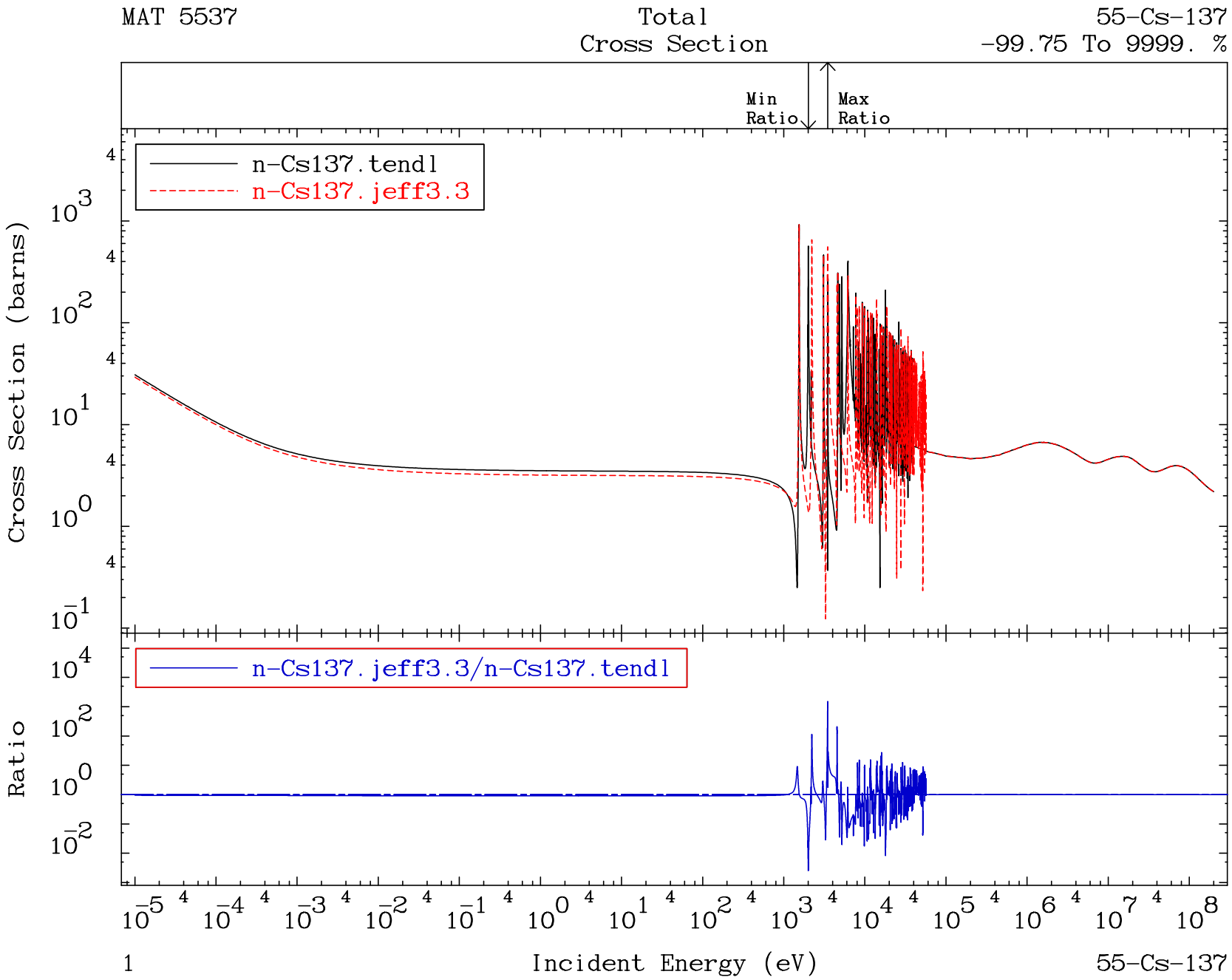
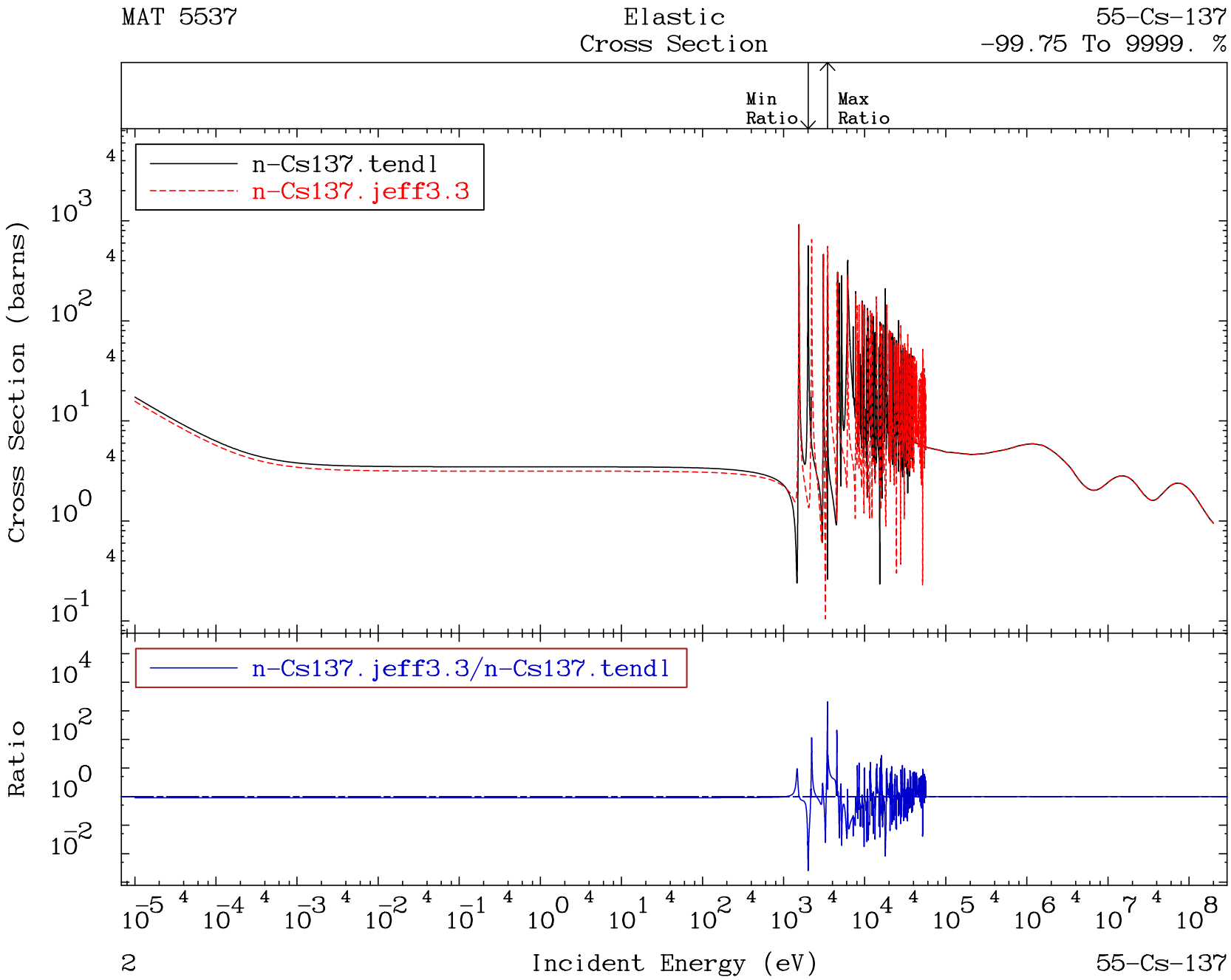
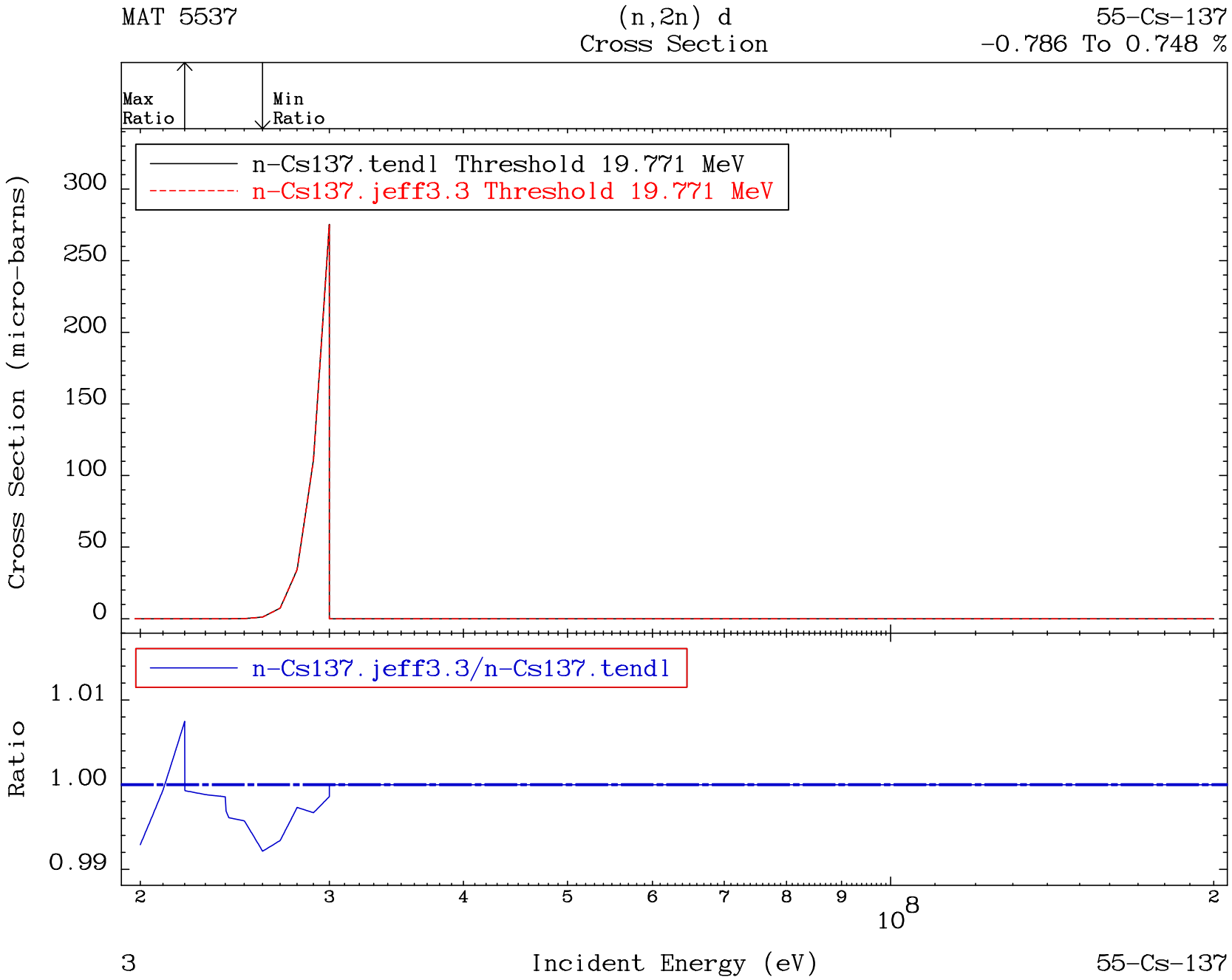
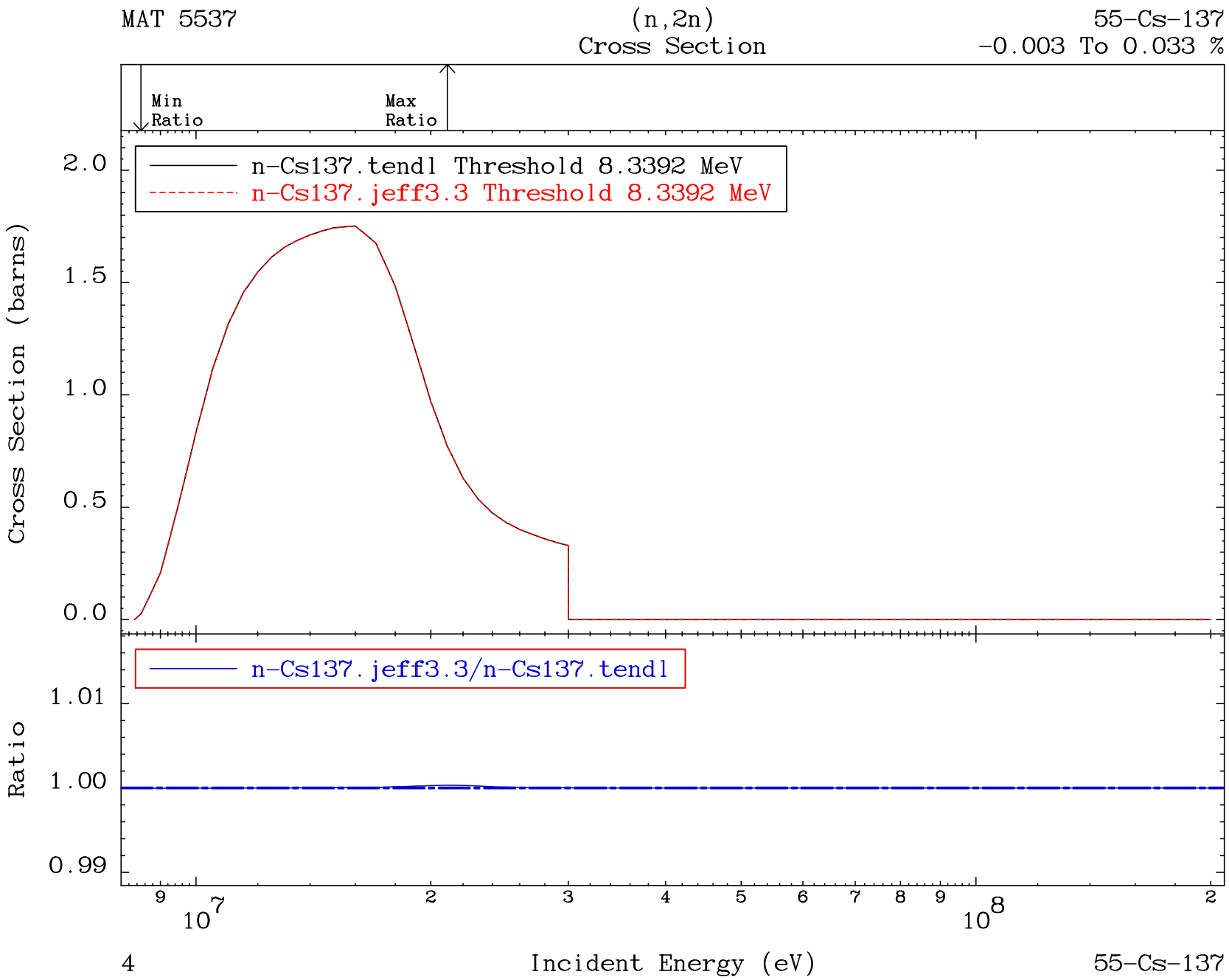
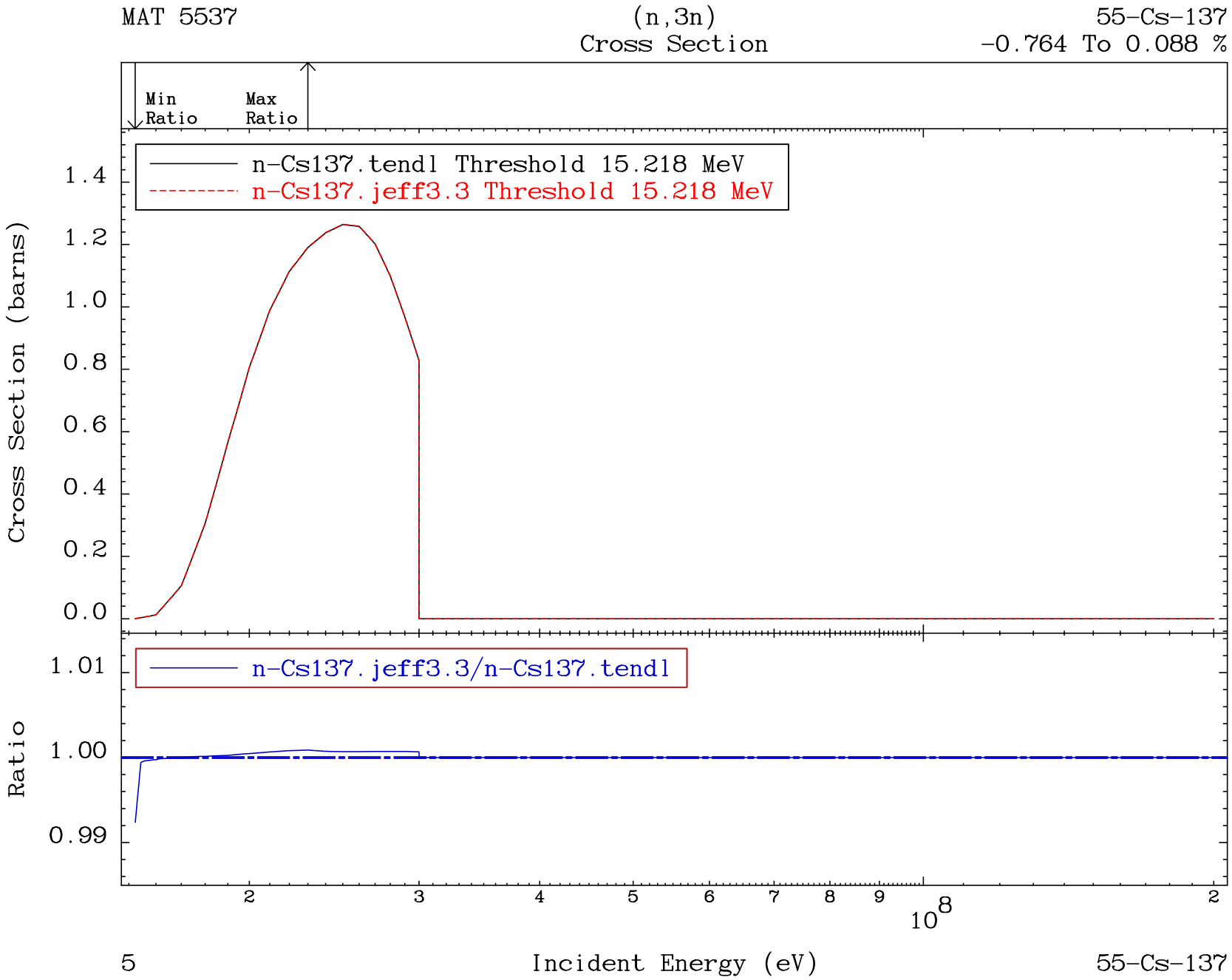
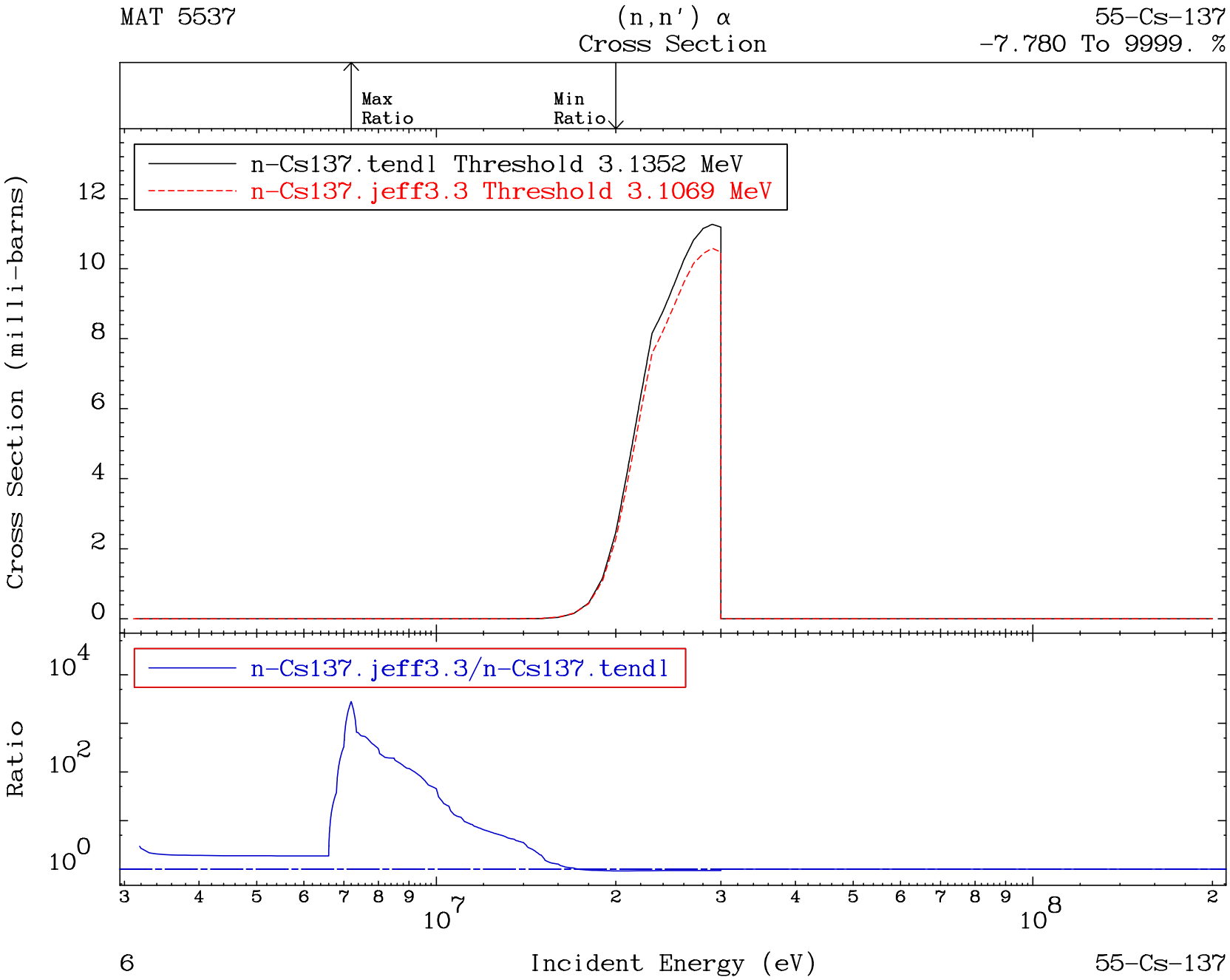

MAT 5537
Total
Cross Section
55-Cs-137
-99.75 To 9999. %
Min
Ratio
Max
Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
1
55-Cs-137

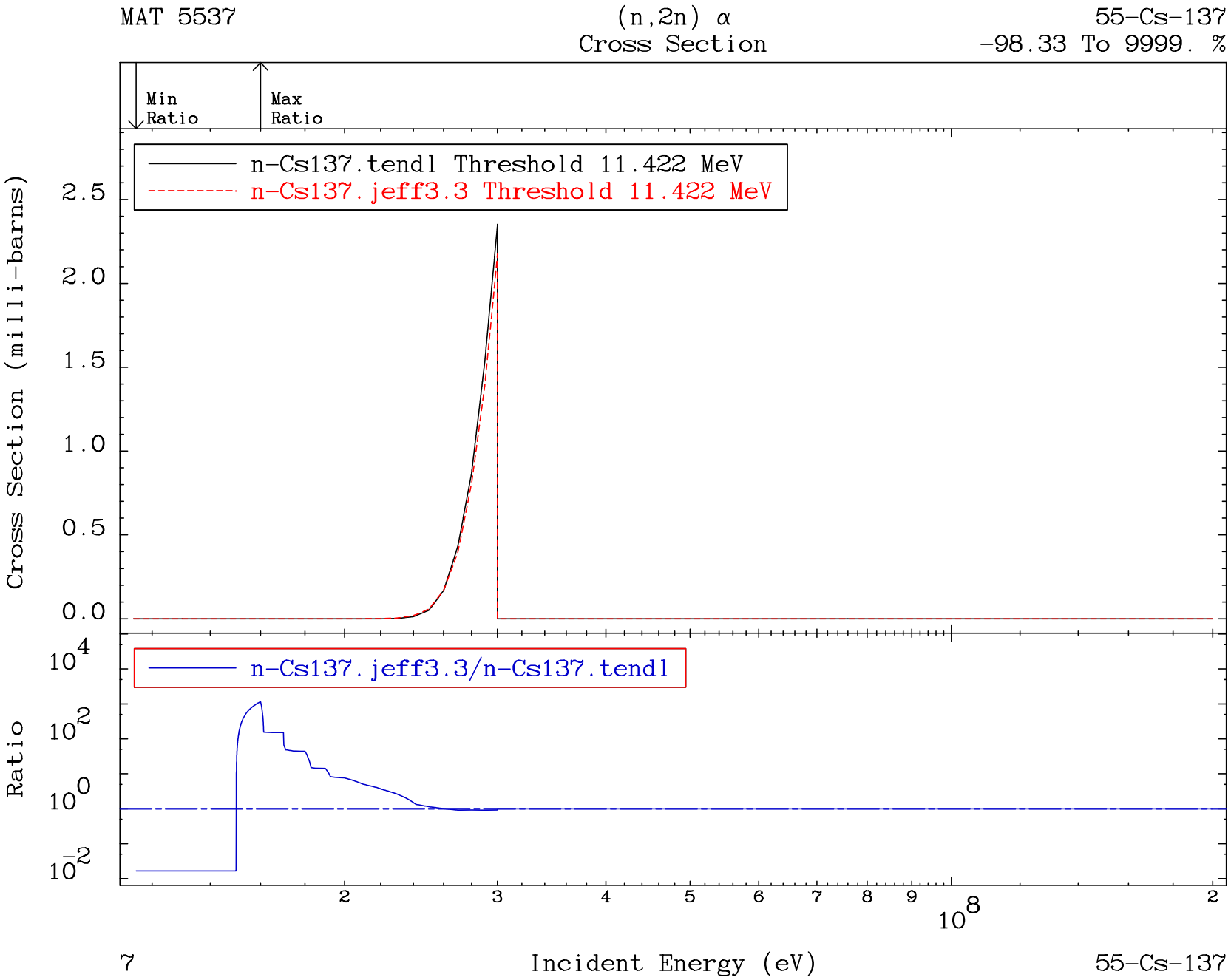

MAT 5537
Elastic
Cross Section
55-Cs-137
-99.75 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
2
55-Cs-137

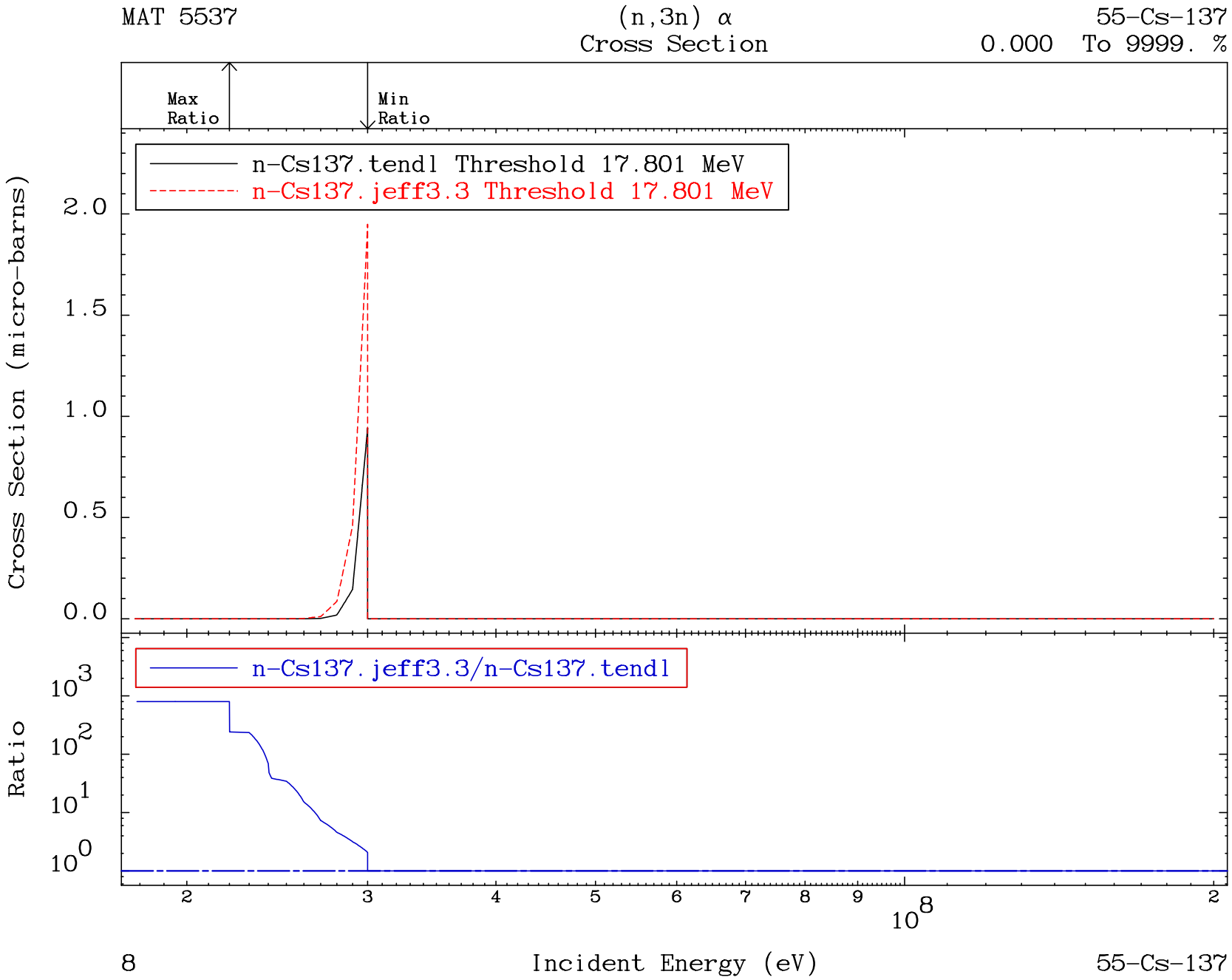

MAT 5537
(n,2n) d
Cross Section
55-Cs-137
-0.786 To 0.748 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 19.771 MeV
n-Cs137.jeff3.3 Threshold 19.771 MeV
Cross Section (micro-barns)
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
3
Incident Energy (eV)
55-Cs-137

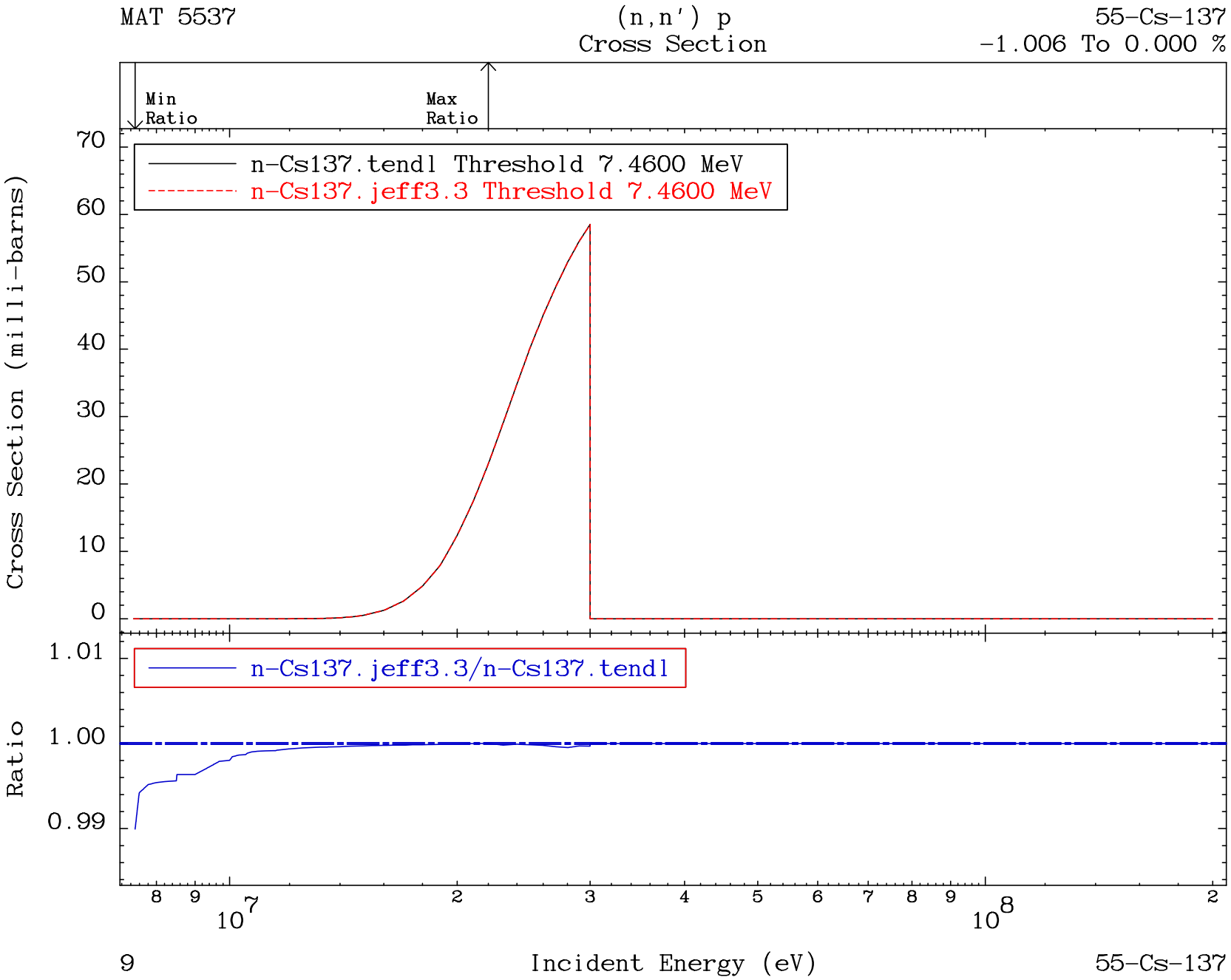

MAT 5537
(n,2n)
Cross Section
55-Cs-137
-0.003 To 0.033 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 8.3392 MeV
n-Cs137.jeff3.3 Threshold 8.3392 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
55-Cs-137

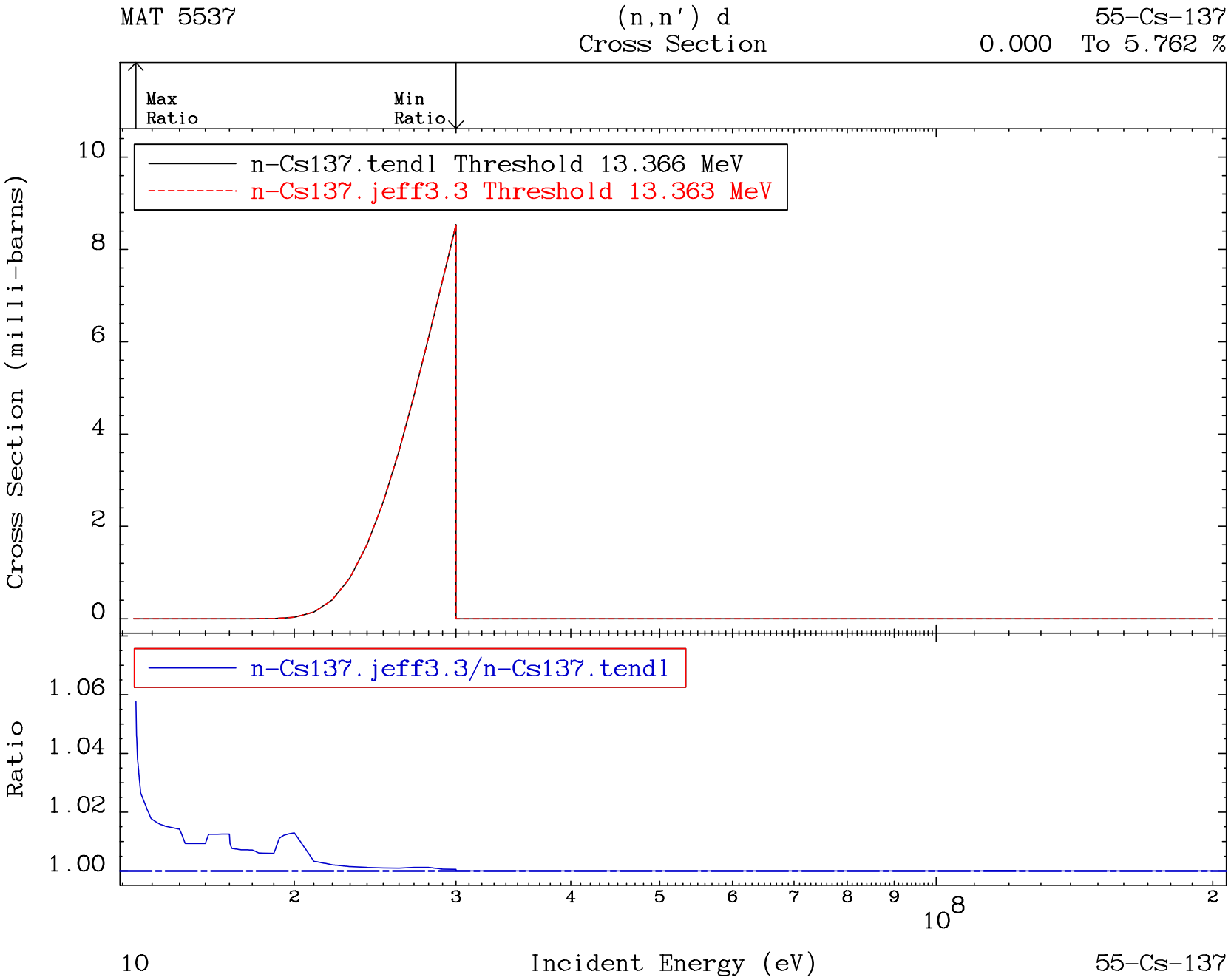

MAT 5537
(n,3n)
Cross Section
55-Cs-137
-0.764 To 0.088 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 15.218 MeV
n-Cs137.jeff3.3 Threshold 15.218 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
55-Cs-137

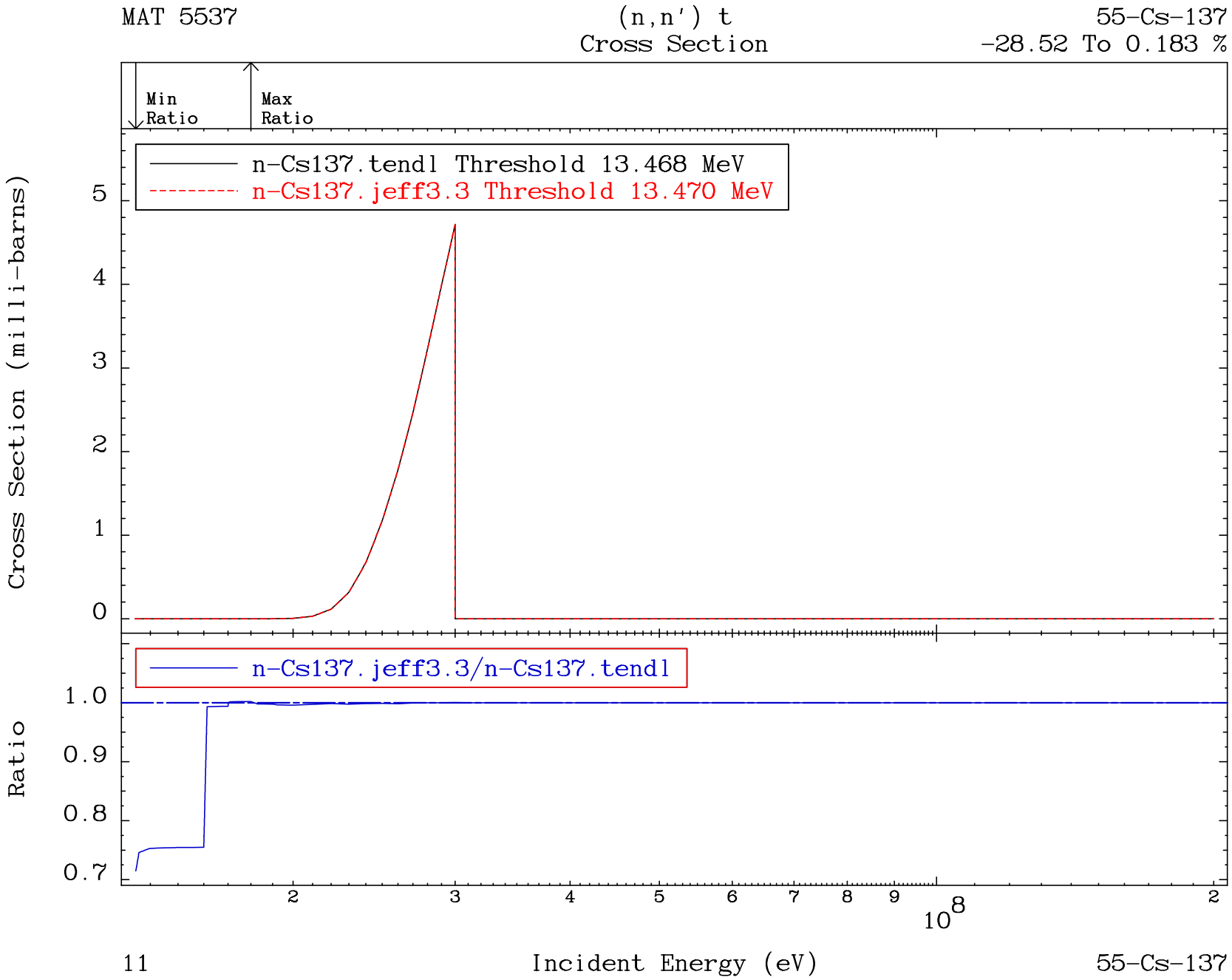

MAT 5537
(n,n') α
Cross Section
55-Cs-137
-7.780 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 3.1352 MeV
n-Cs137.jeff3.3 Threshold 3.1069 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^0
10^2
10^4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
Incident Energy (eV)
6
55-Cs-137

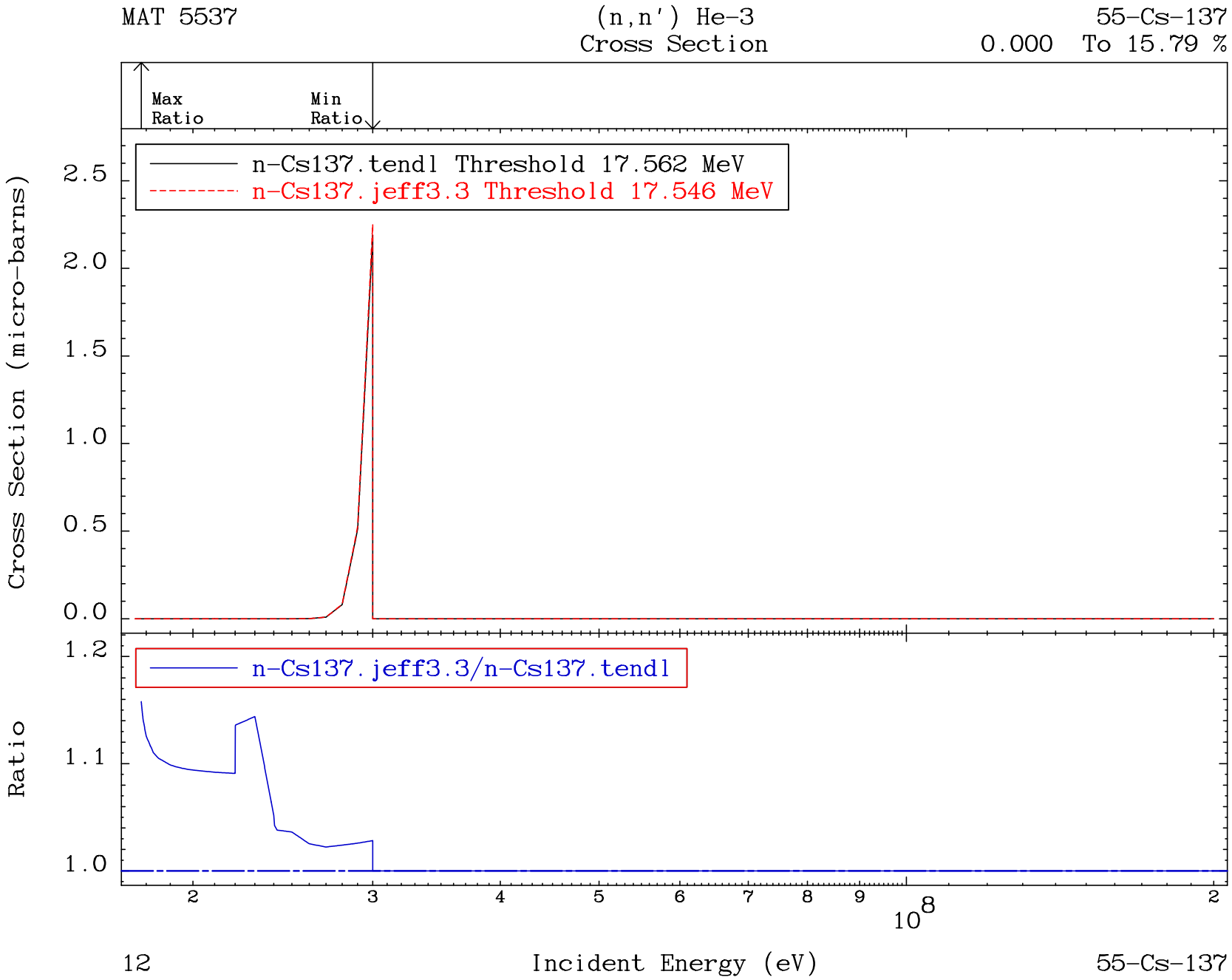

MAT 5537
(n,2n) α
Cross Section
55-Cs-137
-98.33 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 11.422 MeV
n-Cs137.jeff3.3 Threshold 11.422 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^4
10^2
10^0
10^-2
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
55-Cs-137

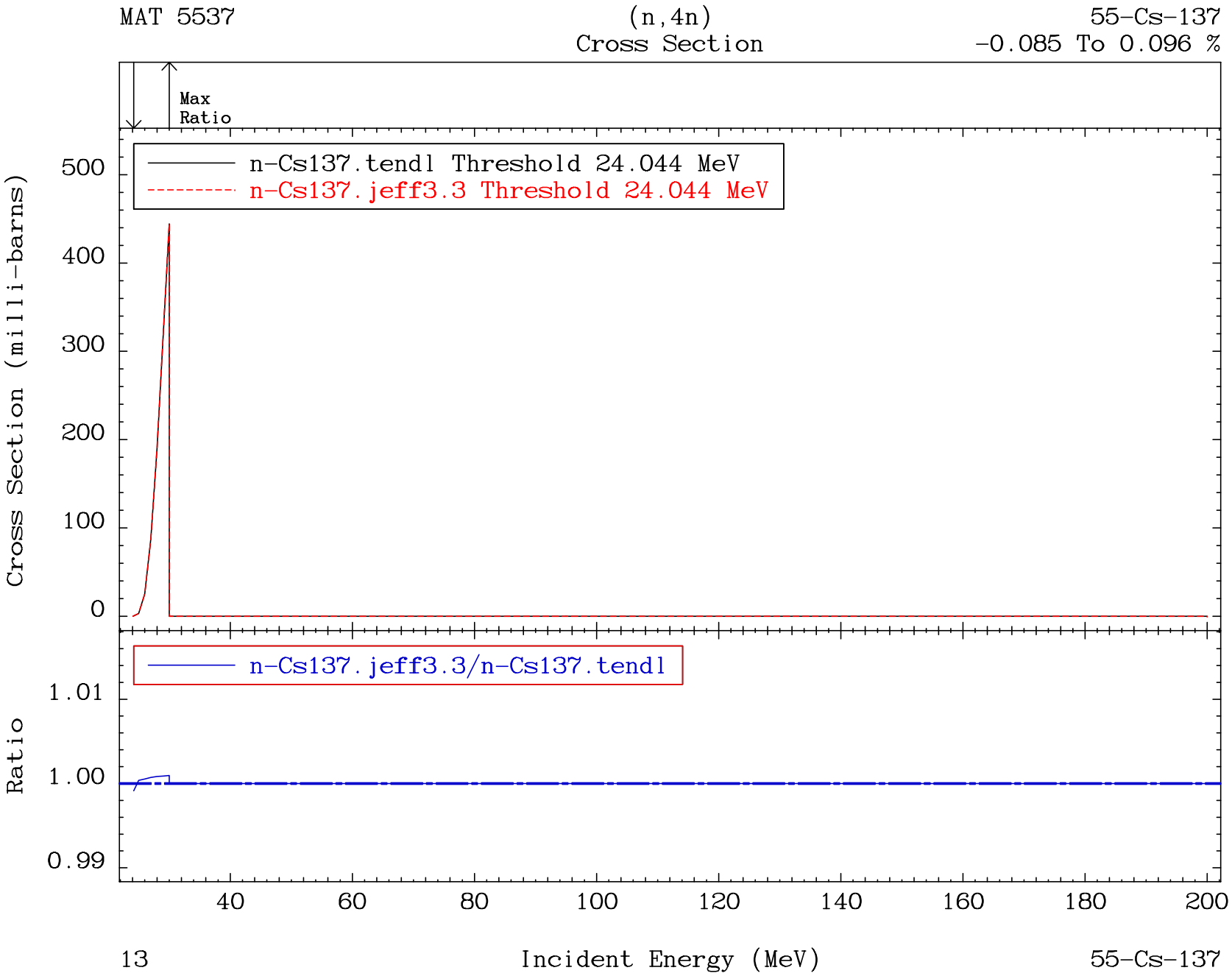

MAT 5537
(n,3n) α
Cross Section
55-Cs-137
0.000 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.801 MeV
n-Cs137.jeff3.3 Threshold 17.801 MeV
Cross Section (micro-barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^3
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
55-Cs-137

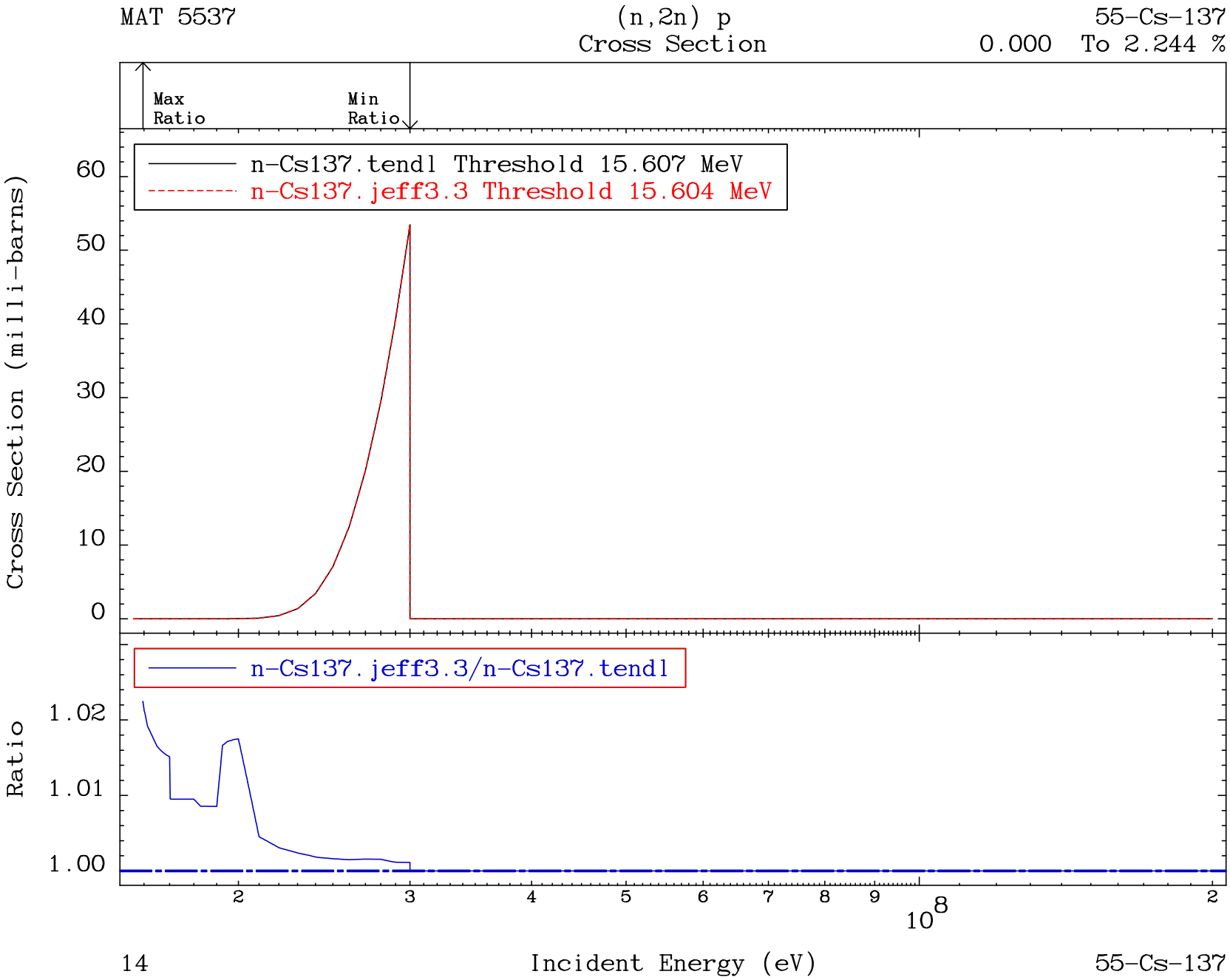

MAT 5537
(n,n') p
Cross Section
55-Cs-137
-1.006 To 0.000 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 7.4600 MeV
n-Cs137.jeff3.3 Threshold 7.4600 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
9
Incident Energy (eV)
55-Cs-137

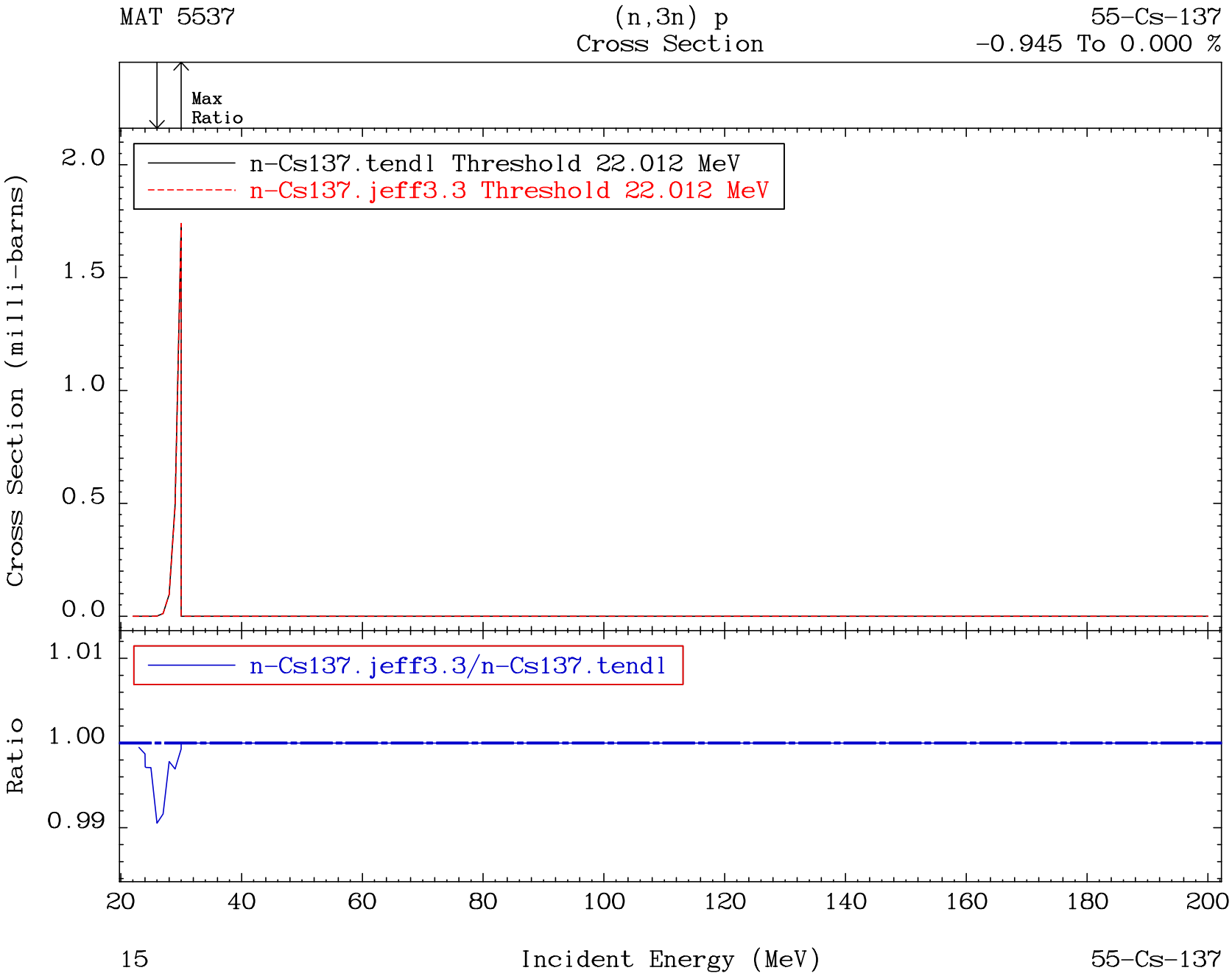

MAT 5537
(n,n') d
Cross Section
55-Cs-137
0.000 To 5.762 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.366 MeV
n-Cs137.jeff3.3 Threshold 13.363 MeV
Cross Section (milli-barns)
10
8
6
4
2
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.06
1.04
1.02
1.00
2
3
4
5
6
7
8
9
10^8
2
10
Incident Energy (eV)
55-Cs-137

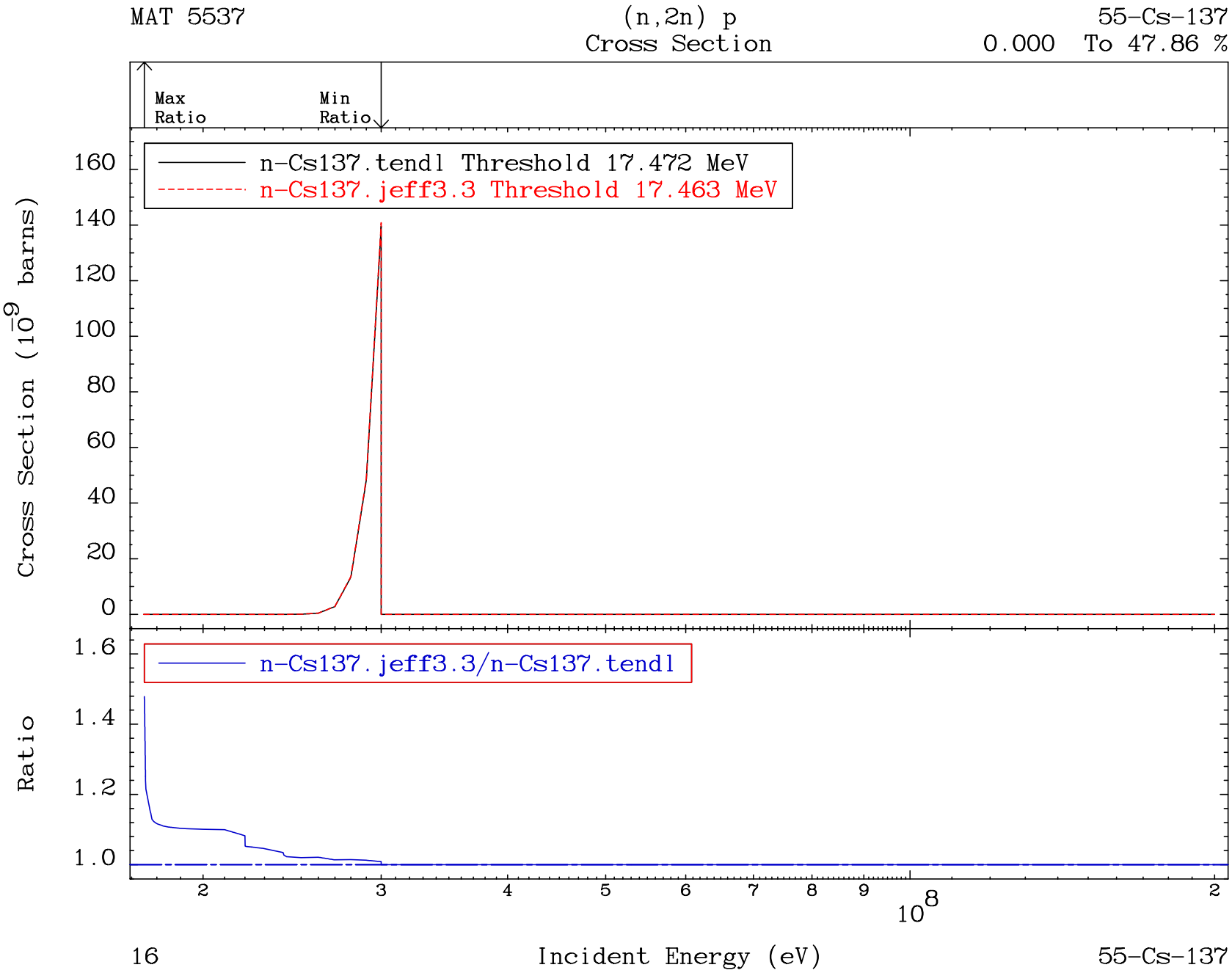

MAT 5537
(n,n') t
Cross Section
55-Cs-137
-28.52 To 0.183 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 13.468 MeV
n-Cs137.jeff3.3 Threshold 13.470 MeV
Cross Section (milli-barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
11
55-Cs-137

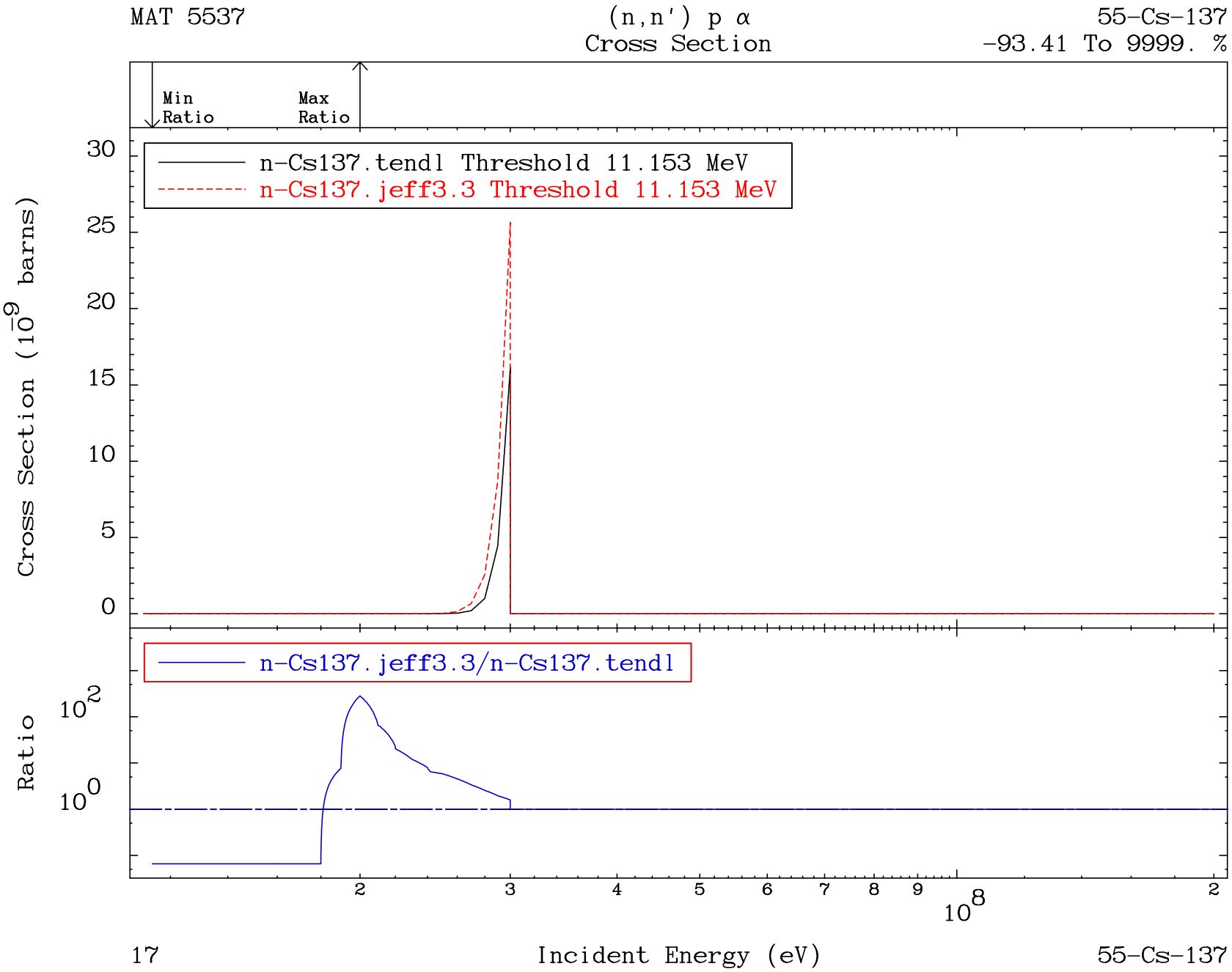

MAT 5537
(n,n') He-3
Cross Section
55-Cs-137
0.000 To 15.79 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.562 MeV
n-Cs137.jeff3.3 Threshold 17.546 MeV
Cross Section (micro-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.2
1.1
1.0
2
3
4
5
6
7
8
9
10^8
2
12
Incident Energy (eV)
55-Cs-137

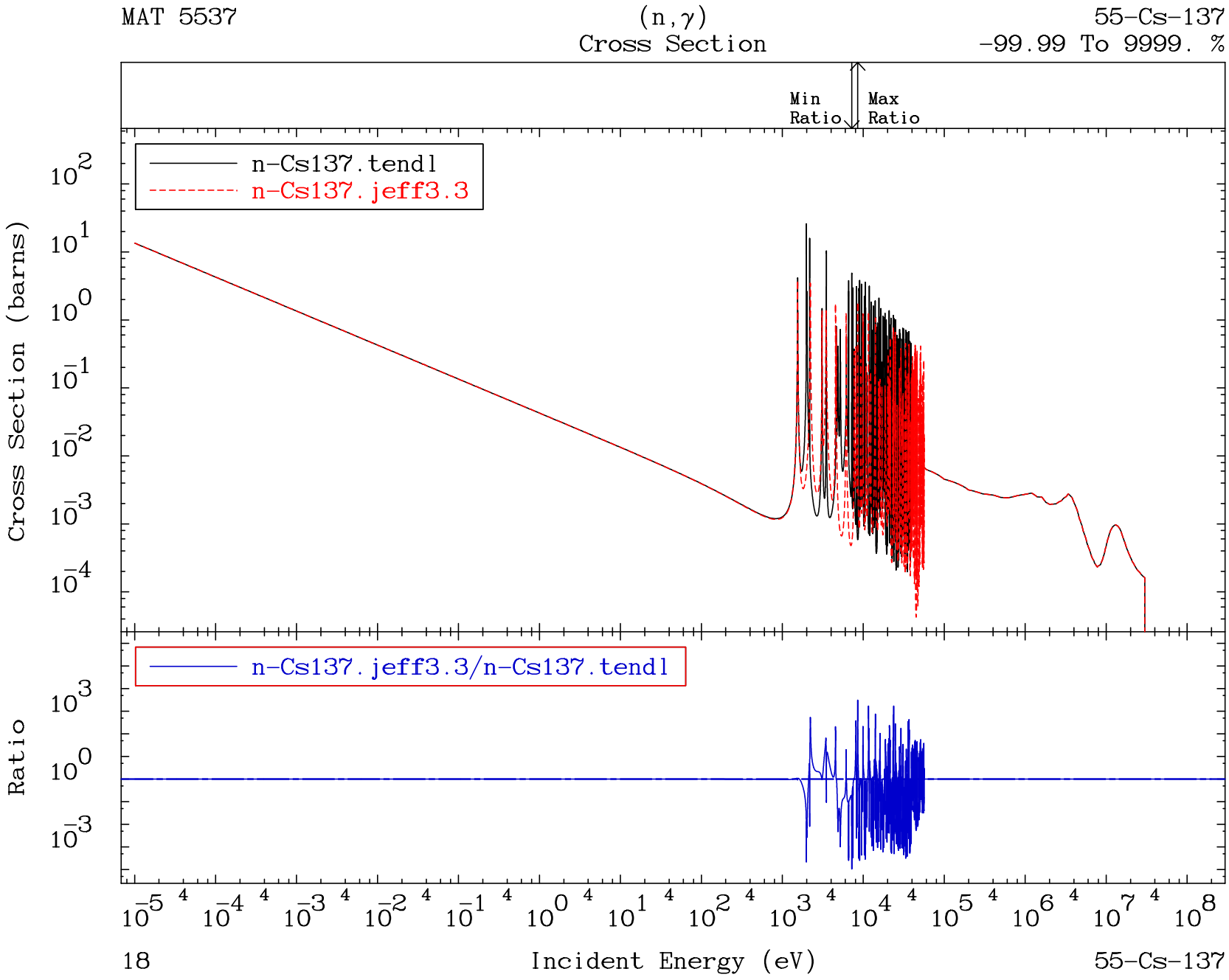

MAT 5537
(n,4n)
Cross Section
55-Cs-137
-0.085 To 0.096 %
Max
Ratio
n-Cs137.tendl Threshold 24.044 MeV
n-Cs137.jeff3.3 Threshold 24.044 MeV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
40
60
80
100
120
140
160
180
200
13
Incident Energy (MeV)
55-Cs-137

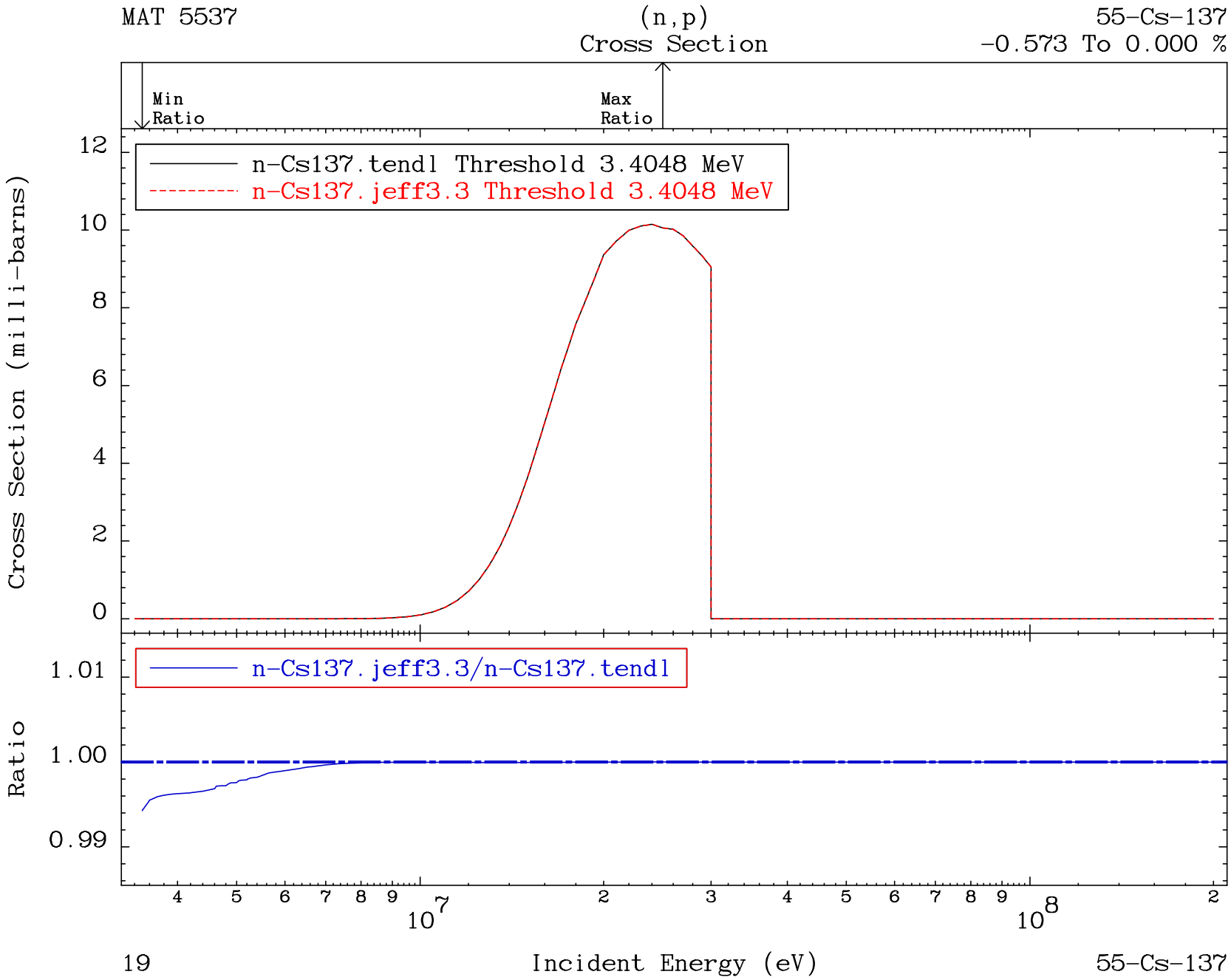

MAT 5537
(n,2n) p
Cross Section
55-Cs-137
0.000 To 2.244 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 15.607 MeV
n-Cs137.jeff3.3 Threshold 15.604 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.02
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
55-Cs-137

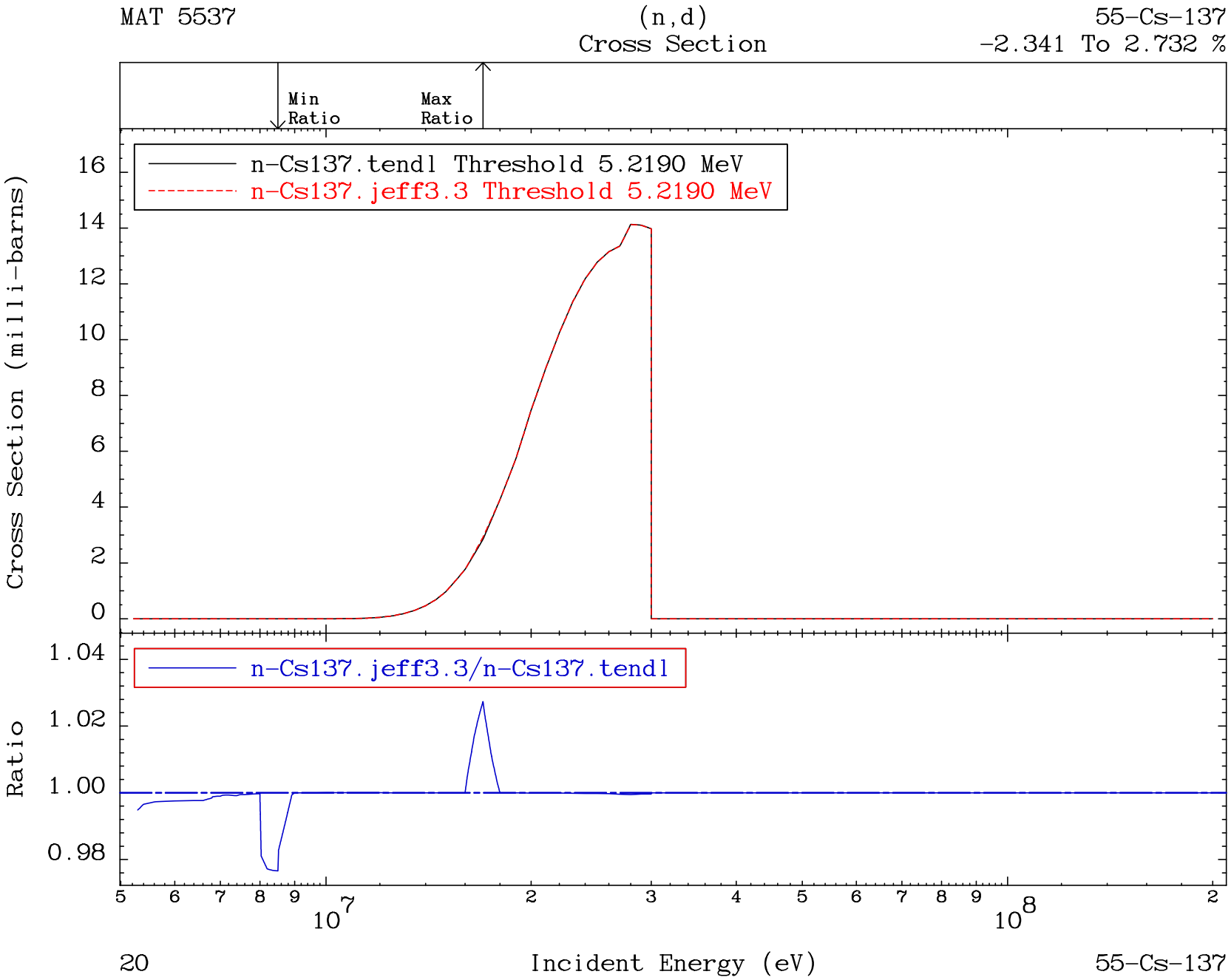

MAT 5537
(n,3n) p
Cross Section
55-Cs-137
-0.945 To 0.000 %
Max
Ratio
n-Cs137.tendl Threshold 22.012 MeV
n-Cs137.jeff3.3 Threshold 22.012 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
20
40
60
80
100
120
140
160
180
200
15
Incident Energy (MeV)
55-Cs-137

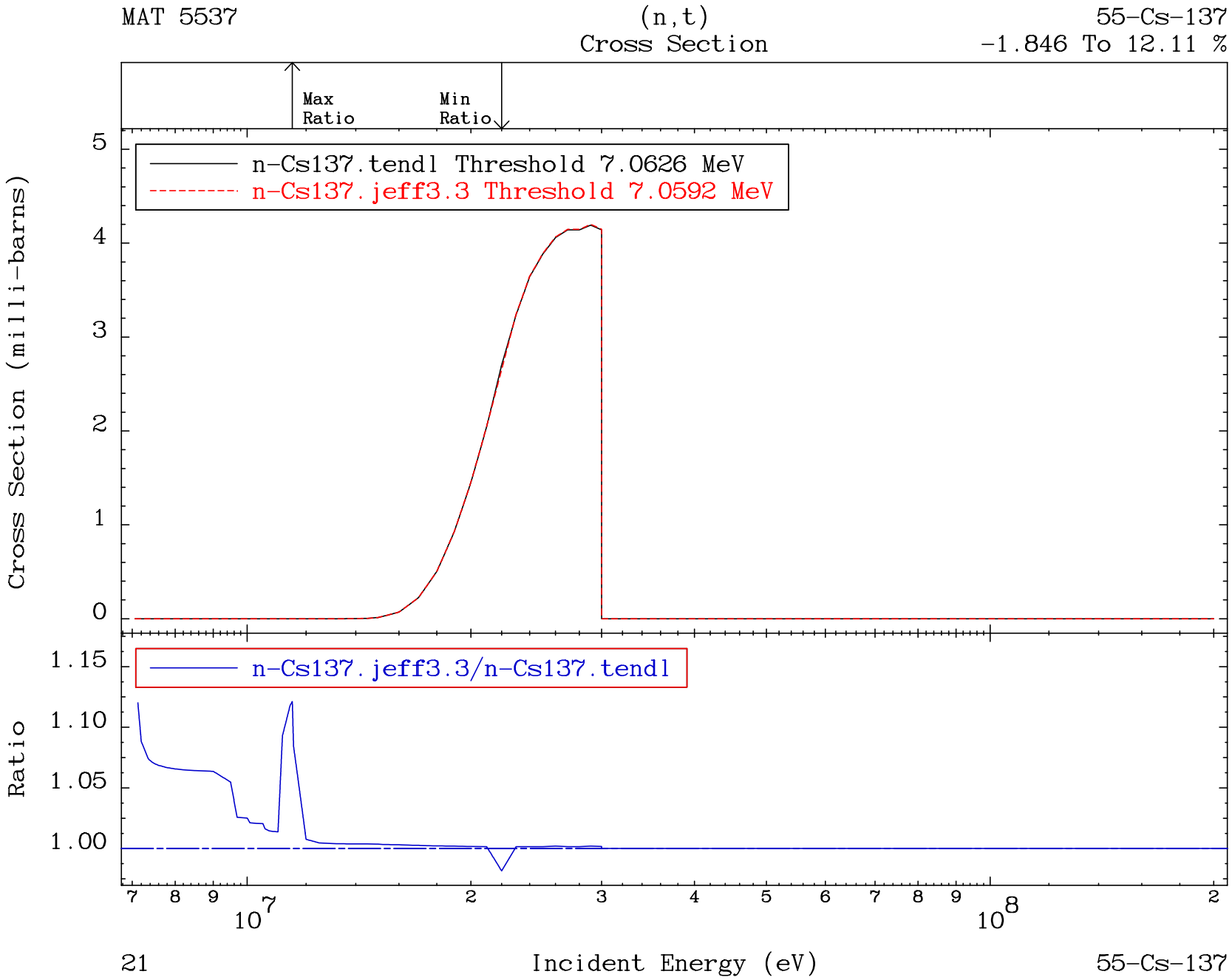

MAT 5537
(n,2n) p
Cross Section
55-Cs-137
0.000 To 47.86 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.472 MeV
n-Cs137.jeff3.3 Threshold 17.463 MeV
Cross Section (10^{-9} barns)
160
140
120
100
80
60
40
20
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.6
1.4
1.2
1.0
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
55-Cs-137

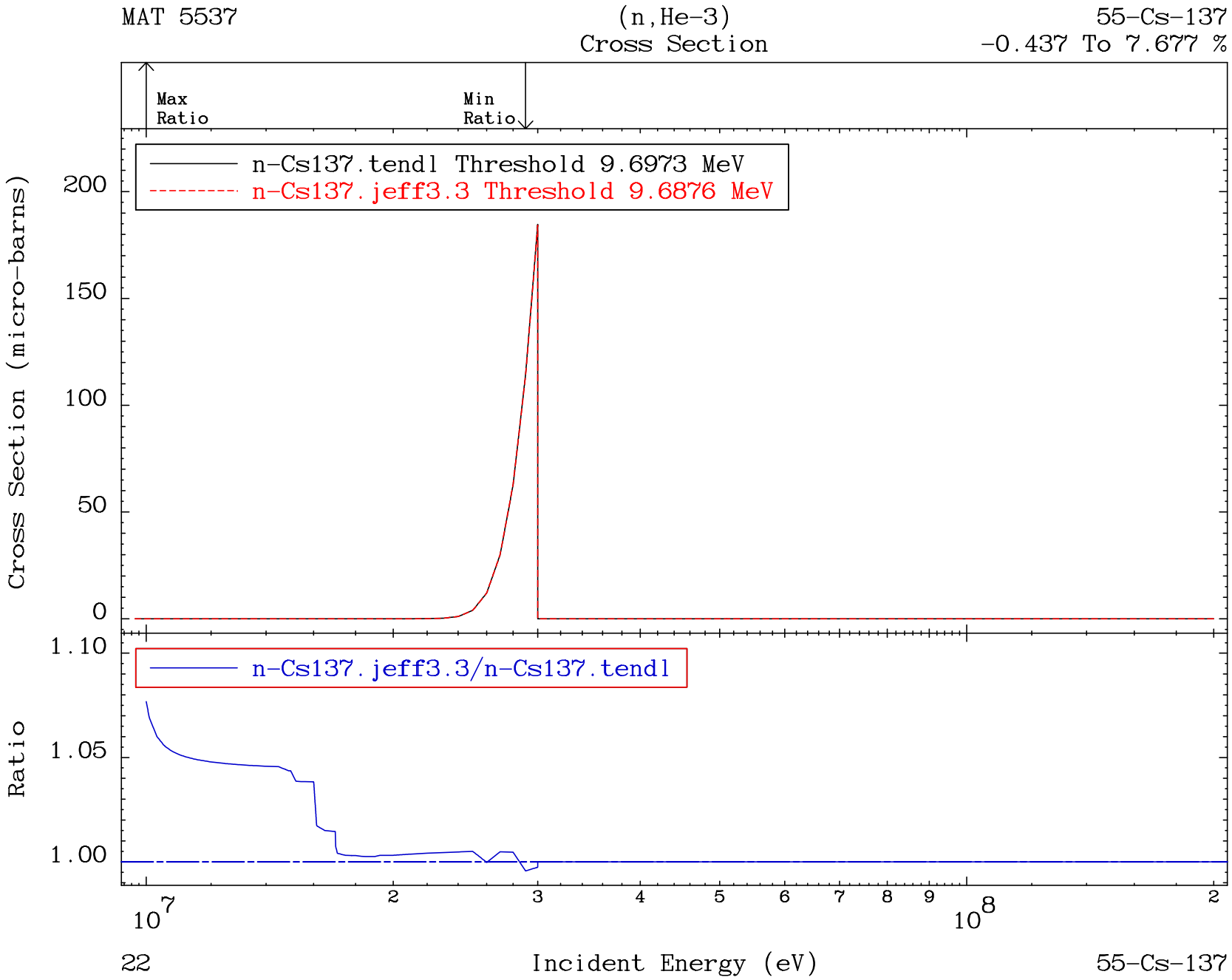

MAT 5537
(n,n') p α
Cross Section
55-Cs-137
-93.41 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 11.153 MeV
n-Cs137.jeff3.3 Threshold 11.153 MeV
Cross Section (10^{-9} barns)
30
25
20
15
10
5
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^{2}
10^{0}
2
3
4
5
6
7
8
9
10^{8}
2
17
Incident Energy (eV)
55-Cs-137

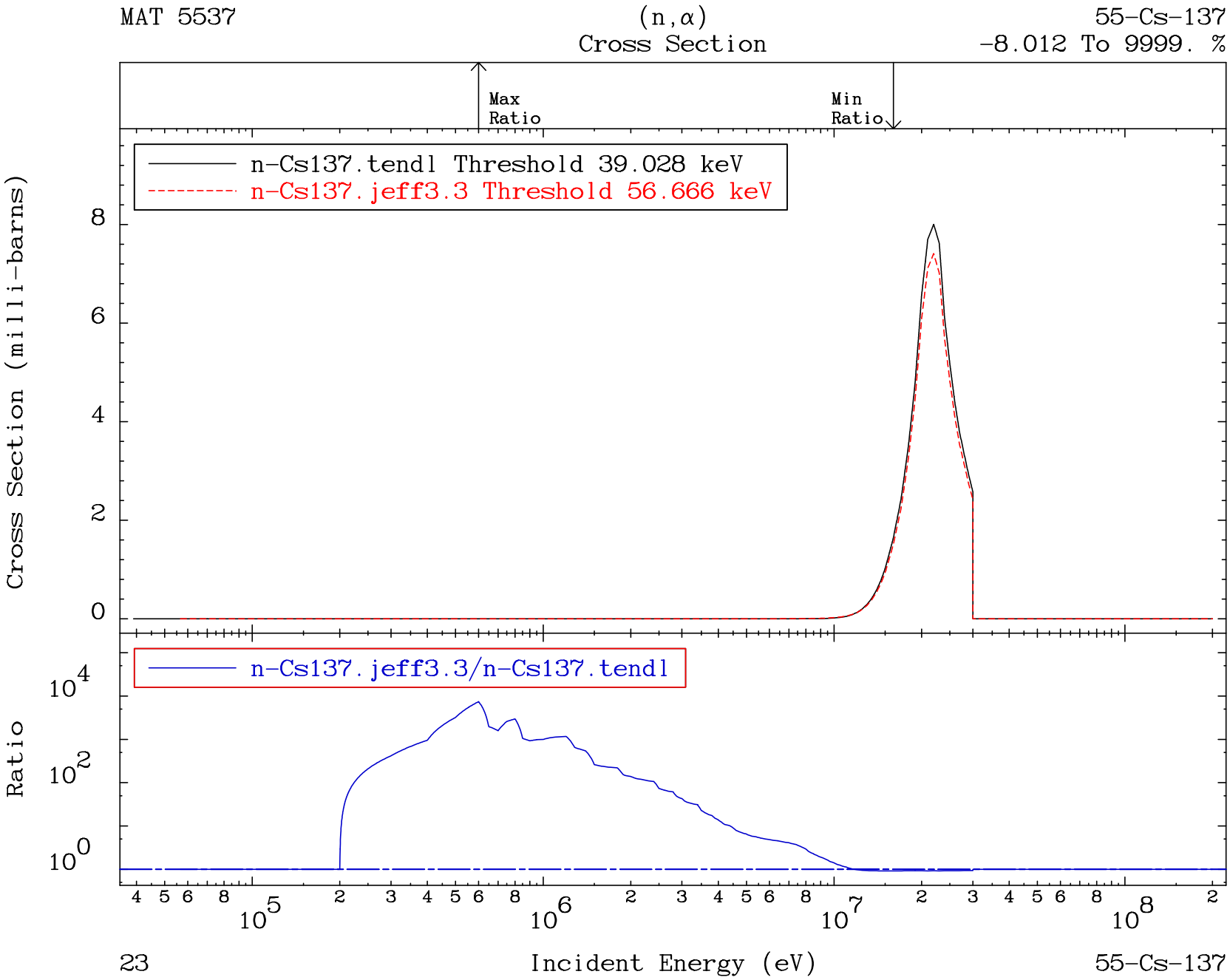

MAT 5537
(n,γ)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
18
55-Cs-137

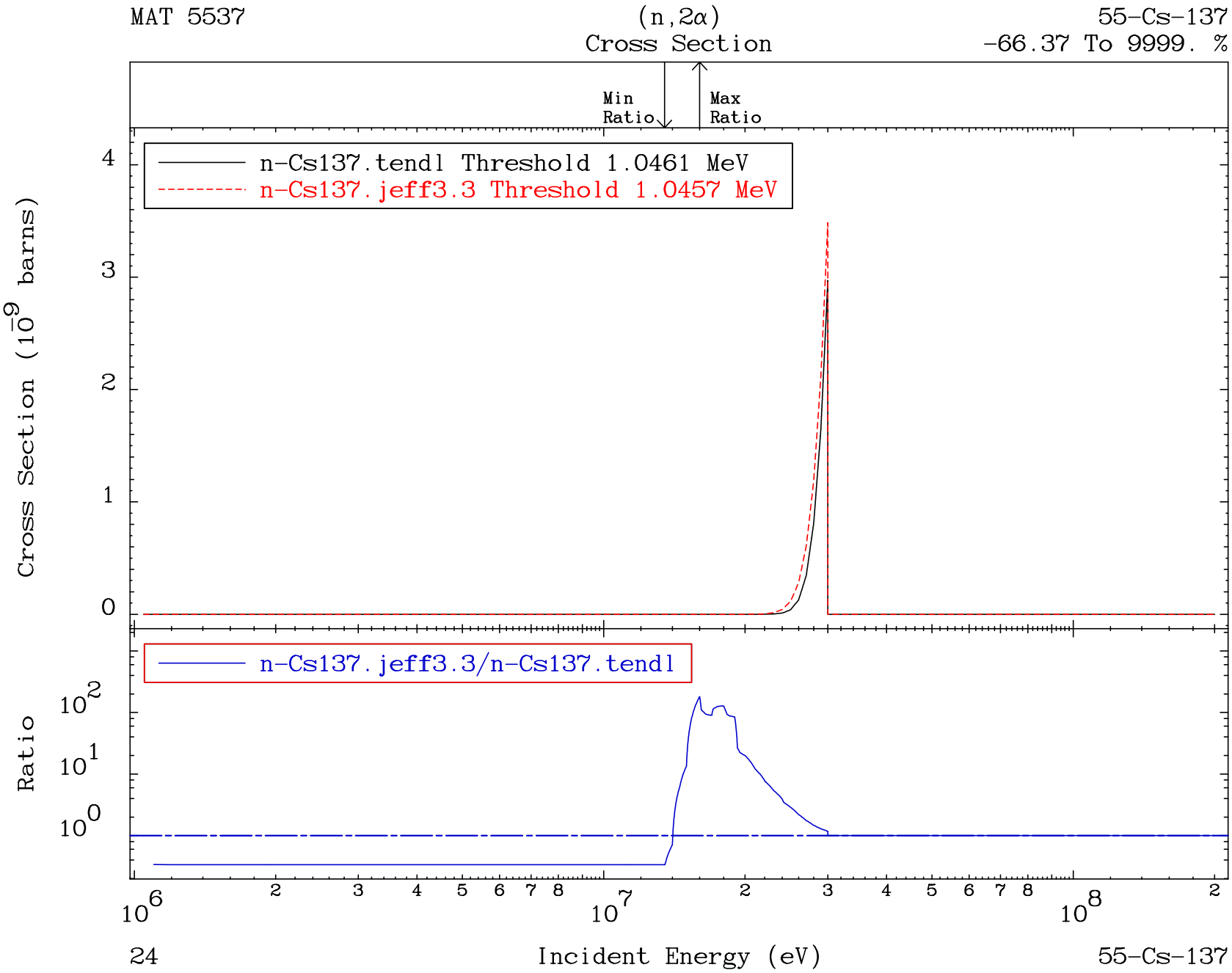

MAT 5537
(n,p)
Cross Section
55-Cs-137
-0.573 To 0.000 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 3.4048 MeV
n-Cs137.jeff3.3 Threshold 3.4048 MeV
Cross Section (milli-barns)
12
10
8
6
4
2
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
19
Incident Energy (eV)
55-Cs-137

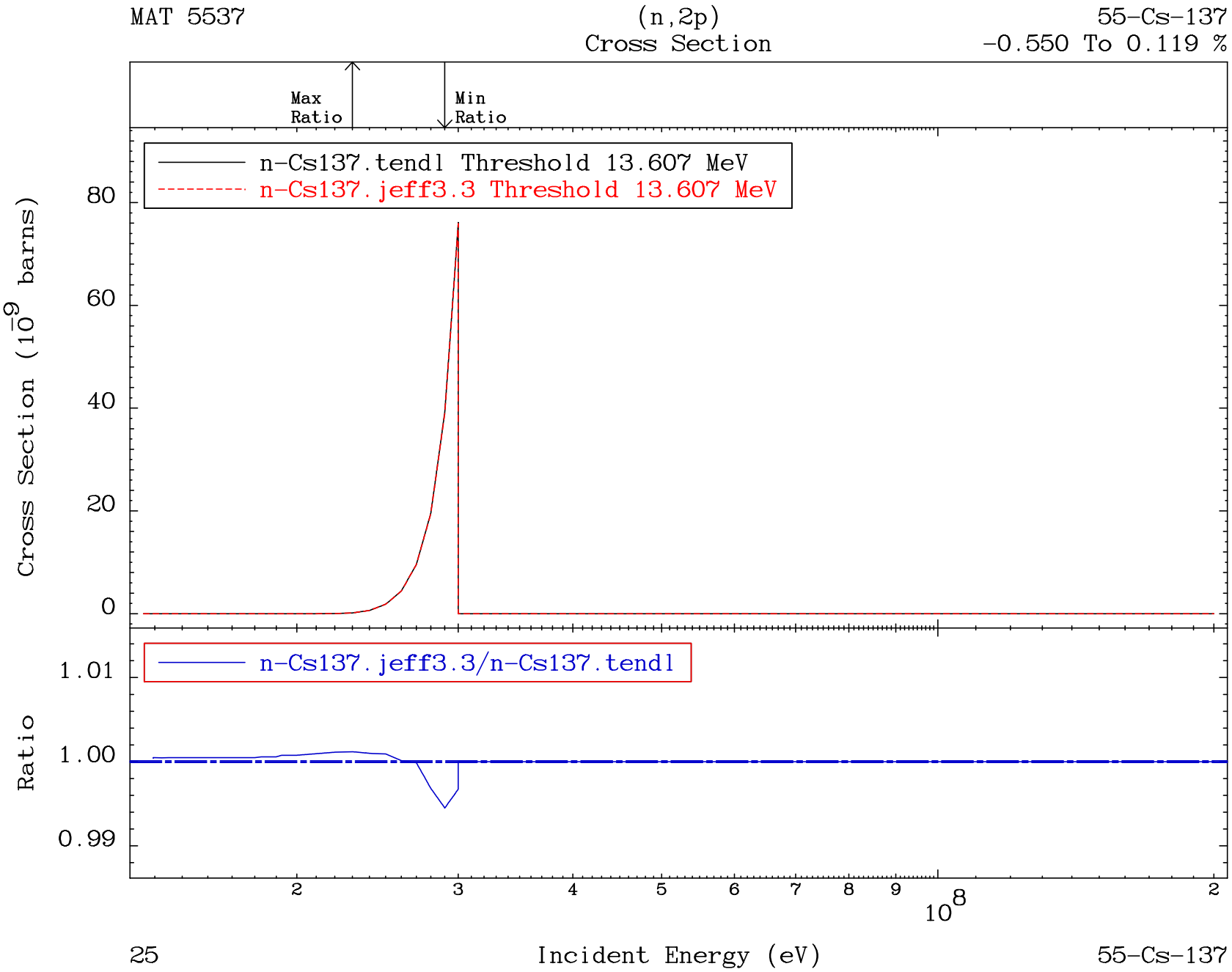

MAT 5537
(n,d)
Cross Section
55-Cs-137
-2.341 To 2.732 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 5.2190 MeV
n-Cs137.jeff3.3 Threshold 5.2190 MeV
Cross Section (milli-barns)
16
14
12
10
8
6
4
2
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.04
1.02
1.00
0.98
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
20
Incident Energy (eV)
55-Cs-137

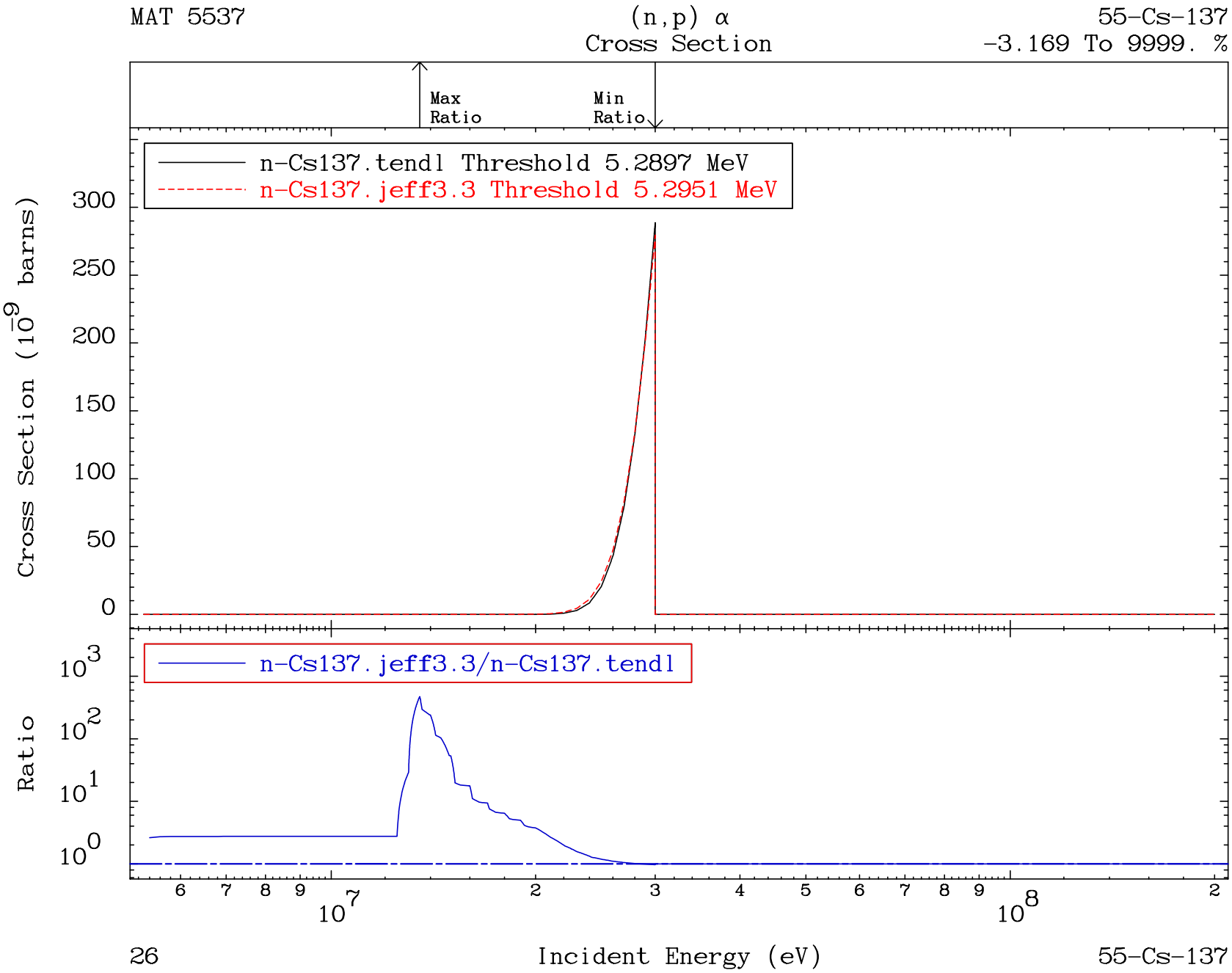

MAT 5537
(n,t)
Cross Section
55-Cs-137
-1.846 To 12.11 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 7.0626 MeV
n-Cs137.jeff3.3 Threshold 7.0592 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.00
1.05
1.10
1.15
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
21
Incident Energy (eV)
55-Cs-137

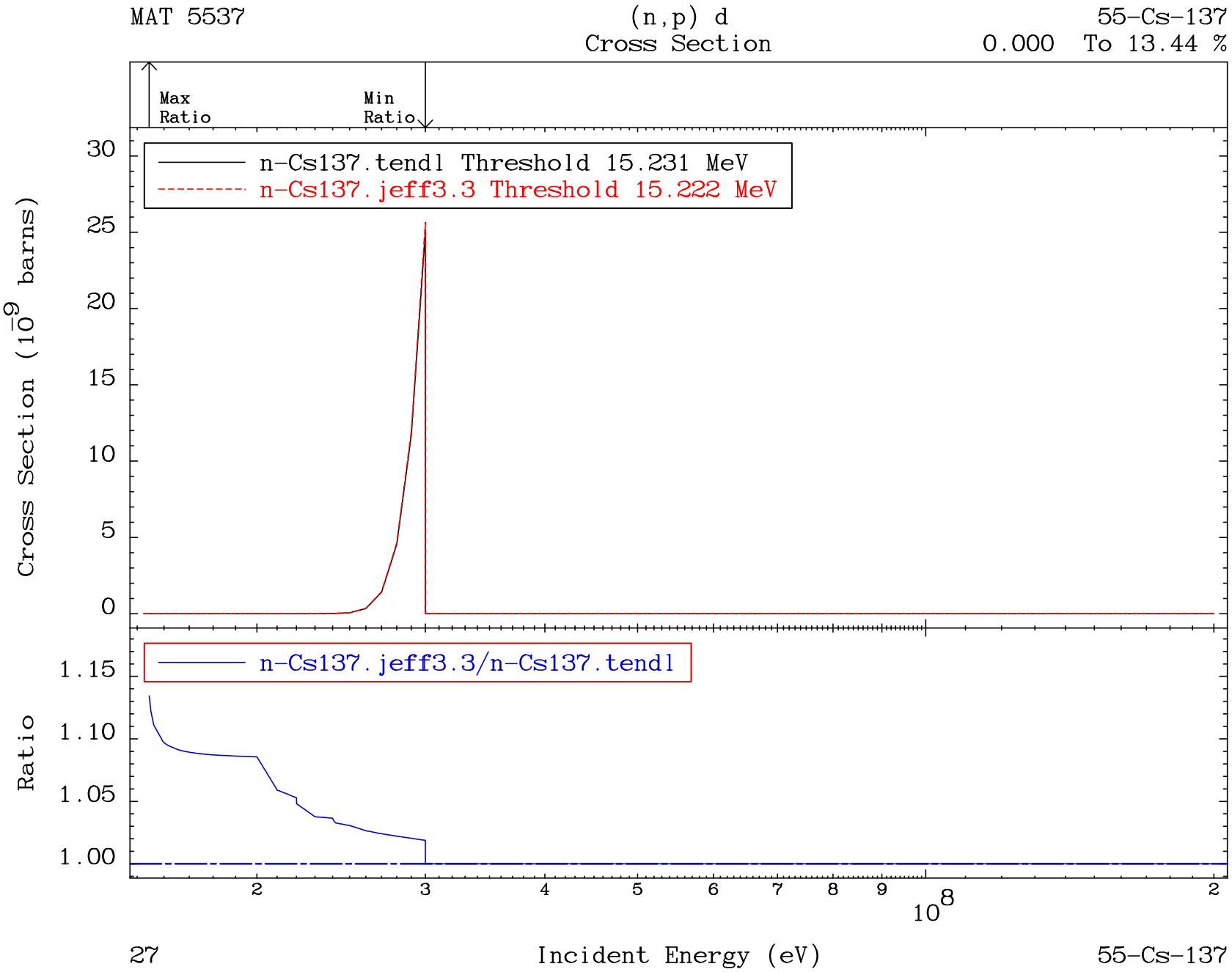

MAT 5537
(n,He-3)
Cross Section
55-Cs-137
-0.437 To 7.677 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 9.6973 MeV
n-Cs137.jeff3.3 Threshold 9.6876 MeV
Cross Section (micro-barns)
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.10
1.05
1.00
10^7
2
3
4
5
6
7
8
9
10^8
2
22
Incident Energy (eV)
55-Cs-137

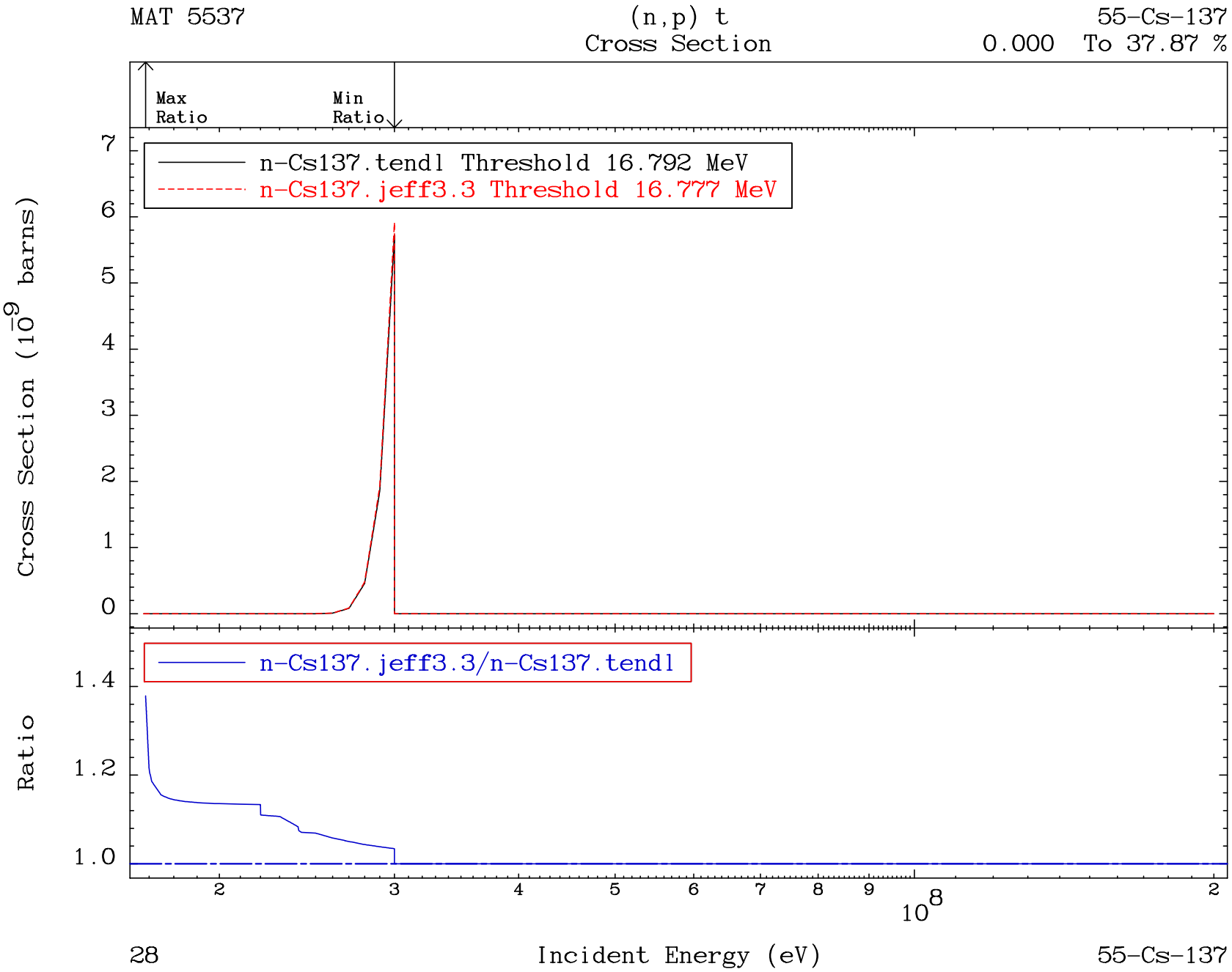

MAT 5537
(n,α)
Cross Section
55-Cs-137
-8.012 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 39.028 keV
n-Cs137.jeff3.3 Threshold 56.666 keV
Cross Section (milli-barns)
0
2
4
6
8
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^0
10^2
10^4
4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
23
Incident Energy (eV)
55-Cs-137

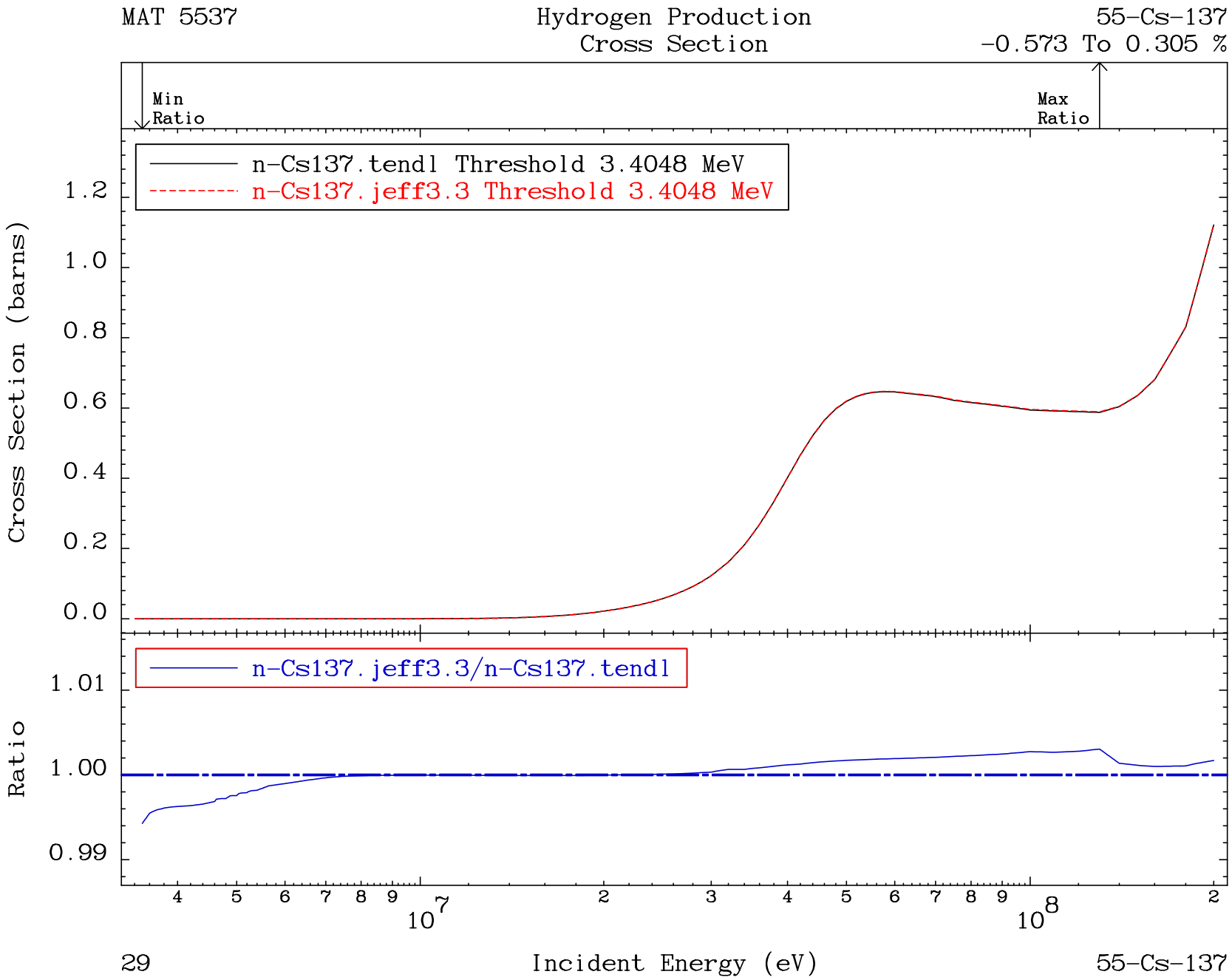

MAT 5537
(n,2α)
Cross Section
55-Cs-137
-66.37 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 1.0461 MeV
n-Cs137.jeff3.3 Threshold 1.0457 MeV
Cross Section (10^-9 barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
24
55-Cs-137

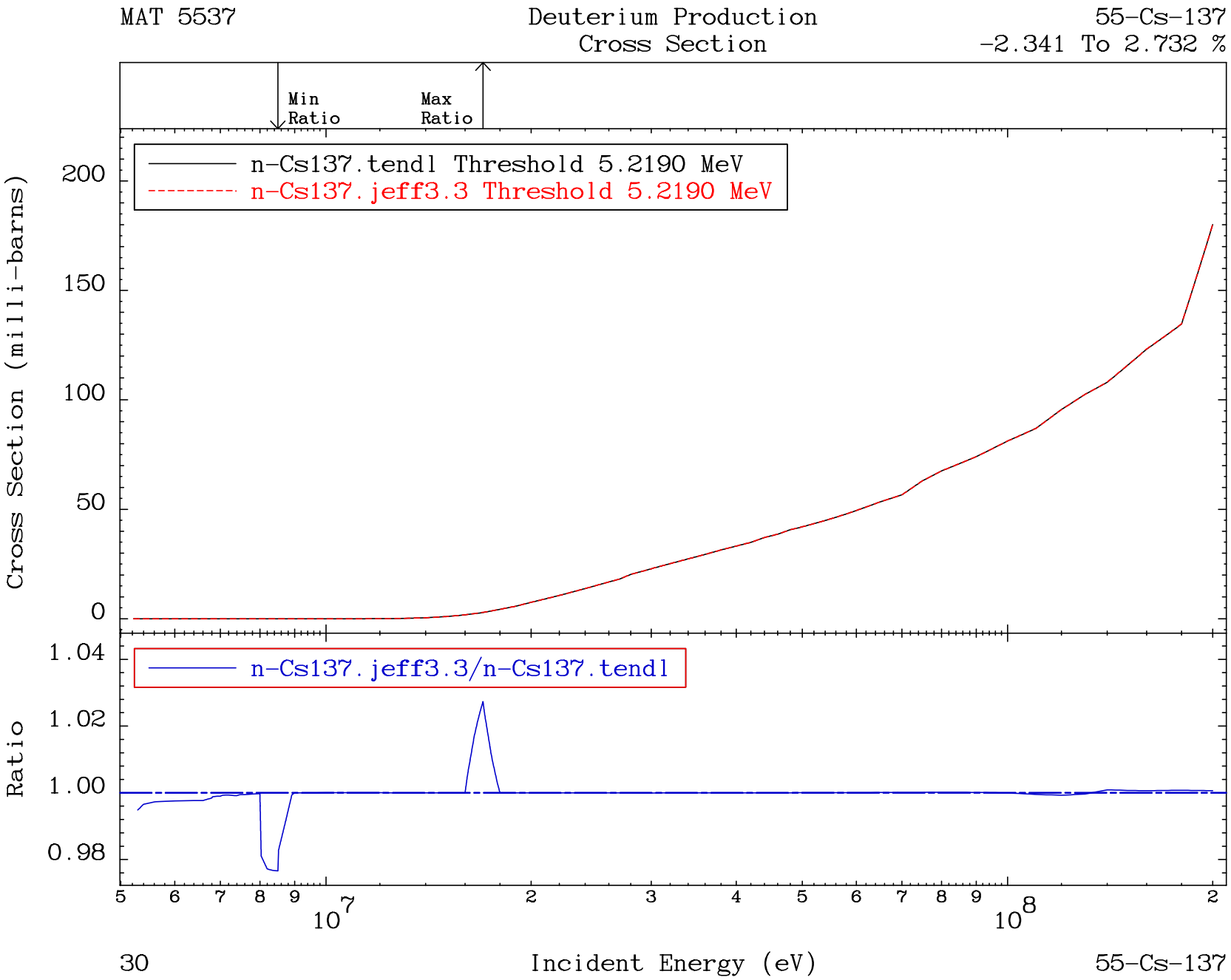

MAT 5537
(n,2p)
Cross Section
55-Cs-137
-0.550 To 0.119 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.607 MeV
n-Cs137.jeff3.3 Threshold 13.607 MeV
Cross Section (10^{-9} barns)
80
60
40
20
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
25
Incident Energy (eV)
55-Cs-137

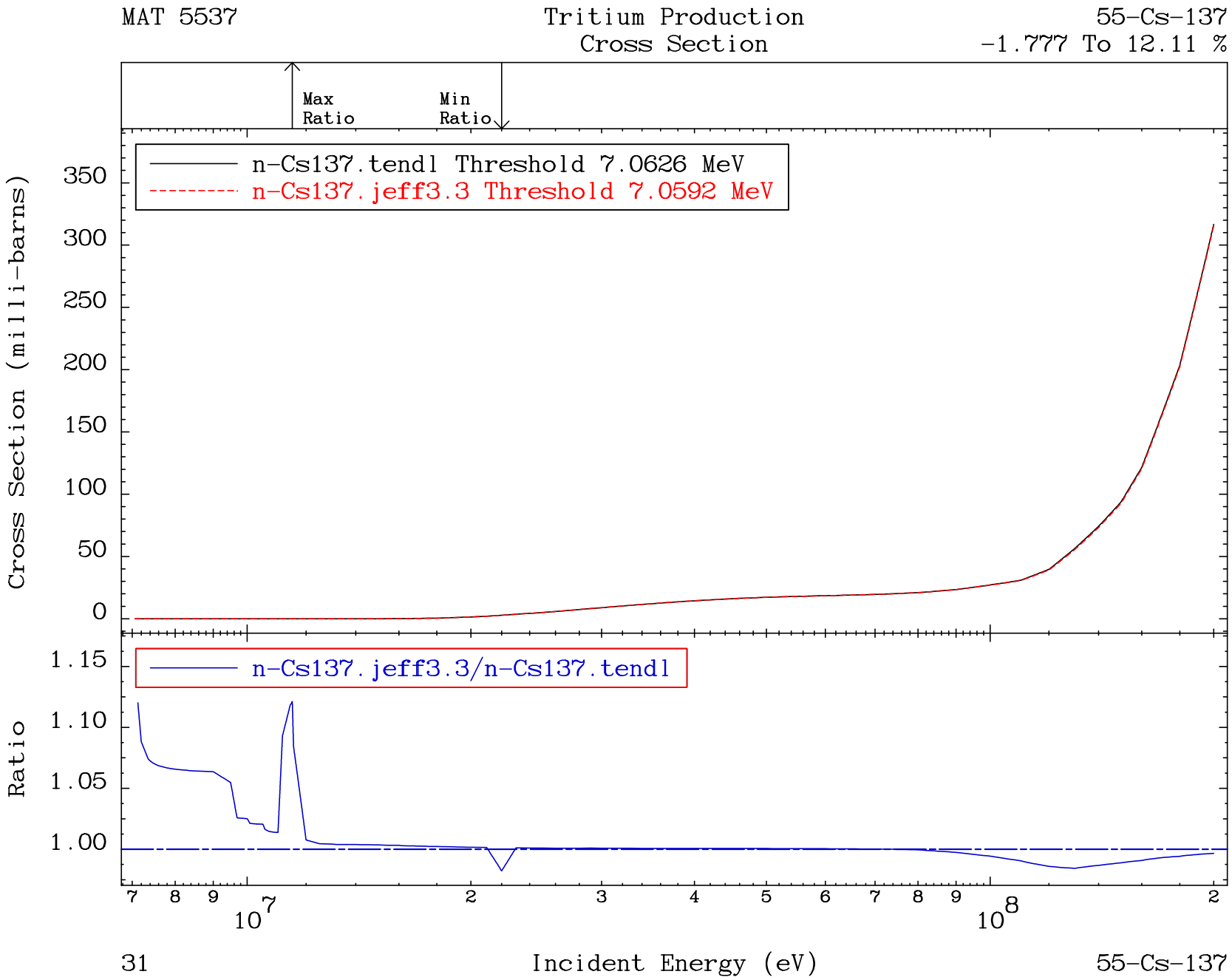

MAT 5537
(n,p) α
Cross Section
55-Cs-137
-3.169 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 5.2897 MeV
n-Cs137.jeff3.3 Threshold 5.2951 MeV
Cross Section (10^{-9} barns)
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^3
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
26
Incident Energy (eV)
55-Cs-137

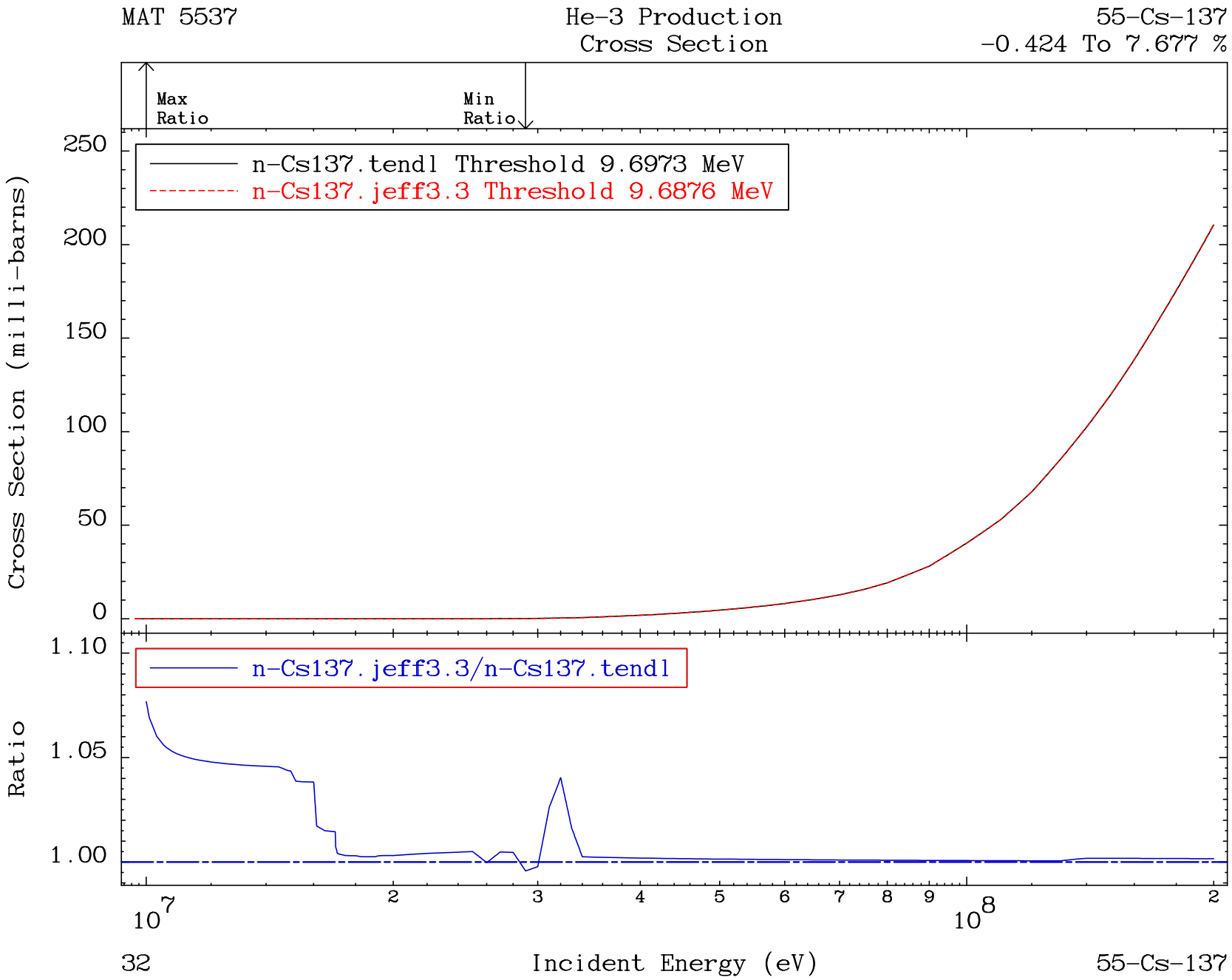

MAT 5537
(n,p) d
Cross Section
55-Cs-137
0.000 To 13.44 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 15.231 MeV
n-Cs137.jeff3.3 Threshold 15.222 MeV
Cross Section (10^-9 barns)
30
25
20
15
10
5
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.15
1.10
1.05
1.00
2
3
4
5
6
7
8
9
10^8
2
27
Incident Energy (eV)
55-Cs-137

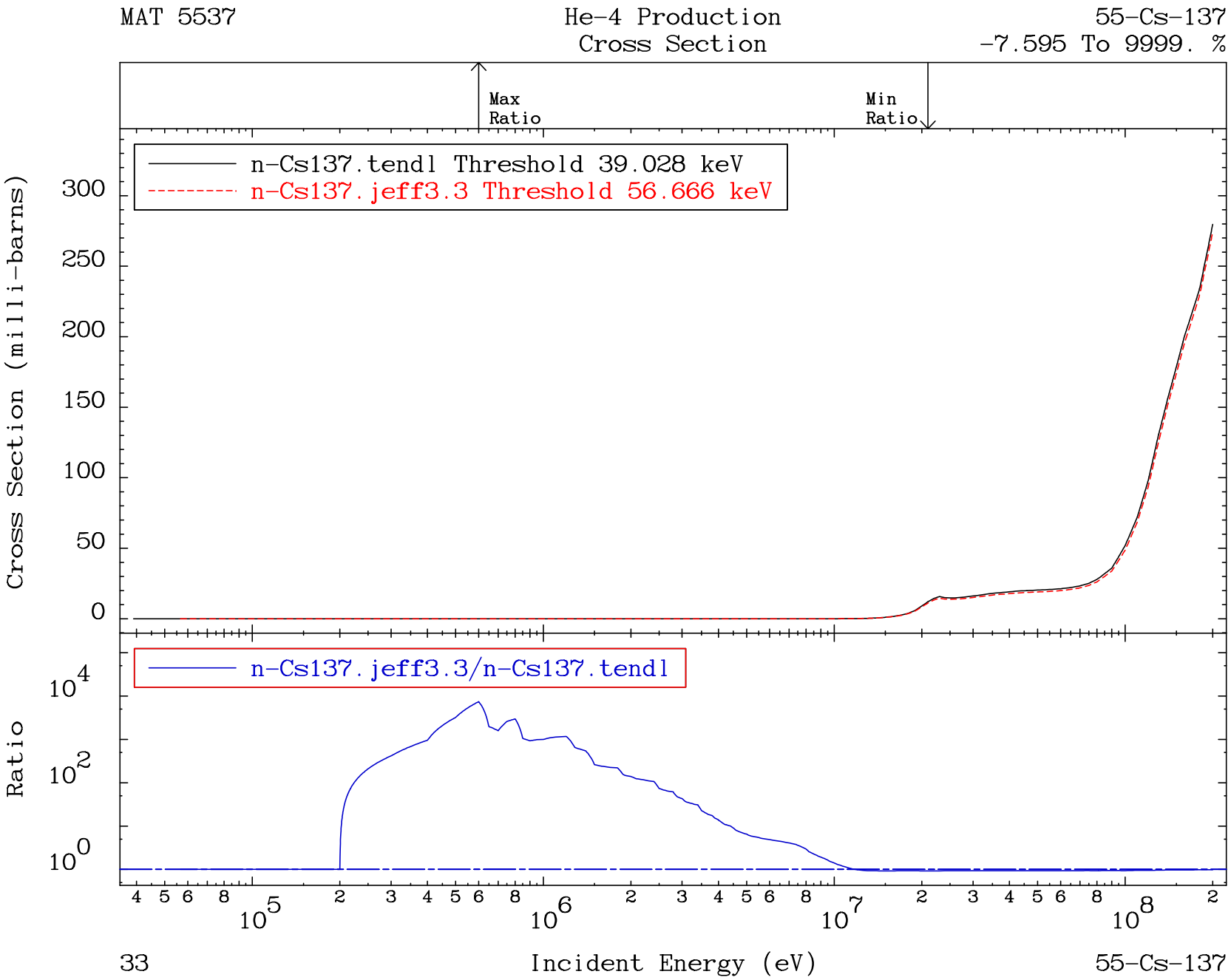

MAT 5537
(n,p) t
Cross Section
55-Cs-137
0.000 To 37.87 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 16.792 MeV
n-Cs137.jeff3.3 Threshold 16.777 MeV
Cross Section (10^{-9} barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^8
28
Incident Energy (eV)
55-Cs-137

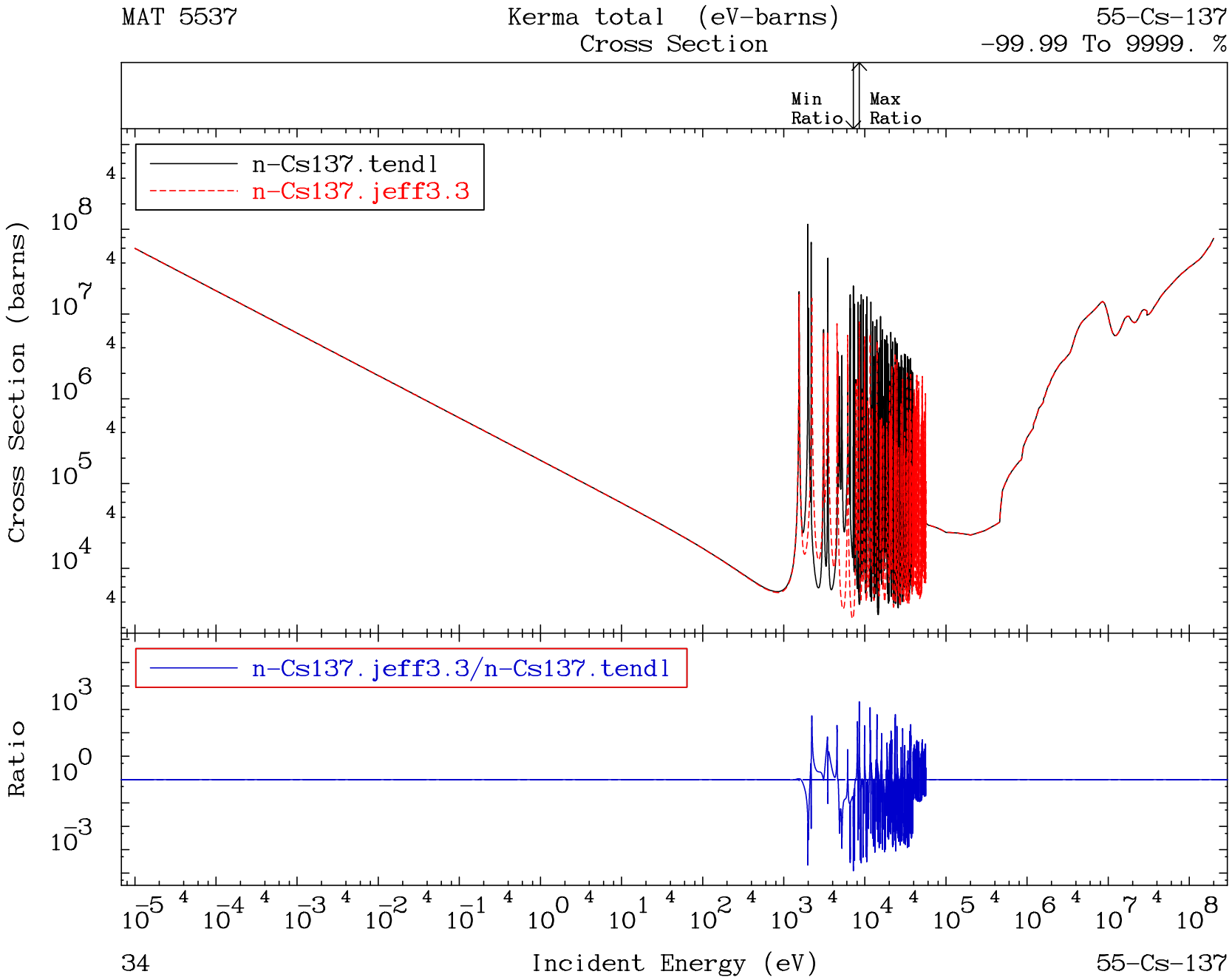

MAT 5537
Hydrogen Production
Cross Section
55-Cs-137
-0.573 To 0.305 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 3.4048 MeV
n-Cs137.jeff3.3 Threshold 3.4048 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
29
Incident Energy (eV)
55-Cs-137

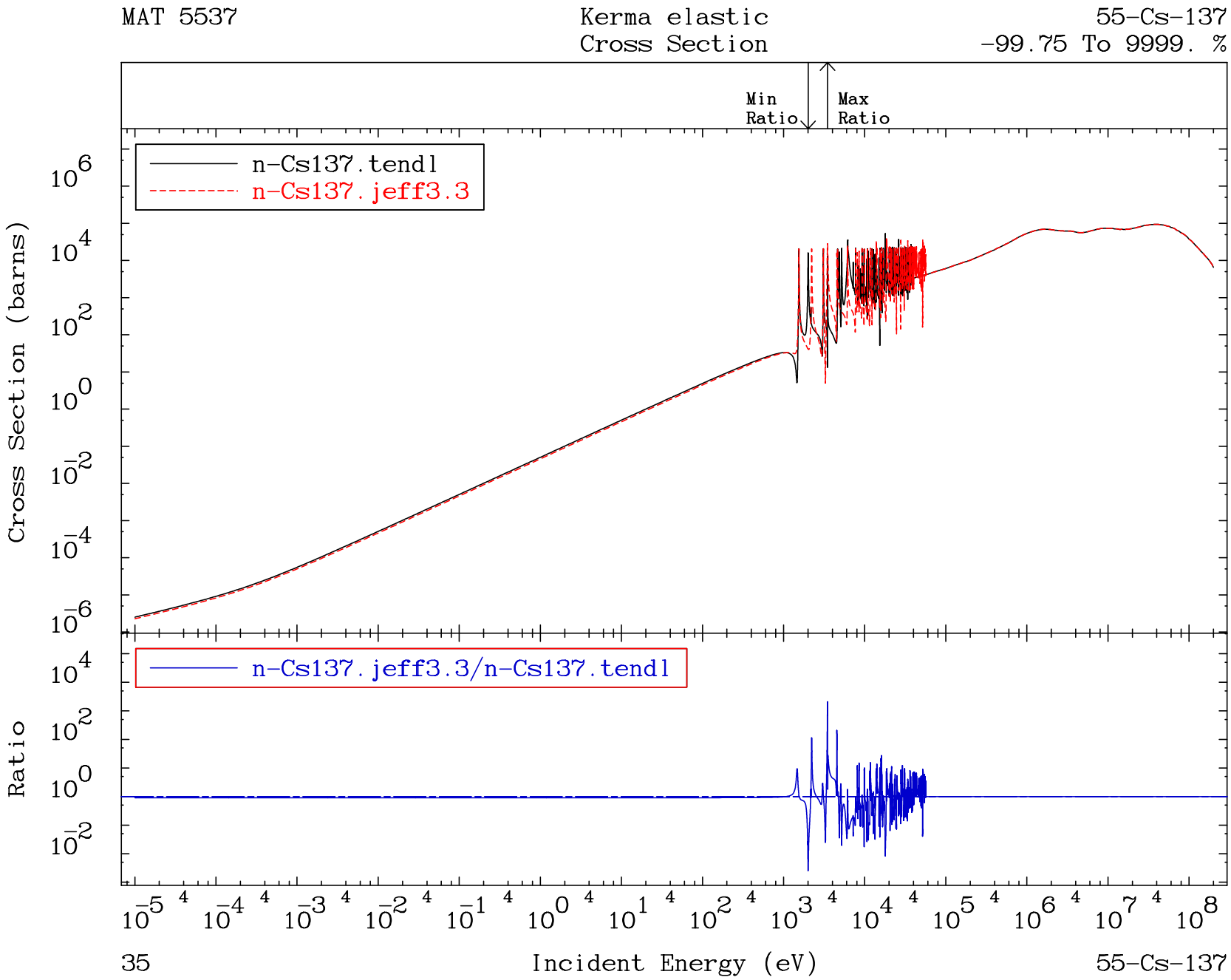

MAT 5537
Deuterium Production
Cross Section
55-Cs-137
-2.341 To 2.732 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 5.2190 MeV
n-Cs137.jeff3.3 Threshold 5.2190 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.04
1.02
1.00
0.98
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
30
Incident Energy (eV)
55-Cs-137

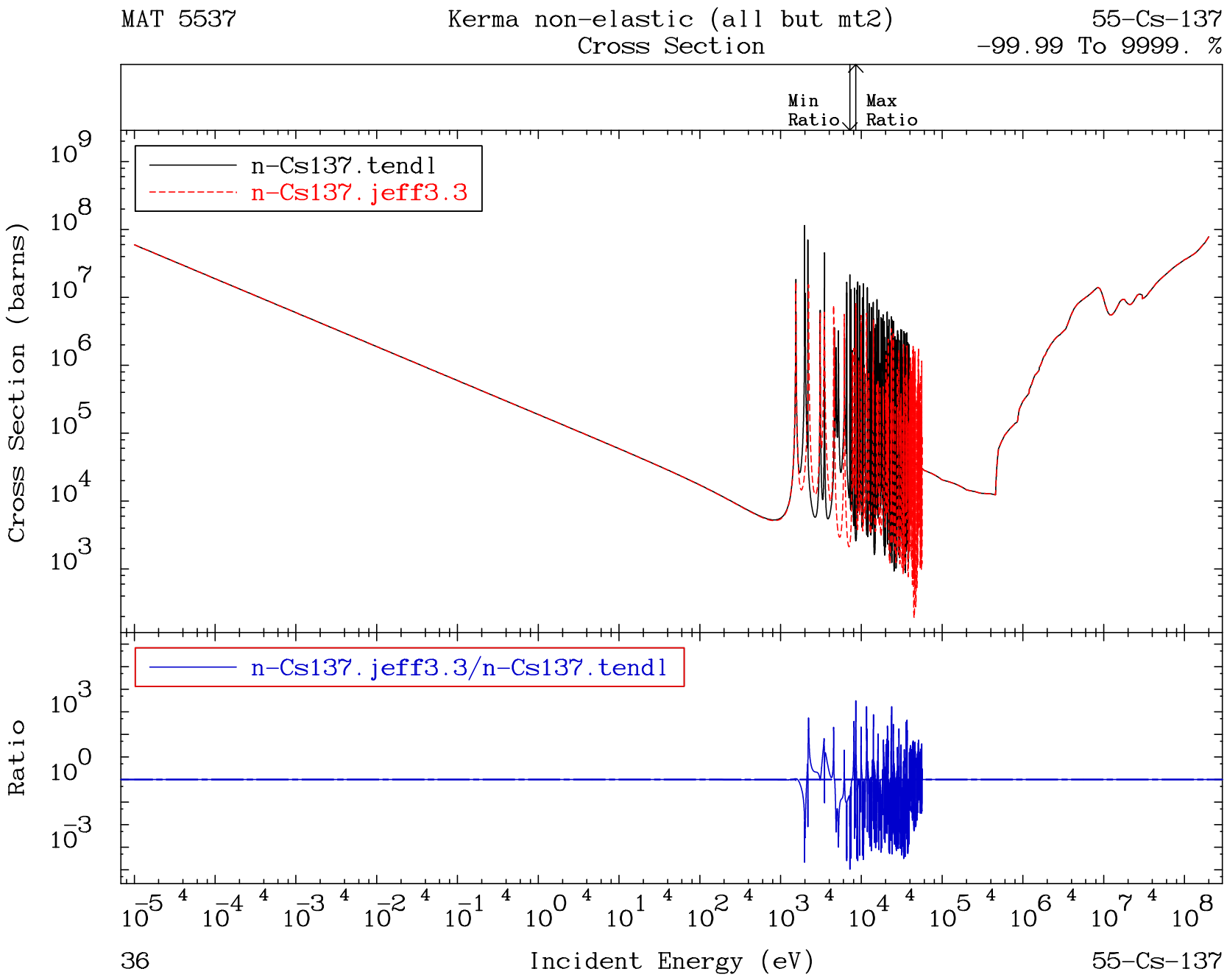

MAT 5537
Tritium Production
Cross Section
55-Cs-137
-1.777 To 12.11 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 7.0626 MeV
n-Cs137.jeff3.3 Threshold 7.0592 MeV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.15
1.10
1.05
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
31
Incident Energy (eV)
55-Cs-137

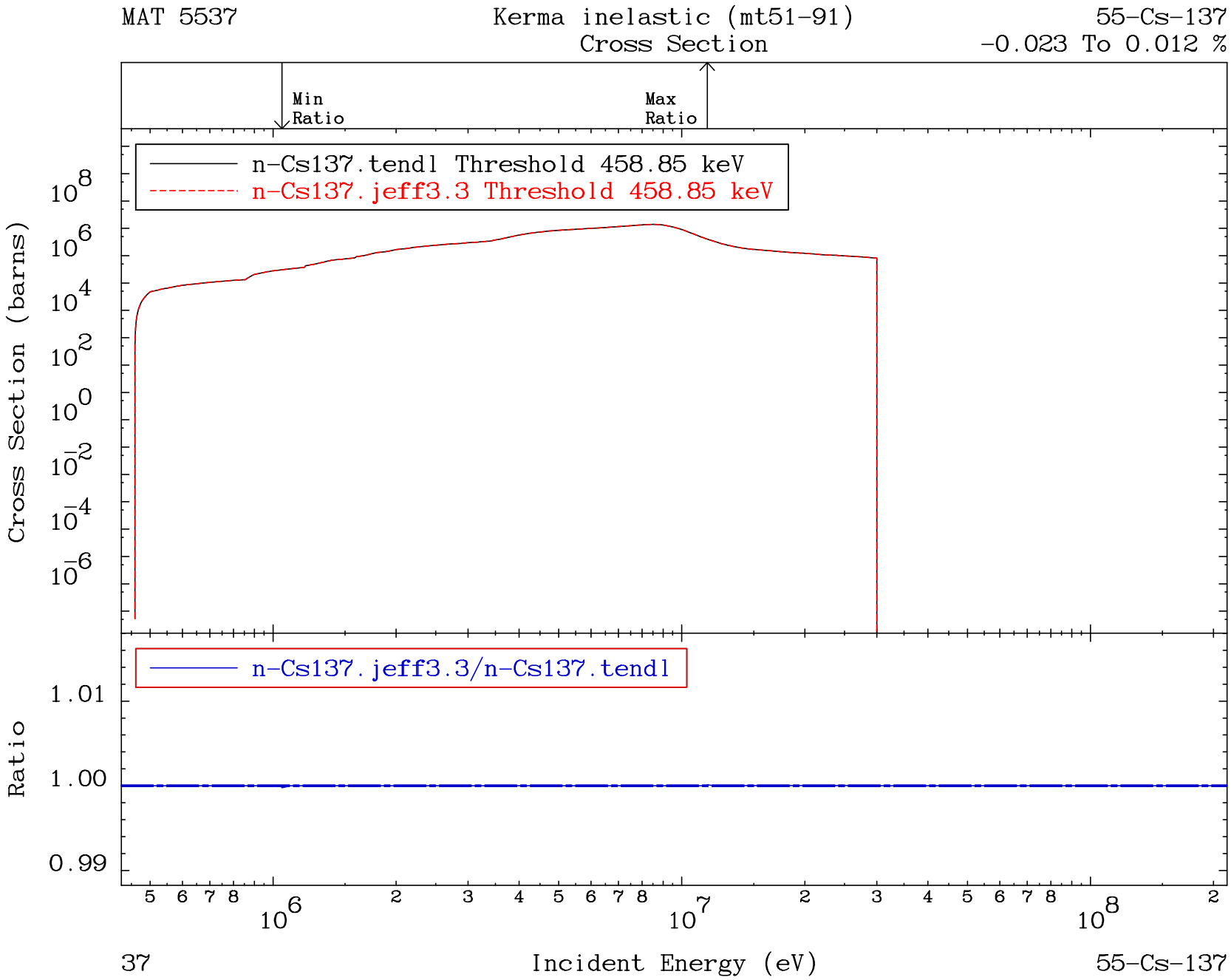

MAT 5537
He-3 Production
Cross Section
55-Cs-137
-0.424 To 7.677 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 9.6973 MeV
n-Cs137.jeff3.3 Threshold 9.6876 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.10
1.05
1.00
10^7
2
3
4
5
6
7
8
9
10^8
2
32
Incident Energy (eV)
55-Cs-137

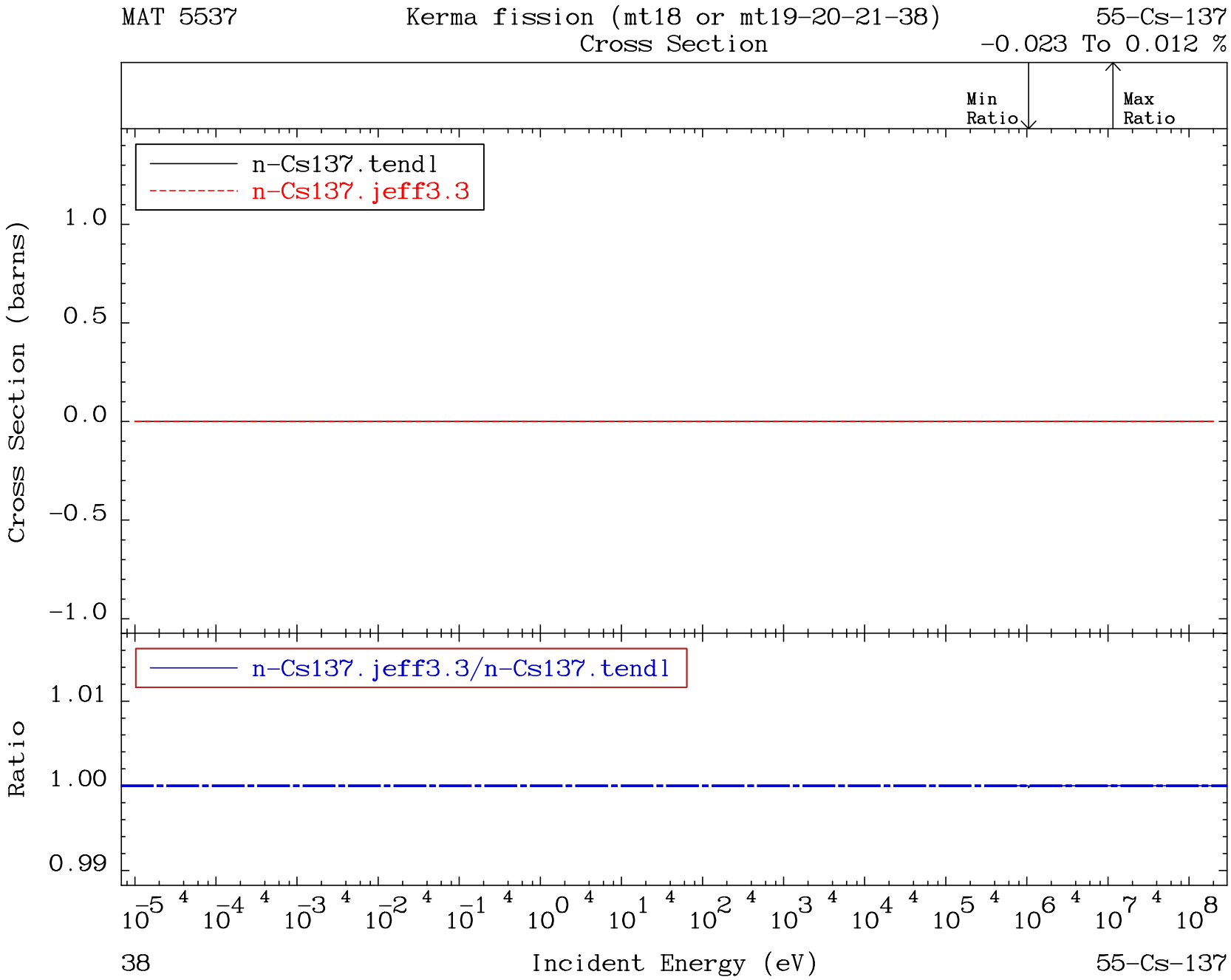

MAT 5537
He-4 Production
Cross Section
55-Cs-137
-7.595 To 9999. %
Max
Ratio
Min
Ratio
n-Cs137.tendl Threshold 39.028 keV
n-Cs137.jeff3.3 Threshold 56.666 keV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^4
10^2
10^0
4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
33
Incident Energy (eV)
55-Cs-137

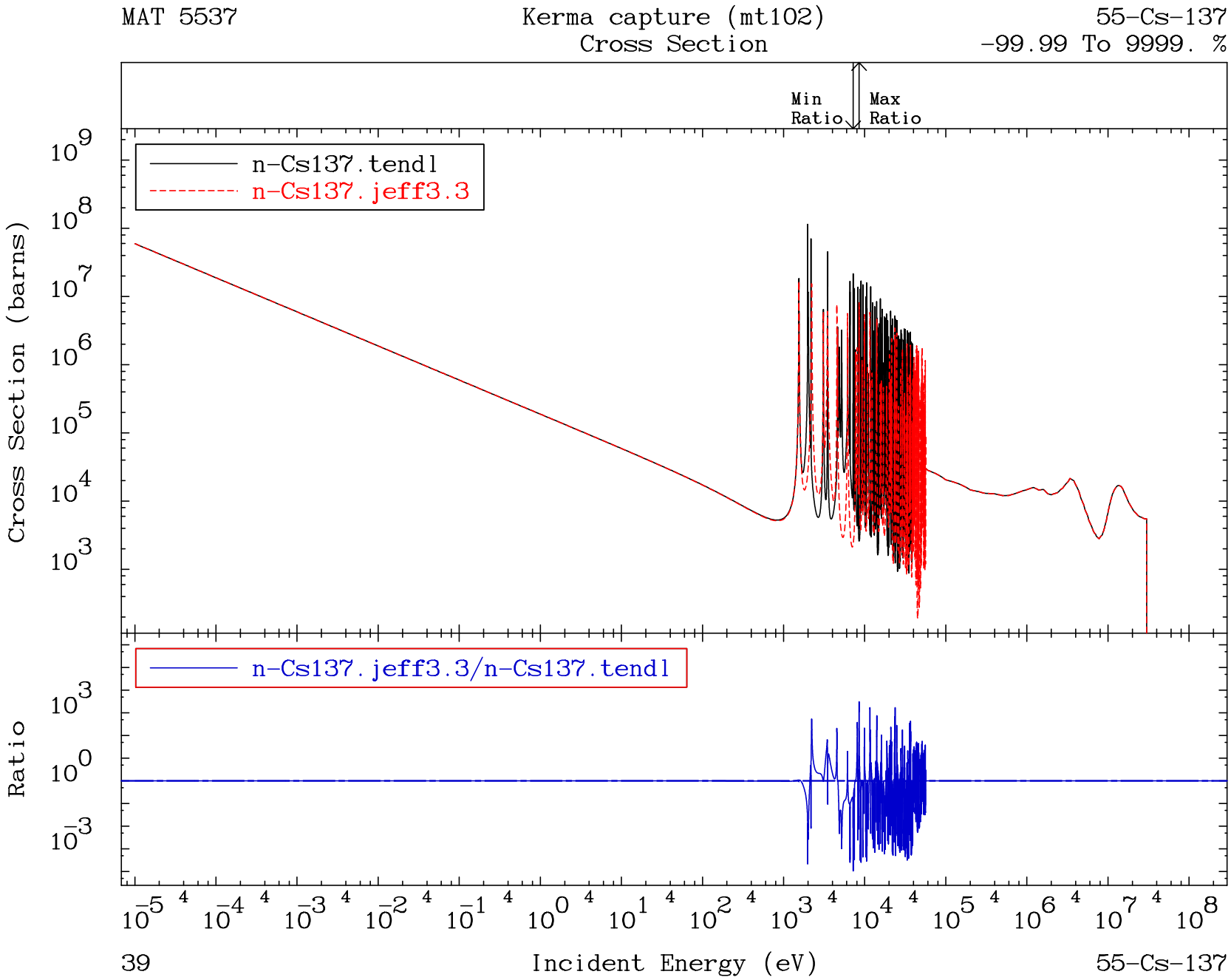

MAT 5537
Kerma total (eV-barns)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
34
55-Cs-137

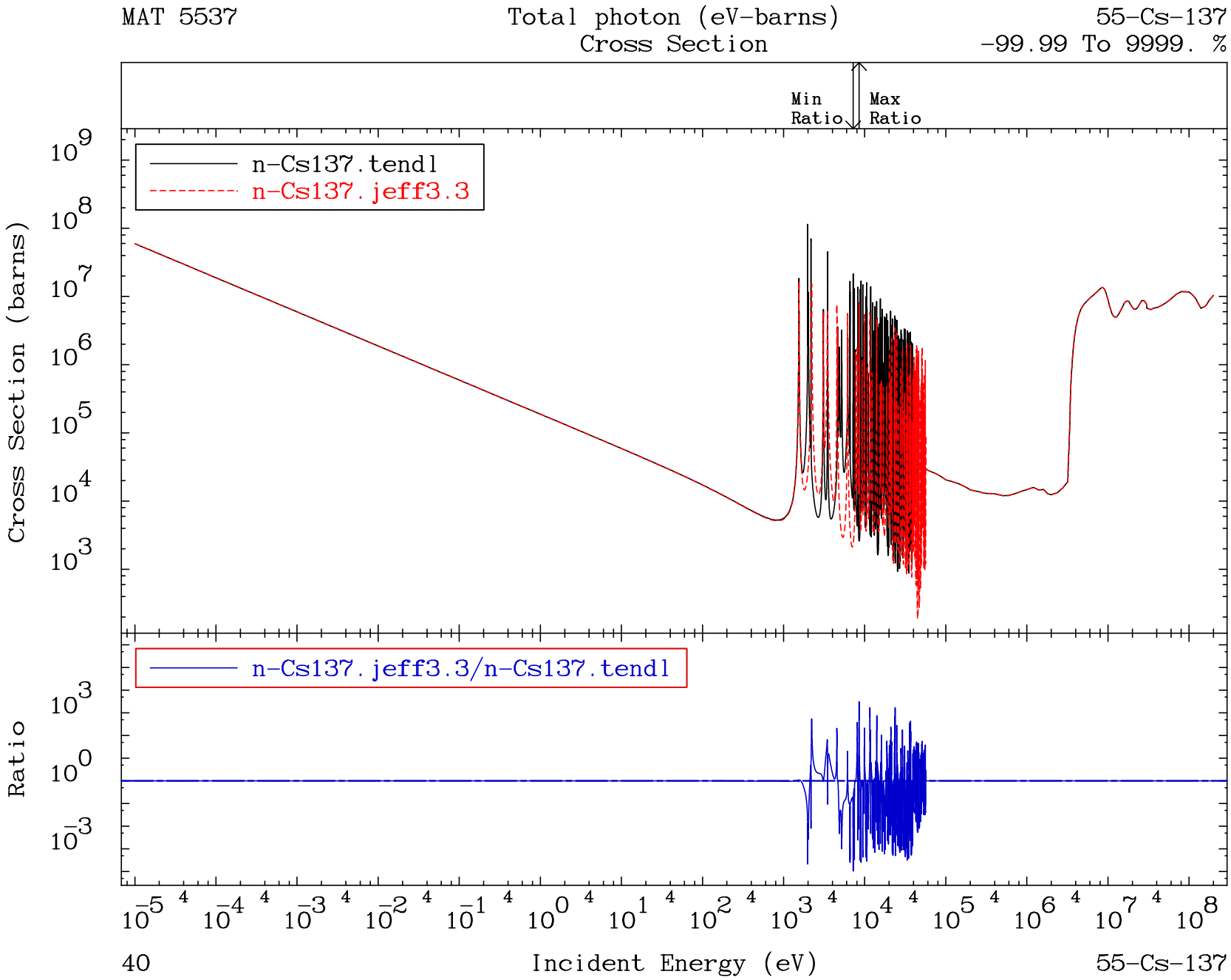

MAT 5537
Kerma elastic
Cross Section
55-Cs-137
-99.75 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
35
55-Cs-137

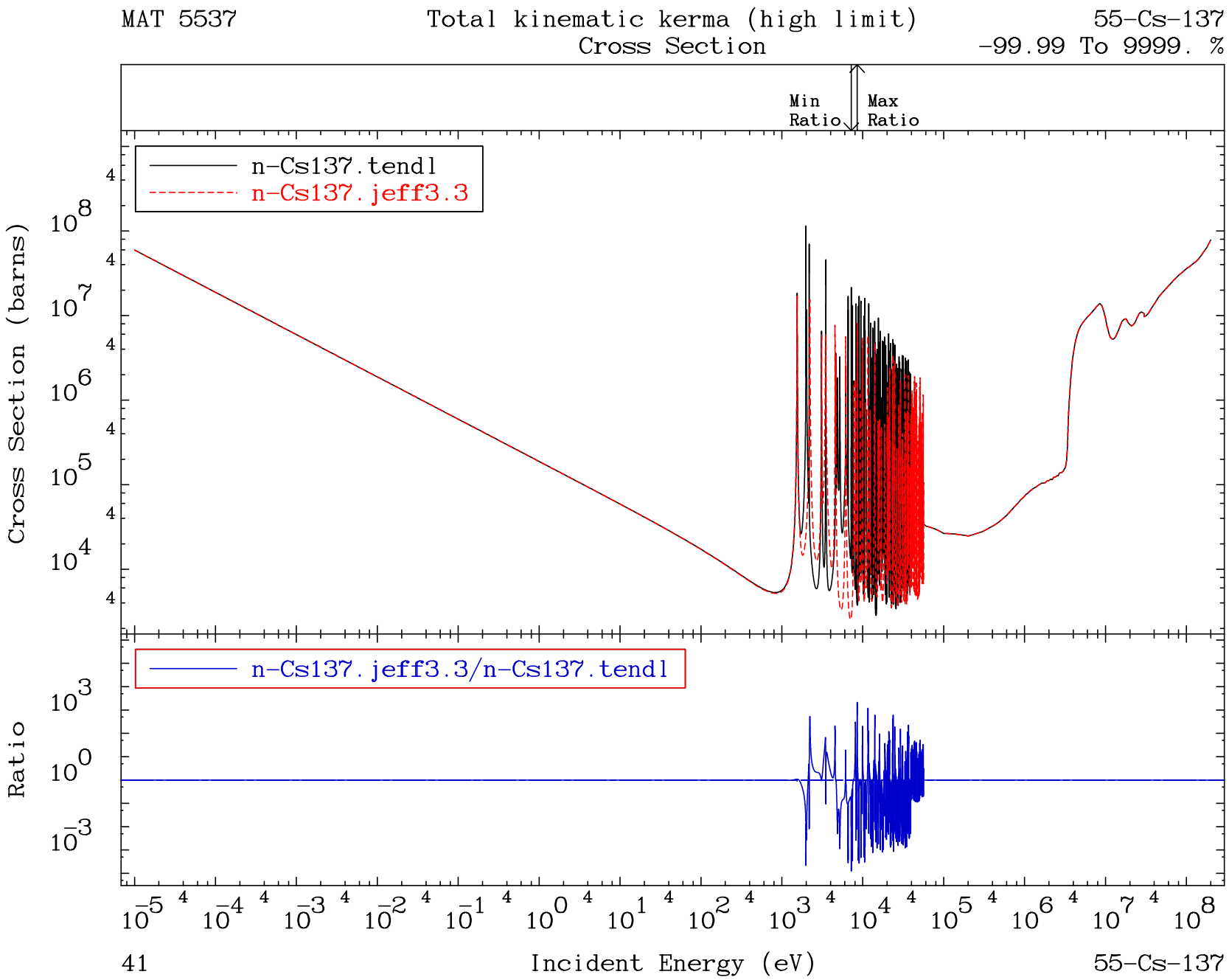

MAT 5537
Kerma non-elastic (all but mt2)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
36
55-Cs-137

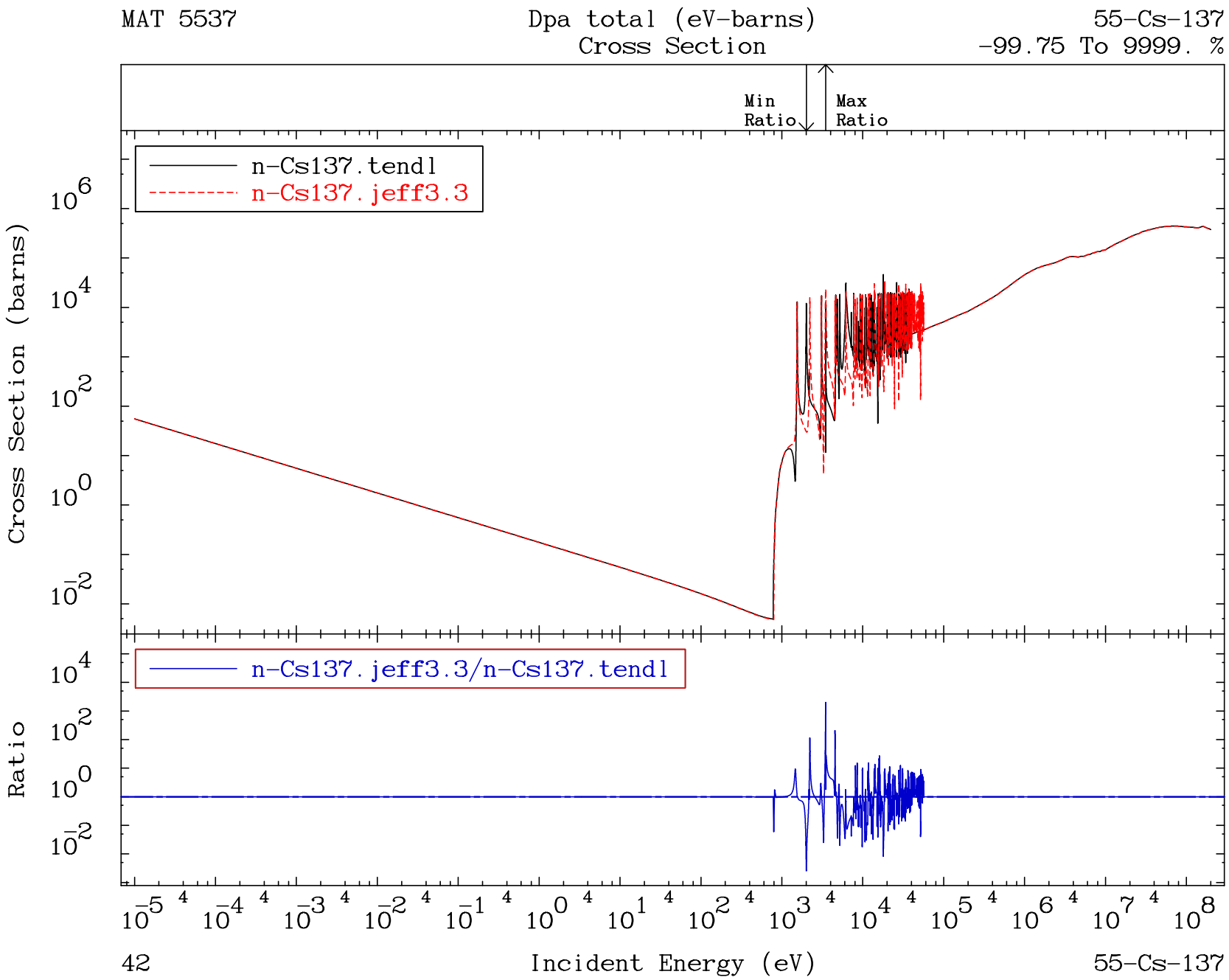

MAT 5537
Kerma inelastic (mt51-91)
Cross Section
55-Cs-137
-0.023 To 0.012 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 458.85 keV
n-Cs137.jeff3.3 Threshold 458.85 keV
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
37
55-Cs-137

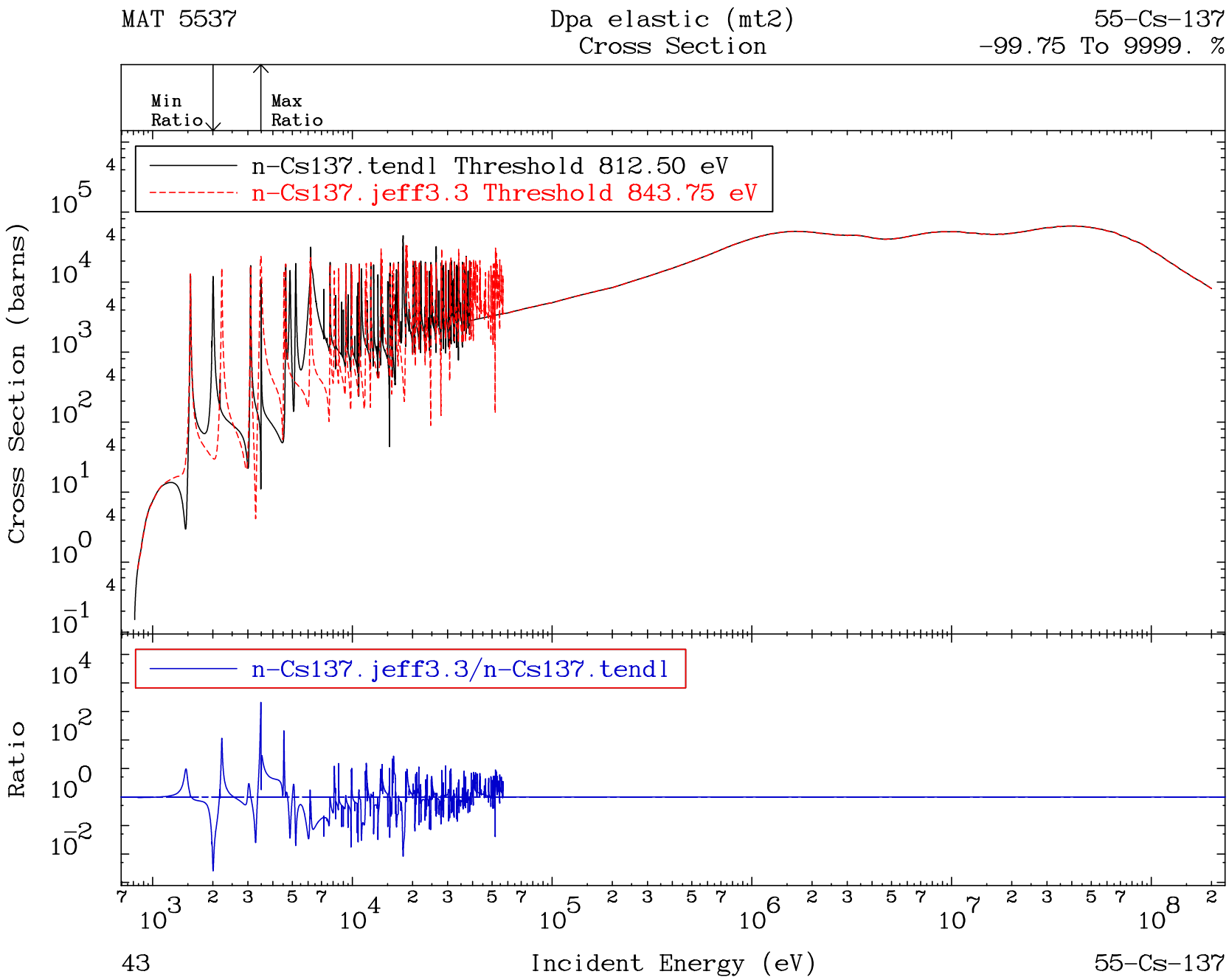

MAT 5537
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
55-Cs-137
-0.023 To 0.012 %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
38
Incident Energy (eV)
55-Cs-137

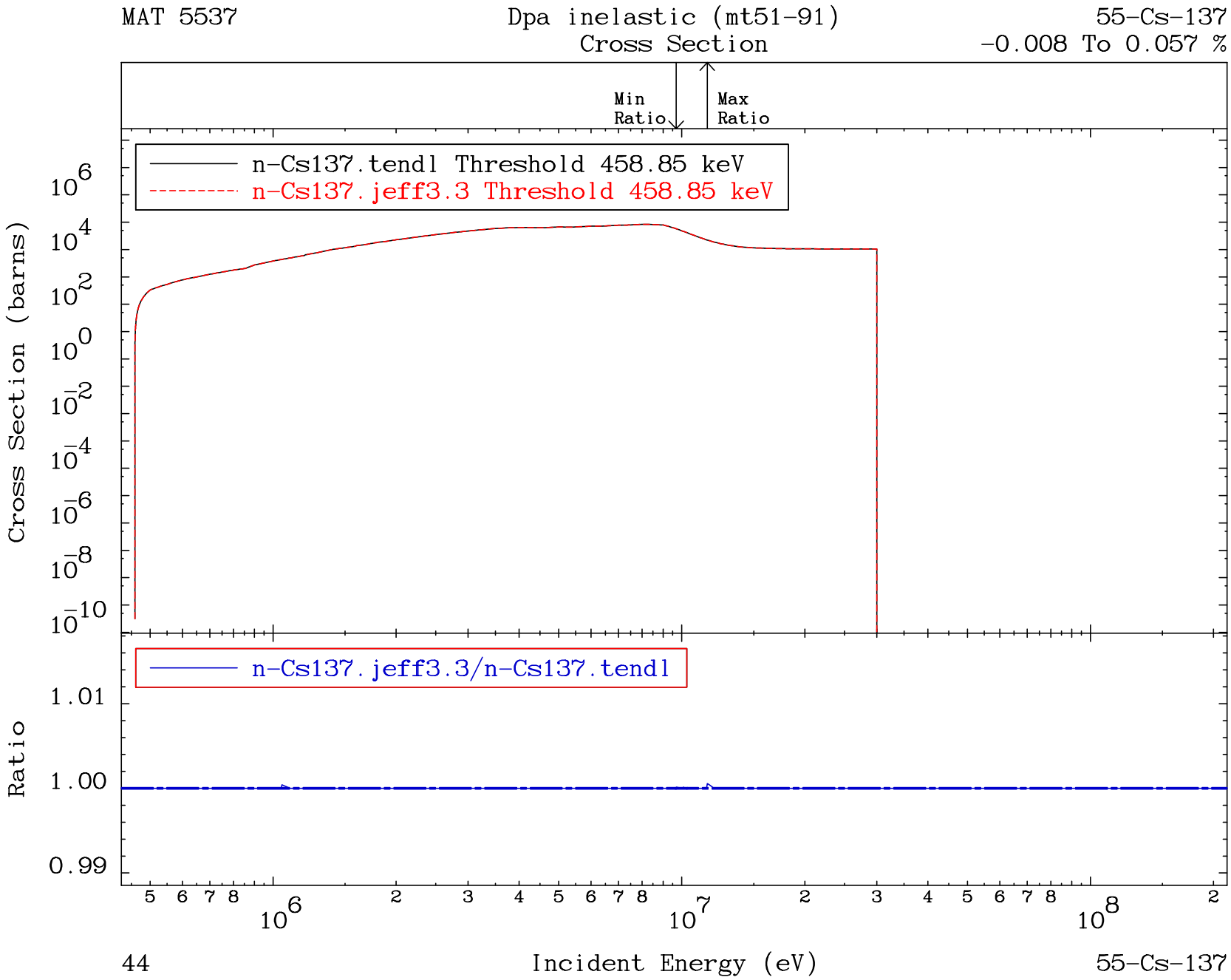

MAT 5537
Kerma capture (mt102)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
39
55-Cs-137

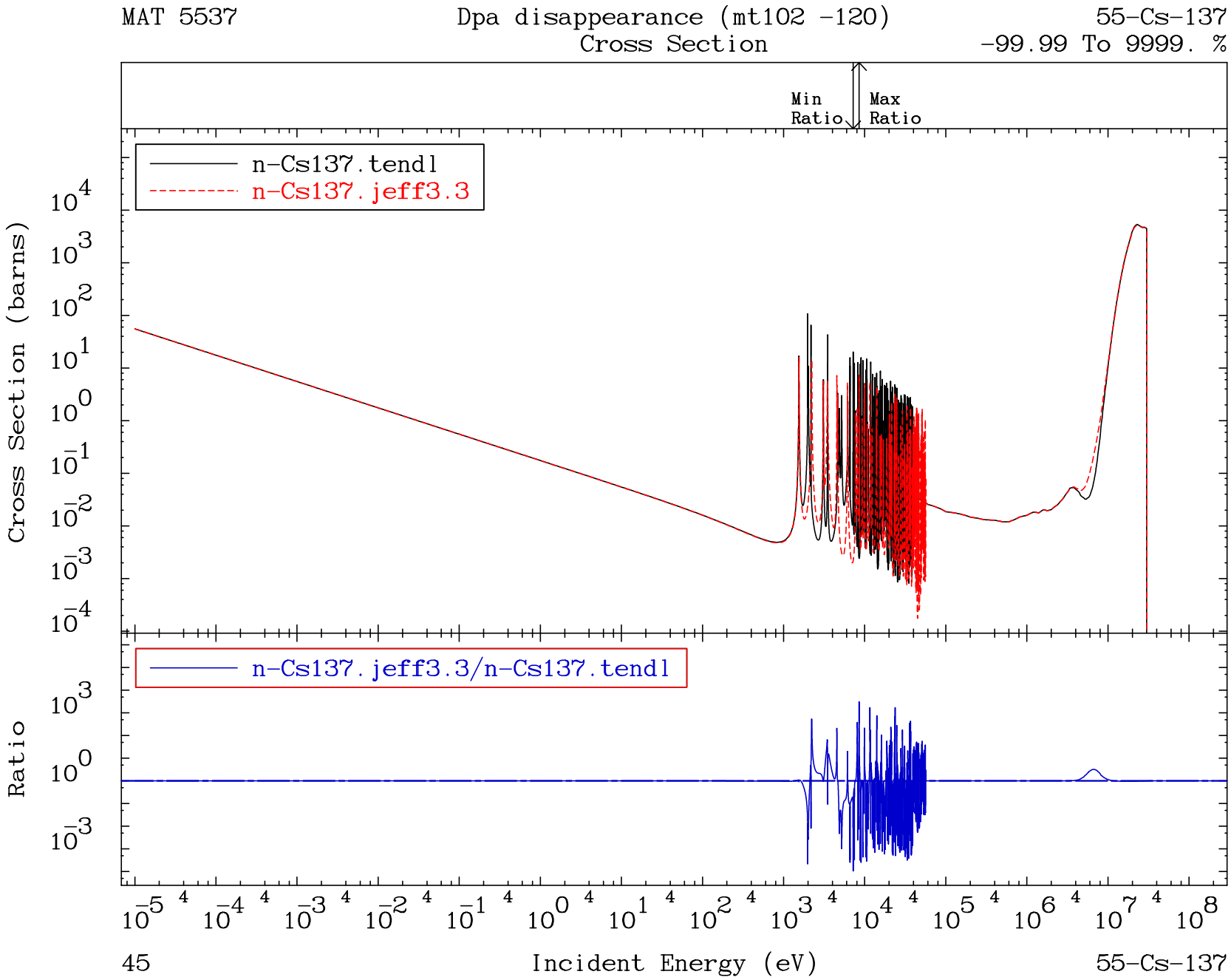

MAT 5537
Total photon (eV-barns)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
40
55-Cs-137

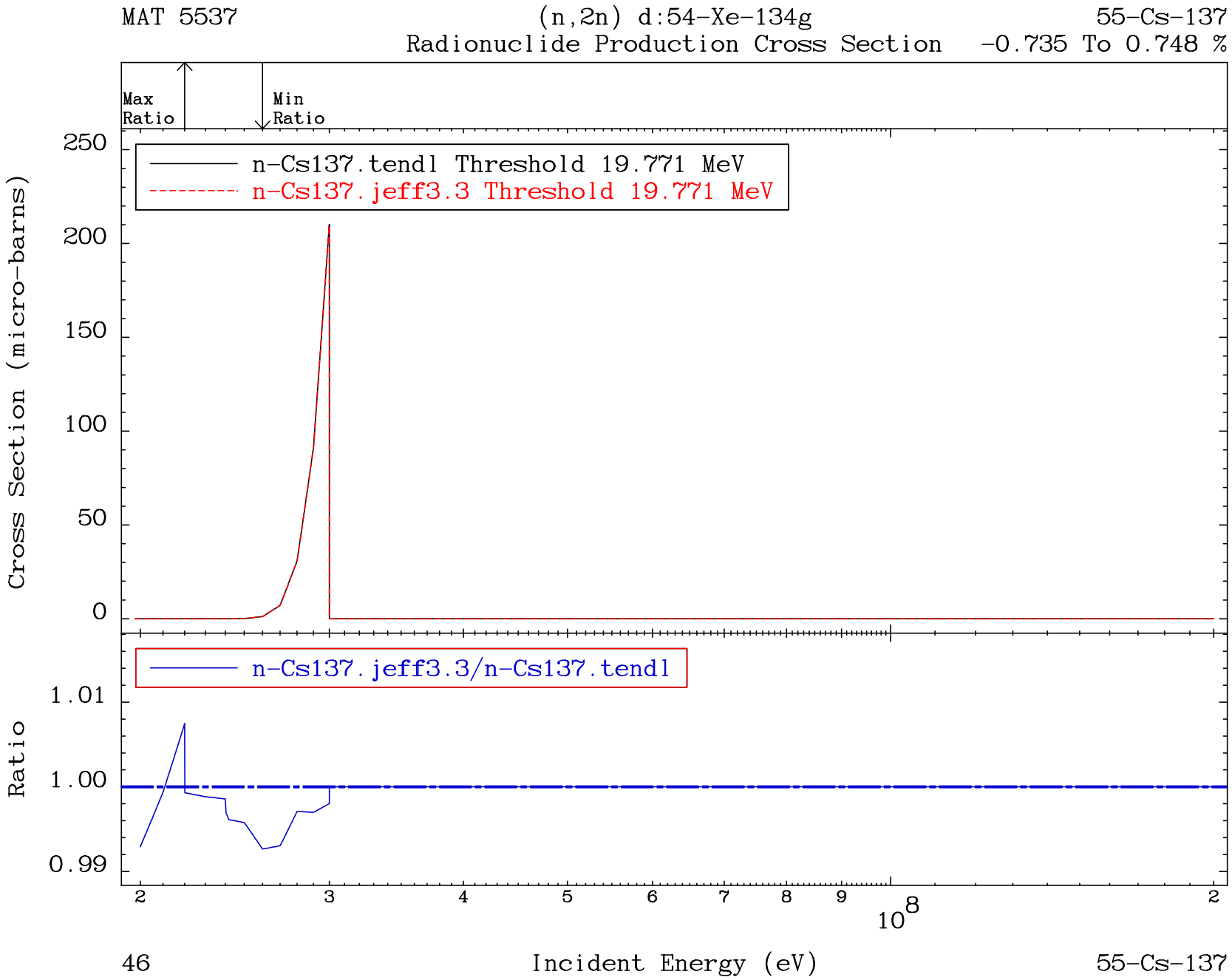

MAT 5537
Total kinematic kerma (high limit)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
41
55-Cs-137

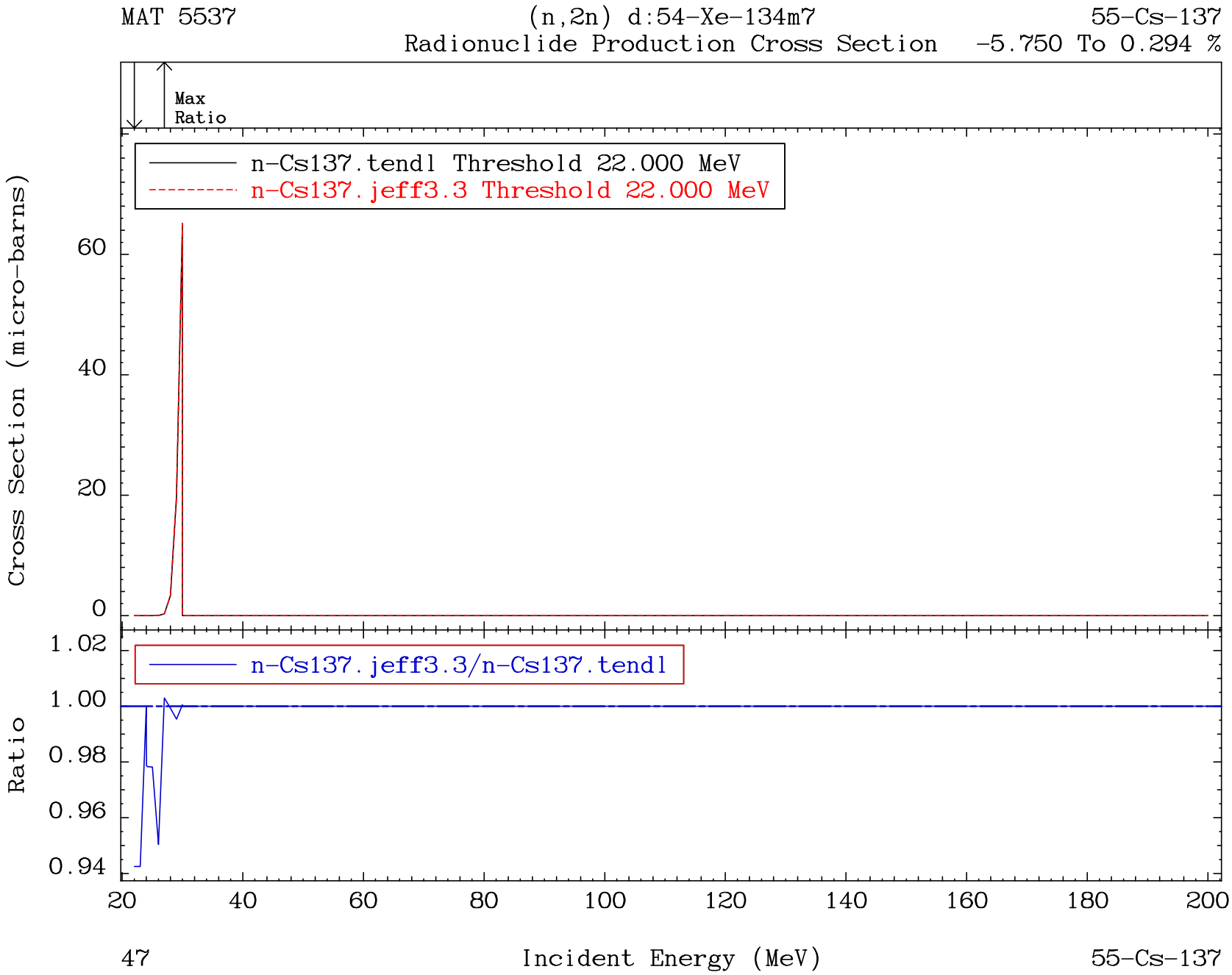

MAT 5537
Dpa total (eV-barns)
Cross Section
55-Cs-137
-99.75 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
42
55-Cs-137

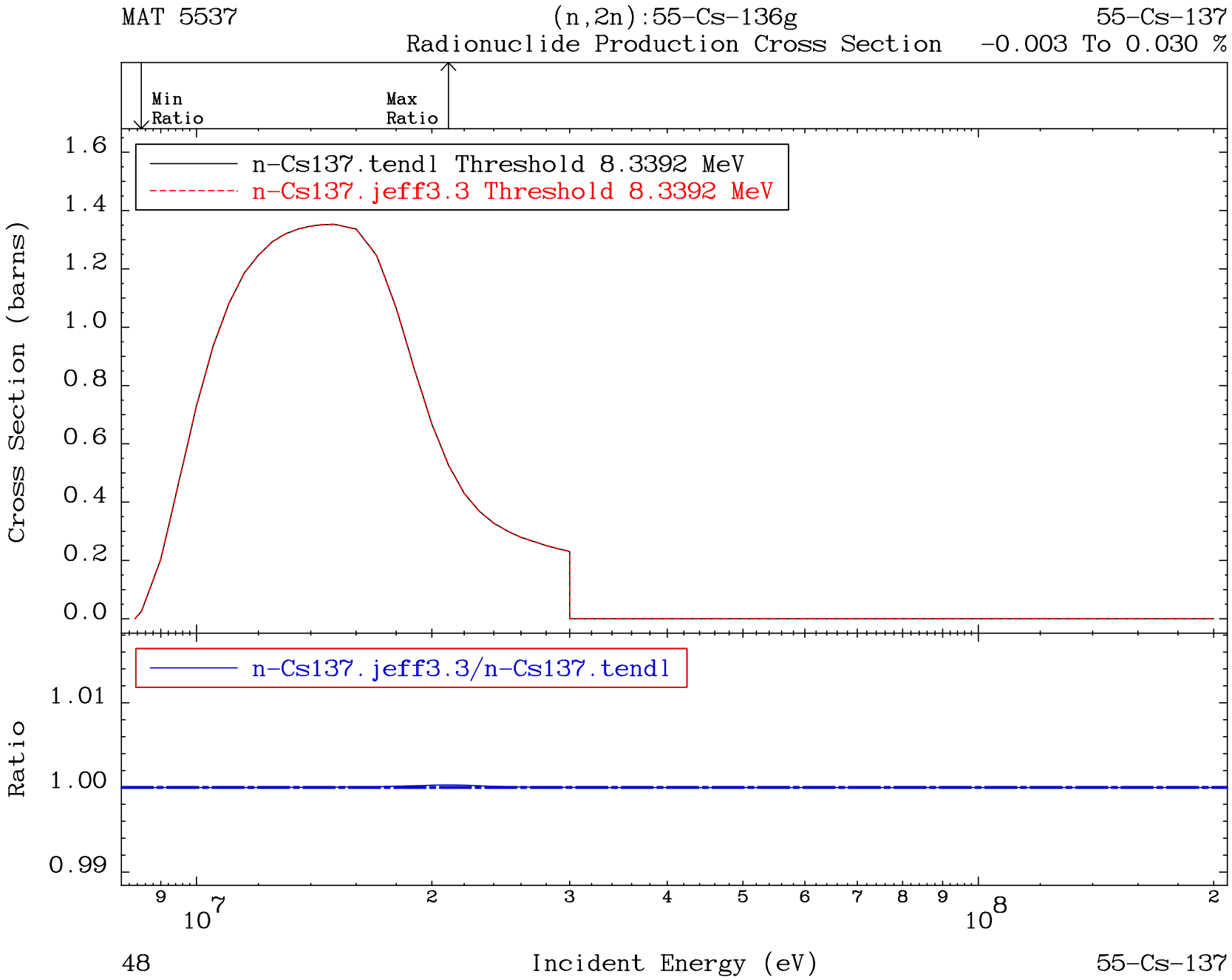

MAT 5537
Dpa elastic (mt2)
Cross Section
55-Cs-137
-99.75 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 812.50 eV
n-Cs137.jeff3.3 Threshold 843.75 eV
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
43
55-Cs-137

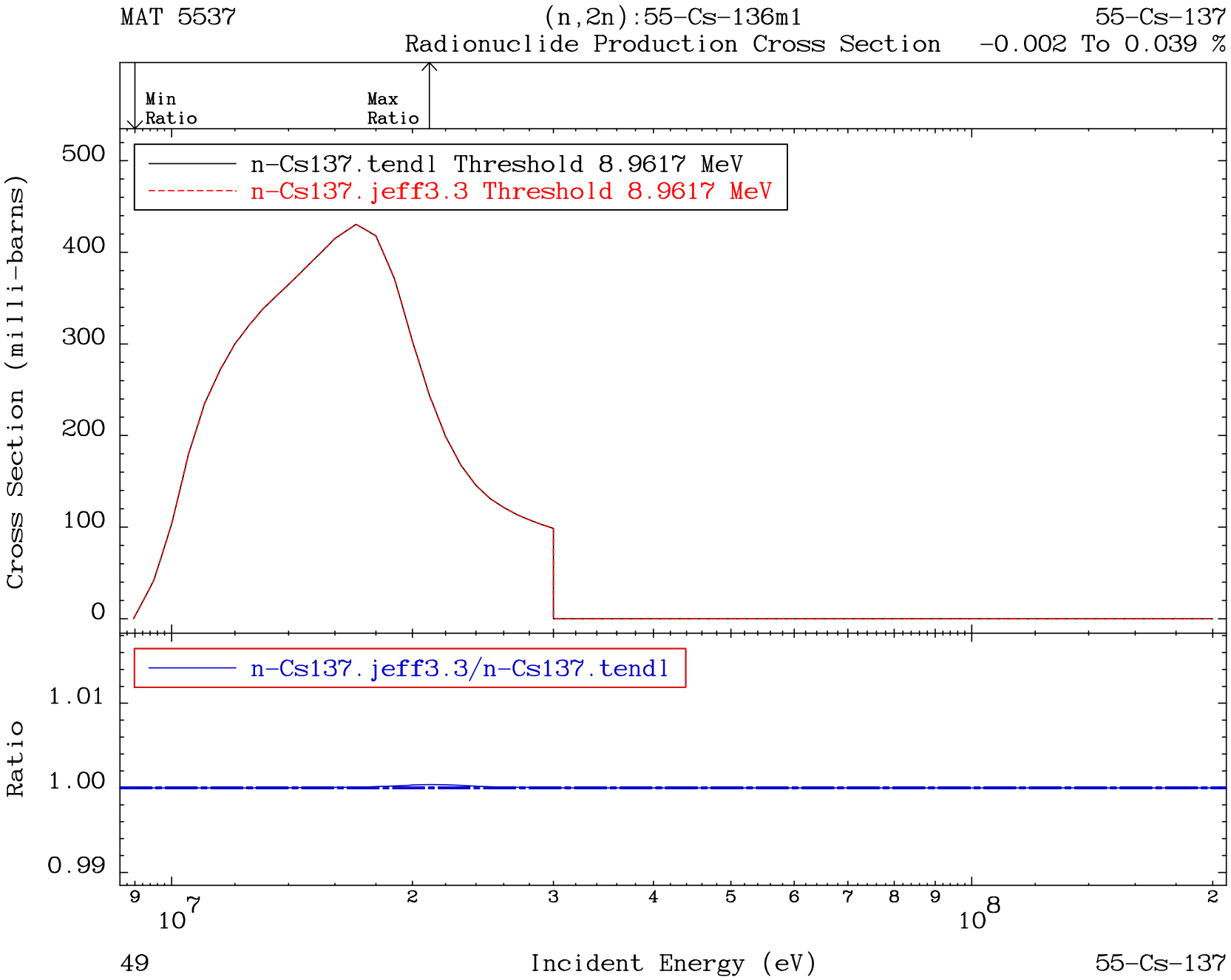

MAT 5537
Dpa inelastic (mt51-91)
Cross Section
55-Cs-137
-0.008 To 0.057 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 458.85 keV
n-Cs137.jeff3.3 Threshold 458.85 keV
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
44
55-Cs-137

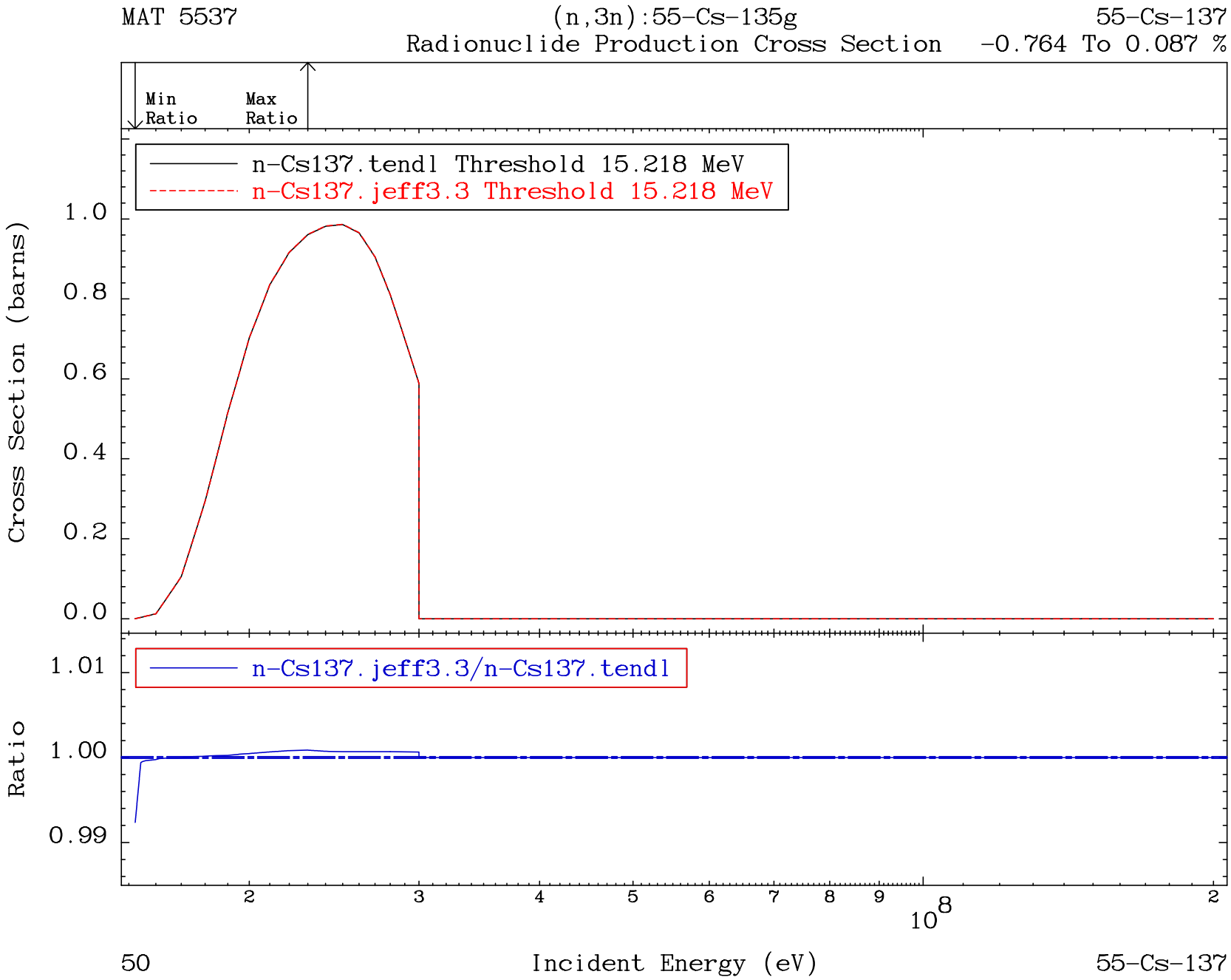

MAT 5537
Dpa disappearance (mt102 -120)
Cross Section
55-Cs-137
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl
n-Cs137.jeff3.3
Cross Section (barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
45
55-Cs-137

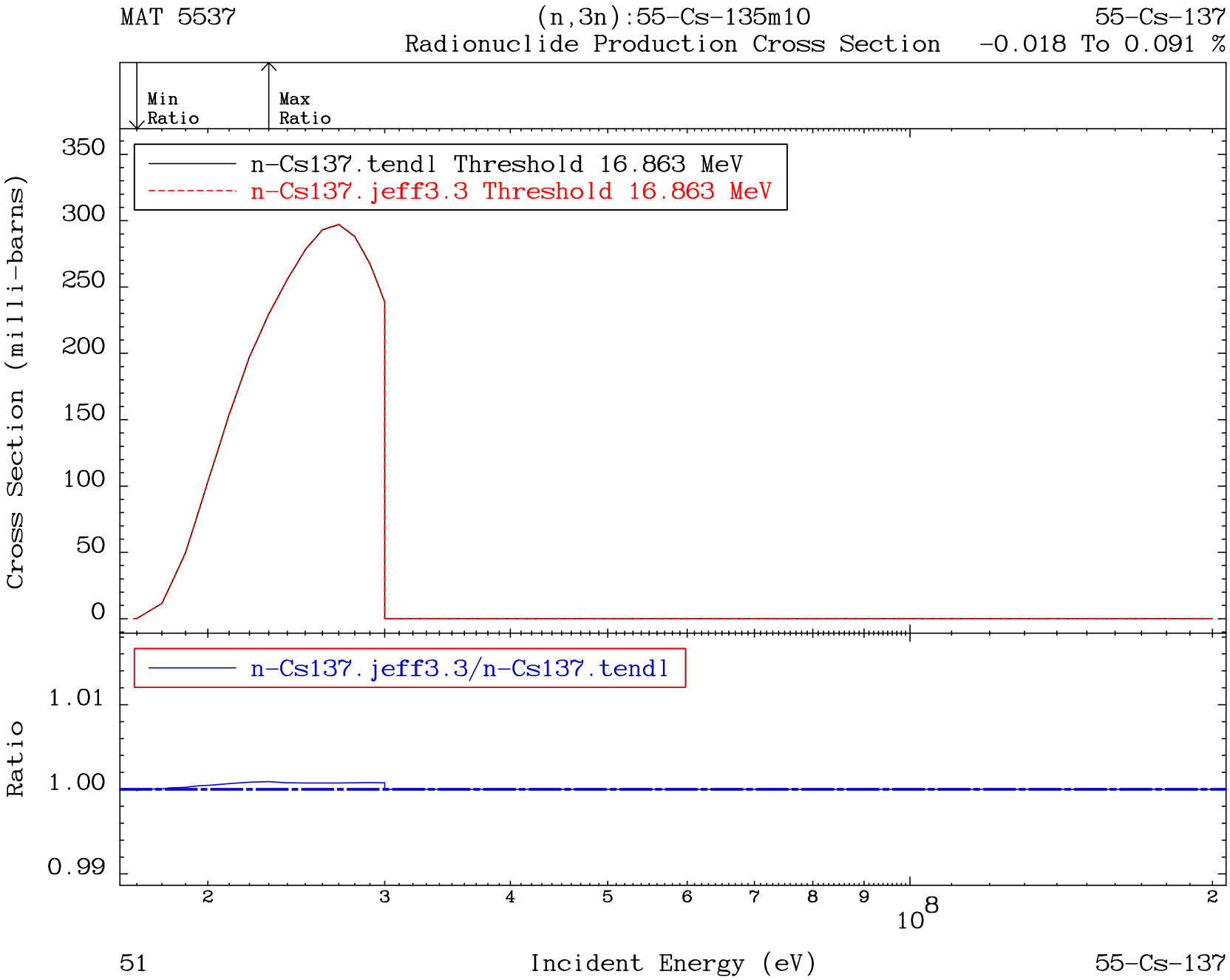

MAT 5537
(n,2n) d:54-Xe-134g
55-Cs-137
Radionuclide Production Cross Section
-0.735 To 0.748 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 19.771 MeV
n-Cs137.jeff3.3 Threshold 19.771 MeV
Cross Section (micro-barns)
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
2
10^8
46
Incident Energy (eV)
55-Cs-137

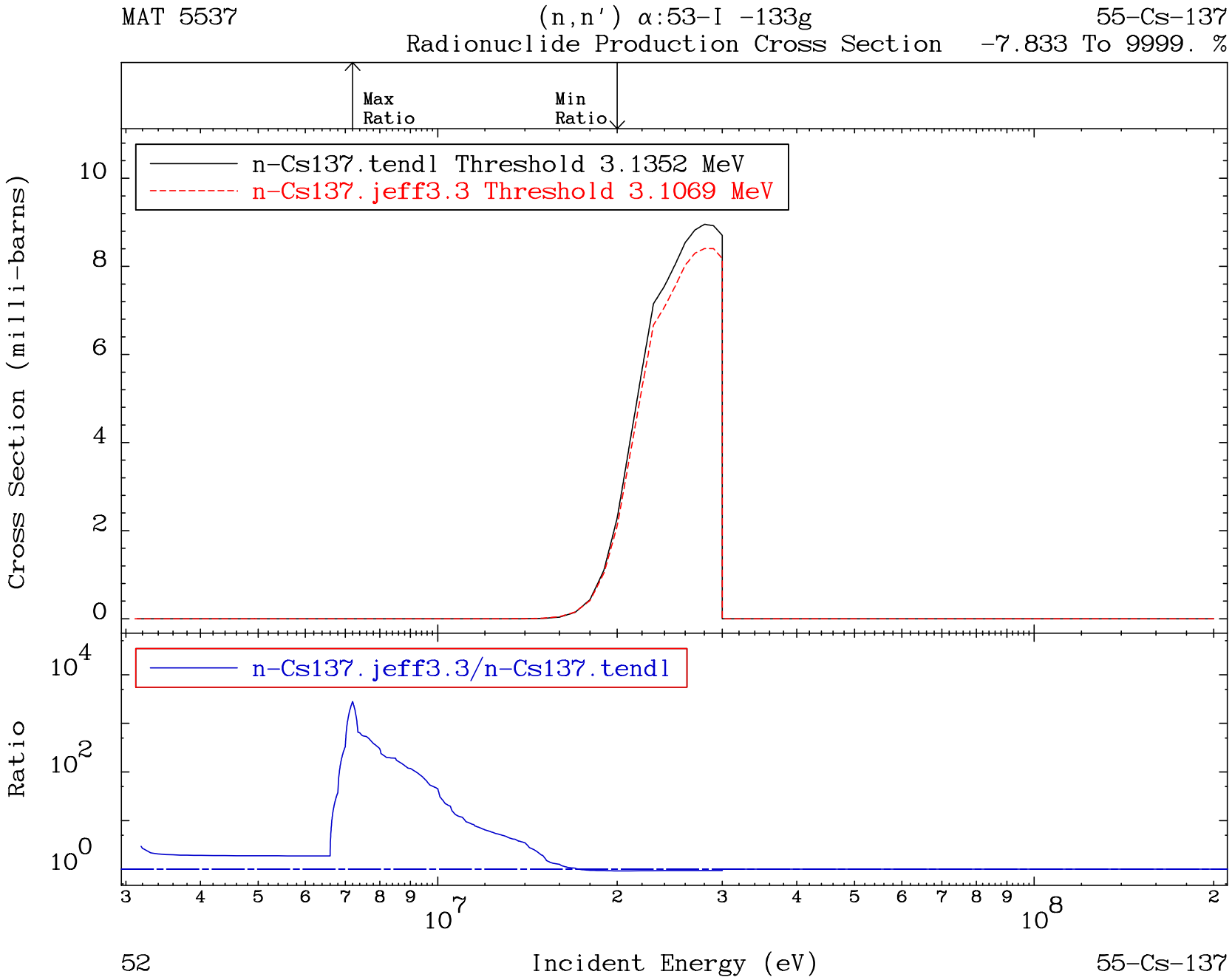

MAT 5537
(n,2n) d:54-Xe-134m7
55-Cs-137
Radionuclide Production Cross Section -5.750 To 0.294 %
Max
Ratio
n-Cs137.tendl Threshold 22.000 MeV
n-Cs137.jeff3.3 Threshold 22.000 MeV
Cross Section (micro-barns)
60
40
20
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.02
1.00
0.98
0.96
0.94
20
40
60
80
100
120
140
160
180
200
47
Incident Energy (MeV)
55-Cs-137

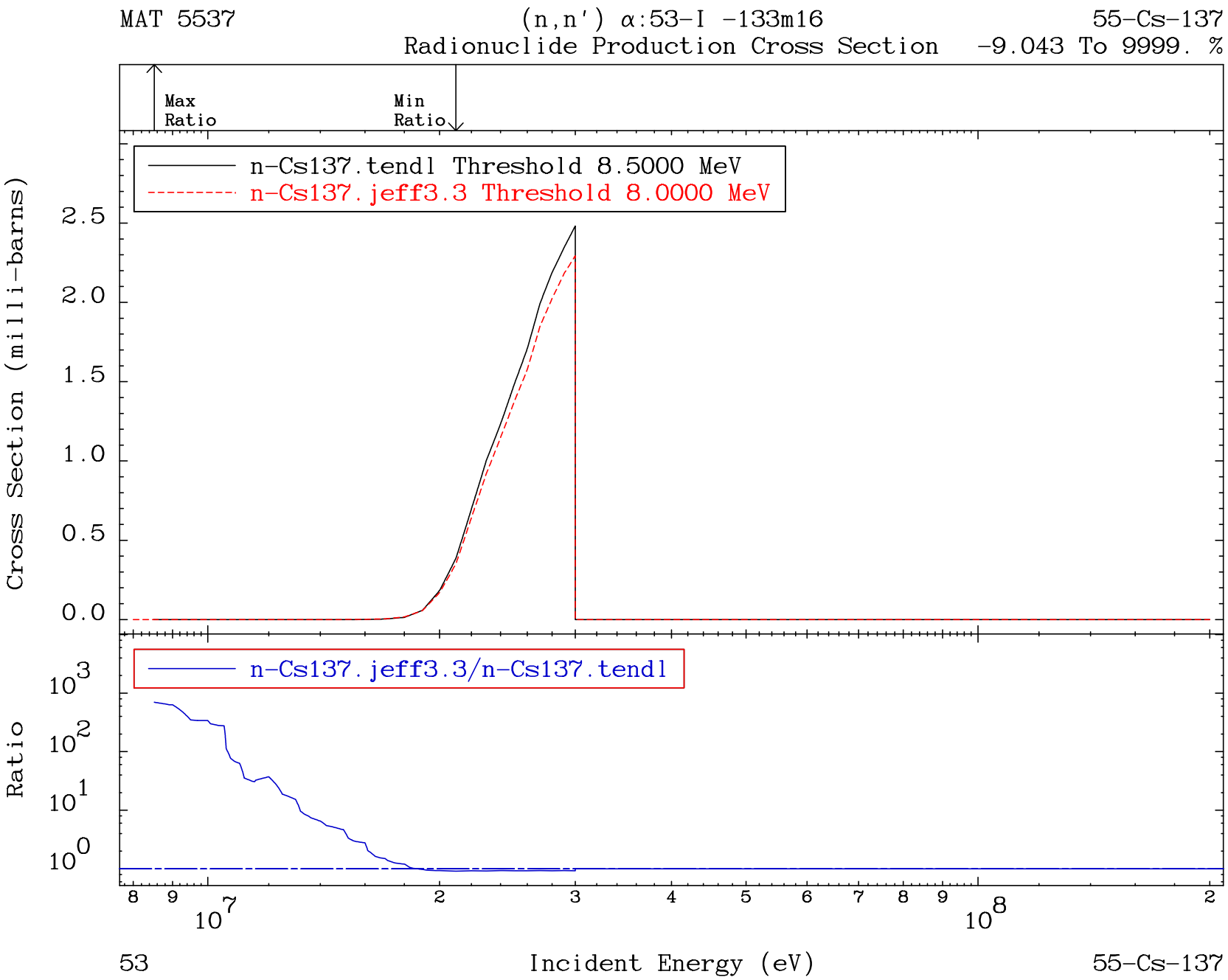

MAT 5537
(n,2n):55-Cs-136g
55-Cs-137
Radionuclide Production Cross Section
-0.003 To 0.030 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 8.3392 MeV
n-Cs137.jeff3.3 Threshold 8.3392 MeV
Cross Section (barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
48
Incident Energy (eV)
55-Cs-137

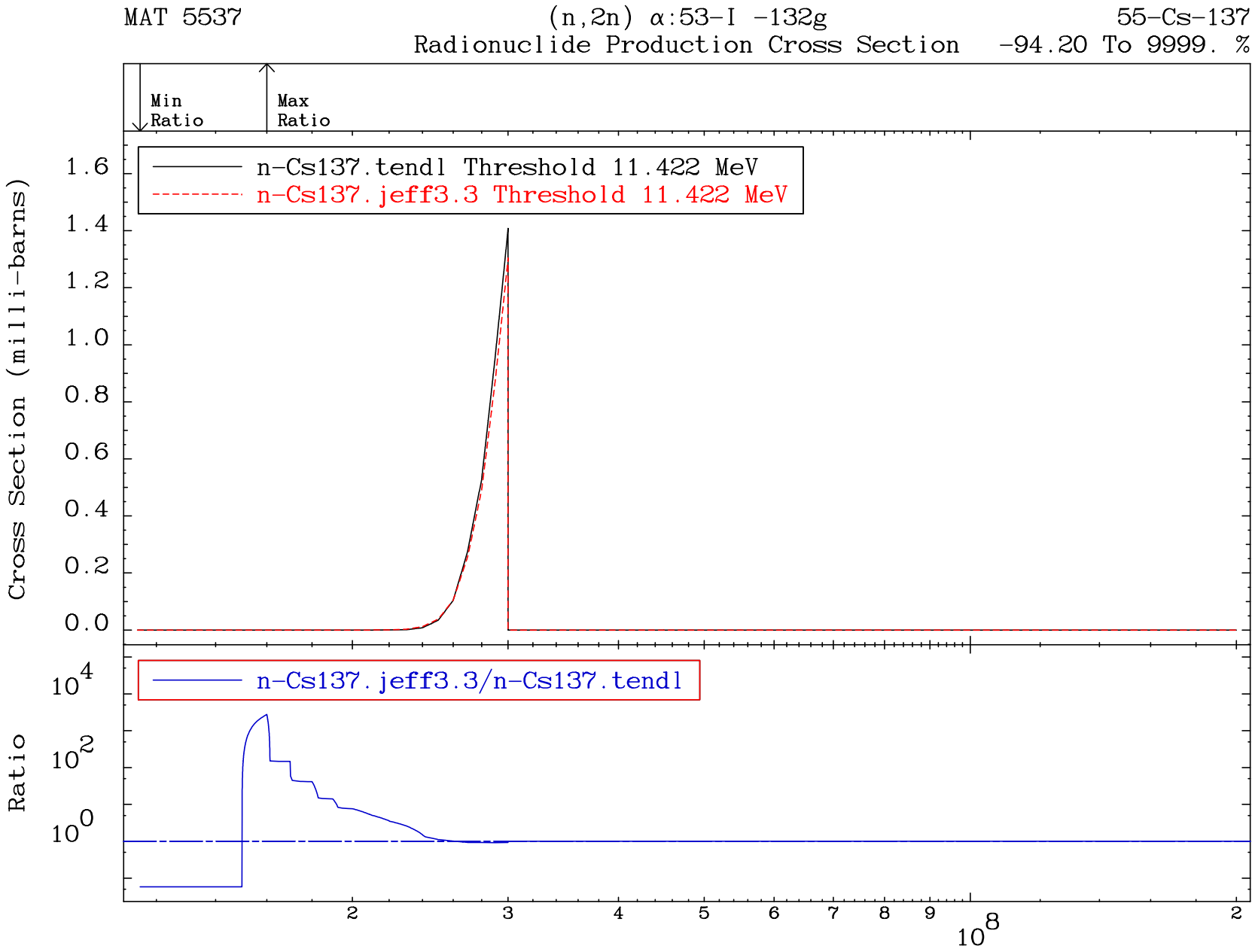

MAT 5537
(n,2n):55-Cs-136m1
55-Cs-137
Radionuclide Production Cross Section -0.002 To 0.039 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 8.9617 MeV
n-Cs137.jeff3.3 Threshold 8.9617 MeV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
49
Incident Energy (eV)
55-Cs-137

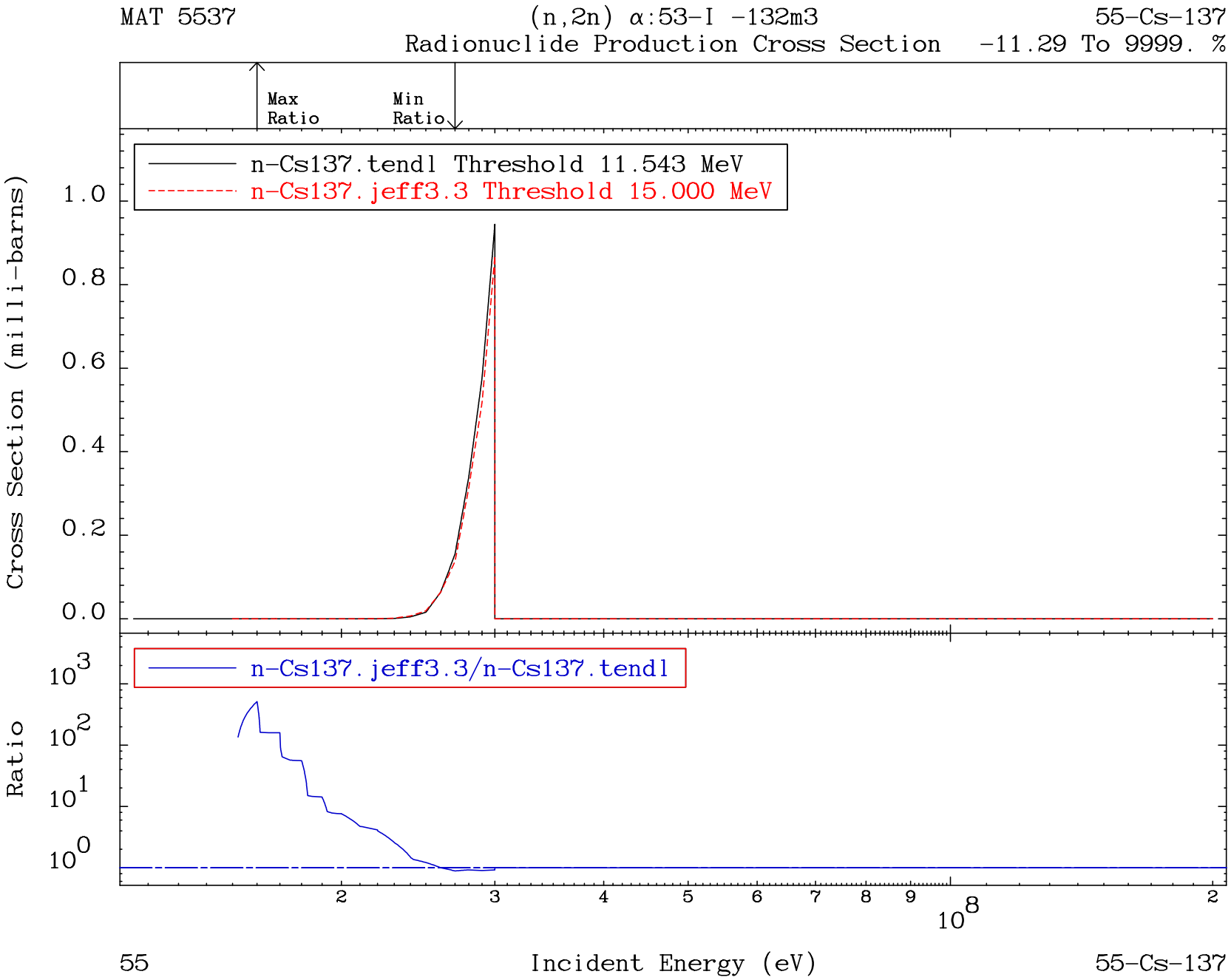

MAT 5537
(n,3n):55-Cs-135g
55-Cs-137
Radionuclide Production Cross Section
-0.764 To 0.087 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 15.218 MeV
n-Cs137.jeff3.3 Threshold 15.218 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
50
Incident Energy (eV)
55-Cs-137

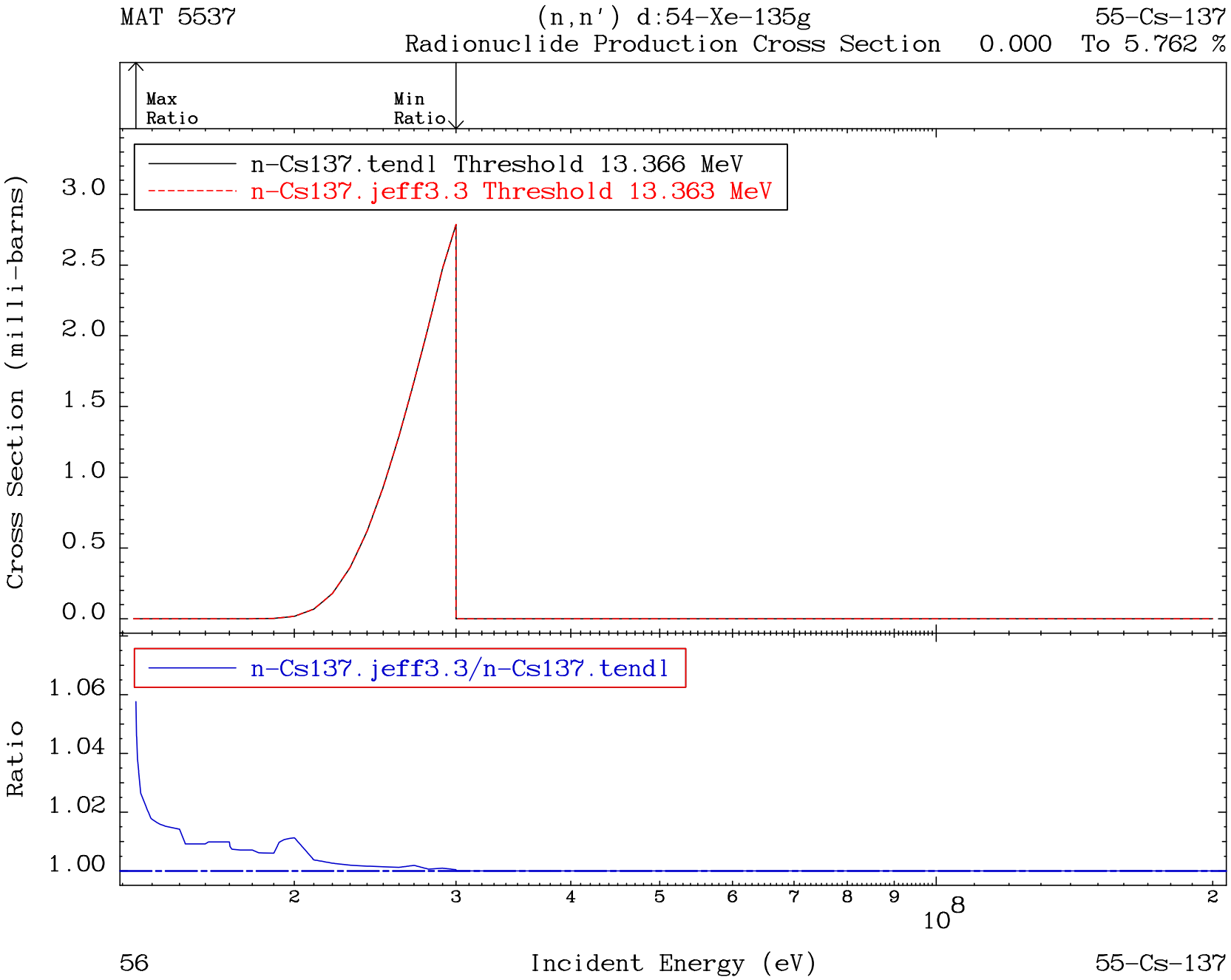

MAT 5537
(n,3n):55-Cs-135m10
55-Cs-137
Radionuclide Production Cross Section -0.018 To 0.091 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 16.863 MeV
n-Cs137.jeff3.3 Threshold 16.863 MeV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
51
Incident Energy (eV)
55-Cs-137

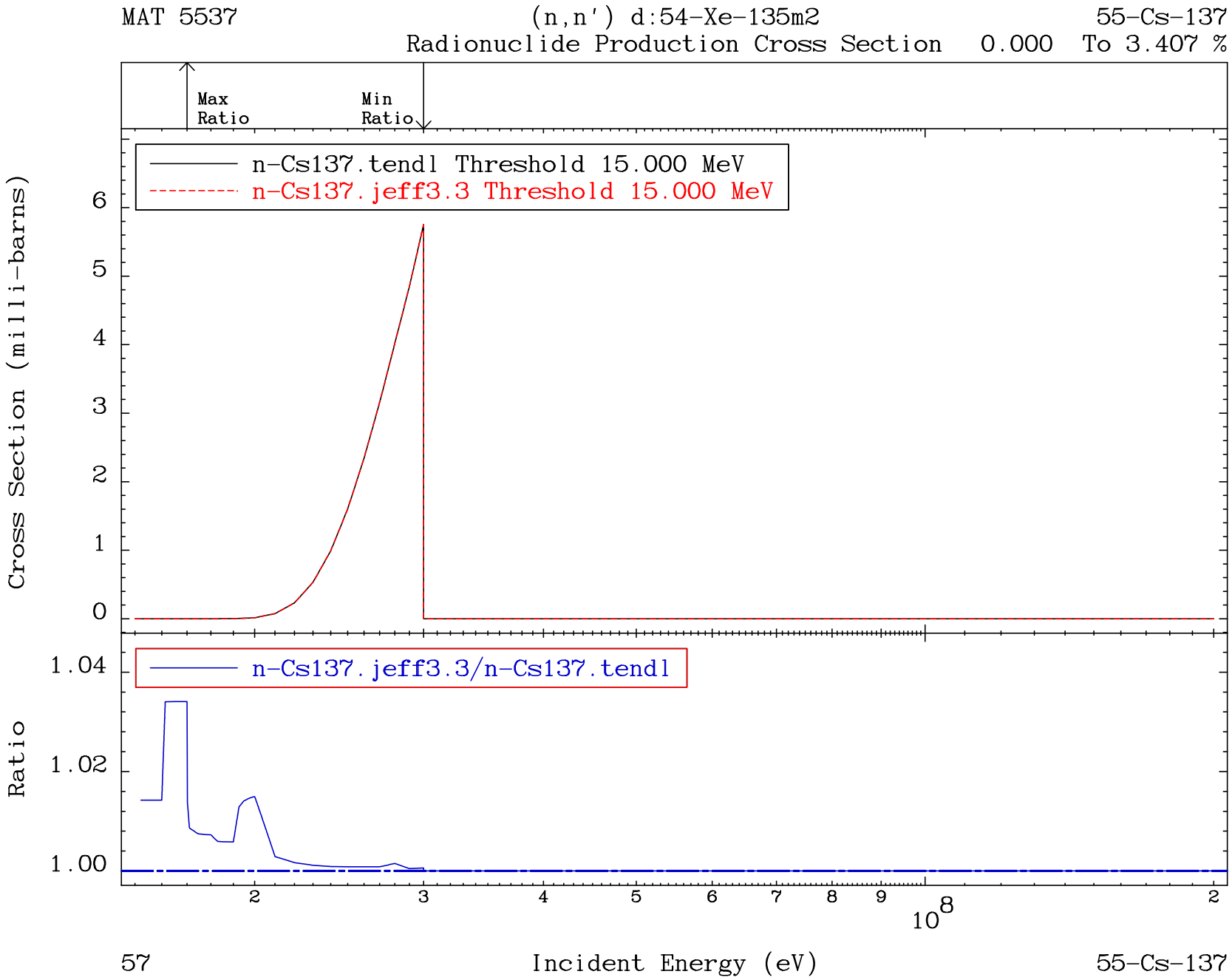

MAT 5537
(n,n') α:53-I -133g
55-Cs-137
Radionuclide Production Cross Section -7.833 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 3.1352 MeV
n-Cs137.jeff3.3 Threshold 3.1069 MeV
Cross Section (milli-barns)
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
Incident Energy (eV)
52
55-Cs-137

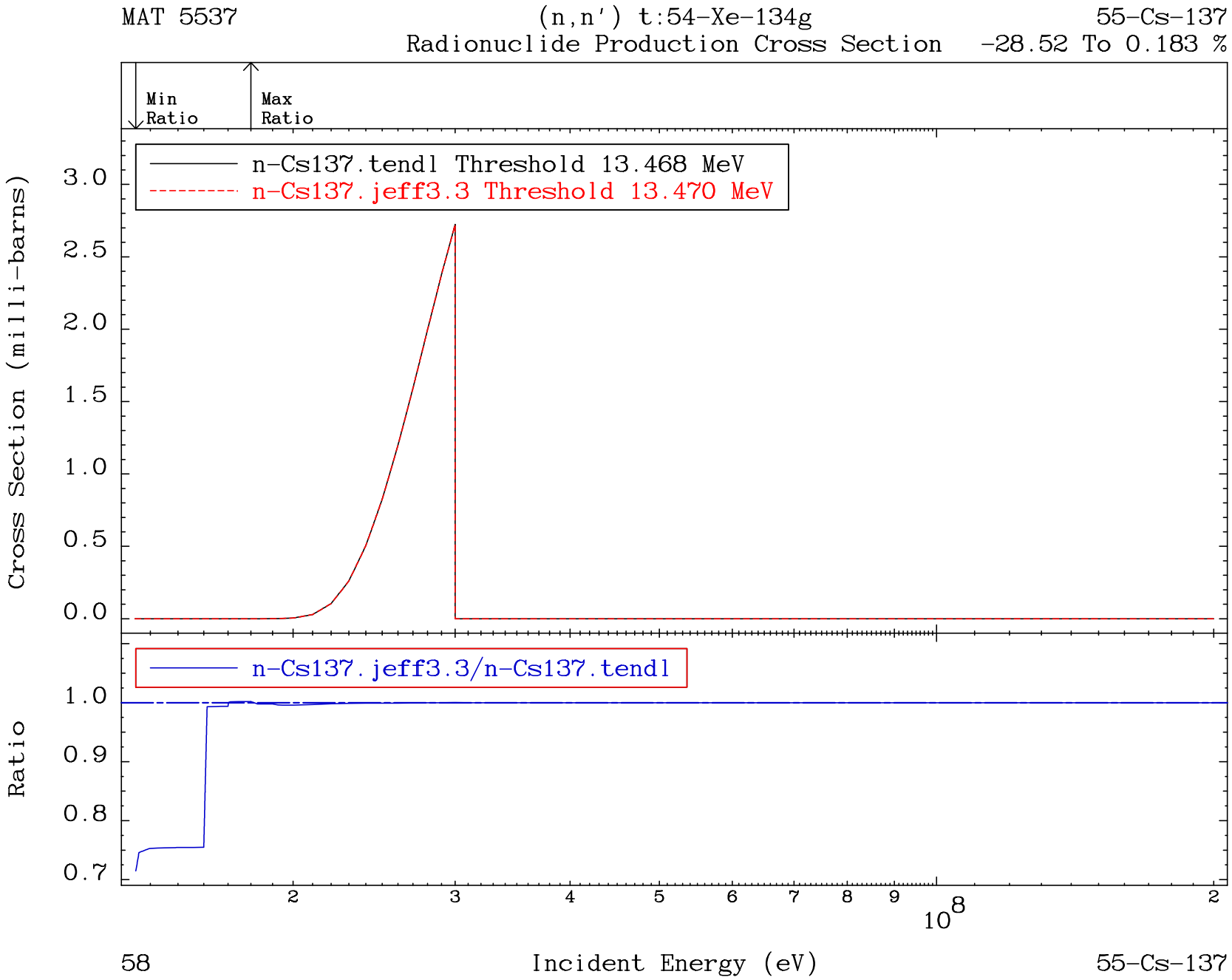

MAT 5537
(n,n') α:53-I -133m16
55-Cs-137
Radionuclide Production Cross Section -9.043 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 8.5000 MeV
n-Cs137.jeff3.3 Threshold 8.0000 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^3
10^2
10^1
10^0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
53
Incident Energy (eV)
55-Cs-137

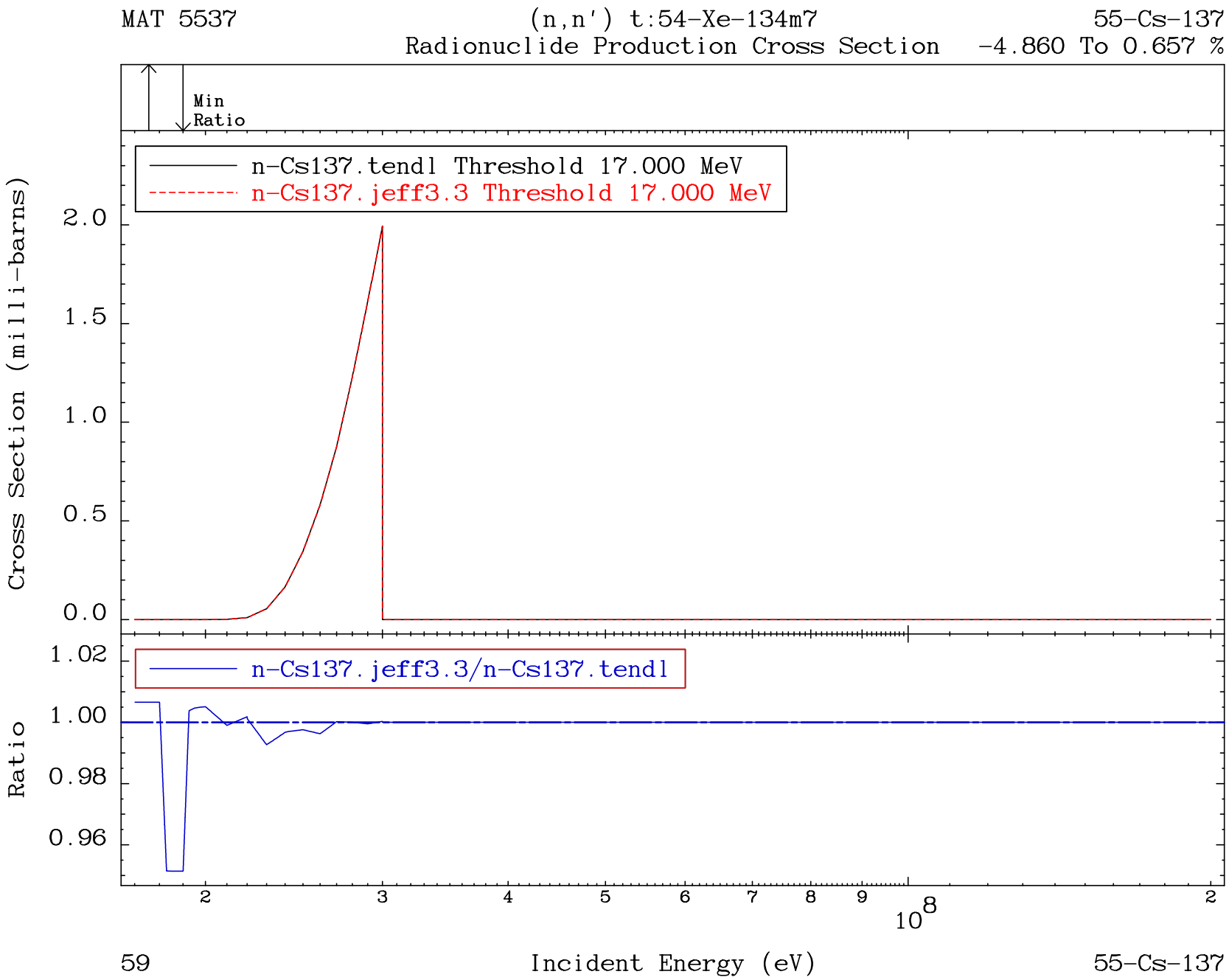

MAT 5537
(n,2n) α:53-I -132g
55-Cs-137
Radionuclide Production Cross Section -94.20 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 11.422 MeV
n-Cs137.jeff3.3 Threshold 11.422 MeV
Cross Section (milli-barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
54
Incident Energy (eV)
55-Cs-137

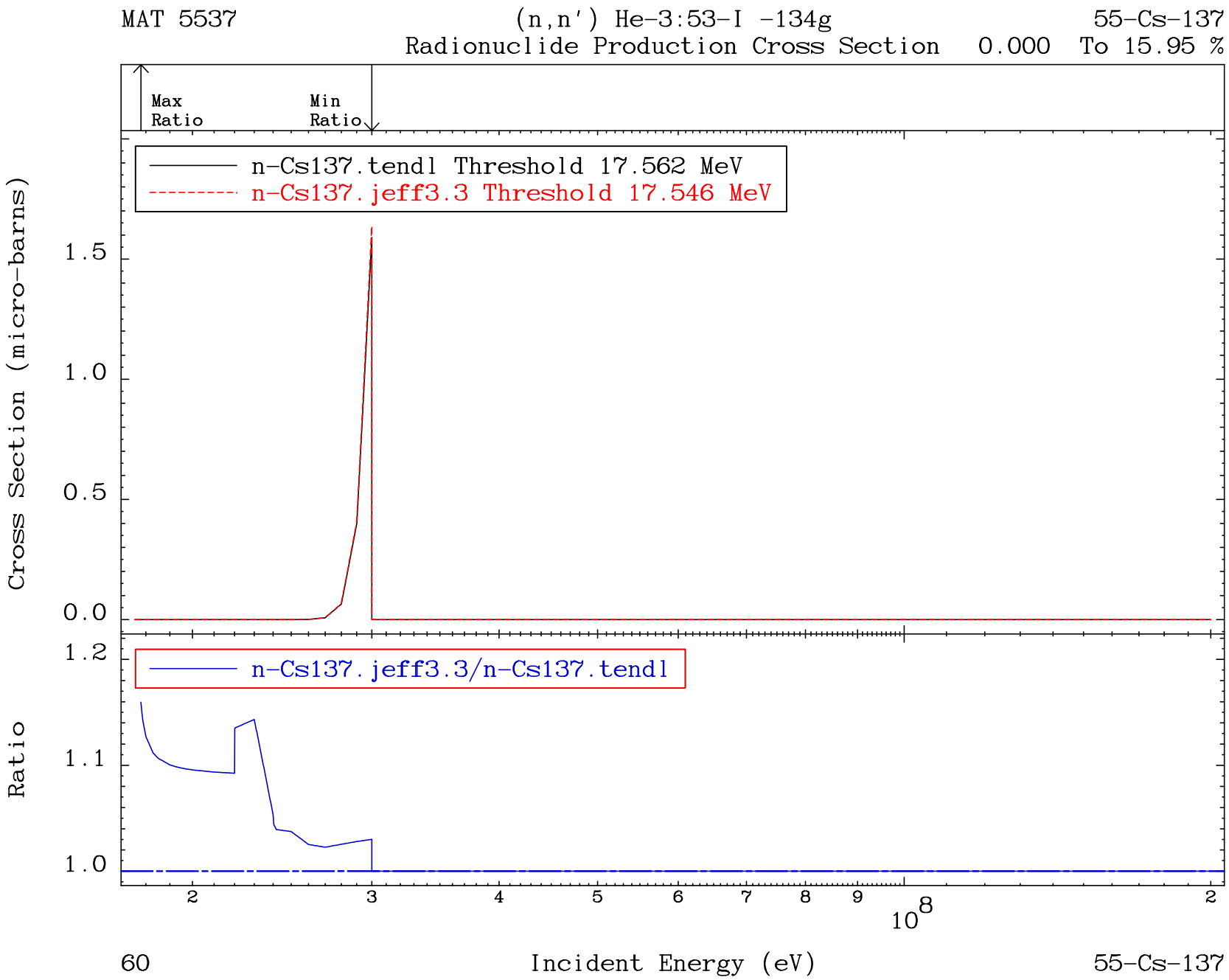

MAT 5537
(n,2n) α:53-I -132m3
55-Cs-137
Radionuclide Production Cross Section -11.29 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 11.543 MeV
n-Cs137.jeff3.3 Threshold 15.000 MeV
Cross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^3
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
55
Incident Energy (eV)
55-Cs-137

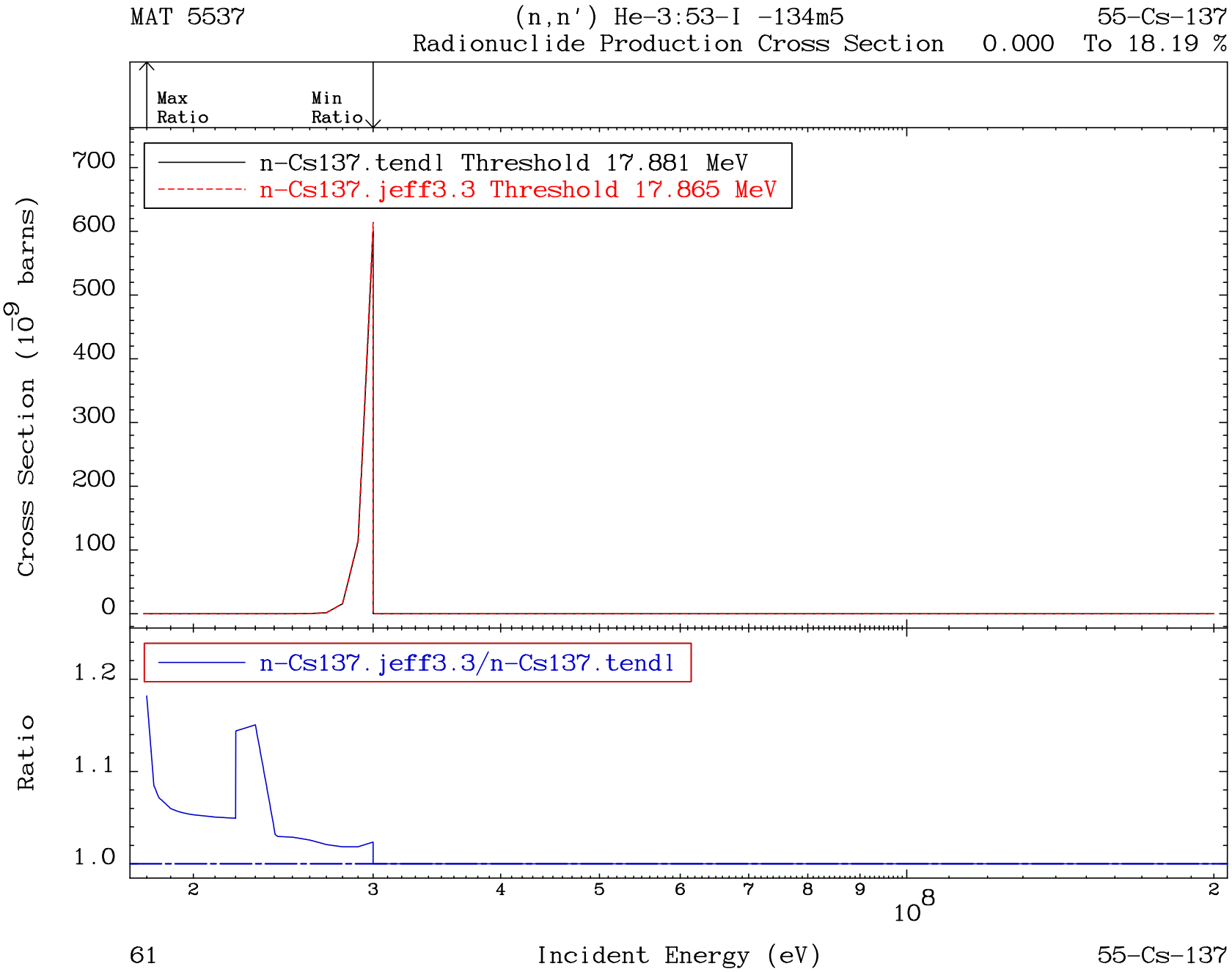

MAT 5537
(n,n') d:54-Xe-135g
55-Cs-137
Radionuclide Production Cross Section 0.000 To 5.762 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.366 MeV
n-Cs137.jeff3.3 Threshold 13.363 MeV
Cross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.06
1.04
1.02
1.00
2
3
4
5
6
7
8
9
10^8
2
56
Incident Energy (eV)
55-Cs-137

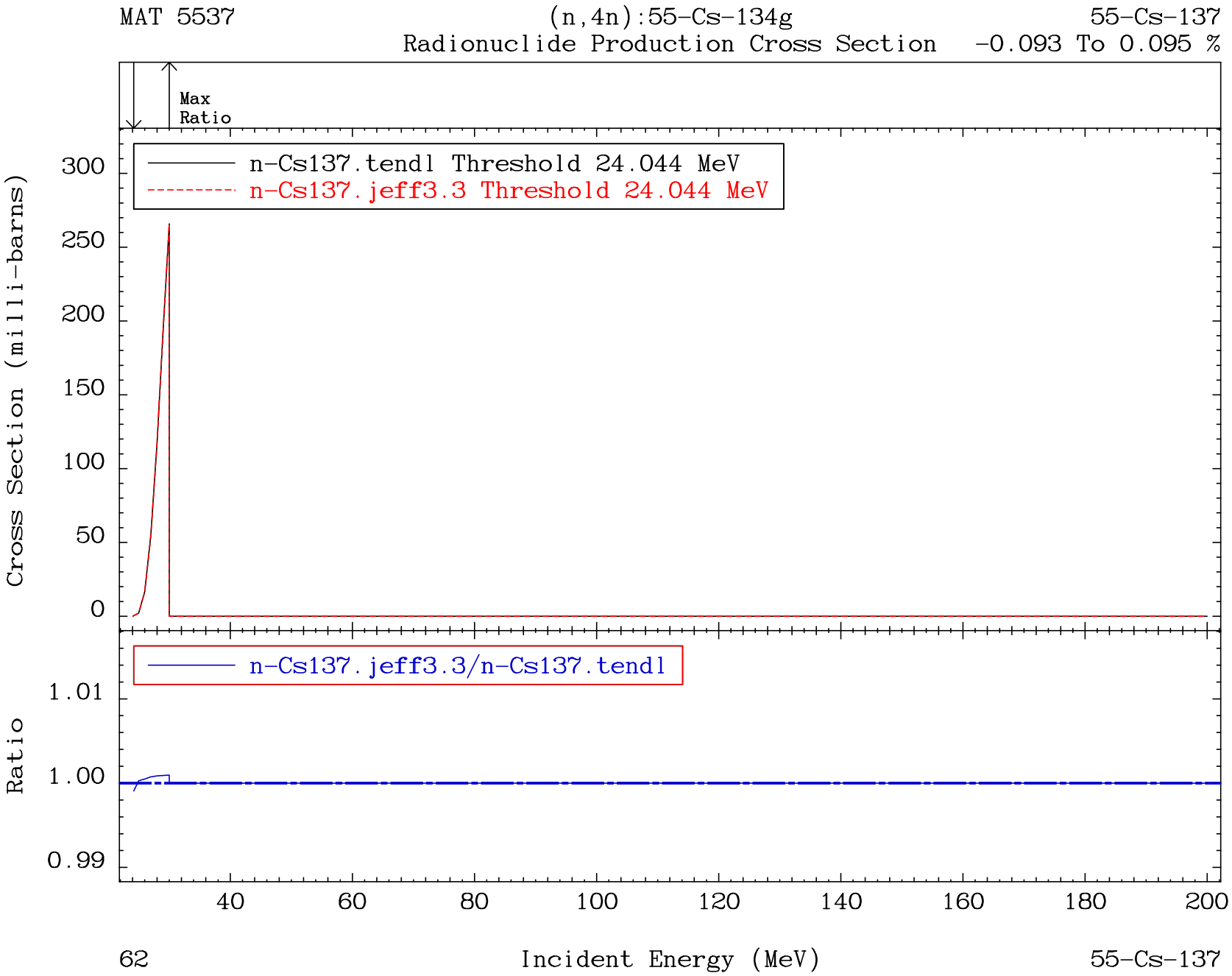

MAT 5537
(n,n') d:54-Xe-135m2
55-Cs-137
Radionuclide Production Cross Section 0.000 To 3.407 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 15.000 MeV
n-Cs137.jeff3.3 Threshold 15.000 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.00
1.02
1.04
2
3
4
5
6
7
8
9
10^8
2
57
Incident Energy (eV)
55-Cs-137

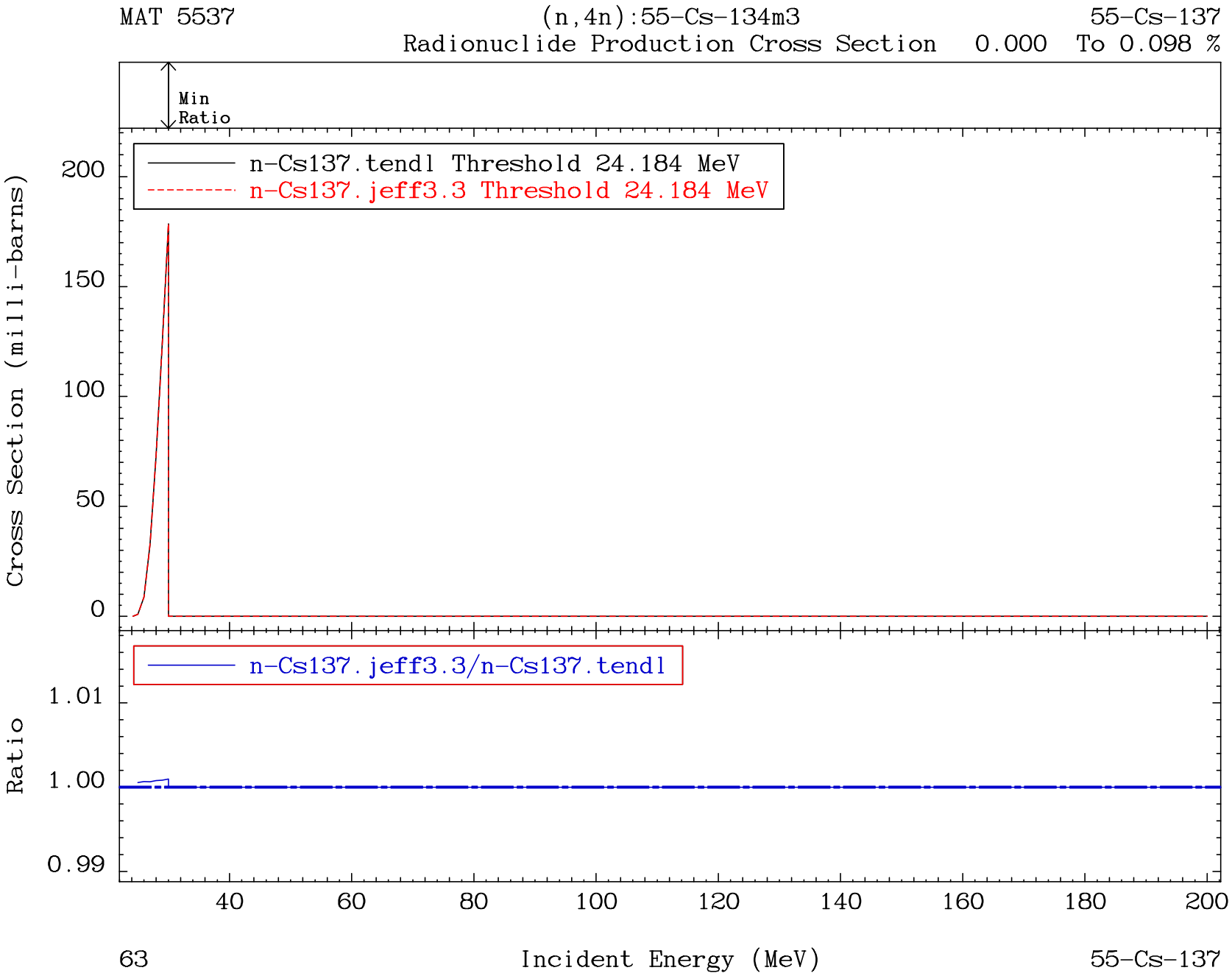

MAT 5537
(n,n') t:54-Xe-134g
55-Cs-137
Radionuclide Production Cross Section -28.52 To 0.183 %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 13.468 MeV
n-Cs137.jeff3.3 Threshold 13.470 MeV
Cross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.0
0.9
0.8
0.7
2
3
4
5
6
7
8
9
10^8
2
58
Incident Energy (eV)
55-Cs-137

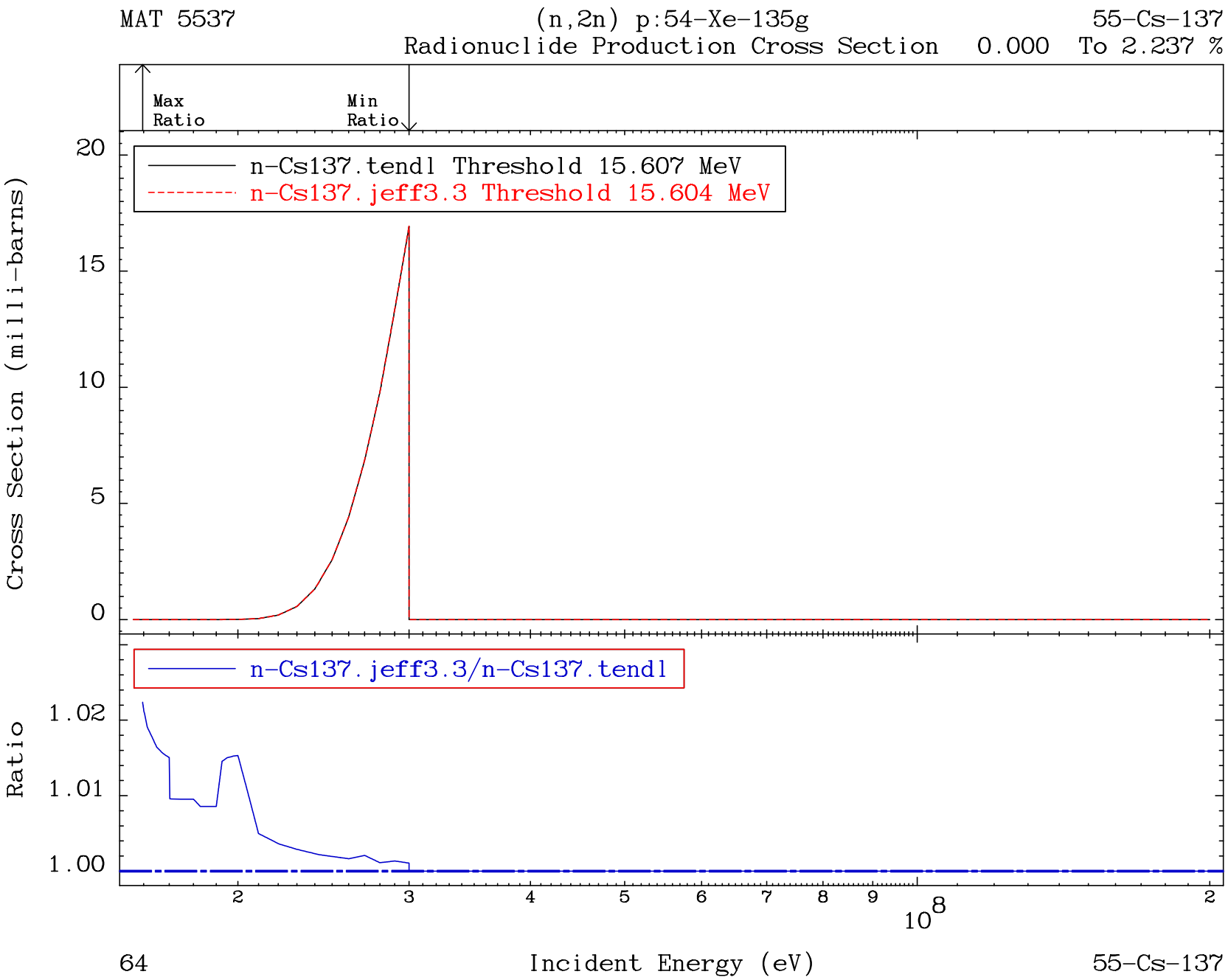

MAT 5537
(n,n') t:54-Xe-134m7
55-Cs-137
Radionuclide Production Cross Section -4.860 To 0.657 %
Min
Ratio
n-Cs137.tendl Threshold 17.000 MeV
n-Cs137.jeff3.3 Threshold 17.000 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.02
1.00
0.98
0.96
2
3
4
5
6
7
8
9
10^8
2
59
Incident Energy (eV)
55-Cs-137

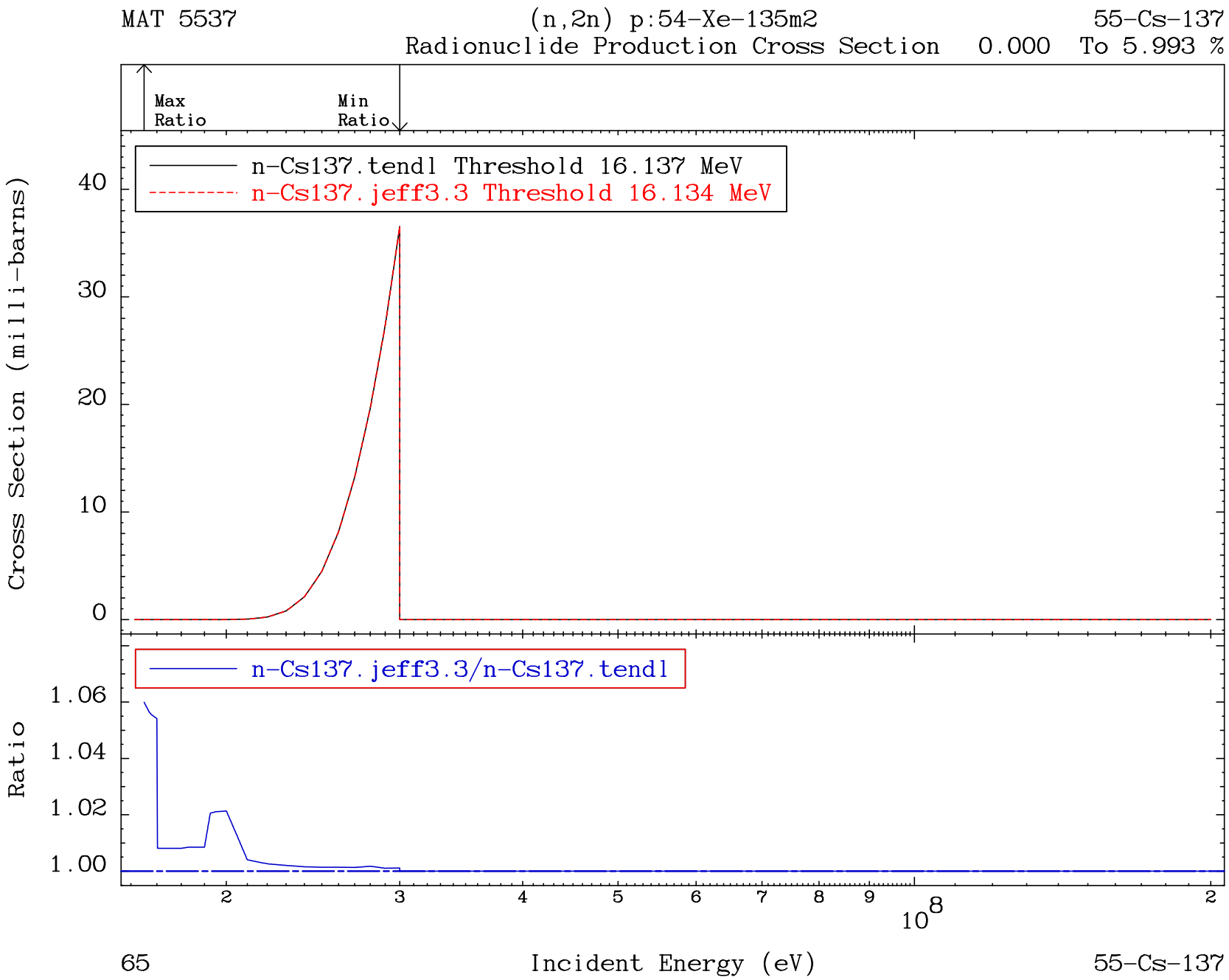

MAT 5537
(n,n') He-3:53-I -134g
55-Cs-137
Radionuclide Production Cross Section 0.000 To 15.95 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.562 MeV
n-Cs137.jeff3.3 Threshold 17.546 MeV
Cross Section (micro-barns)
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.2
1.1
1.0
2
3
4
5
6
7
8
9
10^8
2
60
Incident Energy (eV)
55-Cs-137

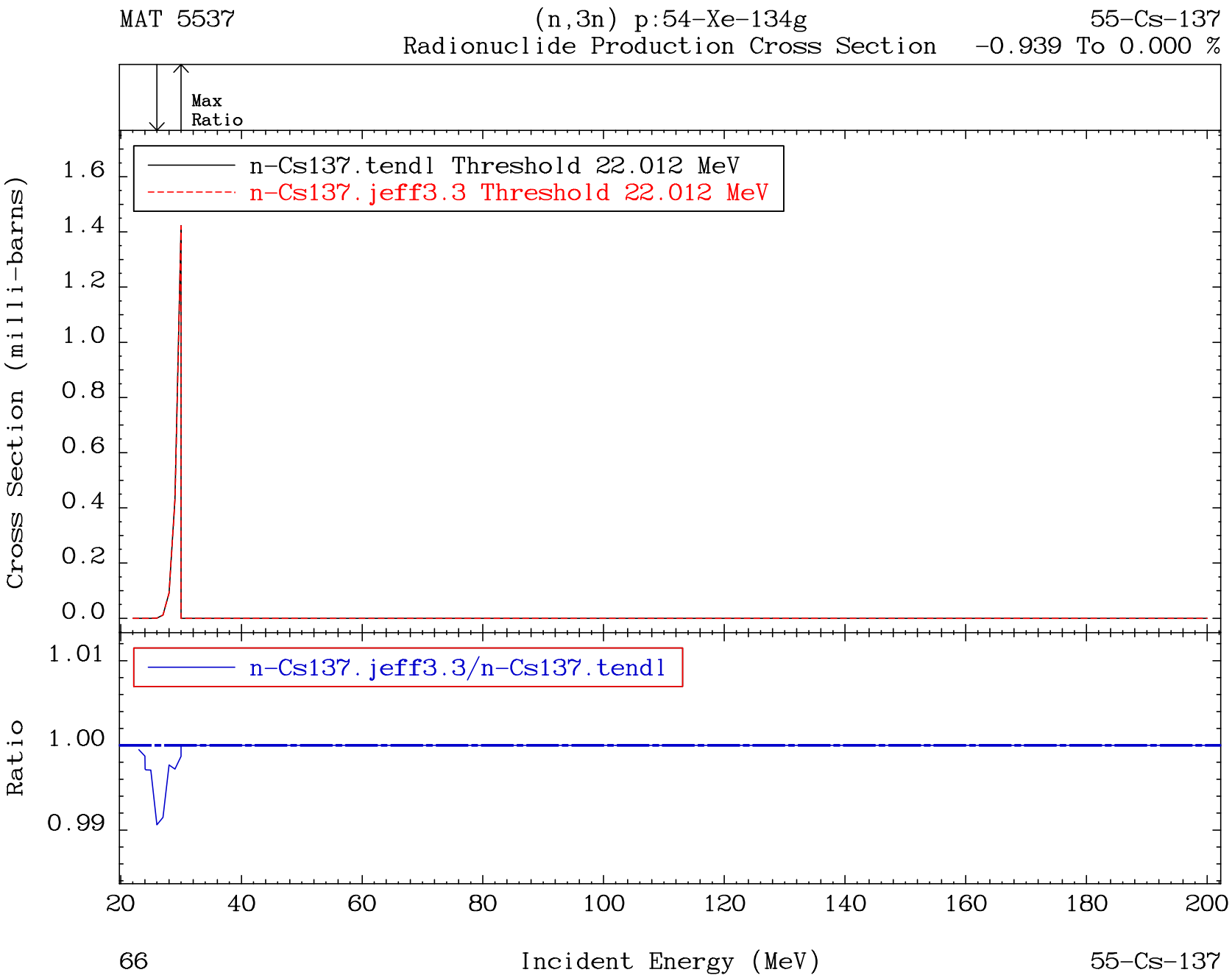

MAT 5537
(n,n') He-3:53-I -134m5
55-Cs-137
Radionuclide Production Cross Section 0.000 To 18.19 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.881 MeV
n-Cs137.jeff3.3 Threshold 17.865 MeV
Cross Section (10^{-9} barns)
700
600
500
400
300
200
100
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.2
1.1
1.0
2
3
4
5
6
7
8
9
10^8
2
61
Incident Energy (eV)
55-Cs-137

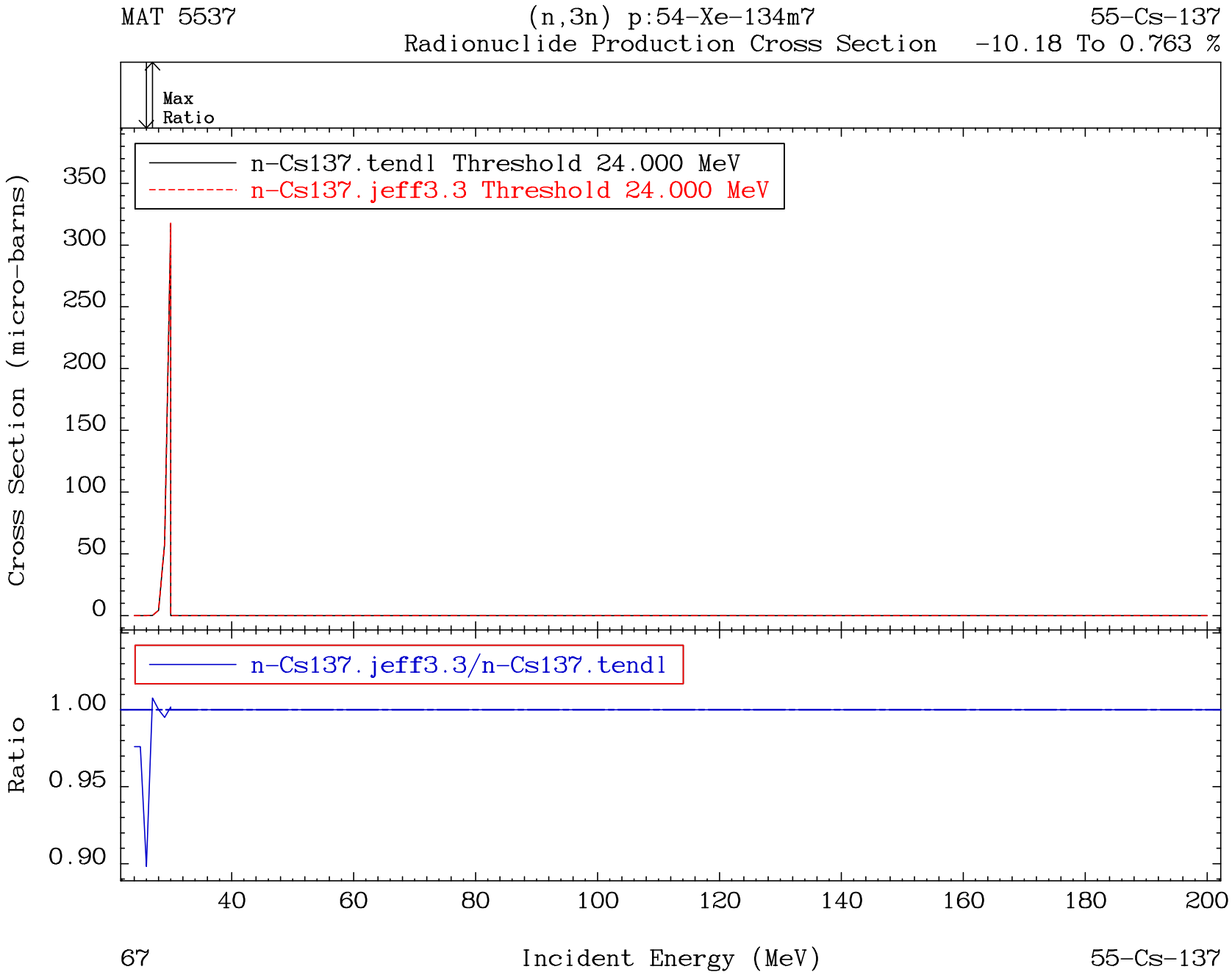

MAT 5537
(n,4n):55-Cs-134g
55-Cs-137
Radionuclide Production Cross Section
-0.093 To 0.095 %
Max
Ratio
n-Cs137.tendl Threshold 24.044 MeV
n-Cs137.jeff3.3 Threshold 24.044 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
40
60
80
100
120
140
160
180
200
62
Incident Energy (MeV)
55-Cs-137

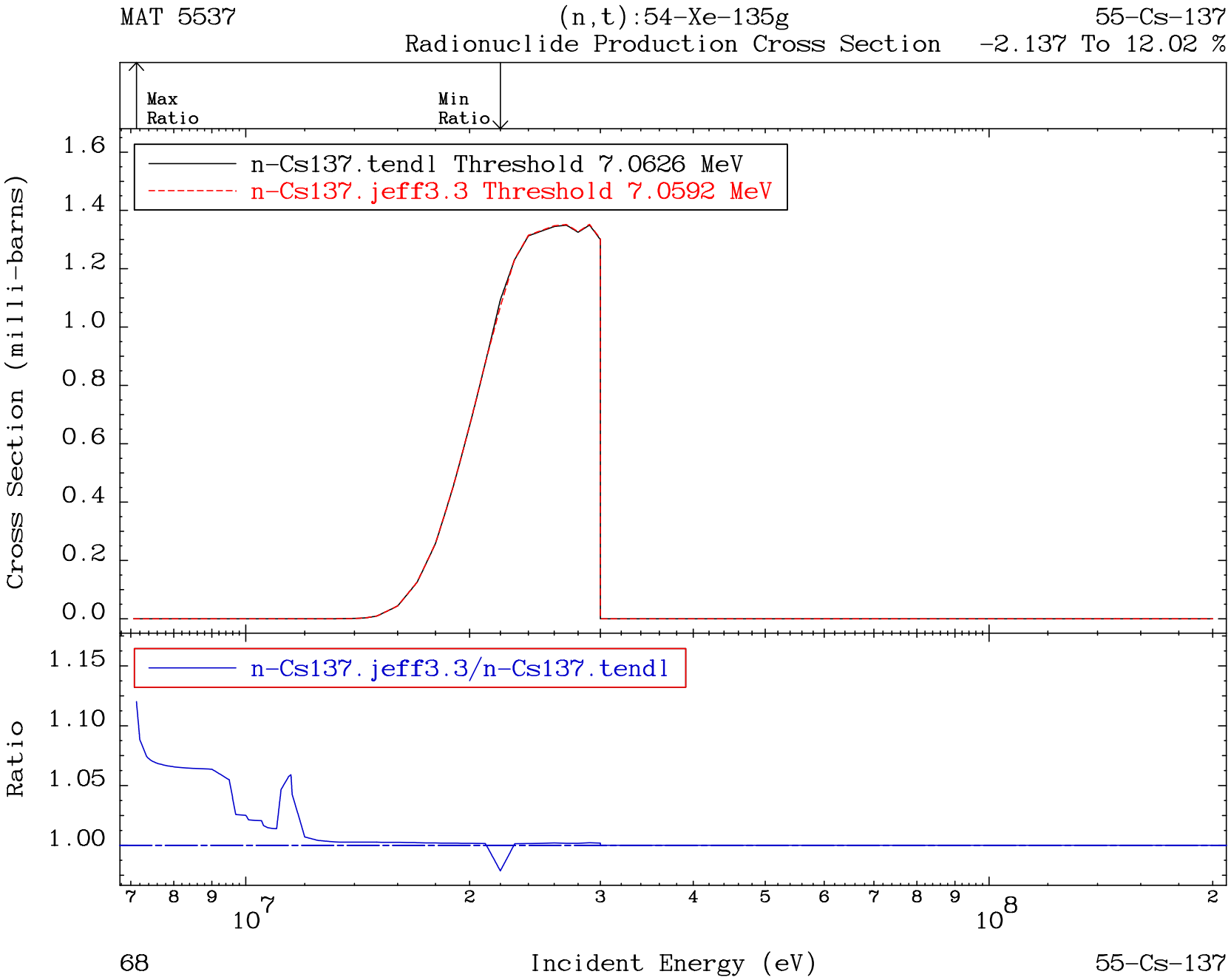

MAT 5537
(n,4n):55-Cs-134m3
55-Cs-137
Radionuclide Production Cross Section 0.000 To 0.098 %
Min Ratio
n-Cs137.tendl Threshold 24.184 MeV
n-Cs137.jeff3.3 Threshold 24.184 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
40
60
80
100
120
140
160
180
200
63
Incident Energy (MeV)
55-Cs-137

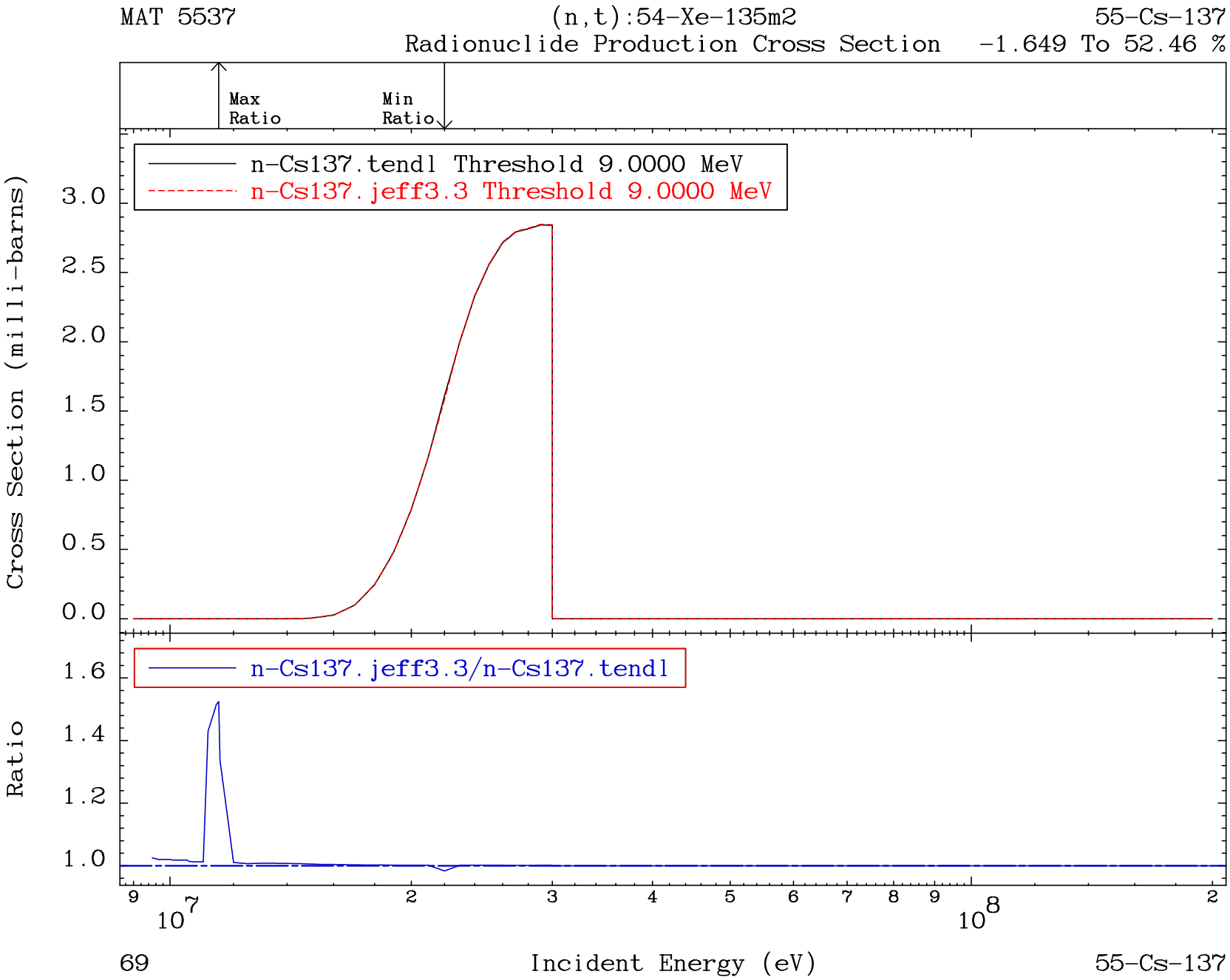

MAT 5537
(n,2n) p:54-Xe-135g
55-Cs-137
Radionuclide Production Cross Section 0.000 To 2.237 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 15.607 MeV
n-Cs137.jeff3.3 Threshold 15.604 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.02
1.01
1.00
2
3
4
5
6
7
8
9
10^8
2
64
Incident Energy (eV)
55-Cs-137

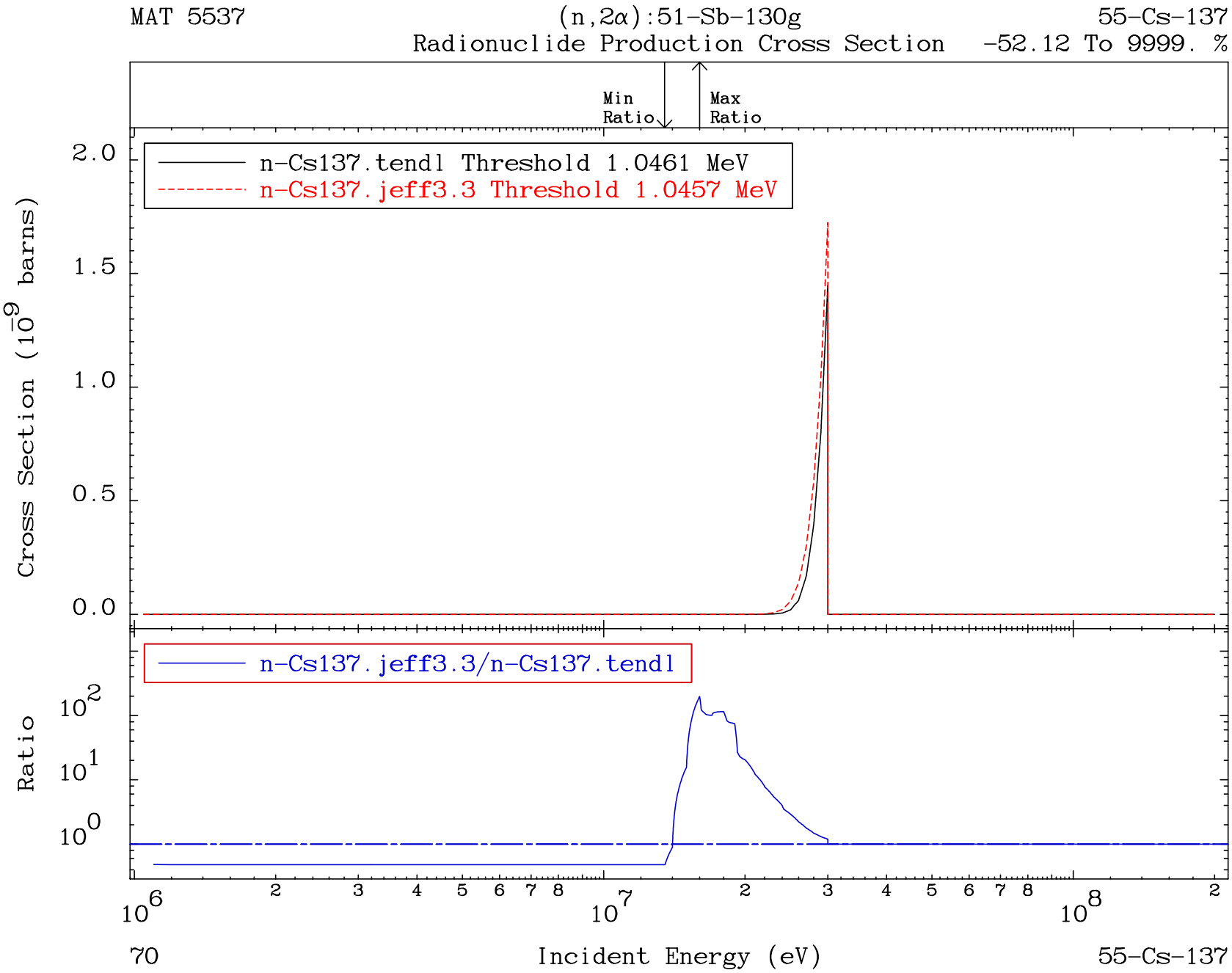

MAT 5537
(n,2n) p:54-Xe-135m2
55-Cs-137
Radionuclide Production Cross Section 0.000 To 5.993 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 16.137 MeV
n-Cs137.jeff3.3 Threshold 16.134 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.06
1.04
1.02
1.00
2
3
4
5
6
7
8
9
10^8
2
65
Incident Energy (eV)
55-Cs-137

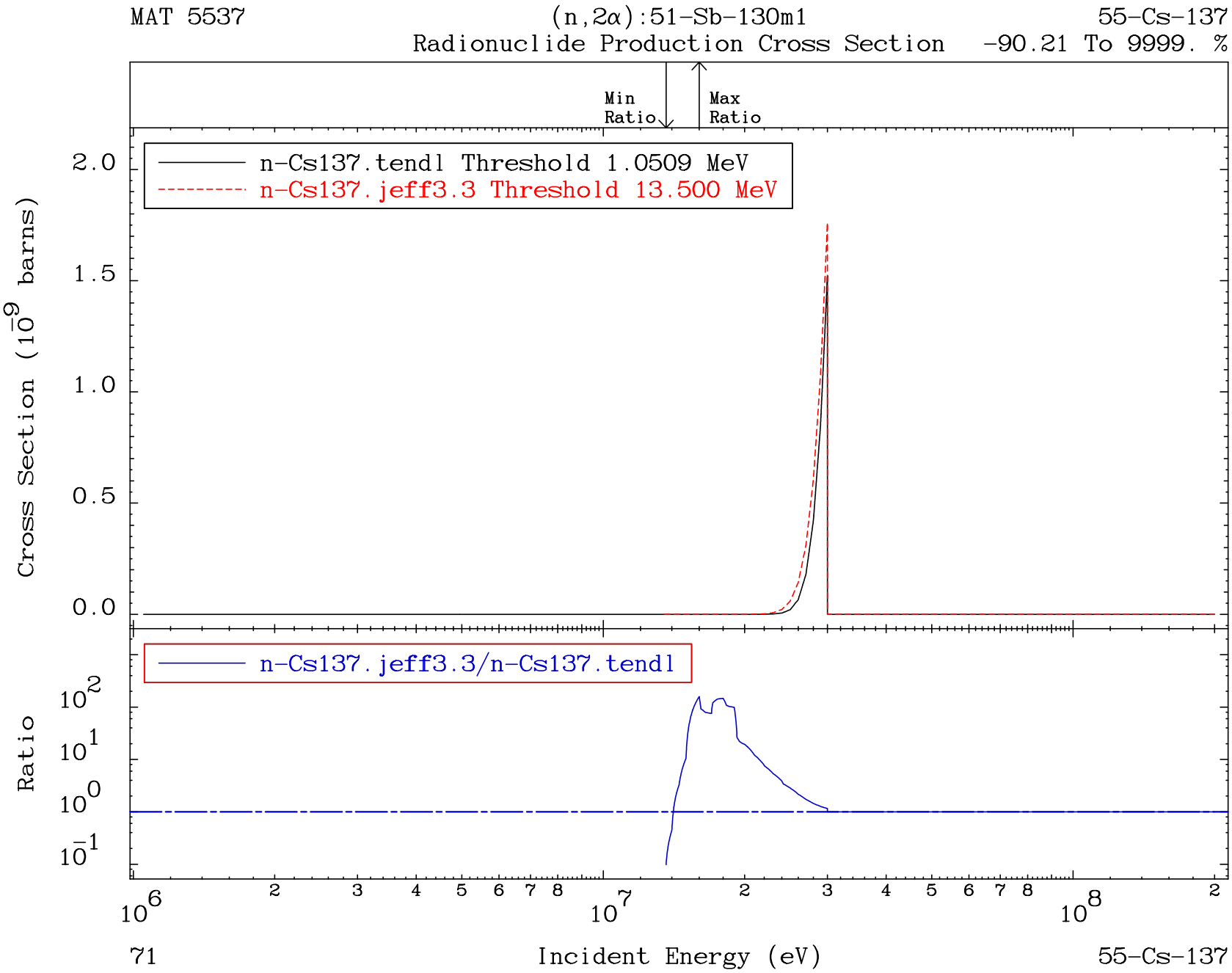

MAT 5537
(n,3n) p:54-Xe-134g
55-Cs-137
Radionuclide Production Cross Section -0.939 To 0.000 %
Max
Ratio
n-Cs137.tendl Threshold 22.012 MeV
n-Cs137.jeff3.3 Threshold 22.012 MeV
Cross Section (milli-barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
20
40
60
80
100
120
140
160
180
200
66
Incident Energy (MeV)
55-Cs-137

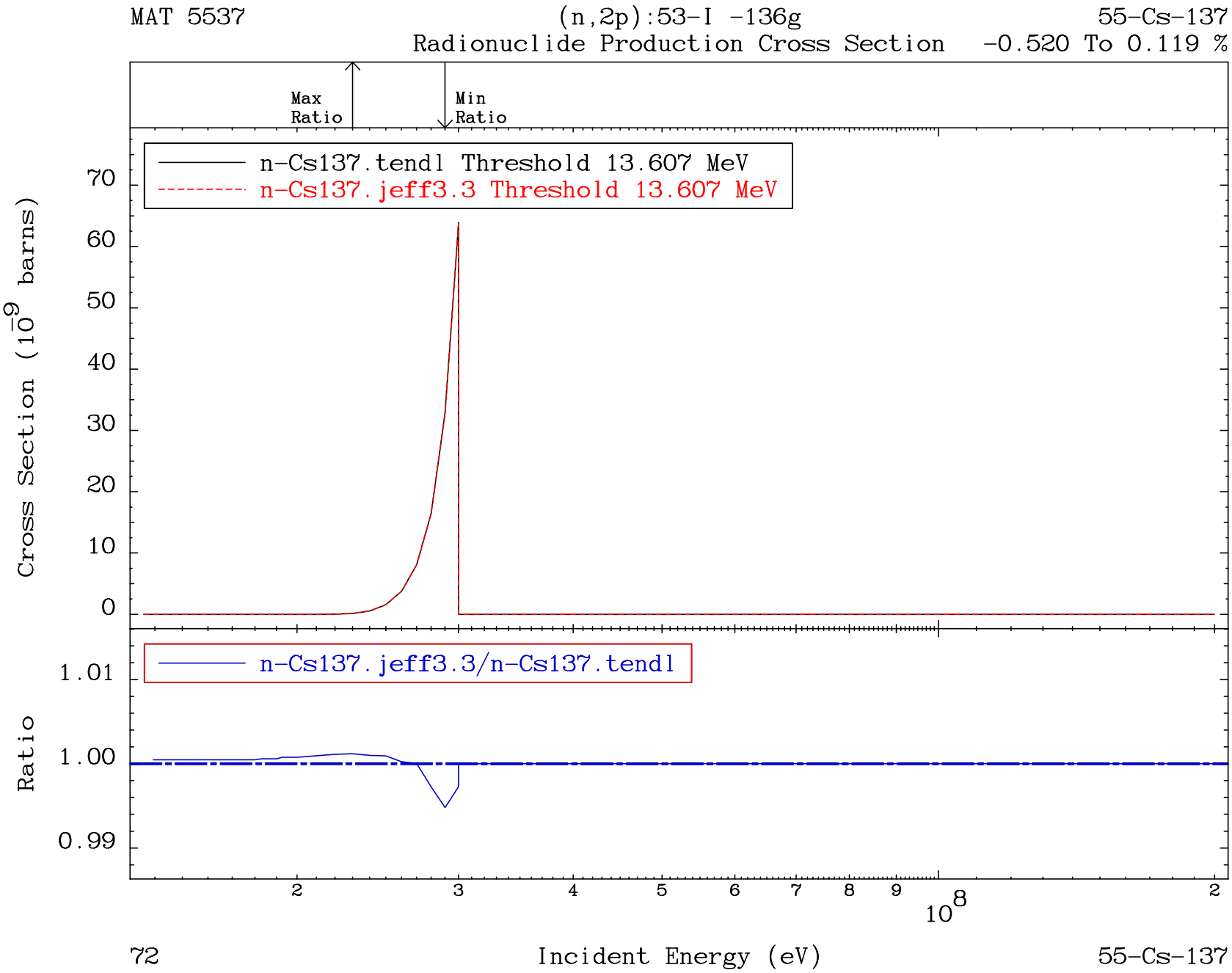

MAT 5537
(n,3n) p:54-Xe-134m7
55-Cs-137
Radionuclide Production Cross Section -10.18 To 0.763 %
Max
Ratio
n-Cs137.tendl Threshold 24.000 MeV
n-Cs137.jeff3.3 Threshold 24.000 MeV
Cross Section (micro-barns)
350
300
250
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.00
0.95
0.90
40
60
80
100
120
140
160
180
200
67
Incident Energy (MeV)
55-Cs-137

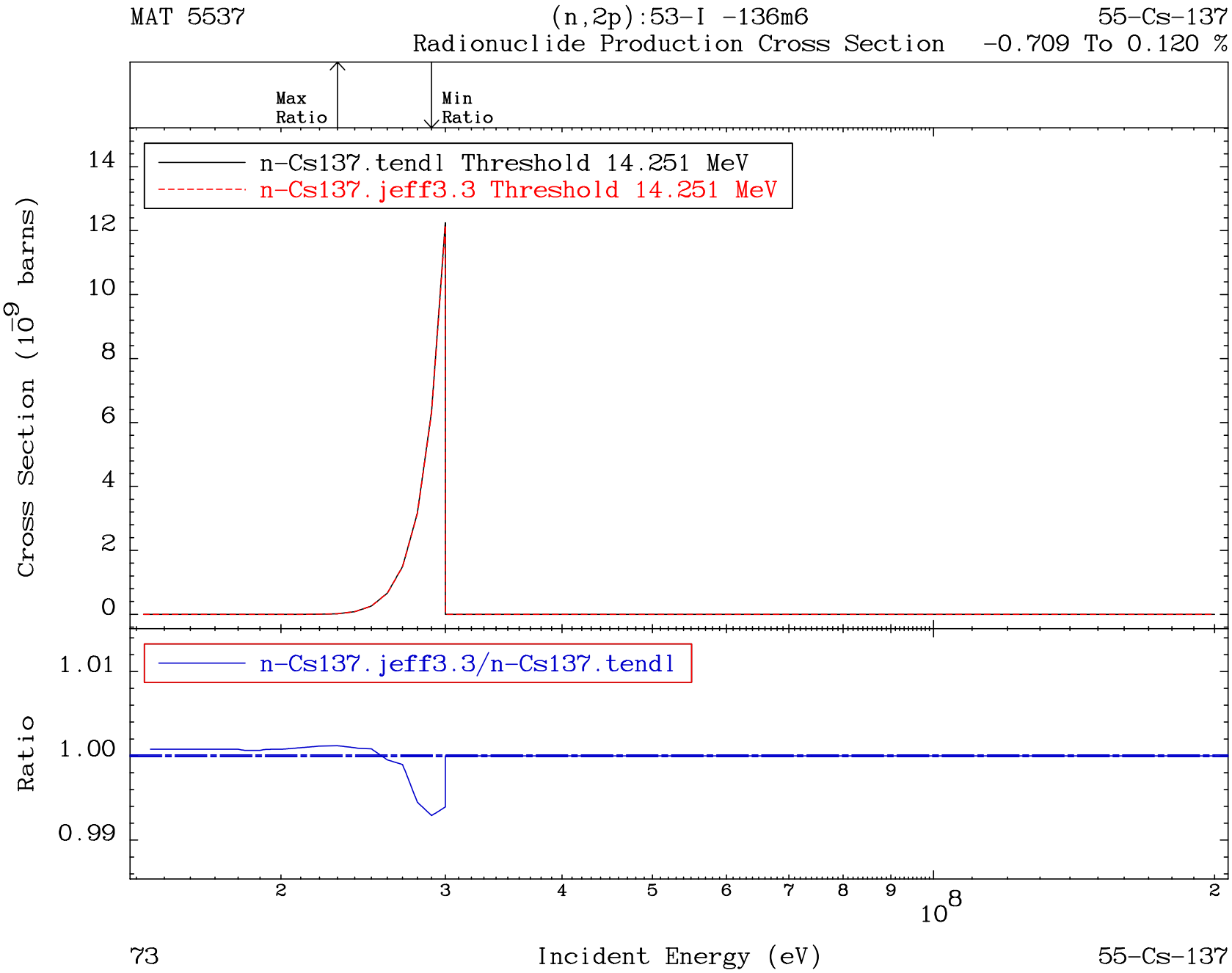

MAT 5537
(n,t):54-Xe-135g
55-Cs-137
Radionuclide Production Cross Section -2.137 To 12.02 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 7.0626 MeV
n-Cs137.jeff3.3 Threshold 7.0592 MeV
Cross Section (milli-barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.15
1.10
1.05
1.00
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
68
Incident Energy (eV)
55-Cs-137

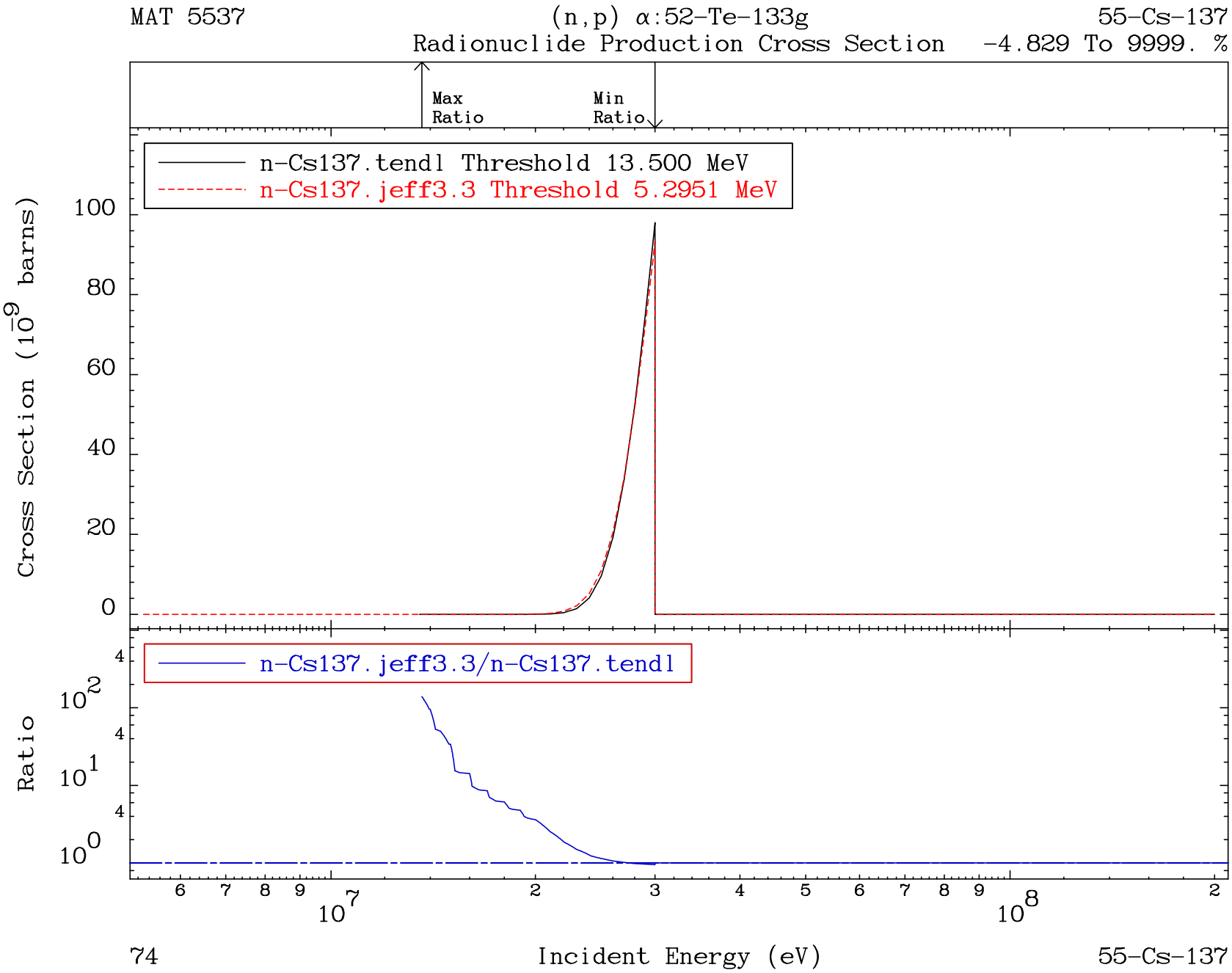

MAT 5537
(n,t):54-Xe-135m2
55-Cs-137
Radionuclide Production Cross Section -1.649 To 52.46 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 9.0000 MeV
n-Cs137.jeff3.3 Threshold 9.0000 MeV
Cross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.6
1.4
1.2
1.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
69
Incident Energy (eV)
55-Cs-137

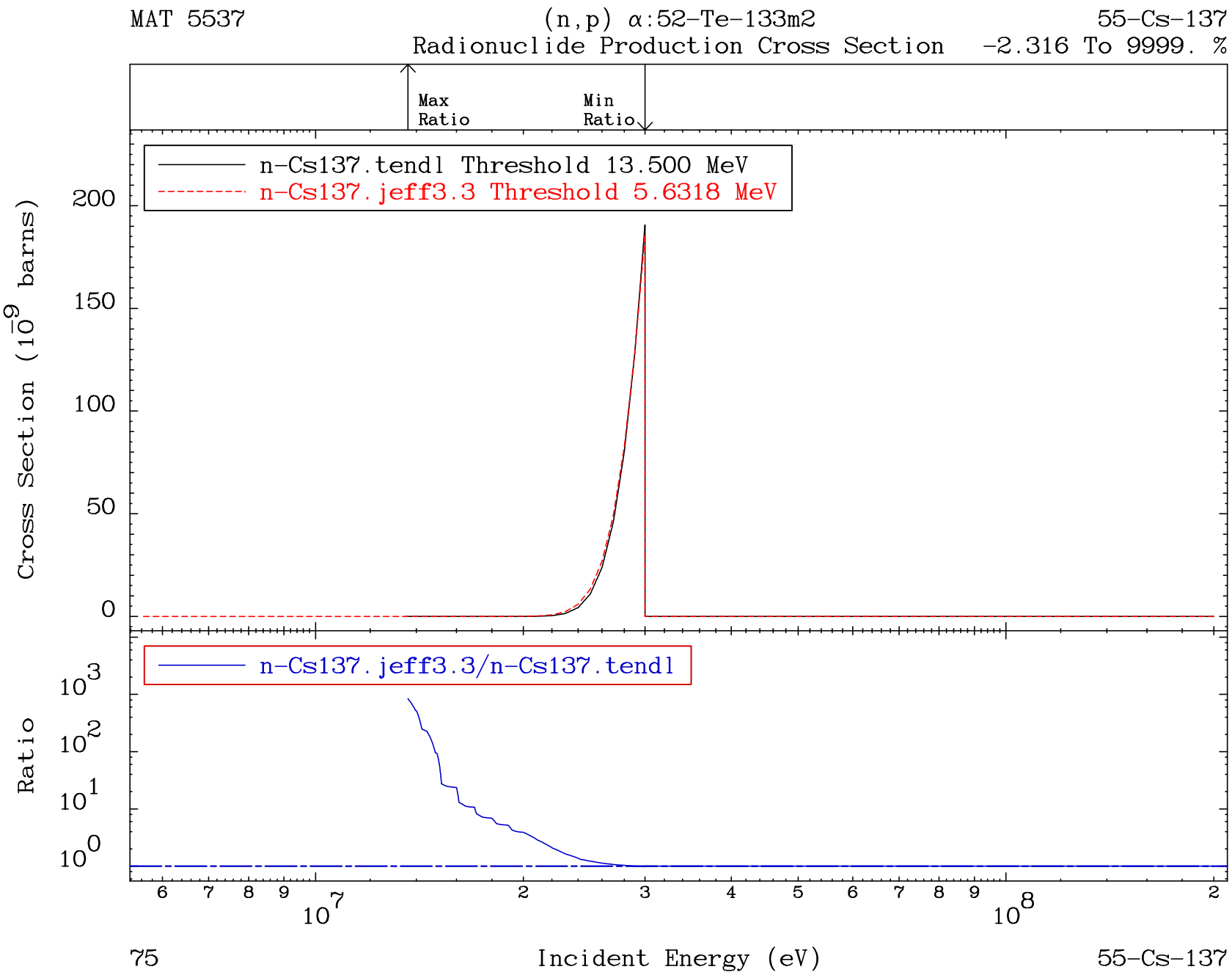

MAT 5537
(n,2α):51-Sb-130g
55-Cs-137
Radionuclide Production Cross Section -52.12 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 1.0461 MeV
n-Cs137.jeff3.3 Threshold 1.0457 MeV
Cross Section (10^{-9} barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^2
10^1
10^0
10^6
10^7
10^8
2 3 4 5 6 7 8
70
Incident Energy (eV)
55-Cs-137

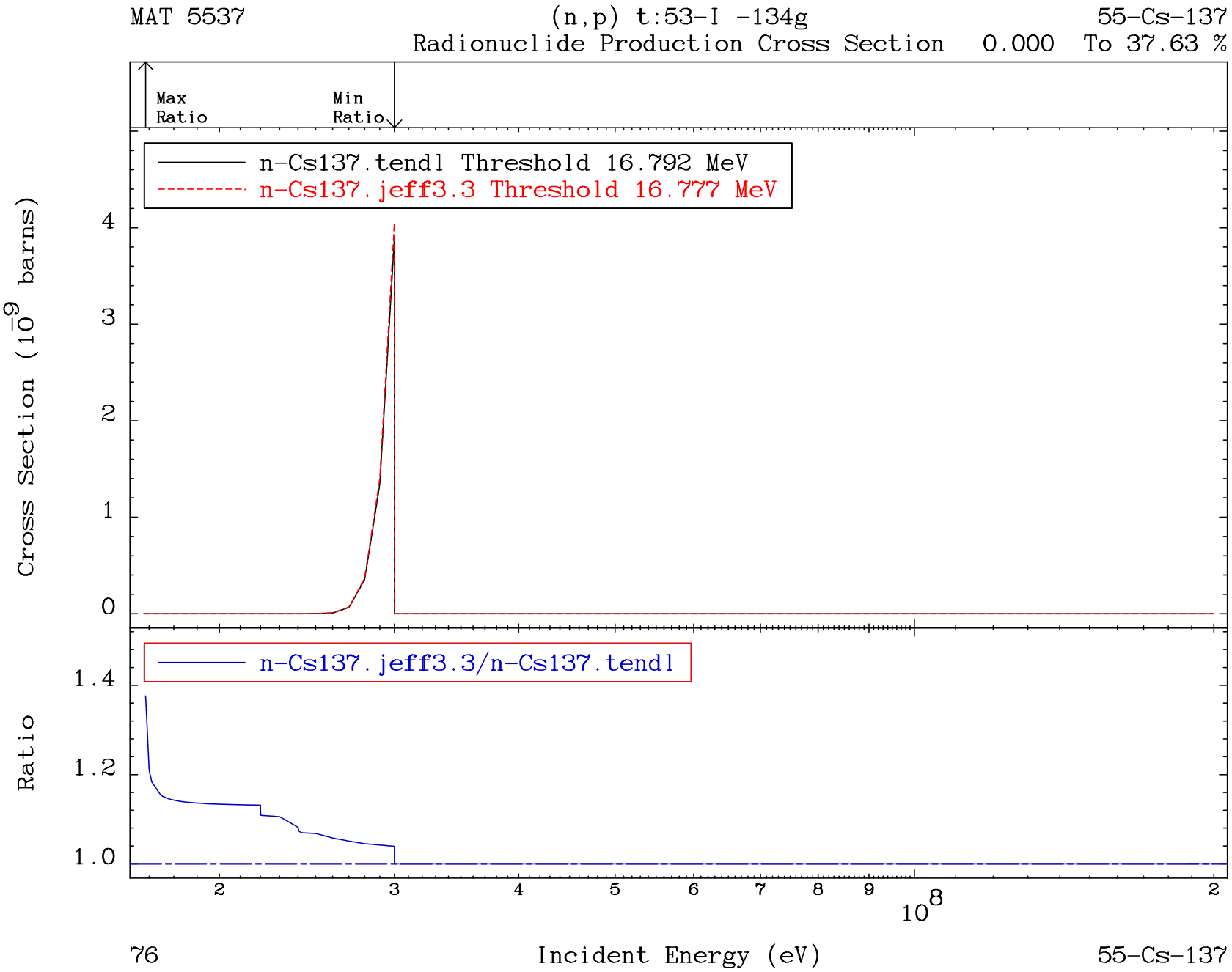

MAT 5537
(n,2α):51-Sb-130m1
55-Cs-137
Radionuclide Production Cross Section -90.21 To 9999. %
Min Ratio
Max Ratio
n-Cs137.tendl Threshold 1.0509 MeV
n-Cs137.jeff3.3 Threshold 13.500 MeV
Cross Section (10^{-9} barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^{2}
10^{1}
10^{0}
10^{-1}
10^{6}
10^{7}
10^{8}
2 3 4 5 6 7 8
71
Incident Energy (eV)
55-Cs-137

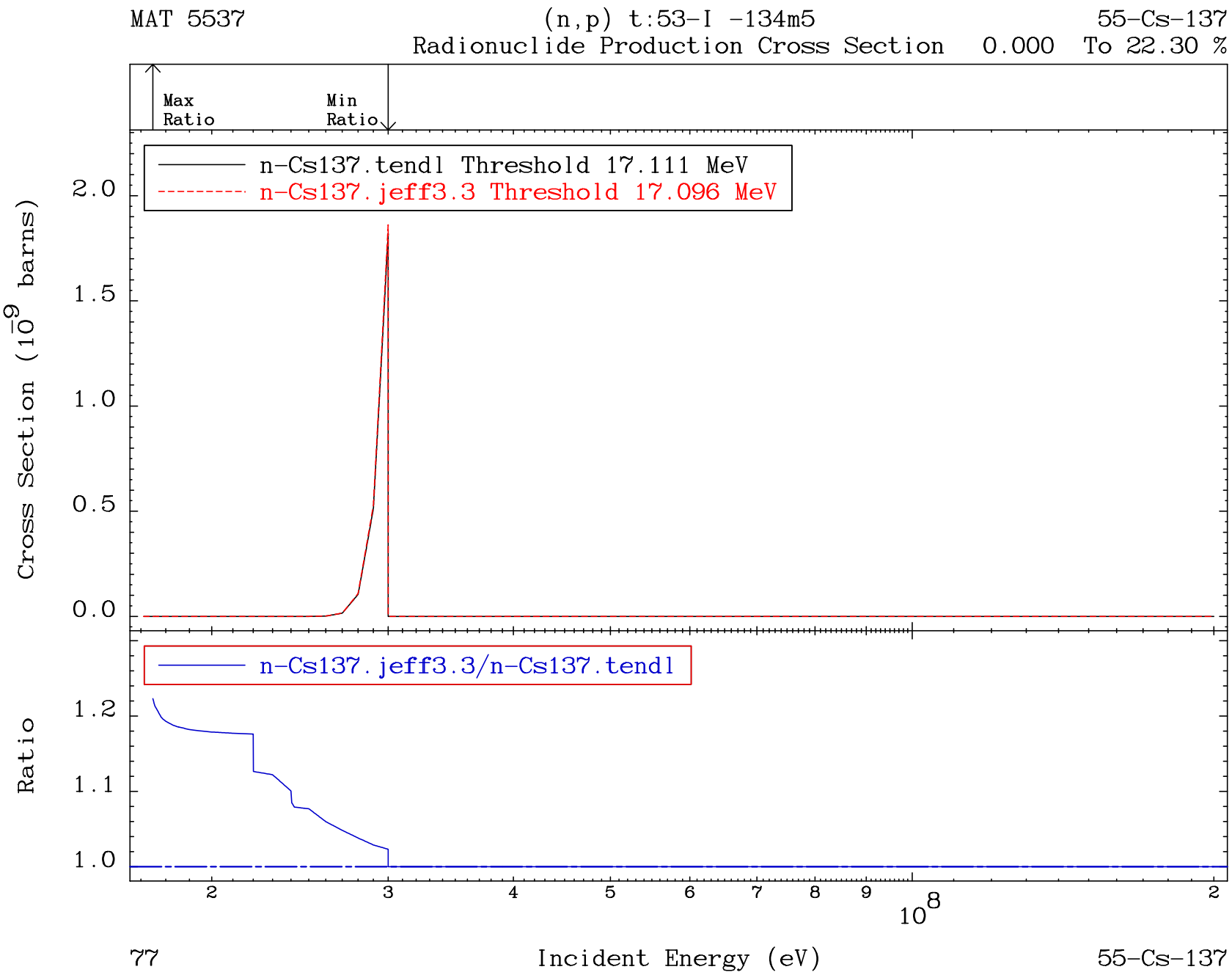

MAT 5537
(n,2p):53-I -136g
55-Cs-137
Radionuclide Production Cross Section -0.520 To 0.119 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.607 MeV
n-Cs137.jeff3.3 Threshold 13.607 MeV
Cross Section (10^{-9} barns)
70
60
50
40
30
20
10
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
72
Incident Energy (eV)
55-Cs-137


MAT 5537
(n,2p):53-I -136m6
55-Cs-137
Radionuclide Production Cross Section -0.709 To 0.120 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 14.251 MeV
n-Cs137.jeff3.3 Threshold 14.251 MeV
Cross Section (10^{-9} barns)
14
12
10
8
6
4
2
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
73
Incident Energy (eV)
55-Cs-137


MAT 5537
(n,p) α:52-Te-133g
55-Cs-137
Radionuclide Production Cross Section -4.829 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.500 MeV
n-Cs137.jeff3.3 Threshold 5.2951 MeV
Cross Section (10^{-9} barns)
100
80
60
40
20
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^{2}
10^{1}
10^{0}
10^{7}
10^{8}
Incident Energy (eV)
74
55-Cs-137


MAT 5537
(n,p) α:52-Te-133m2
55-Cs-137
Radionuclide Production Cross Section -2.316 To 9999. %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 13.500 MeV
n-Cs137.jeff3.3 Threshold 5.6318 MeV
Cross Section (10^{-9} barns)
200
150
100
50
0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
10^3
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
75
Incident Energy (eV)
55-Cs-137


MAT 5537
(n,p) t:53-I -134g
55-Cs-137
Radionuclide Production Cross Section 0.000 To 37.63 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 16.792 MeV
n-Cs137.jeff3.3 Threshold 16.777 MeV
Cross Section (10^{-9} barns)
0
1
2
3
4
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.0
1.2
1.4
2
3
4
5
6
7
8
9
10^8
2
76
Incident Energy (eV)
55-Cs-137


MAT 5537
(n,p) t:53-I -134m5
55-Cs-137
Radionuclide Production Cross Section 0.000 To 22.30 %
Max Ratio
Min Ratio
n-Cs137.tendl Threshold 17.111 MeV
n-Cs137.jeff3.3 Threshold 17.096 MeV
Cross Section (10^{-9} barns)
2.0
1.5
1.0
0.5
0.0
n-Cs137.jeff3.3/n-Cs137.tendl
Ratio
1.2
1.1
1.0
2
3
4
5
6
7
8
9
10^8
2
77
Incident Energy (eV)
55-Cs-137