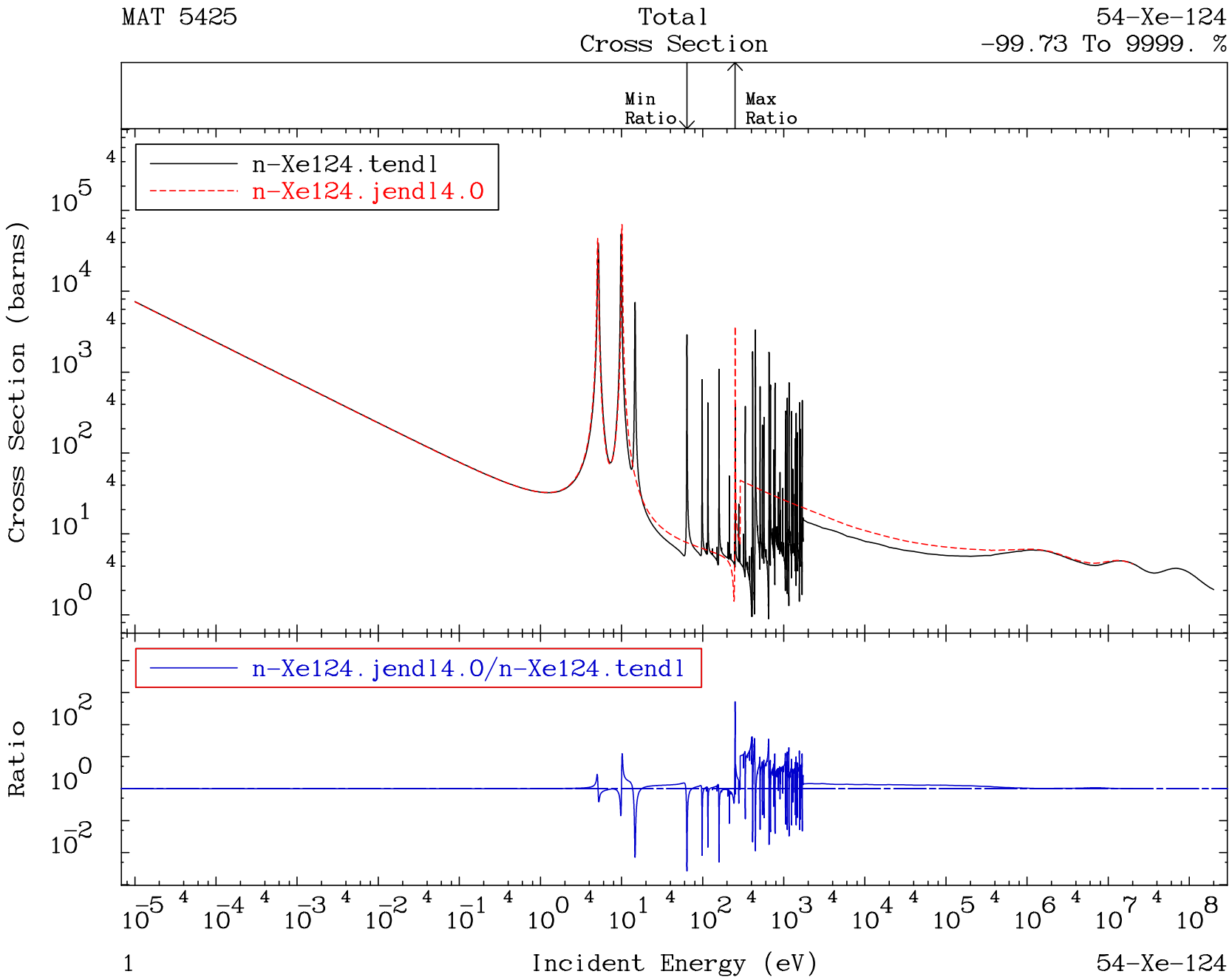
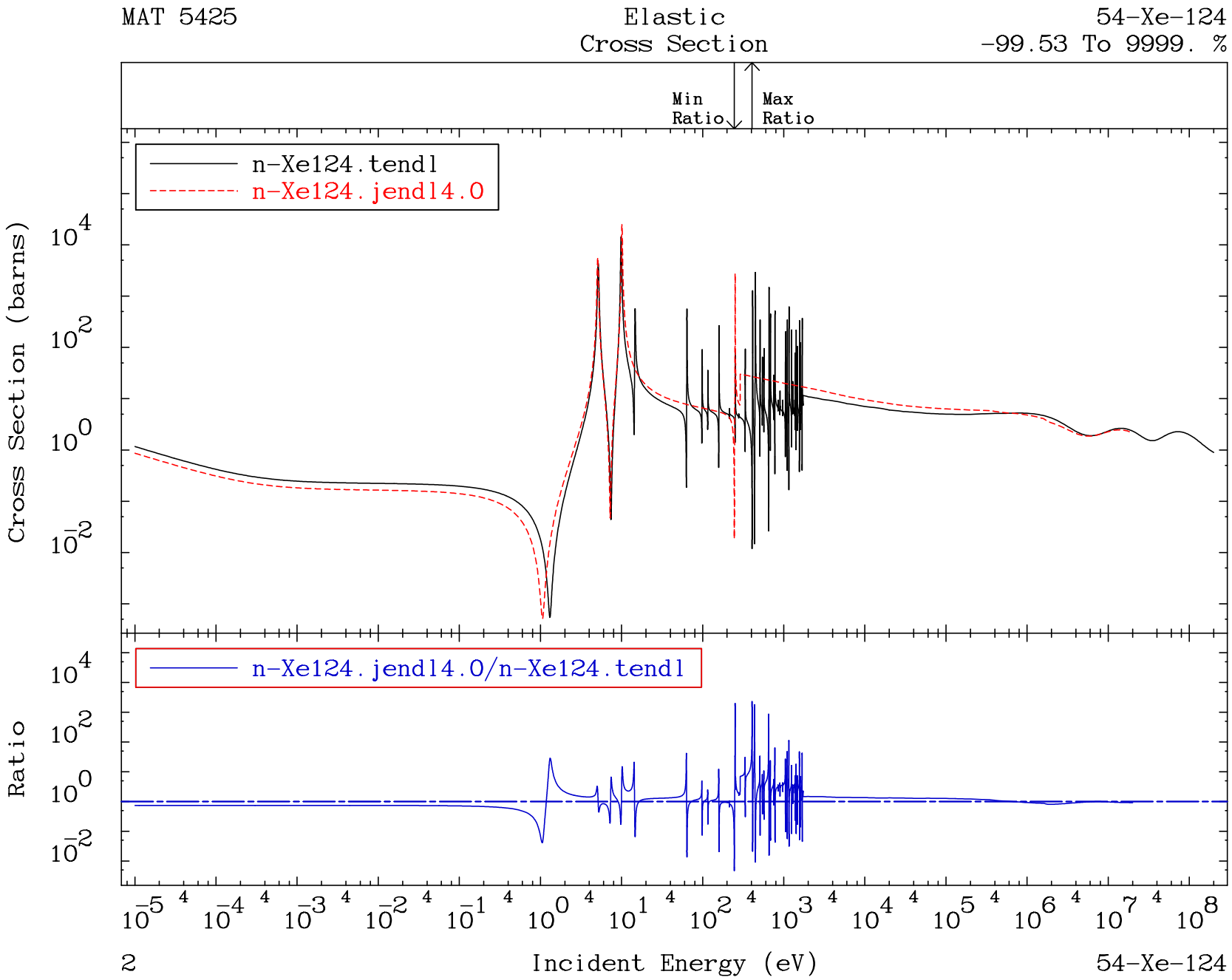
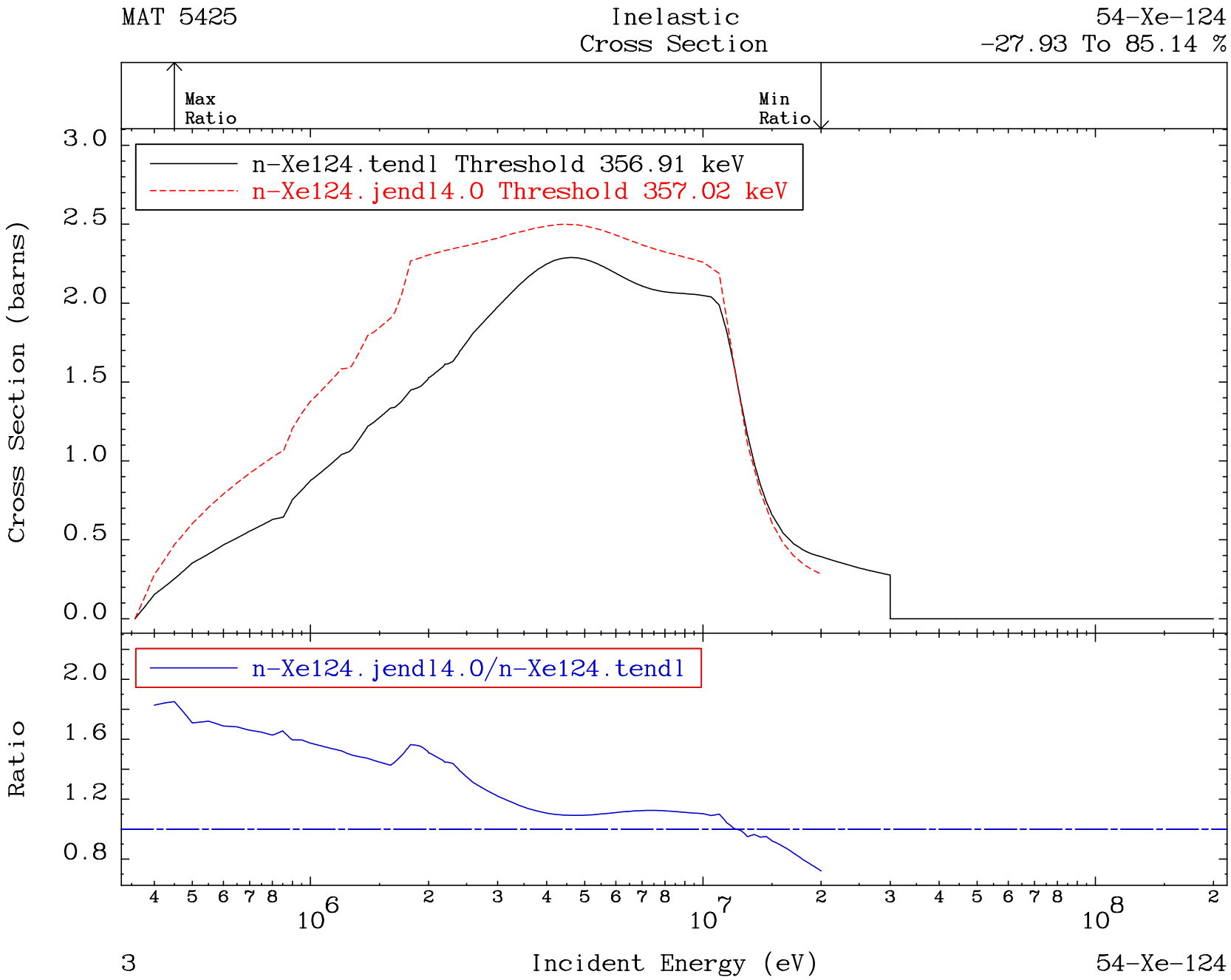
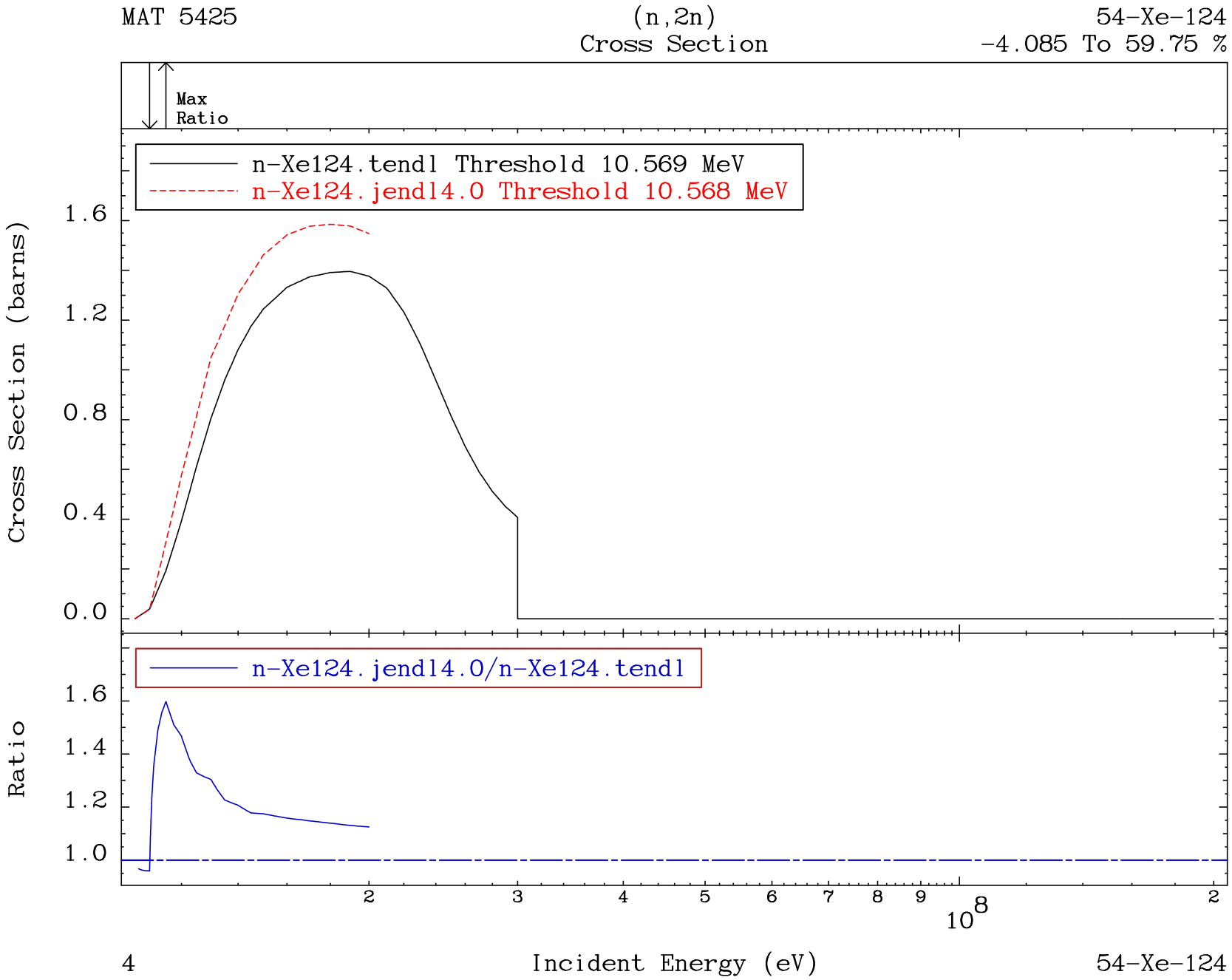
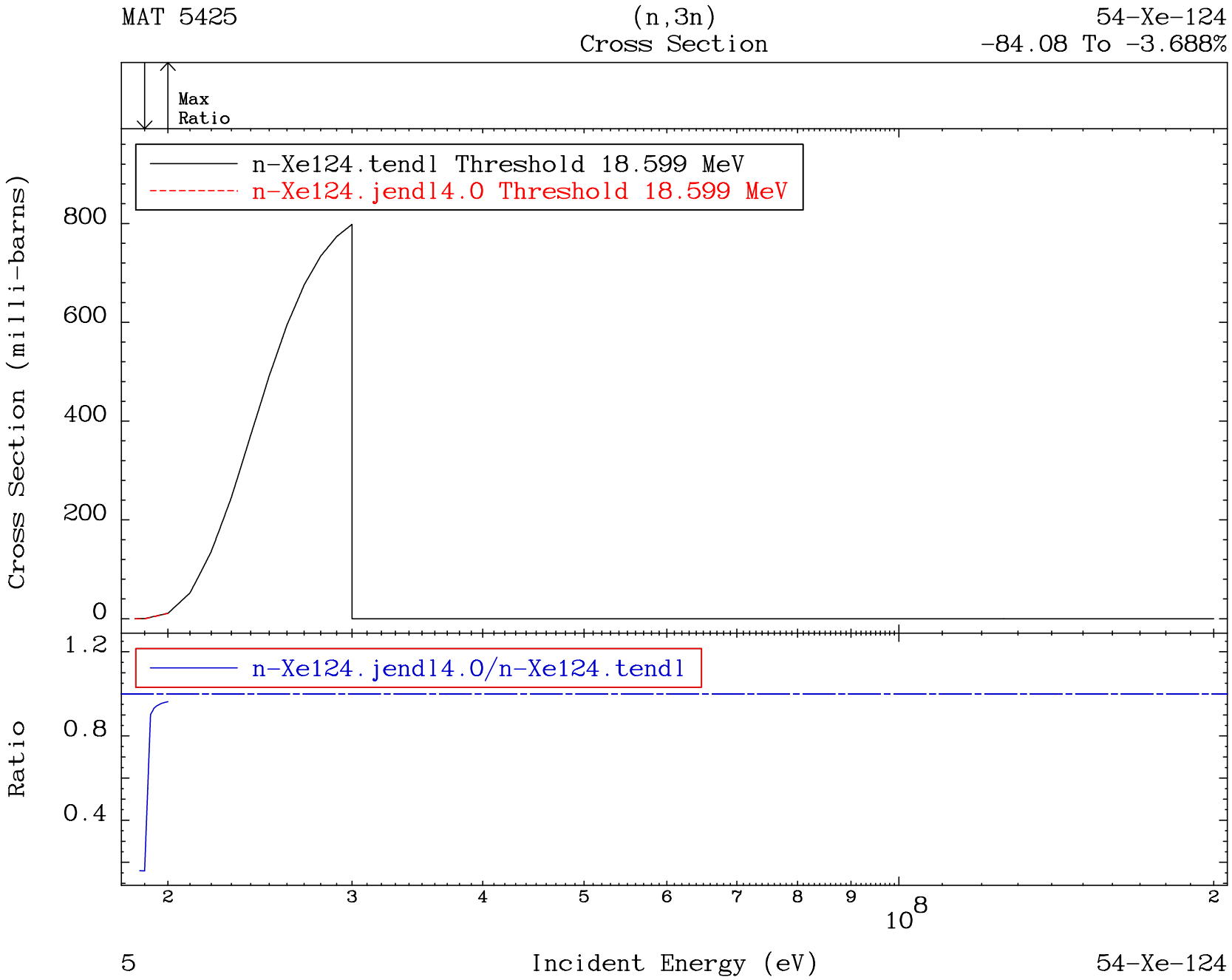
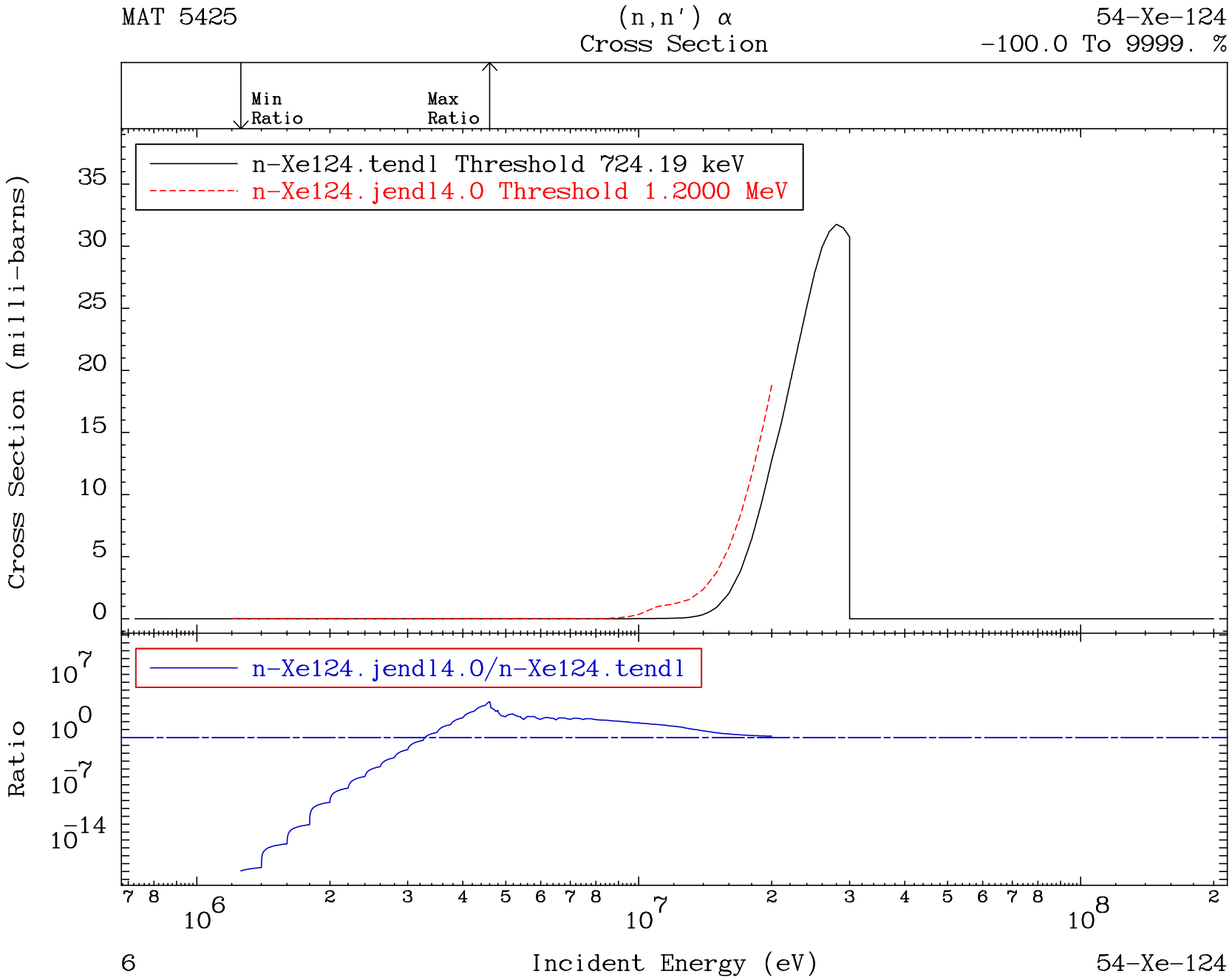

MAT 5425
Total
Cross Section
54-Xe-124
-99.73 To 9999. %
Min
Ratio
Max
Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
1
54-Xe-124

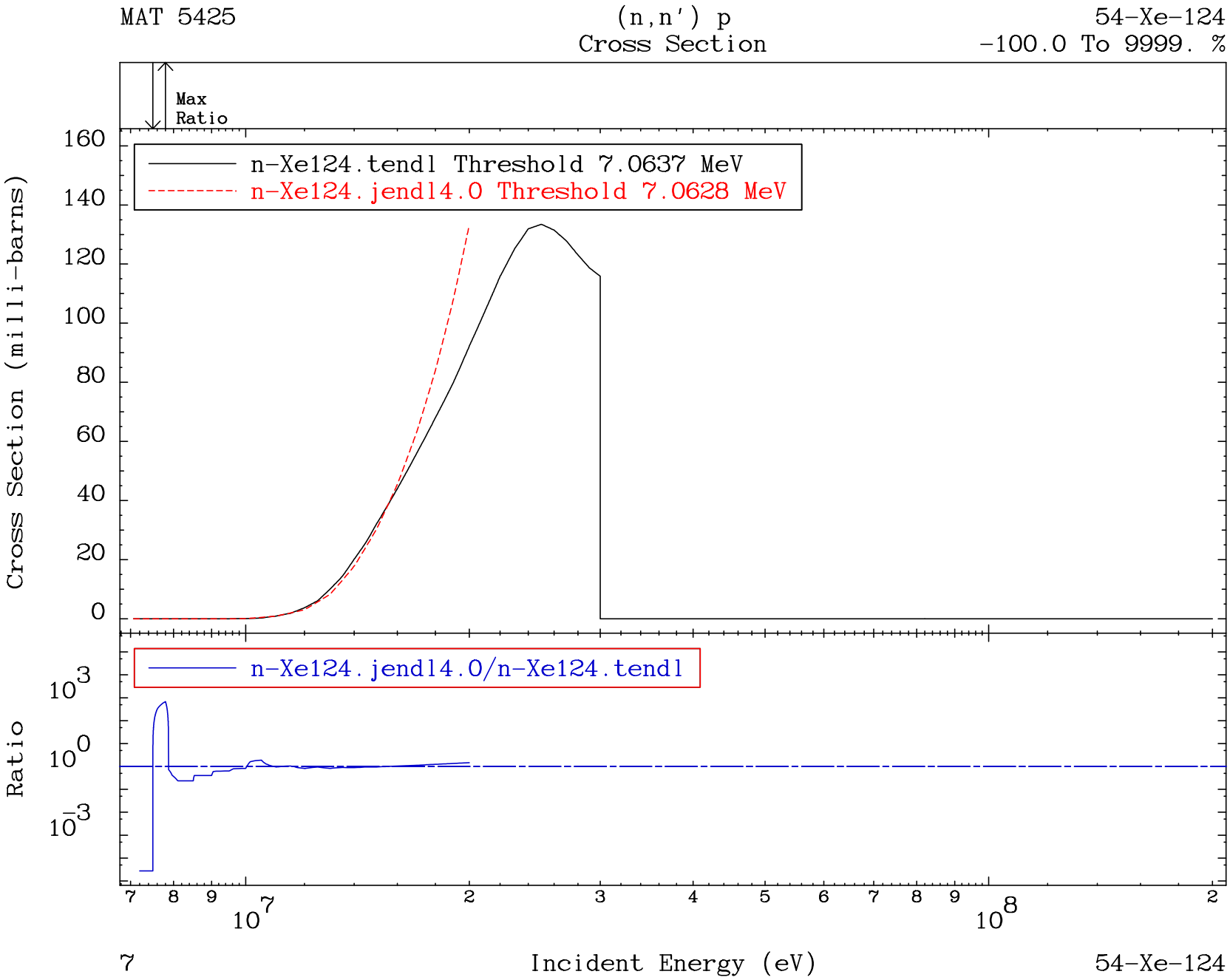

MAT 5425
Elastic
Cross Section
54-Xe-124
-99.53 To 9999. %
Min
Ratio
Max
Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
2
54-Xe-124

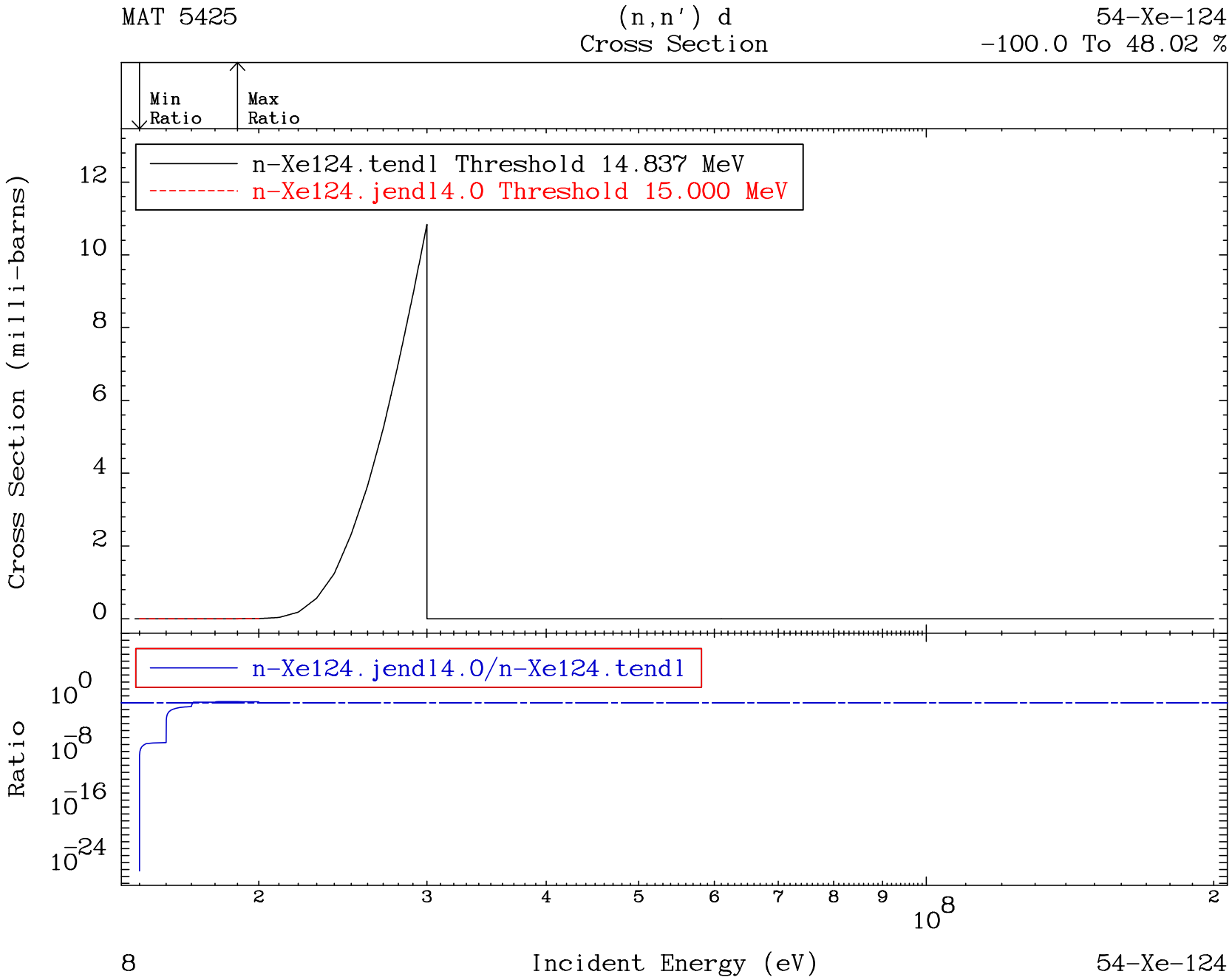

MAT 5425
Inelastic
Cross Section
54-Xe-124
-27.93 To 85.14 %
Max
Ratio
Min
Ratio
n-Xe124.tendl Threshold 356.91 keV
n-Xe124.jendl4.0 Threshold 357.02 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.6
1.2
0.8
4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
3
Incident Energy (eV)
54-Xe-124

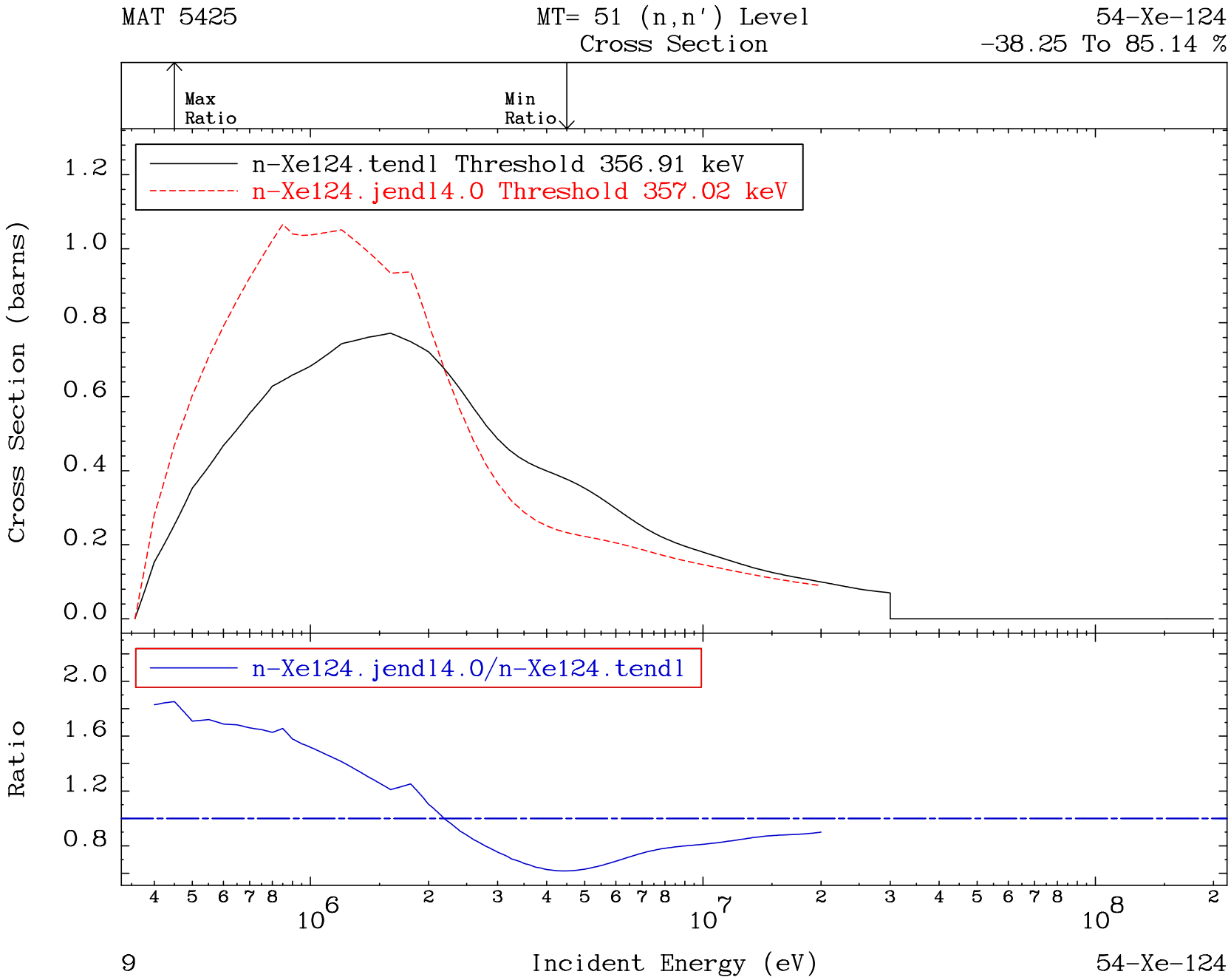

MAT 5425
(n,2n)
Cross Section
54-Xe-124
-4.085 To 59.75 %
Max
Ratio
n-Xe124.tendl Threshold 10.569 MeV
n-Xe124.jendl4.0 Threshold 10.568 MeV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
1.6
1.4
1.2
1.0
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
54-Xe-124

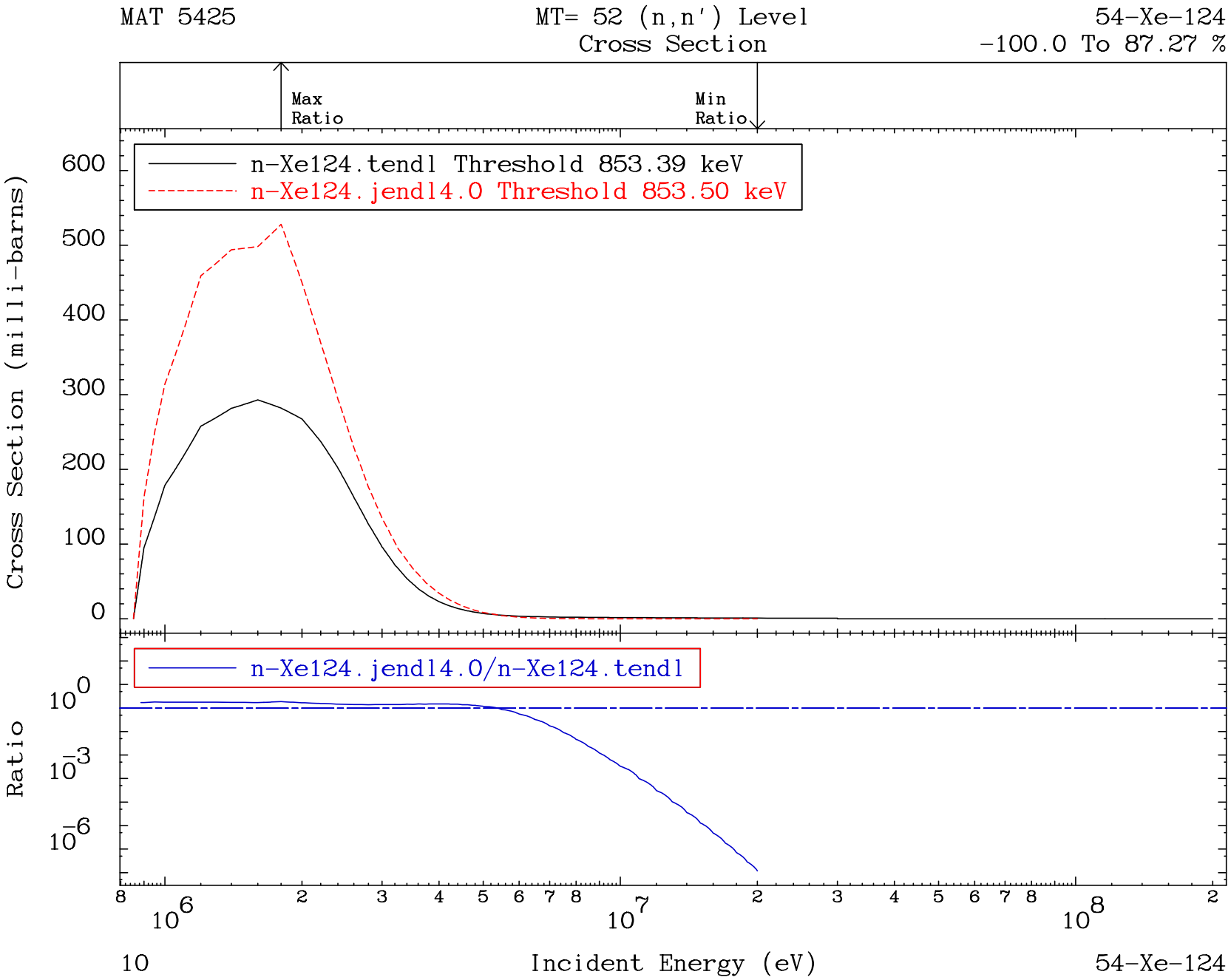

MAT 5425
(n,3n)
Cross Section
54-Xe-124
-84.08 To -3.688%
Max
Ratio
n-Xe124.tendl Threshold 18.599 MeV
n-Xe124.jendl4.0 Threshold 18.599 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
54-Xe-124

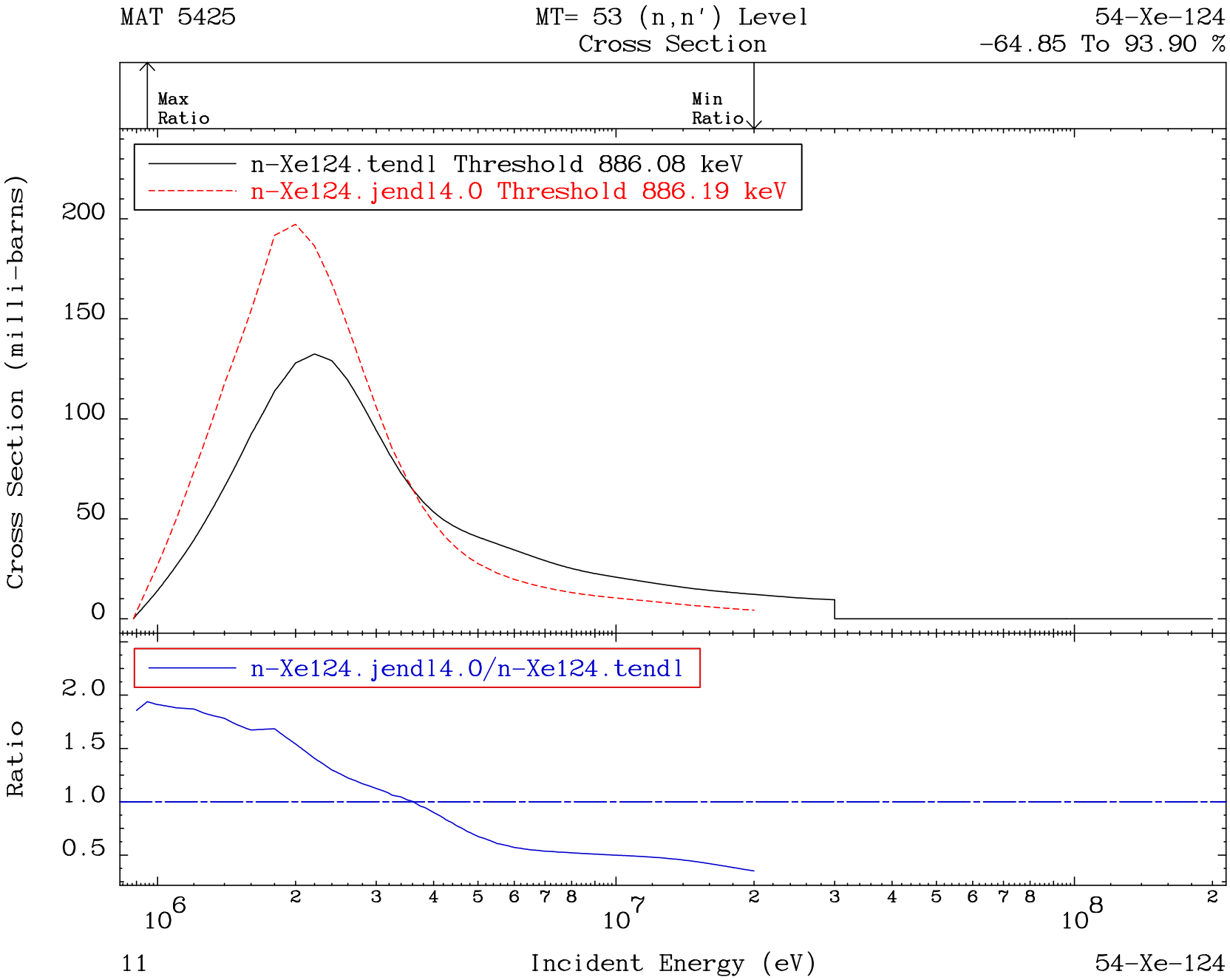

MAT 5425
(n,n') α
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl Threshold 724.19 keV
n-Xe124.jendl4.0 Threshold 1.2000 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^7
10^0
10^-7
10^-14
7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
6
Incident Energy (eV)
54-Xe-124

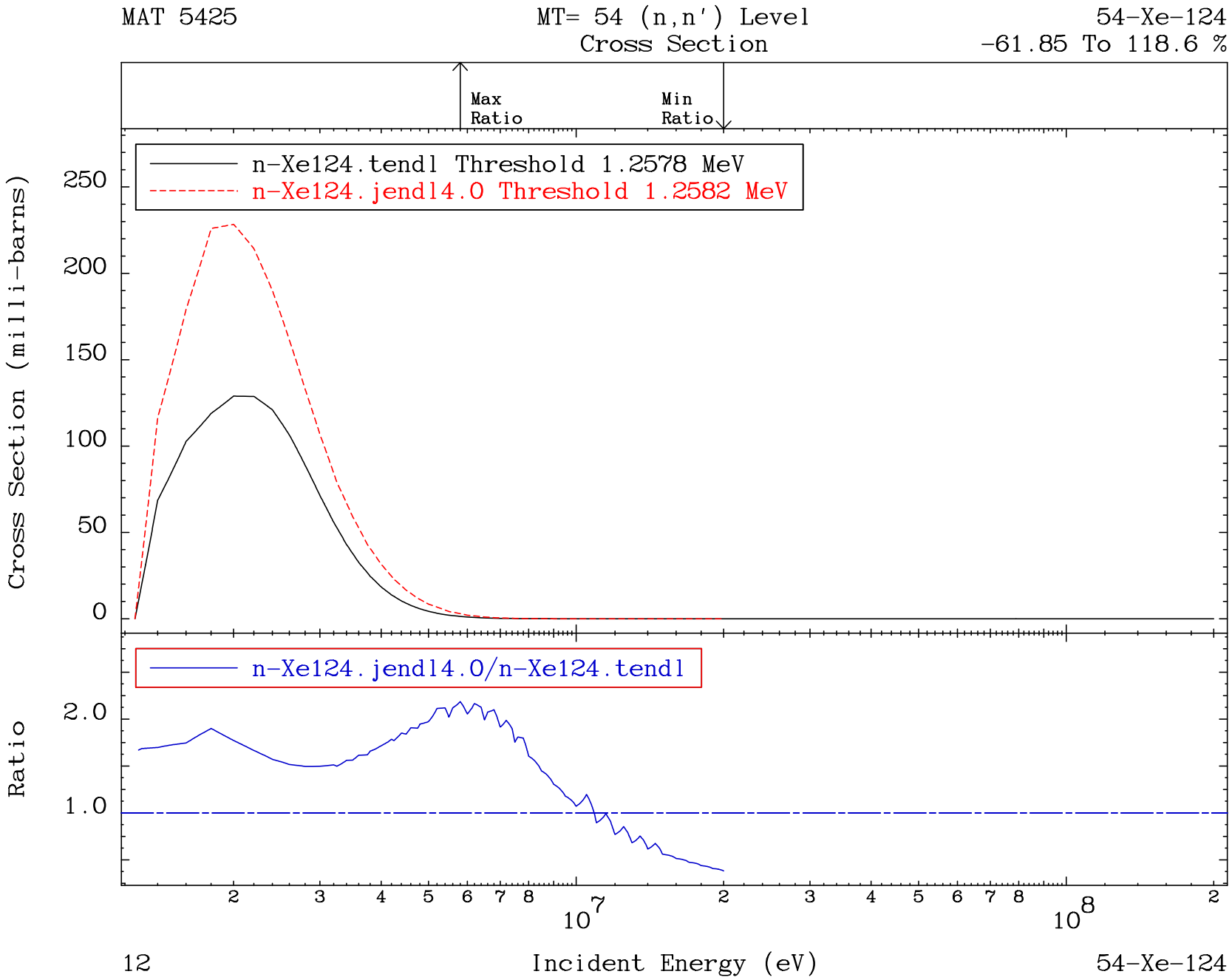

MAT 5425
(n,n') p
Cross Section
54-Xe-124
-100.0 To 9999. %
Max
Ratio
n-Xe124.tendl Threshold 7.0637 MeV
n-Xe124.jendl4.0 Threshold 7.0628 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^3
10^0
10^-3
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
7
Incident Energy (eV)
54-Xe-124

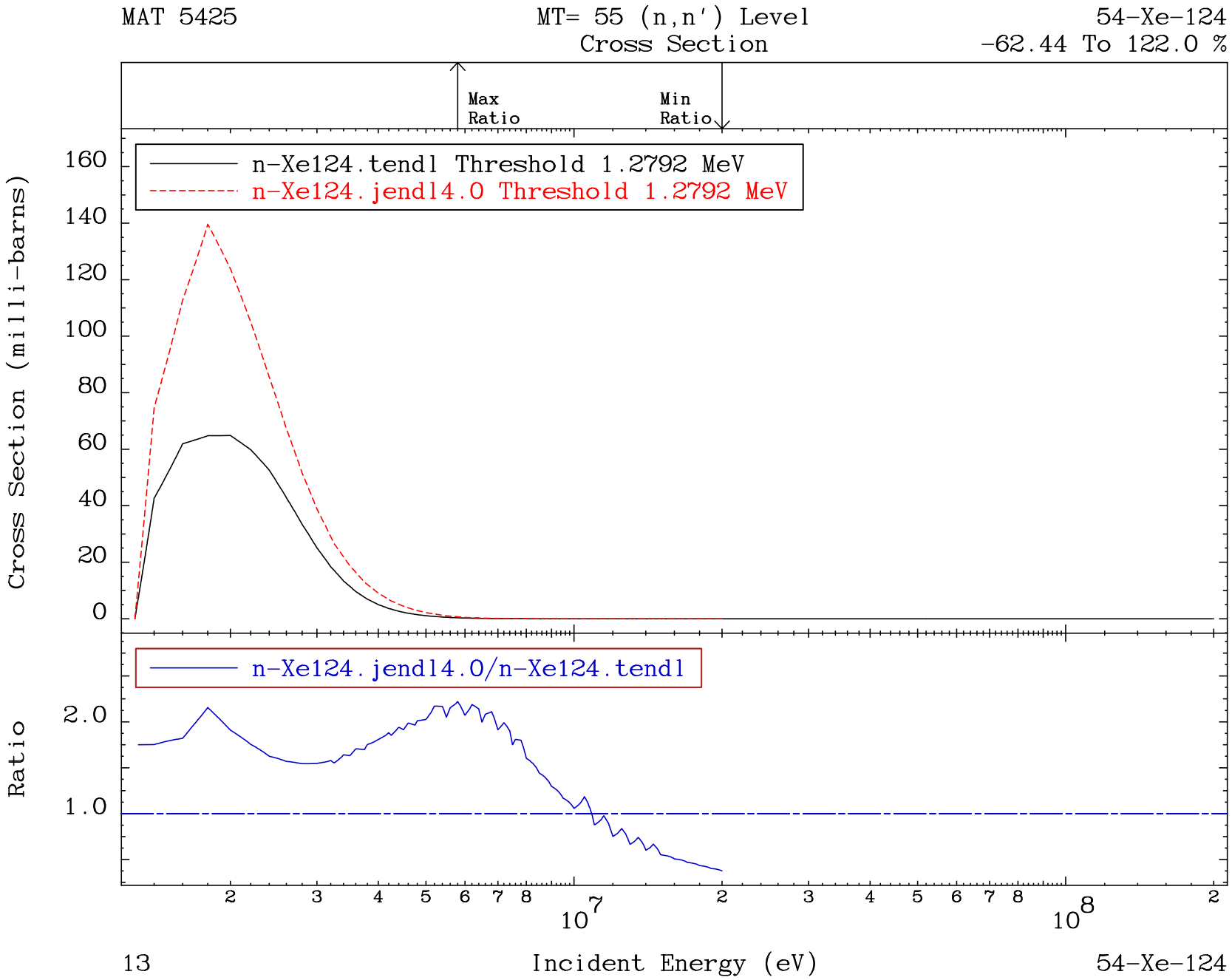

MAT 5425
(n,n') d
Cross Section
54-Xe-124
-100.0 To 48.02 %
Min Ratio
Max Ratio
n-Xe124.tendl Threshold 14.837 MeV
n-Xe124.jendl4.0 Threshold 15.000 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^0
10^-8
10^-16
10^-24
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
54-Xe-124

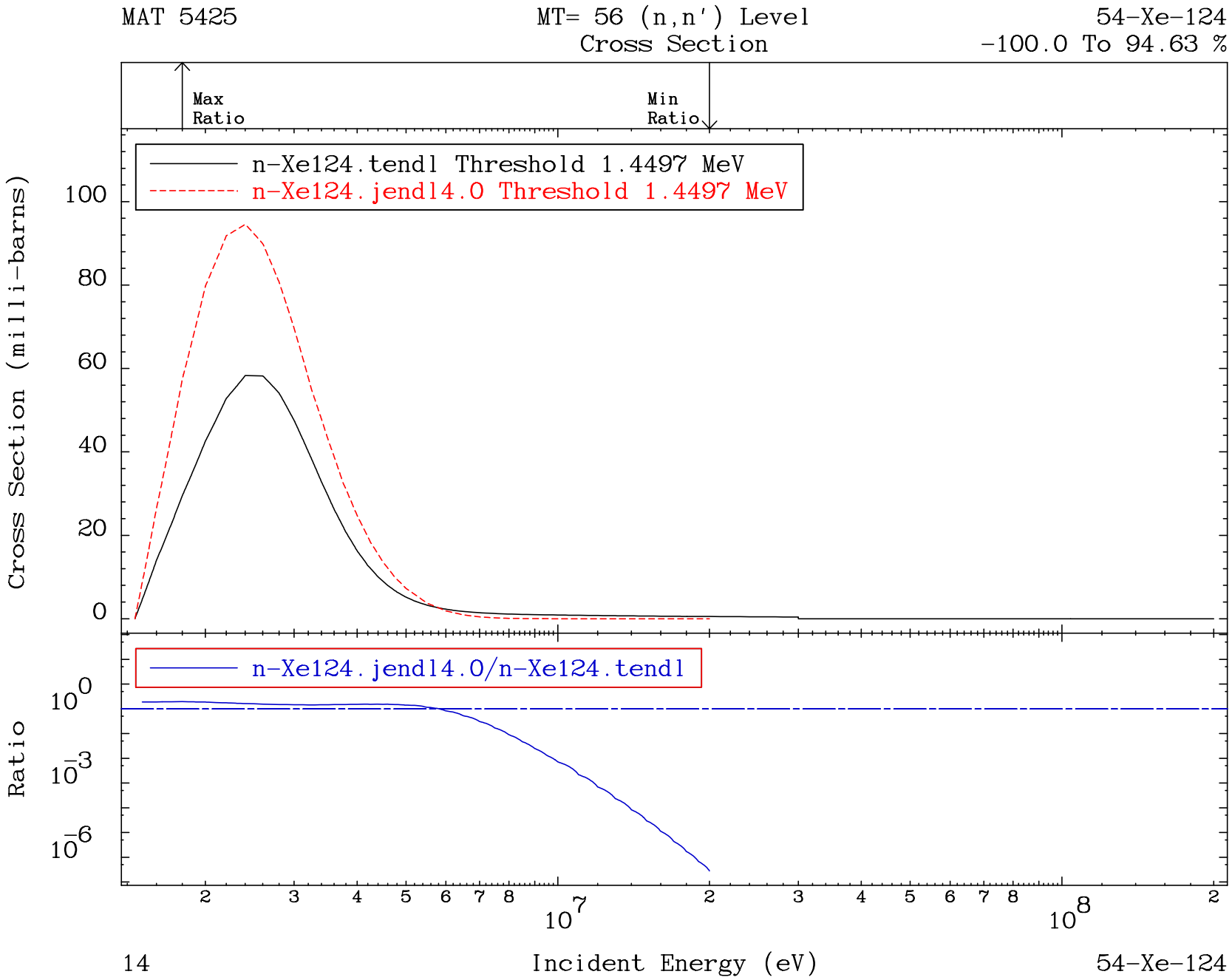

MAT 5425
MT= 51 (n,n') Level
Cross Section
54-Xe-124
-38.25 To 85.14 %
Max
Ratio
Min
Ratio
n-Xe124.tendl Threshold 356.91 keV
n-Xe124.jendl4.0 Threshold 357.02 keV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.6
1.2
0.8
4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
9
Incident Energy (eV)
54-Xe-124

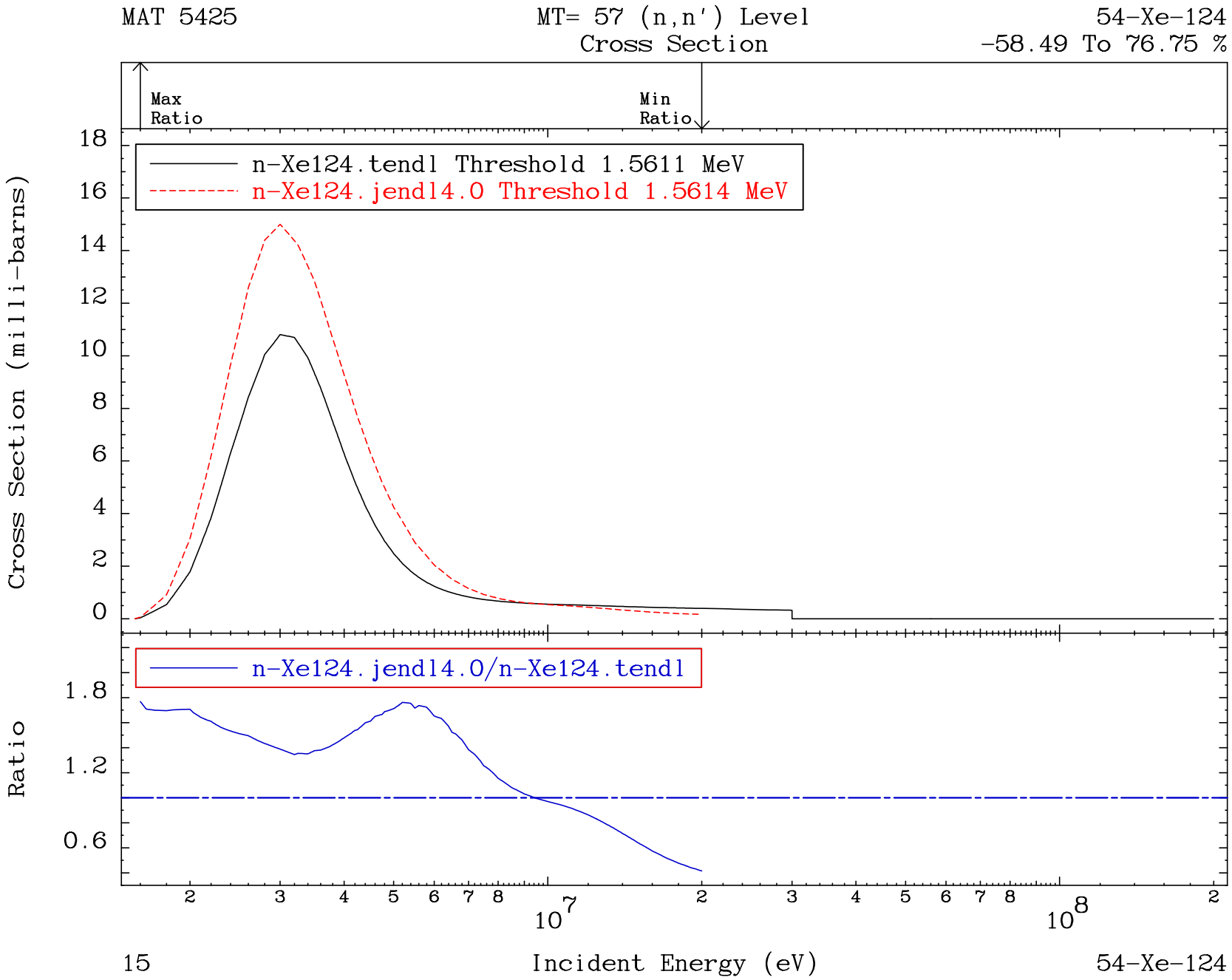

MAT 5425
MT= 52 (n,n') Level
Cross Section
54-Xe-124
-100.0 To 87.27 %
Max
Ratio
Min
Ratio
n-Xe124.tendl Threshold 853.39 keV
n-Xe124.jendl4.0 Threshold 853.50 keV
Cross Section (milli-barns)
600
500
400
300
200
100
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^0
10^-3
10^-6
8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
10
Incident Energy (eV)
54-Xe-124

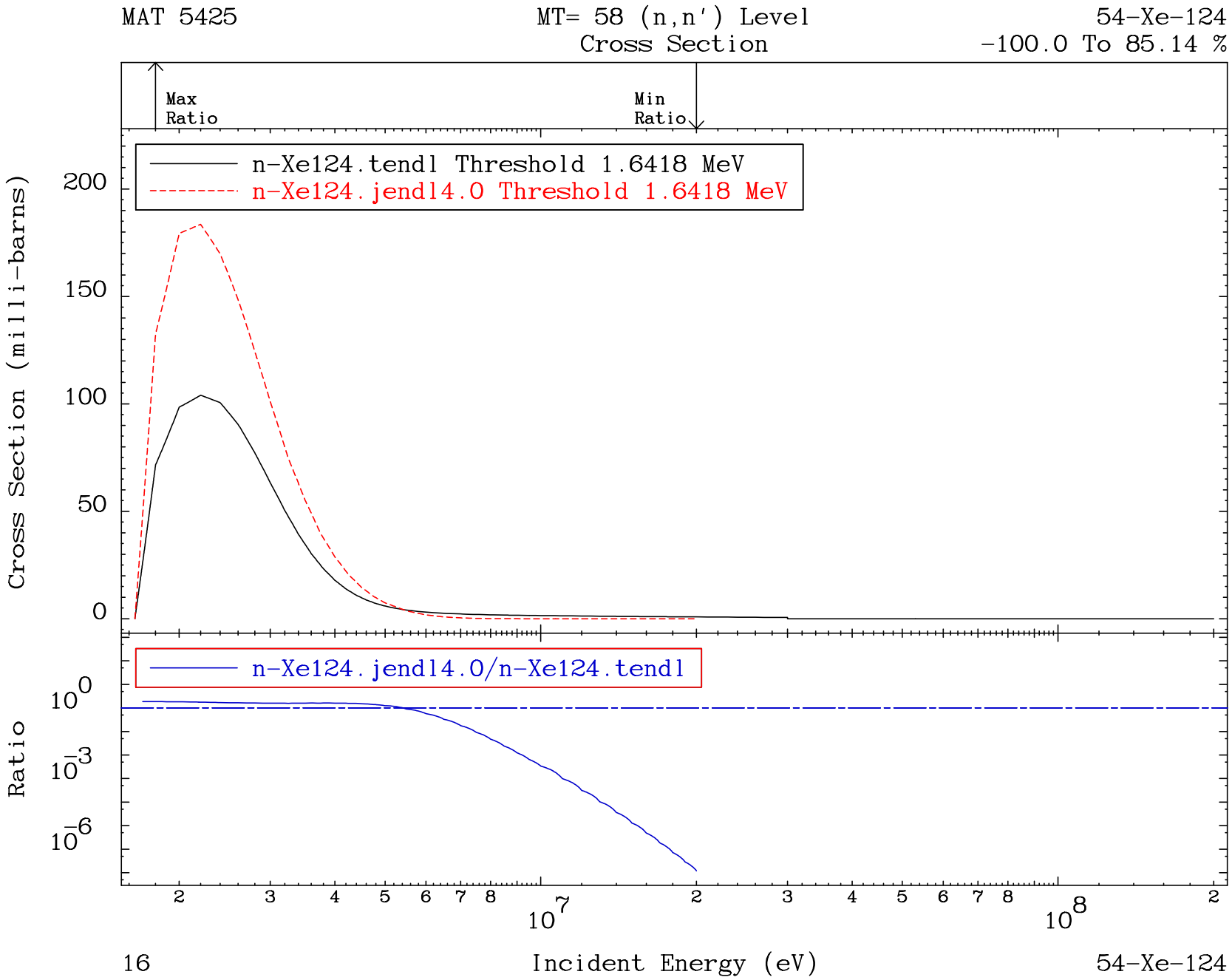

MAT 5425
MT= 53 (n,n') Level
Cross Section
54-Xe-124
-64.85 To 93.90 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 886.08 keV
n-Xe124.jendl4.0 Threshold 886.19 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.5
1.0
0.5
10^6
10^7
10^8
11
Incident Energy (eV)
54-Xe-124

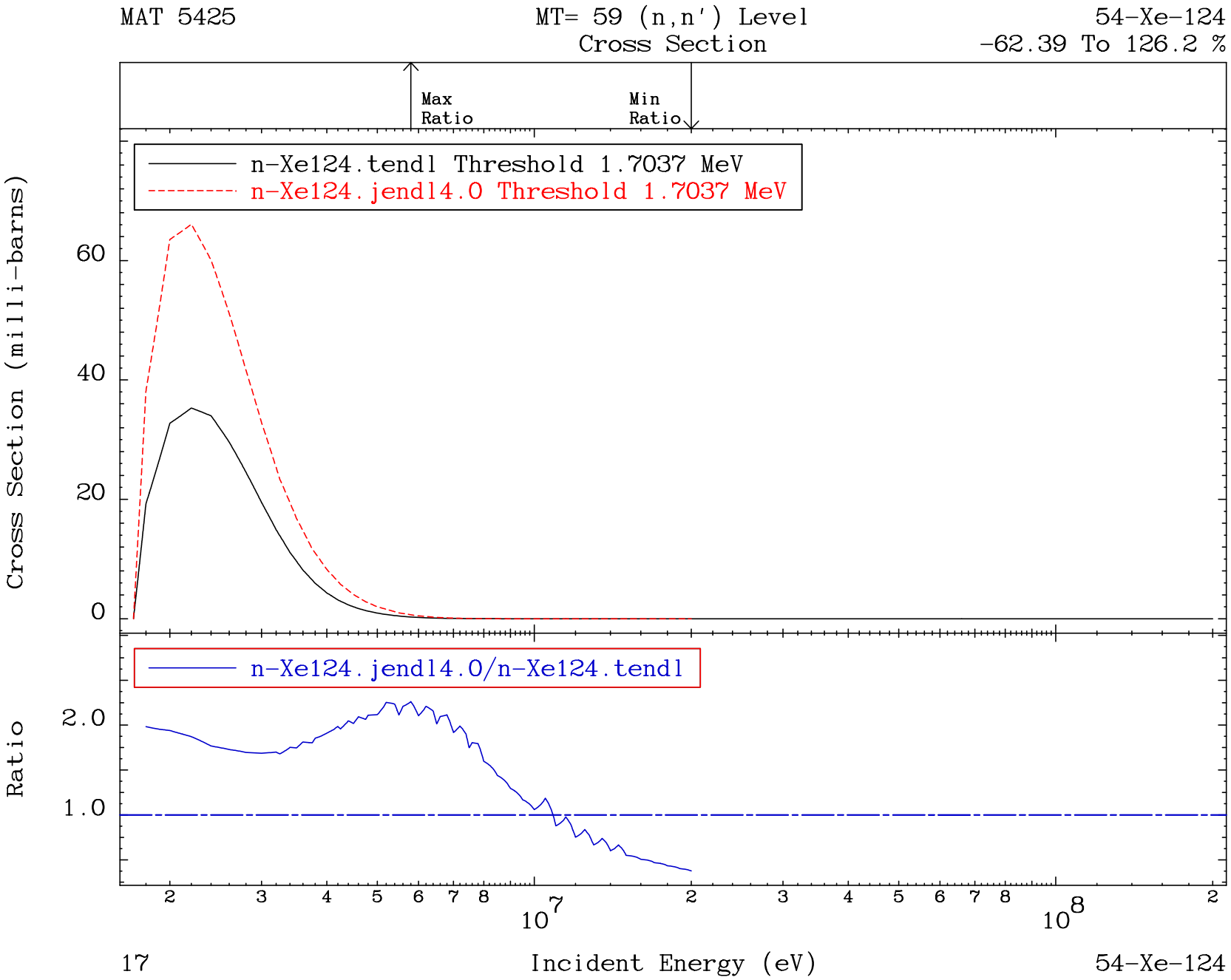

MAT 5425
MT= 54 (n,n') Level
Cross Section
54-Xe-124
-61.85 To 118.6 %
Max
Ratio
Min
Ratio
n-Xe124.tendl Threshold 1.2578 MeV
n-Xe124.jendl4.0 Threshold 1.2582 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
12
Incident Energy (eV)
54-Xe-124

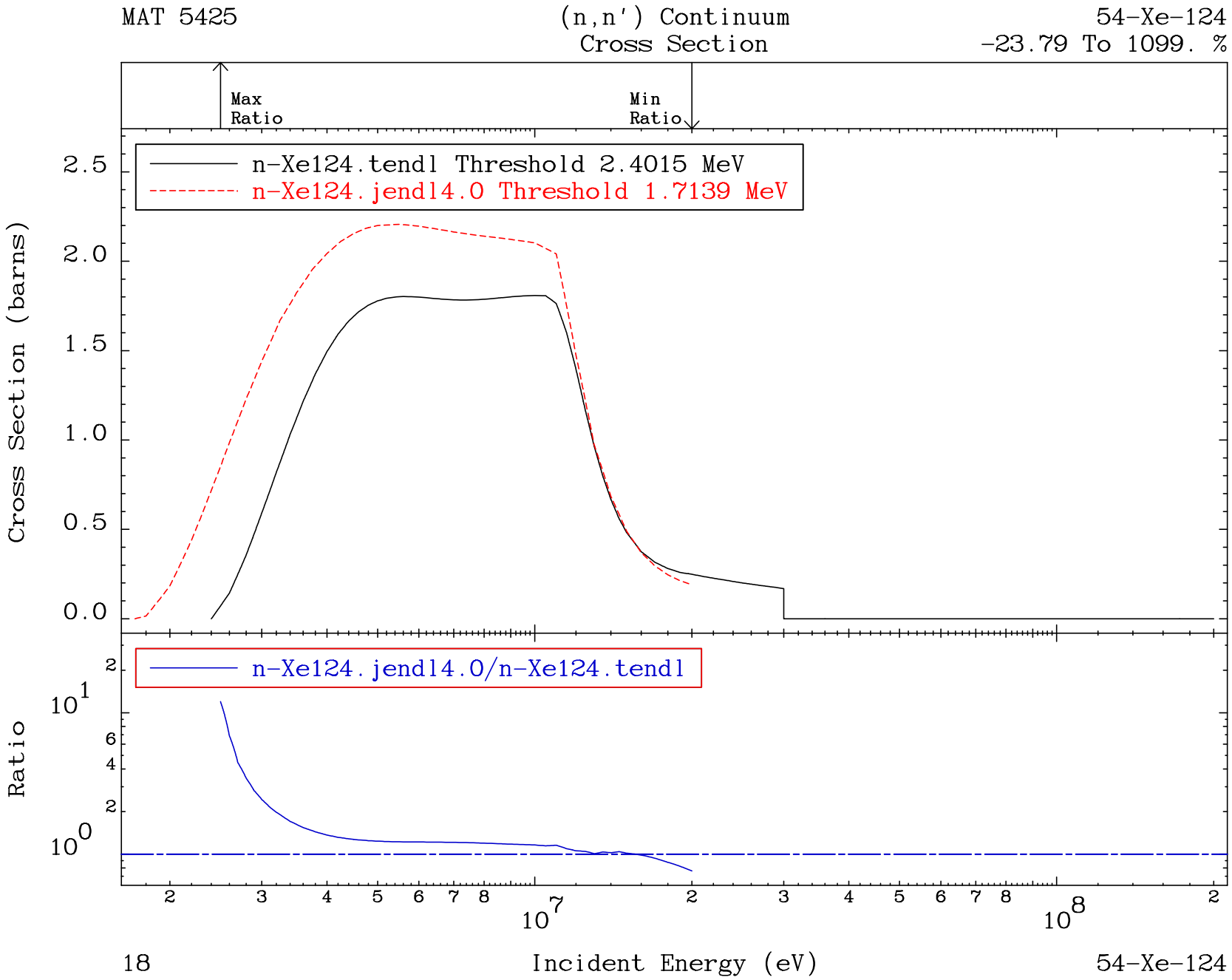

MAT 5425
MT= 55 (n,n') Level
Cross Section
54-Xe-124
-62.44 To 122.0 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.2792 MeV
n-Xe124.jendl4.0 Threshold 1.2792 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
13
Incident Energy (eV)
54-Xe-124

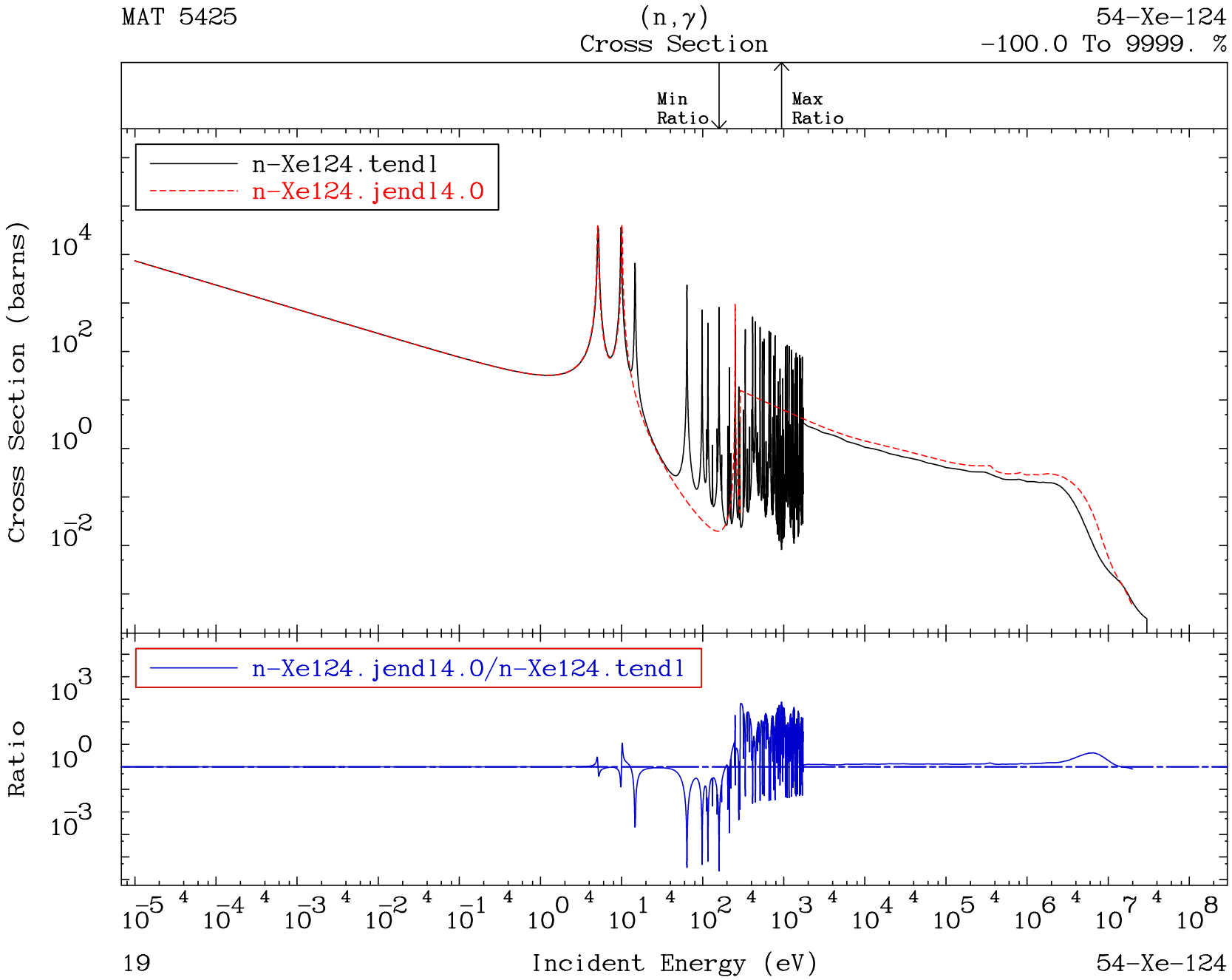

MAT 5425
MT= 56 (n,n') Level
Cross Section
54-Xe-124
-100.0 To 94.63 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.4497 MeV
n-Xe124.jendl4.0 Threshold 1.4497 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^0
10^-3
10^-6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
14
Incident Energy (eV)
54-Xe-124

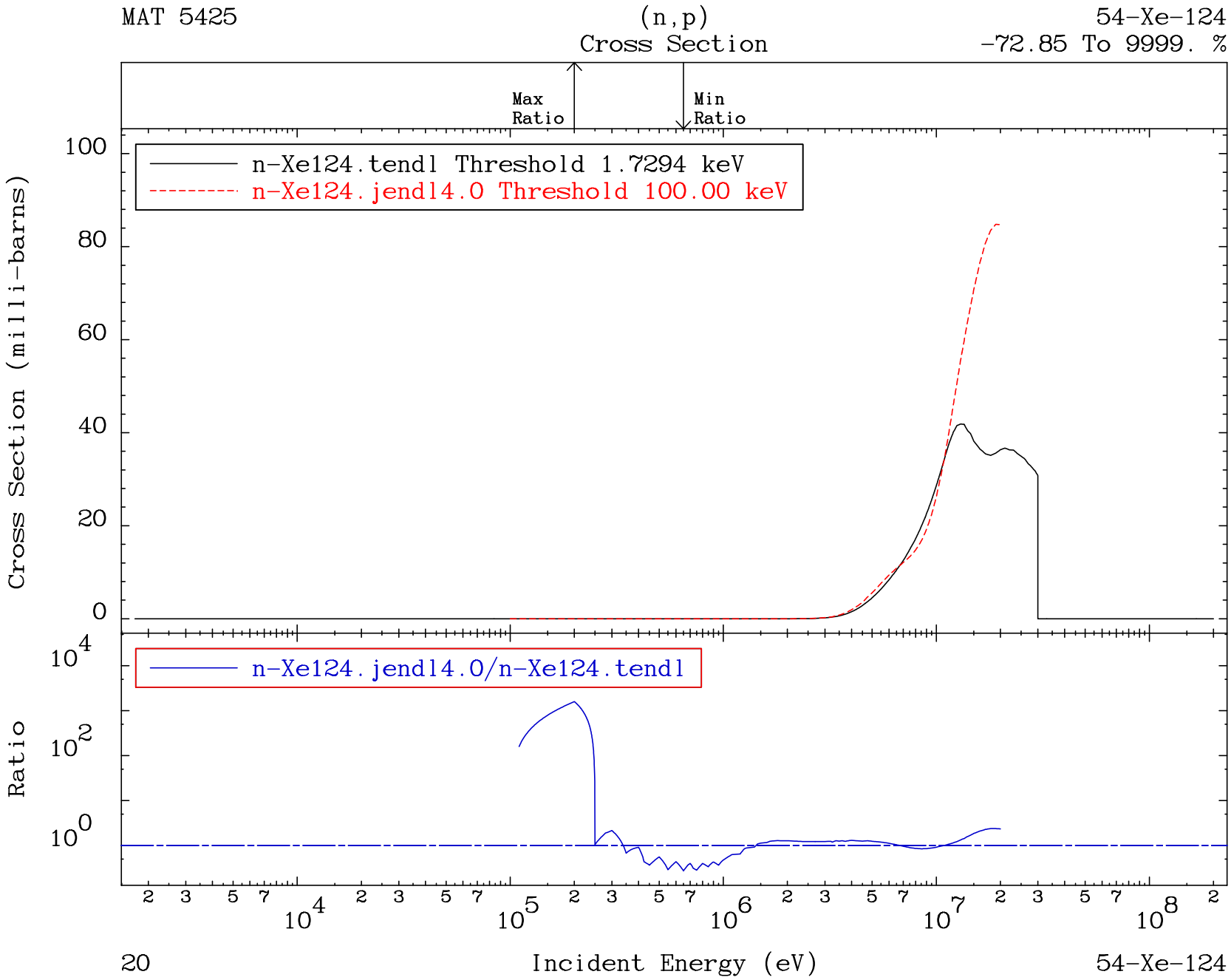

MAT 5425
MT= 57 (n,n') Level
Cross Section
54-Xe-124
-58.49 To 76.75 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.5611 MeV
n-Xe124.jendl4.0 Threshold 1.5614 MeV
Cross Section (milli-barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
15
54-Xe-124

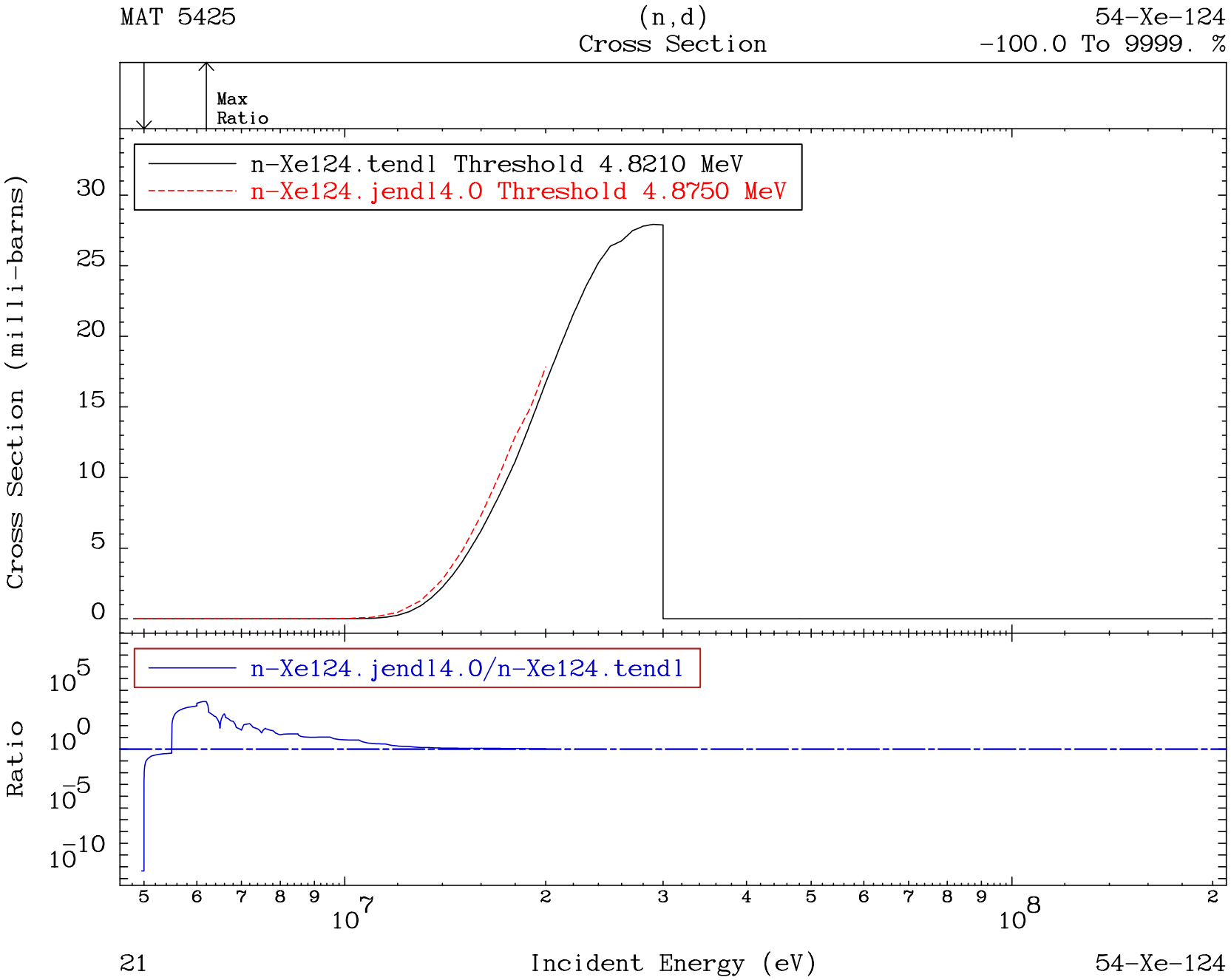

MAT 5425
MT= 58 (n,n') Level
Cross Section
54-Xe-124
-100.0 To 85.14 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.6418 MeV
n-Xe124.jendl4.0 Threshold 1.6418 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^0
10^-3
10^-6
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
16
Incident Energy (eV)
54-Xe-124

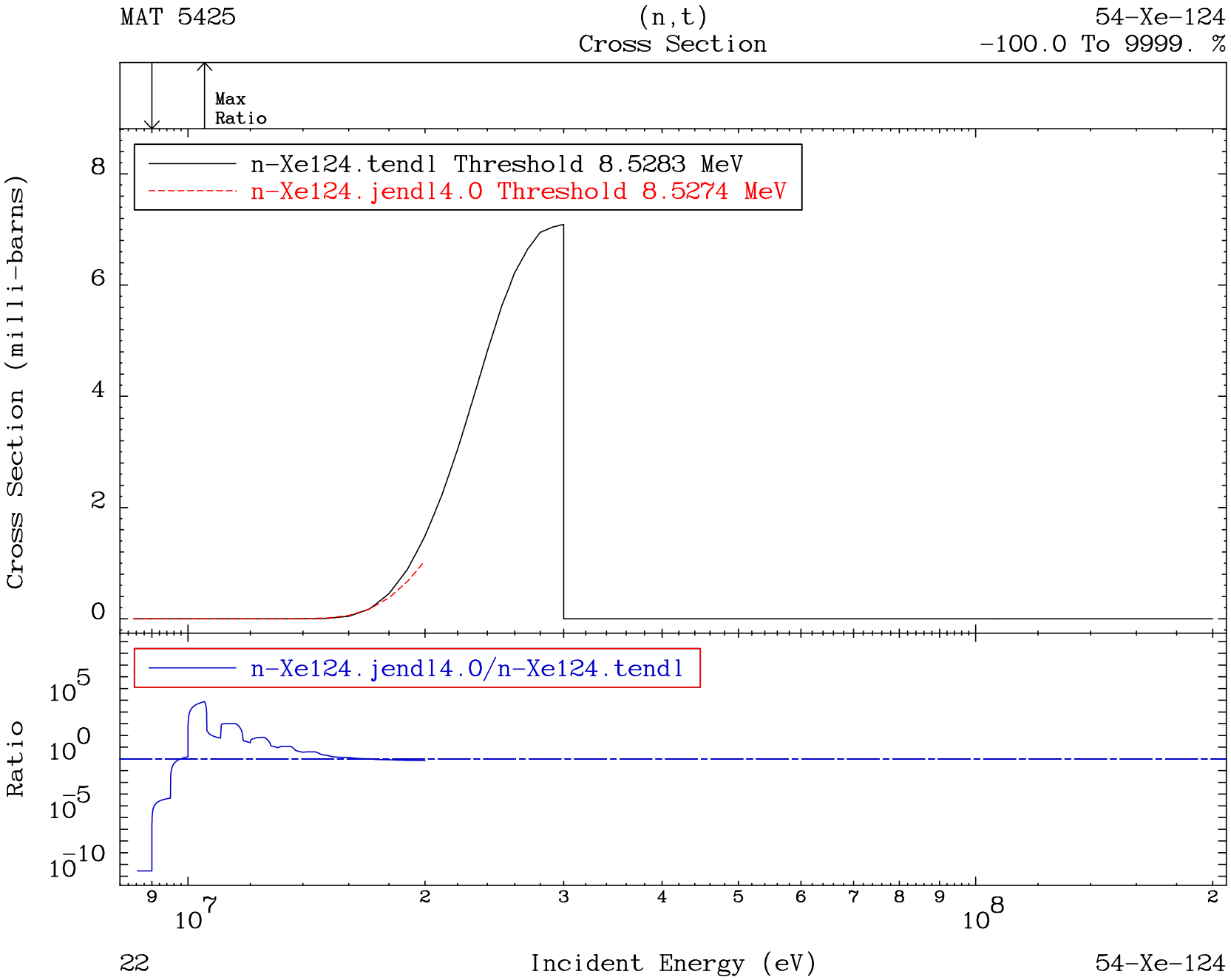

MAT 5425
MT= 59 (n,n') Level
Cross Section
54-Xe-124
-62.39 To 126.2 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.7037 MeV
n-Xe124.jendl4.0 Threshold 1.7037 MeV
Cross Section (milli-barns)
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.0
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
17
Incident Energy (eV)
54-Xe-124

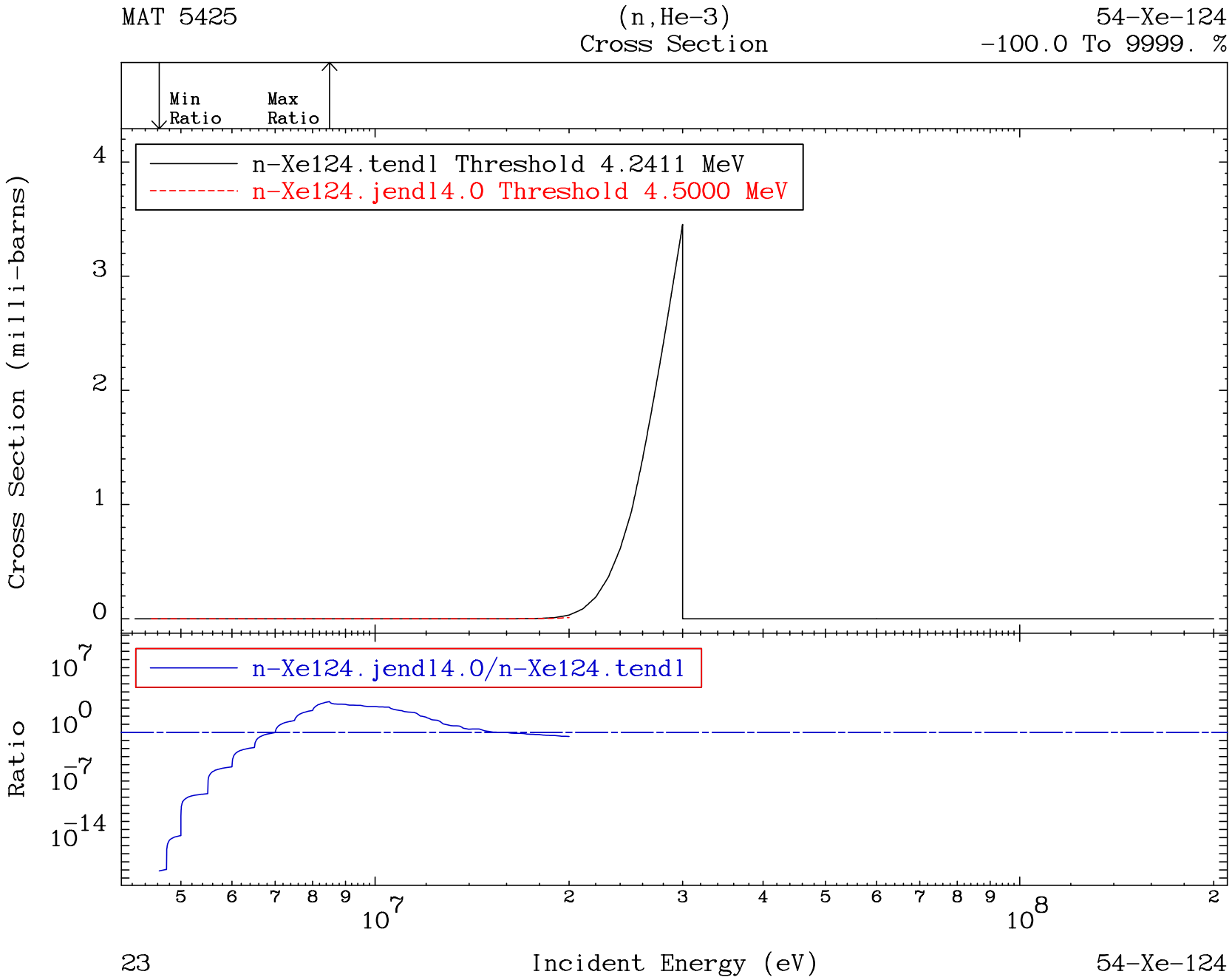

MAT 5425
(n,n') Continuum
Cross Section
54-Xe-124
-23.79 To 1099. %
Max
Ratio
Min
Ratio
n-Xe124.tendl Threshold 2.4015 MeV
n-Xe124.jendl4.0 Threshold 1.7139 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^1
10^0
2
6
4
2
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
18
Incident Energy (eV)
54-Xe-124

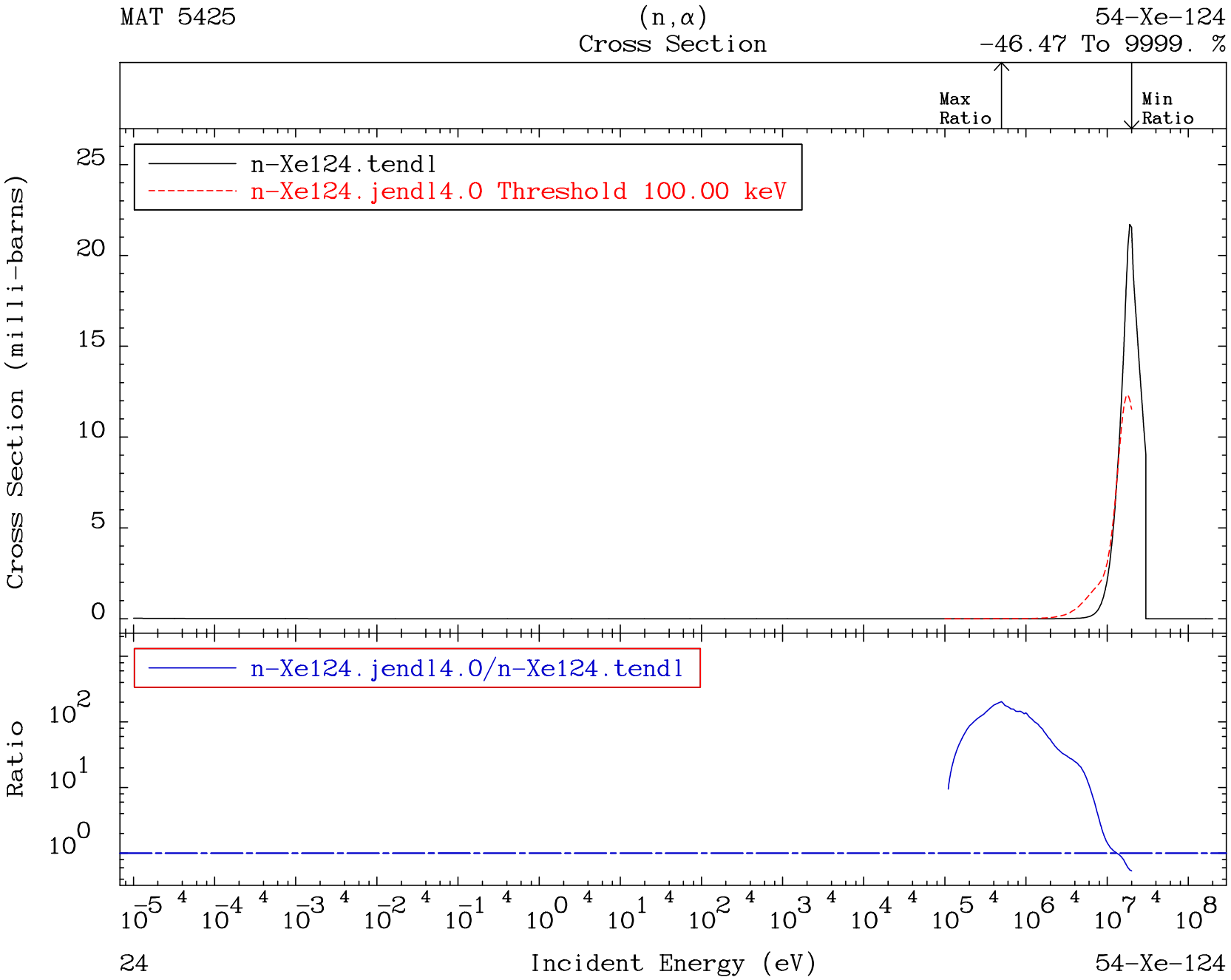

MAT 5425
(n,γ)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
19
54-Xe-124

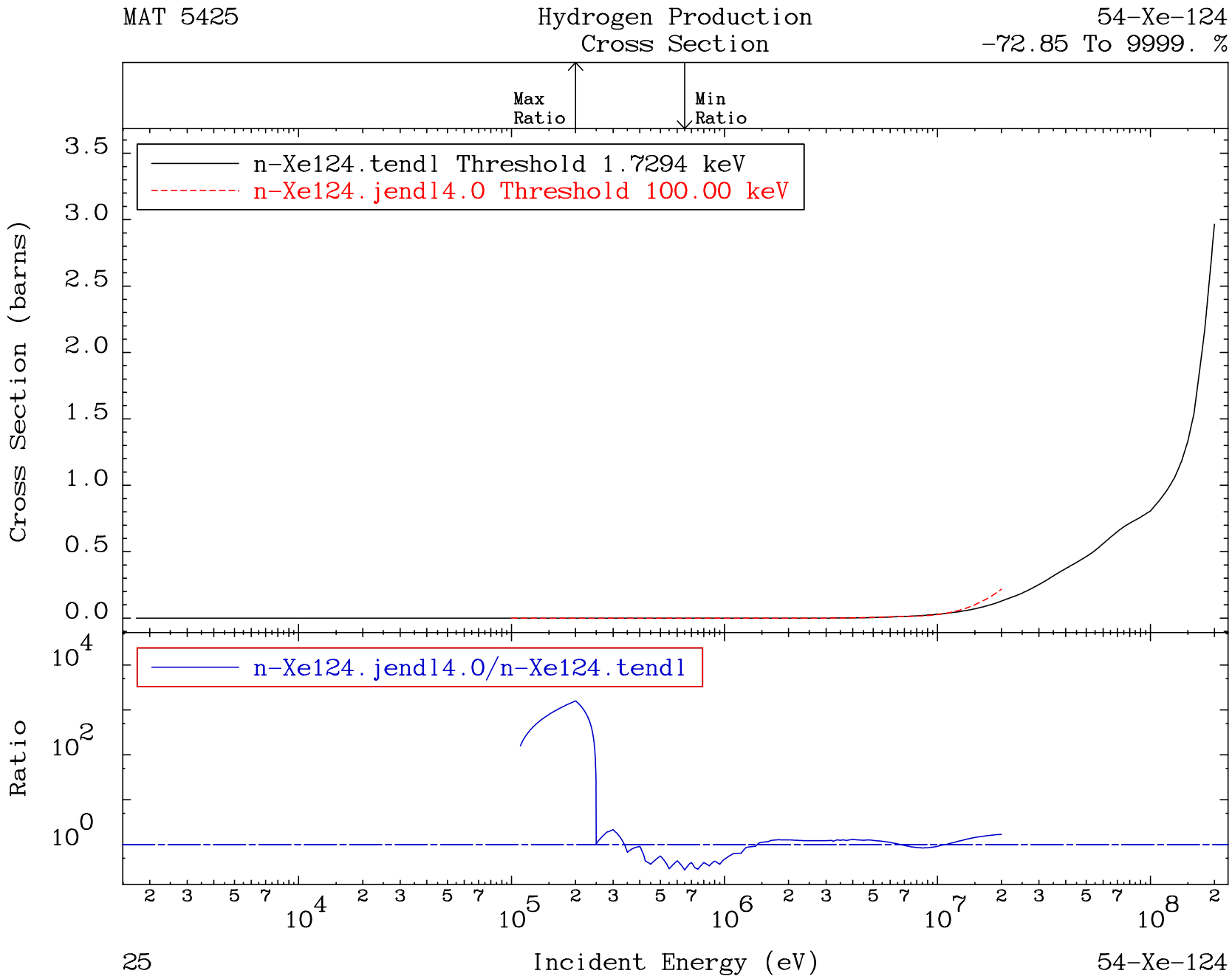

MAT 5425
(n,p)
Cross Section
54-Xe-124
-72.85 To 9999. %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.7294 keV
n-Xe124.jendl4.0 Threshold 100.00 keV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^4
10^2
10^0
2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
20
Incident Energy (eV)
54-Xe-124

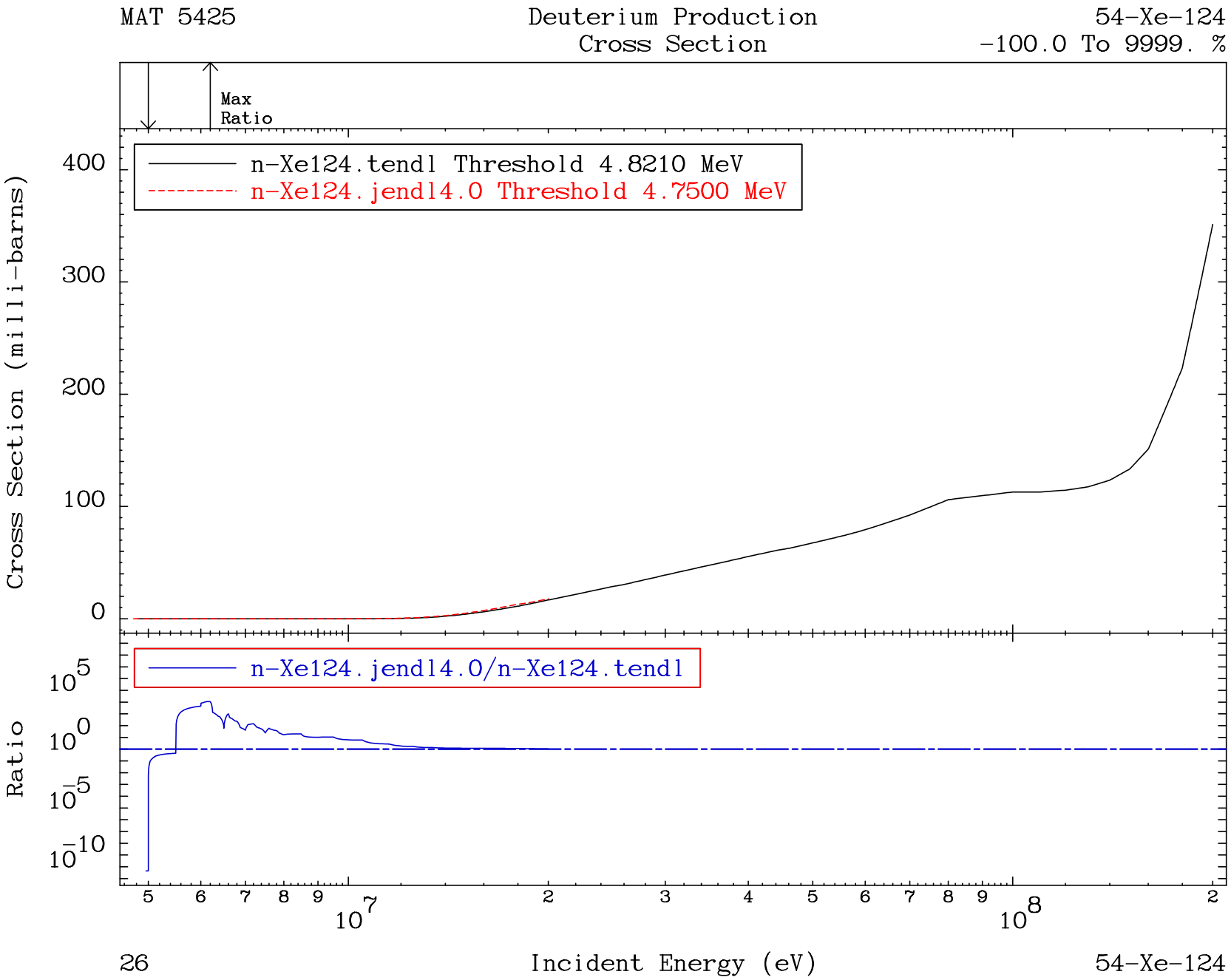

MAT 5425
(n,d)
Cross Section
54-Xe-124
-100.0 To 9999. %
Max
Ratio
n-Xe124.tendl Threshold 4.8210 MeV
n-Xe124.jendl4.0 Threshold 4.8750 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^5
10^0
10^-5
10^-10
5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
21
Incident Energy (eV)
54-Xe-124

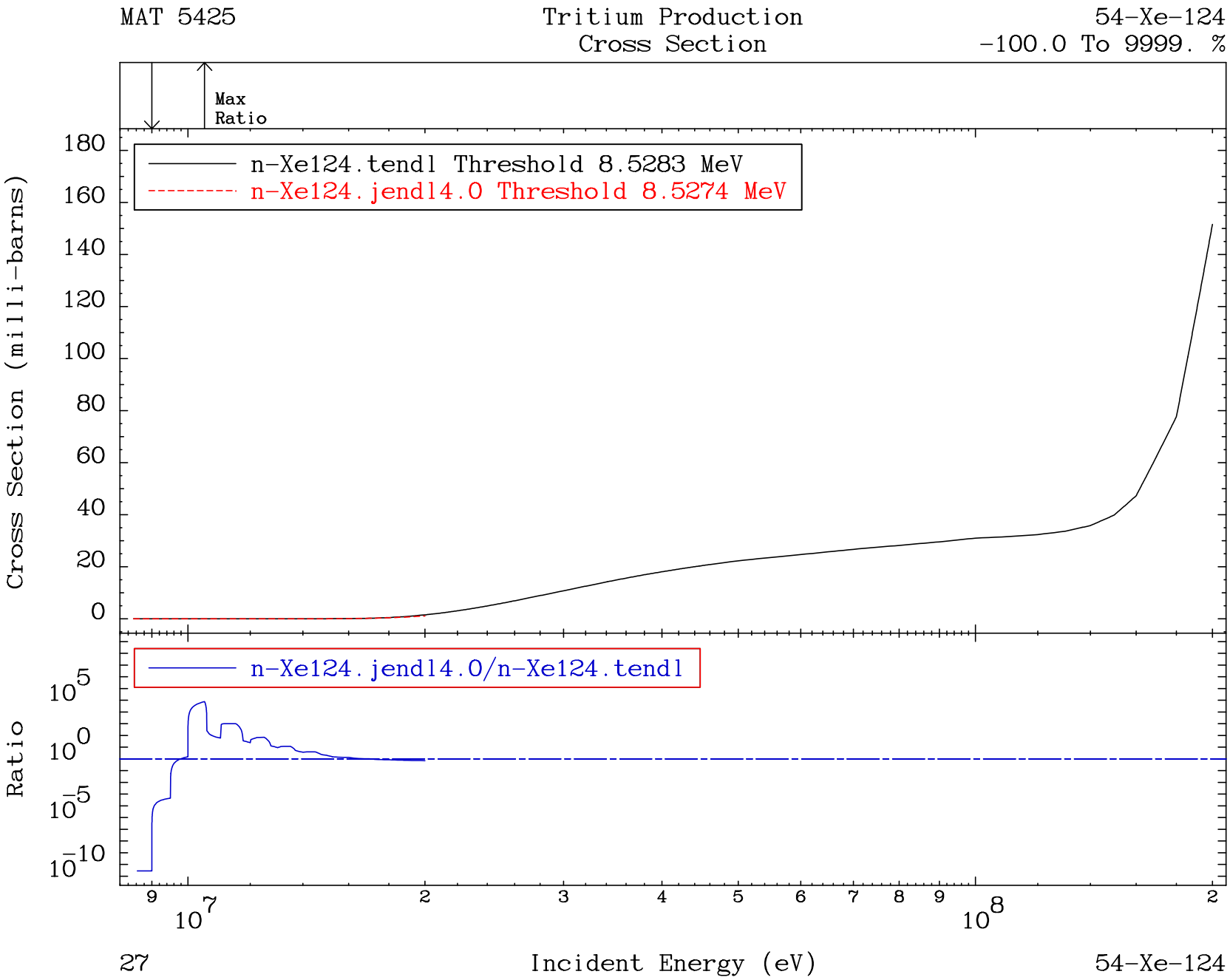

MAT 5425
(n,t)
Cross Section
54-Xe-124
-100.0 To 9999. %
Max
Ratio
n-Xe124.tendl Threshold 8.5283 MeV
n-Xe124.jendl4.0 Threshold 8.5274 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^5
10^0
10^-5
10^-10
9
10^7
2
3
4
5
6
7
8
9
10^8
2
22
Incident Energy (eV)
54-Xe-124

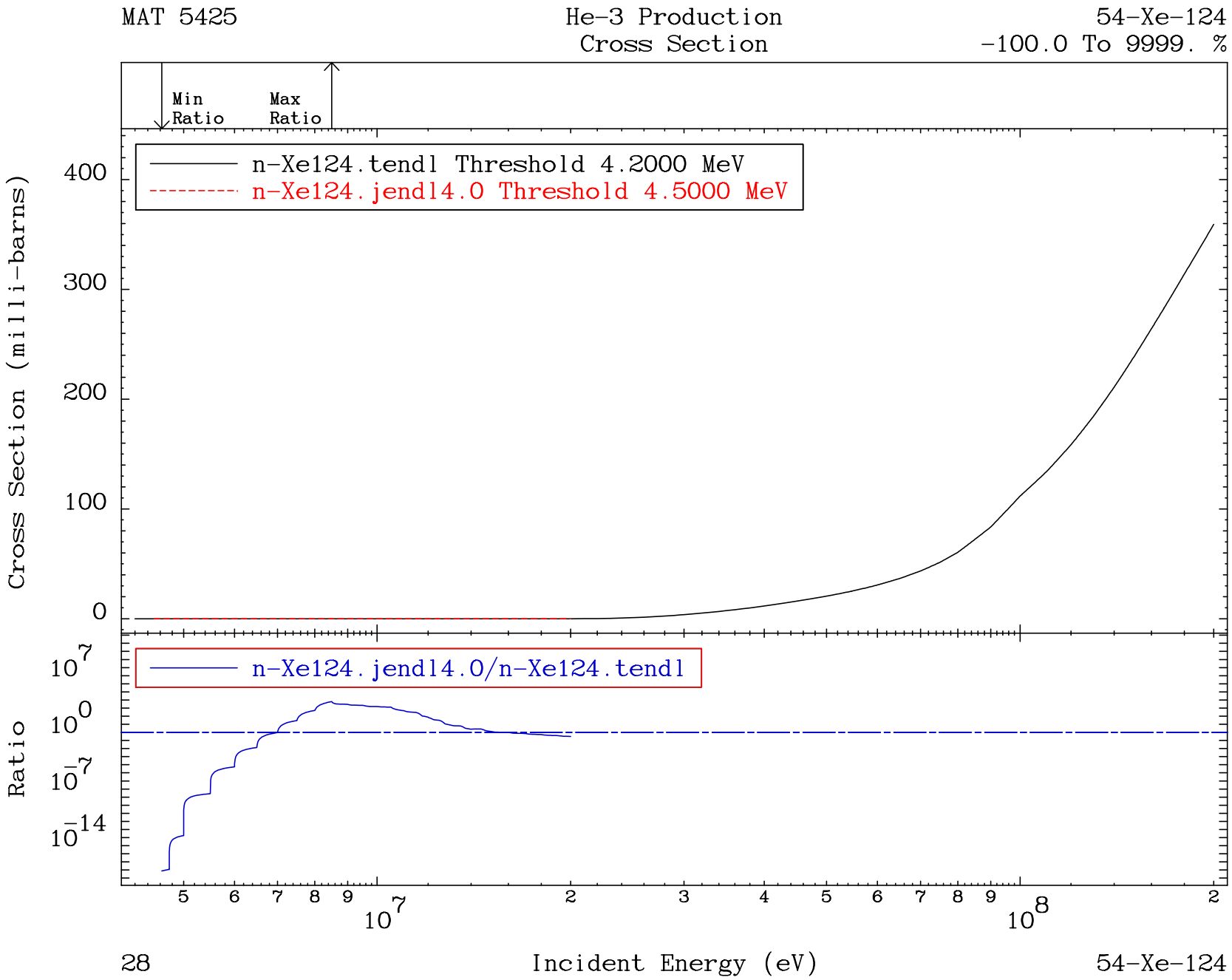

MAT 5425
(n,He-3)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl Threshold 4.2411 MeV
n-Xe124.jendl4.0 Threshold 4.5000 MeV
Cross Section (milli-barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
23
54-Xe-124

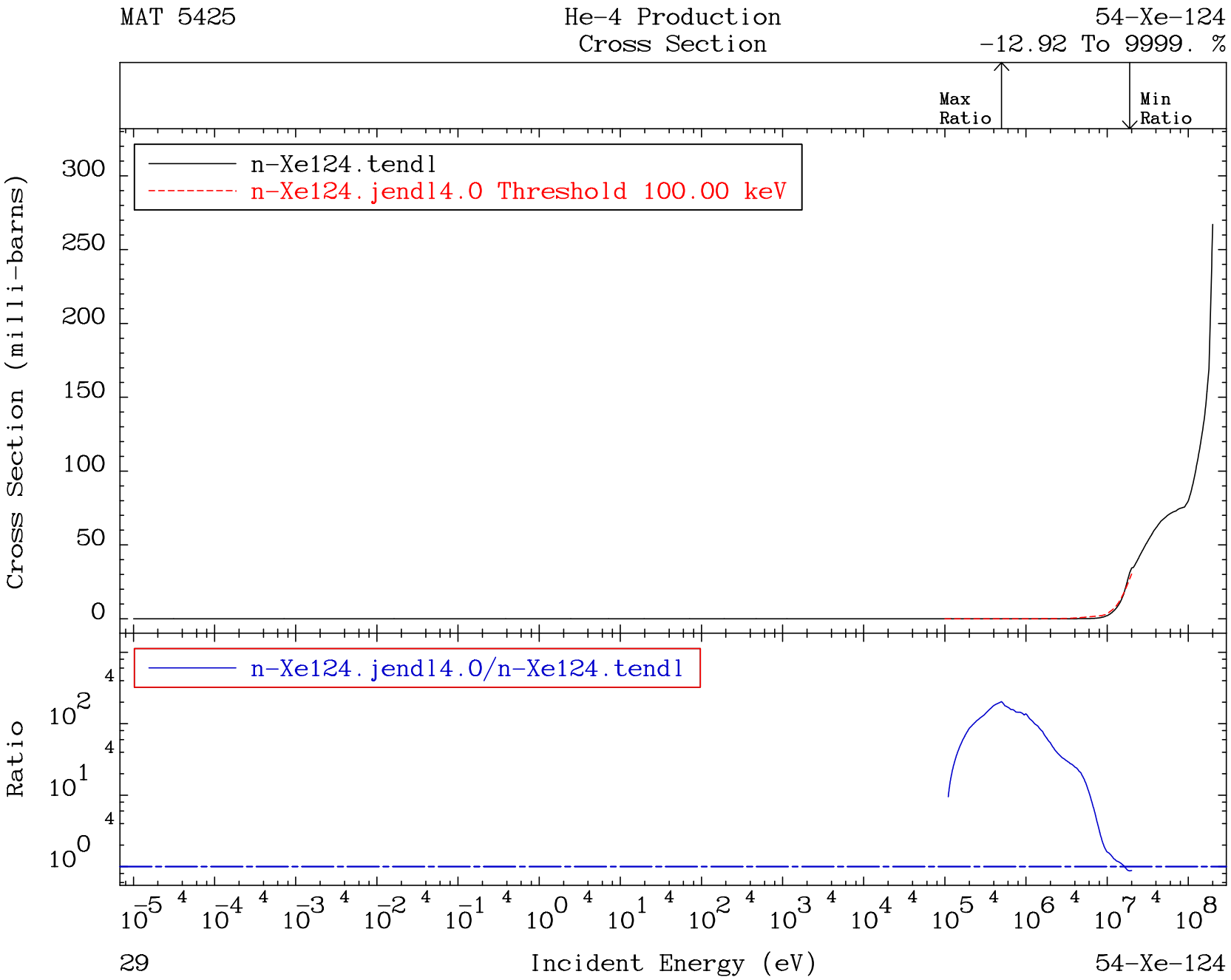

MAT 5425
(n,α)
Cross Section
54-Xe-124
-46.47 To 9999. %
Max Ratio
Min Ratio
n-Xe124.tendl
n-Xe124.jendl4.0 Threshold 100.00 keV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^2
10^1
10^0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
24
Incident Energy (eV)
54-Xe-124

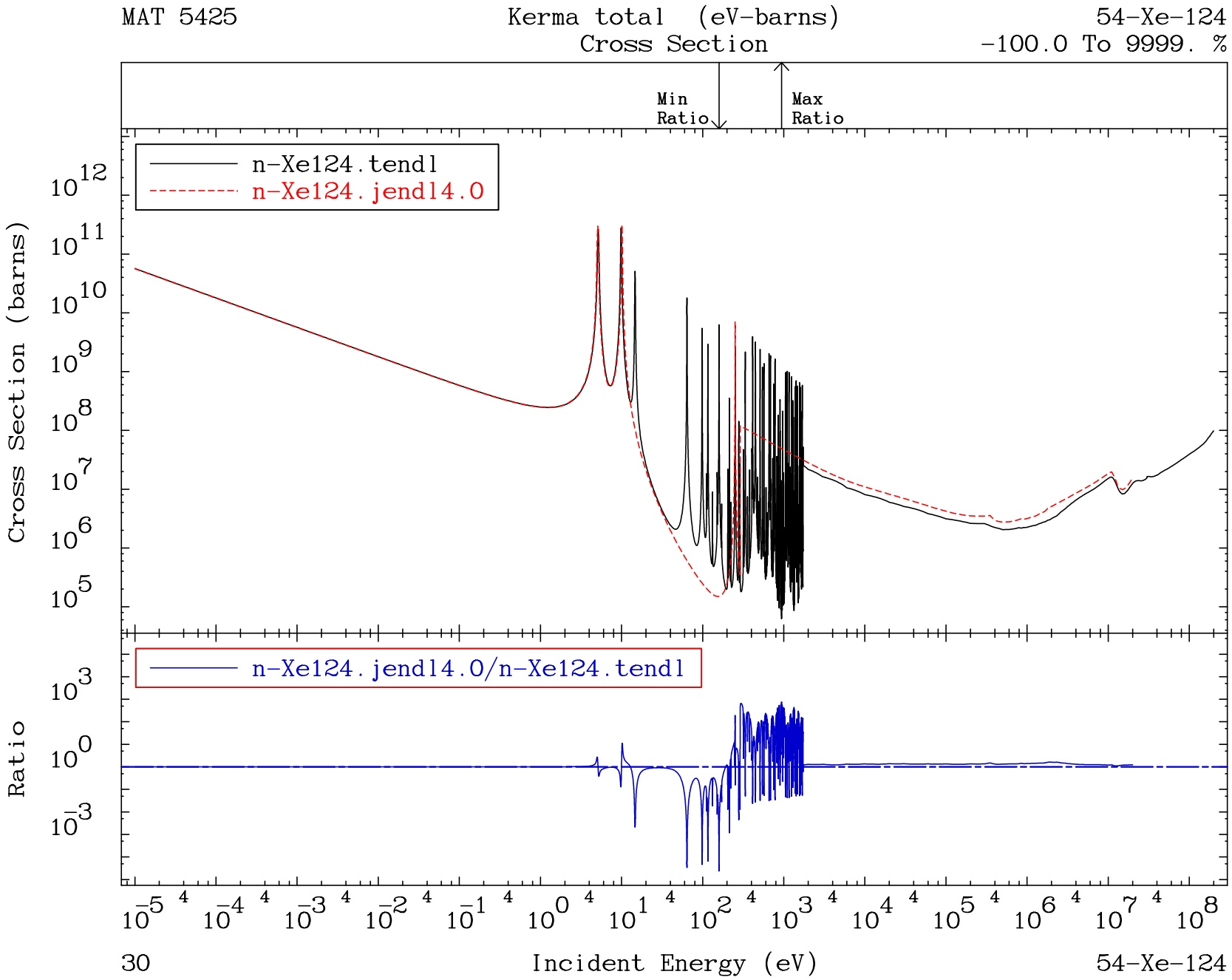

MAT 5425
Hydrogen Production
Cross Section
54-Xe-124
-72.85 To 9999. %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 1.7294 keV
n-Xe124.jendl4.0 Threshold 100.00 keV
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
25
54-Xe-124

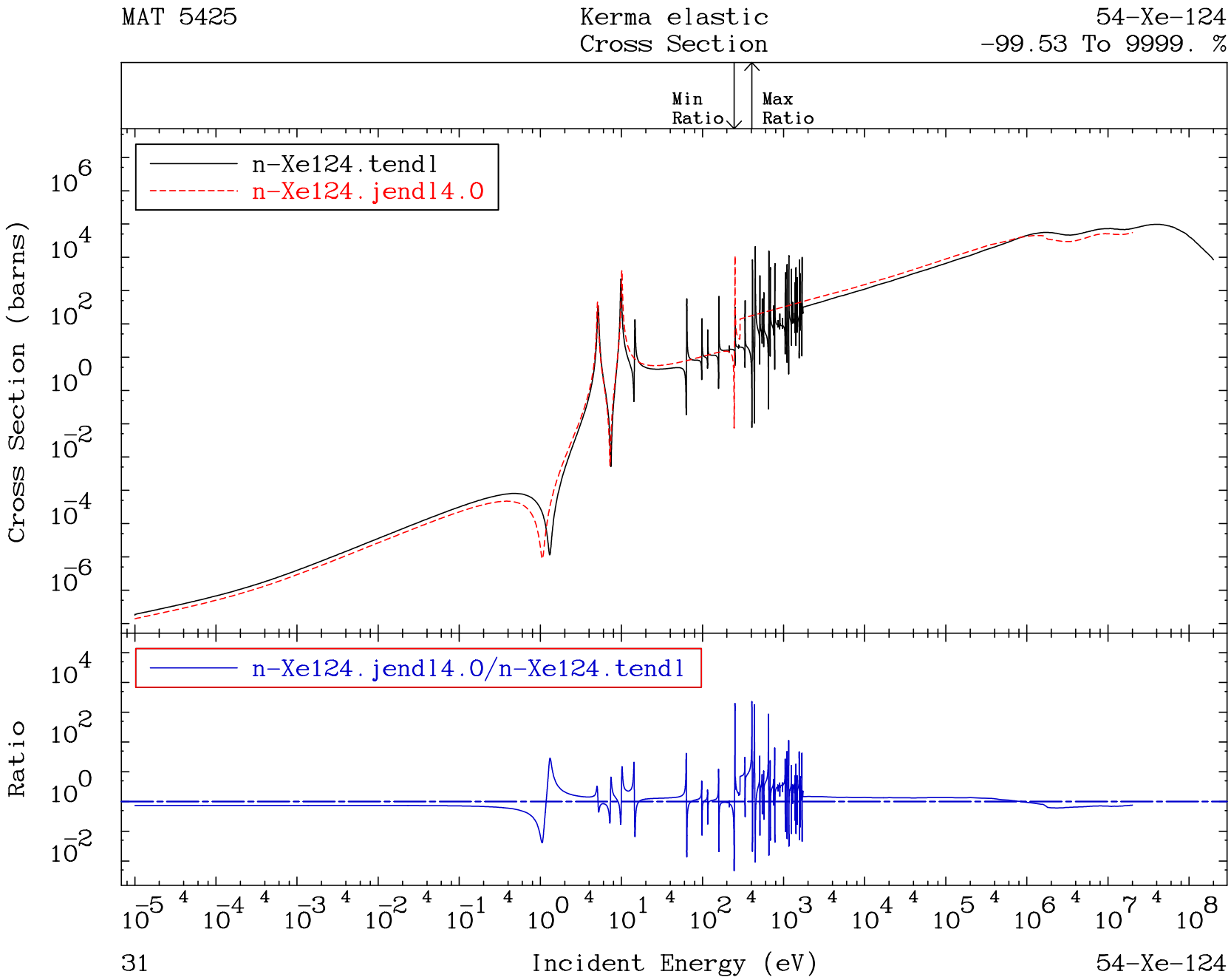

MAT 5425
Deuterium Production
Cross Section
54-Xe-124
-100.0 To 9999. %
Max
Ratio
n-Xe124.tendl Threshold 4.8210 MeV
n-Xe124.jendl4.0 Threshold 4.7500 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^5
10^0
10^-5
10^-10
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
26
Incident Energy (eV)
54-Xe-124

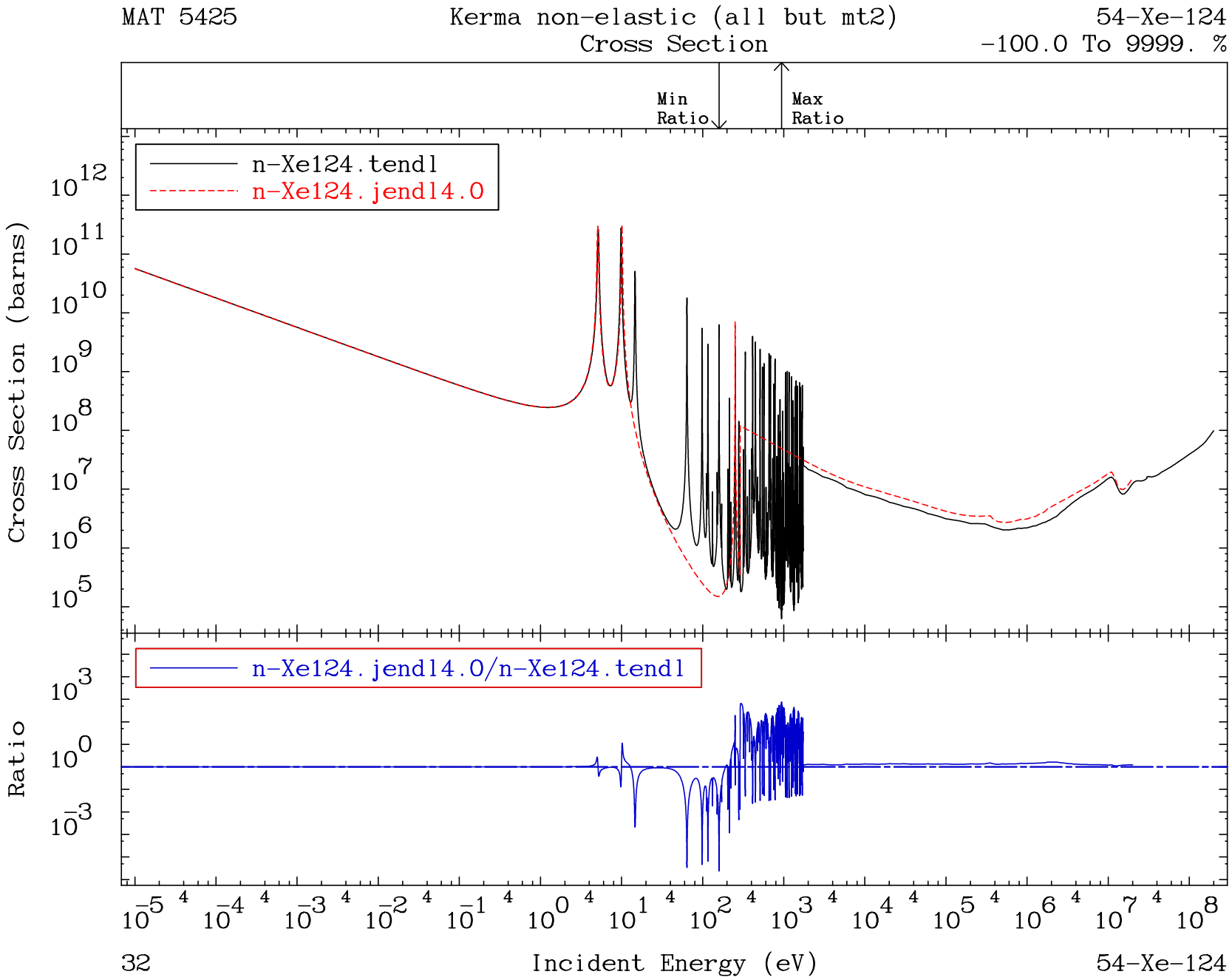

MAT 5425
Tritium Production
Cross Section
54-Xe-124
-100.0 To 9999. %
Max
Ratio
n-Xe124.tendl Threshold 8.5283 MeV
n-Xe124.jendl4.0 Threshold 8.5274 MeV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^5
10^0
10^-5
10^-10
9
10^7
2
3
4
5
6
7
8
9
10^8
2
27
Incident Energy (eV)
54-Xe-124

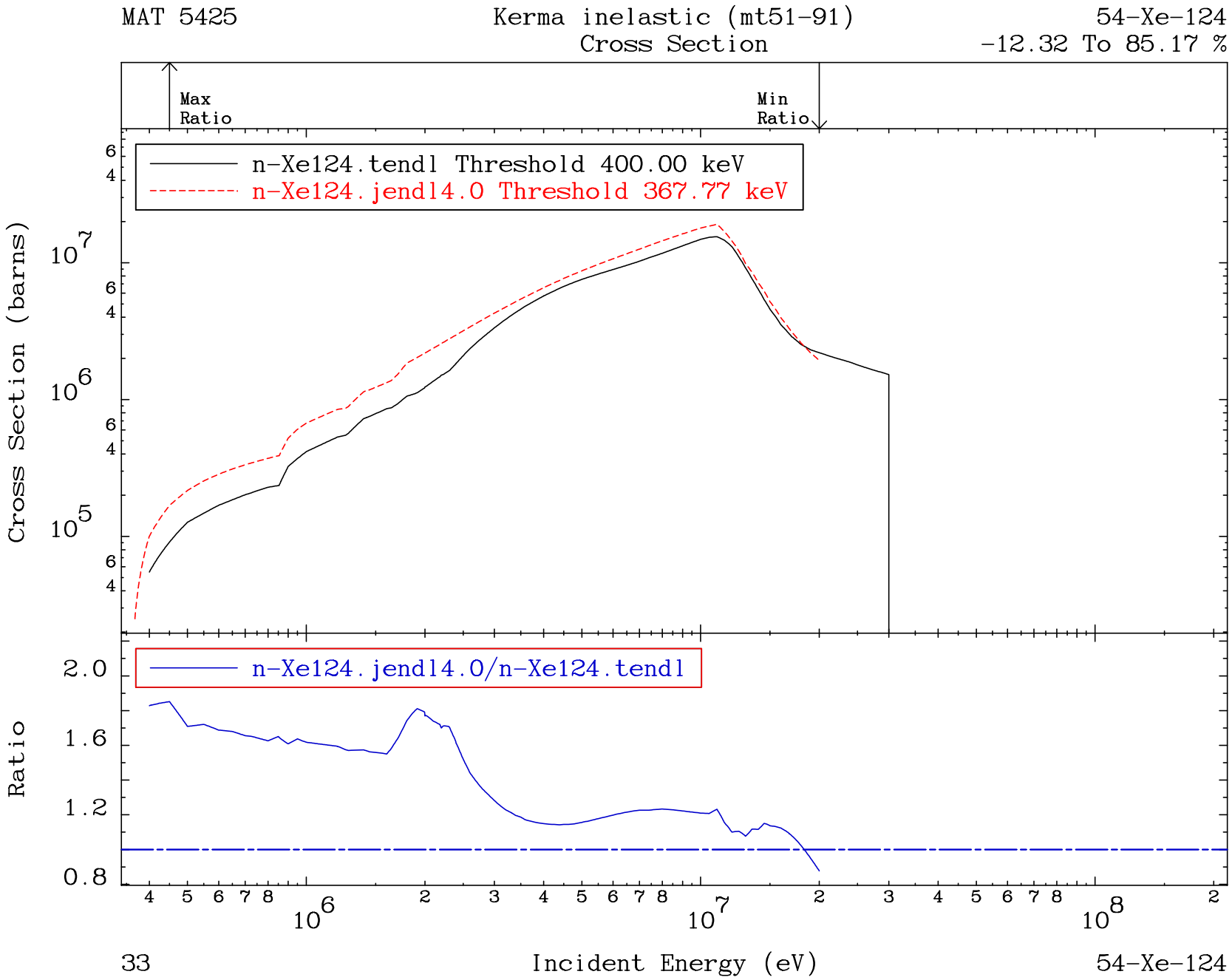

MAT 5425
He-3 Production
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl Threshold 4.2000 MeV
n-Xe124.jendl4.0 Threshold 4.5000 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^7
10^0
10^-7
10^-14
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
54-Xe-124

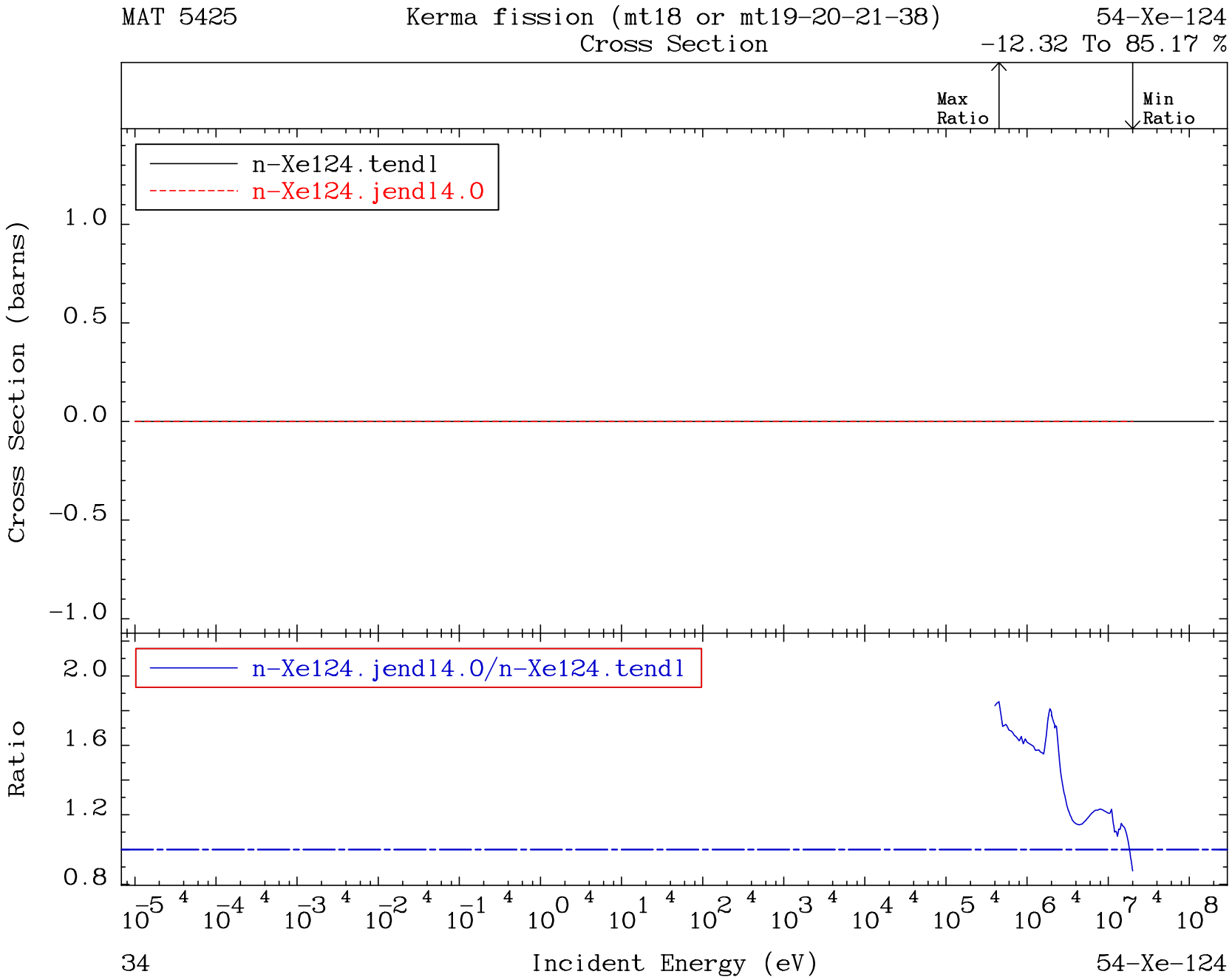

MAT 5425
He-4 Production
Cross Section
54-Xe-124
-12.92 To 9999. %
Max Ratio
Min Ratio
n-Xe124.tendl
n-Xe124.jendl4.0 Threshold 100.00 keV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^2
10^1
10^0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
29
Incident Energy (eV)
54-Xe-124

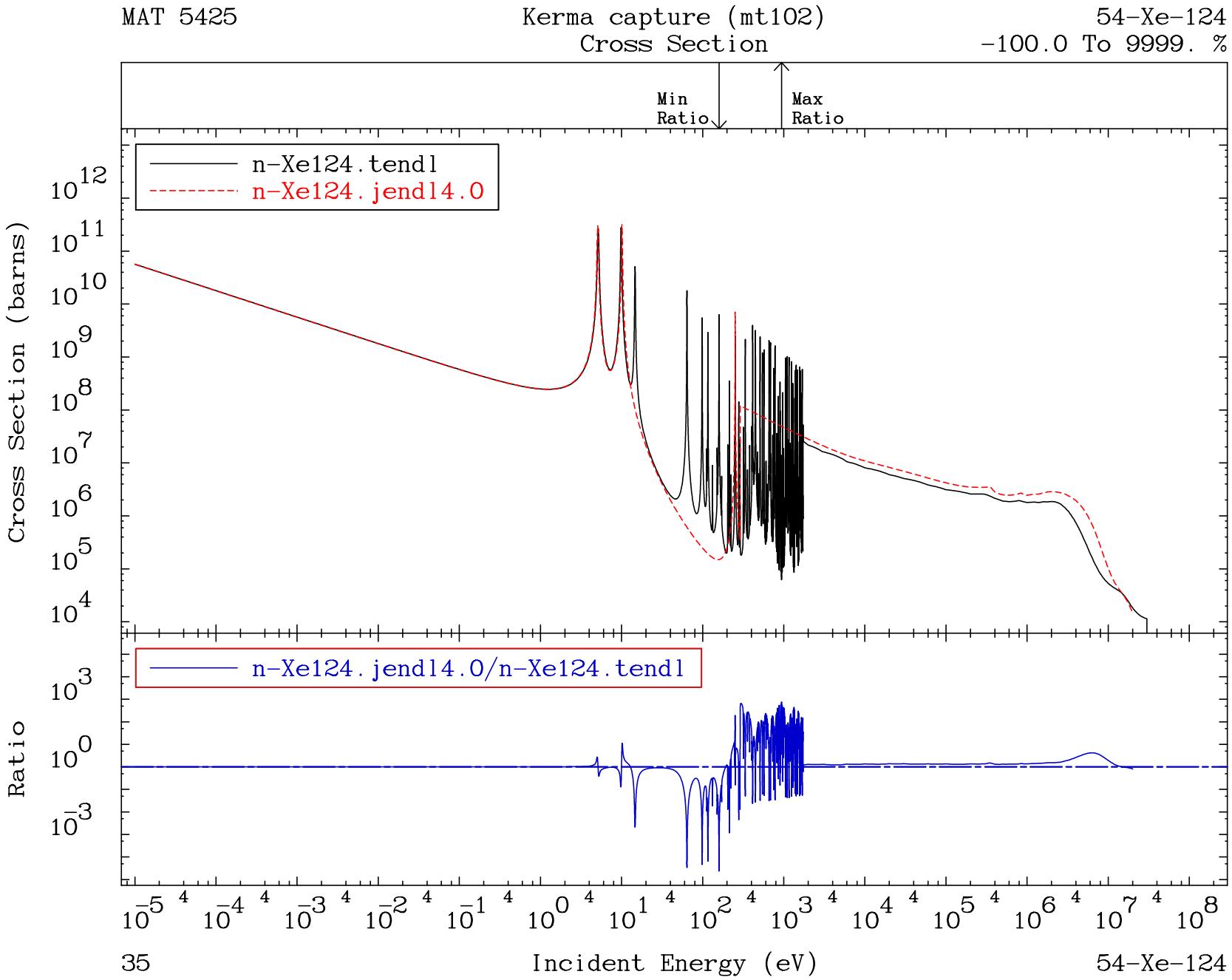

MAT 5425
Kerma total (eV-barns)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
30
54-Xe-124

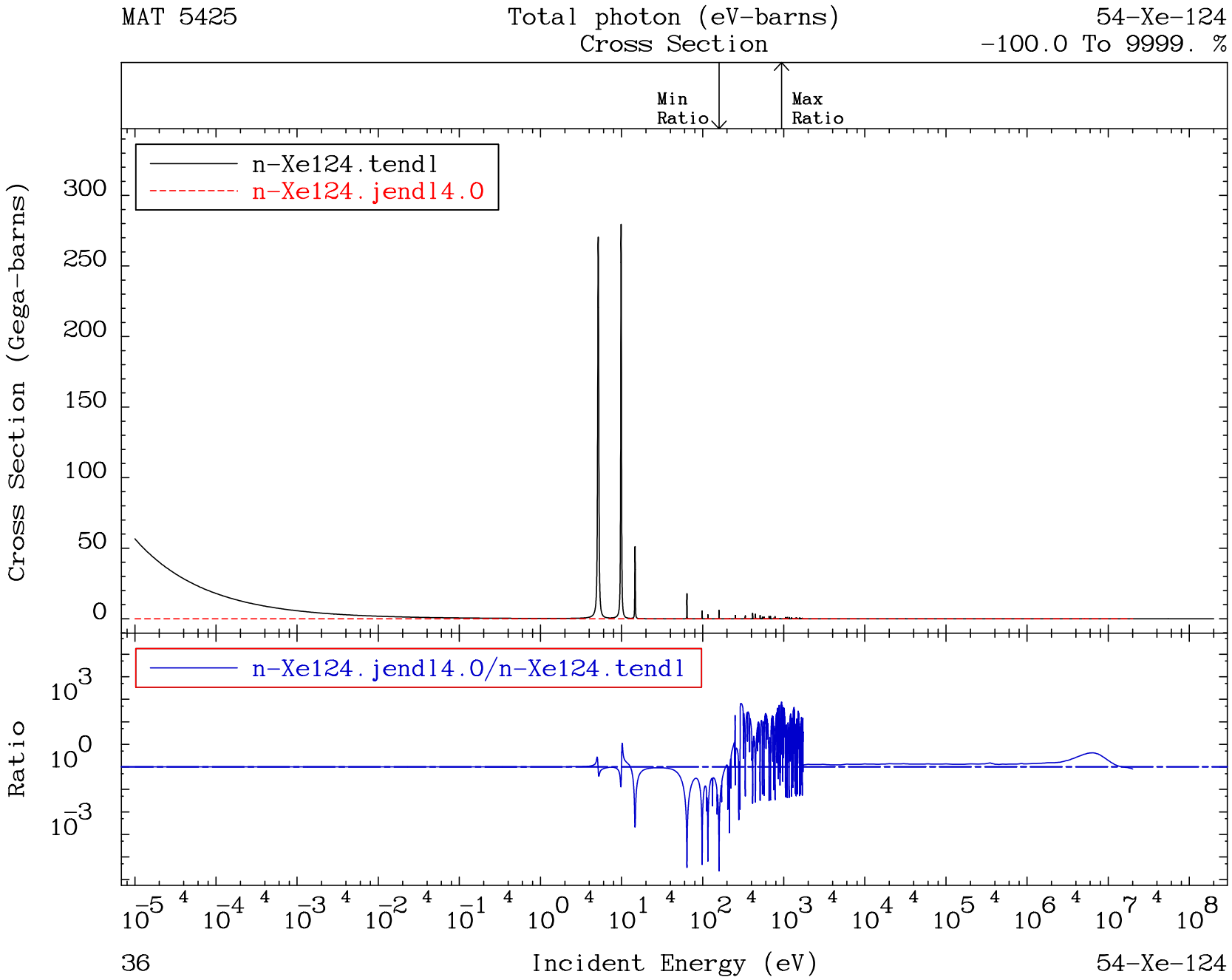

MAT 5425
Kerma elastic
Cross Section
54-Xe-124
-99.53 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
31
54-Xe-124

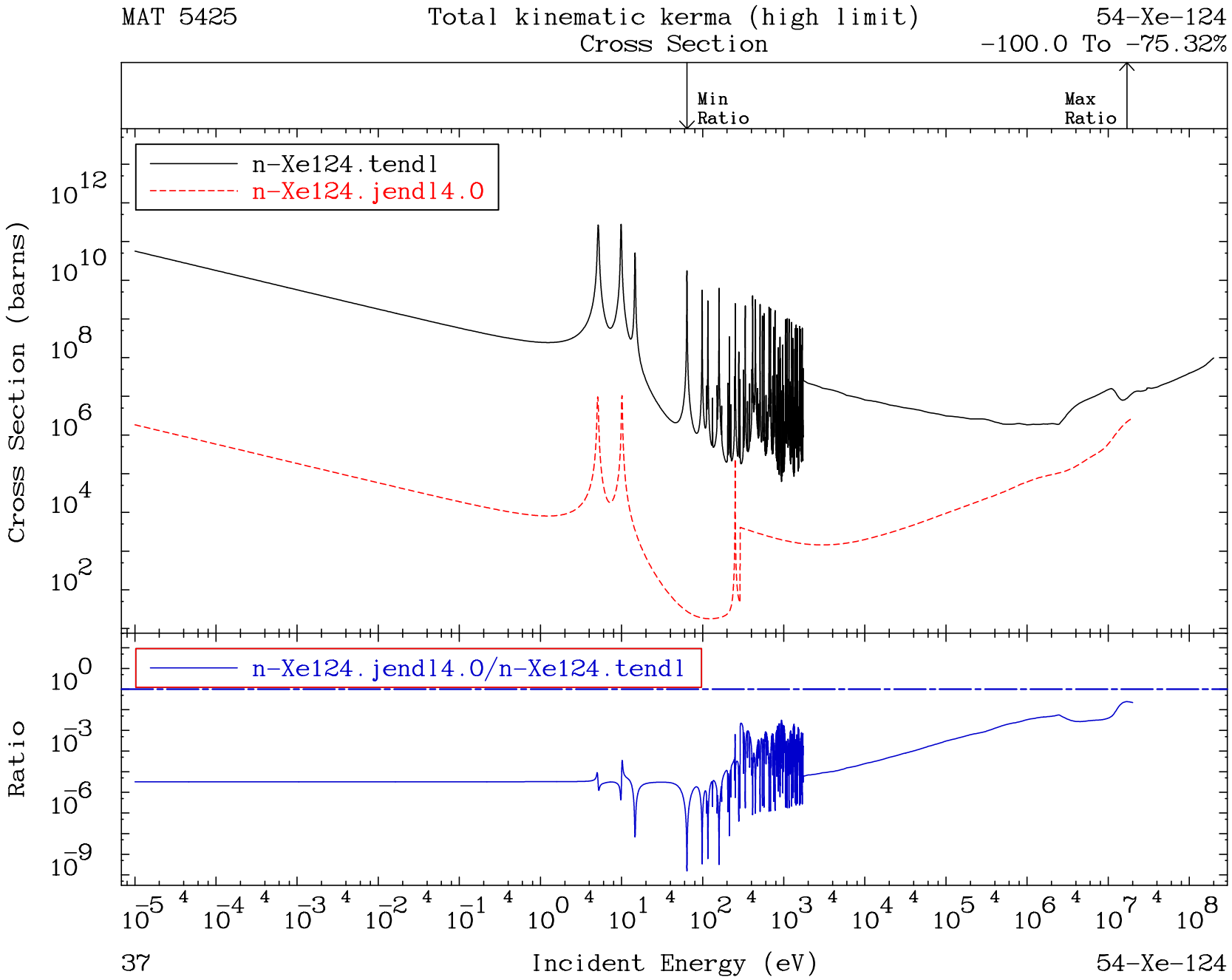

MAT 5425
Kerma non-elastic (all but mt2)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
32
54-Xe-124

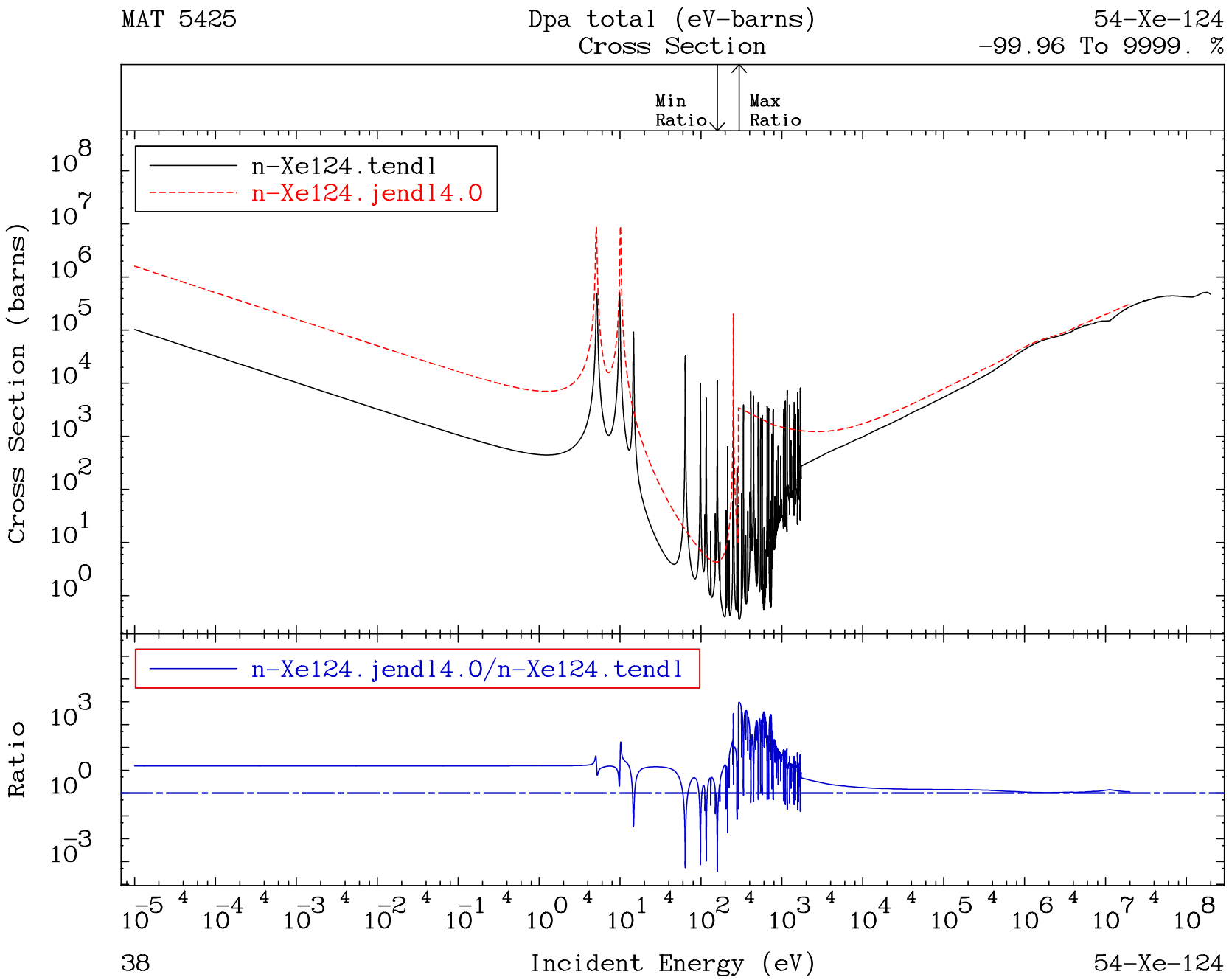

MAT 5425
Kerma inelastic (mt51-91)
Cross Section
54-Xe-124
-12.32 To 85.17 %
Max Ratio
Min Ratio
n-Xe124.tendl Threshold 400.00 keV
n-Xe124.jendl4.0 Threshold 367.77 keV
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
33
54-Xe-124

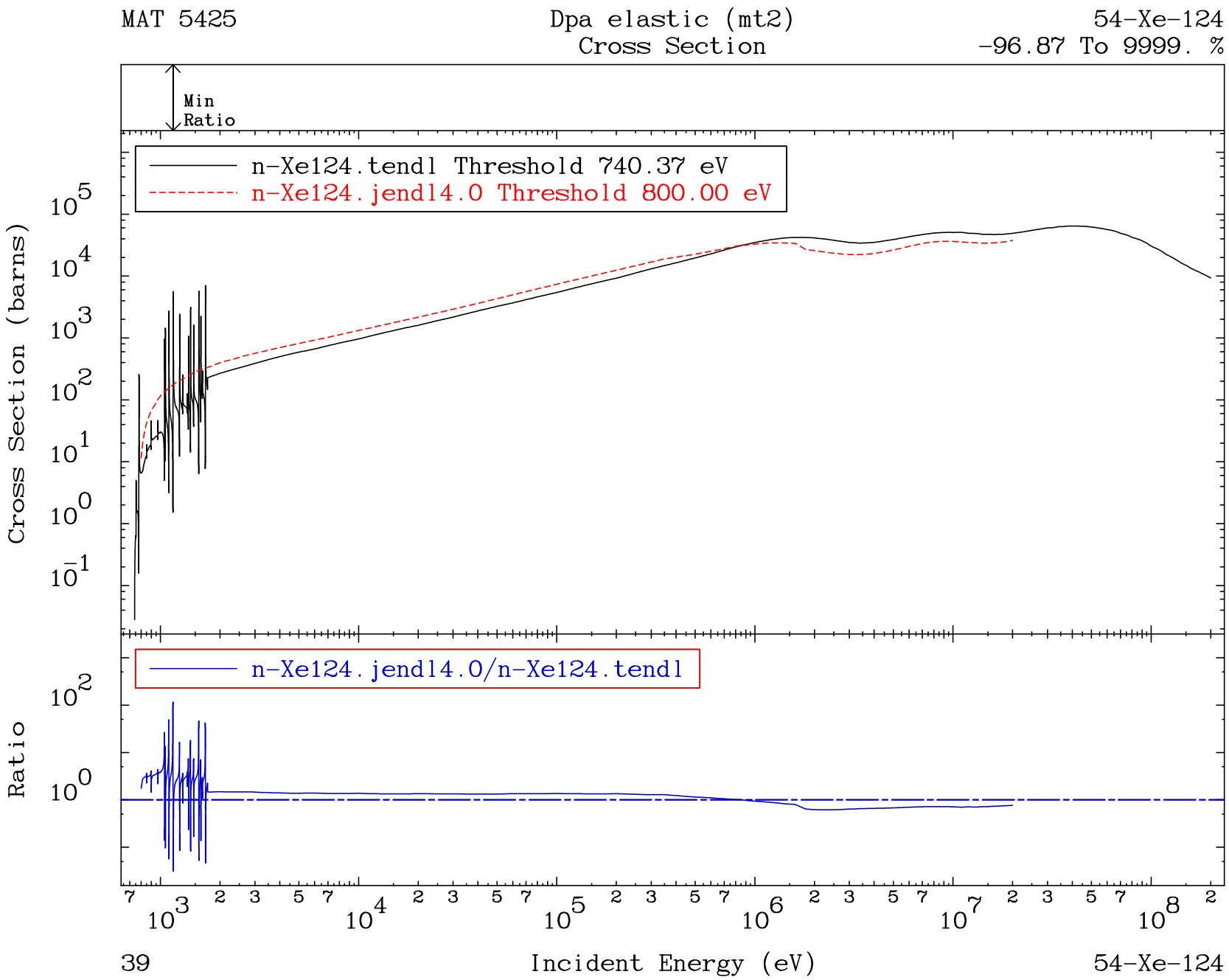

MAT 5425
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
54-Xe-124
-12.32 To 85.17 %
Max Ratio
Min Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
2.0
1.6
1.2
0.8
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
34
Incident Energy (eV)
54-Xe-124

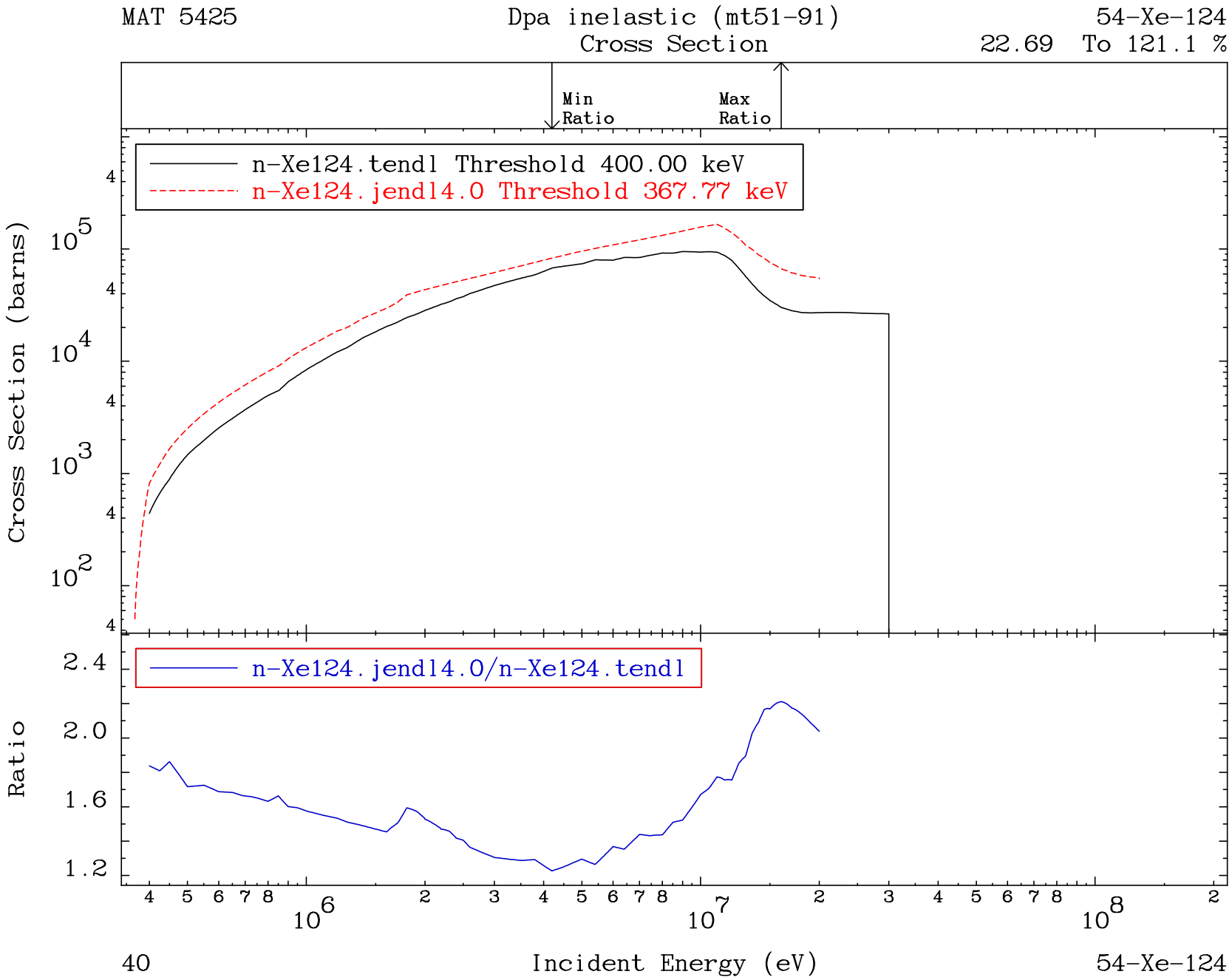

MAT 5425
Kerma capture (mt102)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
35
54-Xe-124

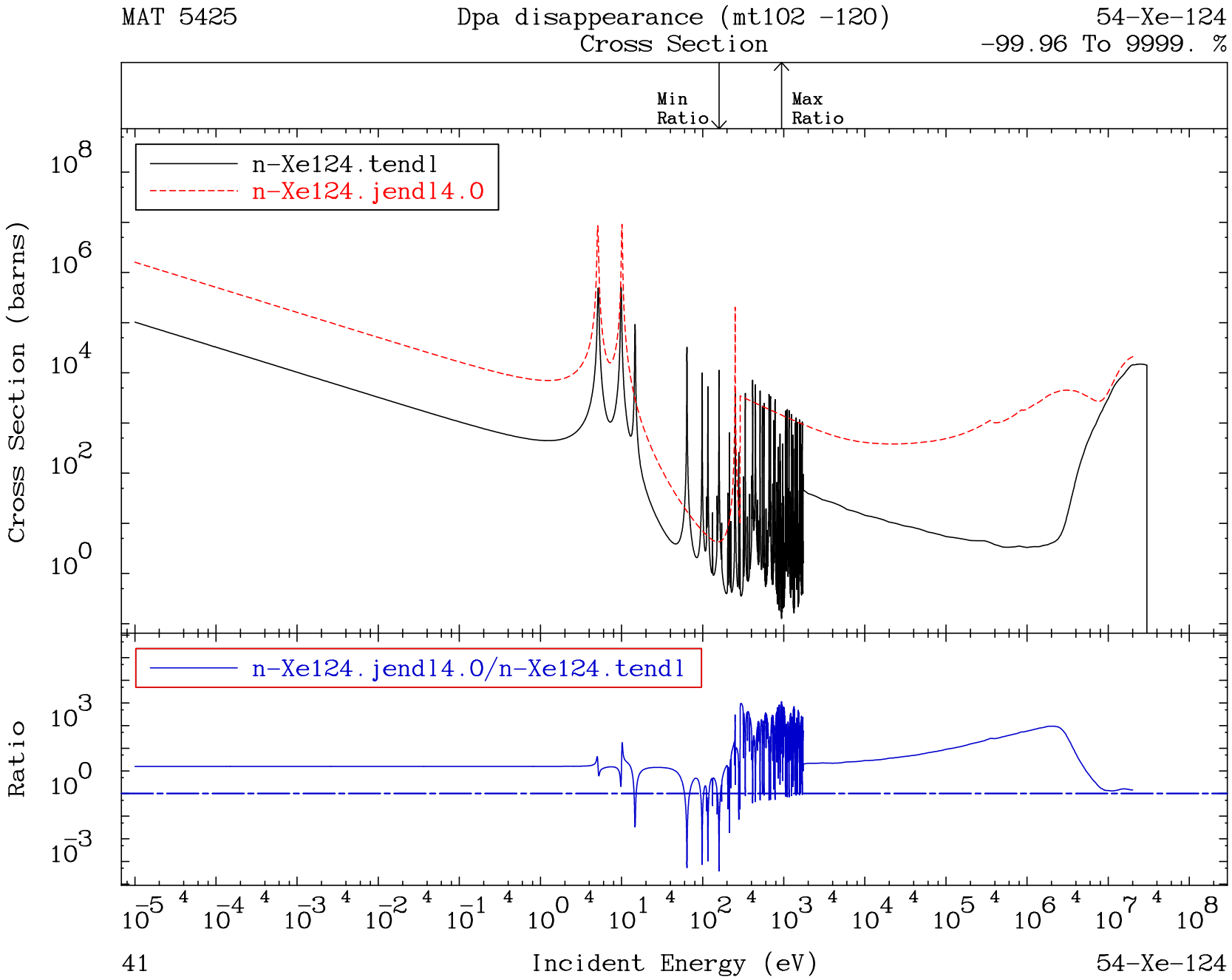

MAT 5425
Total photon (eV-barns)
Cross Section
54-Xe-124
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (Giga-barns)
300
250
200
150
100
50
0
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
10^3
10^0
10^-3
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
36
Incident Energy (eV)
54-Xe-124


MAT 5425
Total kinematic kerma (high limit)
Cross Section
54-Xe-124
-100.0 To -75.32%
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
37
54-Xe-124


MAT 5425
Dpa total (eV-barns)
Cross Section
54-Xe-124
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
38
54-Xe-124


MAT 5425
Dpa elastic (mt2)
Cross Section
54-Xe-124
-96.87 To 9999. %
Min
Ratio
n-Xe124.tendl Threshold 740.37 eV
n-Xe124.jendl4.0 Threshold 800.00 eV
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
39
Incident Energy (eV)
54-Xe-124


MAT 5425
Dpa inelastic (mt51-91)
Cross Section
54-Xe-124
22.69 To 121.1 %
Min Ratio
Max Ratio
n-Xe124.tendl Threshold 400.00 keV
n-Xe124.jendl4.0 Threshold 367.77 keV
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
40
54-Xe-124


MAT 5425
Dpa disappearance (mt102 -120)
Cross Section
54-Xe-124
-99.96 To 9999. %
Min Ratio
Max Ratio
n-Xe124.tendl
n-Xe124.jendl4.0
Cross Section (barns)
n-Xe124.jendl4.0/n-Xe124.tendl
Ratio
Incident Energy (eV)
41
54-Xe-124