8
10^6
2 3 4 5 6 8
10^7
2 3 4 5 6 8
10^8
2
35
Incident Energy (eV)
50-Sn-120

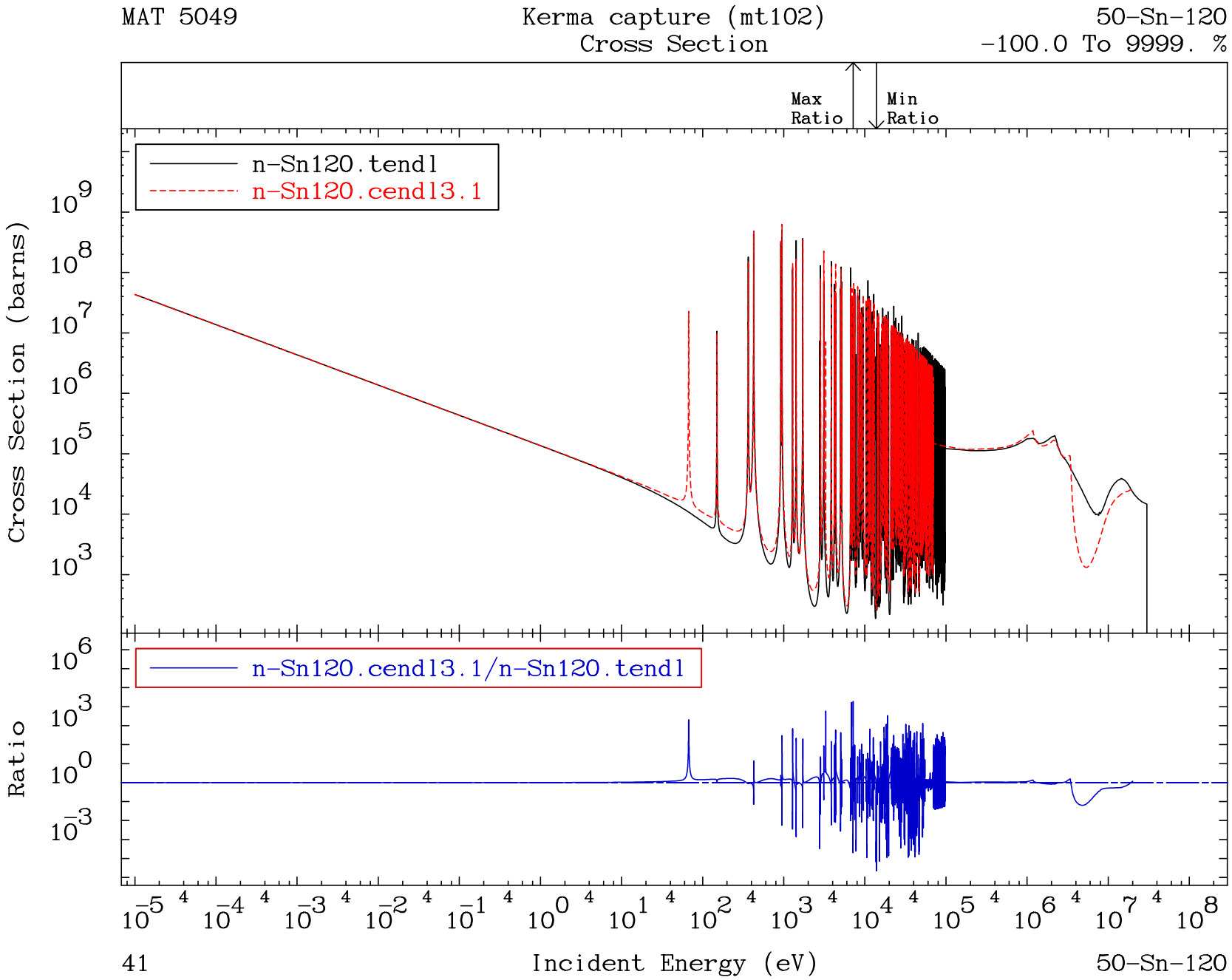

MAT 5049
Kerma total (eV-barns)
Cross Section
50-Sn-120
-99.99 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
36
50-Sn-120

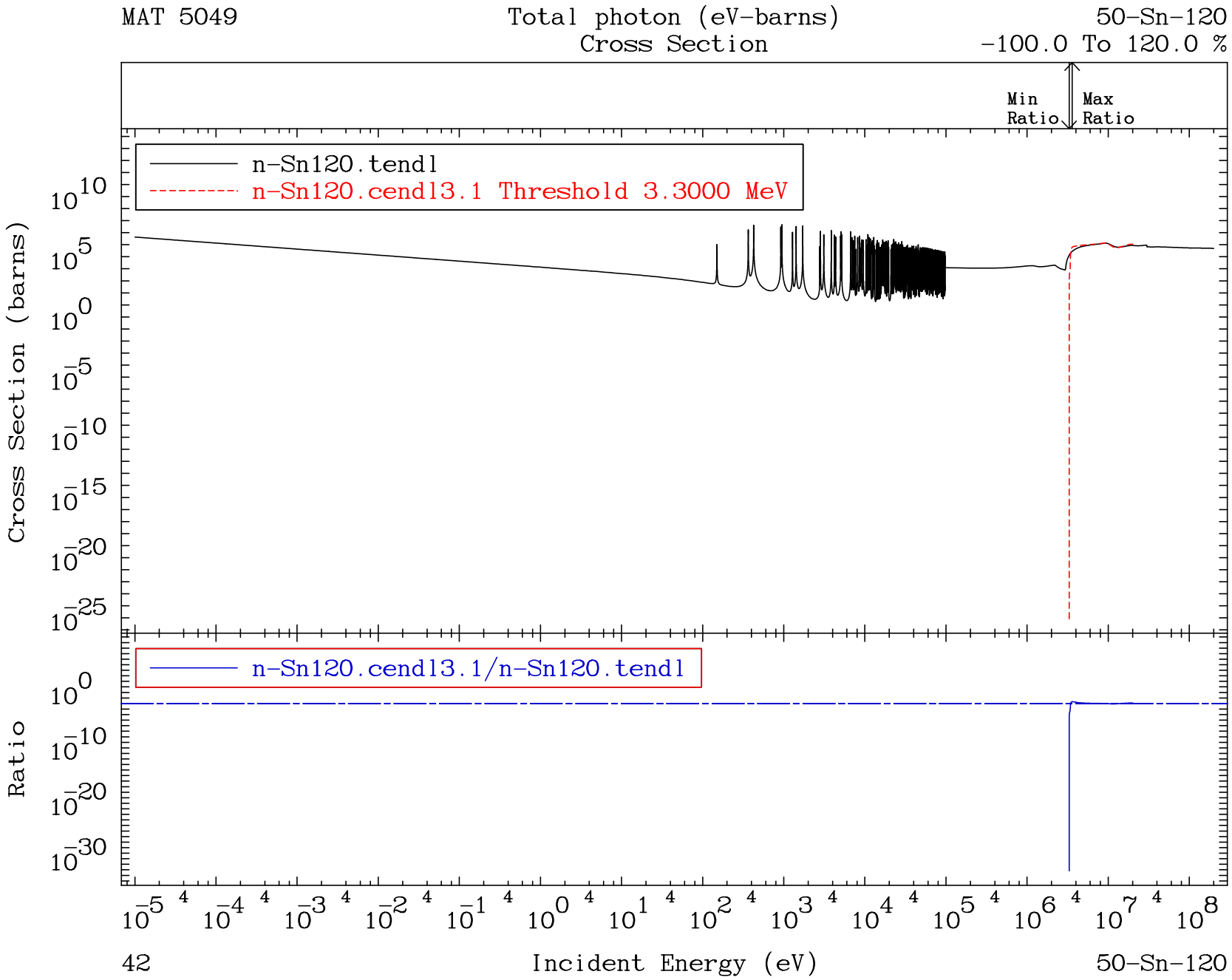

MAT 5049
Kerma elastic
Cross Section
50-Sn-120
-99.69 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
37
50-Sn-120

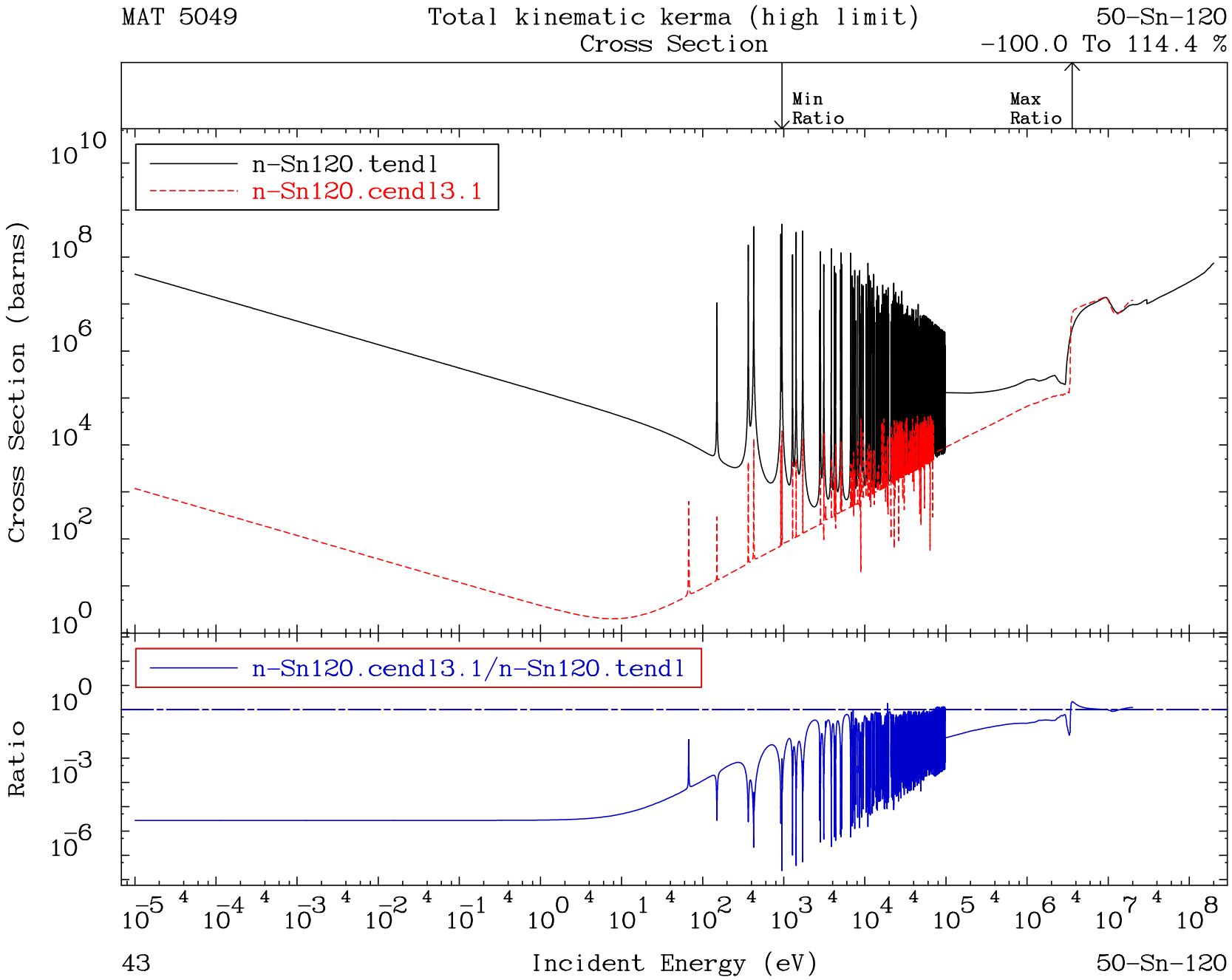

MAT 5049
Kerma non-elastic (all but mt2)
Cross Section
50-Sn-120
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
38
50-Sn-120

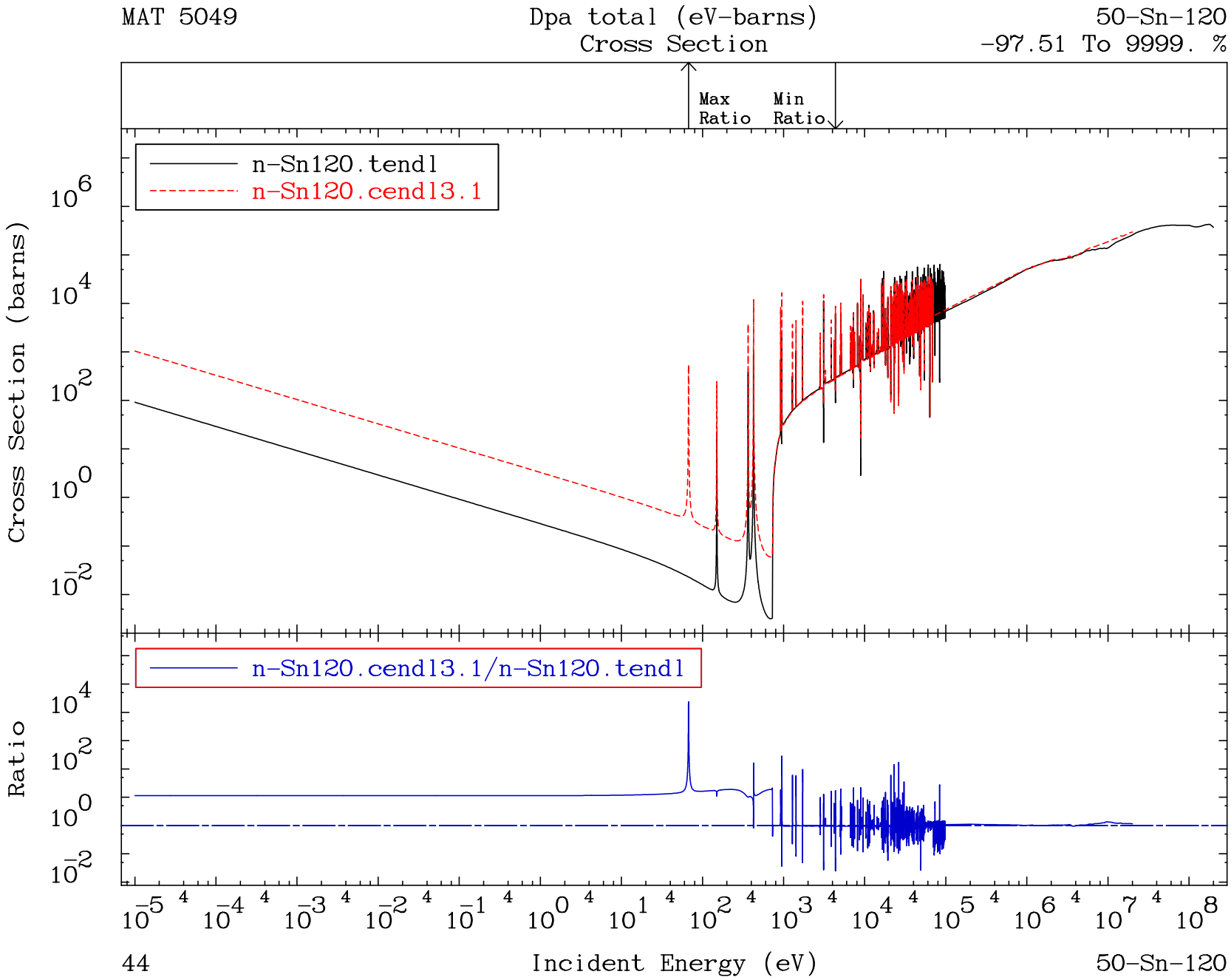

MAT 5049
Kerma inelastic (mt51-91)
Cross Section
50-Sn-120
-24.63 To 61.34 %
Max Ratio
Min Ratio
n-Sn120.tendl Threshold 1.2000 MeV
n-Sn120.cendl3.1 Threshold 1.1812 MeV
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
39
50-Sn-120

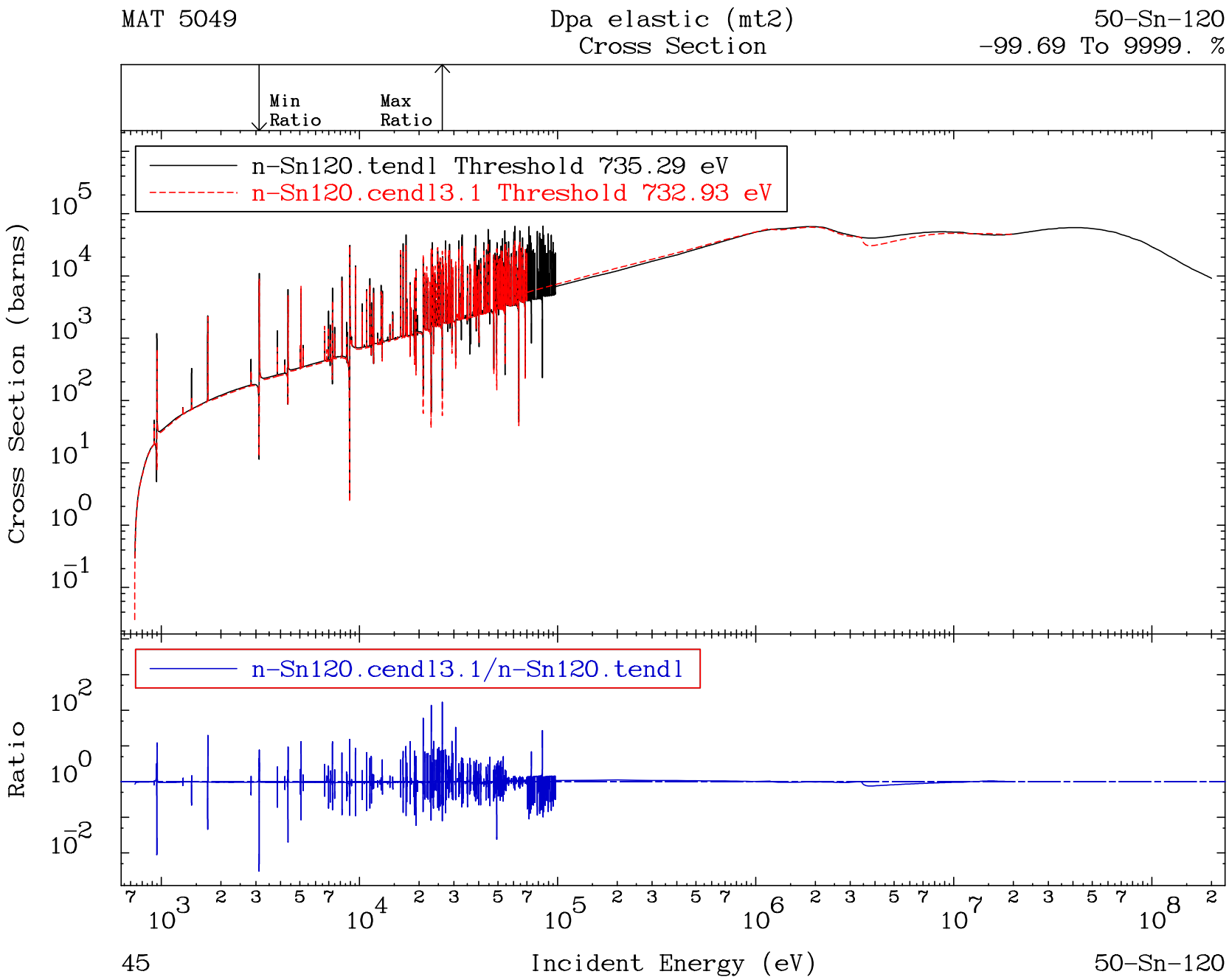

MAT 5049
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
50-Sn-120
-24.63 To 61.34 %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
1.6
1.2
0.8
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
40
Incident Energy (eV)
50-Sn-120

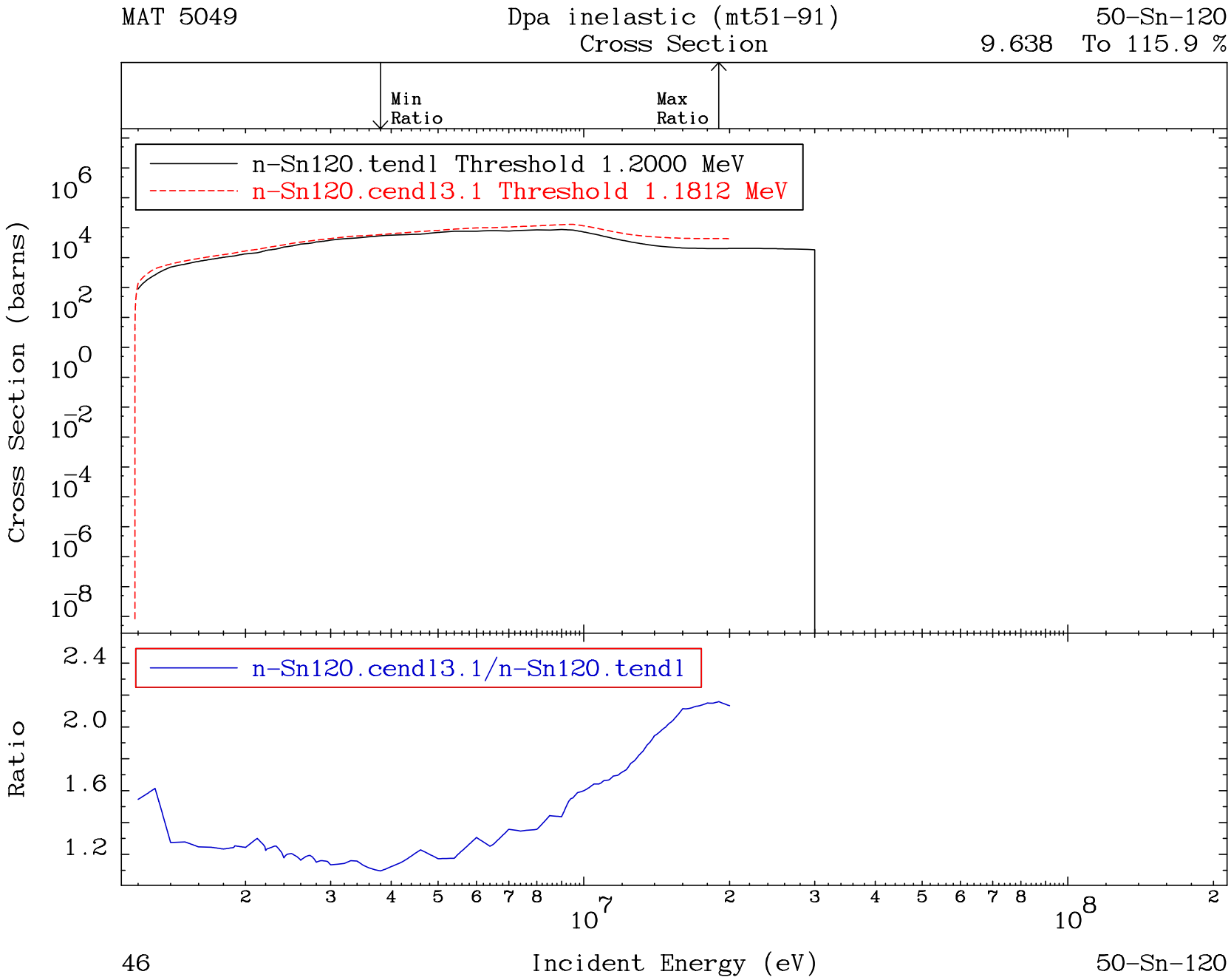

MAT 5049
Kerma capture (mt102)
Cross Section
50-Sn-120
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
41
50-Sn-120

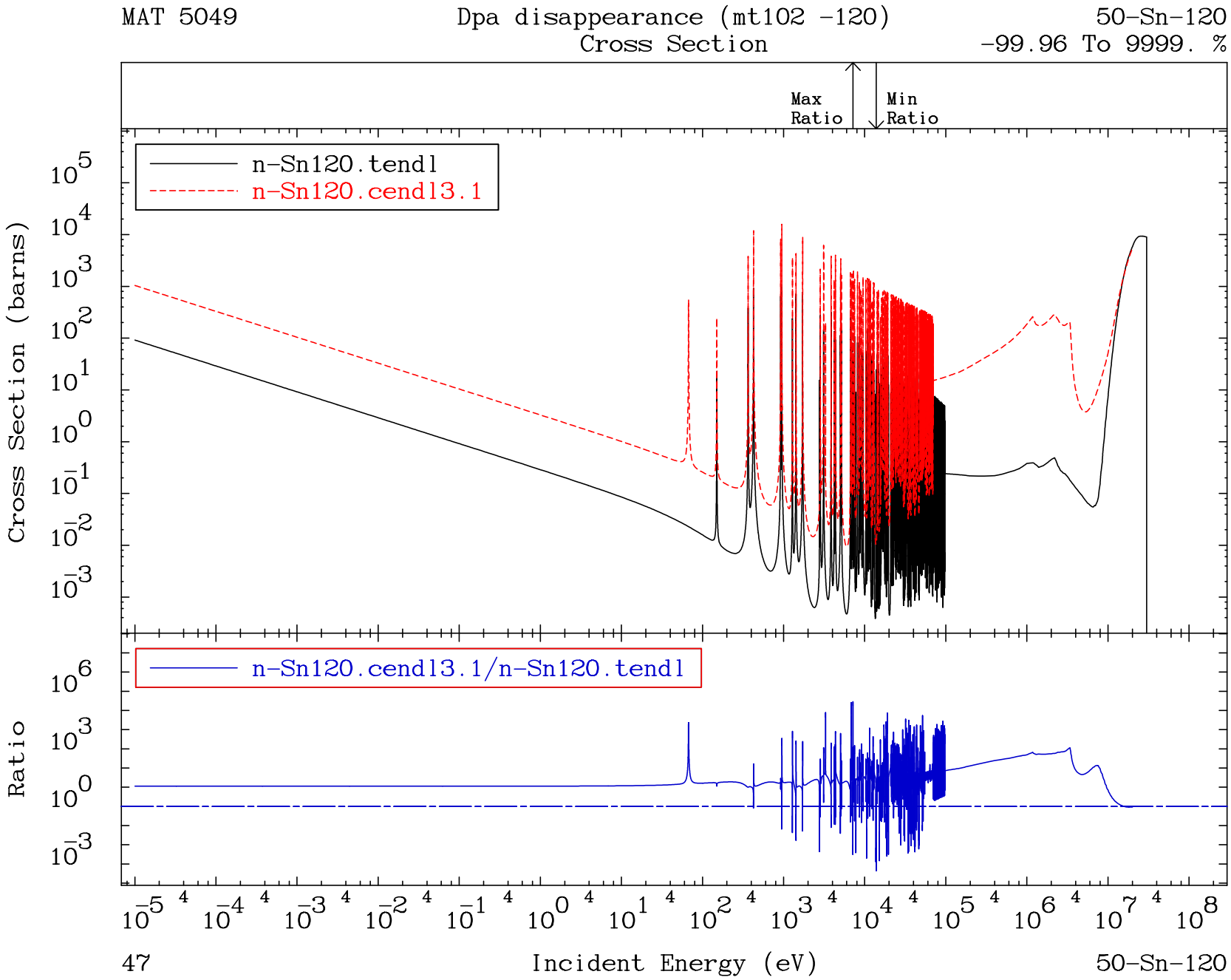

MAT 5049
Total photon (eV-barns)
Cross Section
50-Sn-120
-100.0 To 120.0 %
Min Ratio
Max Ratio
n-Sn120.tendl
n-Sn120.cendl3.1 Threshold 3.3000 MeV
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
42
50-Sn-120


MAT 5049
Total kinematic kerma (high limit)
Cross Section
50-Sn-120
-100.0 To 114.4 %
Min Ratio
Max Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
43
50-Sn-120


MAT 5049
Dpa total (eV-barns)
Cross Section
50-Sn-120
-97.51 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
44
50-Sn-120


MAT 5049
Dpa elastic (mt2)
Cross Section
50-Sn-120
-99.69 To 9999. %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 735.29 eV
n-Sn120.cendl3.1 Threshold 732.93 eV
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
45
50-Sn-120


MAT 5049
Dpa inelastic (mt51-91)
Cross Section
50-Sn-120
9.638 To 115.9 %
Min Ratio
Max Ratio
n-Sn120.tendl Threshold 1.2000 MeV
n-Sn120.cendl3.1 Threshold 1.1812 MeV
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
Incident Energy (eV)
46
50-Sn-120


MAT 5049
Dpa disappearance (mt102 -120)
Cross Section
50-Sn-120
-99.96 To 9999. %
Max Ratio
Min Ratio
n-Sn120.tendl
n-Sn120.cendl3.1
Cross Section (barns)
n-Sn120.cendl3.1/n-Sn120.tendl
Ratio
47
Incident Energy (eV)
50-Sn-120