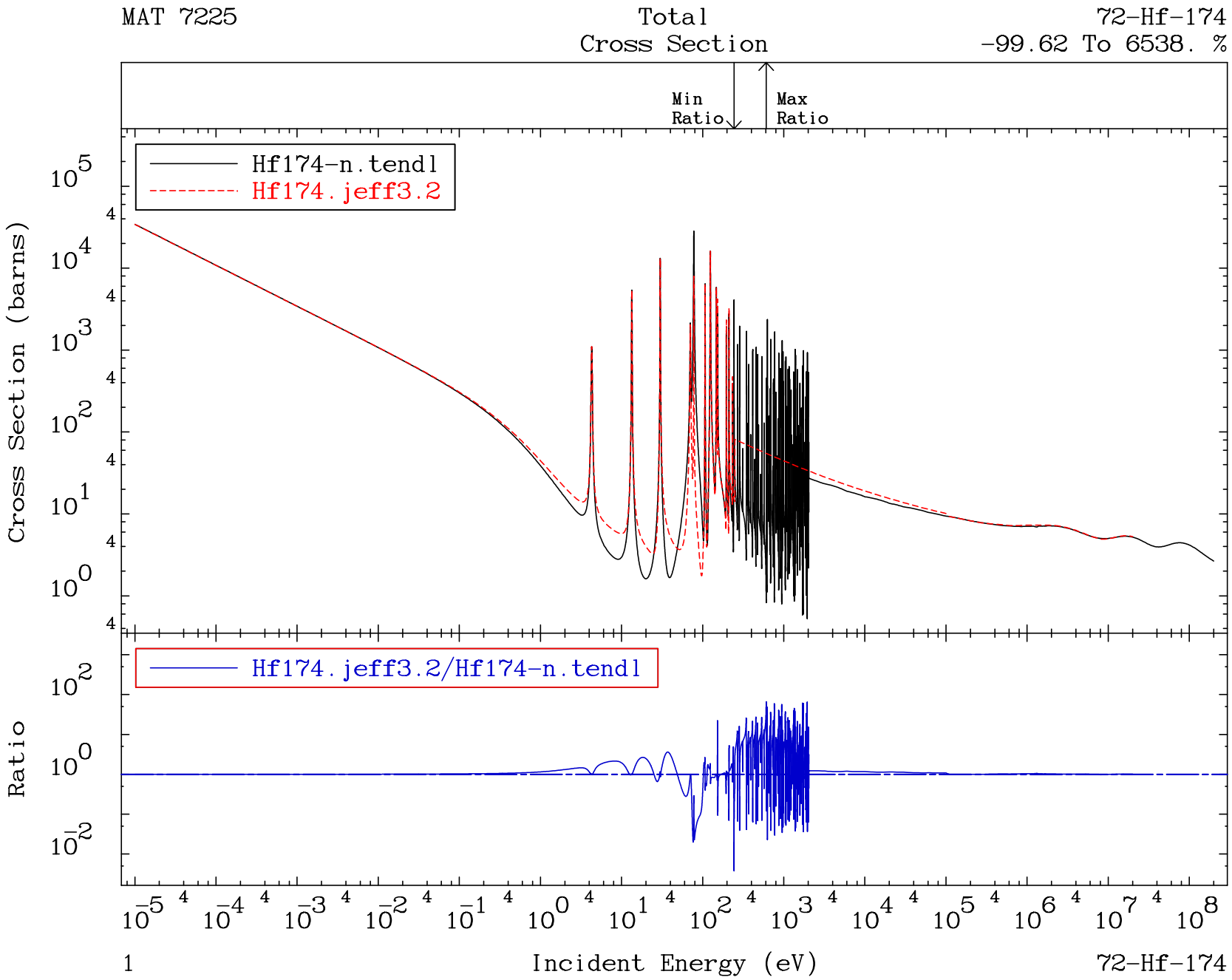
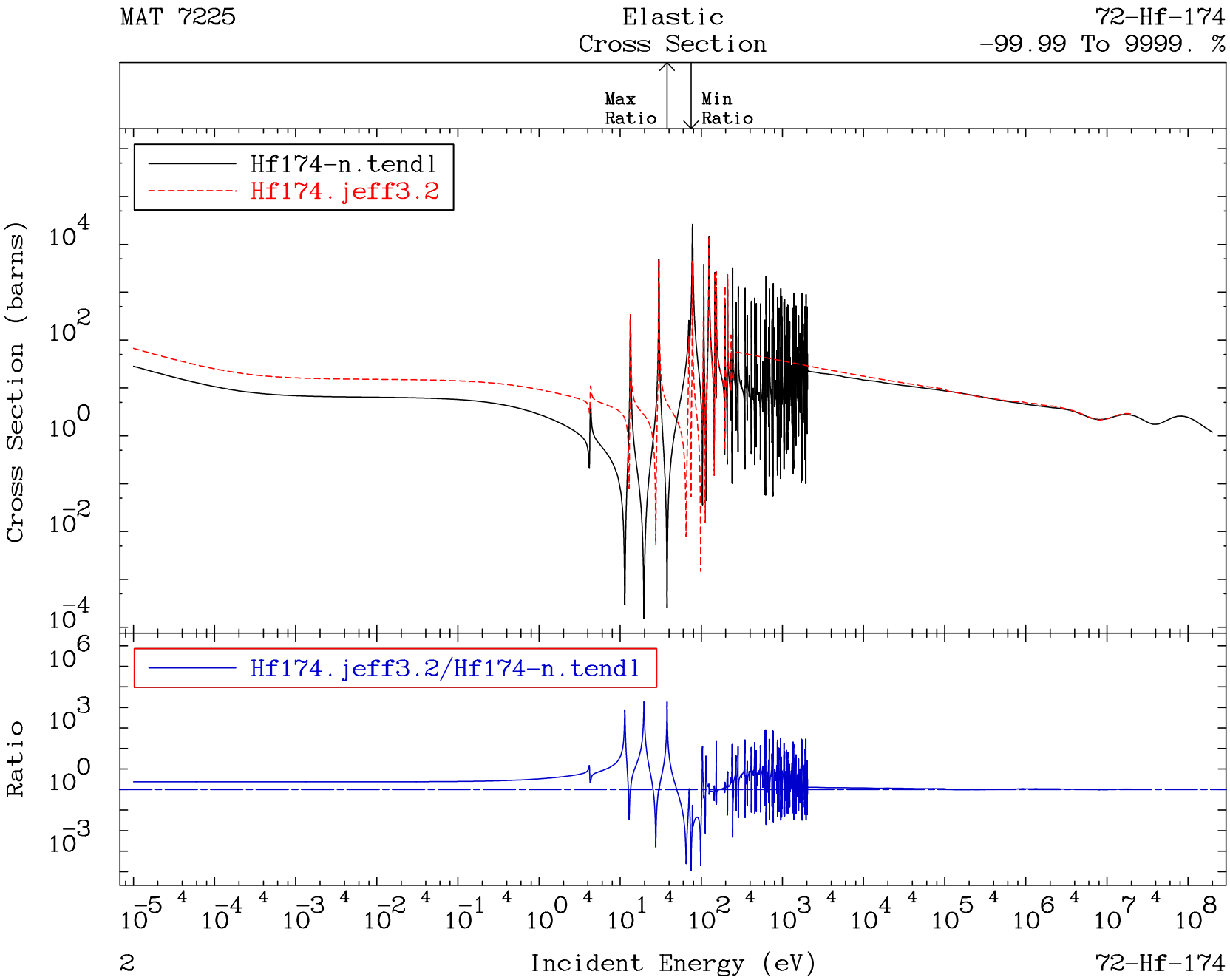
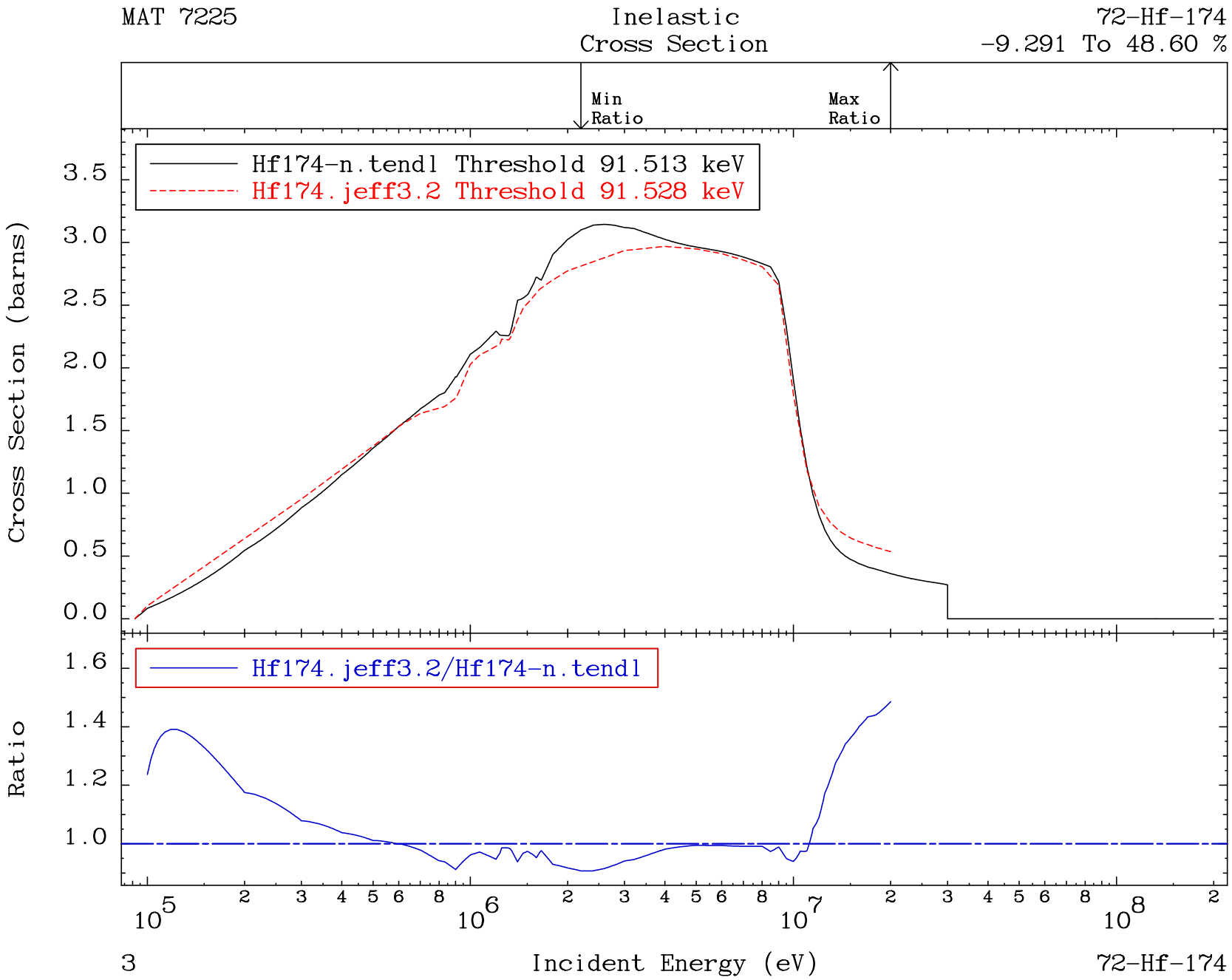
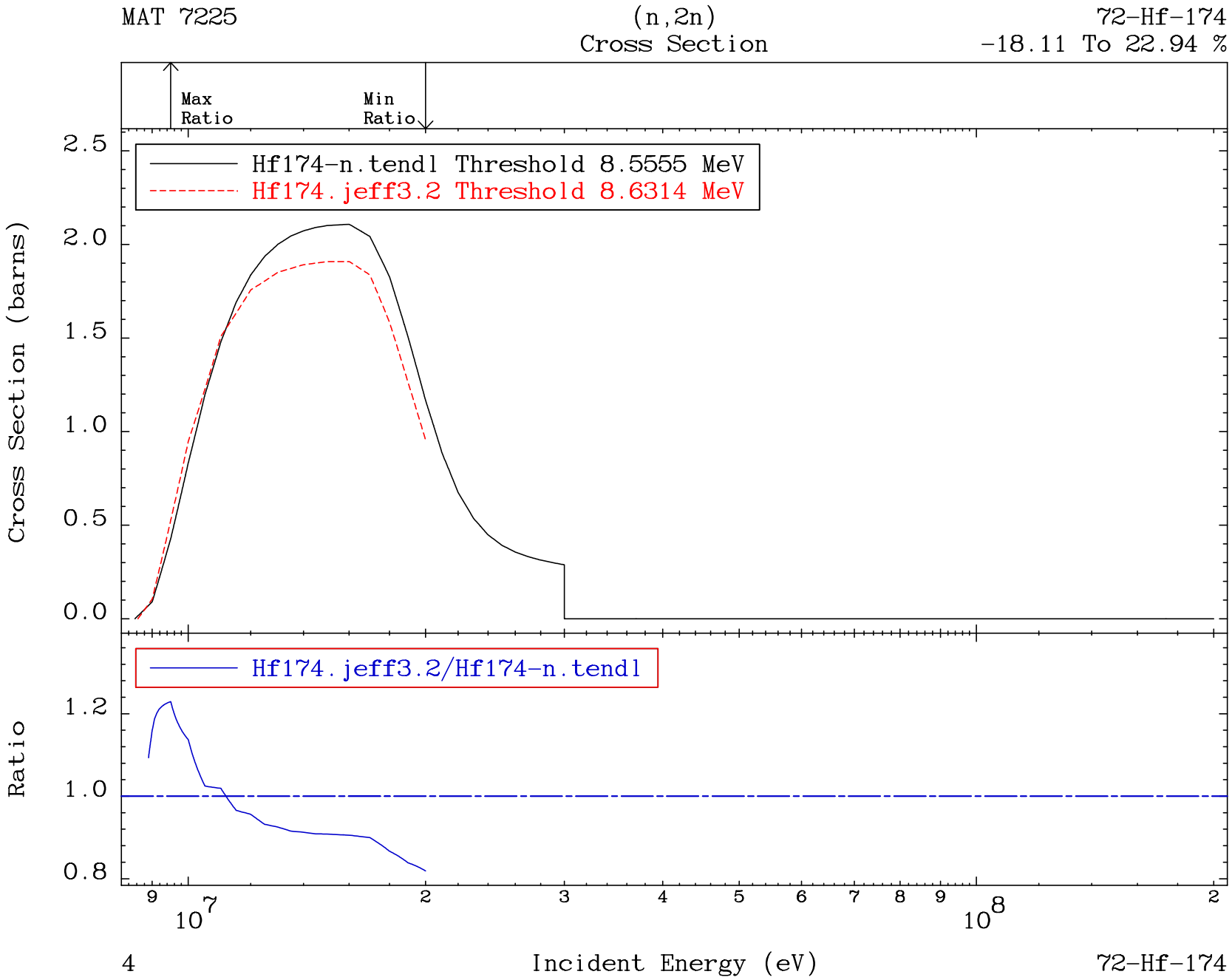
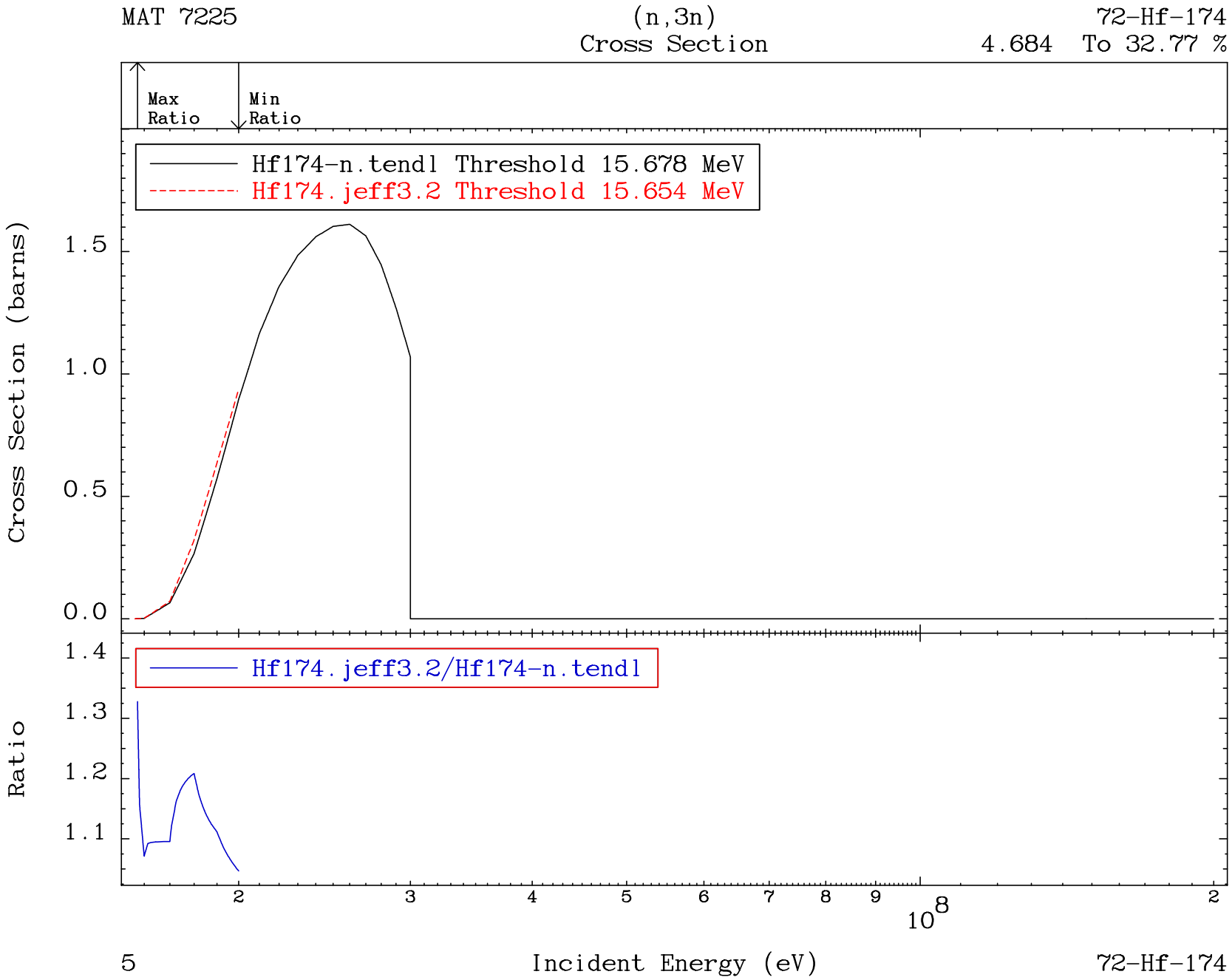
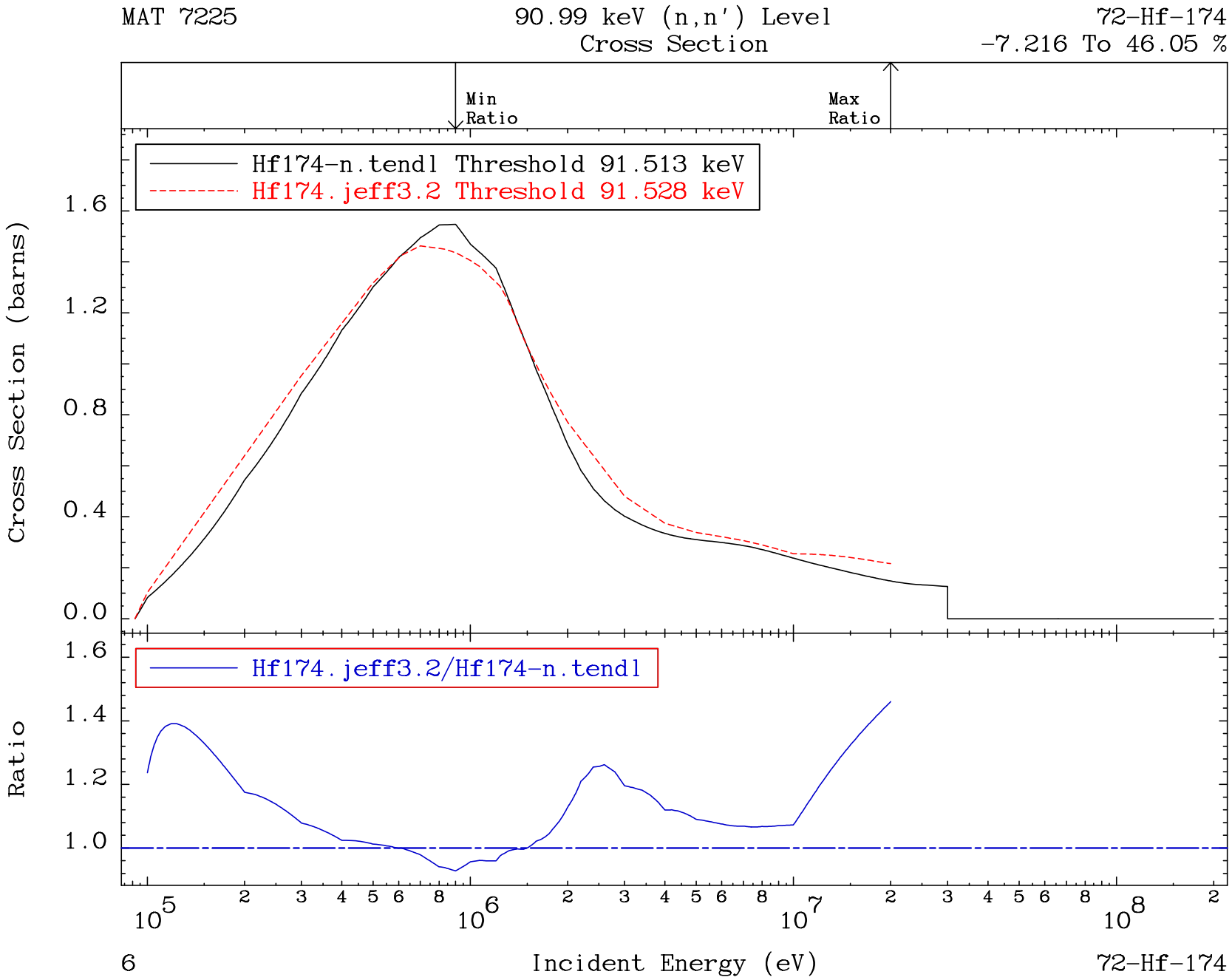

MAT 7225
Total
Cross Section
72-Hf-174
-99.62 To 6538. %
Min
Ratio
Max
Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
1
72-Hf-174

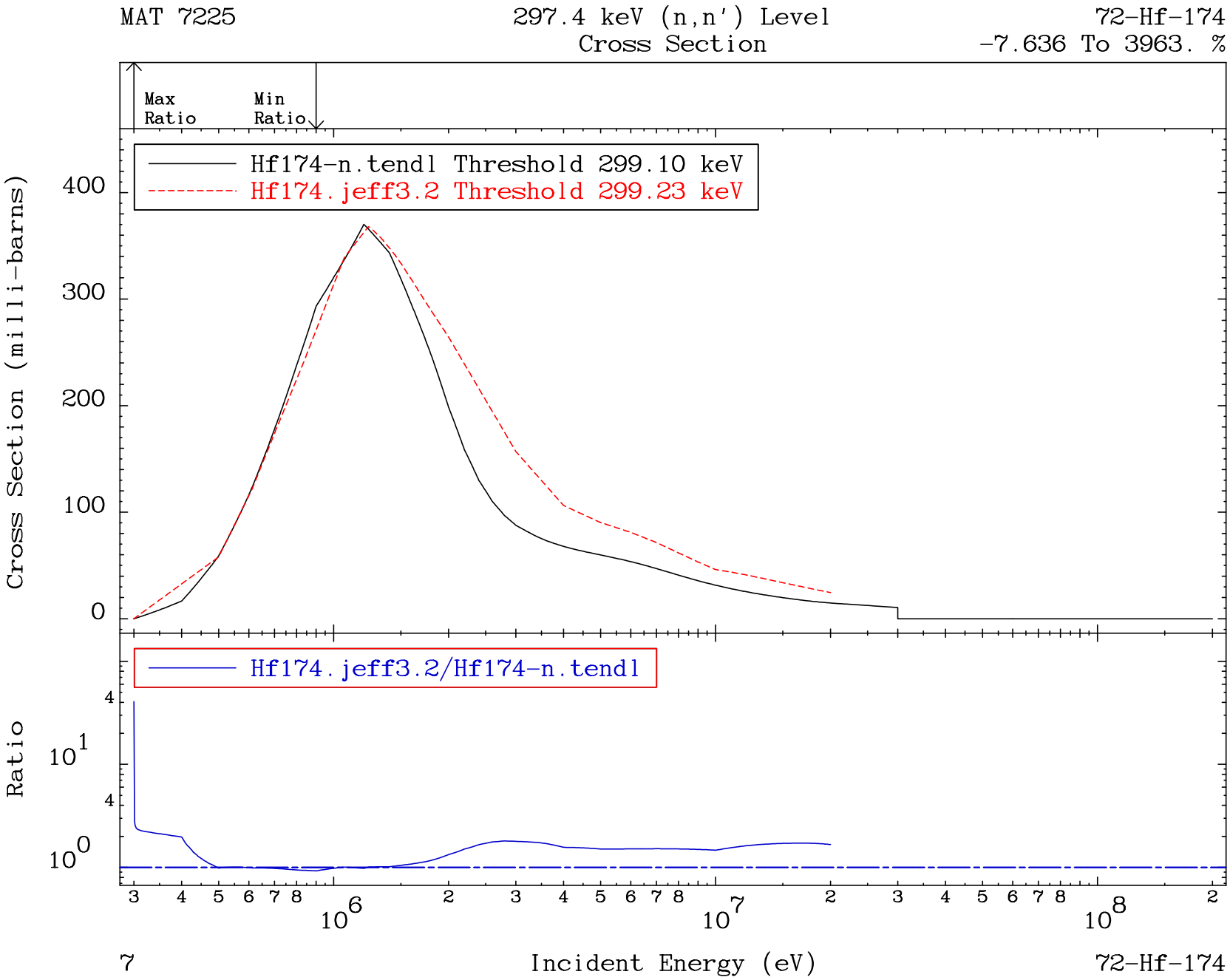

MAT 7225
Elastic
Cross Section
72-Hf-174
-99.99 To 9999. %
Max
Ratio
Min
Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
2
72-Hf-174

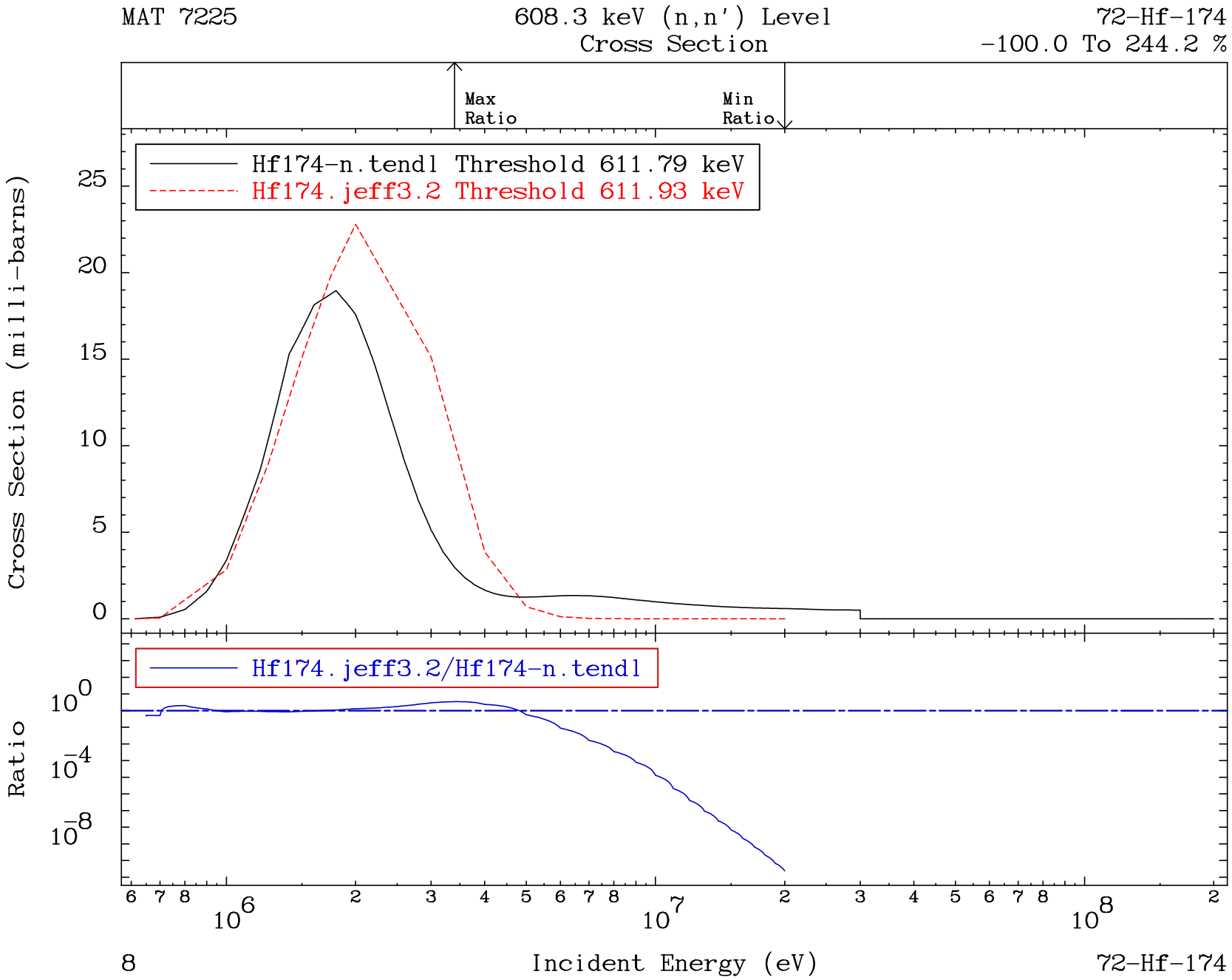

MAT 7225
Inelastic
Cross Section
72-Hf-174
-9.291 To 48.60 %
Min
Ratio
Max
Ratio
Hf174-n.tendl Threshold 91.513 keV
Hf174.jeff3.2 Threshold 91.528 keV
Cross Section (barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.6
1.4
1.2
1.0
10^5
10^6
10^7
10^8
Incident Energy (eV)
3
72-Hf-174

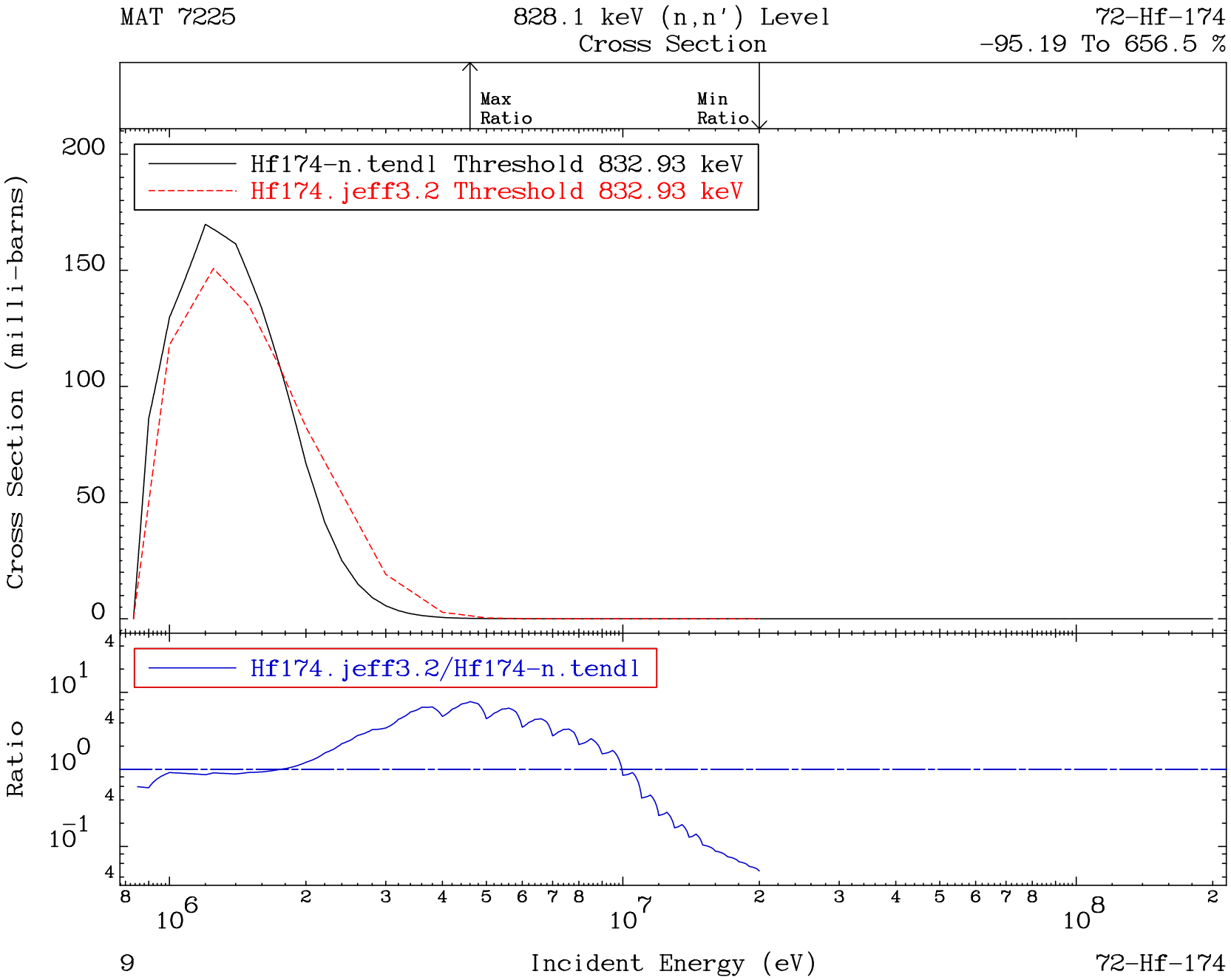

MAT 7225
(n,2n)
Cross Section
72-Hf-174
-18.11 To 22.94 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 8.5555 MeV
Hf174.jeff3.2 Threshold 8.6314 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.2
1.0
0.8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
72-Hf-174

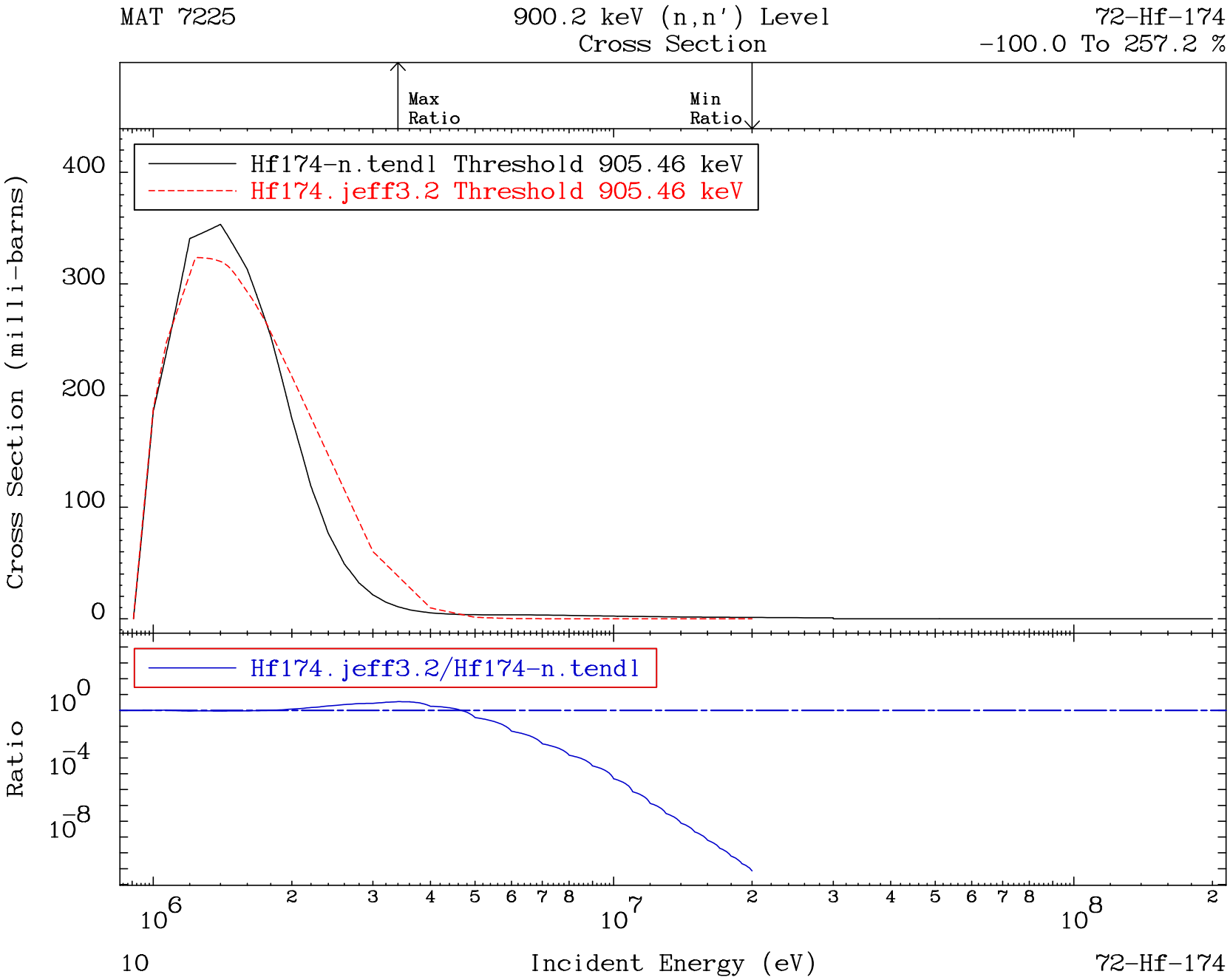

MAT 7225
(n,3n)
Cross Section
72-Hf-174
4.684 To 32.77 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 15.678 MeV
Hf174.jeff3.2 Threshold 15.654 MeV
Cross Section (barns)
1.5
1.0
0.5
0.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.4
1.3
1.2
1.1
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
72-Hf-174

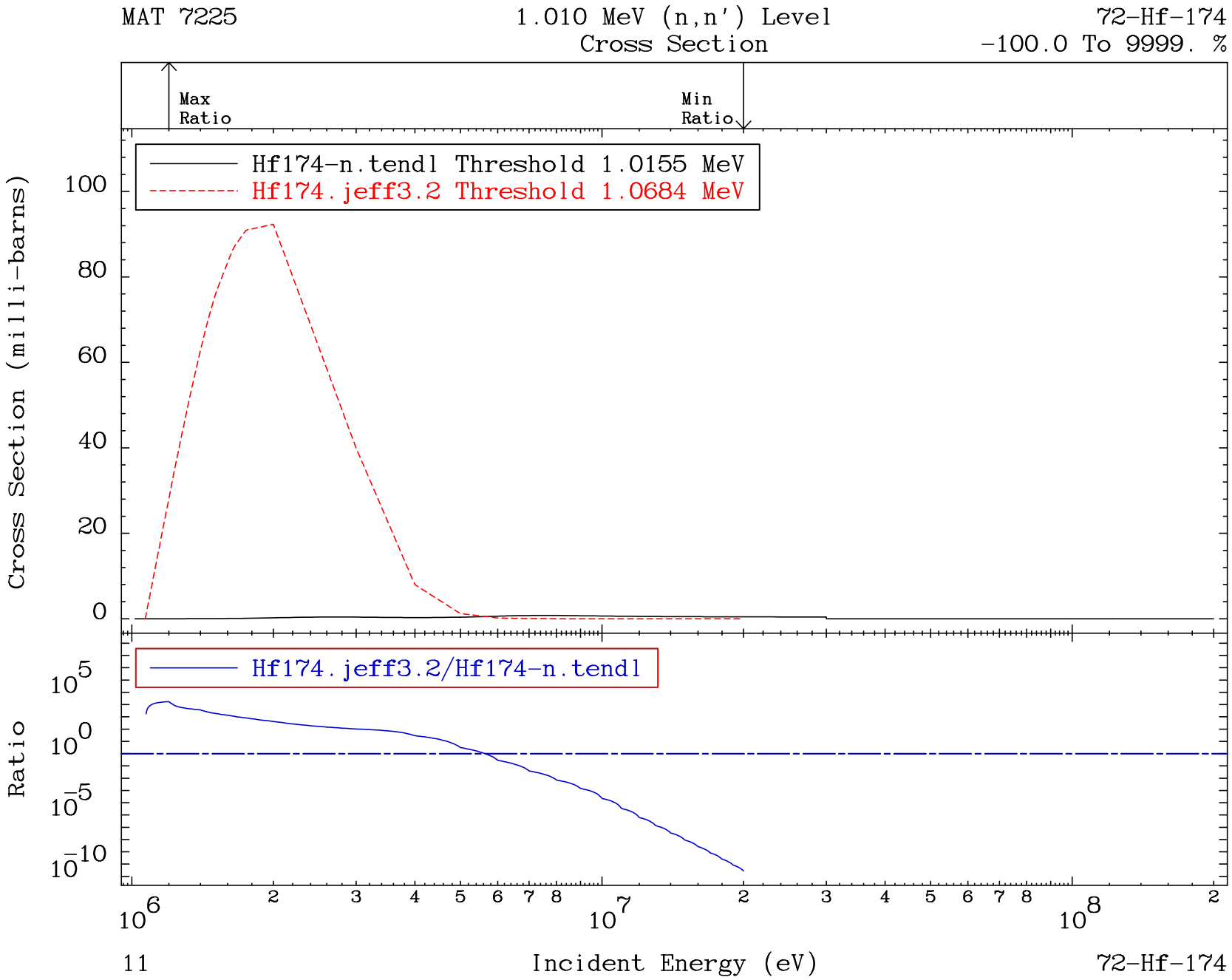

MAT 7225
90.99 keV (n,n') Level
Cross Section
72-Hf-174
-7.216 To 46.05 %
Min
Ratio
Max
Ratio
Hf174-n.tendl Threshold 91.513 keV
Hf174.jeff3.2 Threshold 91.528 keV
Cross Section (barns)
1.6
1.2
0.8
0.4
0.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.6
1.4
1.2
1.0
10^5
2
3
4
5
6
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
6
Incident Energy (eV)
72-Hf-174

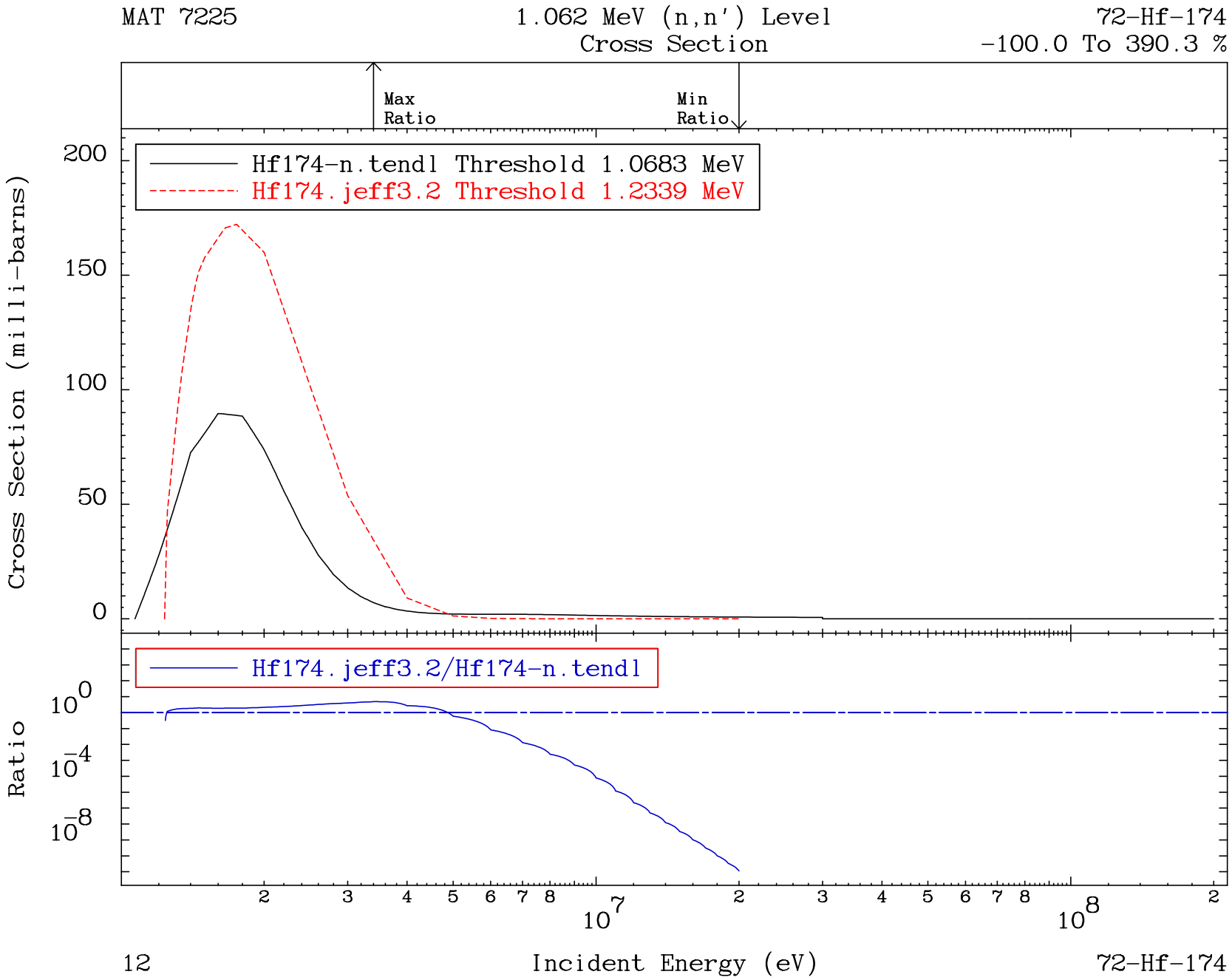

MAT 7225
297.4 keV (n,n') Level
Cross Section
72-Hf-174
-7.636 To 3963. %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 299.10 keV
Hf174.jeff3.2 Threshold 299.23 keV
Cross Section (milli-barns)
400
300
200
100
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^1
10^0
4
4
3 4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
7
Incident Energy (eV)
72-Hf-174

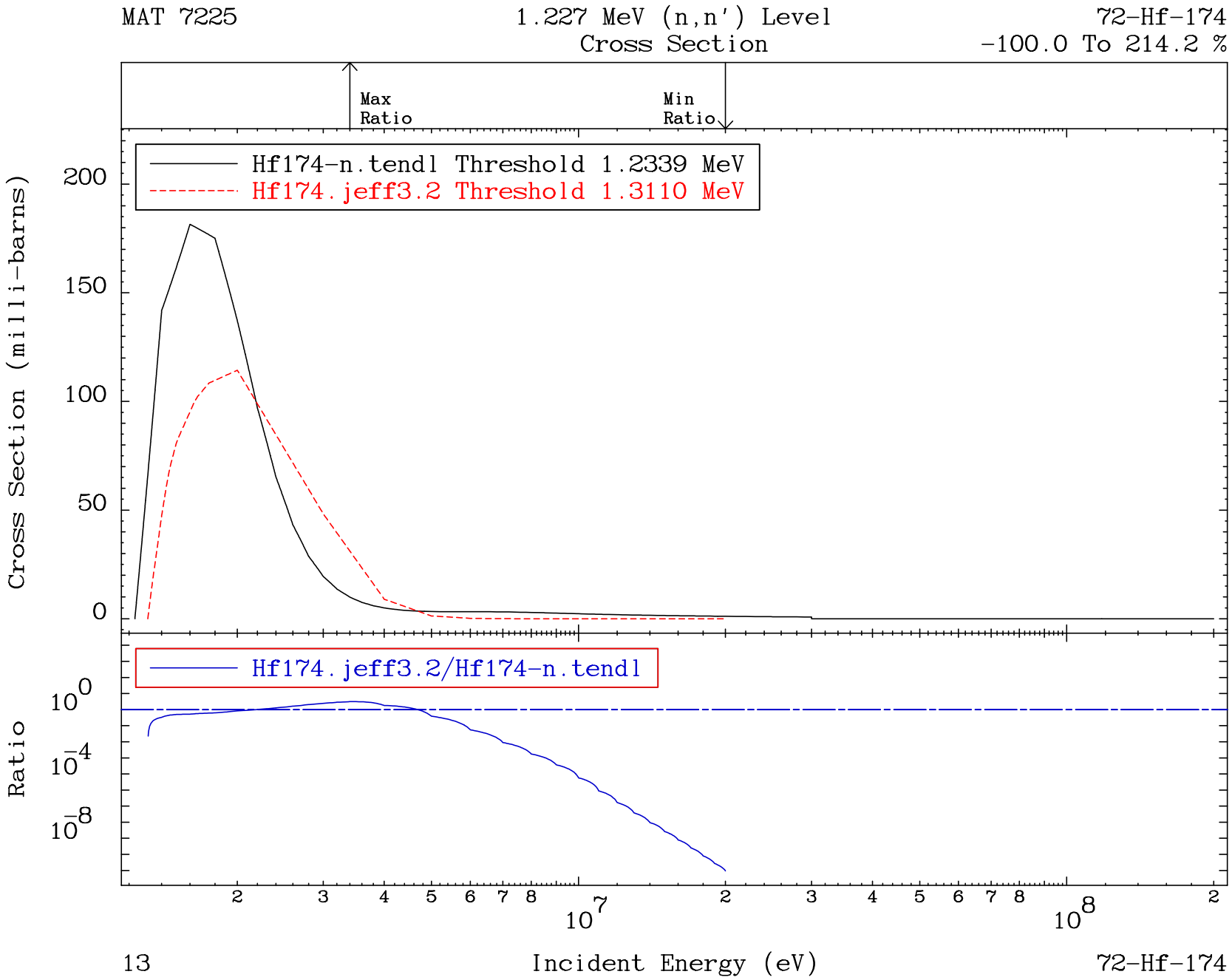

MAT 7225
608.3 keV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 244.2 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 611.79 keV
Hf174.jeff3.2 Threshold 611.93 keV
Cross Section (milli-barns)
25
20
15
10
5
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
72-Hf-174

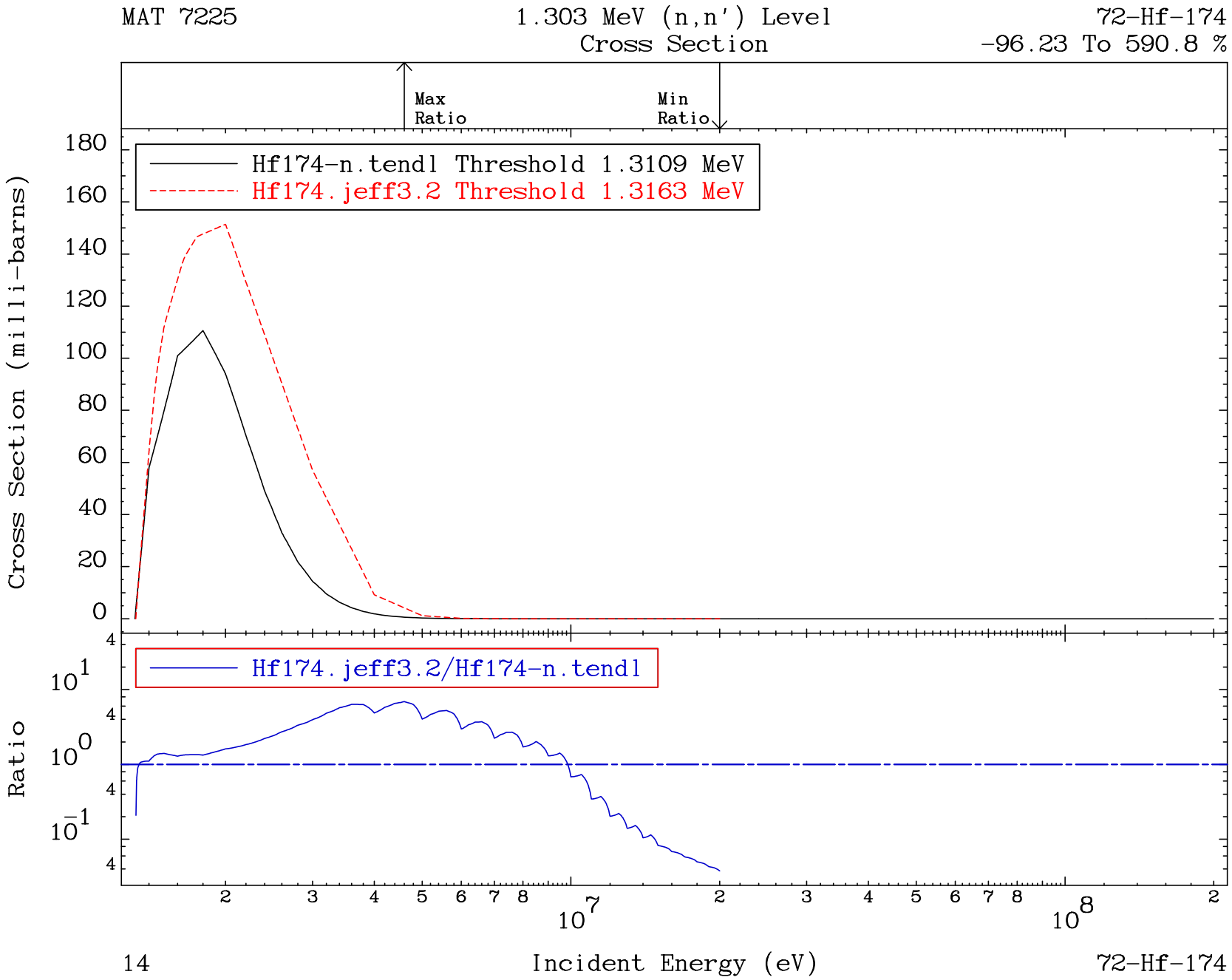

MAT 7225
828.1 keV (n,n') Level
Cross Section
72-Hf-174
-95.19 To 656.5 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 832.93 keV
Hf174.jeff3.2 Threshold 832.93 keV
Cross Section (milli-barns)
200
150
100
50
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^1
10^0
10^-1
10^6
10^7
10^8
Incident Energy (eV)
9
72-Hf-174

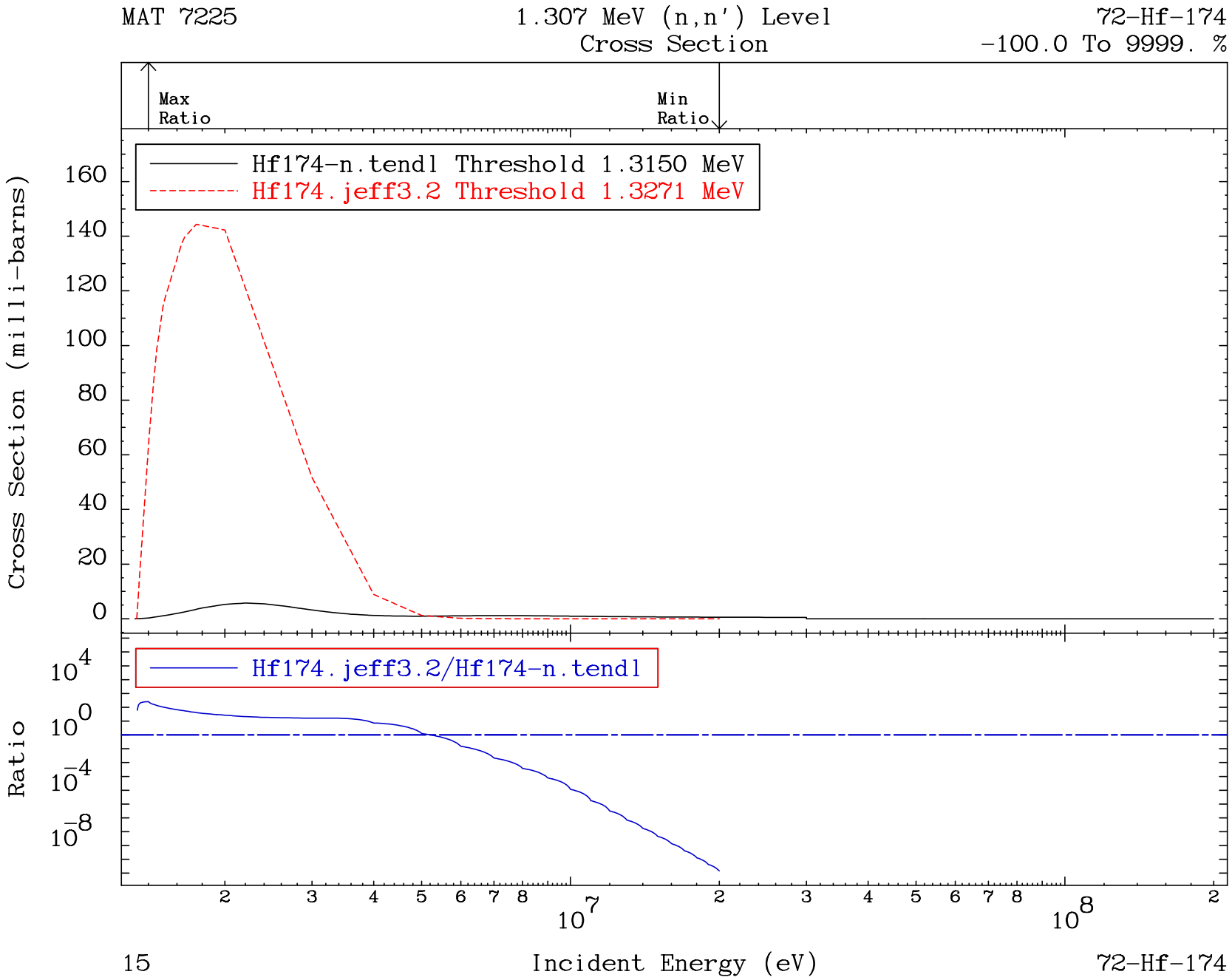

MAT 7225
900.2 keV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 257.2 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 905.46 keV
Hf174.jeff3.2 Threshold 905.46 keV
Cross Section (milli-barns)
400
300
200
100
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
10
Incident Energy (eV)
72-Hf-174

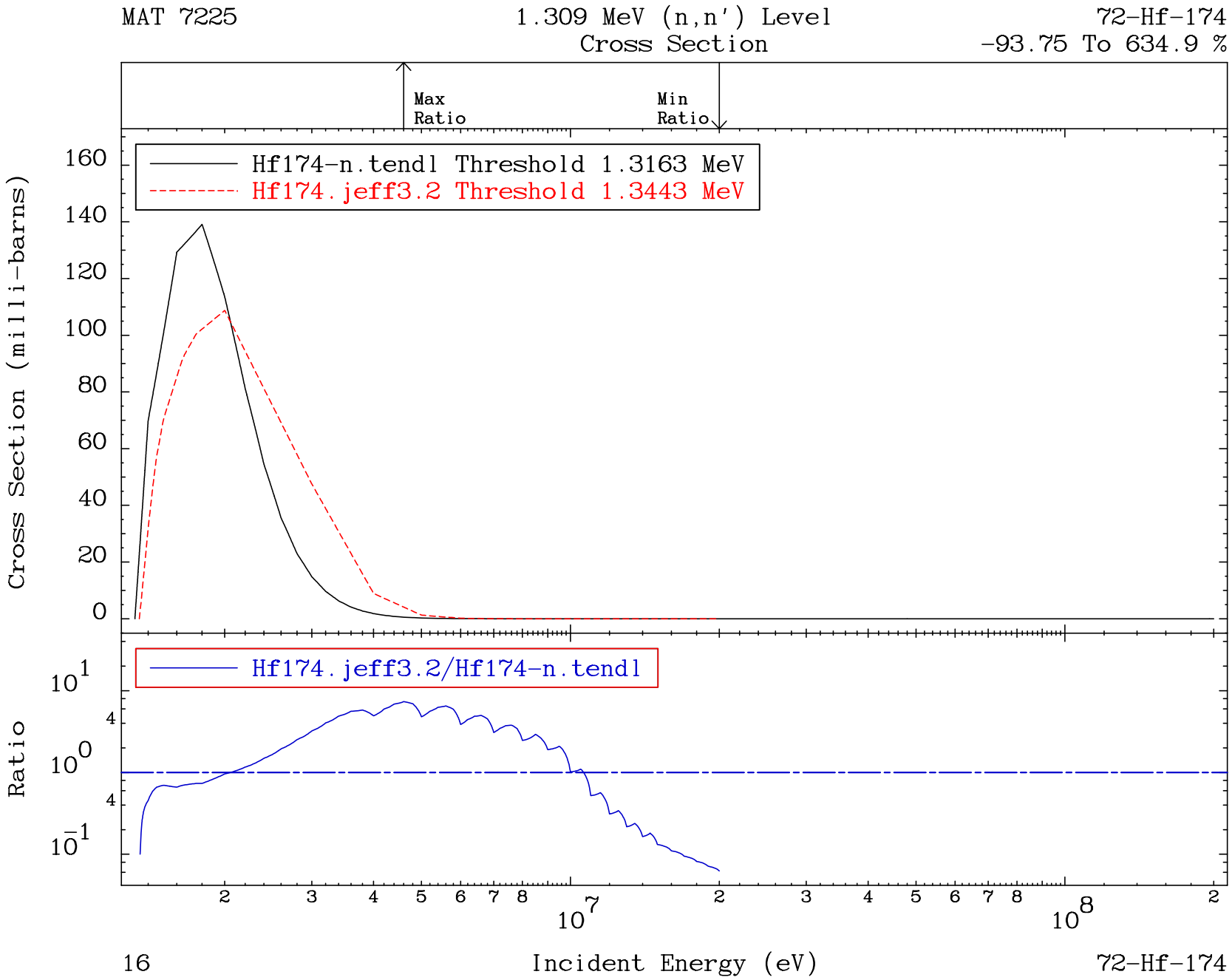

MAT 7225
1.010 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 9999. %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 1.0155 MeV
Hf174.jeff3.2 Threshold 1.0684 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^5
10^0
10^-5
10^-10
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
11
Incident Energy (eV)
72-Hf-174

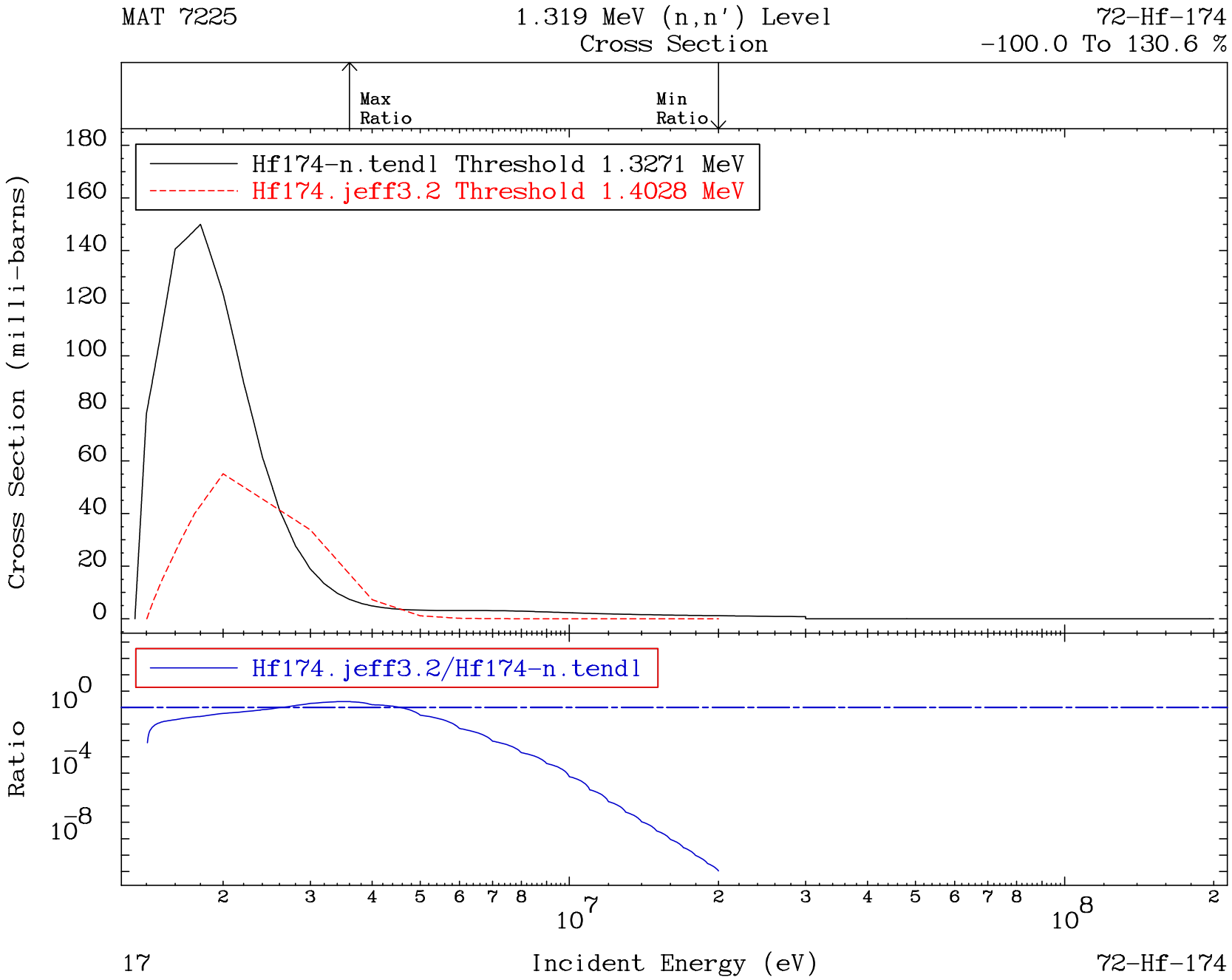

MAT 7225
1.062 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 390.3 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.0683 MeV
Hf174.jeff3.2 Threshold 1.2339 MeV
Cross Section (milli-barns)
200
150
100
50
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
12
Incident Energy (eV)
72-Hf-174

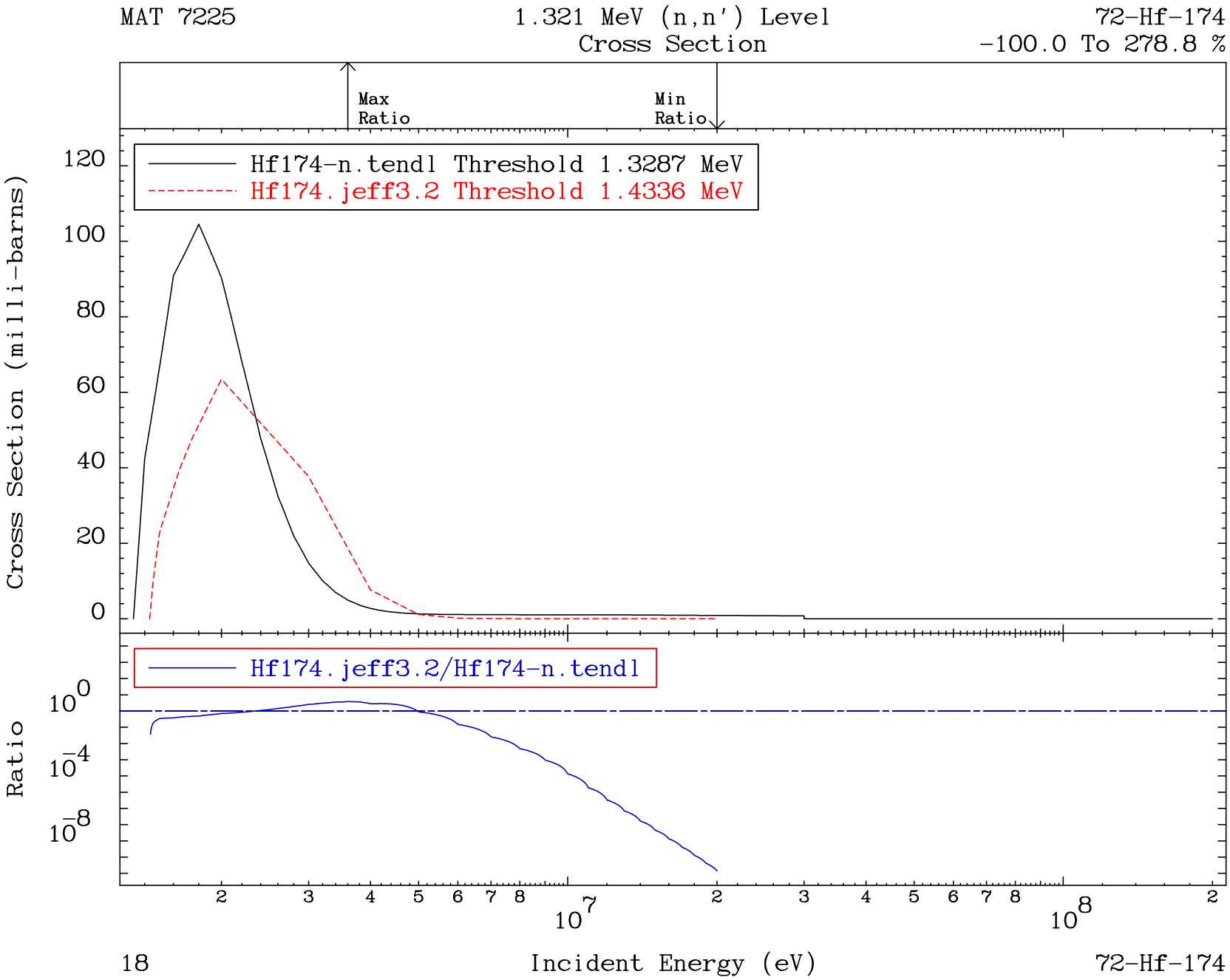

MAT 7225
1.227 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 214.2 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 1.2339 MeV
Hf174.jeff3.2 Threshold 1.3110 MeV
Cross Section (milli-barns)
200
150
100
50
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
13
Incident Energy (eV)
72-Hf-174

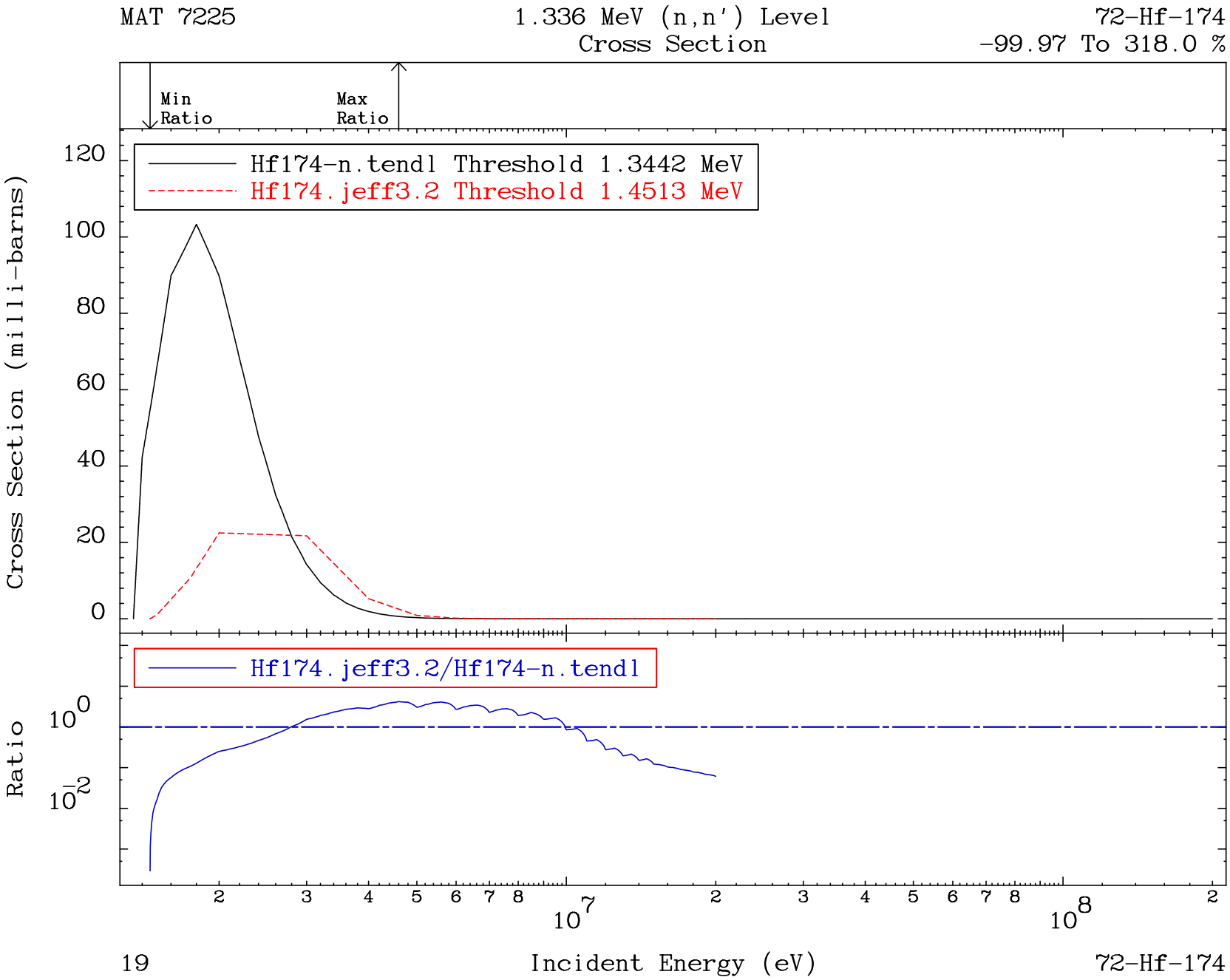

MAT 7225
1.303 MeV (n,n') Level
Cross Section
72-Hf-174
-96.23 To 590.8 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.3109 MeV
Hf174.jeff3.2 Threshold 1.3163 MeV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^1
10^0
10^-1
2
3
4
5
6
7
8
10^7
10^8
14
Incident Energy (eV)
72-Hf-174

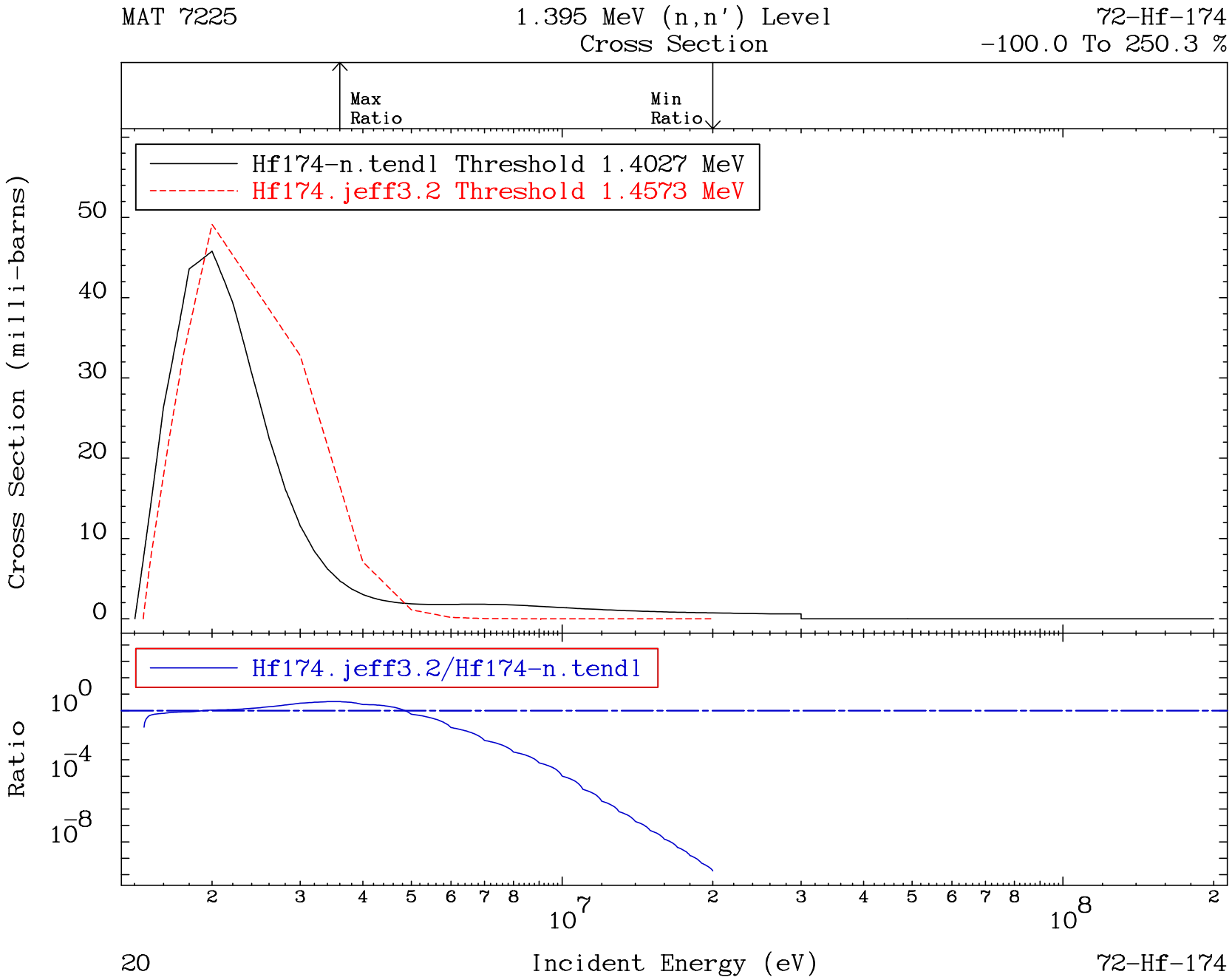

MAT 7225
1.307 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 9999. %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.3150 MeV
Hf174.jeff3.2 Threshold 1.3271 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^4
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
15
Incident Energy (eV)
72-Hf-174

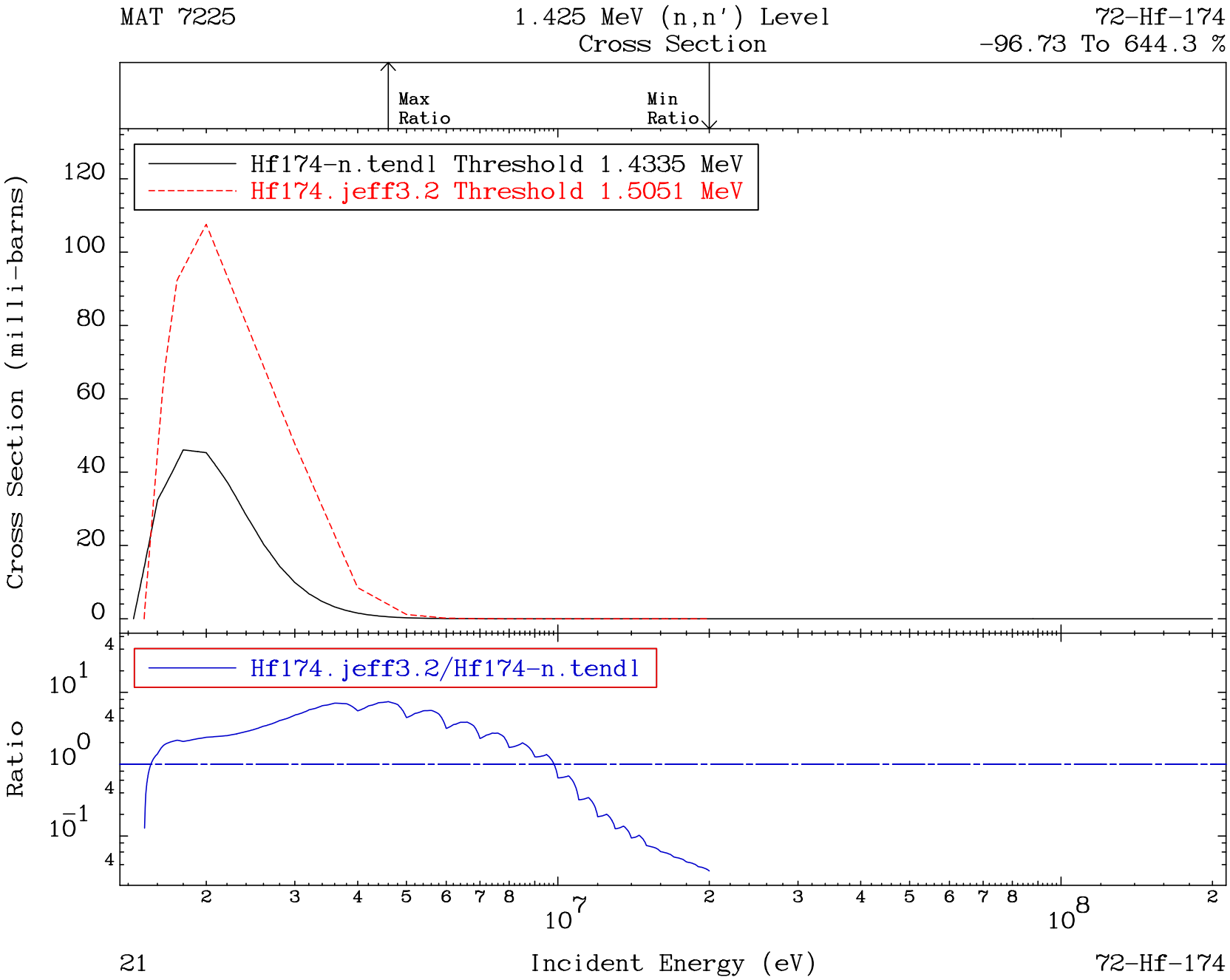

MAT 7225
1.309 MeV (n,n') Level
Cross Section
72-Hf-174
-93.75 To 634.9 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 1.3163 MeV
Hf174.jeff3.2 Threshold 1.3443 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^1
10^0
10^-1
2
3
4
5
6
7
8
10^7
10^8
16
Incident Energy (eV)
72-Hf-174

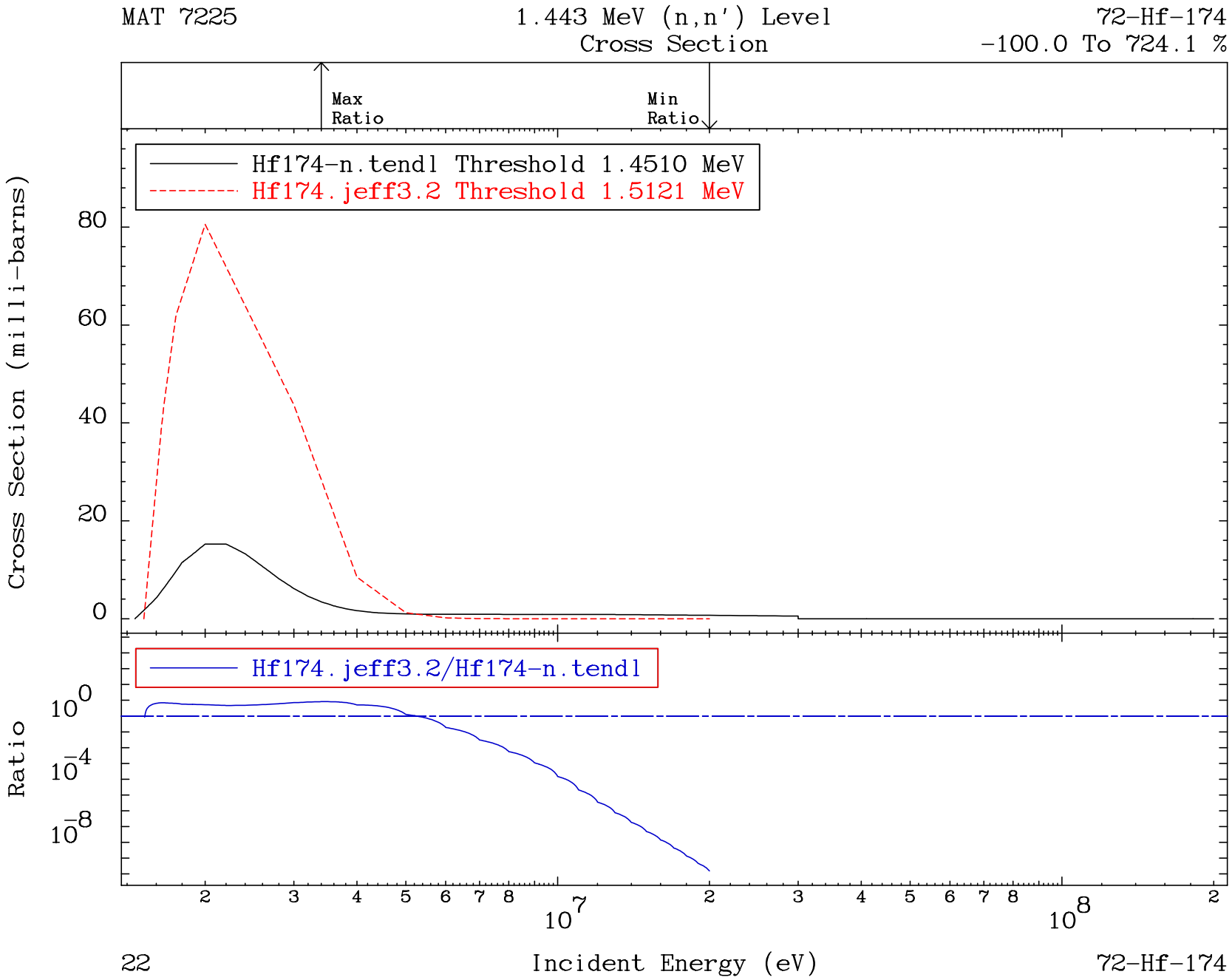

MAT 7225
1.319 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 130.6 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.3271 MeV
Hf174.jeff3.2 Threshold 1.4028 MeV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
17
Incident Energy (eV)
72-Hf-174

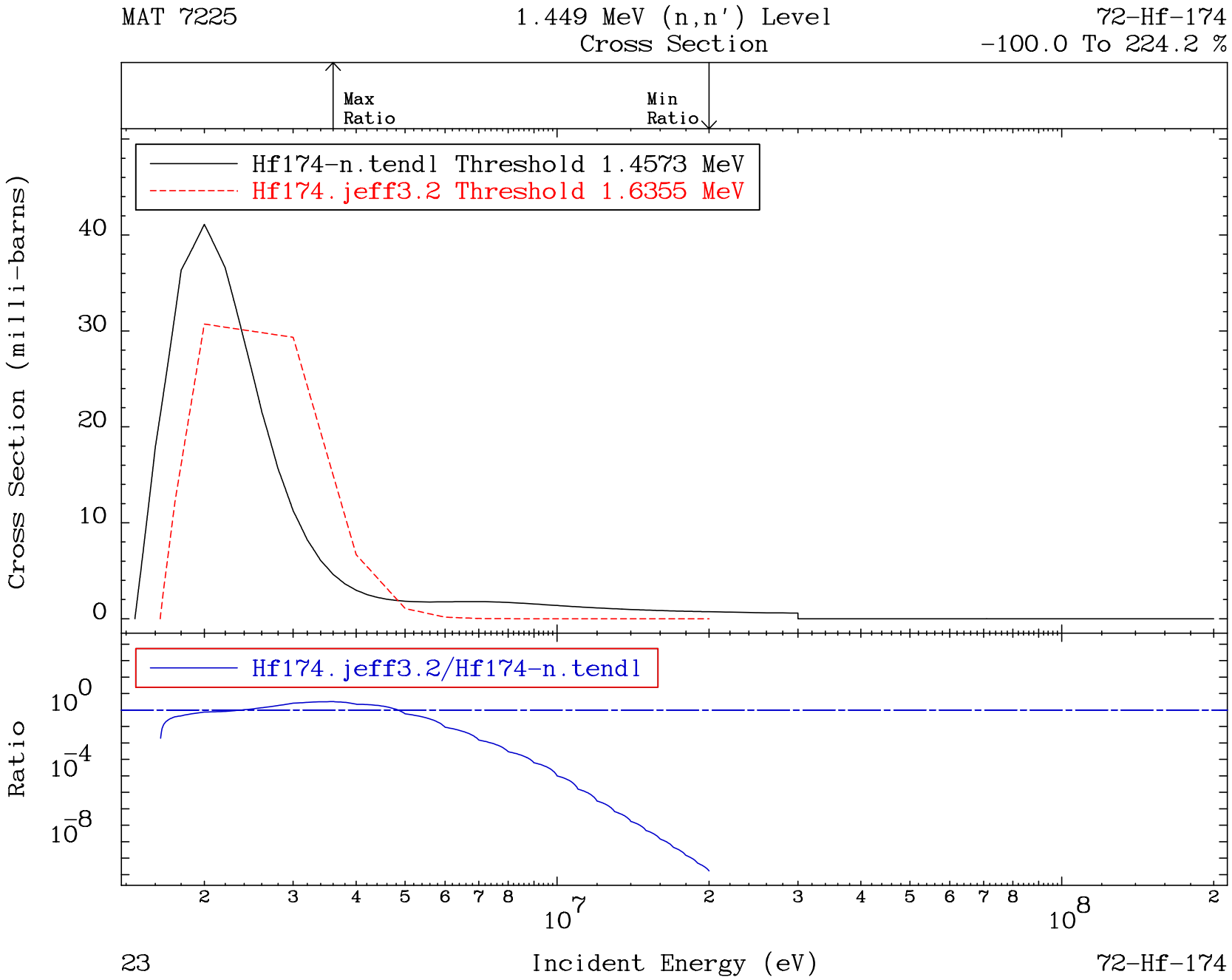

MAT 7225
1.321 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 278.8 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.3287 MeV
Hf174.jeff3.2 Threshold 1.4336 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
18
Incident Energy (eV)
72-Hf-174

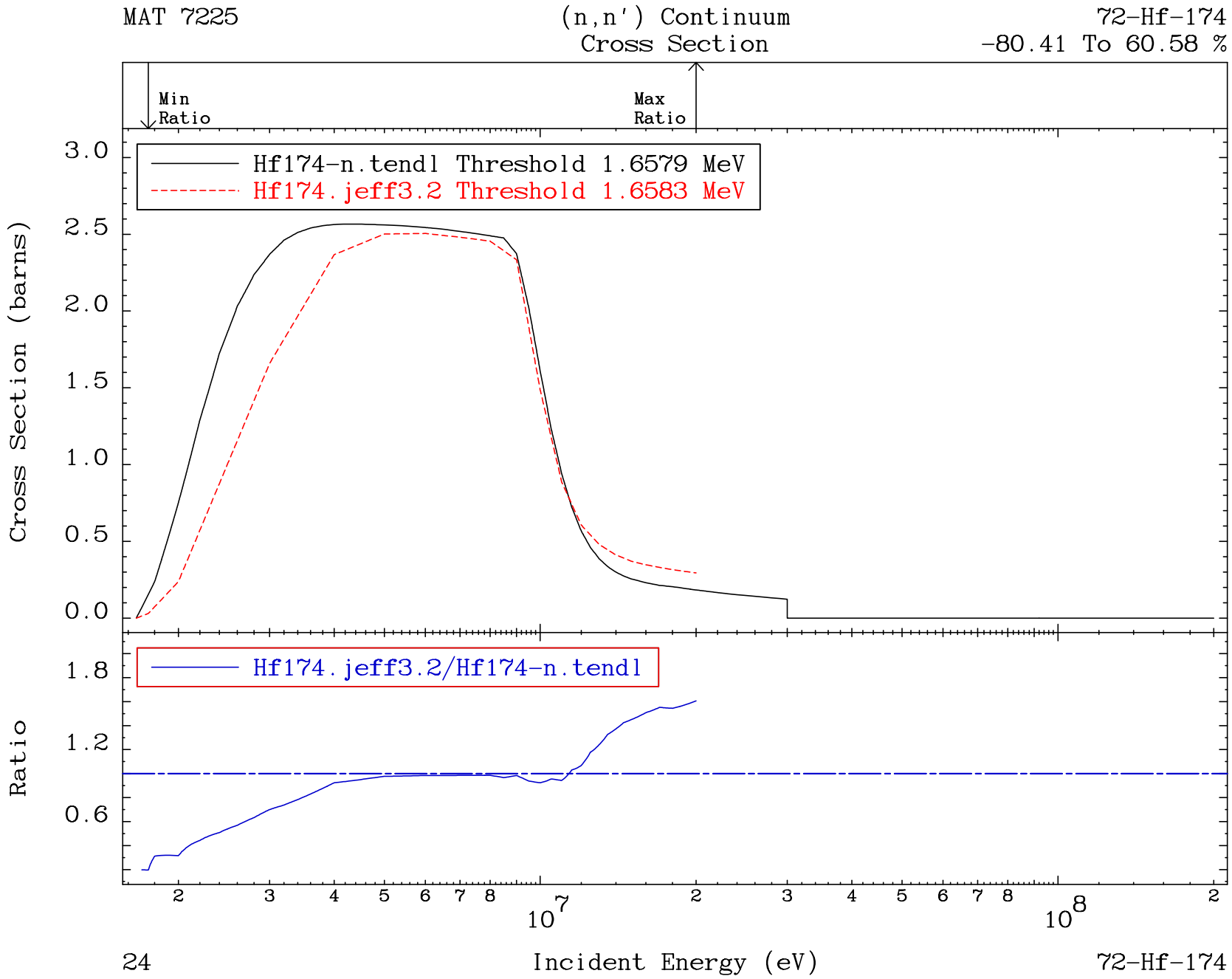

MAT 7225
1.336 MeV (n,n') Level
Cross Section
72-Hf-174
-99.97 To 318.0 %
Min Ratio
Max Ratio
Hf174-n.tendl Threshold 1.3442 MeV
Hf174.jeff3.2 Threshold 1.4513 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-2
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
19
Incident Energy (eV)
72-Hf-174

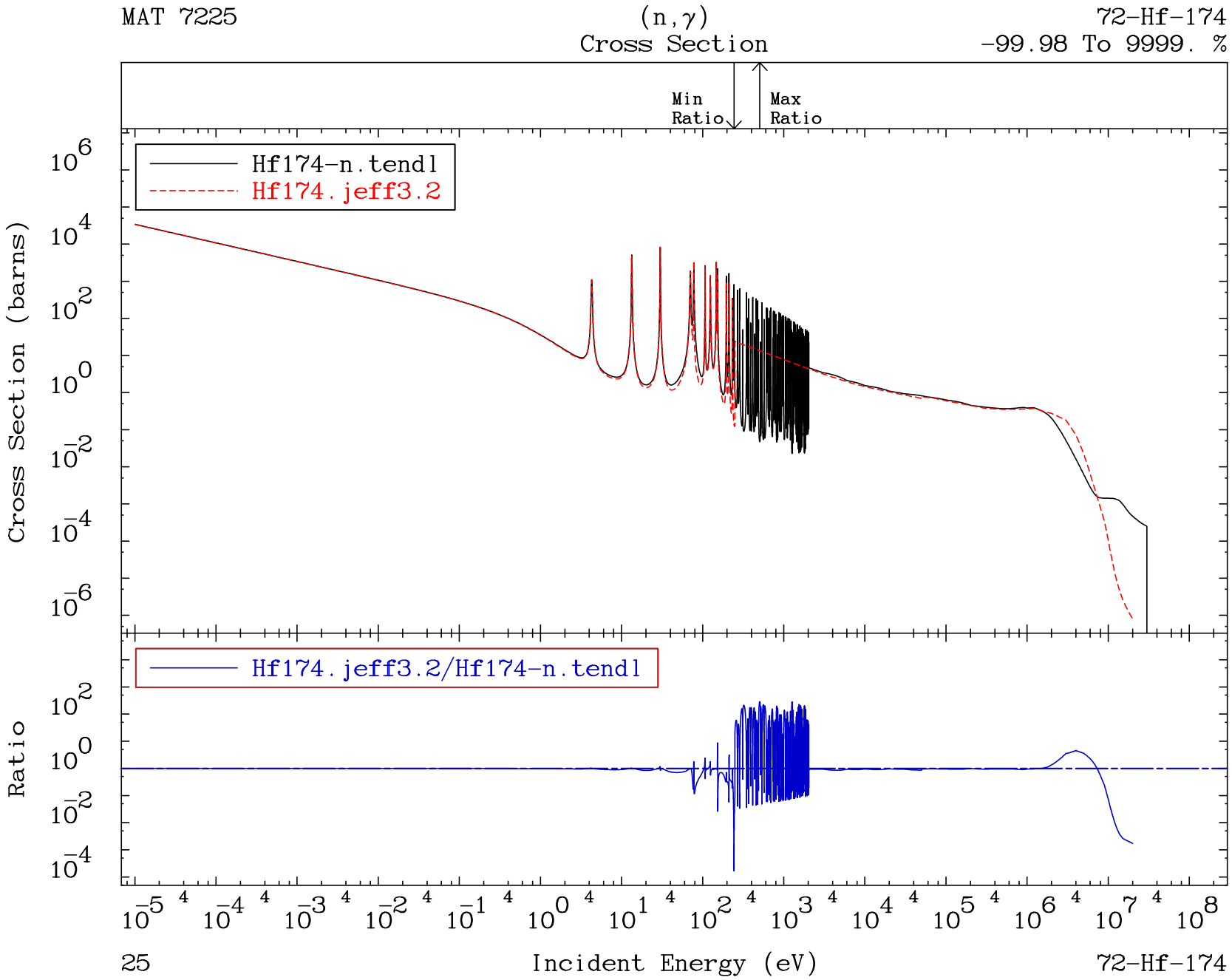

MAT 7225
1.395 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 250.3 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 1.4027 MeV
Hf174.jeff3.2 Threshold 1.4573 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
20
Incident Energy (eV)
72-Hf-174

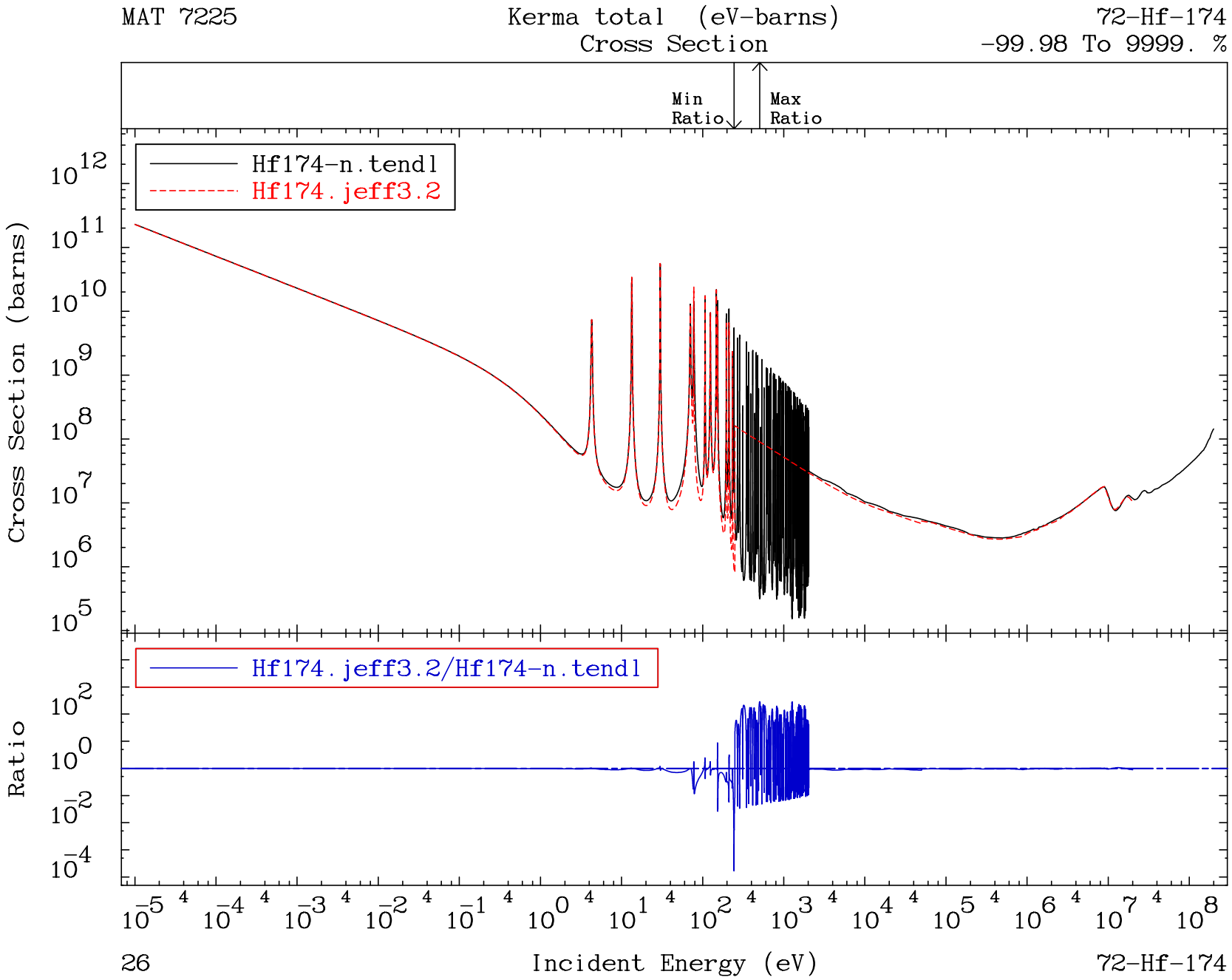

MAT 7225
1.425 MeV (n,n') Level
Cross Section
72-Hf-174
-96.73 To 644.3 %
Max
Ratio
Min
Ratio
Hf174-n.tendl Threshold 1.4335 MeV
Hf174.jeff3.2 Threshold 1.5051 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^1
10^0
10^-1
2
3
4
5
6
7
8
10^7
10^8
21
Incident Energy (eV)
72-Hf-174

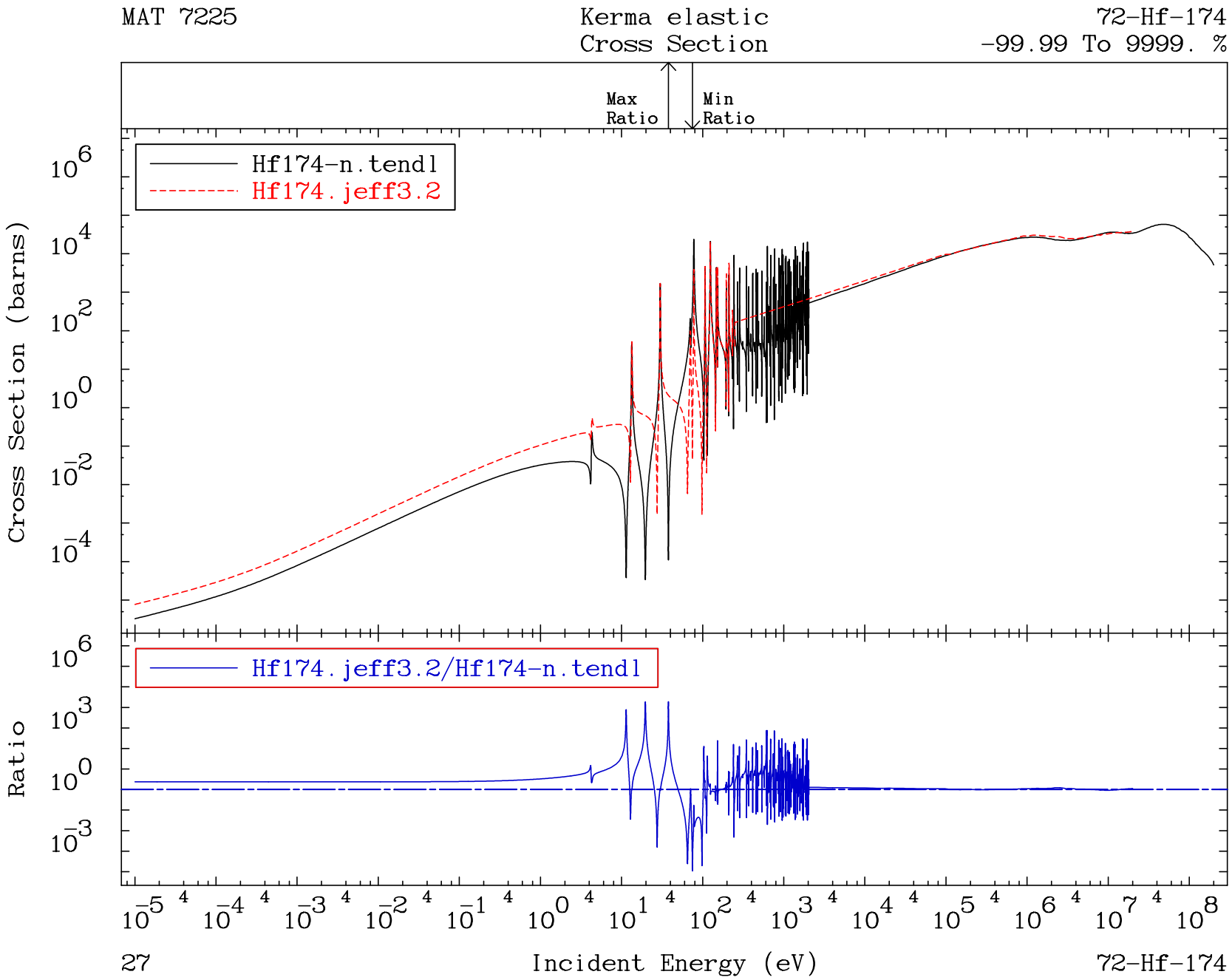

MAT 7225
1.443 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 724.1 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.4510 MeV
Hf174.jeff3.2 Threshold 1.5121 MeV
Cross Section (milli-barns)
80
60
40
20
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
72-Hf-174

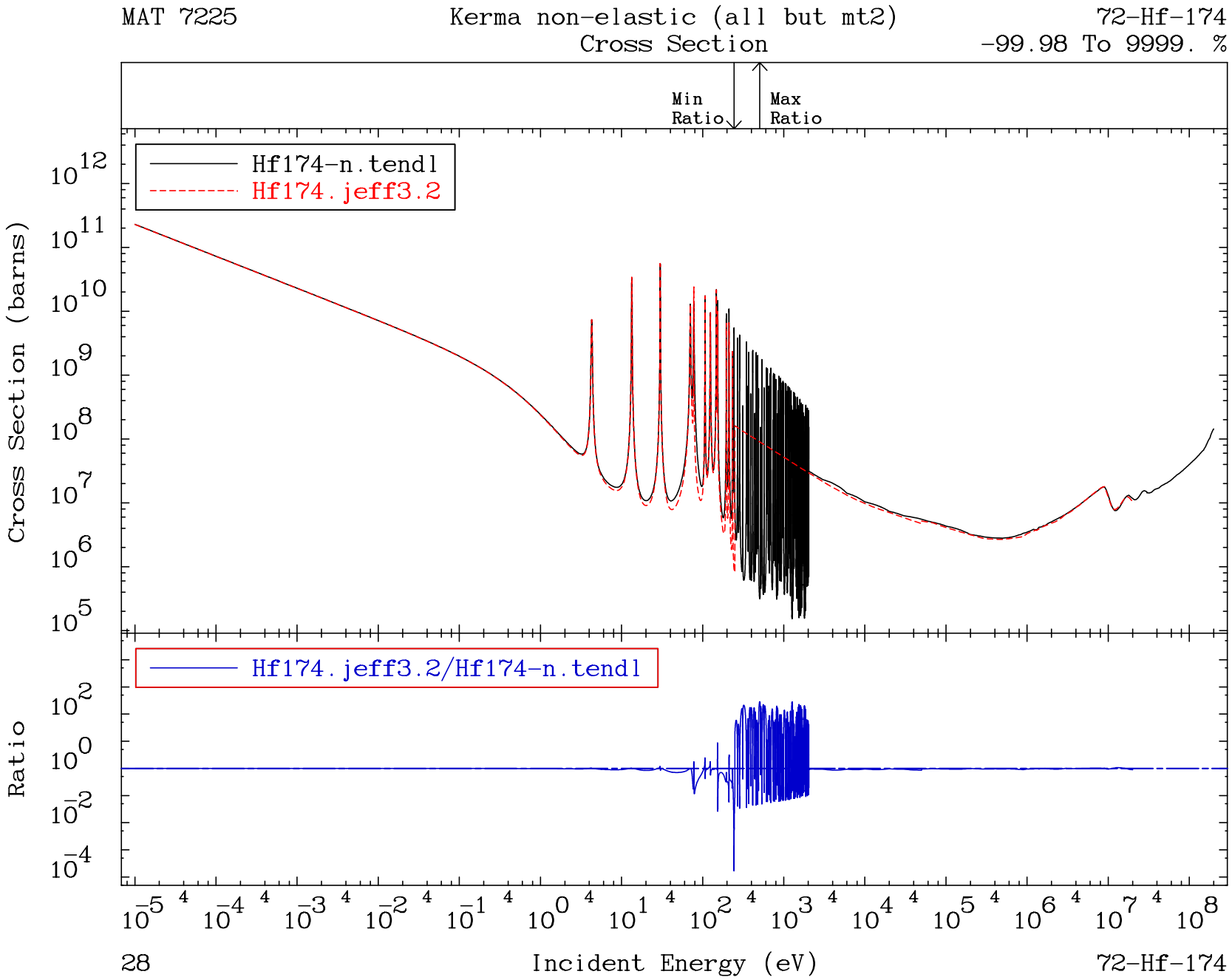

MAT 7225
1.449 MeV (n,n') Level
Cross Section
72-Hf-174
-100.0 To 224.2 %
Max Ratio
Min Ratio
Hf174-n.tendl Threshold 1.4573 MeV
Hf174.jeff3.2 Threshold 1.6355 MeV
Cross Section (milli-barns)
40
30
20
10
0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
10^0
10^-4
10^-8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
72-Hf-174

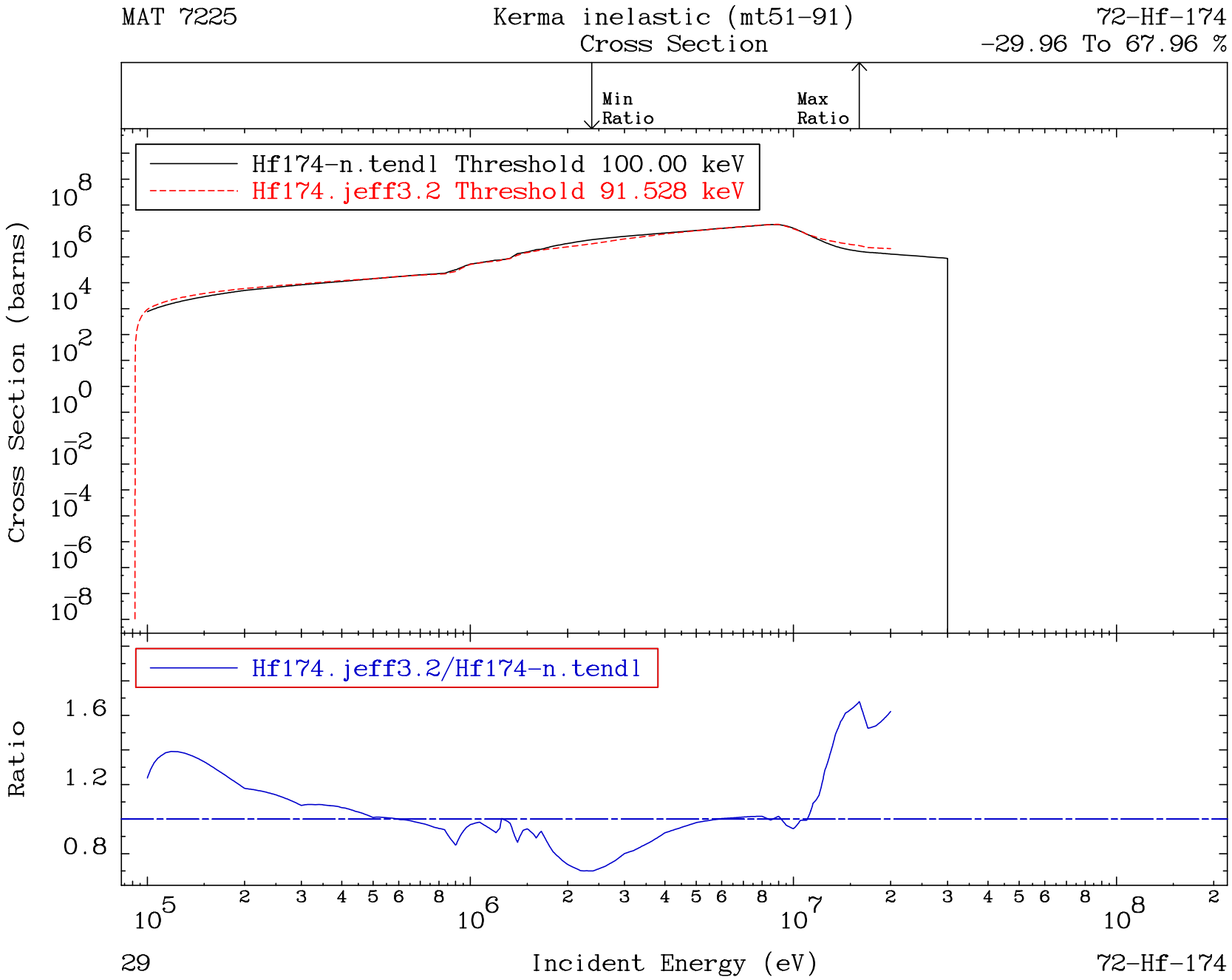

MAT 7225
(n,n') Continuum
Cross Section
72-Hf-174
-80.41 To 60.58 %
Min
Ratio
Max
Ratio
Hf174-n.tendl Threshold 1.6579 MeV
Hf174.jeff3.2 Threshold 1.6583 MeV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.8
1.2
0.6
2
3
4
5
6
7
8
10^7
10^8
24
Incident Energy (eV)
72-Hf-174

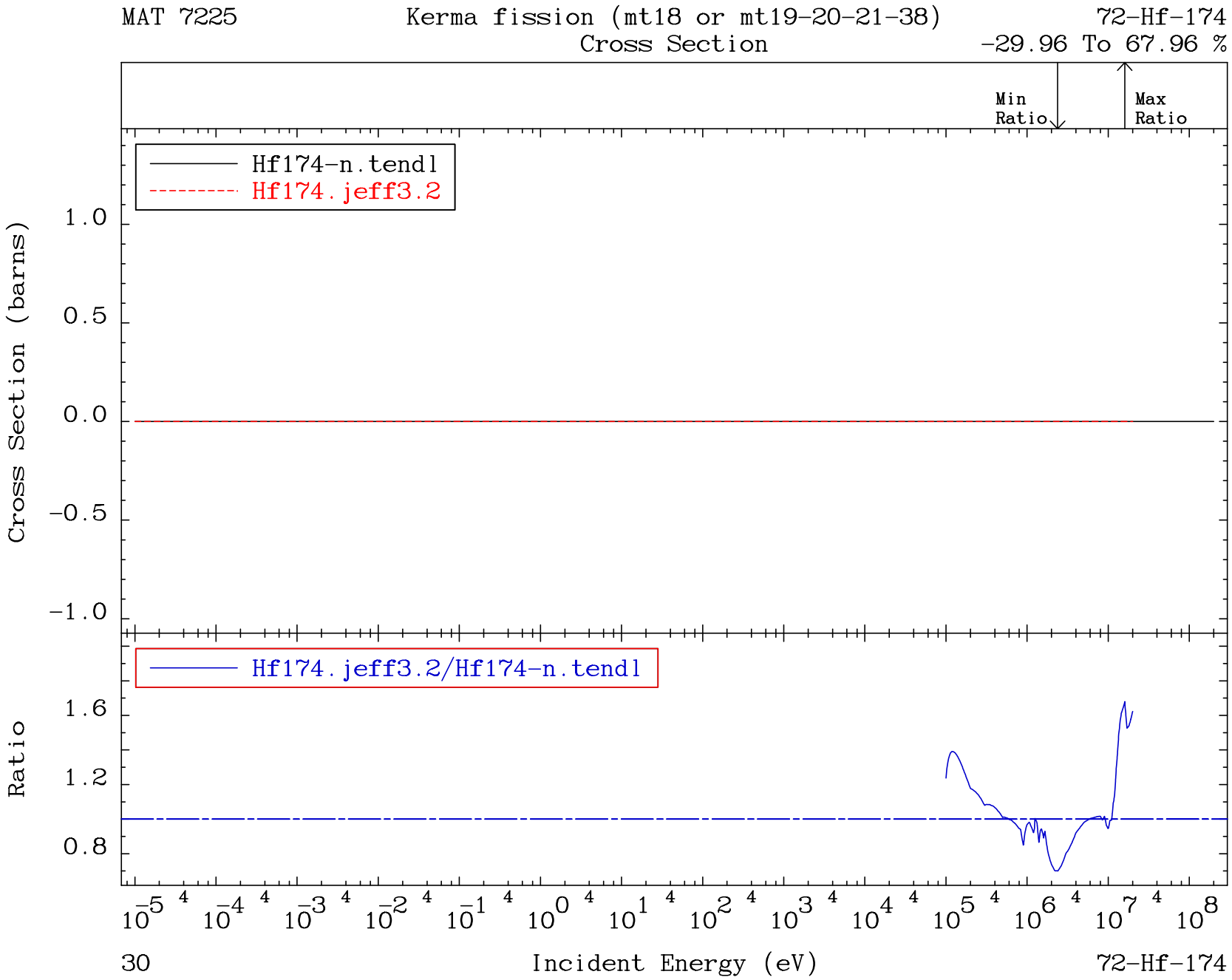

MAT 7225
(n,γ)
Cross Section
72-Hf-174
-99.98 To 9999. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
25
72-Hf-174

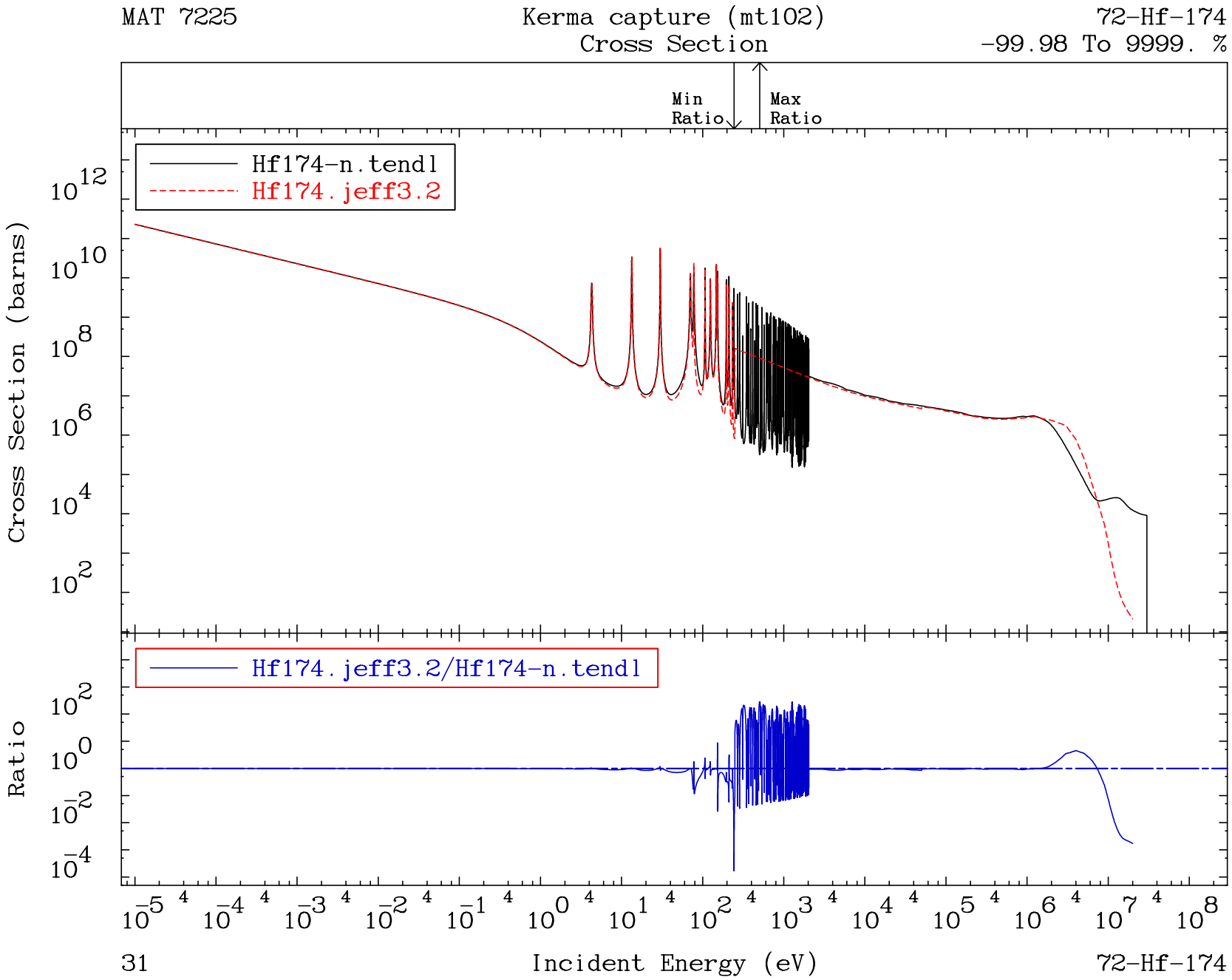

MAT 7225
Kerma total (eV-barns)
Cross Section
72-Hf-174
-99.98 To 9999. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
26
72-Hf-174

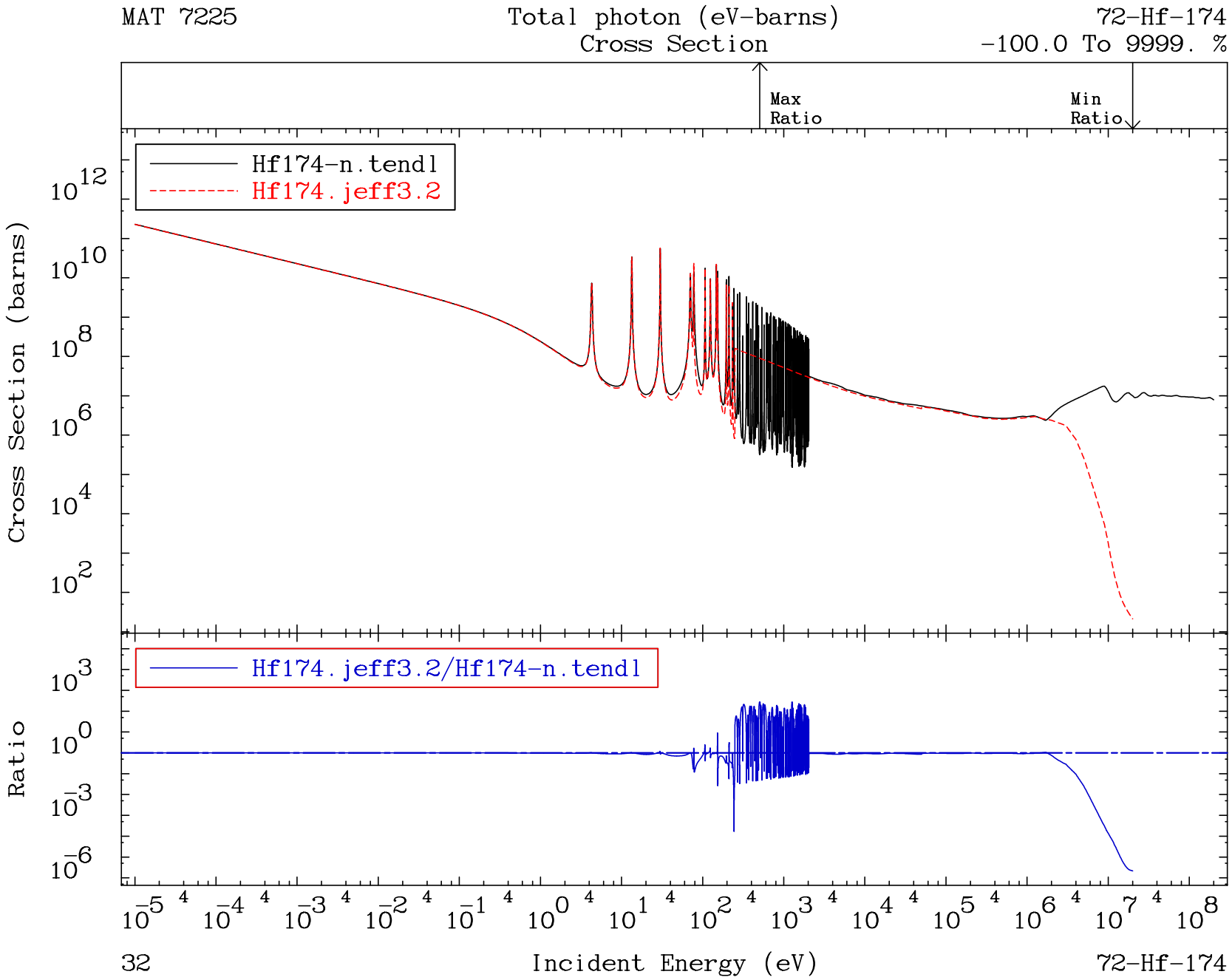

MAT 7225
Kerma elastic
Cross Section
72-Hf-174
-99.99 To 9999. %
Max
Ratio
Min
Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
27
72-Hf-174

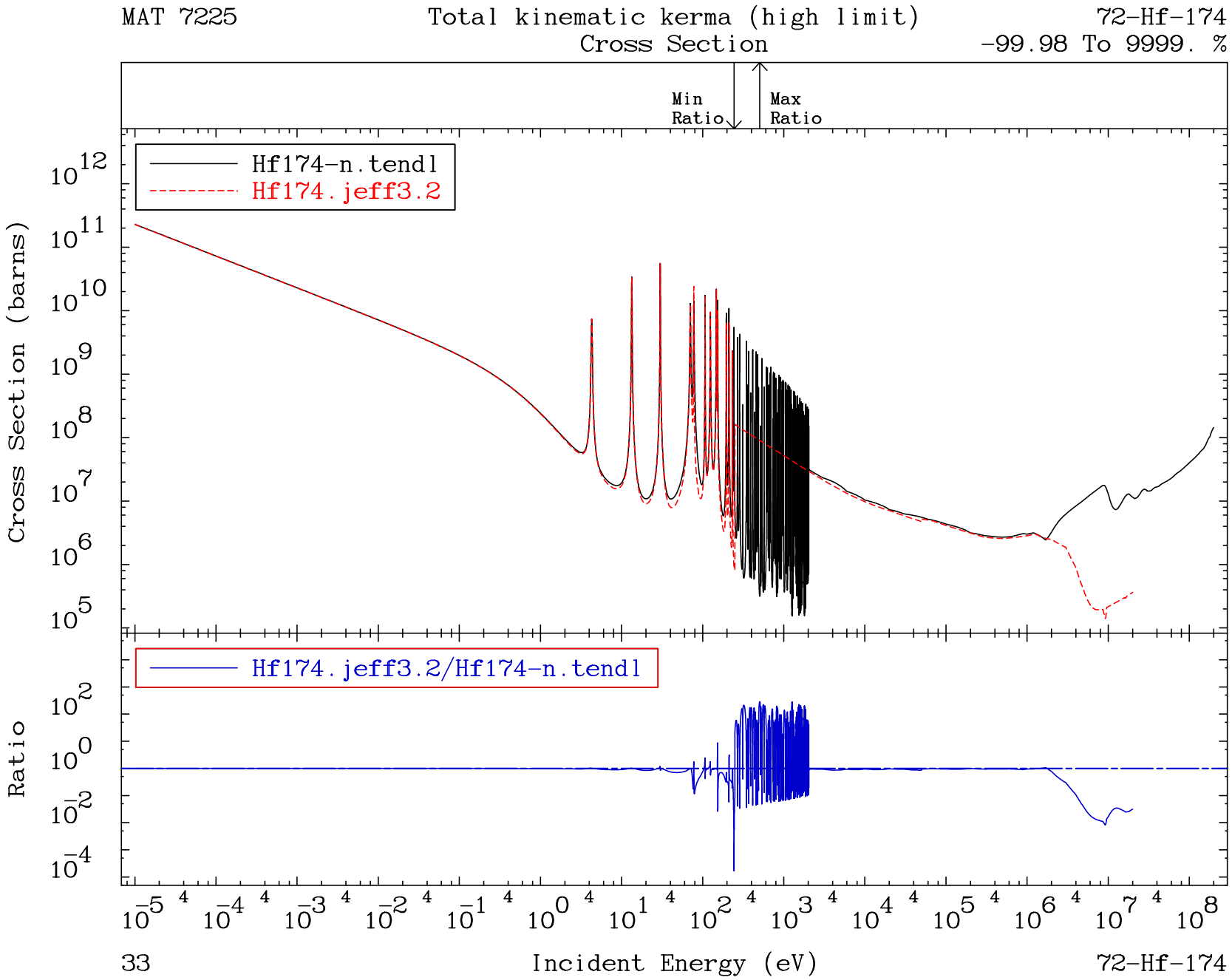

MAT 7225
Kerma non-elastic (all but mt2)
Cross Section
72-Hf-174
-99.98 To 9999. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
28
72-Hf-174

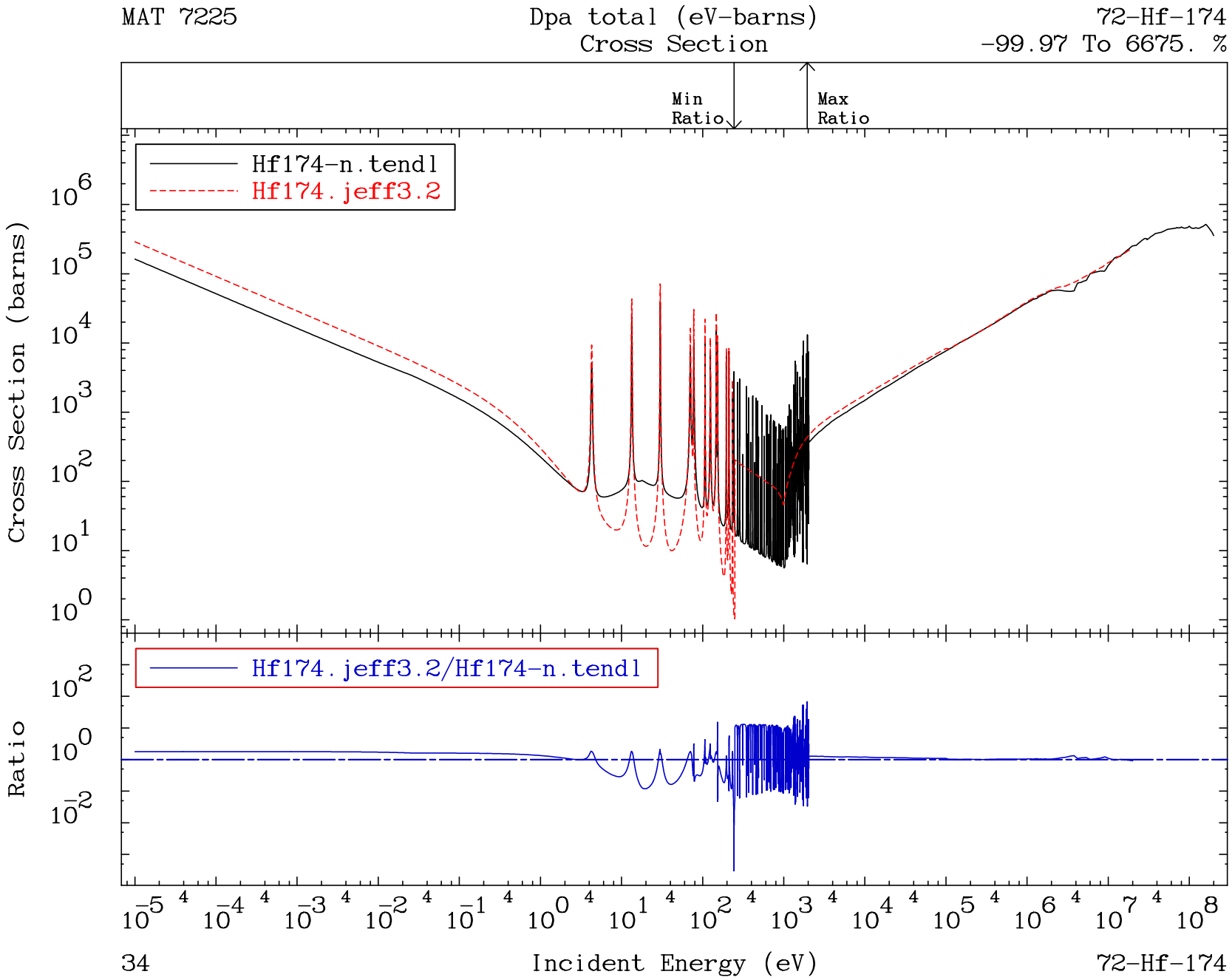

MAT 7225
Kerma inelastic (mt51-91)
Cross Section
72-Hf-174
-29.96 To 67.96 %
Min Ratio
Max Ratio
Hf174-n.tendl Threshold 100.00 keV
Hf174.jeff3.2 Threshold 91.528 keV
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
29
72-Hf-174

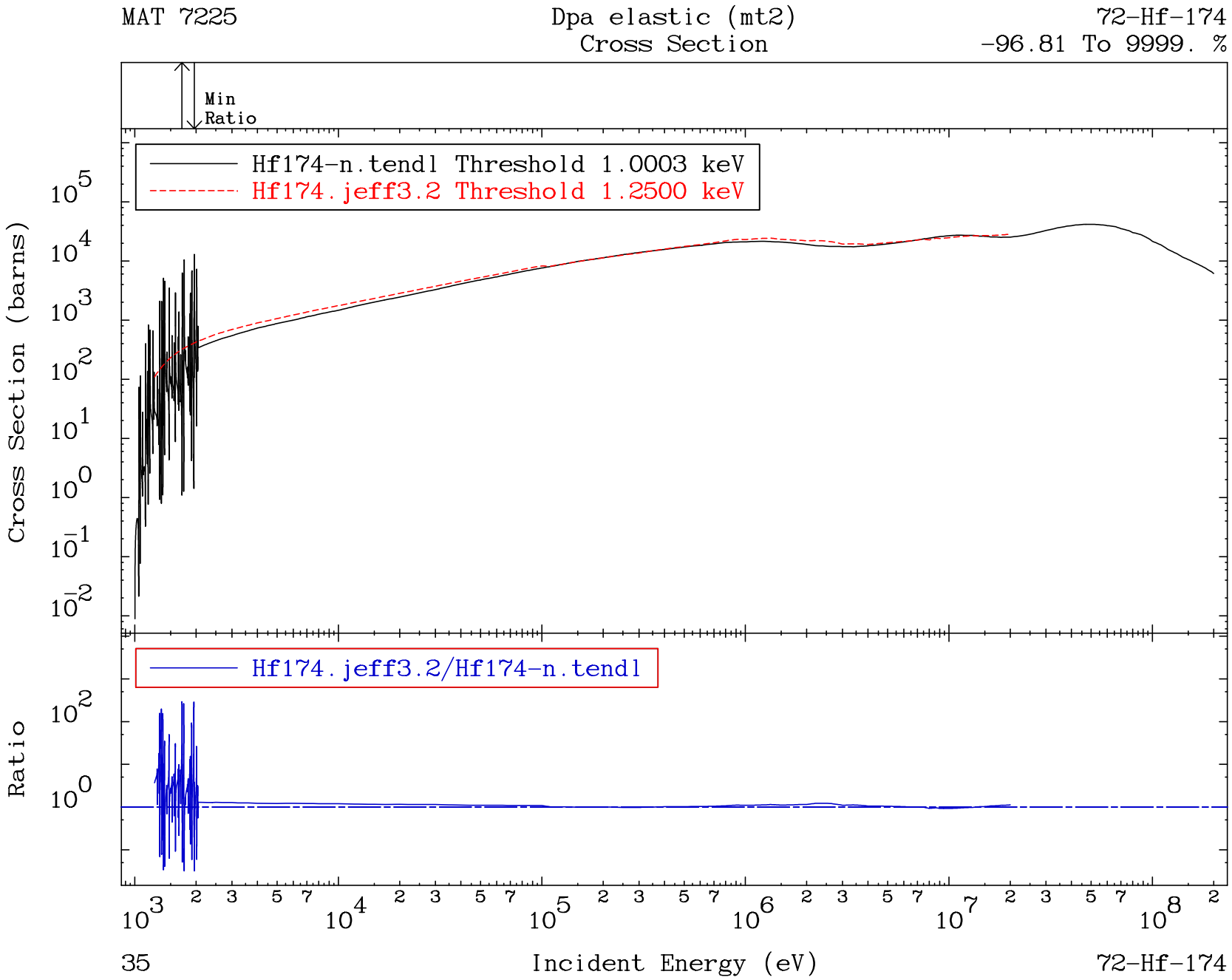

MAT 7225
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
72-Hf-174
-29.96 To 67.96 %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
Hf174.jeff3.2/Hf174-n.tendl
Ratio
1.6
1.2
0.8
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
30
Incident Energy (eV)
72-Hf-174

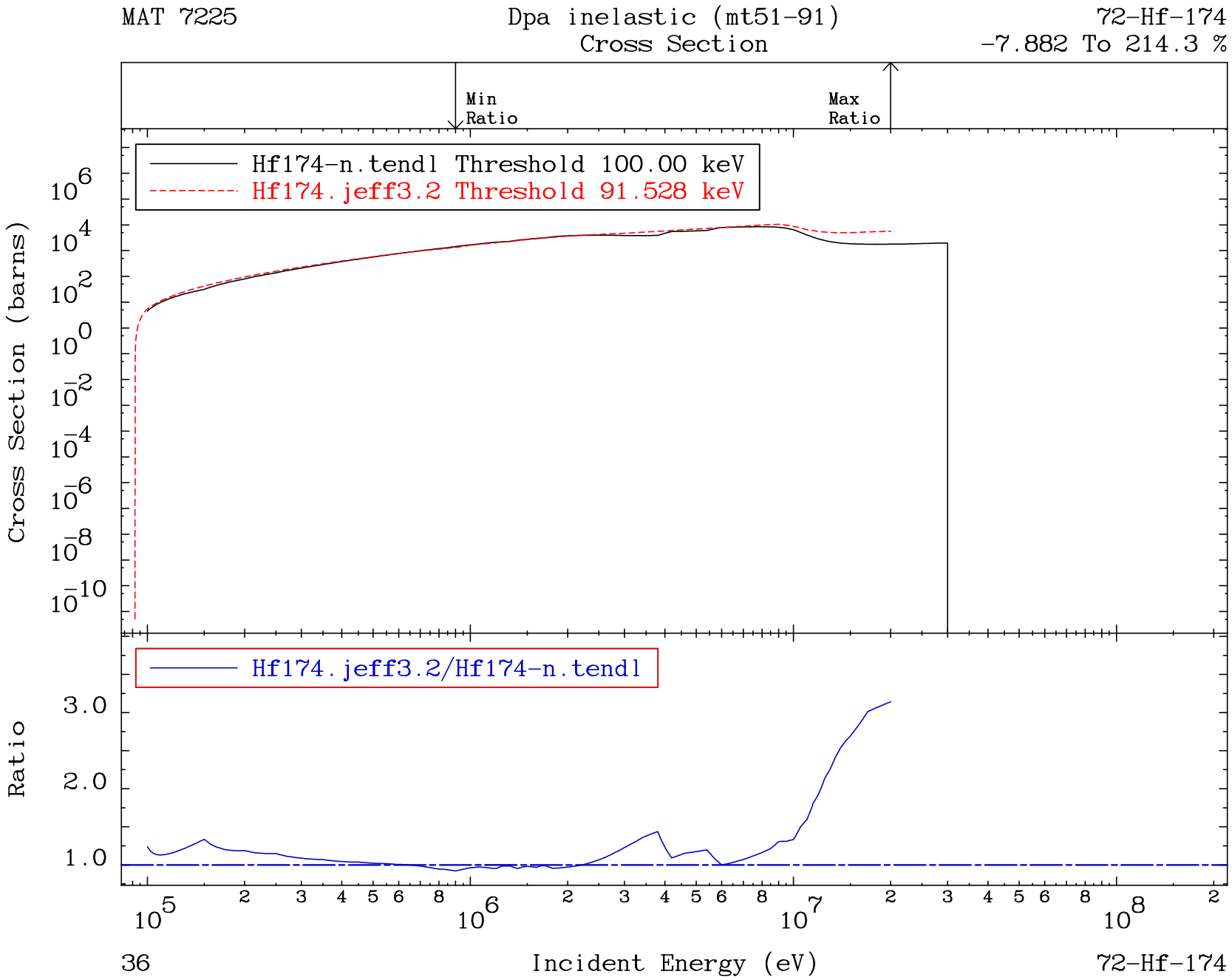

MAT 7225
Kerma capture (mt102)
Cross Section
72-Hf-174
-99.98 To 9999. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
31
72-Hf-174

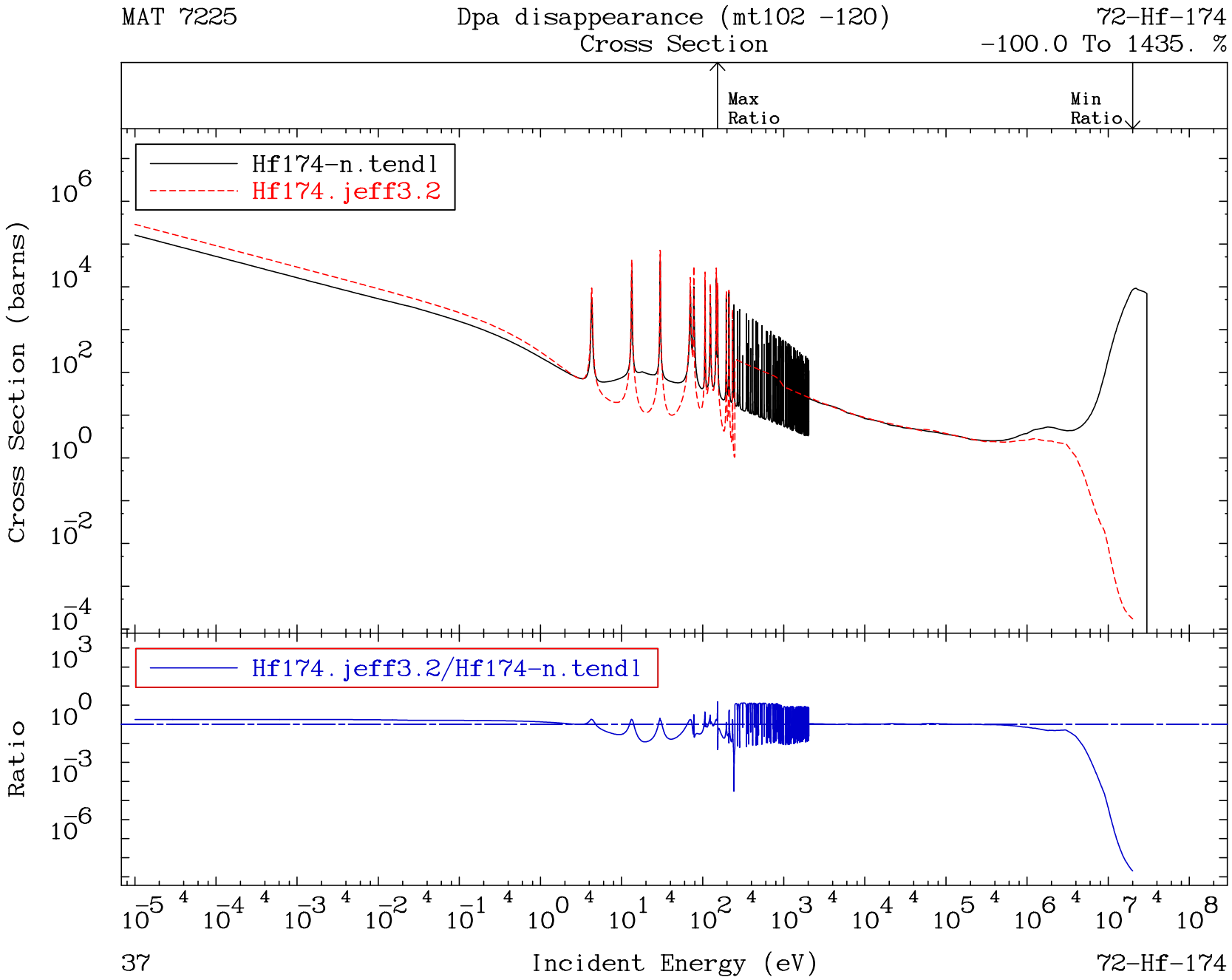

MAT 7225
Total photon (eV-barns)
Cross Section
72-Hf-174
-100.0 To 9999. %
Max
Ratio
Min
Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
32
72-Hf-174


MAT 7225
Total kinematic kerma (high limit)
Cross Section
72-Hf-174
-99.98 To 9999. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
33
72-Hf-174


MAT 7225
Dpa total (eV-barns)
Cross Section
72-Hf-174
-99.97 To 6675. %
Min Ratio
Max Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
34
72-Hf-174


MAT 7225
Dpa elastic (mt2)
Cross Section
72-Hf-174
-96.81 To 9999. %
Min
Ratio
Hf174-n.tendl Threshold 1.0003 keV
Hf174.jeff3.2 Threshold 1.2500 keV
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
35
72-Hf-174


MAT 7225
Dpa inelastic (mt51-91)
Cross Section
72-Hf-174
-7.882 To 214.3 %
Min Ratio
Max Ratio
Hf174-n.tendl Threshold 100.00 keV
Hf174.jeff3.2 Threshold 91.528 keV
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
36
72-Hf-174


MAT 7225
Dpa disappearance (mt102 -120)
Cross Section
72-Hf-174
-100.0 To 1435. %
Max Ratio
Min Ratio
Hf174-n.tendl
Hf174.jeff3.2
Cross Section (barns)
Hf174.jeff3.2/Hf174-n.tendl
Ratio
Incident Energy (eV)
37
72-Hf-174