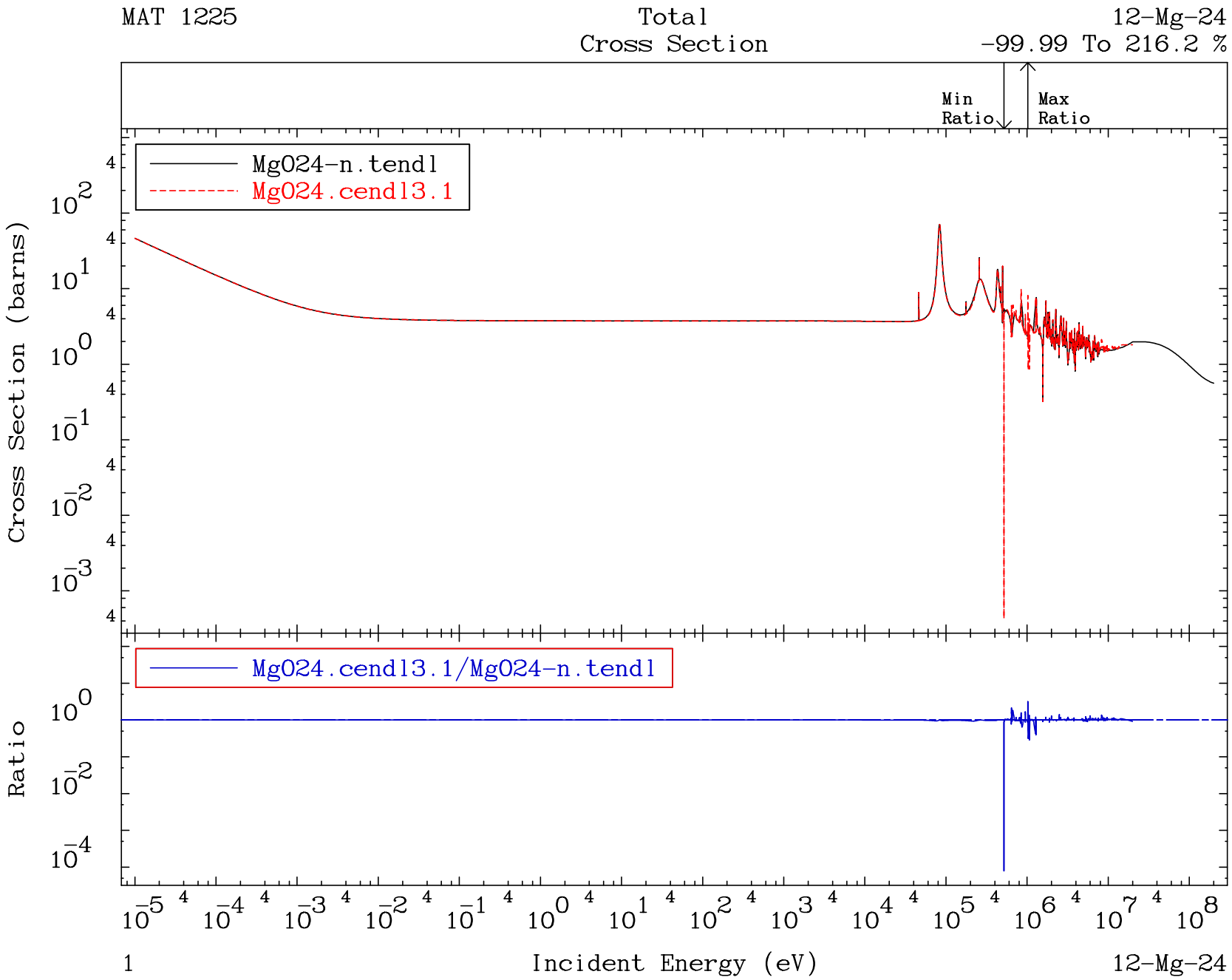
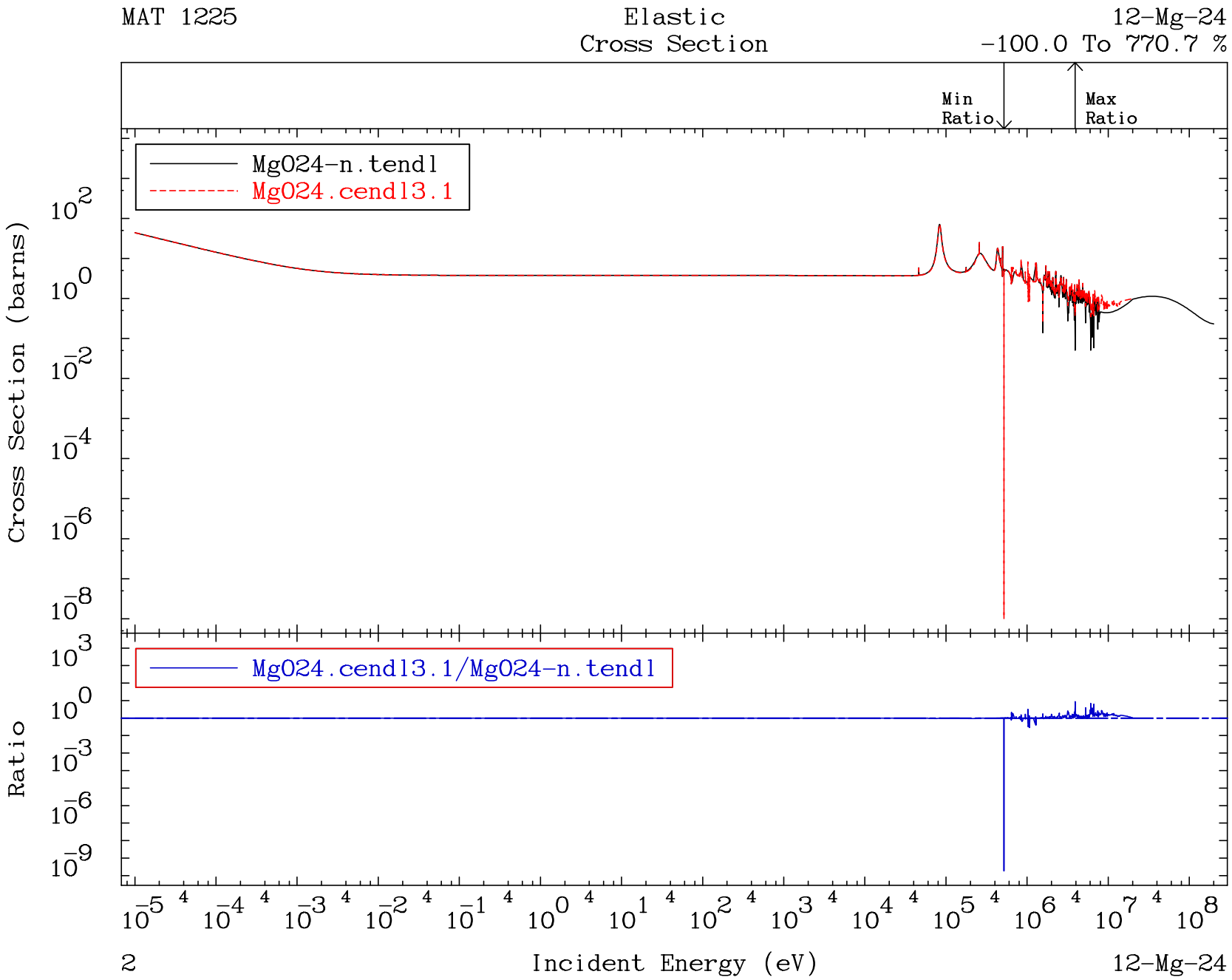
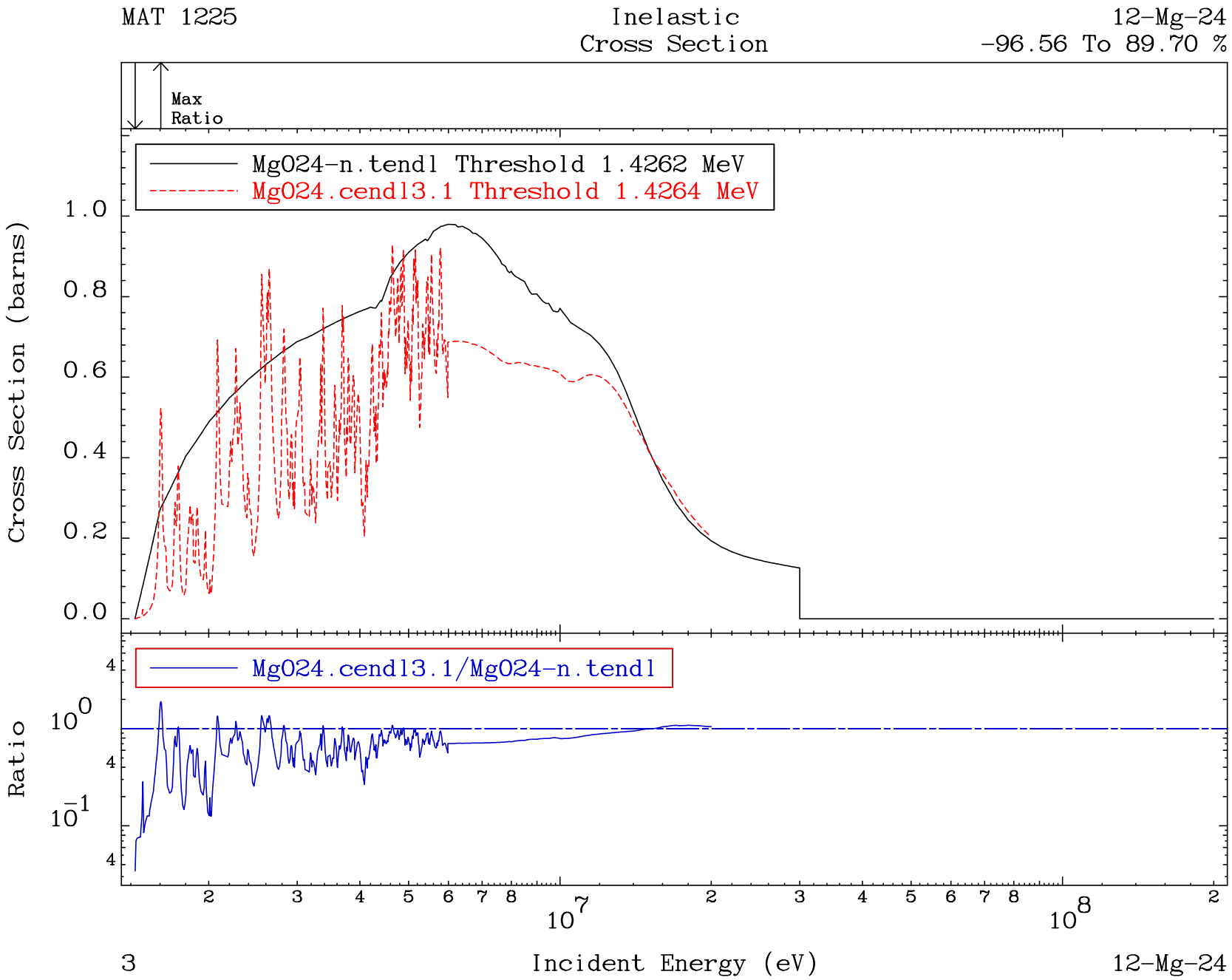
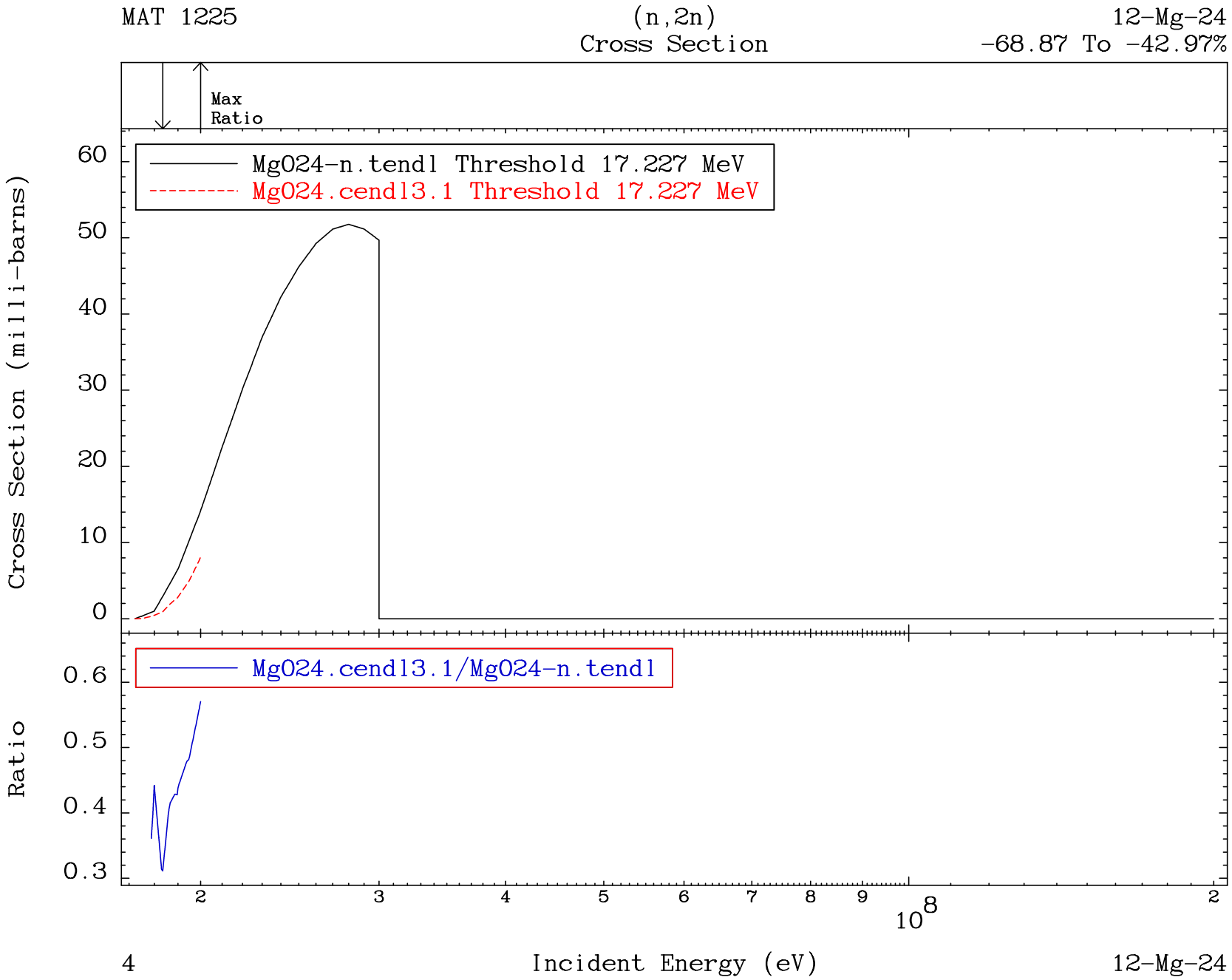
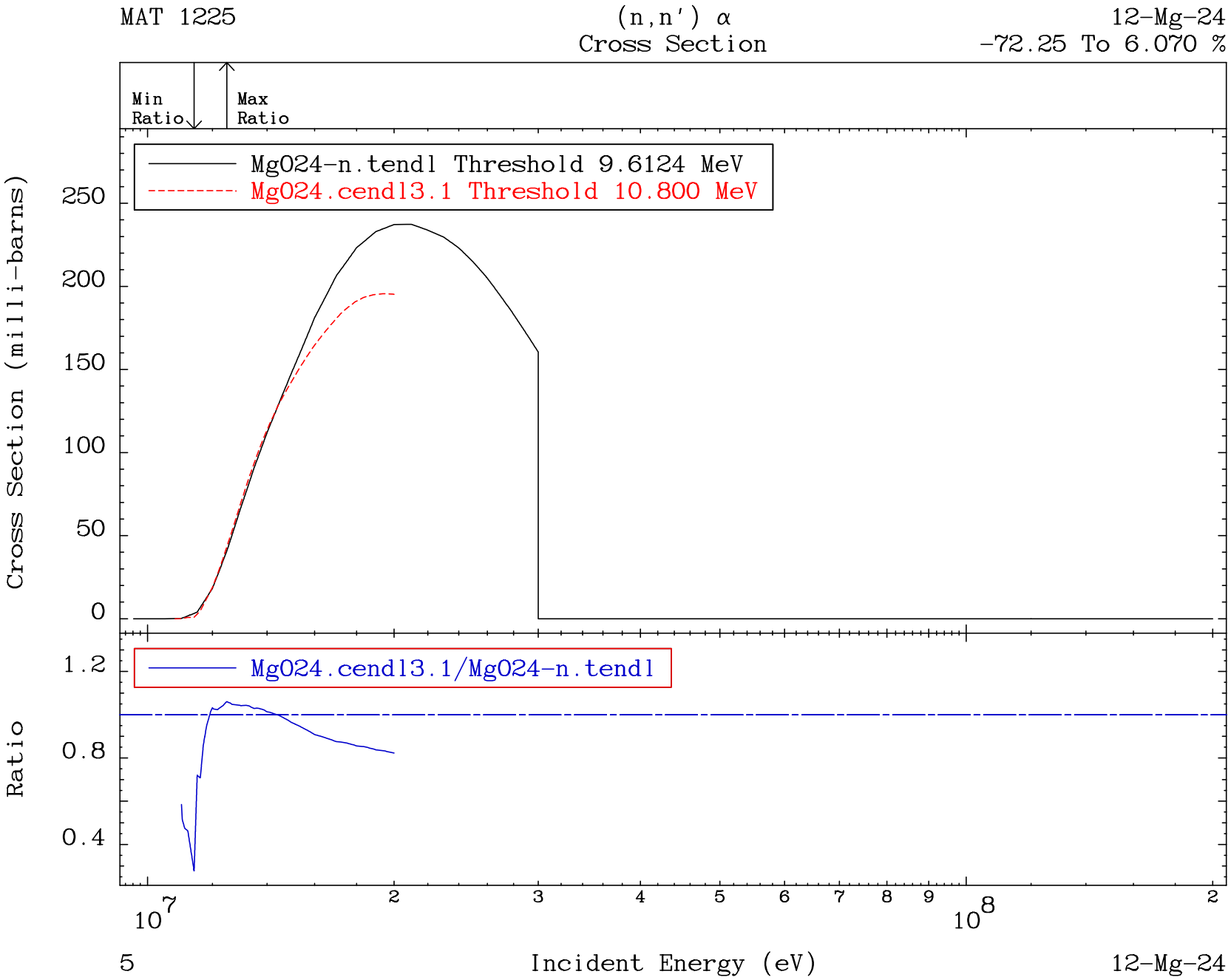
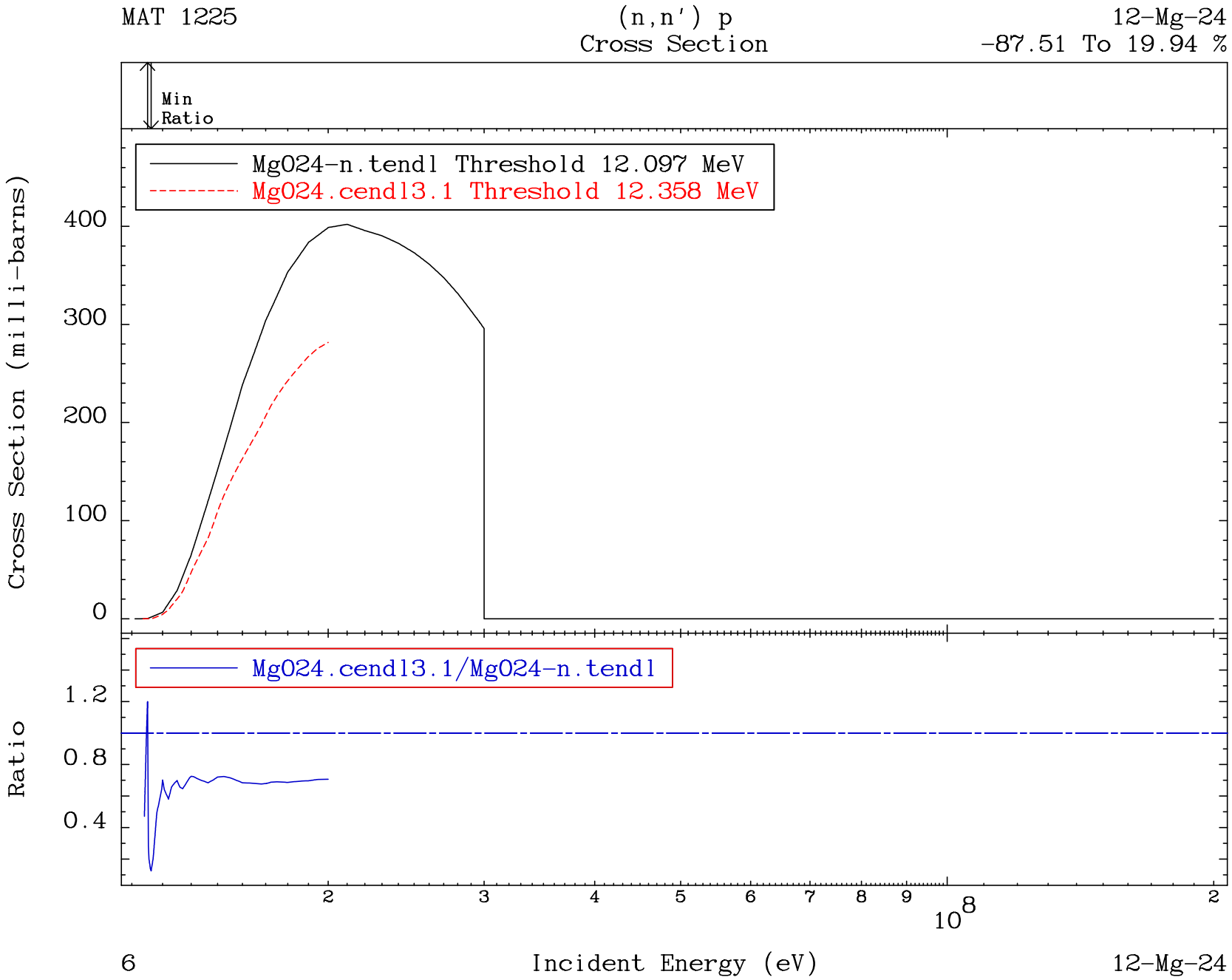

MAT 1225
Total
Cross Section
12-Mg-24
-99.99 To 216.2 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
1
12-Mg-24

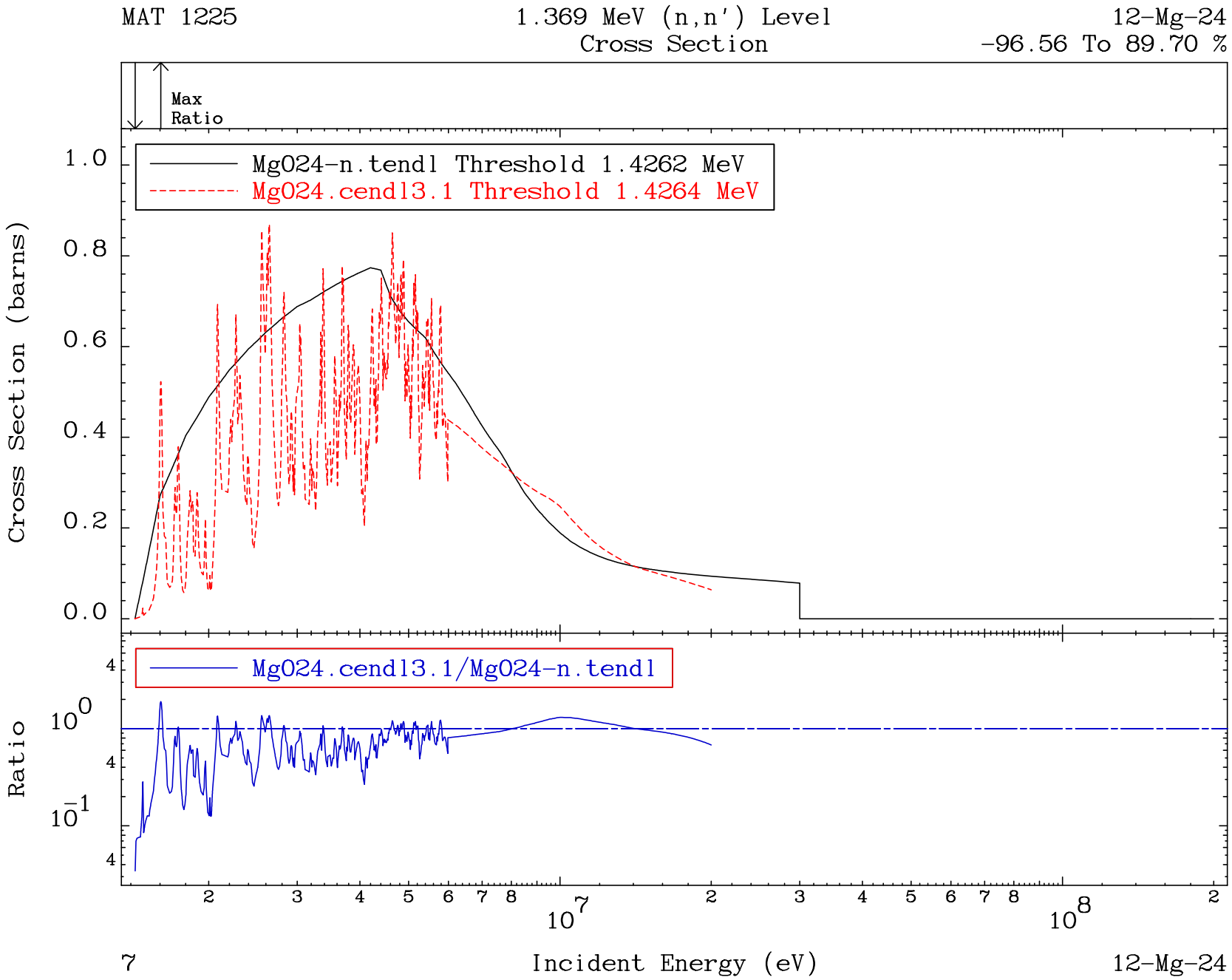

MAT 1225
Elastic
Cross Section
12-Mg-24
-100.0 To 770.7 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
2
12-Mg-24

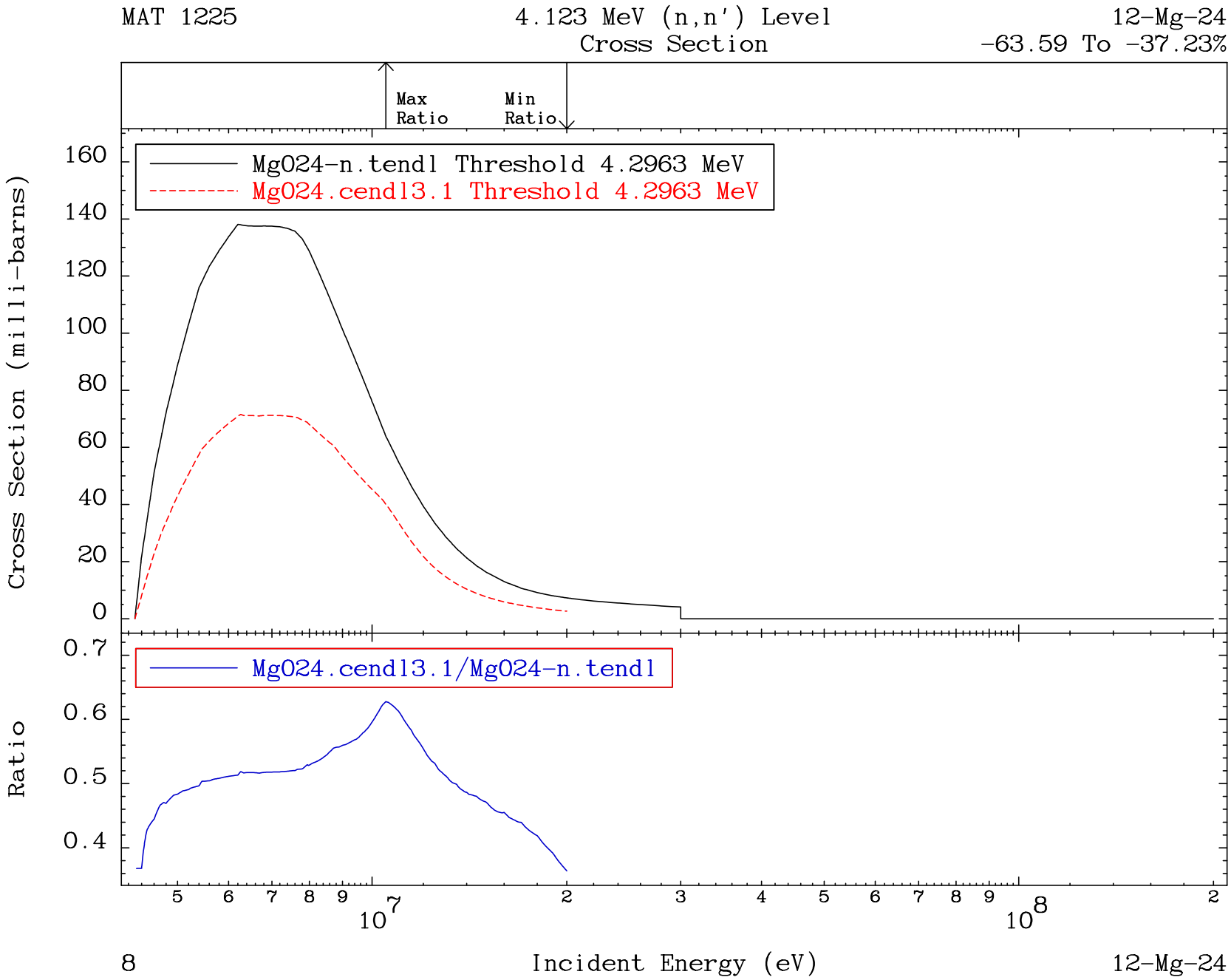

MAT 1225
Inelastic
Cross Section
12-Mg-24
-96.56 To 89.70 %
Max
Ratio
Mg024-n.tendl Threshold 1.4262 MeV
Mg024.cendl3.1 Threshold 1.4264 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
10^-1
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
3
12-Mg-24

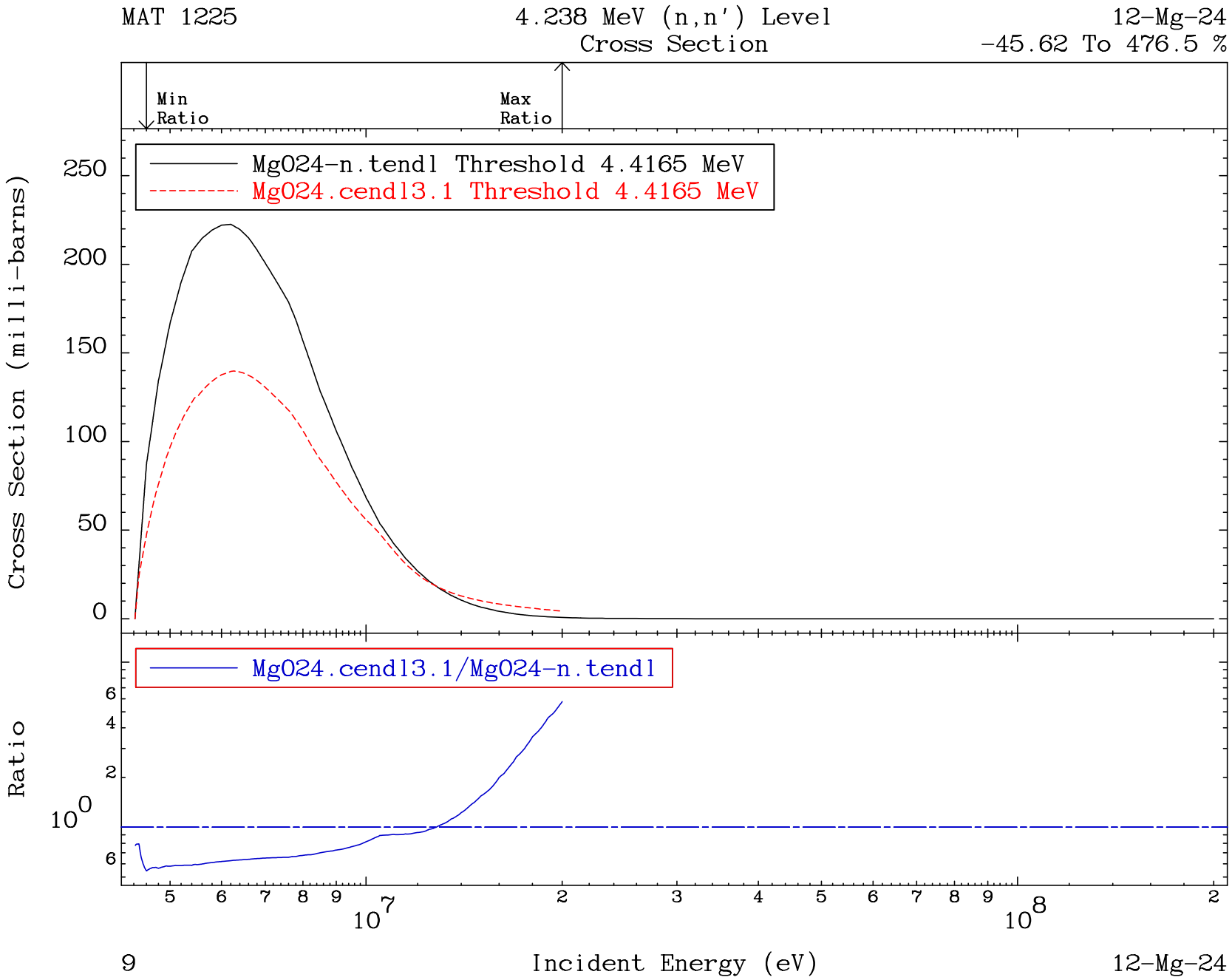

MAT 1225
(n,2n)
Cross Section
12-Mg-24
-68.87 To -42.97%
Max
Ratio
Mg024-n.tendl Threshold 17.227 MeV
Mg024.cendl3.1 Threshold 17.227 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.6
0.5
0.4
0.3
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
12-Mg-24

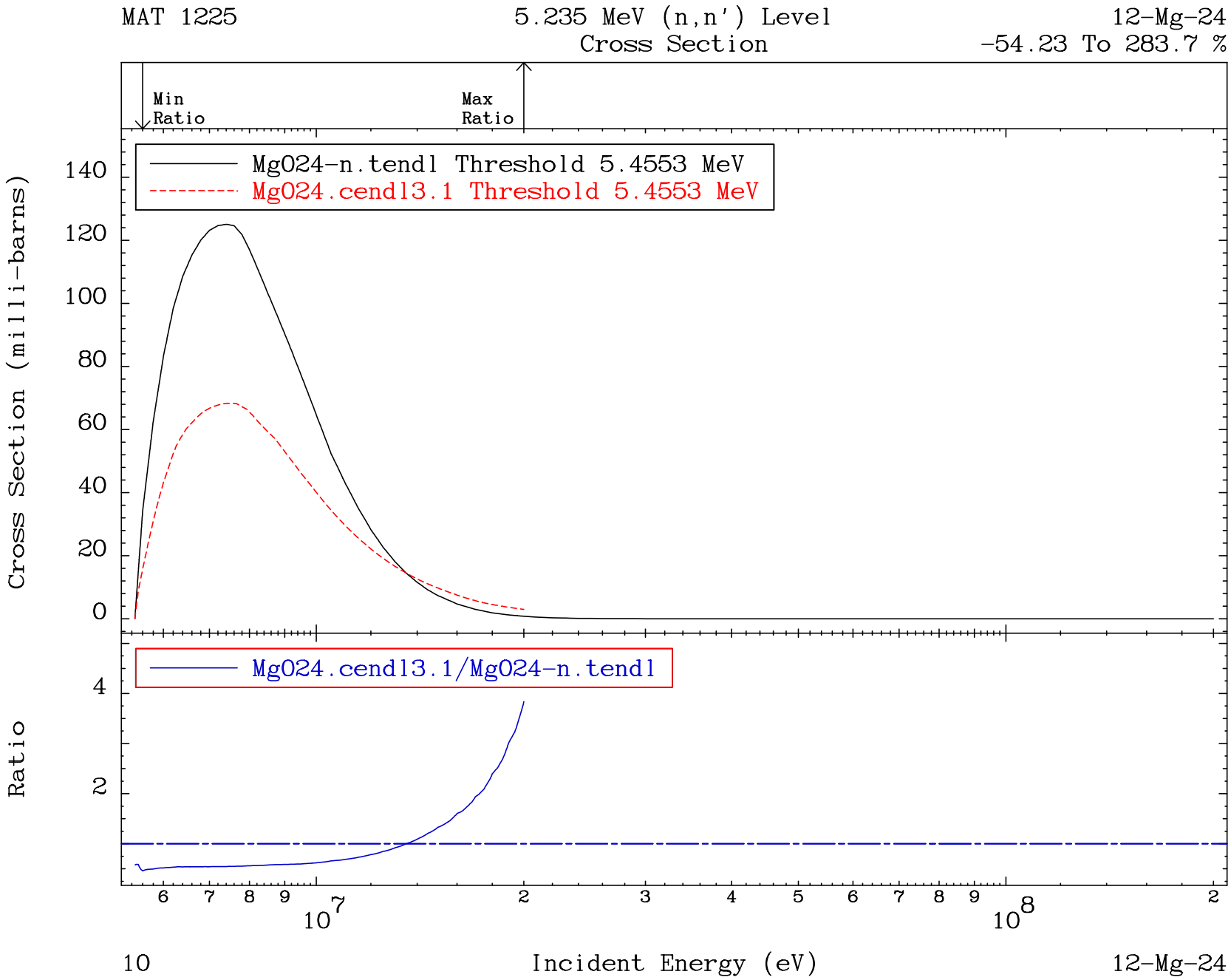

MAT 1225
(n,n') α
Cross Section
12-Mg-24
-72.25 To 6.070 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 9.6124 MeV
Mg024.cendl3.1 Threshold 10.800 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
1.2
0.8
0.4
10^7
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
12-Mg-24

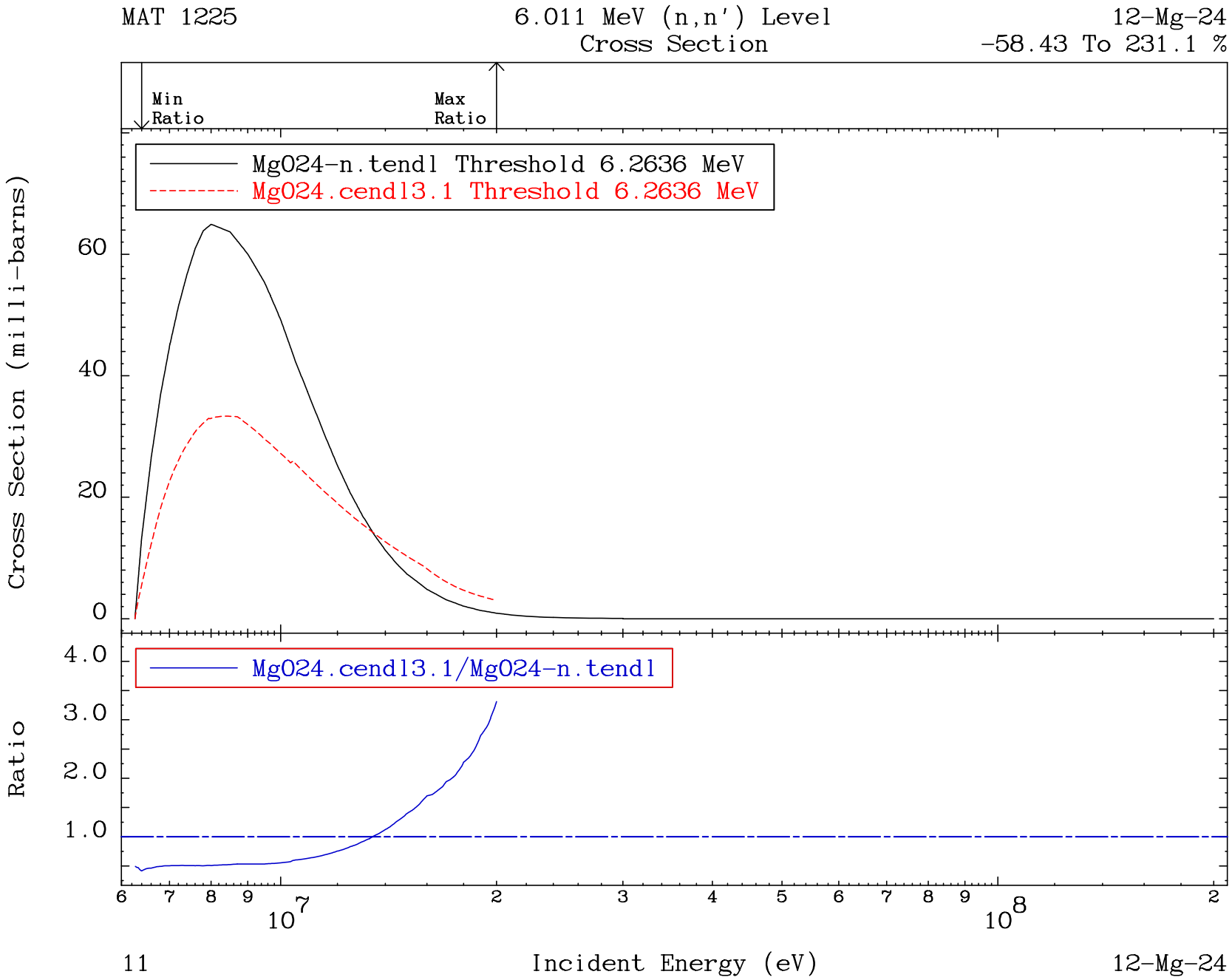

MAT 1225
(n,n') p
Cross Section
12-Mg-24
-87.51 To 19.94 %
Min
Ratio
Mg024-n.tendl Threshold 12.097 MeV
Mg024.cendl3.1 Threshold 12.358 MeV
Cross Section (milli-barns)
400
300
200
100
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
12-Mg-24

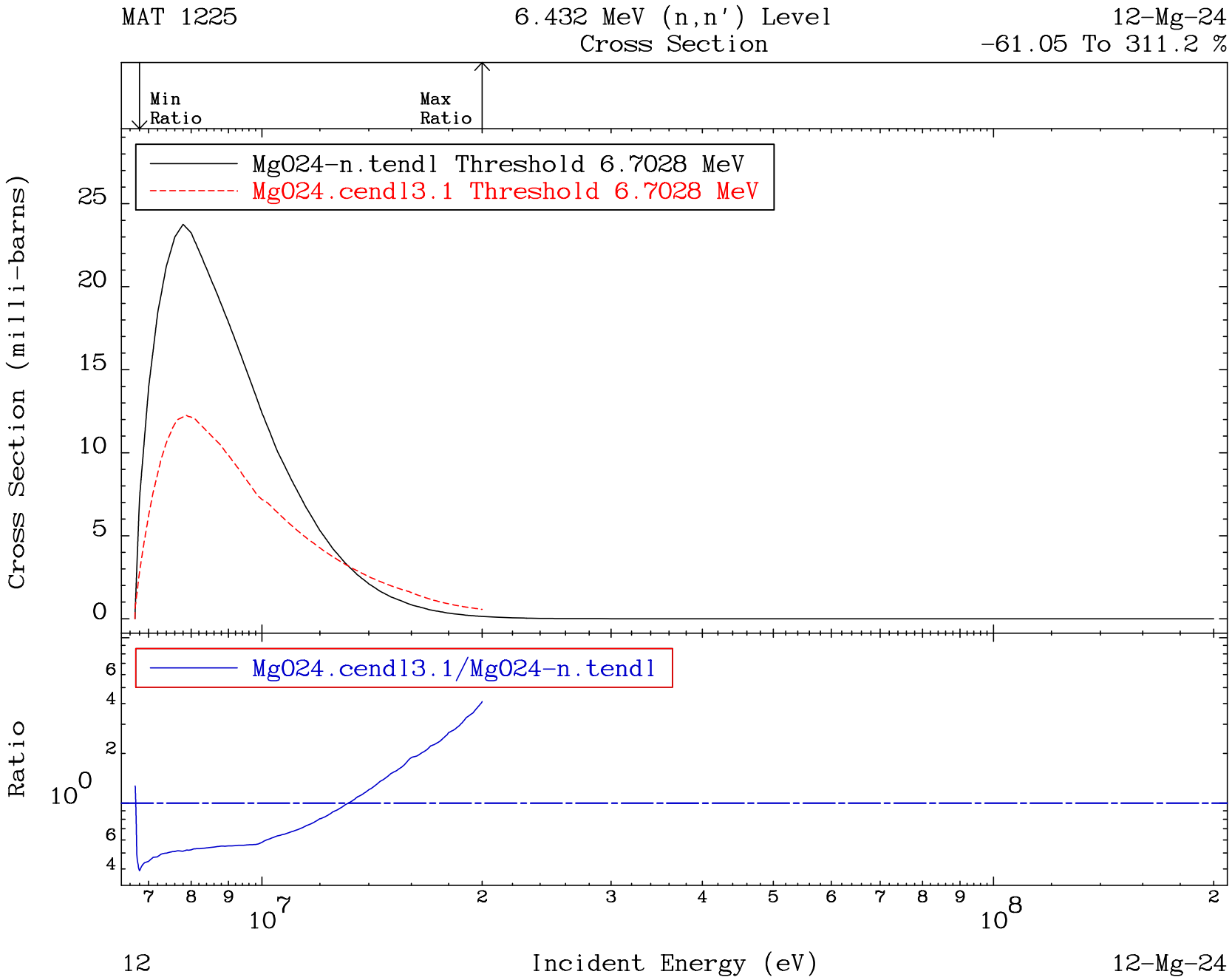

MAT 1225
1.369 MeV (n,n') Level
Cross Section
12-Mg-24
-96.56 To 89.70 %
Max
Ratio
Mg024-n.tendl Threshold 1.4262 MeV
Mg024.cendl3.1 Threshold 1.4264 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
10^-1
2
3
4
5
6
7
8
10^7
10^8
7
Incident Energy (eV)
12-Mg-24

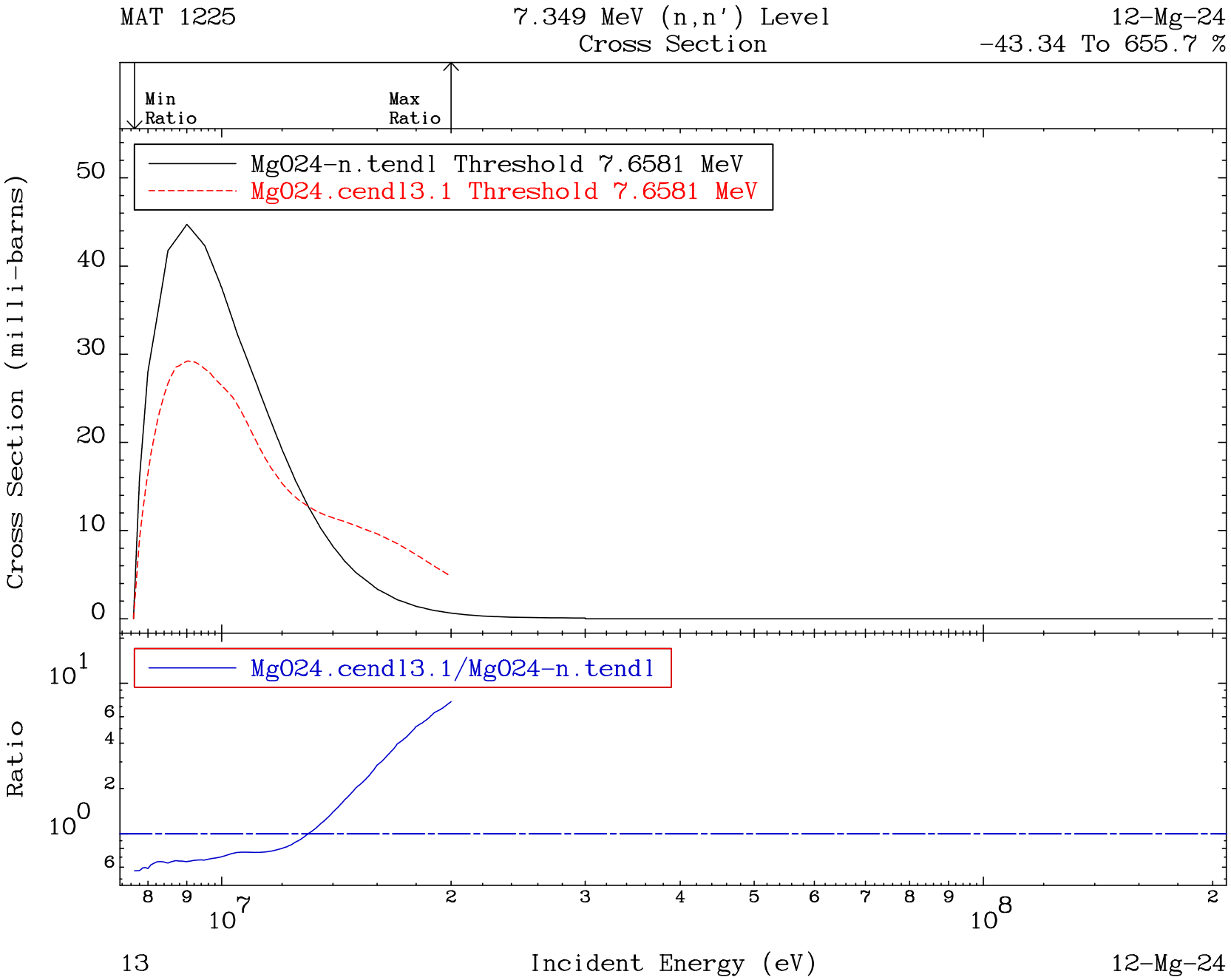

MAT 1225
4.123 MeV (n,n') Level
Cross Section
12-Mg-24
-63.59 To -37.23%
Max Ratio
Min Ratio
Mg024-n.tendl Threshold 4.2963 MeV
Mg024.cendl3.1 Threshold 4.2963 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.7
0.6
0.5
0.4
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
8
Incident Energy (eV)
12-Mg-24

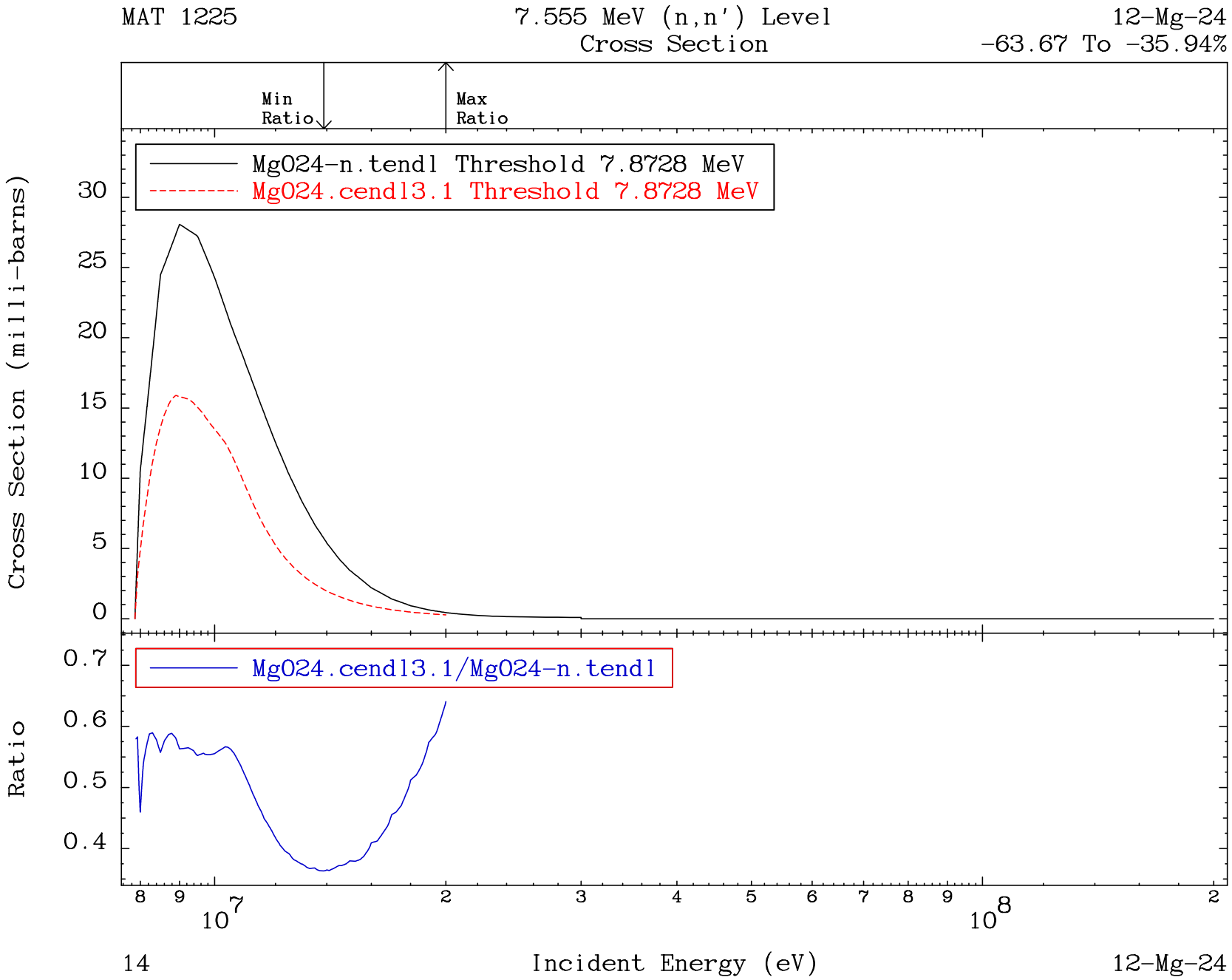

MAT 1225
4.238 MeV (n,n') Level
Cross Section
12-Mg-24
-45.62 To 476.5 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 4.4165 MeV
Mg024.cendl3.1 Threshold 4.4165 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
4
2
6
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
9
Incident Energy (eV)
12-Mg-24

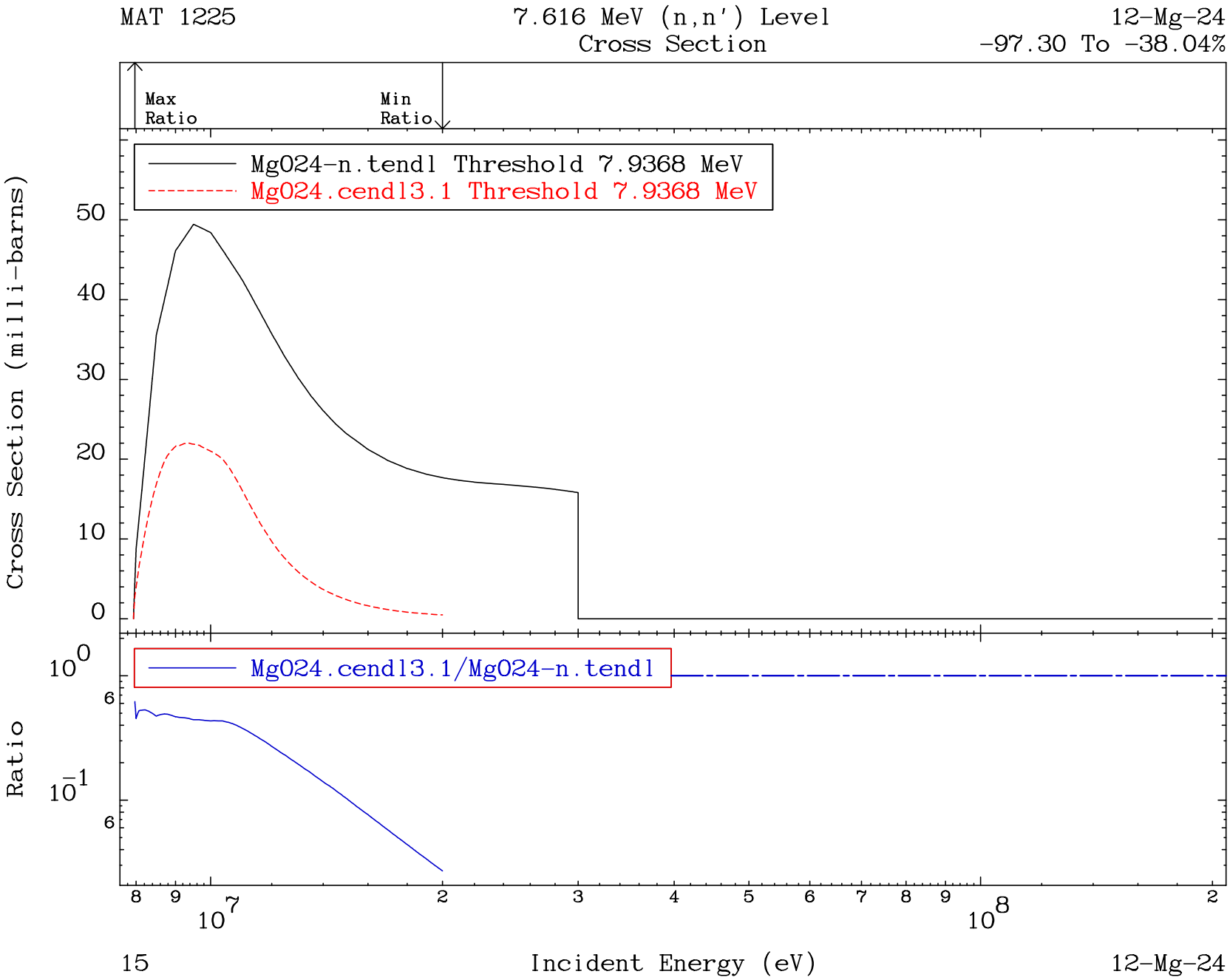

MAT 1225
5.235 MeV (n,n') Level
Cross Section
12-Mg-24
-54.23 To 283.7 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 5.4553 MeV
Mg024.cendl3.1 Threshold 5.4553 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
4
2
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
12-Mg-24

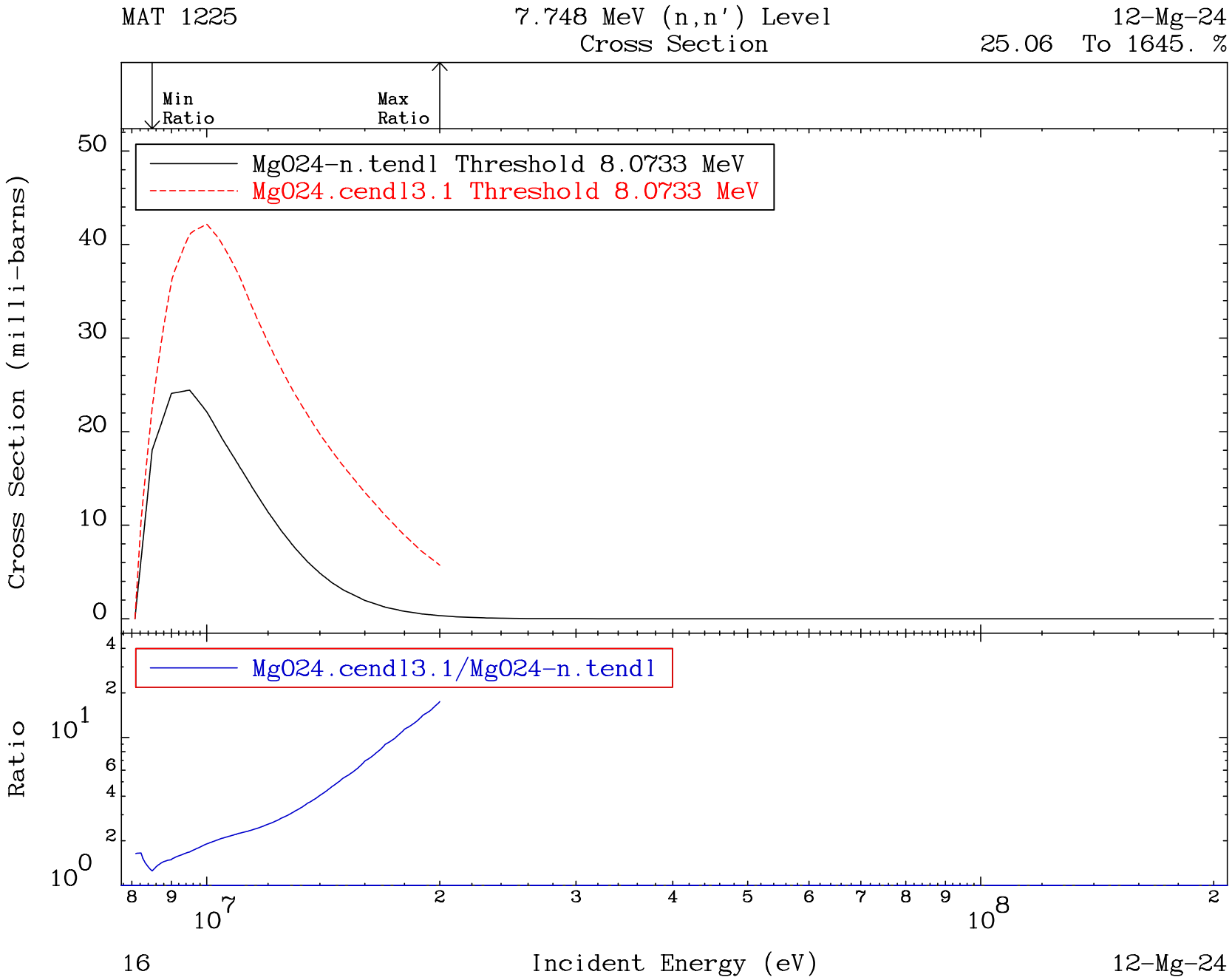

MAT 1225
6.011 MeV (n,n') Level
Cross Section
12-Mg-24
-58.43 To 231.1 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 6.2636 MeV
Mg024.cendl3.1 Threshold 6.2636 MeV
Cross Section (milli-barns)
60
40
20
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
4.0
3.0
2.0
1.0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
11
Incident Energy (eV)
12-Mg-24

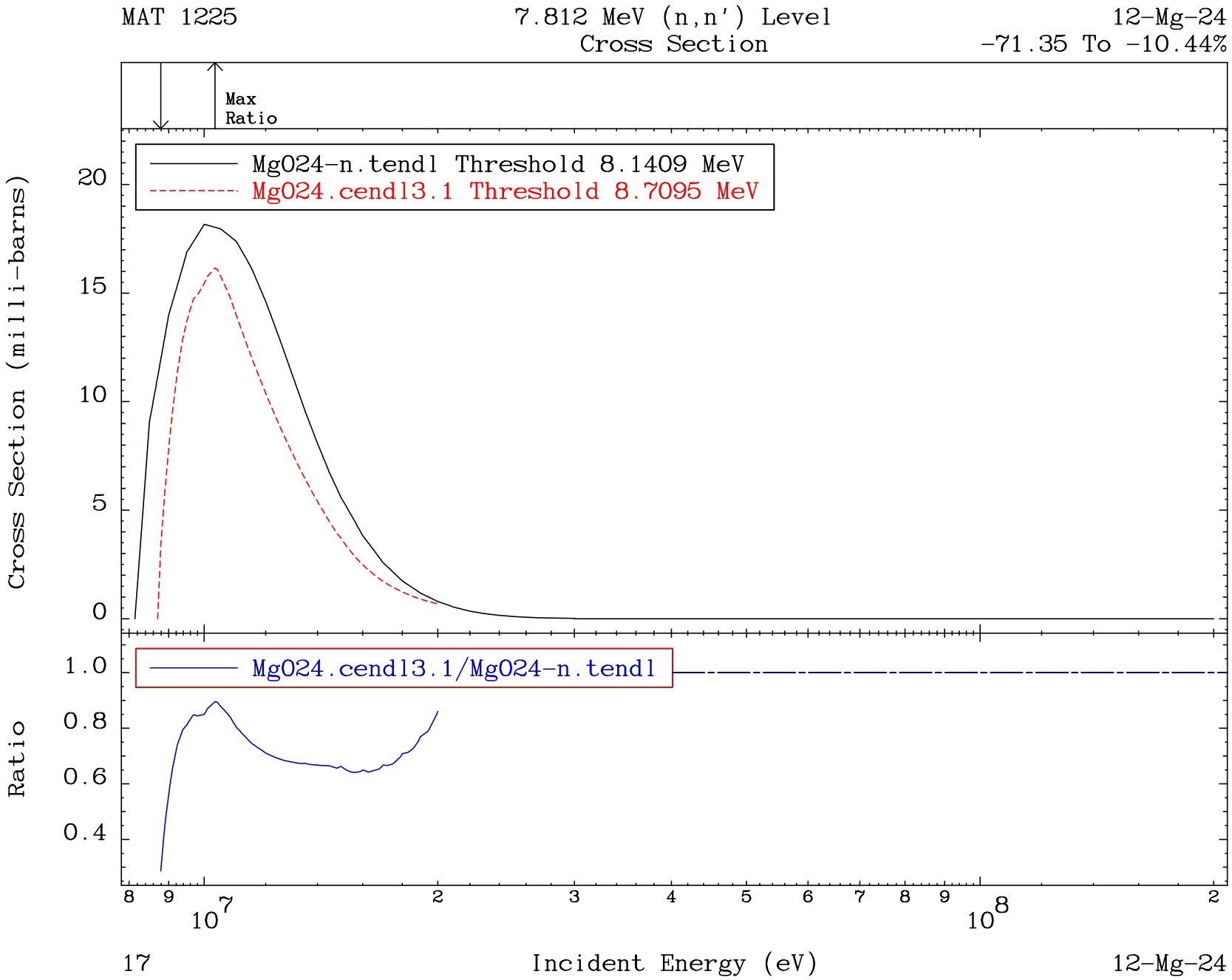

MAT 1225
6.432 MeV (n,n') Level
Cross Section
12-Mg-24
-61.05 To 311.2 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 6.7028 MeV
Mg024.cendl3.1 Threshold 6.7028 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
6
4
2
10^0
6
4
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
12-Mg-24

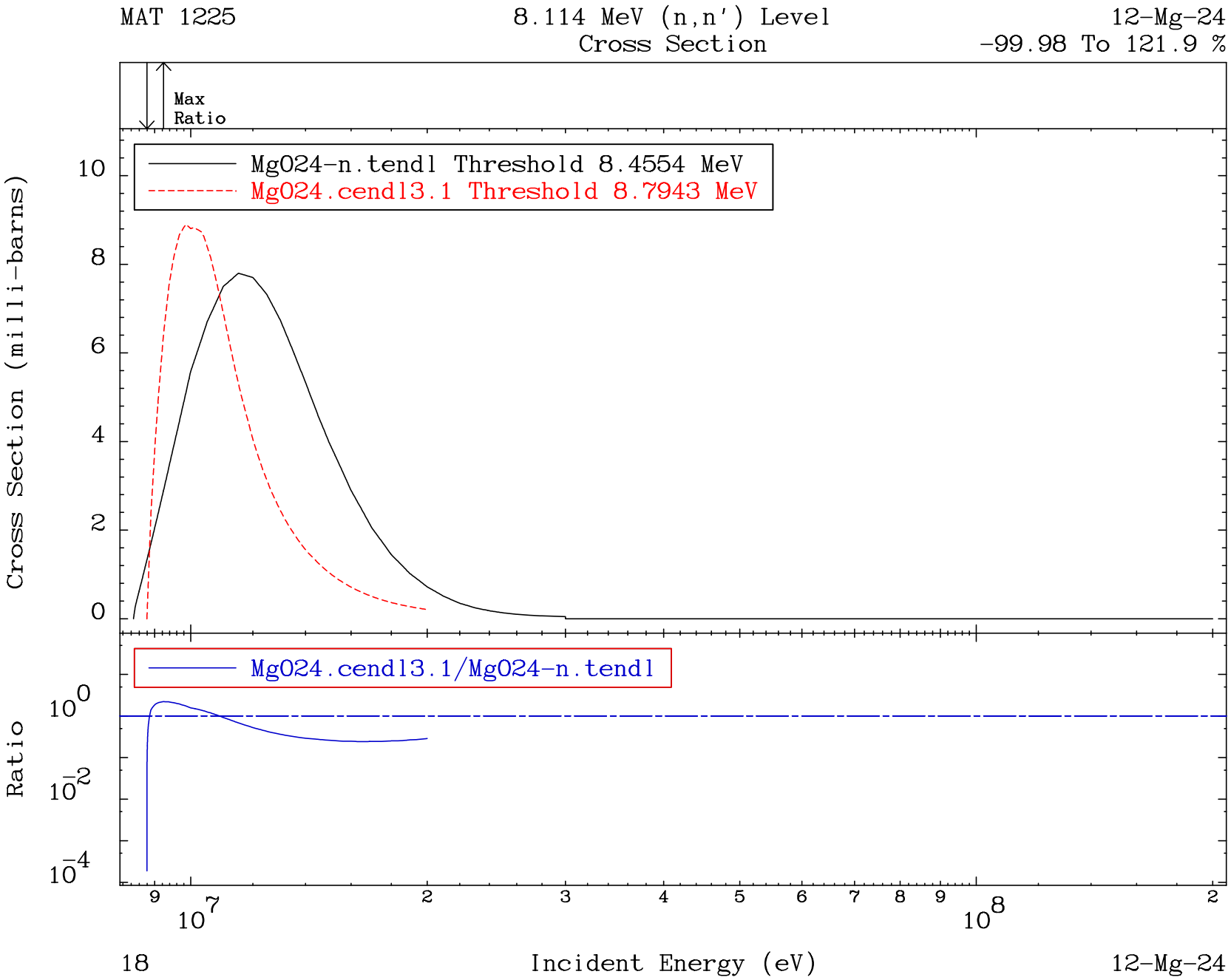

MAT 1225
7.349 MeV (n,n') Level
Cross Section
12-Mg-24
-43.34 To 655.7 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 7.6581 MeV
Mg024.cendl3.1 Threshold 7.6581 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^1
10^0
6
4
2
6
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
12-Mg-24

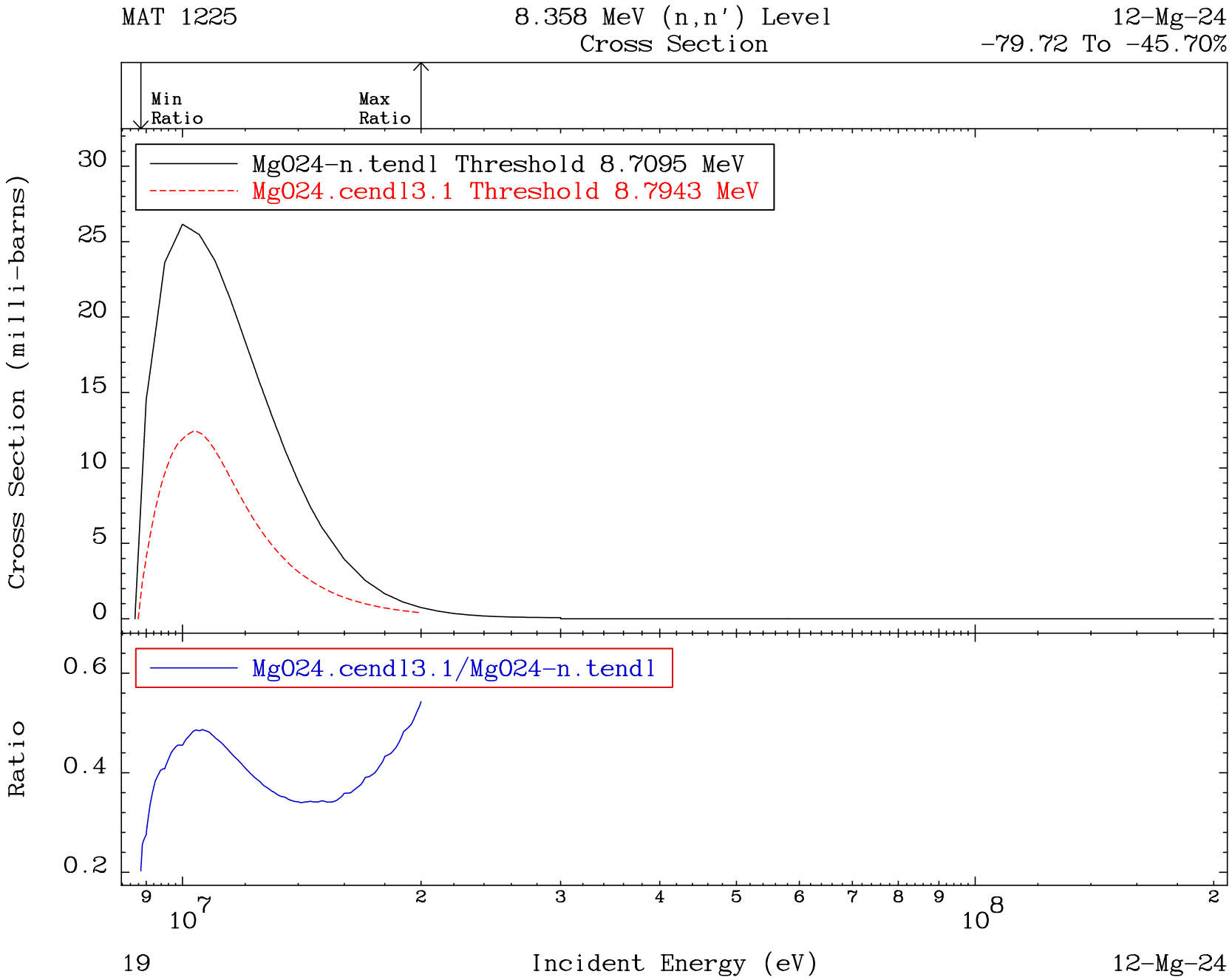

MAT 1225
7.555 MeV (n,n') Level
Cross Section
12-Mg-24
-63.67 To -35.94%
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 7.8728 MeV
Mg024.cendl3.1 Threshold 7.8728 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.7
0.6
0.5
0.4
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
14
Incident Energy (eV)
12-Mg-24

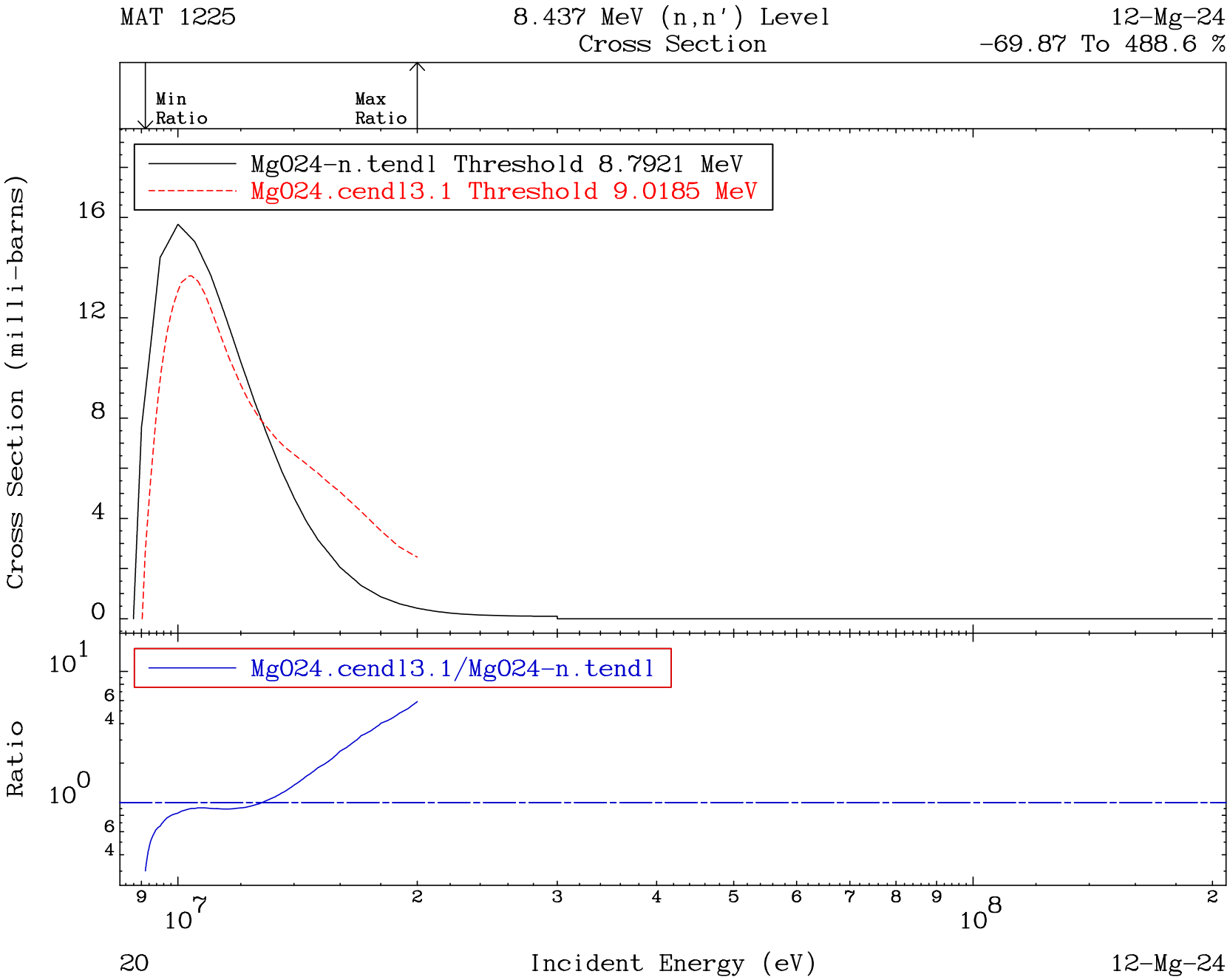

MAT 1225
7.616 MeV (n,n') Level
Cross Section
12-Mg-24
-97.30 To -38.04%
Max Ratio
Min Ratio
Mg024-n.tendl Threshold 7.9368 MeV
Mg024.cendl3.1 Threshold 7.9368 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
10^-1
6
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
12-Mg-24

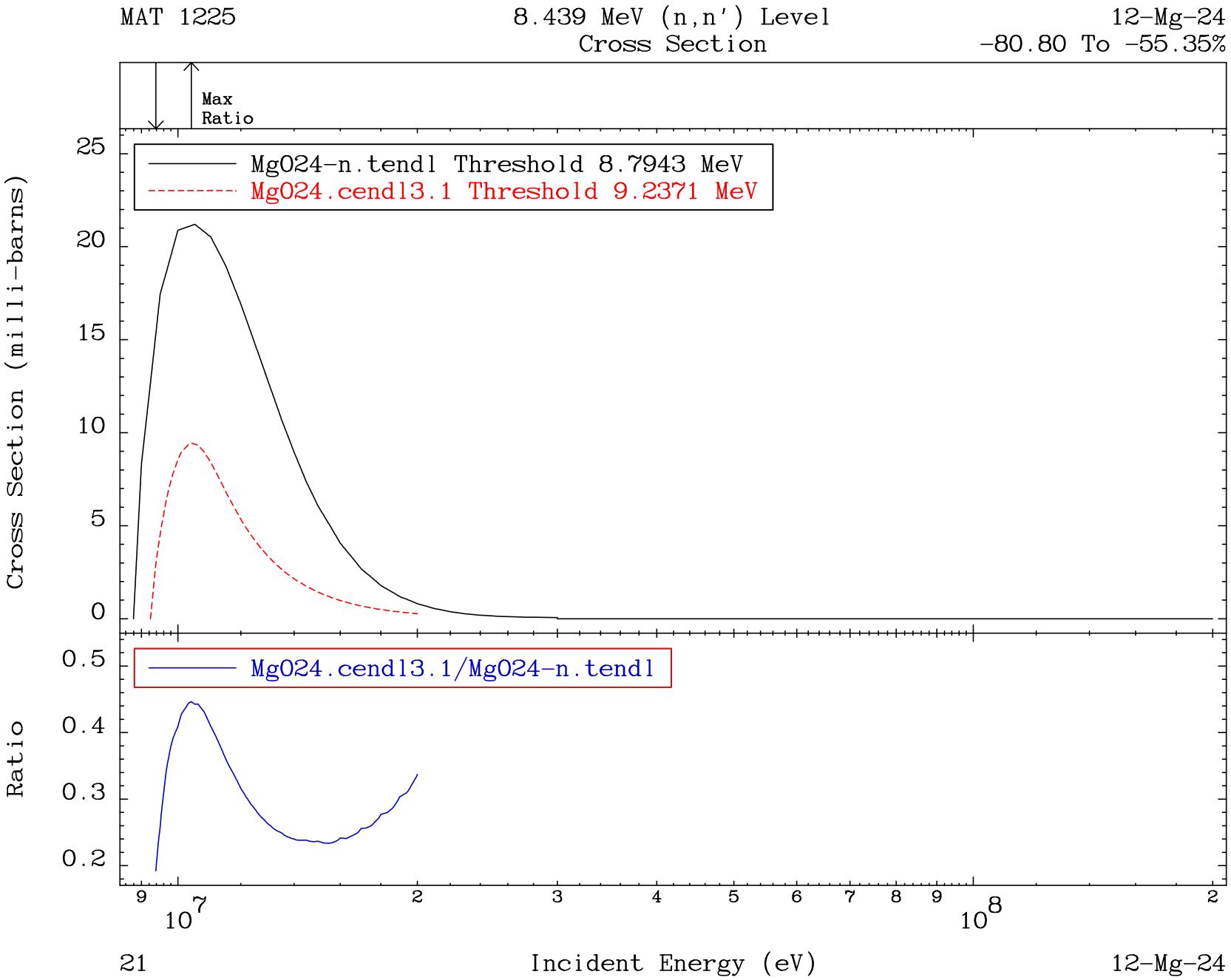

MAT 1225
7.748 MeV (n,n') Level
Cross Section
12-Mg-24
25.06 To 1645. %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 8.0733 MeV
Mg024.cendl3.1 Threshold 8.0733 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^1
10^0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
16
Incident Energy (eV)
12-Mg-24

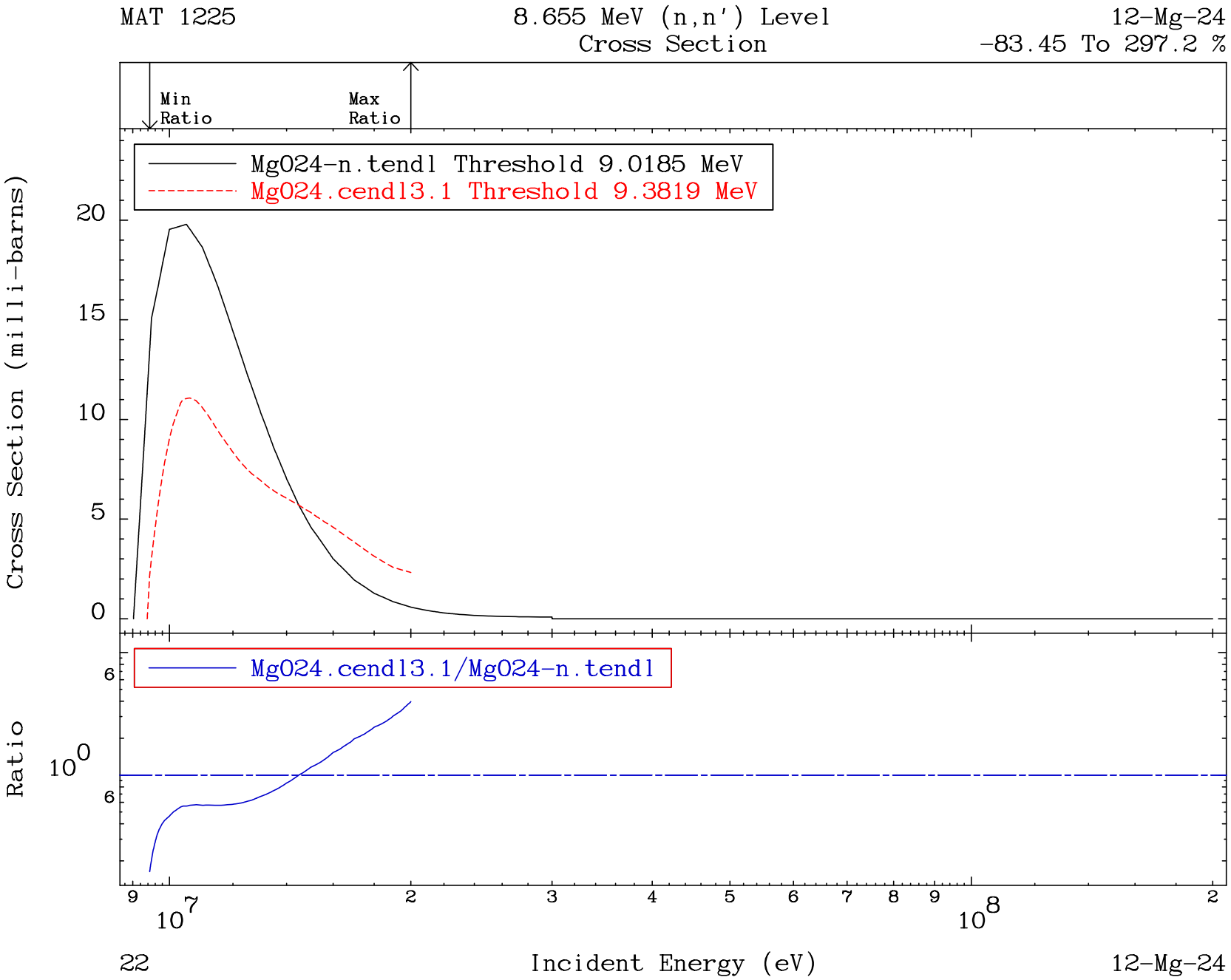

MAT 1225
7.812 MeV (n,n') Level
Cross Section
12-Mg-24
-71.35 To -10.44%
Max
Ratio
Mg024-n.tendl Threshold 8.1409 MeV
Mg024.cendl3.1 Threshold 8.7095 MeV
Cross Section (milli-barns)
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
1.0
0.8
0.6
0.4
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
17
Incident Energy (eV)
12-Mg-24

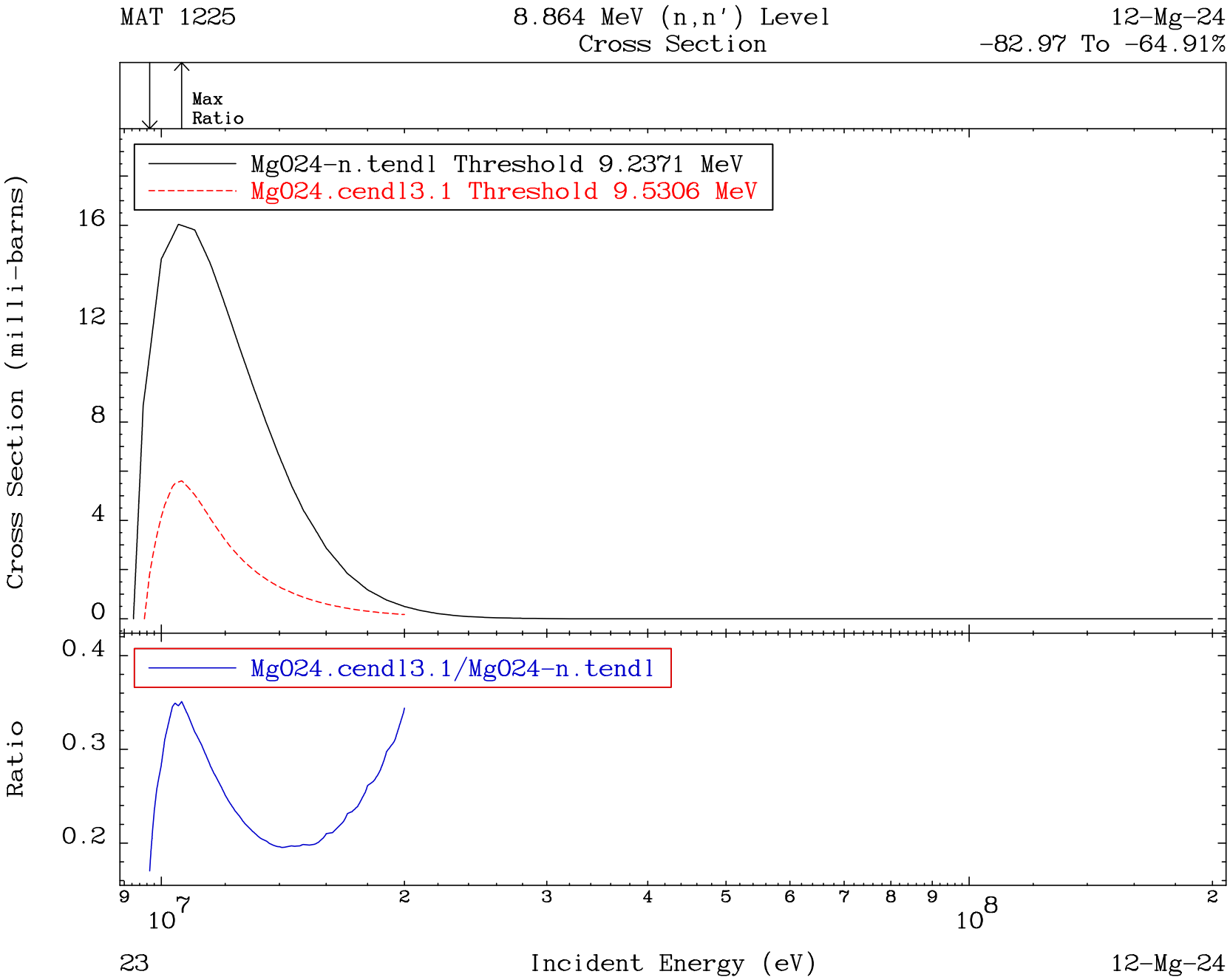

MAT 1225
8.114 MeV (n,n') Level
Cross Section
12-Mg-24
-99.98 To 121.9 %
Max
Ratio
Mg024-n.tendl Threshold 8.4554 MeV
Mg024.cendl3.1 Threshold 8.7943 MeV
Cross Section (milli-barns)
10
8
6
4
2
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
10^-2
10^-4
9
10^7
2
3
4
5
6
7
8
9
10^8
2
18
Incident Energy (eV)
12-Mg-24

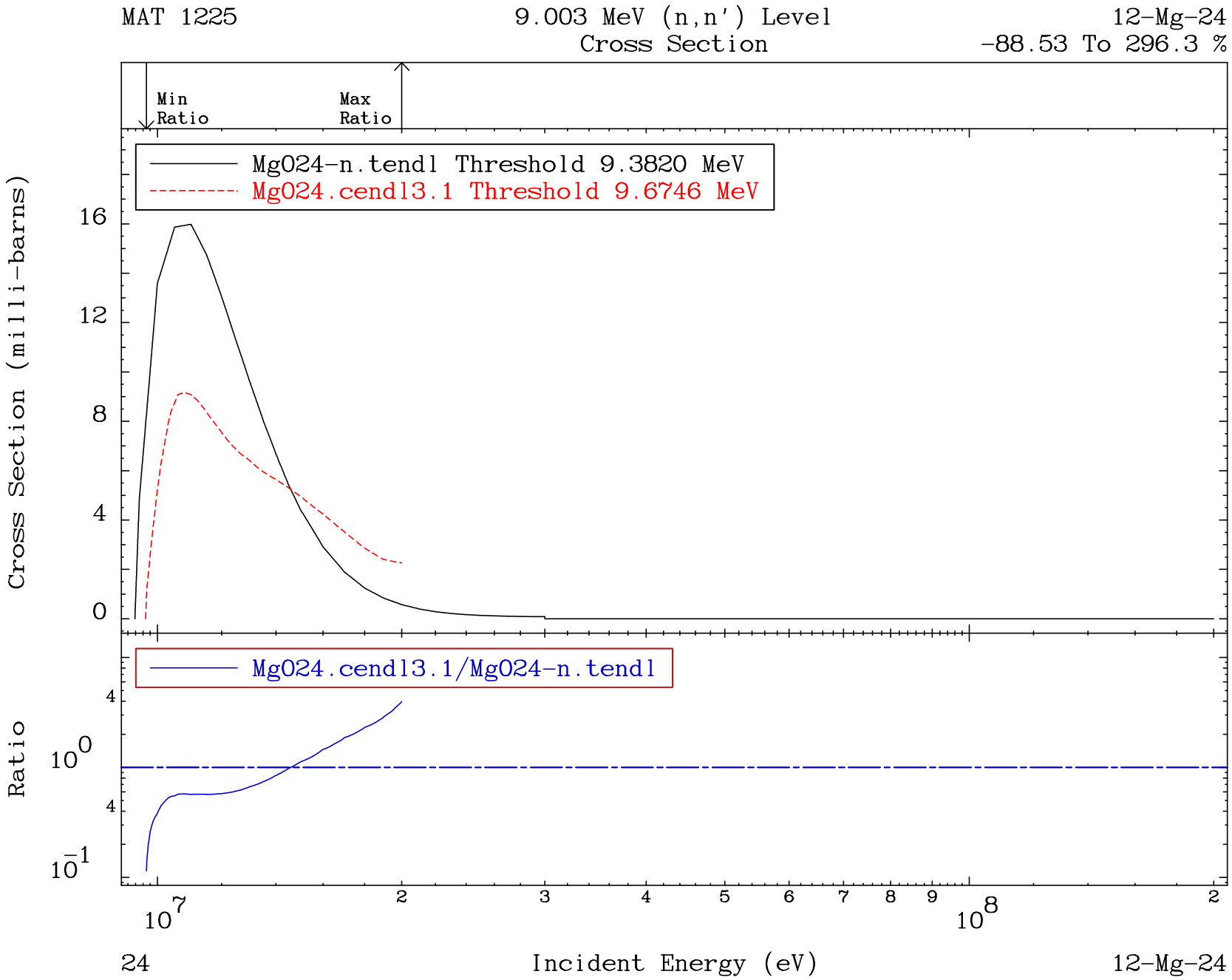

MAT 1225
8.358 MeV (n,n') Level
Cross Section
12-Mg-24
-79.72 To -45.70%
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 8.7095 MeV
Mg024.cendl3.1 Threshold 8.7943 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.6
0.4
0.2
9
10^7
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
12-Mg-24

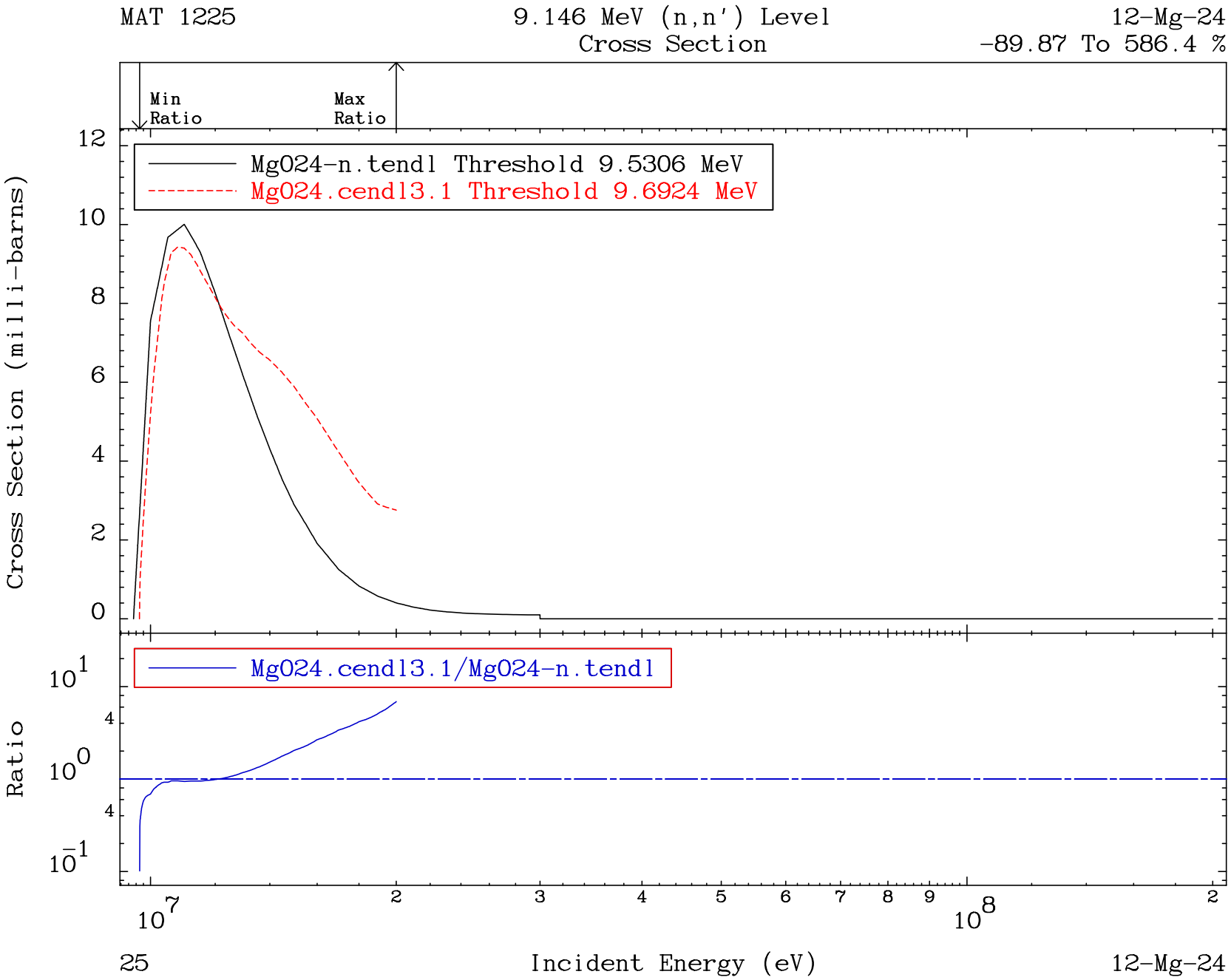

MAT 1225
8.437 MeV (n,n') Level
Cross Section
12-Mg-24
-69.87 To 488.6 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 8.7921 MeV
Mg024.cendl3.1 Threshold 9.0185 MeV
Cross Section (milli-barns)
16
12
8
4
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^1
10^0
6
4
9
10^7
2
3
4
5
6
7
8
9
10^8
2
20
Incident Energy (eV)
12-Mg-24

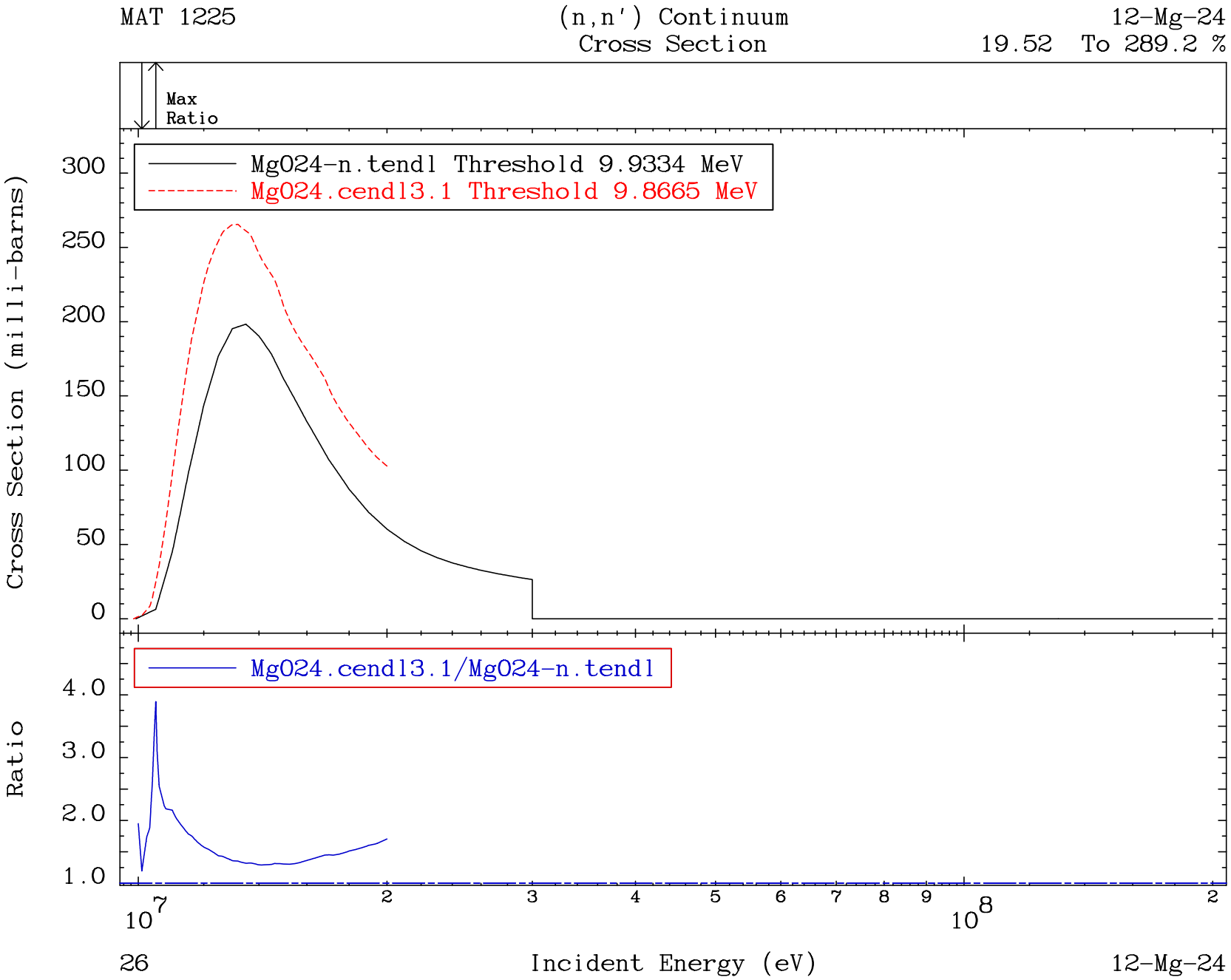

MAT 1225
8.439 MeV (n,n') Level
Cross Section
12-Mg-24
-80.80 To -55.35%
Max
Ratio
Mg024-n.tendl Threshold 8.7943 MeV
Mg024.cendl3.1 Threshold 9.2371 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.5
0.4
0.3
0.2
9
10^7
2
3
4
5
6
7
8
9
10^8
2
21
Incident Energy (eV)
12-Mg-24

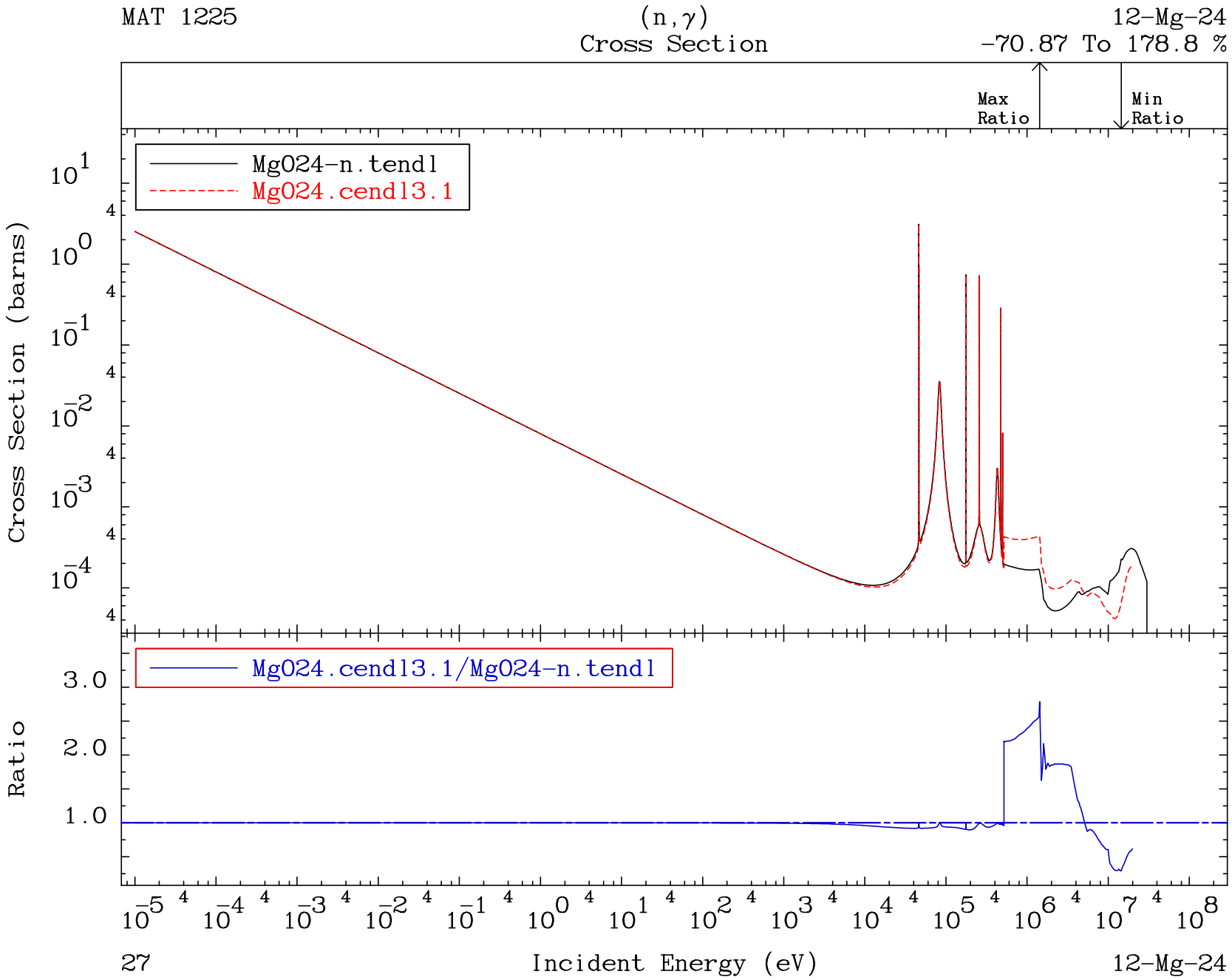

MAT 1225
8.655 MeV (n,n') Level
Cross Section
12-Mg-24
-83.45 To 297.2 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 9.0185 MeV
Mg024.cendl3.1 Threshold 9.3819 MeV
Cross Section (milli-barns)
20
15
10
5
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
6
9
10^7
2
3
4
5
6
7
8
9
10^8
2
22
Incident Energy (eV)
12-Mg-24

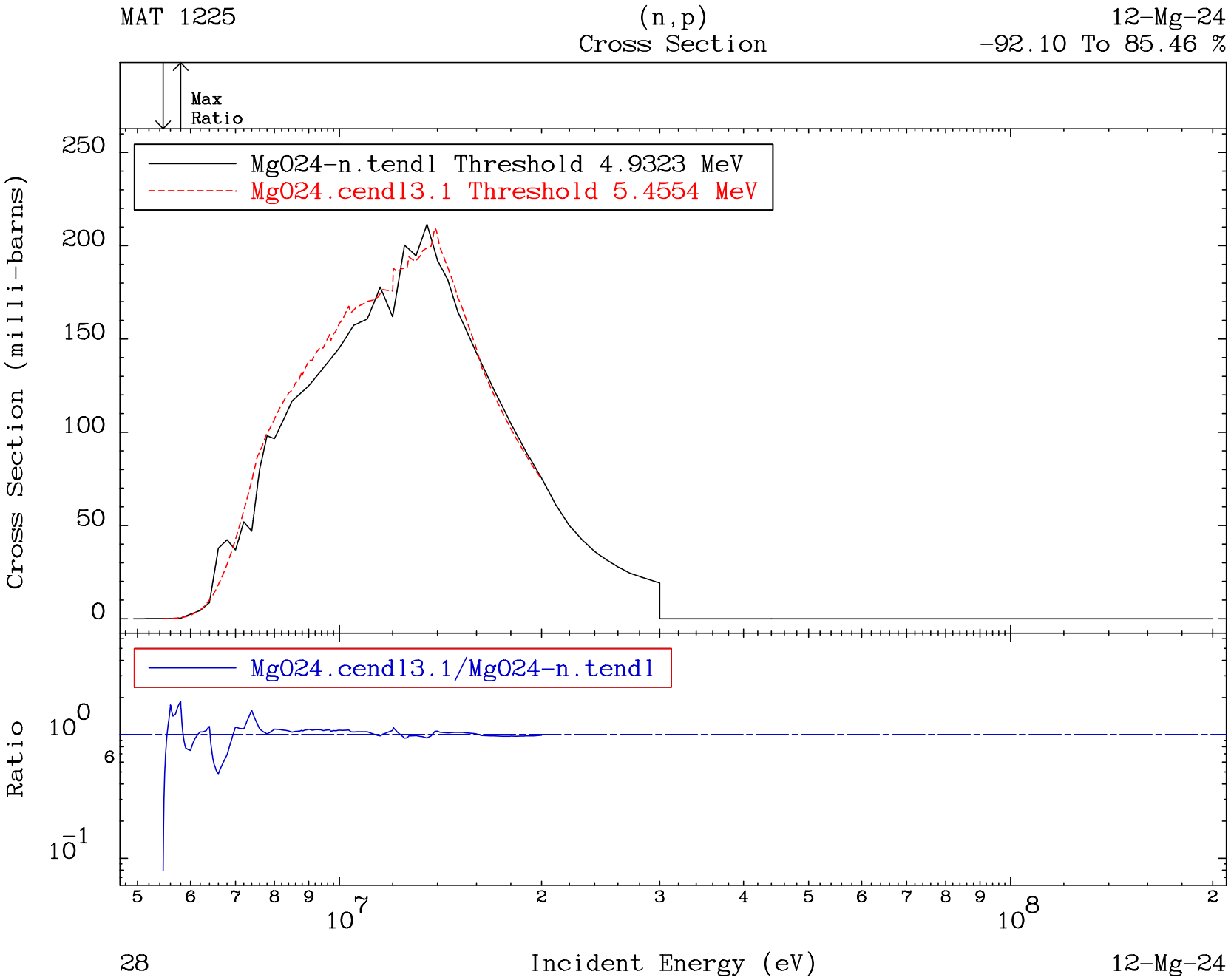

MAT 1225
8.864 MeV (n,n') Level
Cross Section
12-Mg-24
-82.97 To -64.91%
Max
Ratio
Mg024-n.tendl Threshold 9.2371 MeV
Mg024.cendl3.1 Threshold 9.5306 MeV
Cross Section (milli-barns)
16
12
8
4
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.4
0.3
0.2
9
10^7
2
3
4
5
6
7
8
9
10^8
2
23
Incident Energy (eV)
12-Mg-24

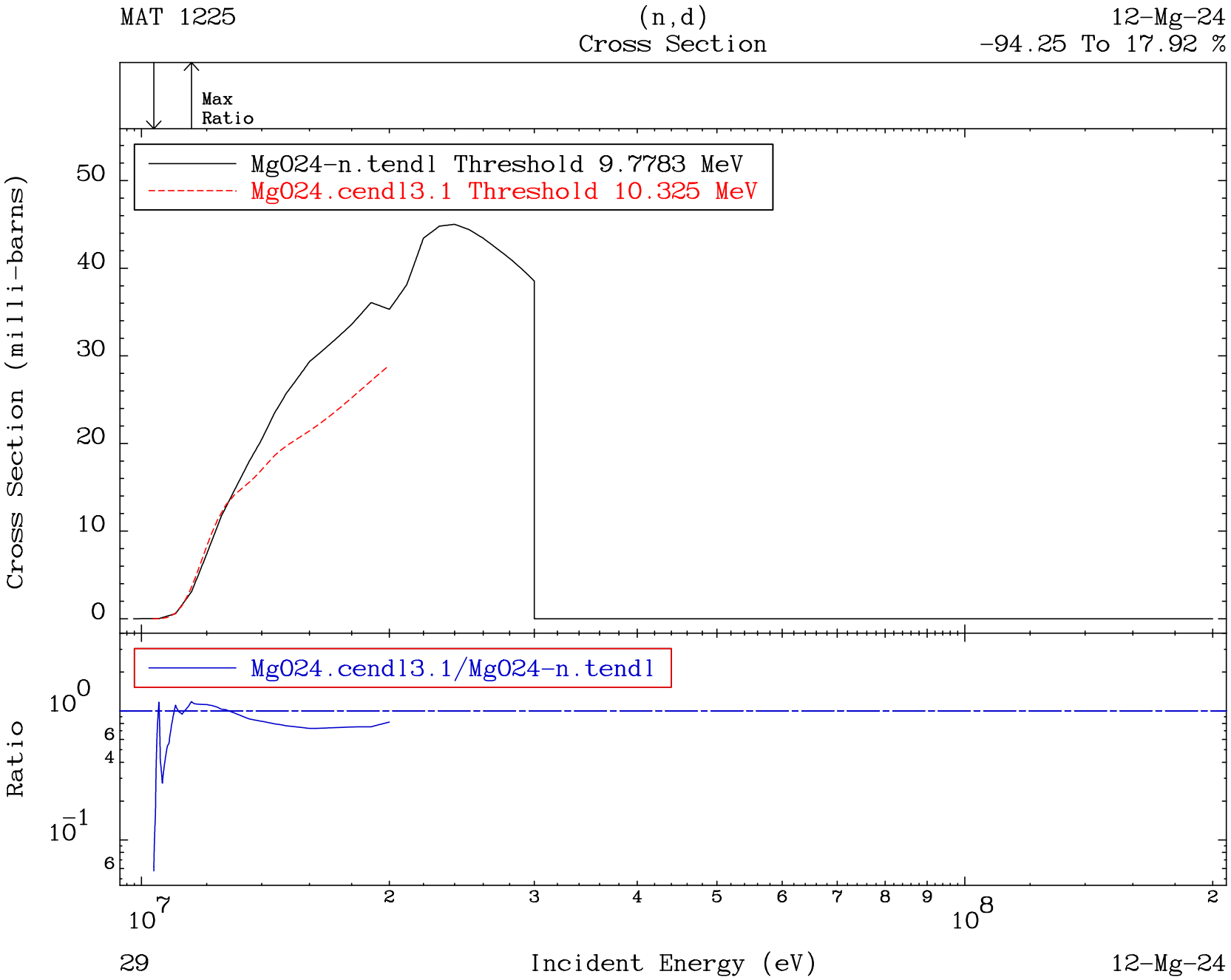

MAT 1225
9.003 MeV (n,n') Level
Cross Section
12-Mg-24
-88.53 To 296.3 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 9.3820 MeV
Mg024.cendl3.1 Threshold 9.6746 MeV
Cross Section (milli-barns)
16
12
8
4
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
4
10^0
4
10^{-1}
10^7
2
3
4
5
6
7
8
9
10^8
2
24
Incident Energy (eV)
12-Mg-24

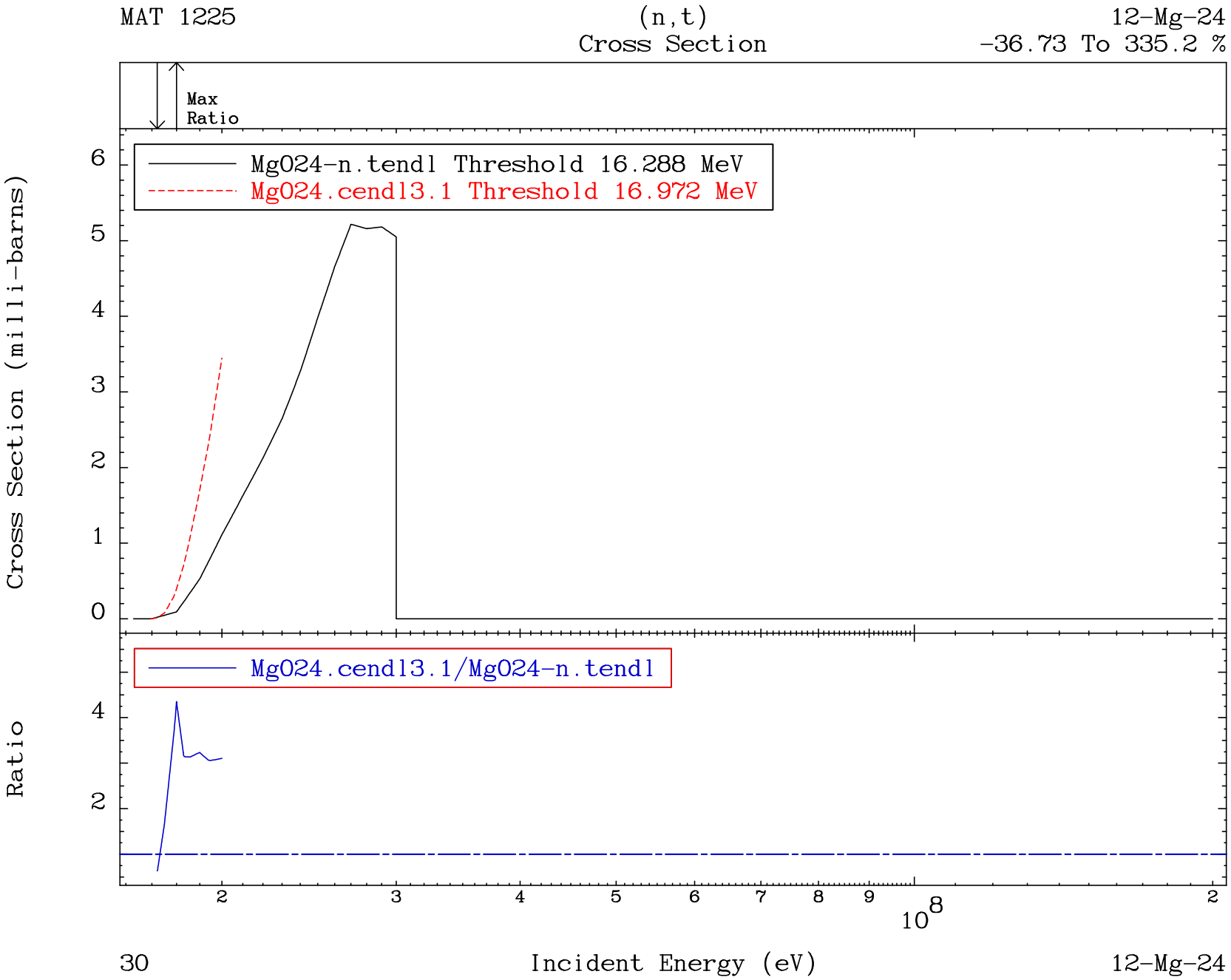

MAT 1225
9.146 MeV (n,n') Level
Cross Section
12-Mg-24
-89.87 To 586.4 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 9.5306 MeV
Mg024.cendl3.1 Threshold 9.6924 MeV
Cross Section (milli-barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
25
12-Mg-24

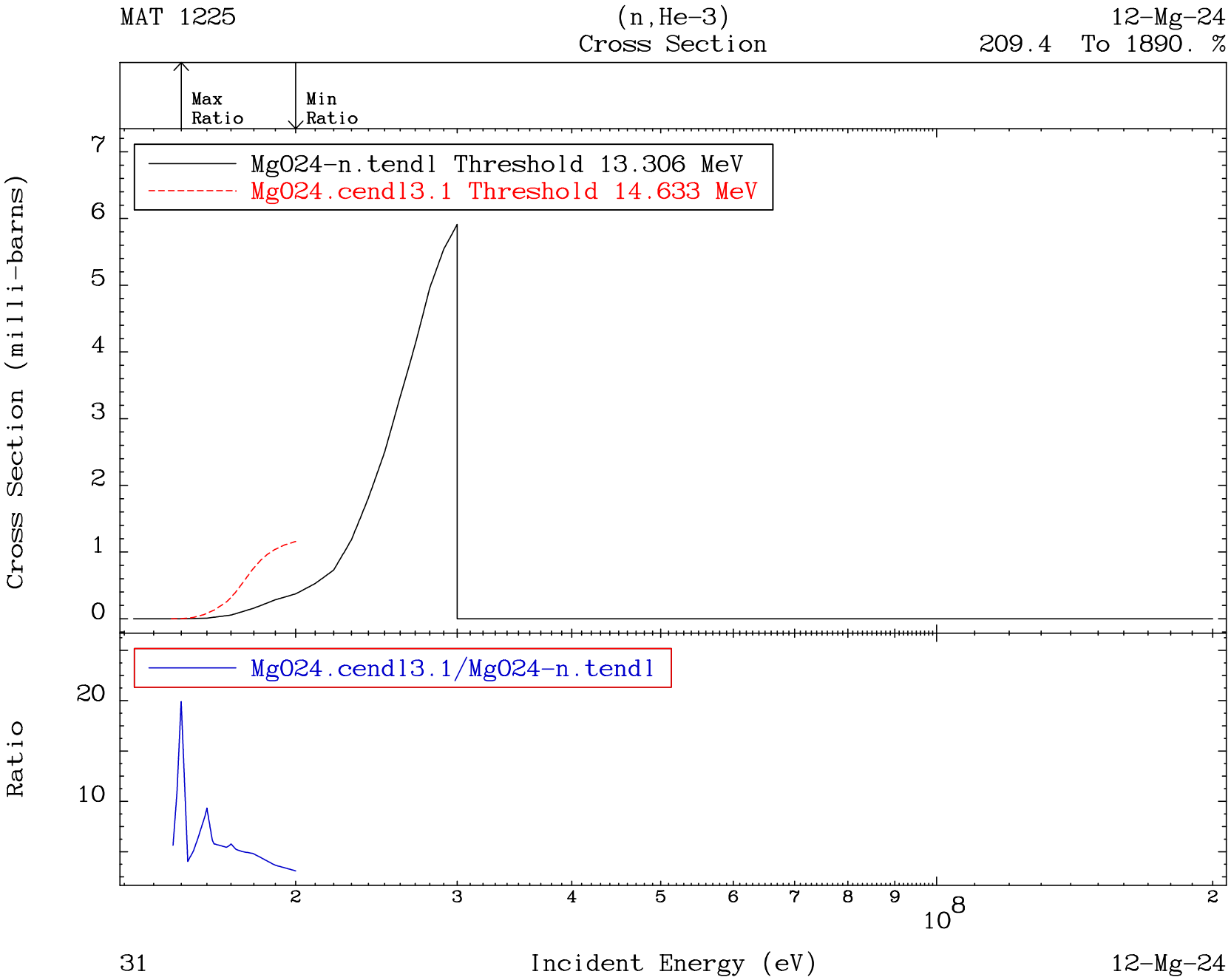

MAT 1225
(n,n') Continuum
Cross Section
12-Mg-24
19.52 To 289.2 %
Max
Ratio
Mg024-n.tendl Threshold 9.9334 MeV
Mg024.cendl3.1 Threshold 9.8665 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
4.0
3.0
2.0
1.0
10^7
2
3
4
5
6
7
8
9
10^8
2
26
Incident Energy (eV)
12-Mg-24

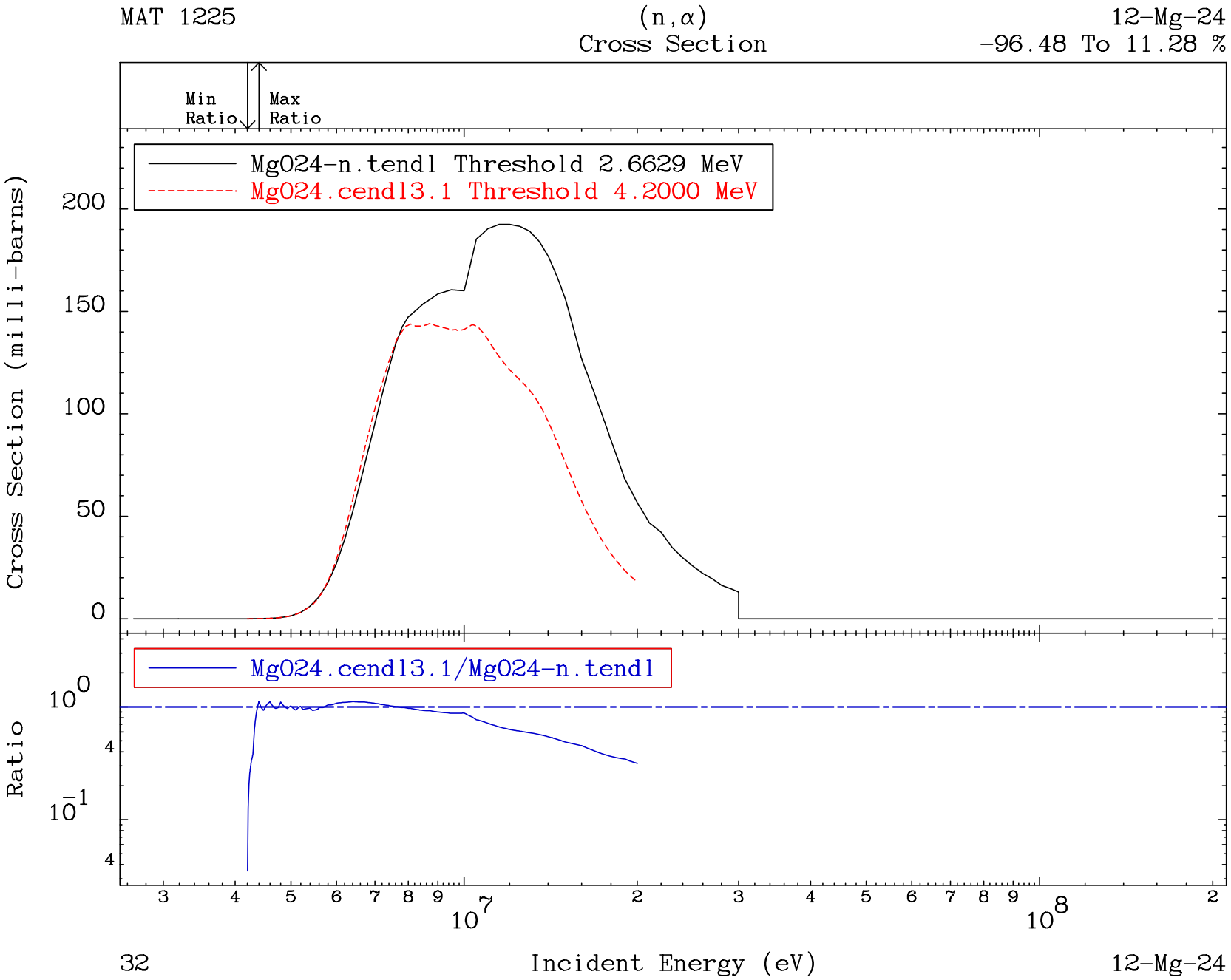

MAT 1225
(n,γ)
Cross Section
12-Mg-24
-70.87 To 178.8 %
Max Ratio
Min Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
27
12-Mg-24

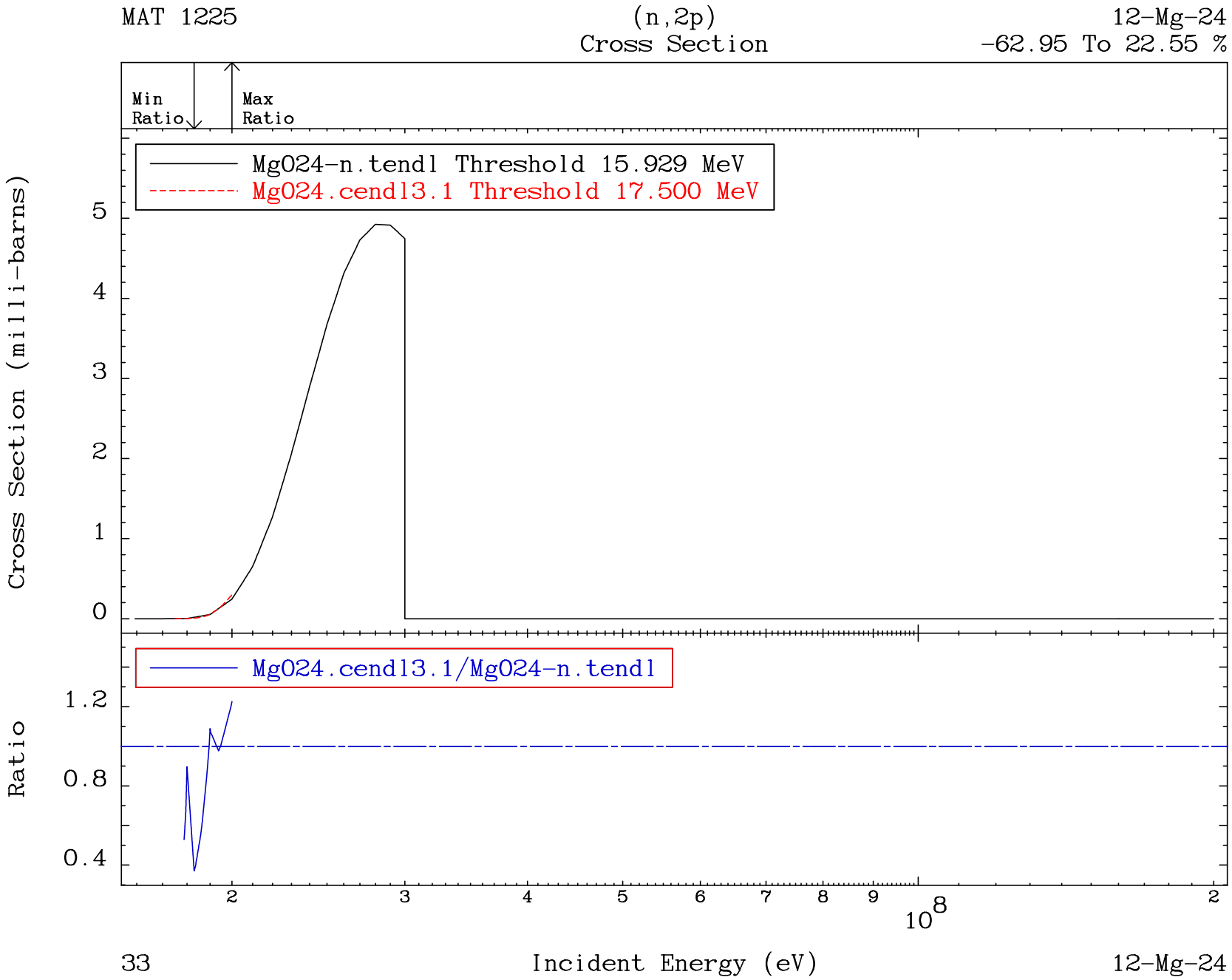

MAT 1225
(n,p)
Cross Section
12-Mg-24
-92.10 To 85.46 %
Max
Ratio
Mg024-n.tendl Threshold 4.9323 MeV
Mg024.cendl3.1 Threshold 5.4554 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
10^-1
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
12-Mg-24

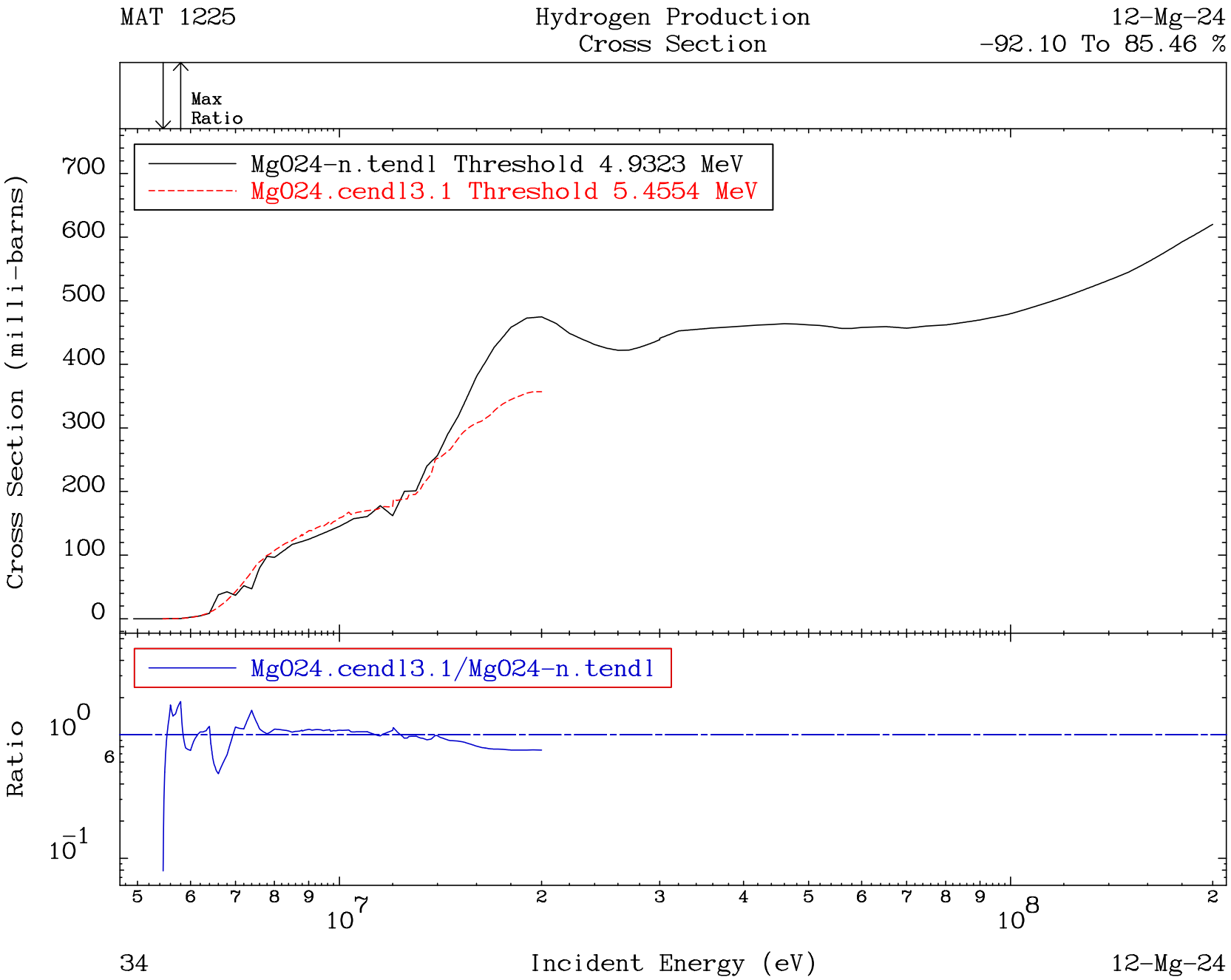

MAT 1225
(n,d)
Cross Section
12-Mg-24
-94.25 To 17.92 %
Max
Ratio
Mg024-n.tendl Threshold 9.7783 MeV
Mg024.cendl3.1 Threshold 10.325 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
4
10^-1
6
10^7
2
3
4
5
6
7
8
9
10^8
2
29
Incident Energy (eV)
12-Mg-24

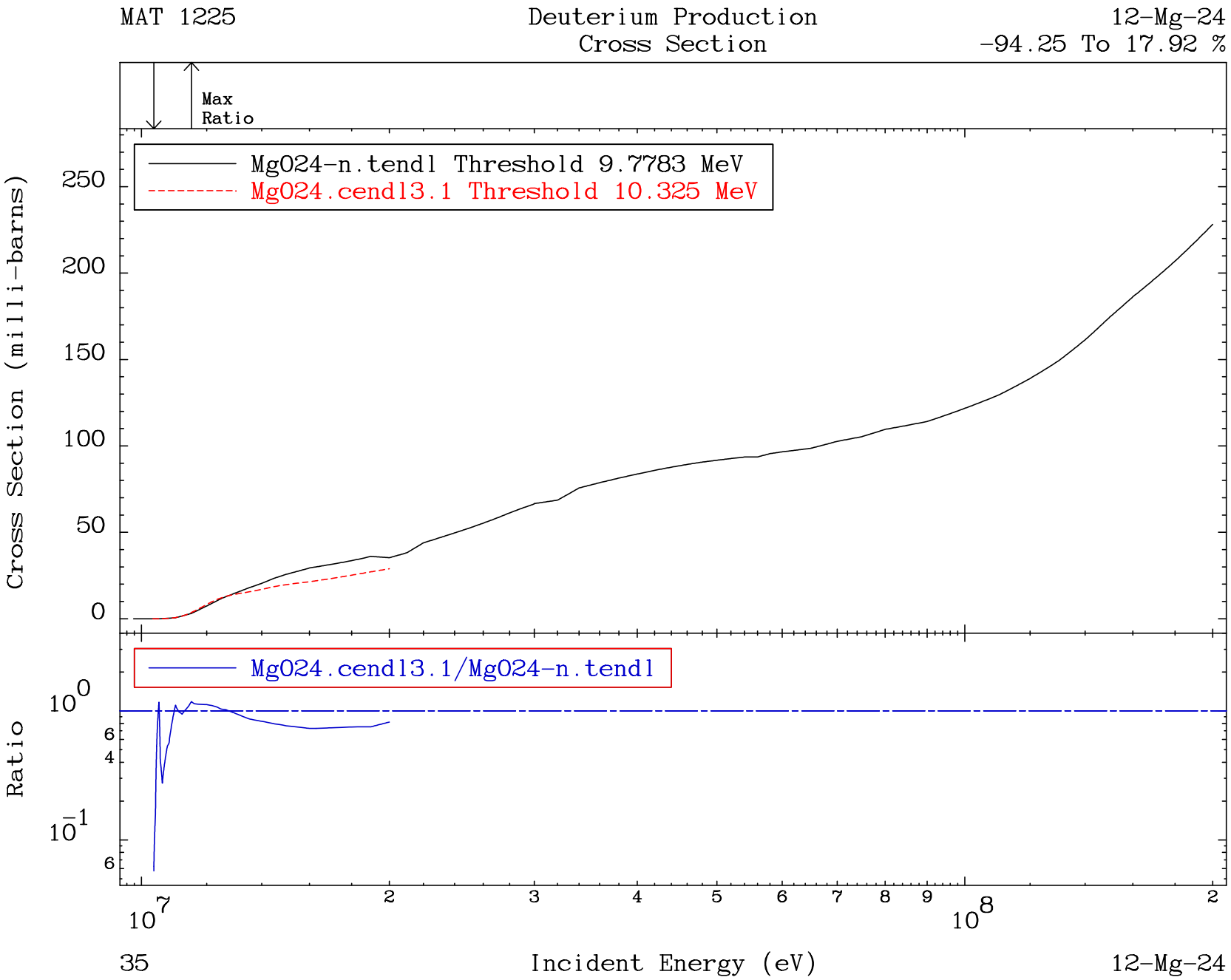

MAT 1225
(n,t)
Cross Section
12-Mg-24
-36.73 To 335.2 %
Max
Ratio
Mg024-n.tendl Threshold 16.288 MeV
Mg024.cendl3.1 Threshold 16.972 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
Mg024.cendl3.1/Mg024-n.tendl
Ratio
2
4
2
3
4
5
6
7
8
9
10^8
2
30
Incident Energy (eV)
12-Mg-24

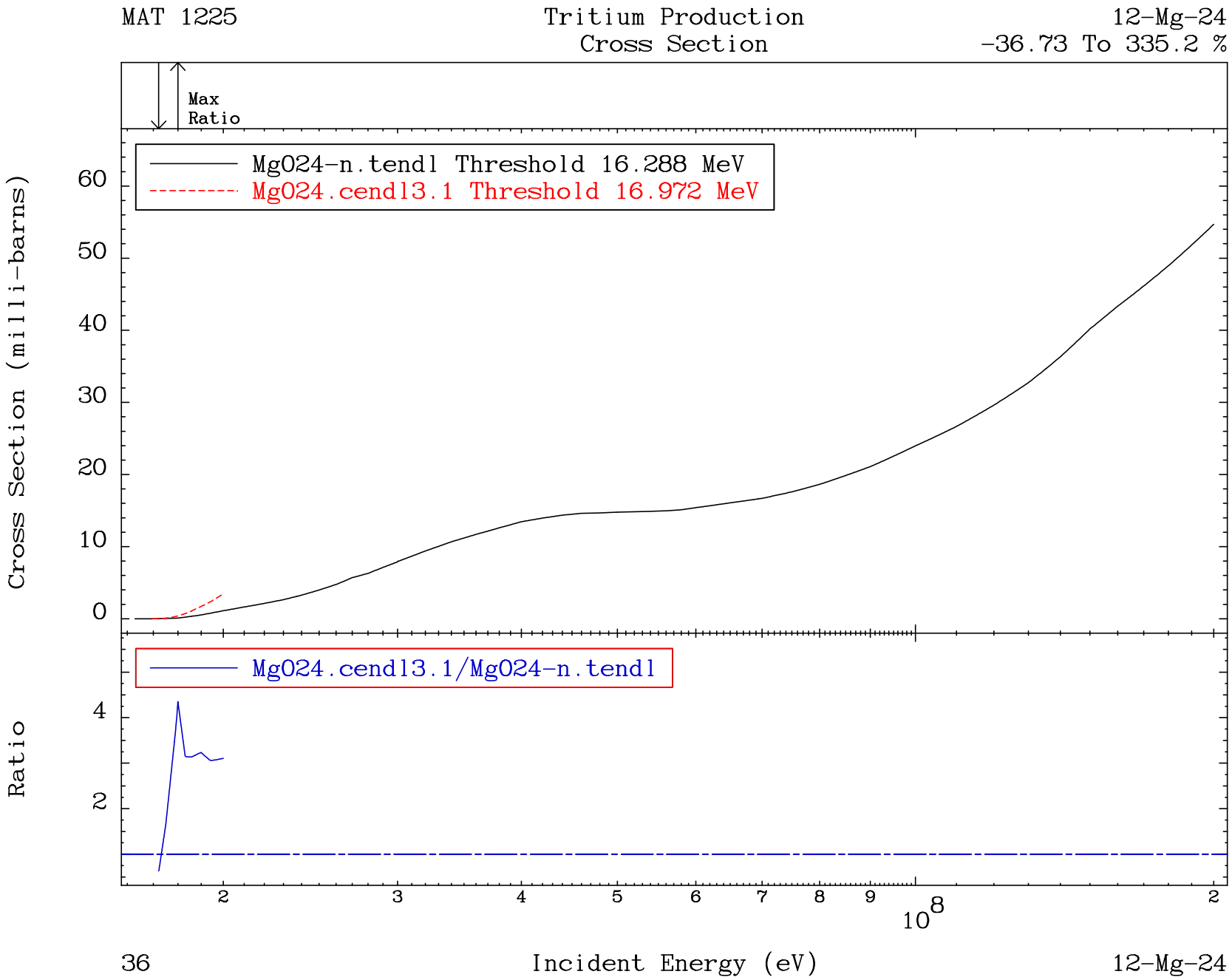

MAT 1225
(n,He-3)
Cross Section
12-Mg-24
209.4 To 1890. %
Max Ratio
Min Ratio
Mg024-n.tendl Threshold 13.306 MeV
Mg024.cendl3.1 Threshold 14.633 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
7
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10
20
2
3
4
5
6
7
8
9
10^8
2
31
Incident Energy (eV)
12-Mg-24

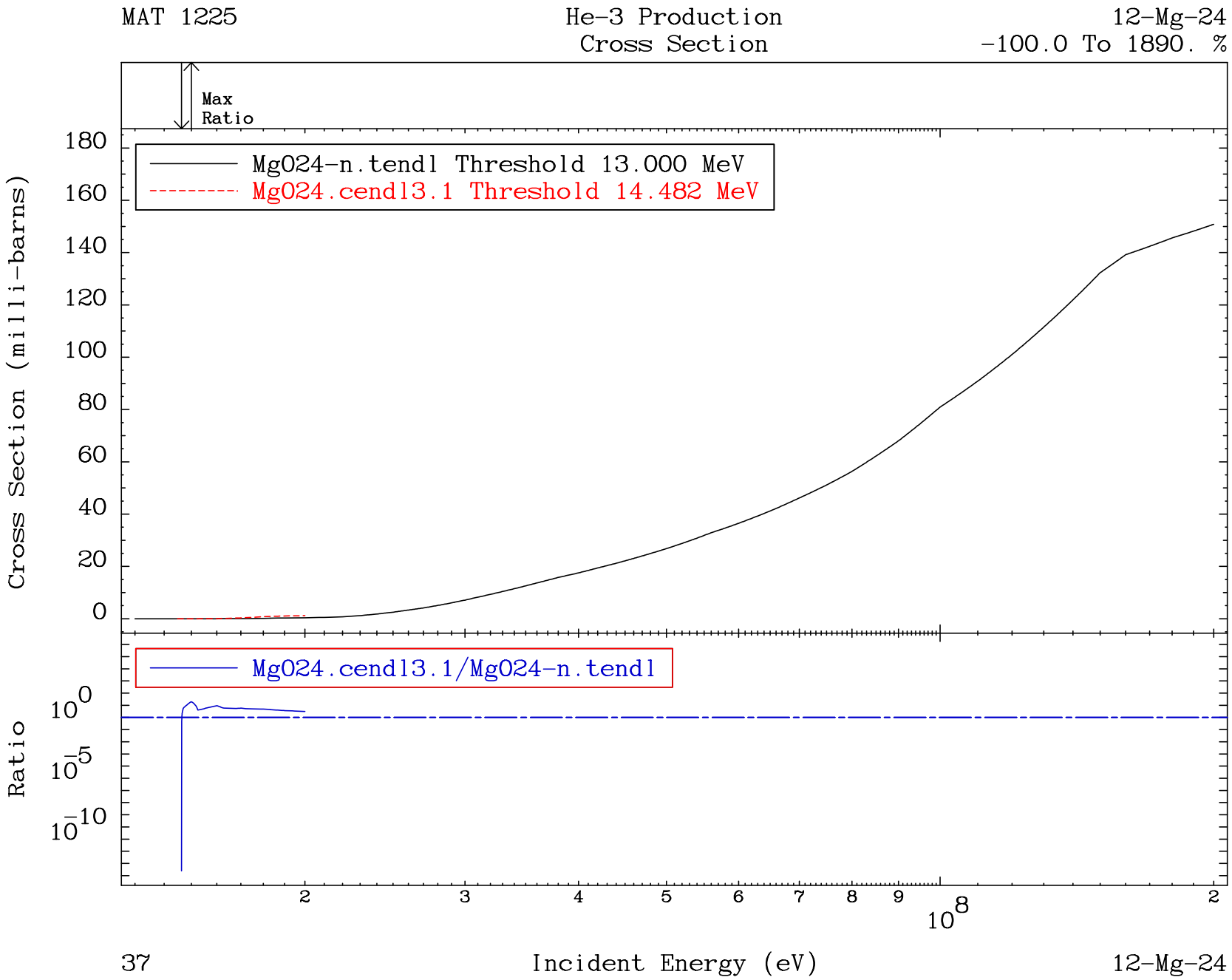

MAT 1225
(n,α)
Cross Section
12-Mg-24
-96.48 To 11.28 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 2.6629 MeV
Mg024.cendl3.1 Threshold 4.2000 MeV
Cross Section (milli-barns)
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
4
10^-1
4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
32
Incident Energy (eV)
12-Mg-24

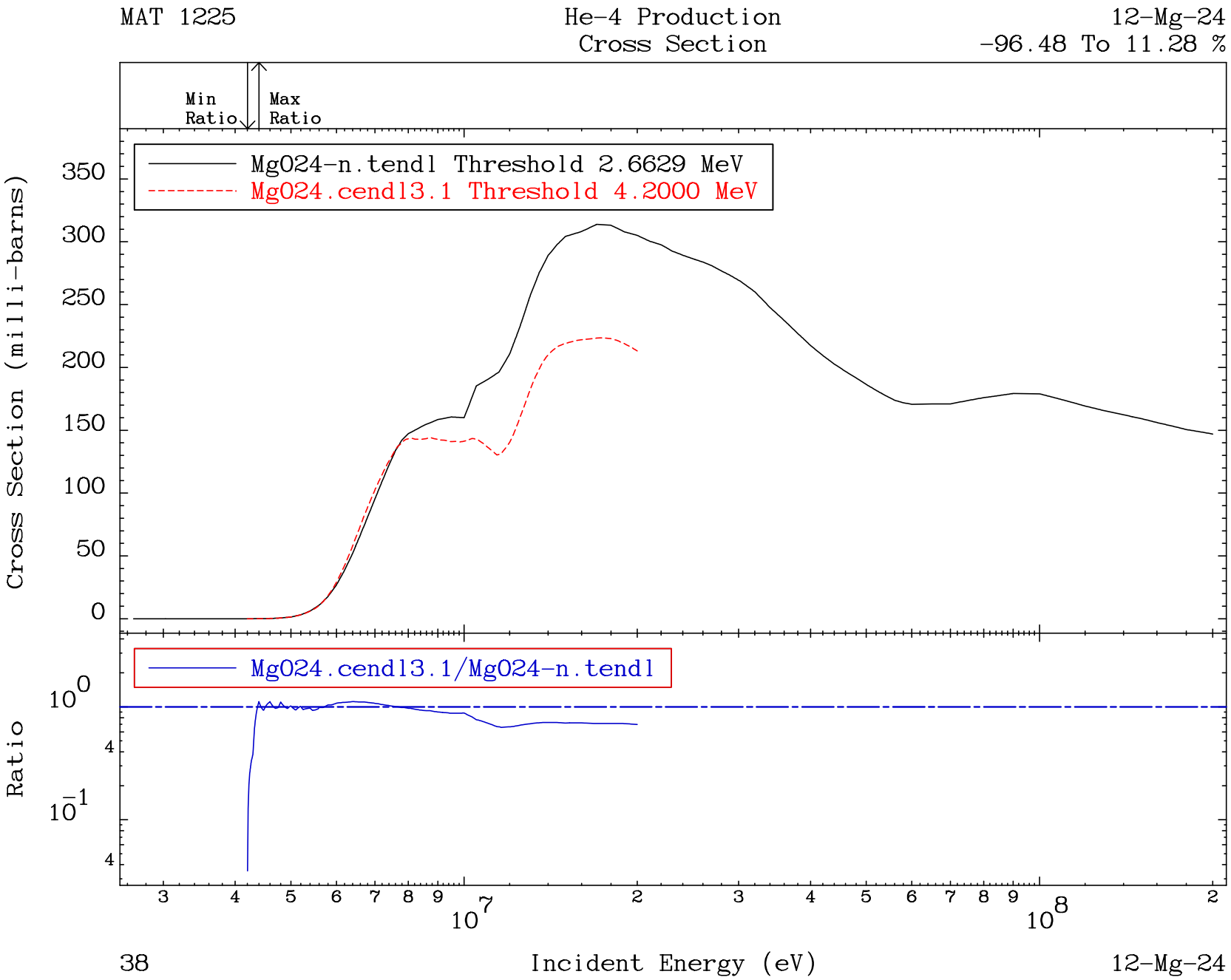

MAT 1225
(n,2p)
Cross Section
12-Mg-24
-62.95 To 22.55 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 15.929 MeV
Mg024.cendl3.1 Threshold 17.500 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
Mg024.cendl3.1/Mg024-n.tendl
Ratio
0.4
0.8
1.2
2
3
4
5
6
7
8
9
10^8
2
33
Incident Energy (eV)
12-Mg-24

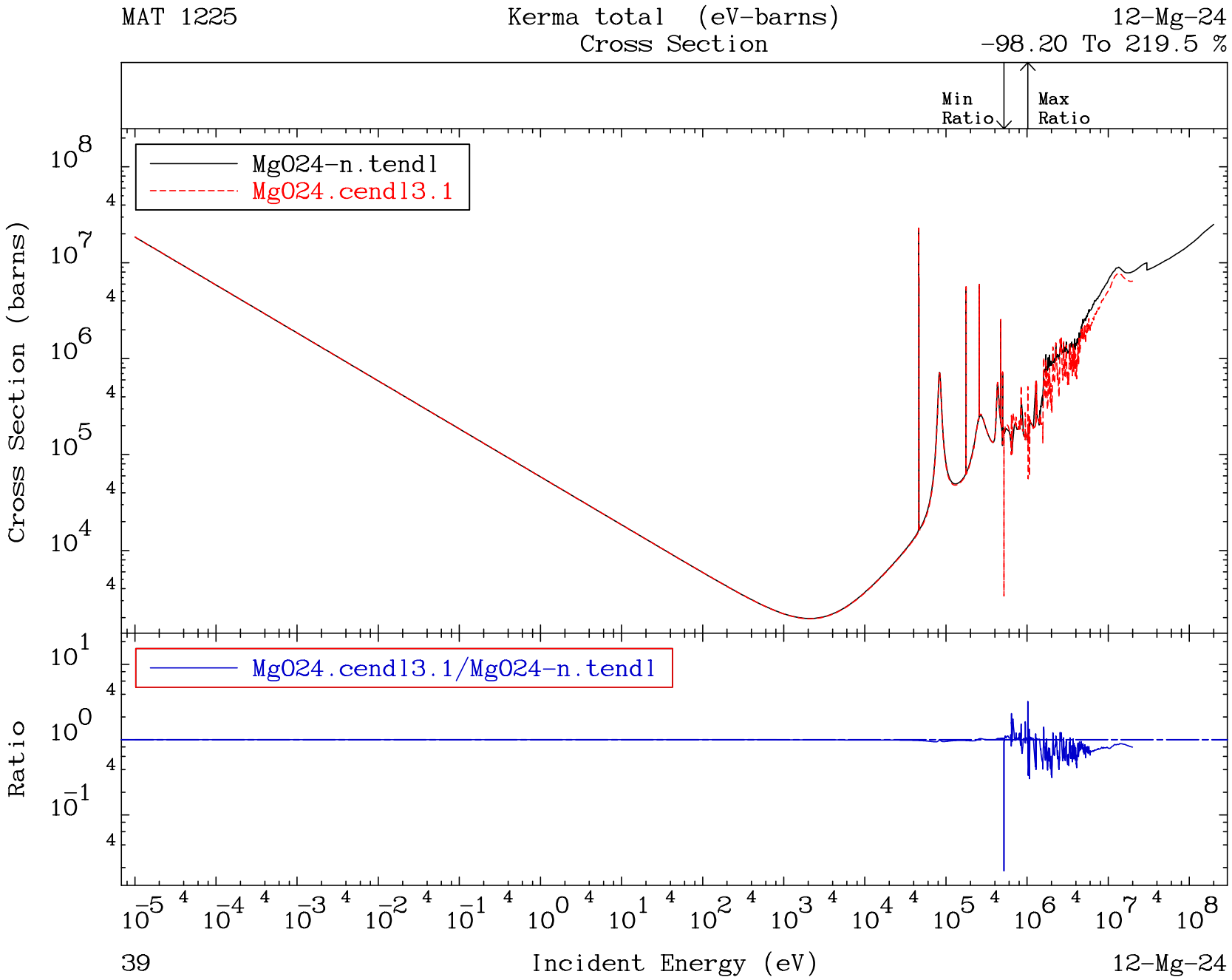

MAT 1225
Hydrogen Production
Cross Section
12-Mg-24
-92.10 To 85.46 %
Max
Ratio
Mg024-n.tendl Threshold 4.9323 MeV
Mg024.cendl3.1 Threshold 5.4554 MeV
Cross Section (milli-barns)
700
600
500
400
300
200
100
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
10^-1
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
34
Incident Energy (eV)
12-Mg-24

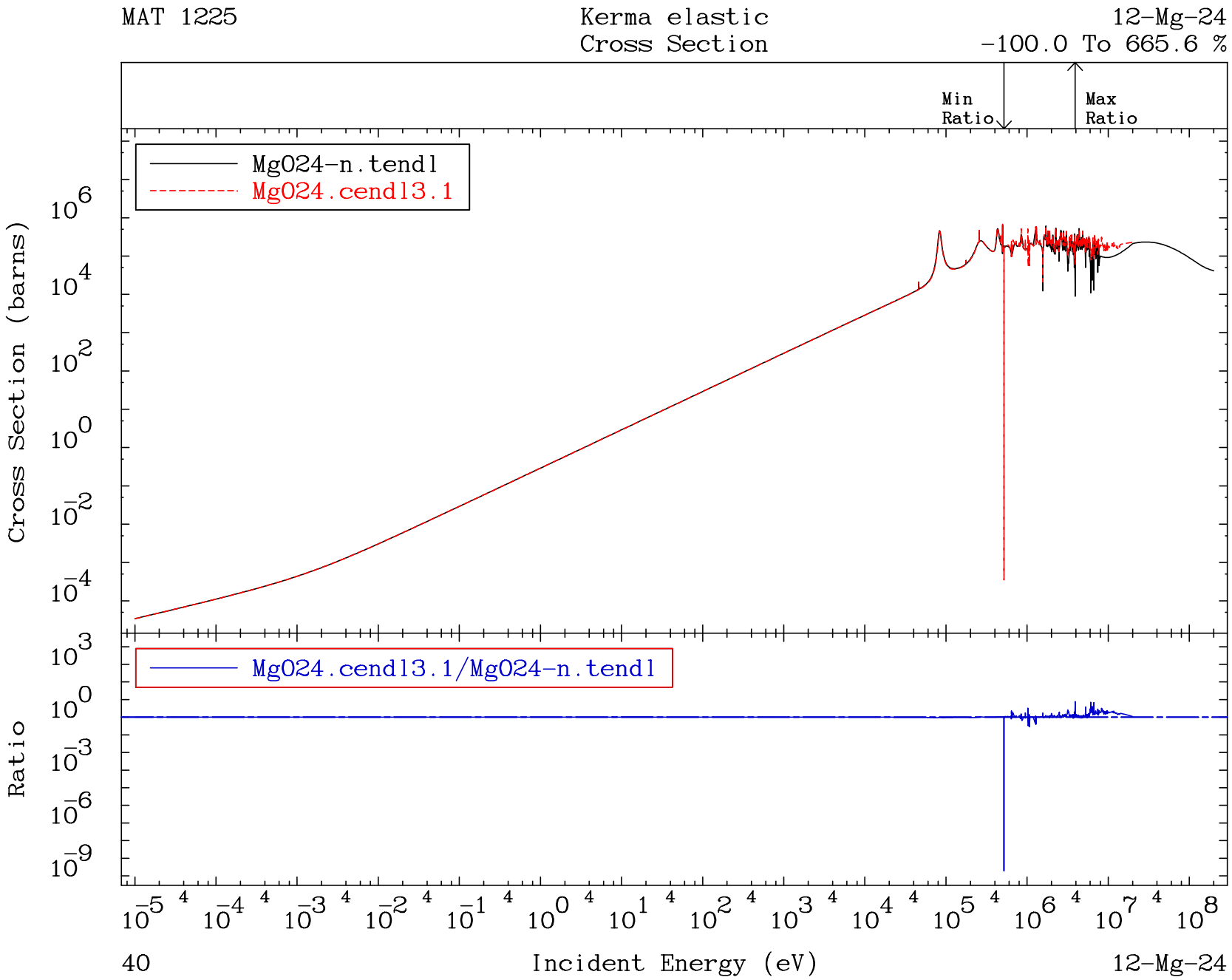

MAT 1225
Deuterium Production
Cross Section
12-Mg-24
-94.25 To 17.92 %
Max
Ratio
Mg024-n.tendl Threshold 9.7783 MeV
Mg024.cendl3.1 Threshold 10.325 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
6
4
10^-1
6
10^7
2
3
4
5
6
7
8
9
10^8
2
35
Incident Energy (eV)
12-Mg-24

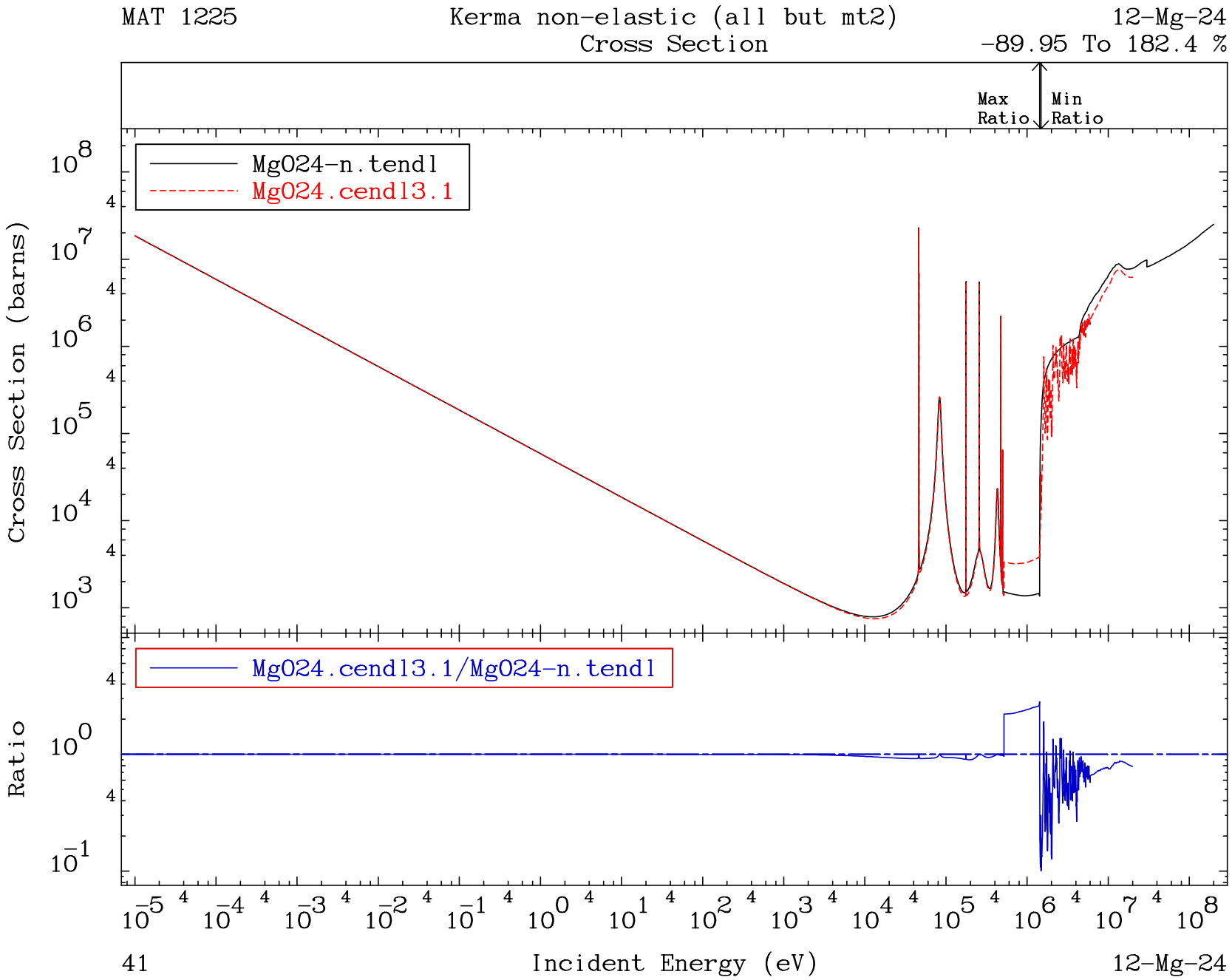

MAT 1225
Tritium Production
Cross Section
12-Mg-24
-36.73 To 335.2 %
Max
Ratio
Mg024-n.tendl Threshold 16.288 MeV
Mg024.cendl3.1 Threshold 16.972 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
4
2
2
3
4
5
6
7
8
9
10^8
2
36
Incident Energy (eV)
12-Mg-24

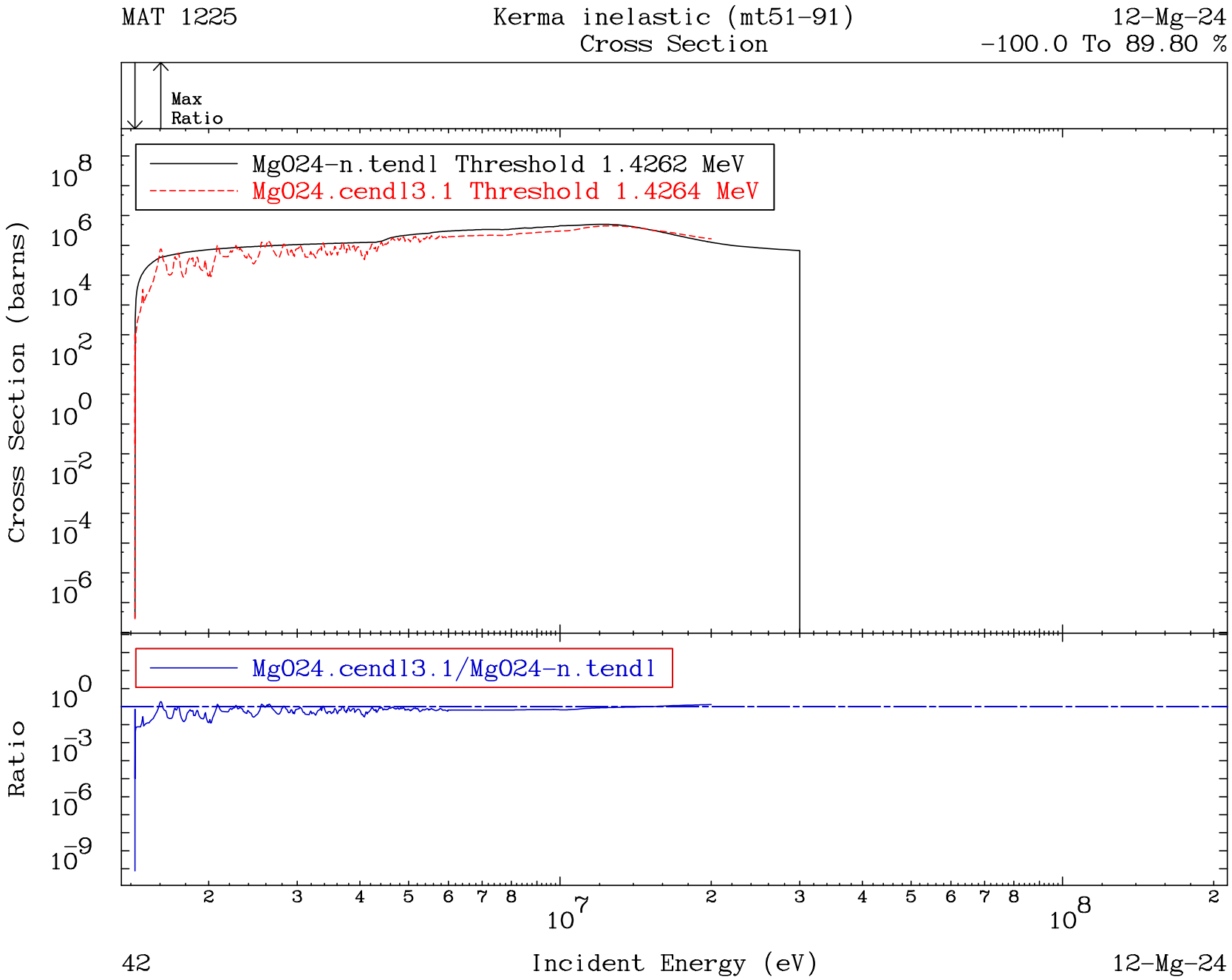

MAT 1225
He-3 Production
Cross Section
12-Mg-24
-100.0 To 1890. %
Max
Ratio
Mg024-n.tendl Threshold 13.000 MeV
Mg024.cendl3.1 Threshold 14.482 MeV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
10^-5
10^-10
2
3
4
5
6
7
8
9
10^8
2
37
Incident Energy (eV)
12-Mg-24

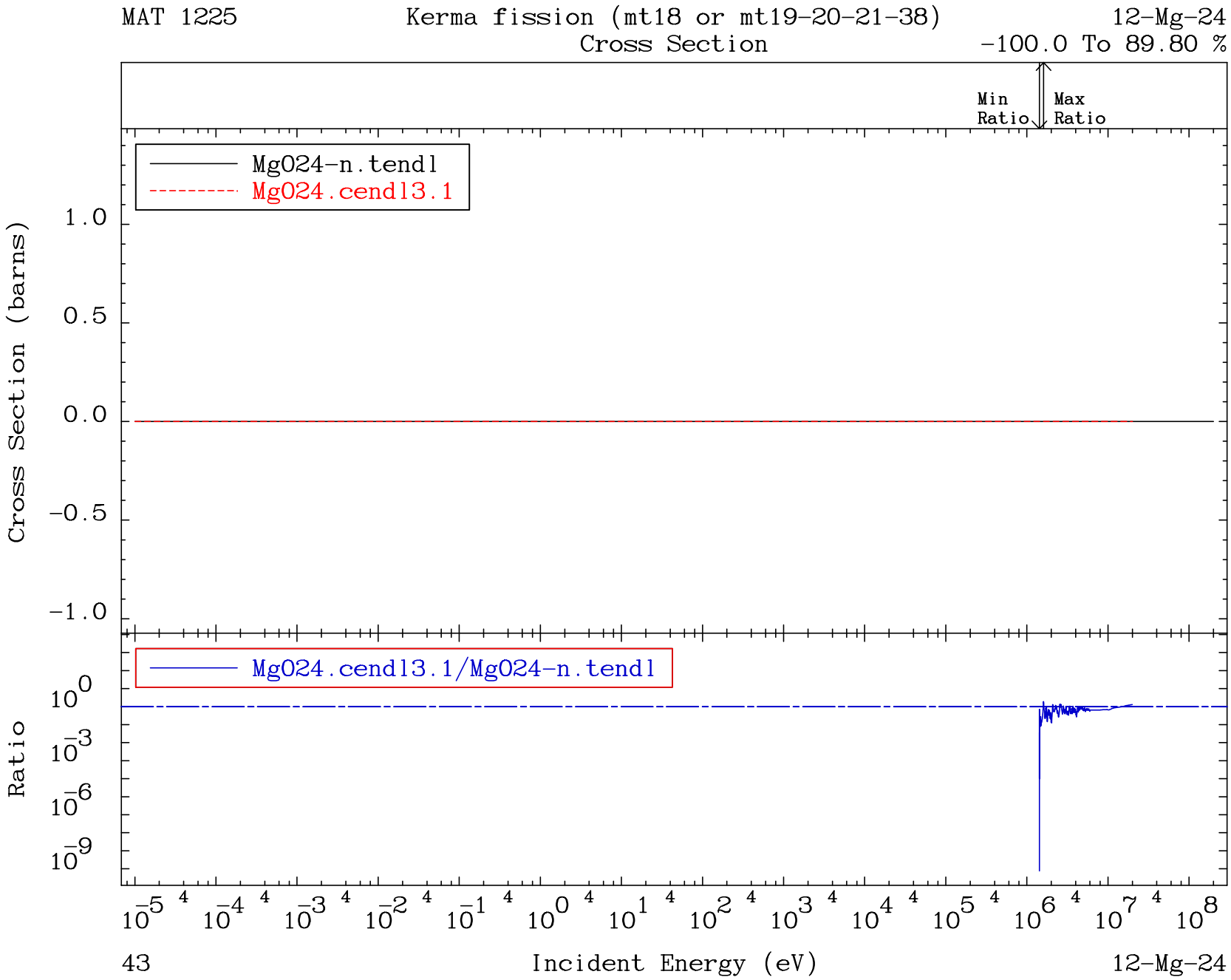

MAT 1225
He-4 Production
Cross Section
12-Mg-24
-96.48 To 11.28 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 2.6629 MeV
Mg024.cendl3.1 Threshold 4.2000 MeV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
4
10^-1
4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
38
Incident Energy (eV)
12-Mg-24

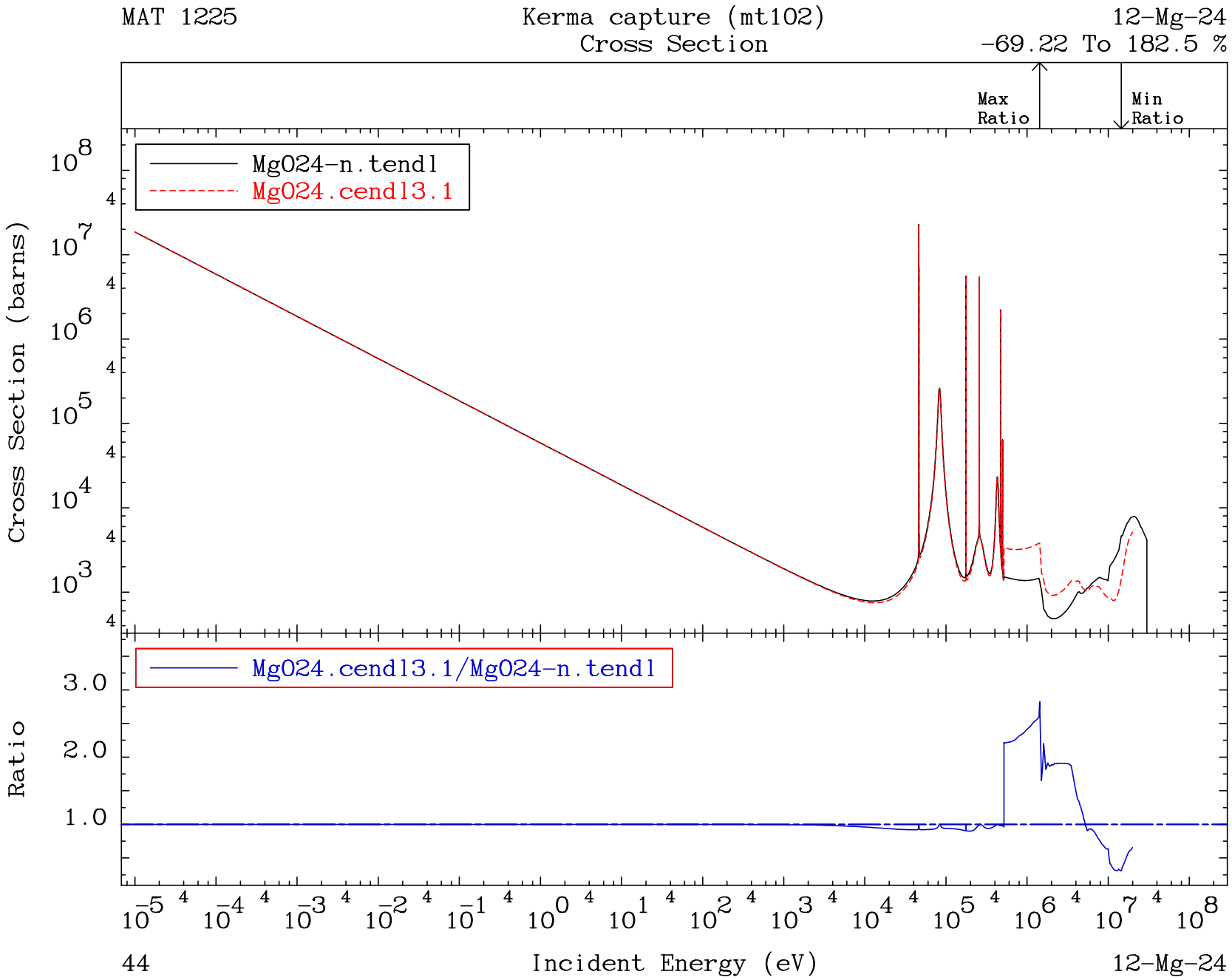

MAT 1225
Kerma total (eV-barns)
Cross Section
12-Mg-24
-98.20 To 219.5 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
39
Incident Energy (eV)
12-Mg-24

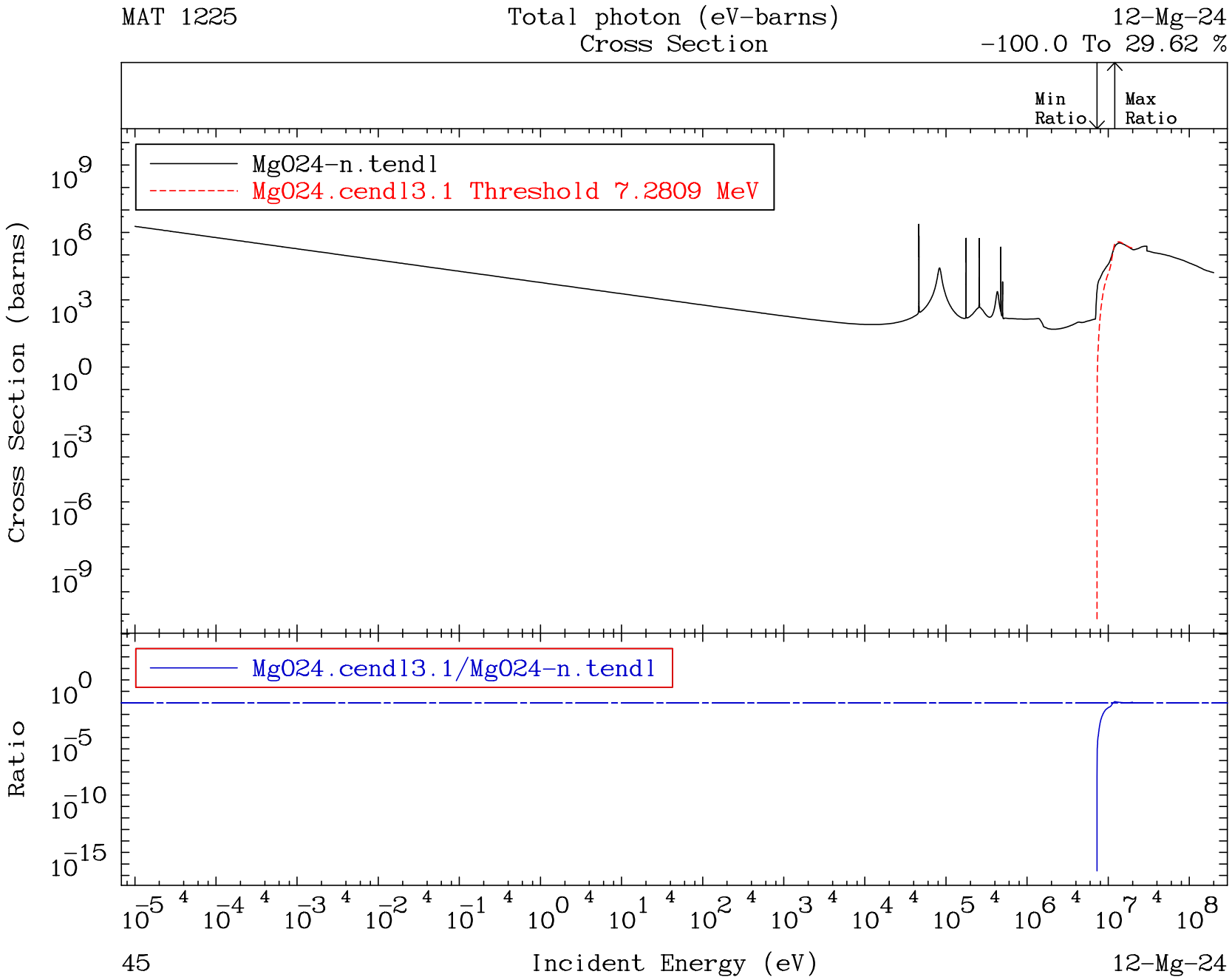

MAT 1225
Kerma elastic
Cross Section
12-Mg-24
-100.0 To 665.6 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
40
12-Mg-24

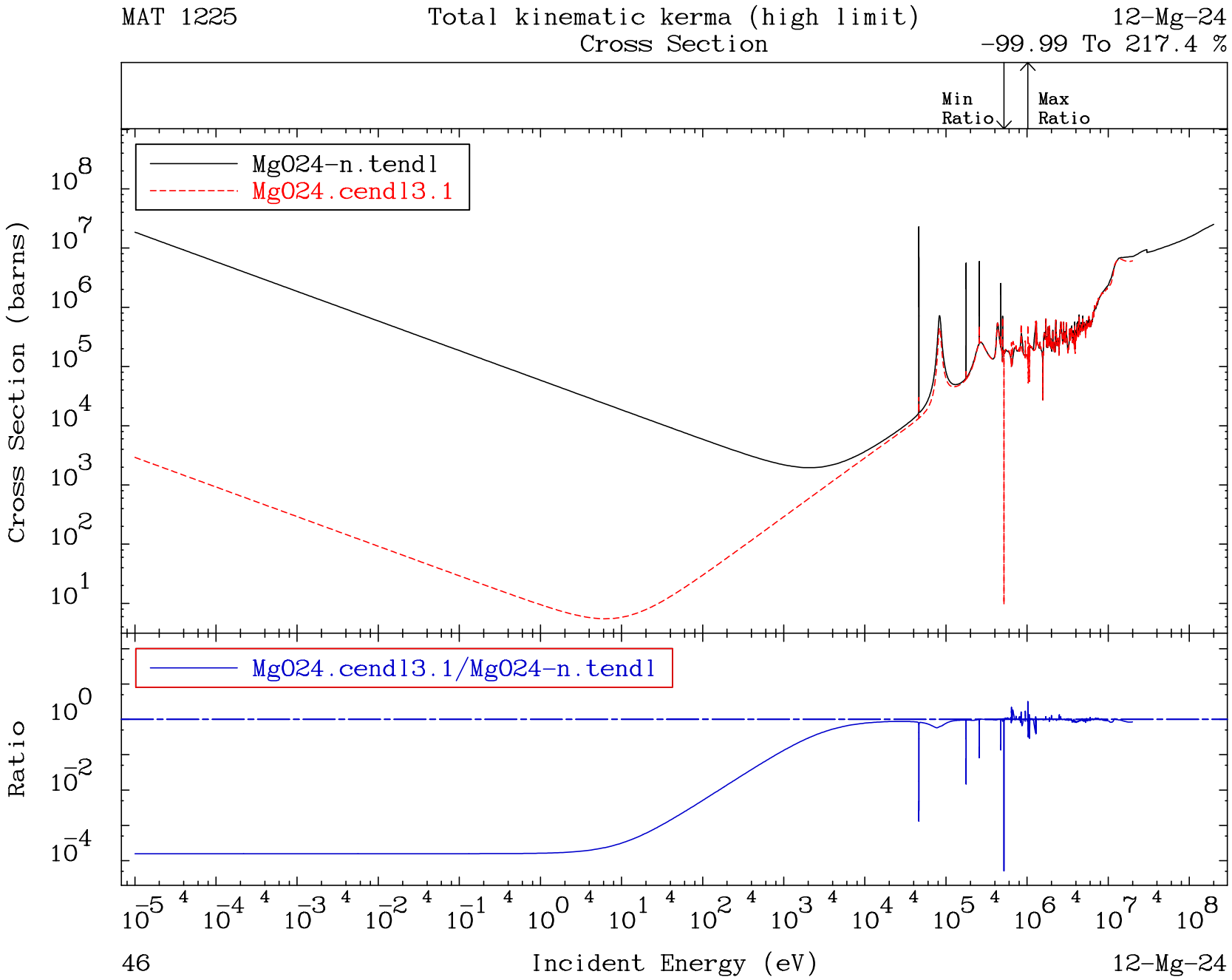

MAT 1225
Kerma non-elastic (all but mt2)
Cross Section
12-Mg-24
-89.95 To 182.4 %
Max Ratio
Min Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
41
12-Mg-24

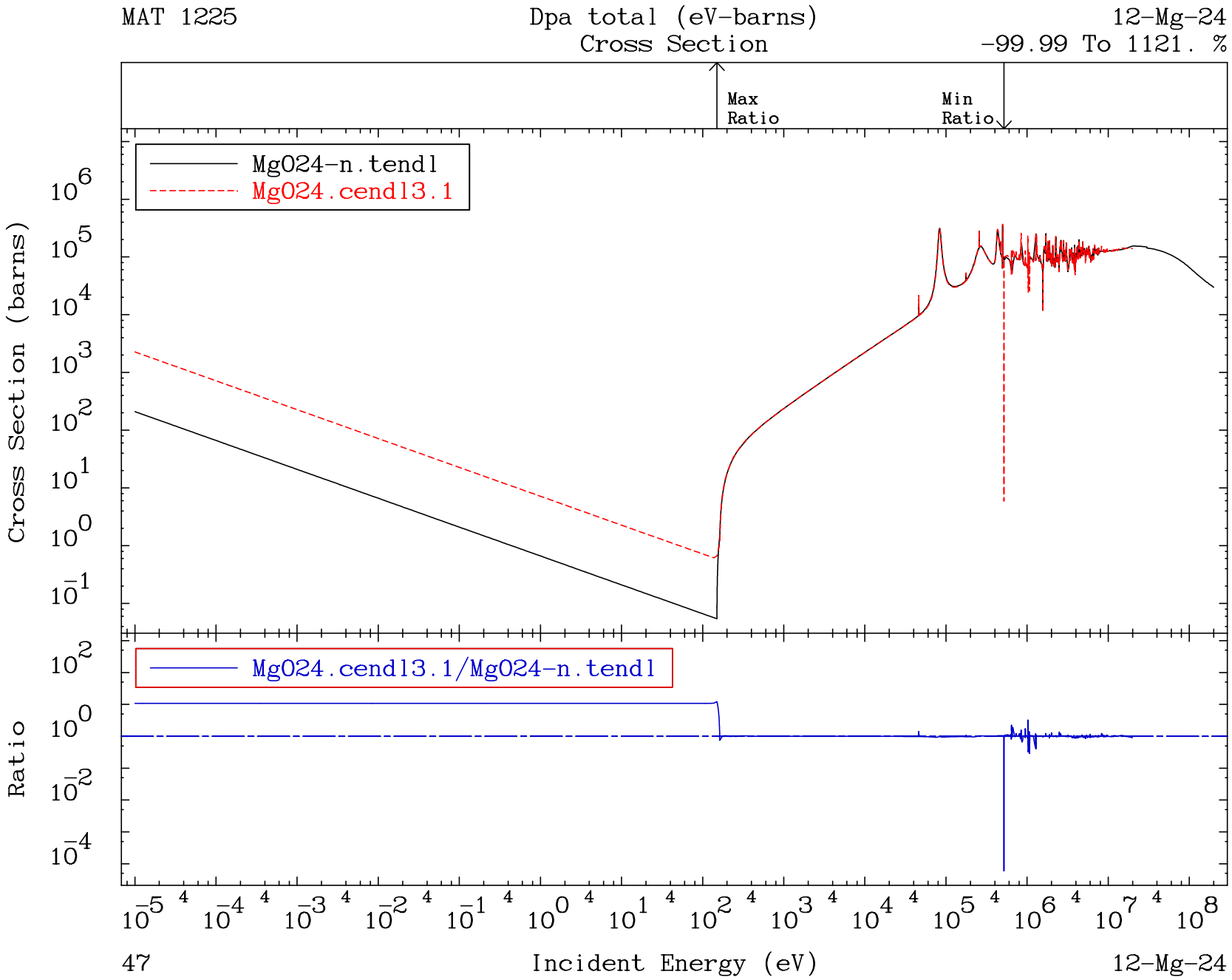

MAT 1225
Kerma inelastic (mt51-91)
Cross Section
12-Mg-24
-100.0 To 89.80 %
Max
Ratio
Mg024-n.tendl Threshold 1.4262 MeV
Mg024.cendl3.1 Threshold 1.4264 MeV
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
42
12-Mg-24

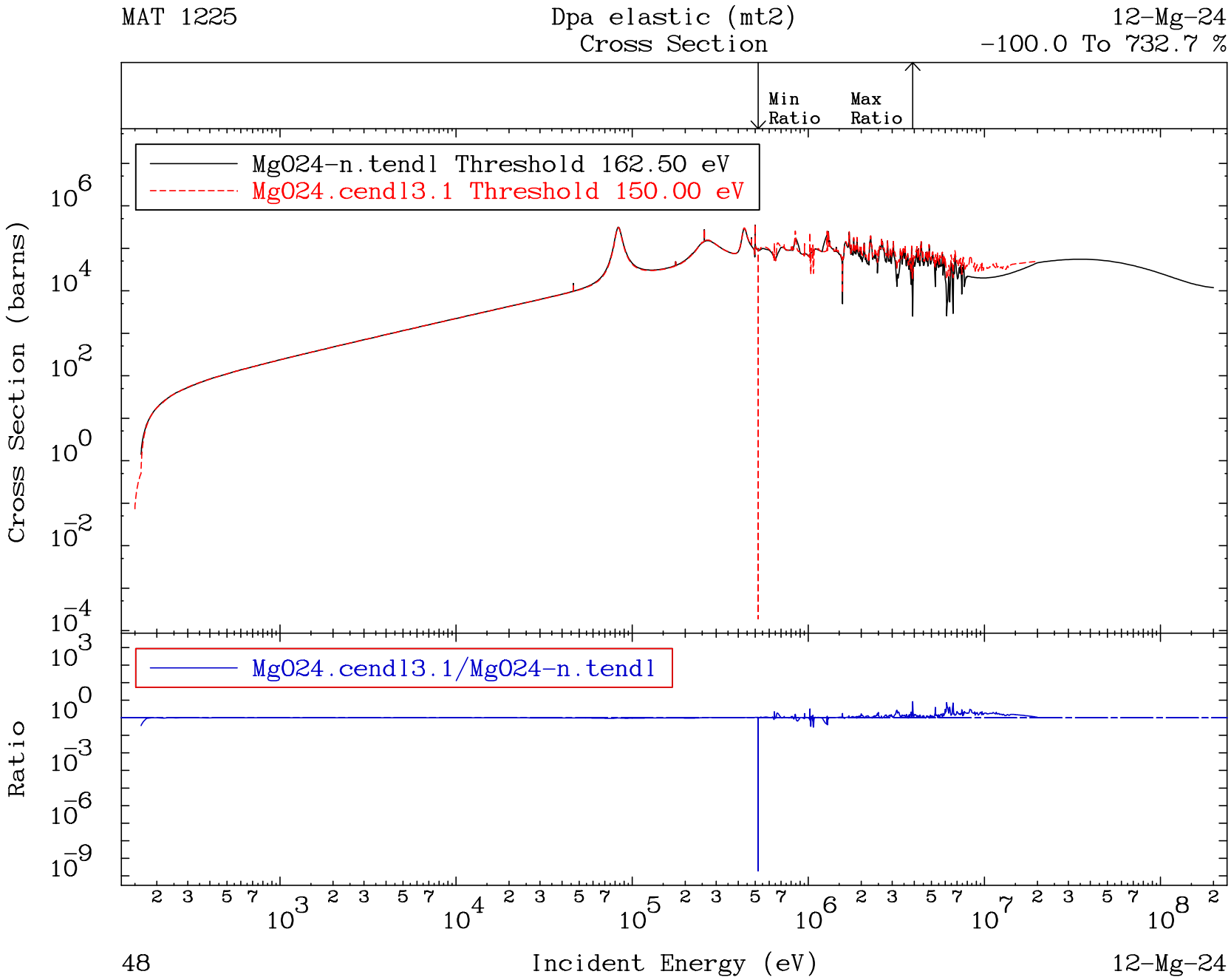

MAT 1225
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
12-Mg-24
-100.0 To 89.80 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
Mg024.cendl3.1/Mg024-n.tendl
Ratio
10^0
10^-3
10^-6
10^-9
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
43
Incident Energy (eV)
12-Mg-24

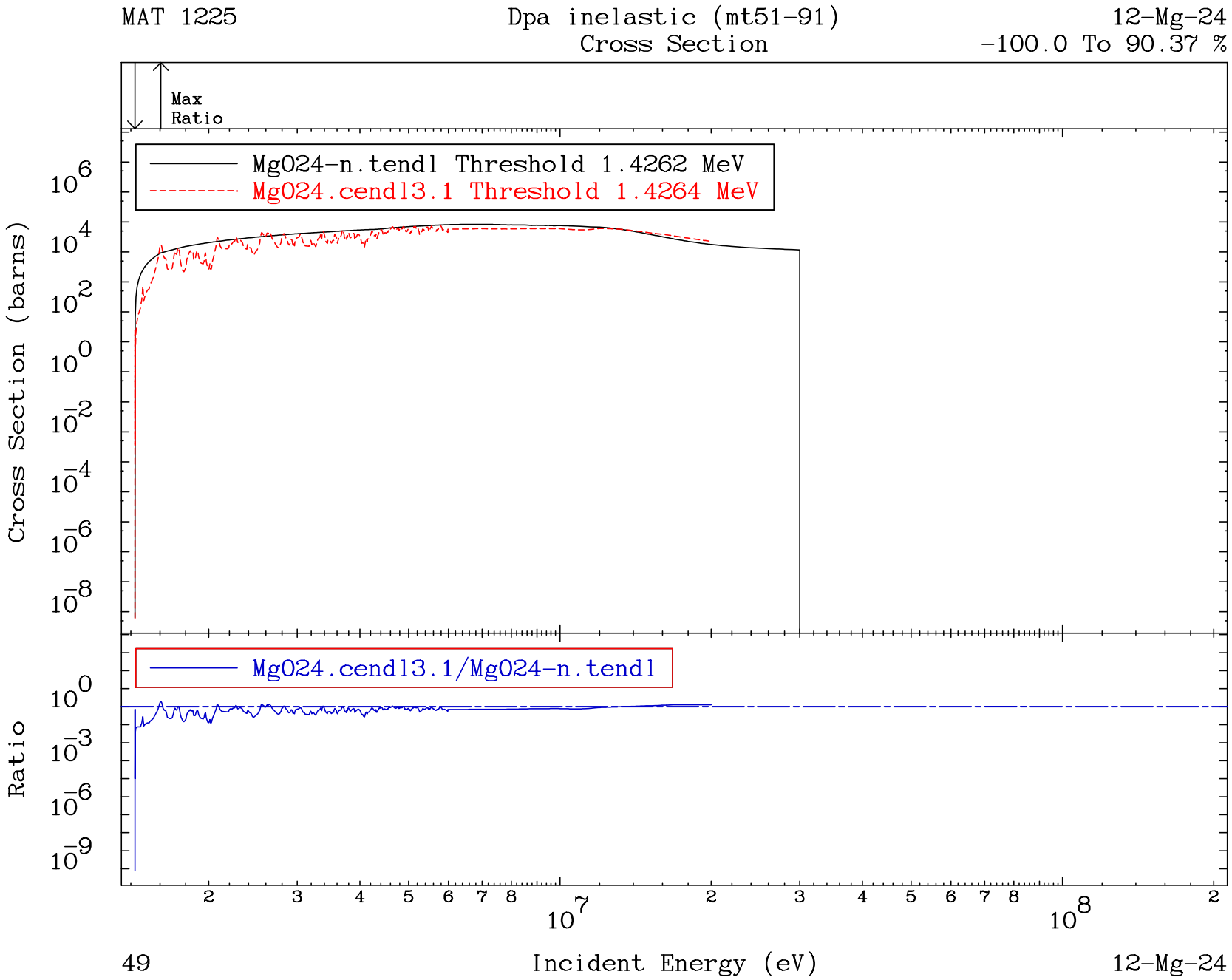

MAT 1225
Kerma capture (mt102)
Cross Section
12-Mg-24
-69.22 To 182.5 %
Max Ratio
Min Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
44
12-Mg-24

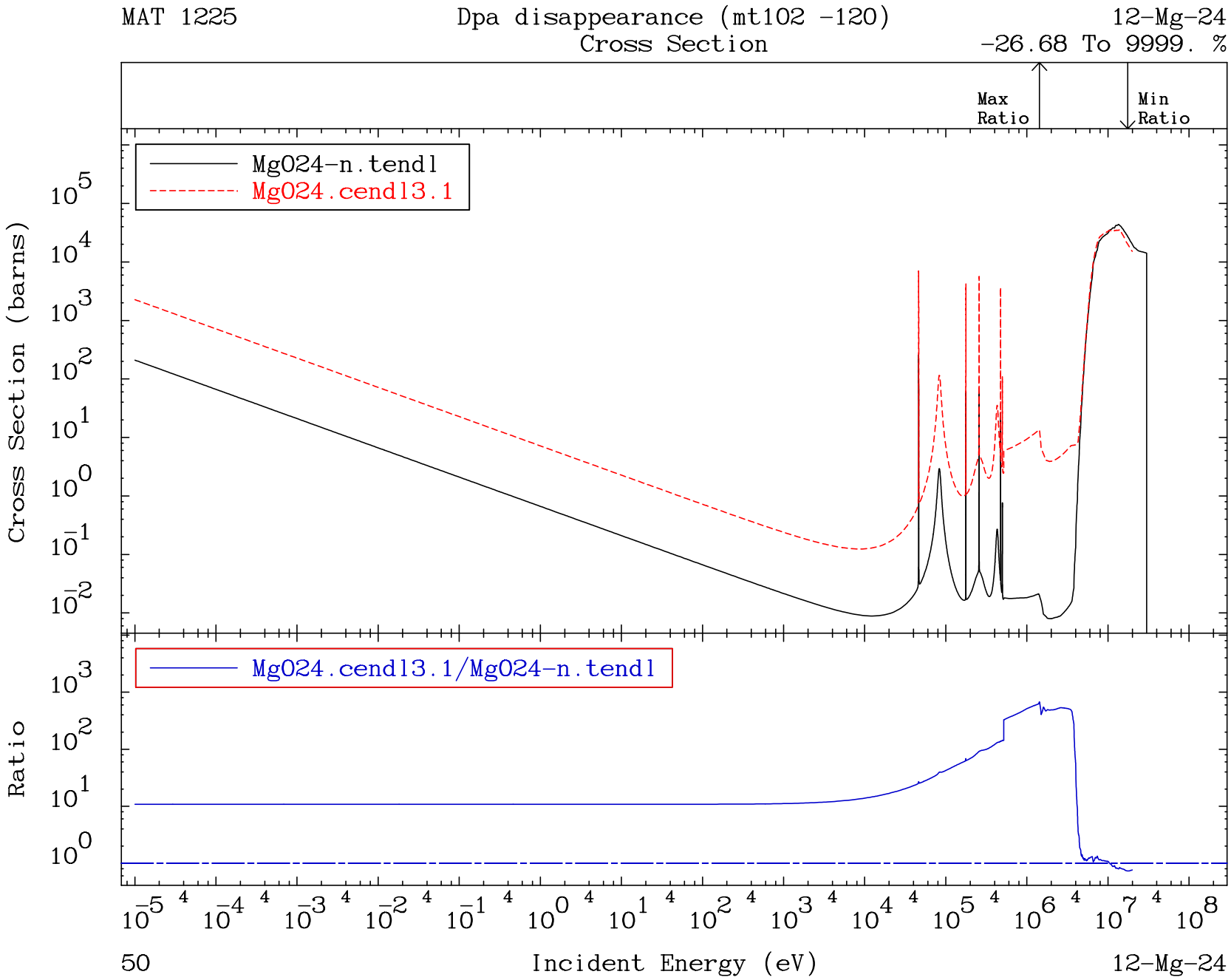

MAT 1225
Total photon (eV-barns)
Cross Section
12-Mg-24
-100.0 To 29.62 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1 Threshold 7.2809 MeV
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
45
12-Mg-24


MAT 1225
Total kinematic kerma (high limit)
Cross Section
12-Mg-24
-99.99 To 217.4 %
Min Ratio
Max Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
46
12-Mg-24


MAT 1225
Dpa total (eV-barns)
Cross Section
12-Mg-24
-99.99 To 1121. %
Max Ratio
Min Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
47
12-Mg-24


MAT 1225
Dpa elastic (mt2)
Cross Section
12-Mg-24
-100.0 To 732.7 %
Min Ratio
Max Ratio
Mg024-n.tendl Threshold 162.50 eV
Mg024.cendl3.1 Threshold 150.00 eV
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
48
12-Mg-24


MAT 1225
Dpa inelastic (mt51-91)
Cross Section
12-Mg-24
-100.0 To 90.37 %
Max
Ratio
Mg024-n.tendl Threshold 1.4262 MeV
Mg024.cendl3.1 Threshold 1.4264 MeV
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
49
12-Mg-24


MAT 1225
Dpa disappearance (mt102 -120)
Cross Section
12-Mg-24
-26.68 To 9999. %
Max Ratio
Min Ratio
Mg024-n.tendl
Mg024.cendl3.1
Cross Section (barns)
Mg024.cendl3.1/Mg024-n.tendl
Ratio
Incident Energy (eV)
50
12-Mg-24