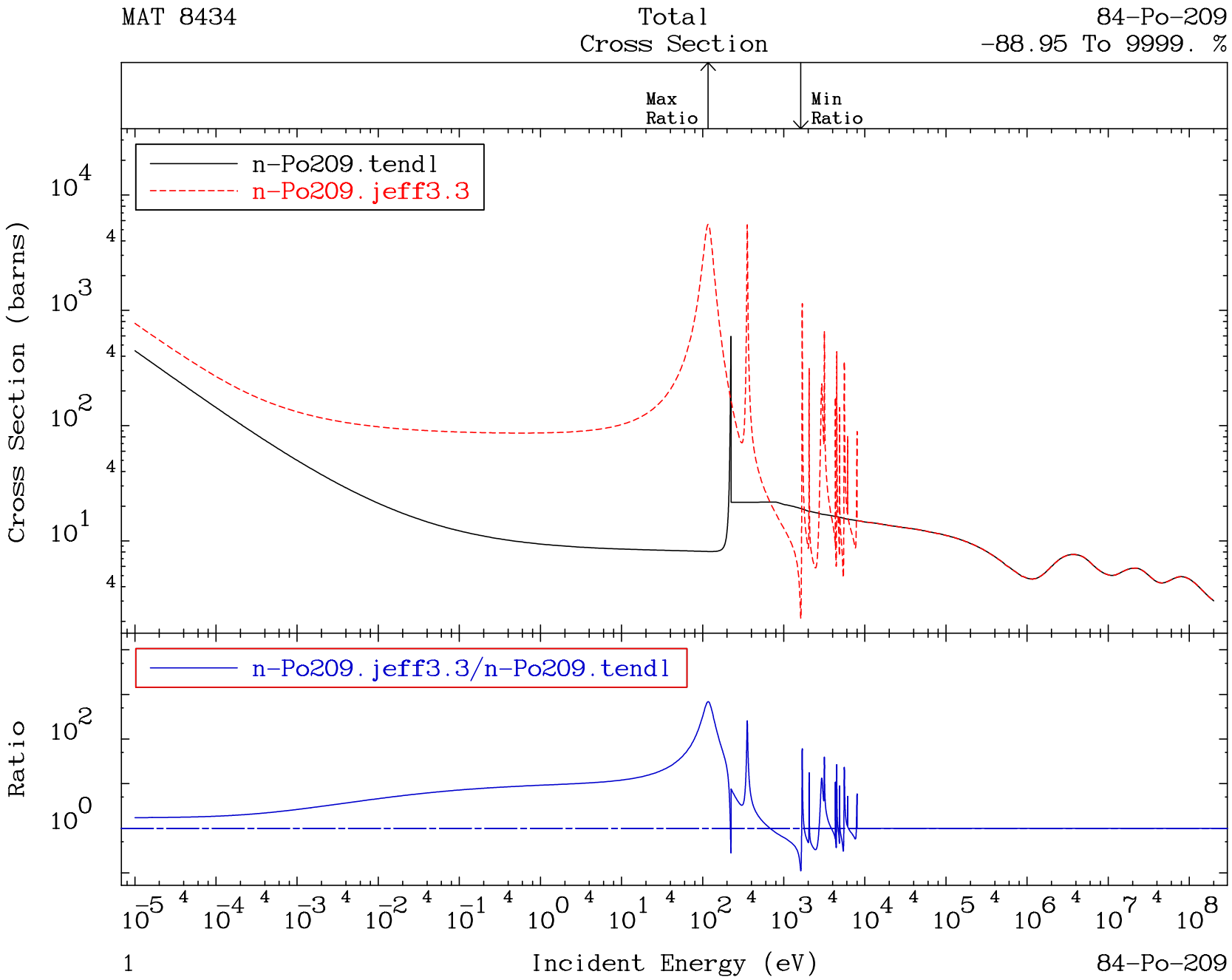
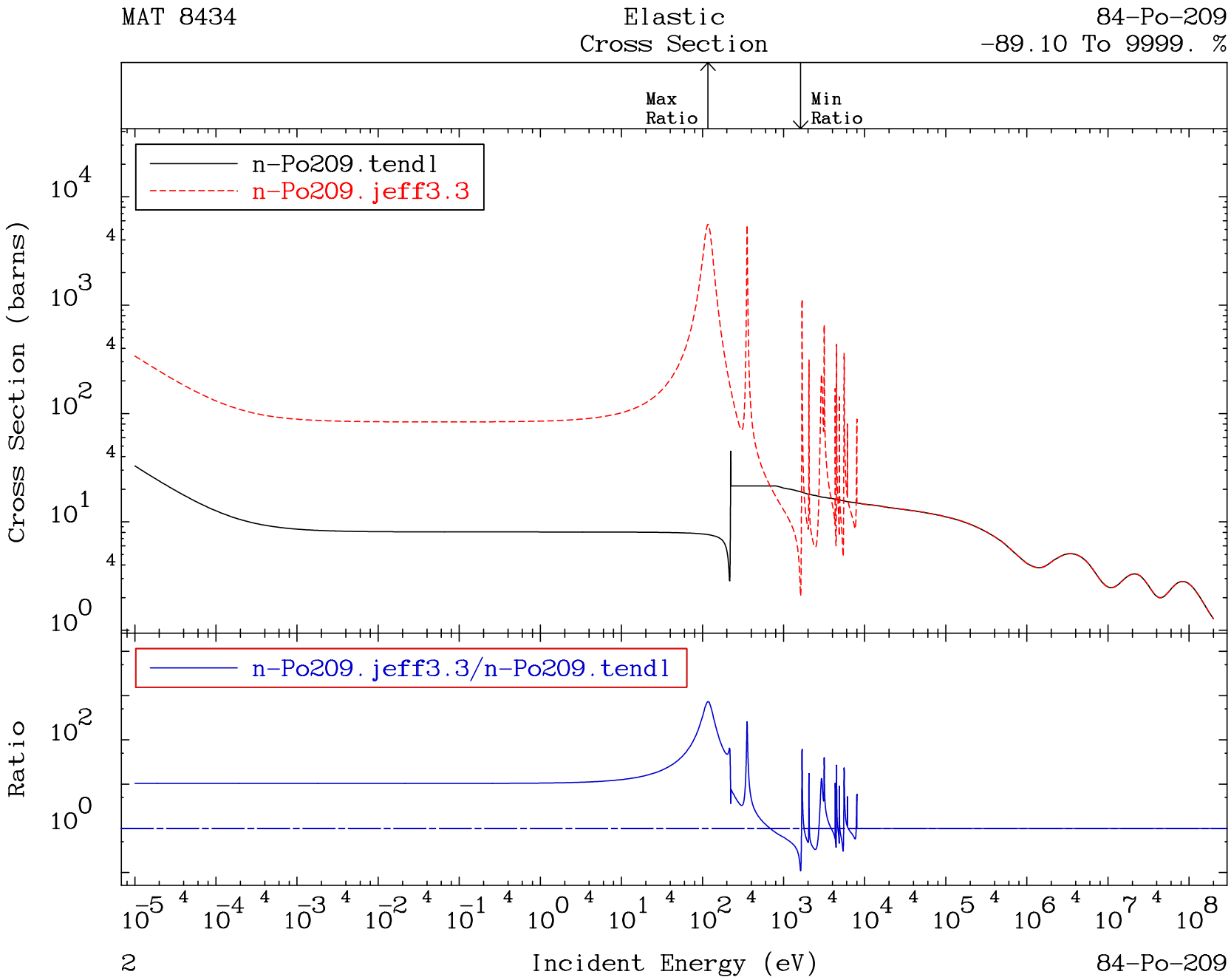
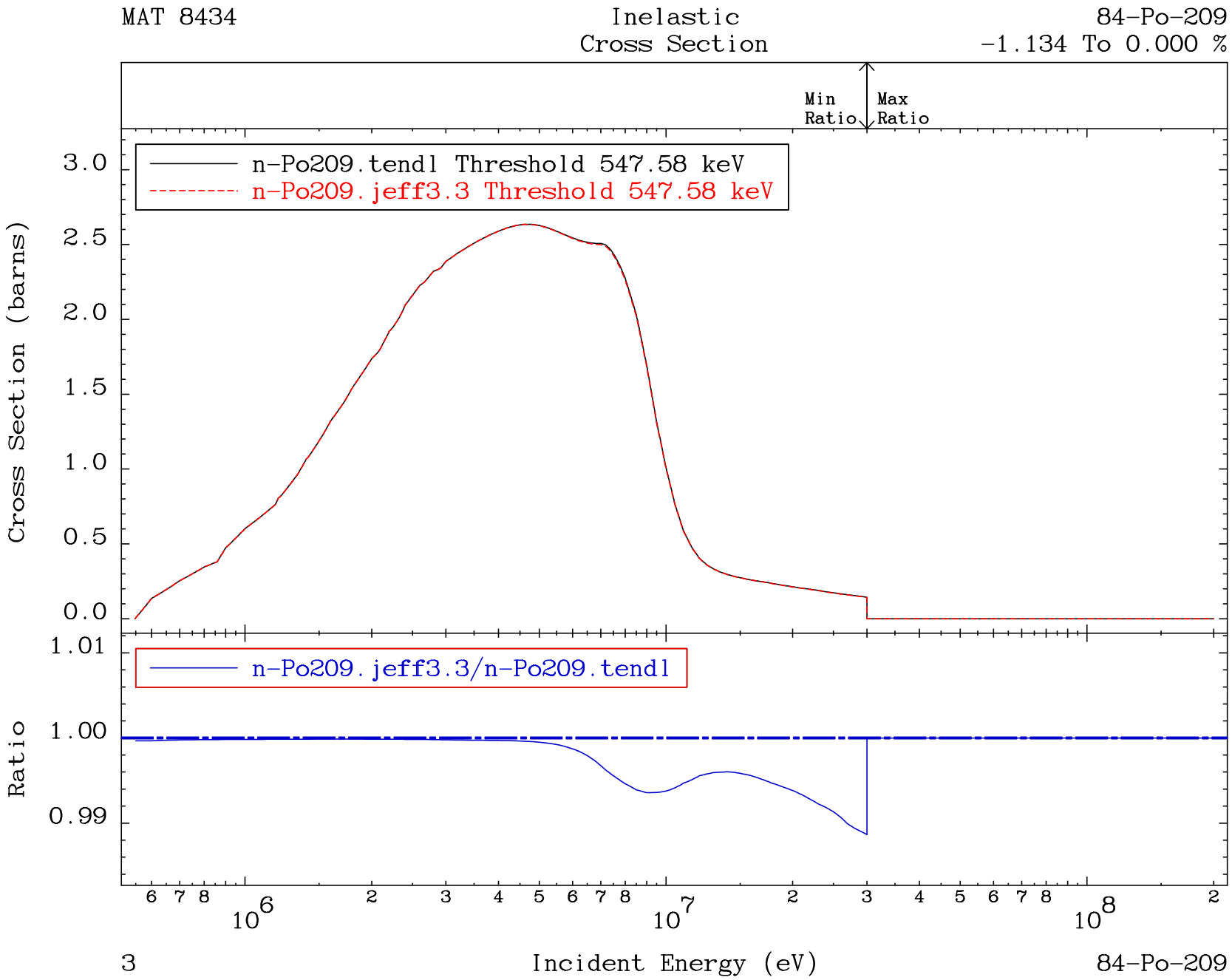
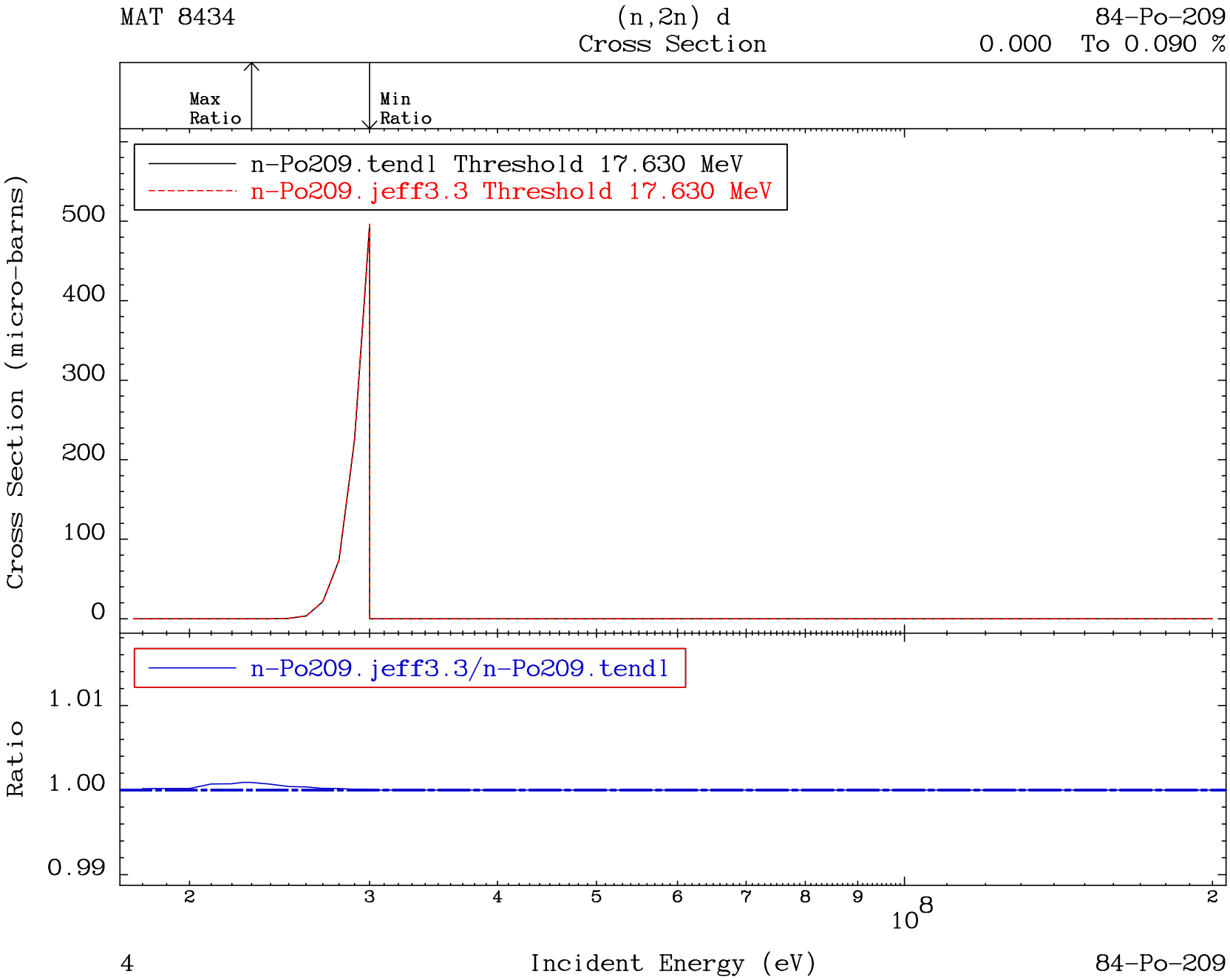
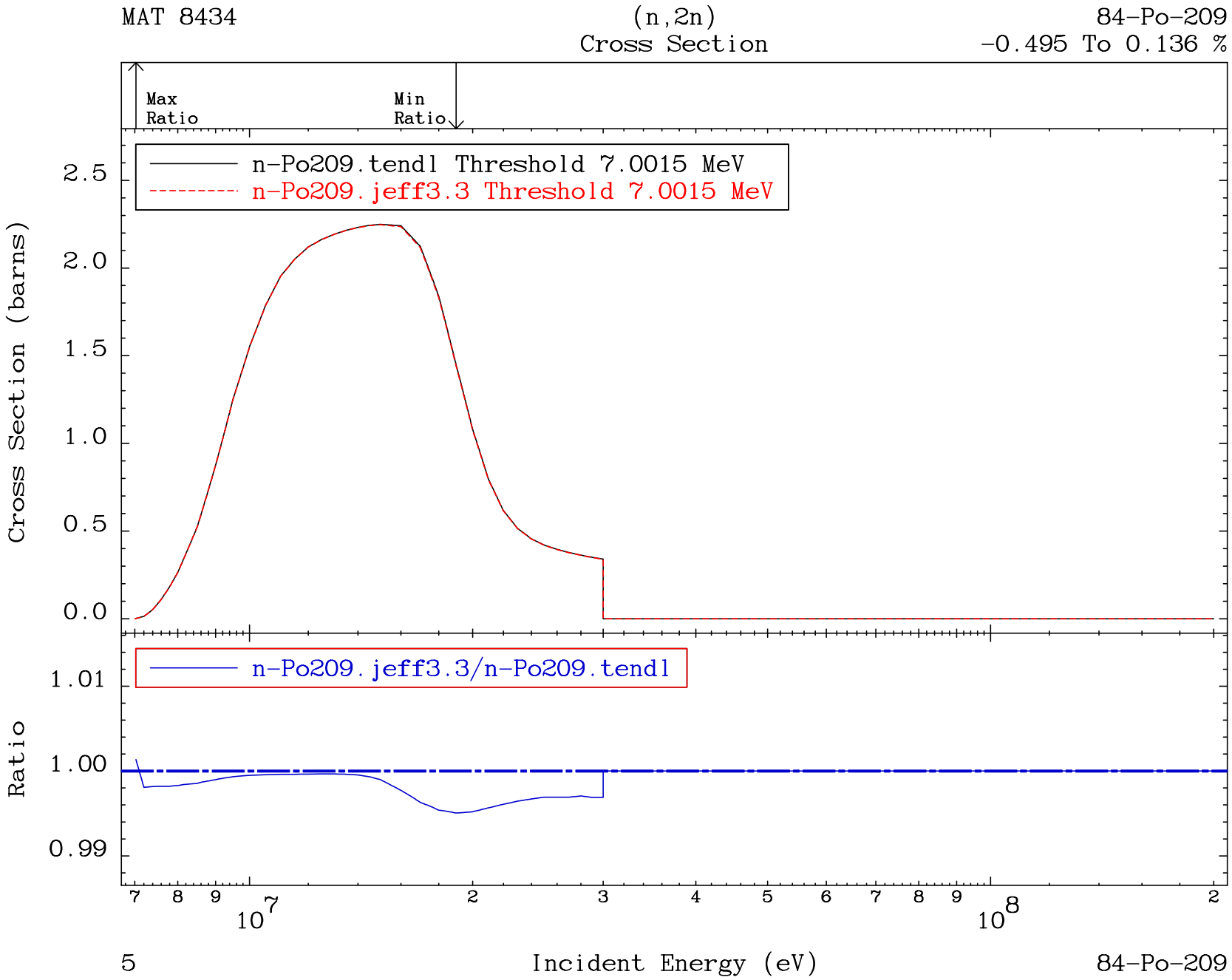
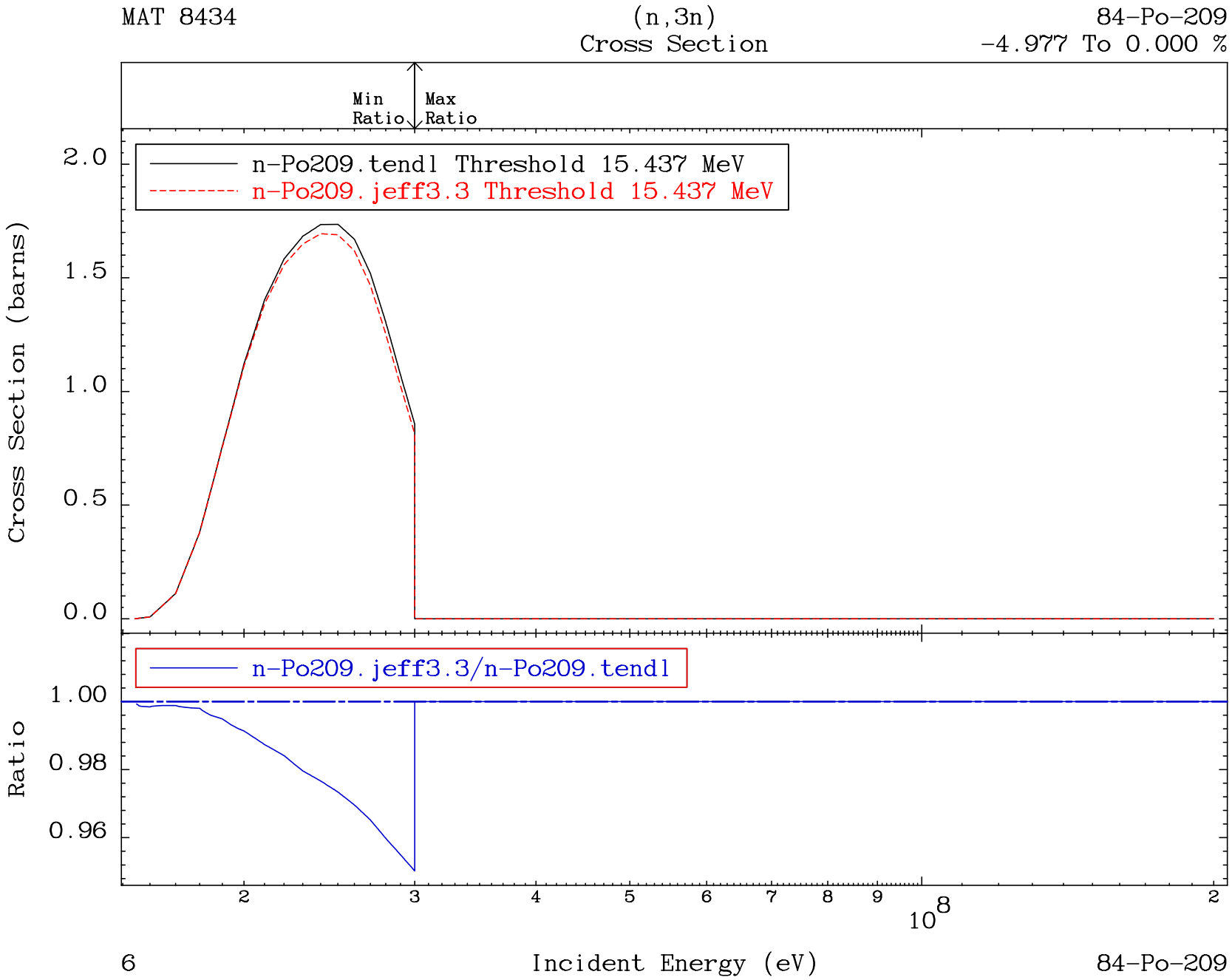

MAT 8434
Total
Cross Section
84-Po-209
-88.95 To 9999. %
Max
Ratio
Min
Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
1
84-Po-209

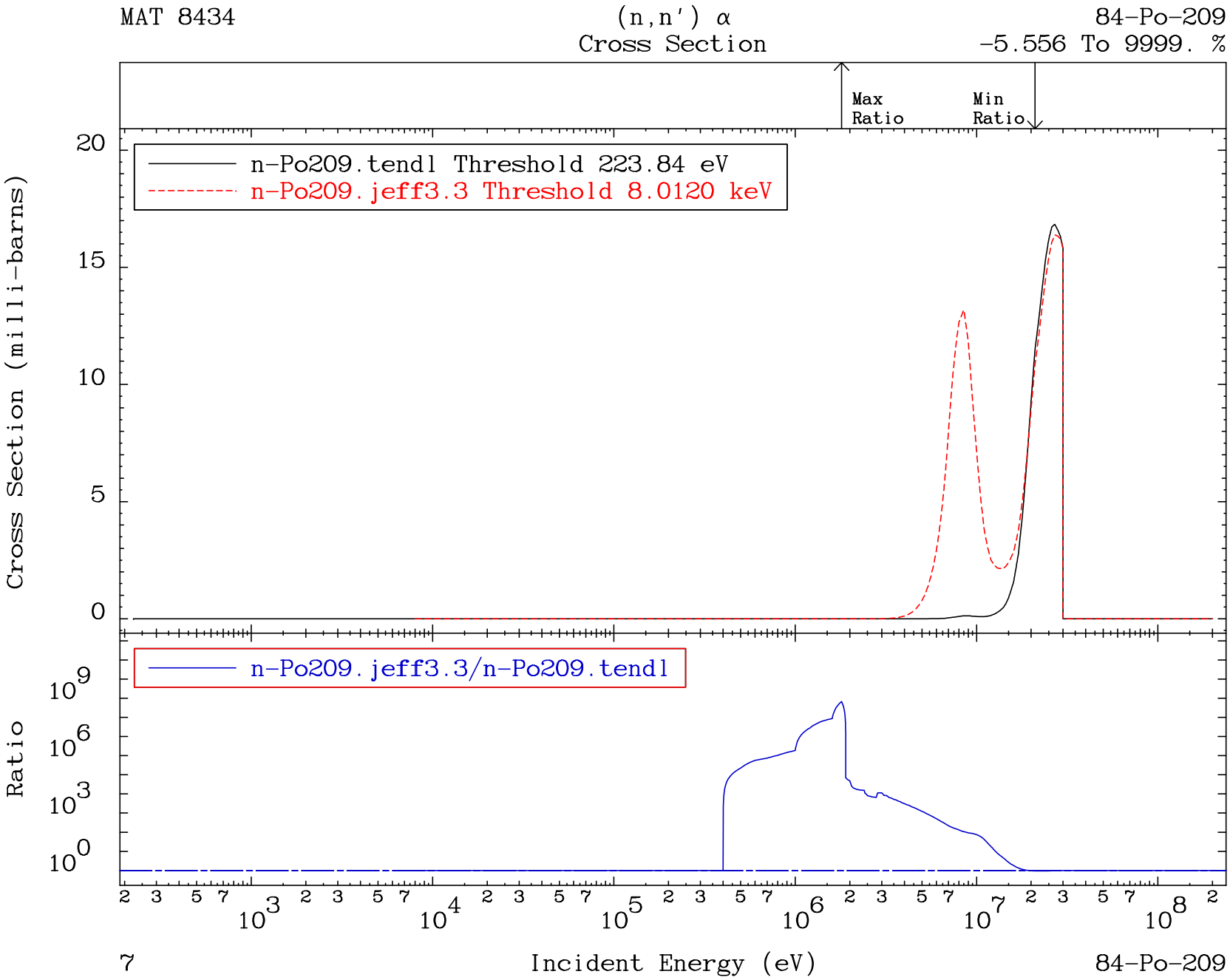

MAT 8434
Elastic
Cross Section
84-Po-209
-89.10 To 9999. %
Max
Ratio
Min
Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
2
84-Po-209

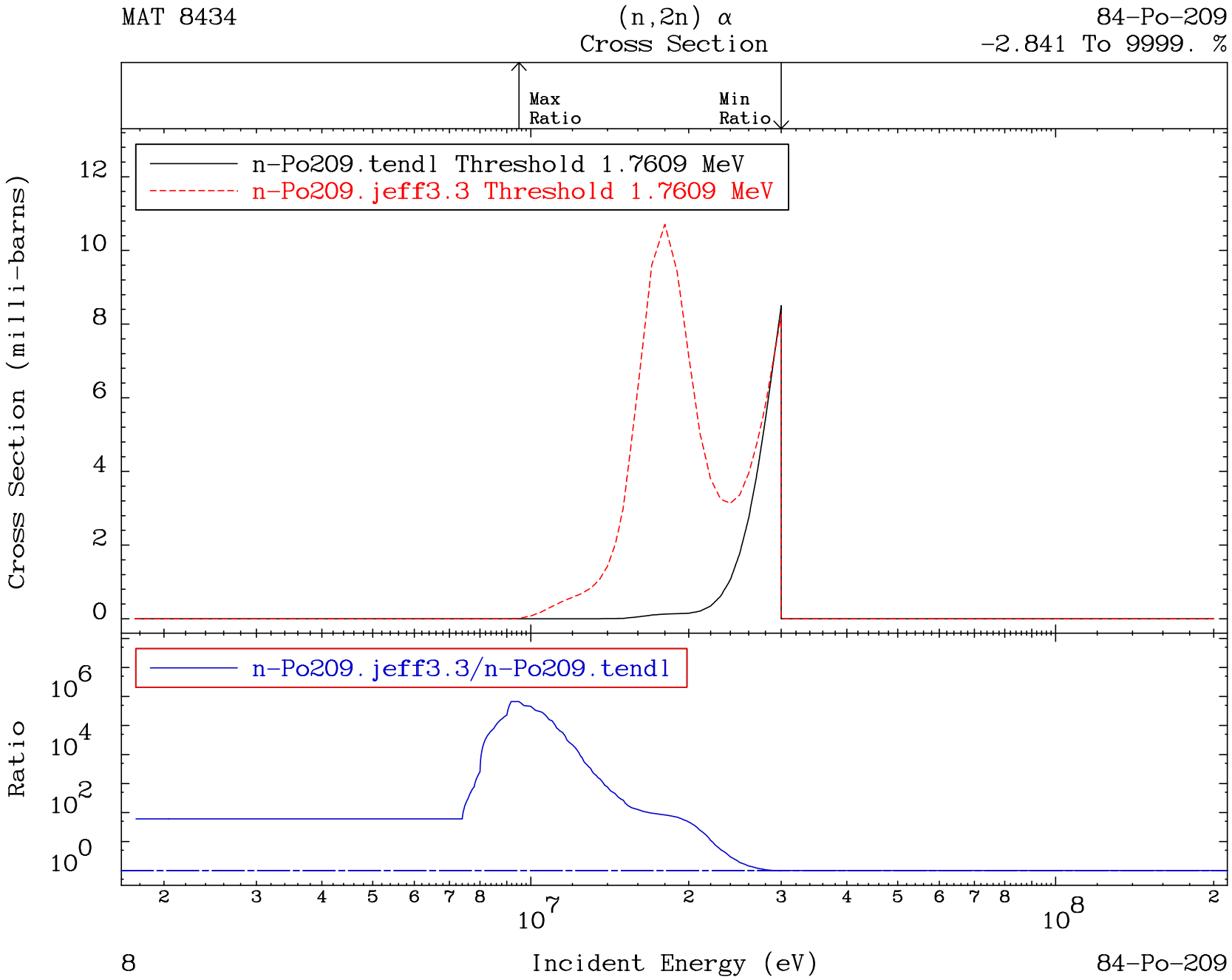

MAT 8434
Inelastic
Cross Section
84-Po-209
-1.134 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 547.58 keV
n-Po209.jeff3.3 Threshold 547.58 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
3
Incident Energy (eV)
84-Po-209

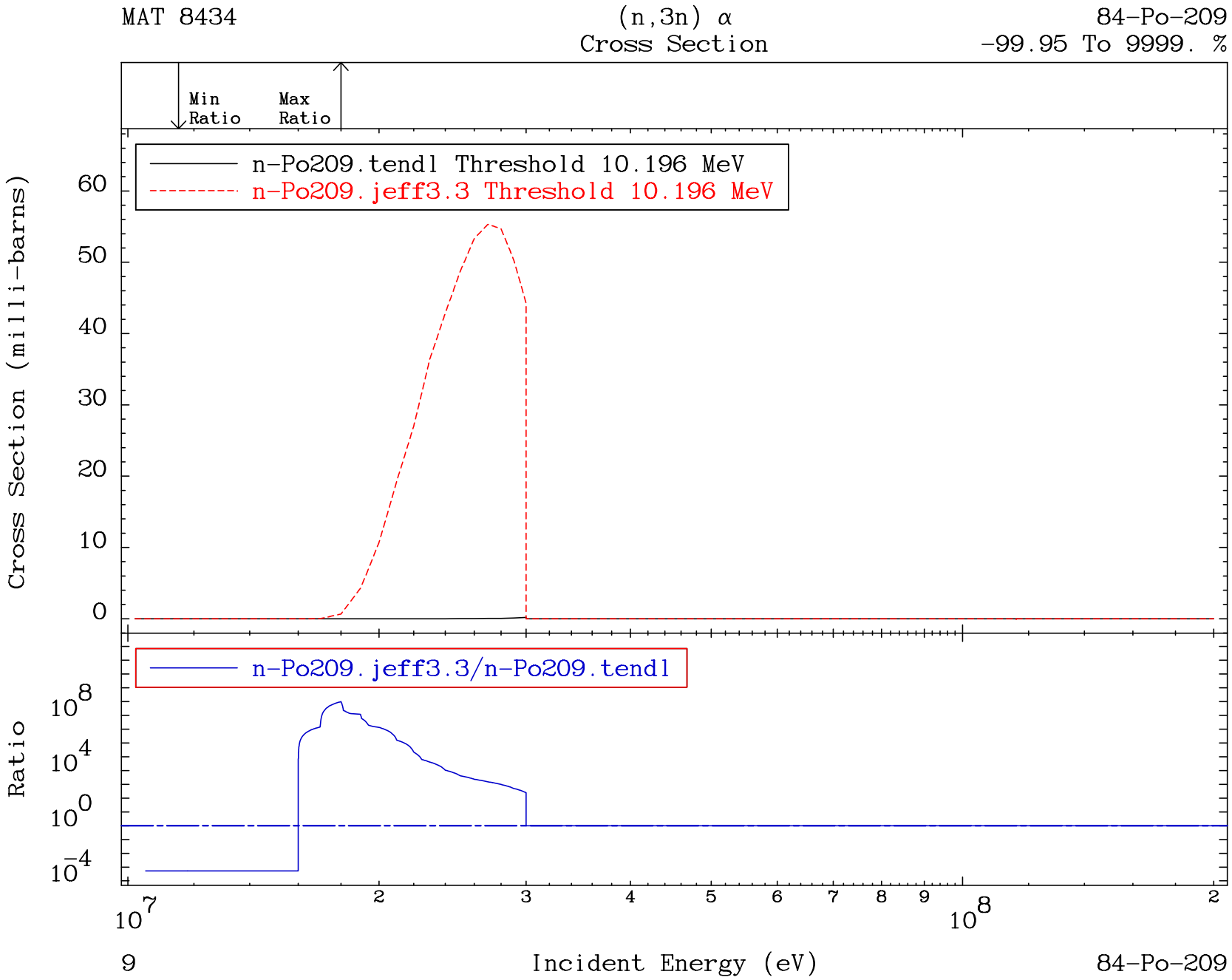

MAT 8434
(n,2n) d
Cross Section
84-Po-209
0.000 To 0.090 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 17.630 MeV
n-Po209.jeff3.3 Threshold 17.630 MeV
Cross Section (micro-barns)
500
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
84-Po-209

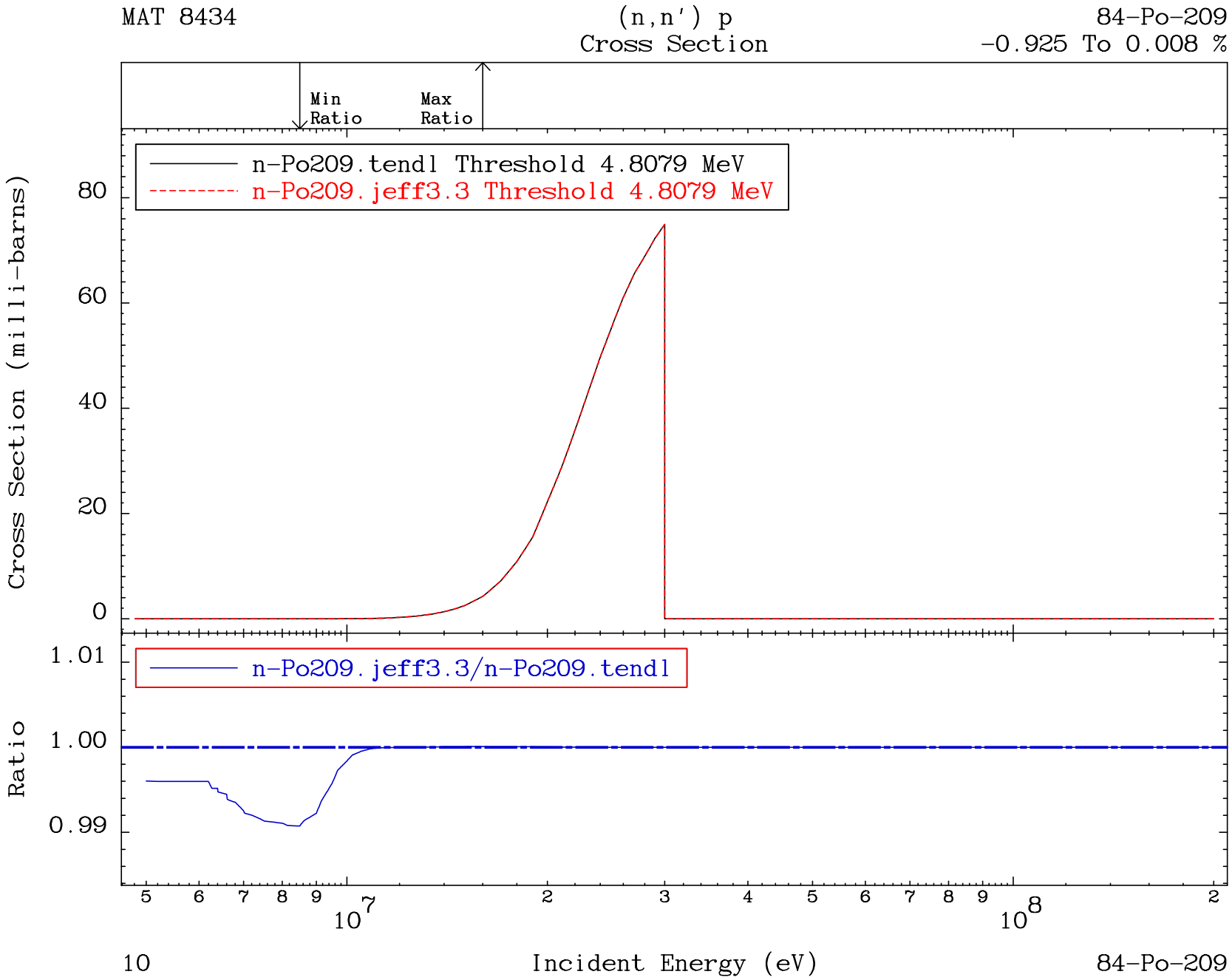

MAT 8434
(n,2n)
Cross Section
84-Po-209
-0.495 To 0.136 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 7.0015 MeV
n-Po209.jeff3.3 Threshold 7.0015 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
5
Incident Energy (eV)
84-Po-209

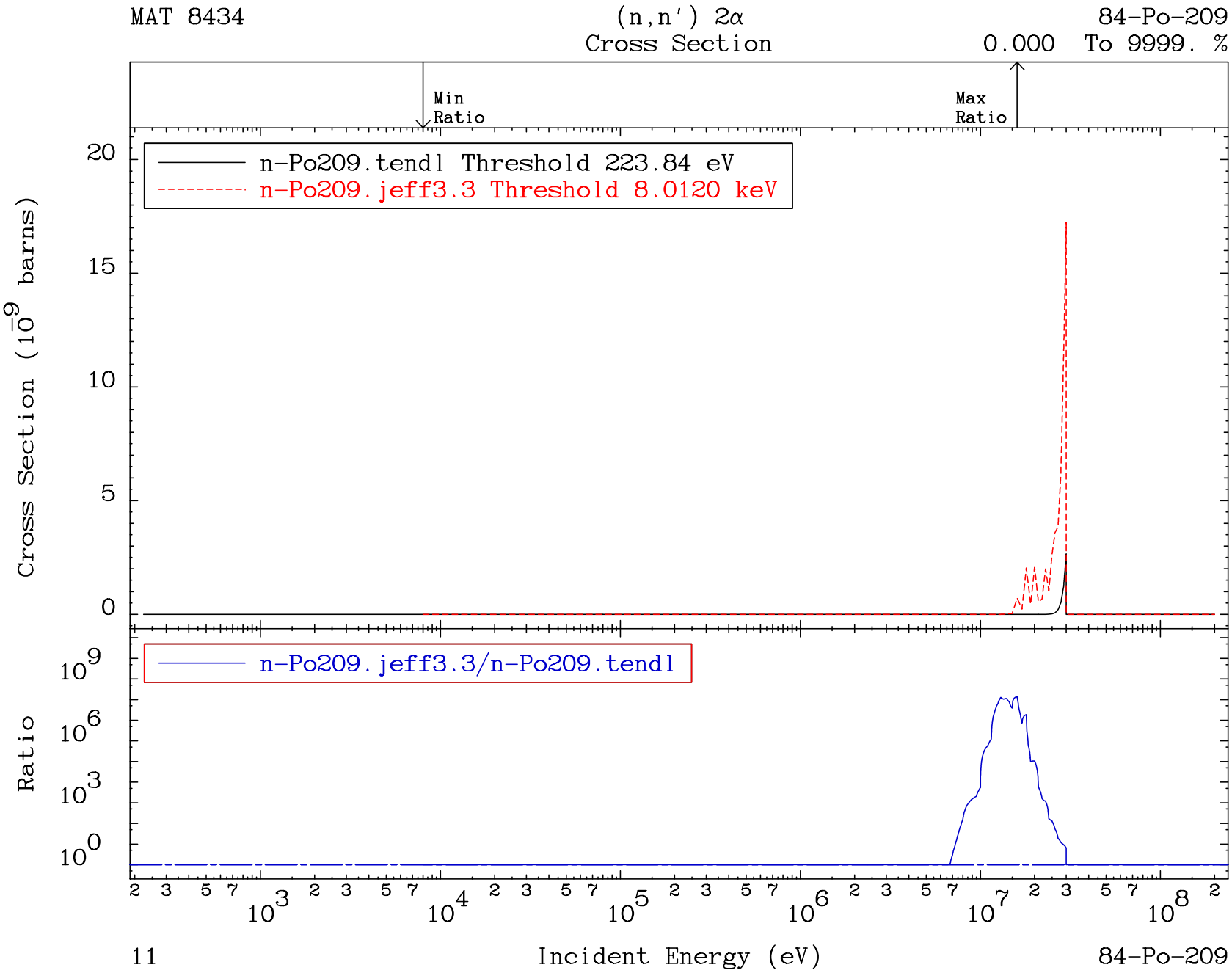

MAT 8434
(n,3n)
Cross Section
84-Po-209
-4.977 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 15.437 MeV
n-Po209.jeff3.3 Threshold 15.437 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.00
0.98
0.96
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
84-Po-209

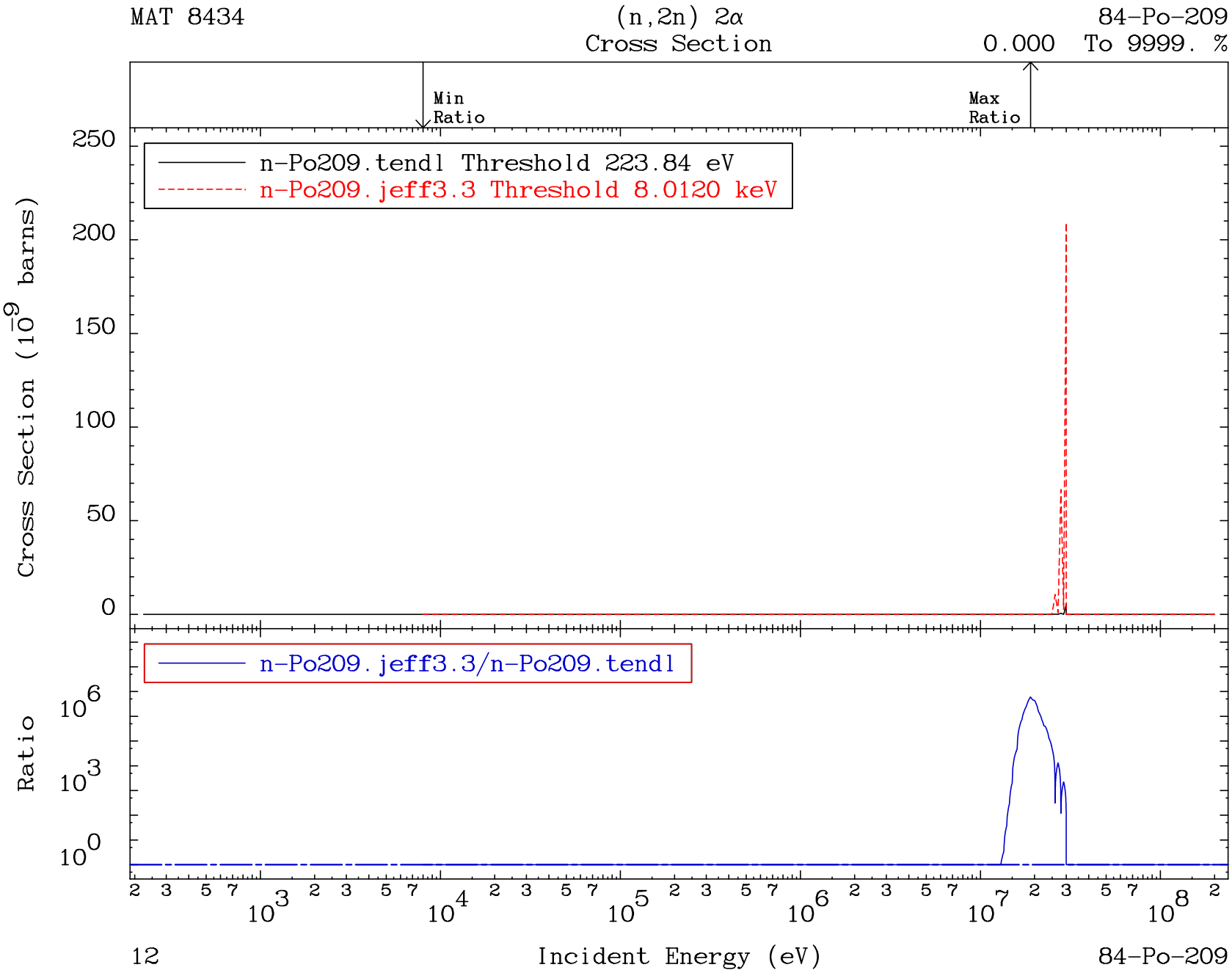

MAT 8434
(n,n') α
Cross Section
84-Po-209
-5.556 To 9999. %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (milli-barns)
20
15
10
5
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
7
Incident Energy (eV)
84-Po-209

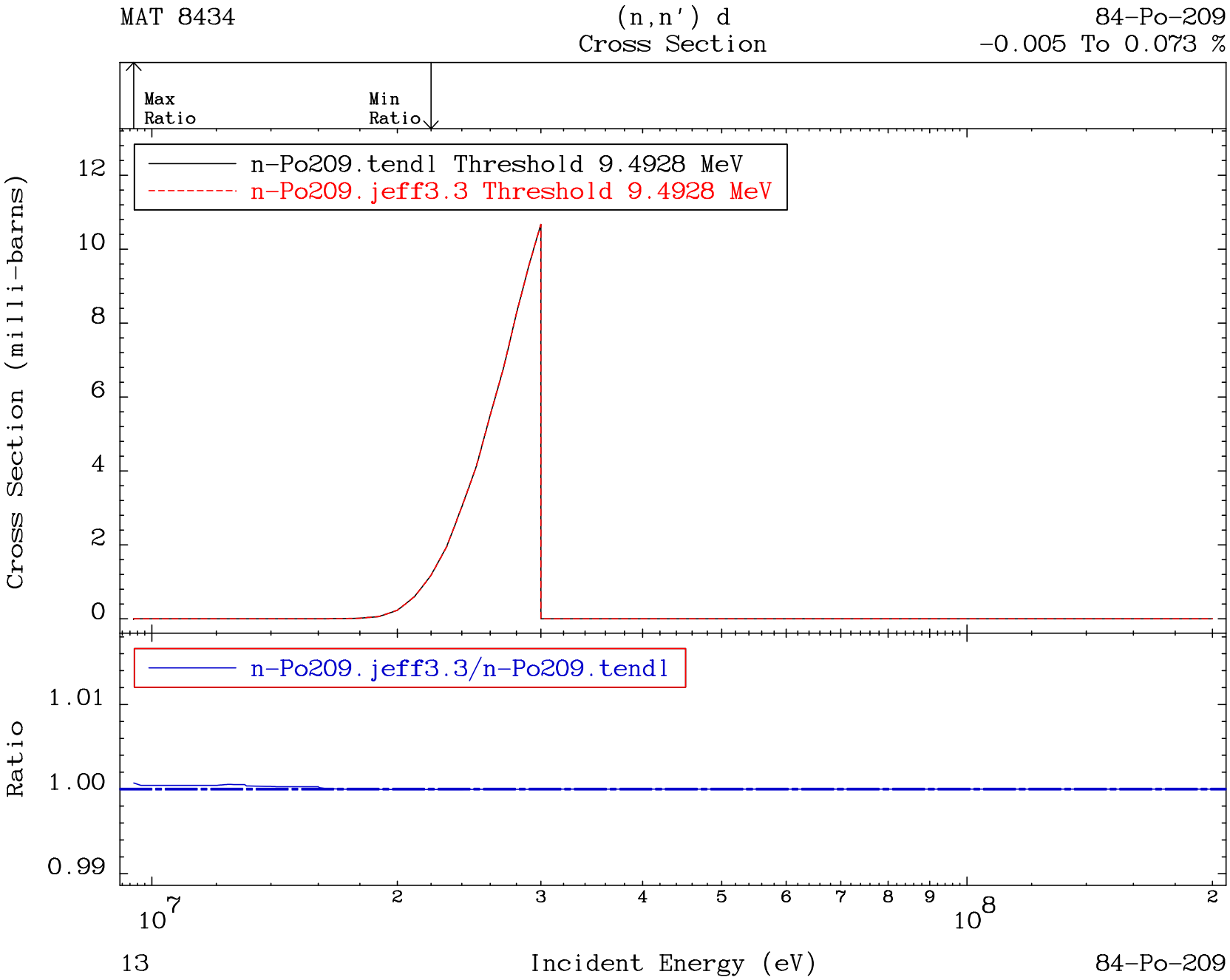

MAT 8434
(n,2n) α
Cross Section
84-Po-209
-2.841 To 9999. %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 1.7609 MeV
n-Po209.jeff3.3 Threshold 1.7609 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^0
10^2
10^4
10^6
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
8
84-Po-209

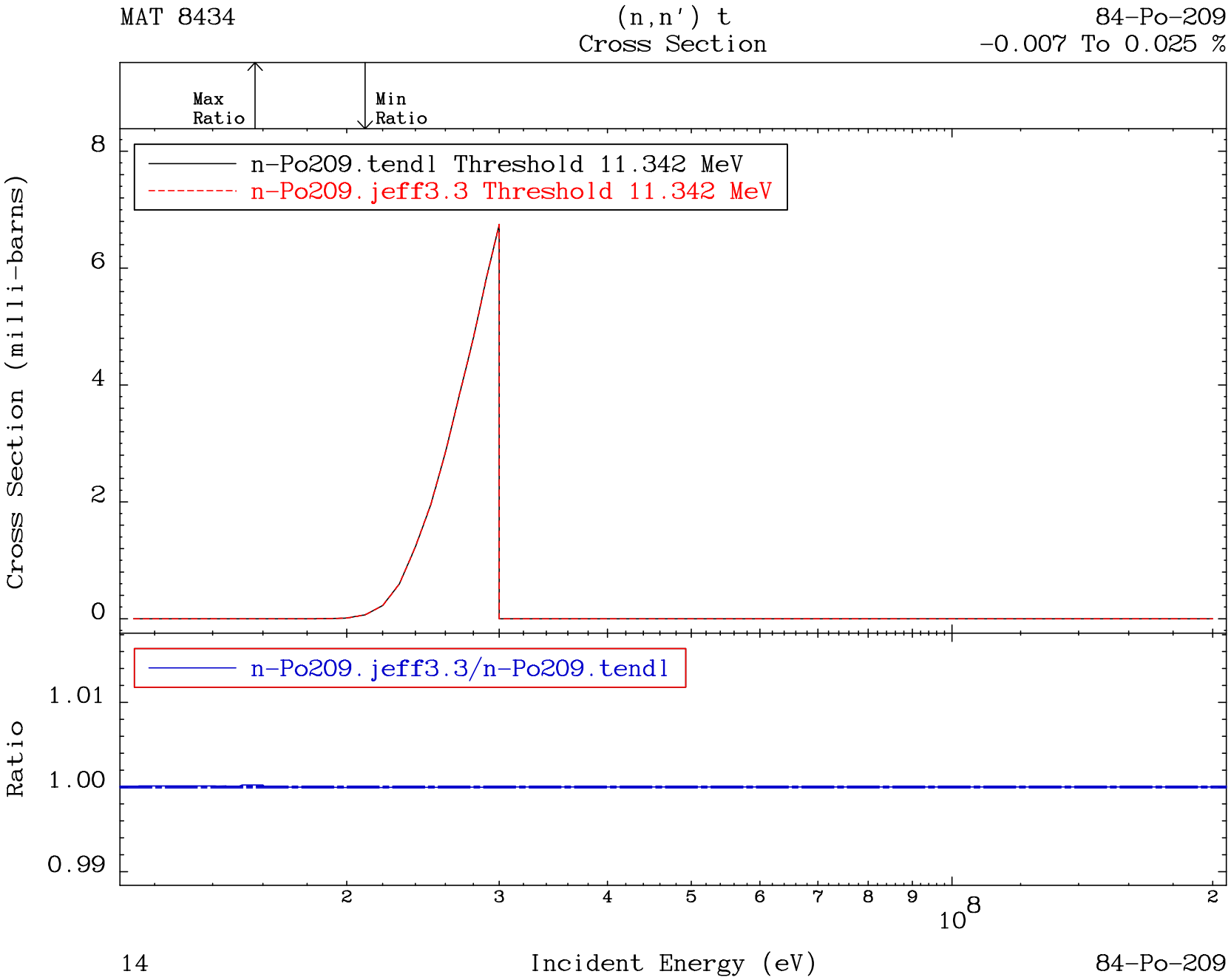

MAT 8434
(n,3n) α
Cross Section
84-Po-209
-99.95 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 10.196 MeV
n-Po209.jeff3.3 Threshold 10.196 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^8
10^4
10^0
10^-4
10^7
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
84-Po-209

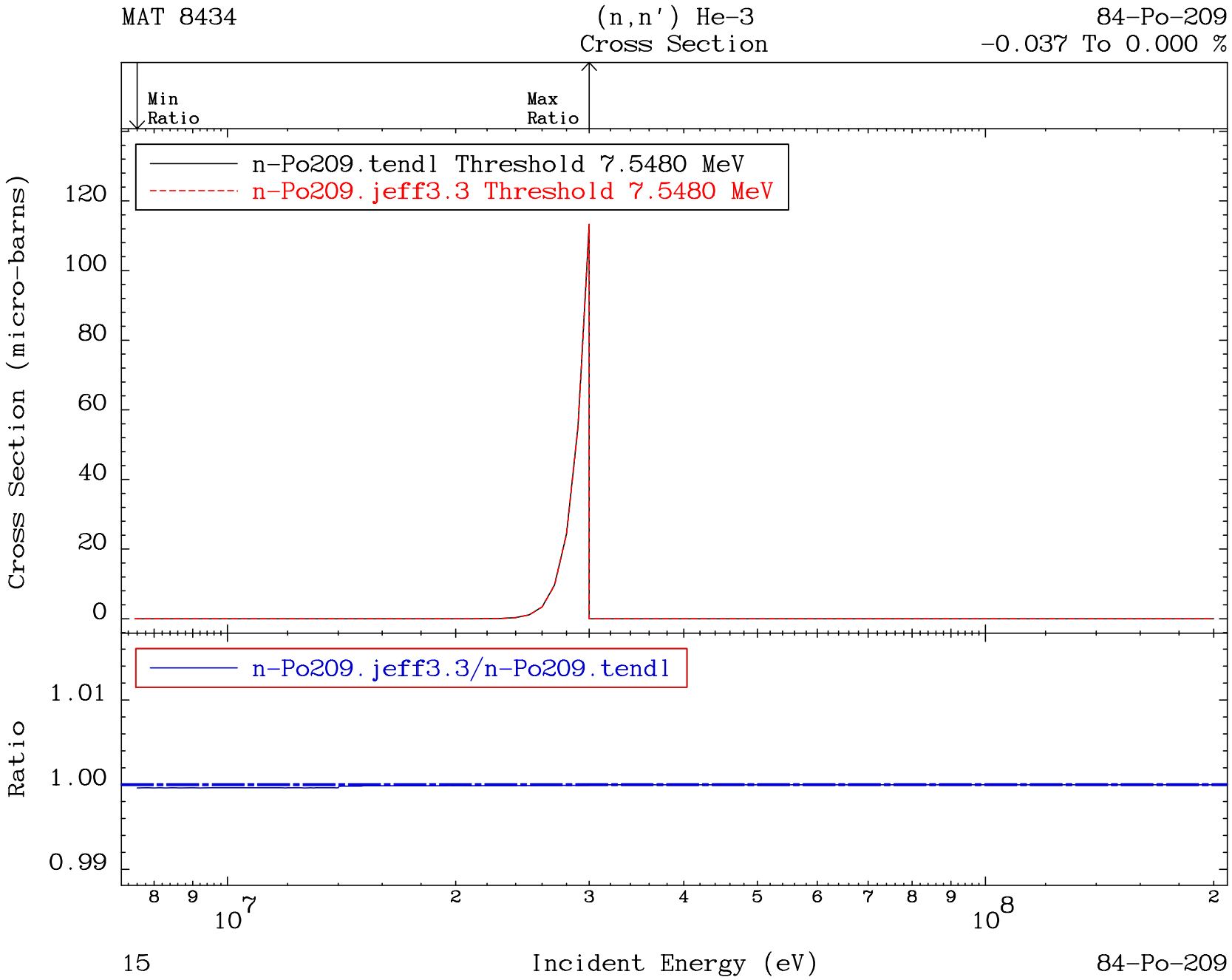

MAT 8434
(n,n') p
Cross Section
84-Po-209
-0.925 To 0.008 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 4.8079 MeV
n-Po209.jeff3.3 Threshold 4.8079 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
84-Po-209

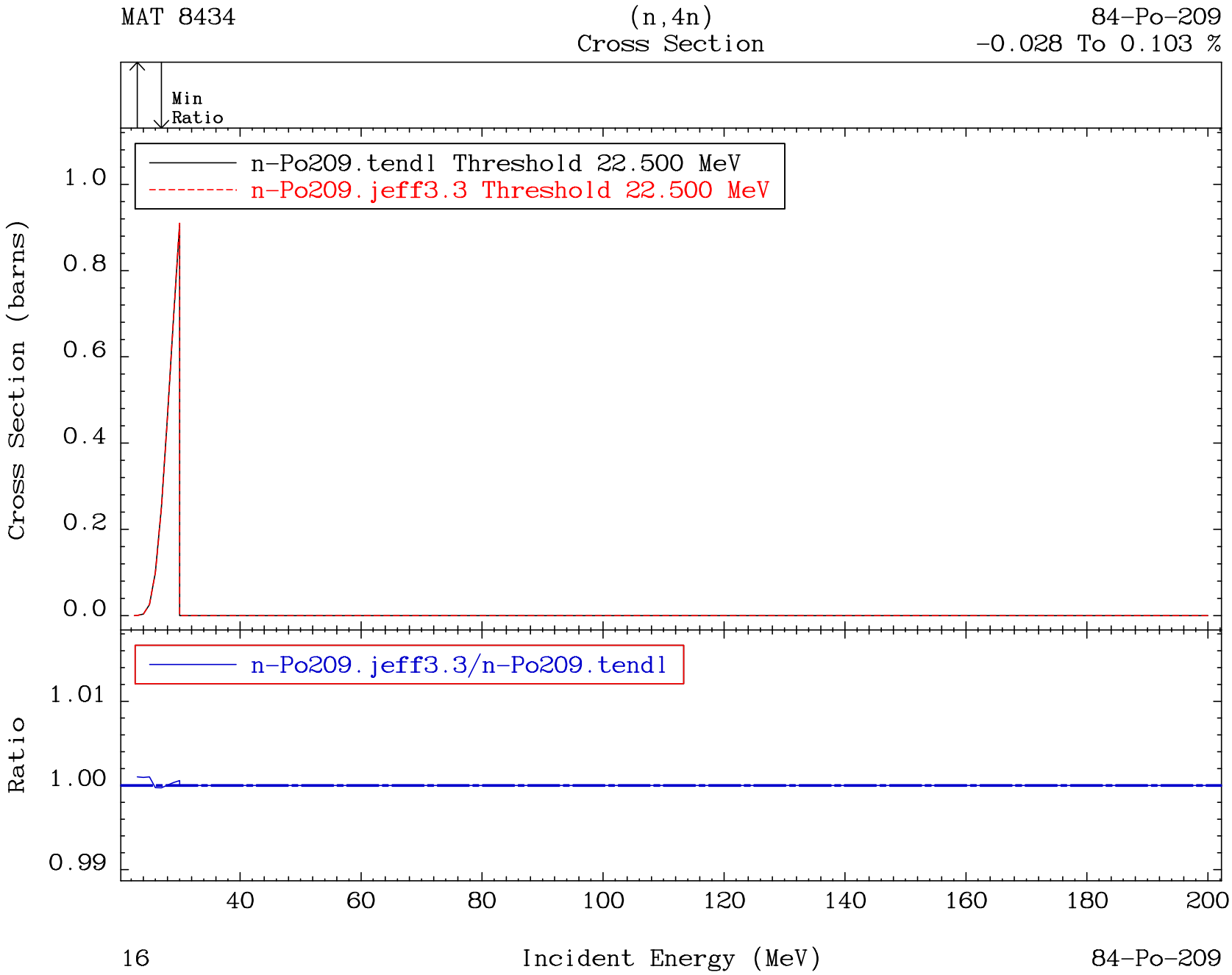

MAT 8434
(n,n') 2α
Cross Section
84-Po-209
0.000 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (10^-9 barns)
20
15
10
5
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^9
10^6
10^3
10^0
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
11
Incident Energy (eV)
84-Po-209

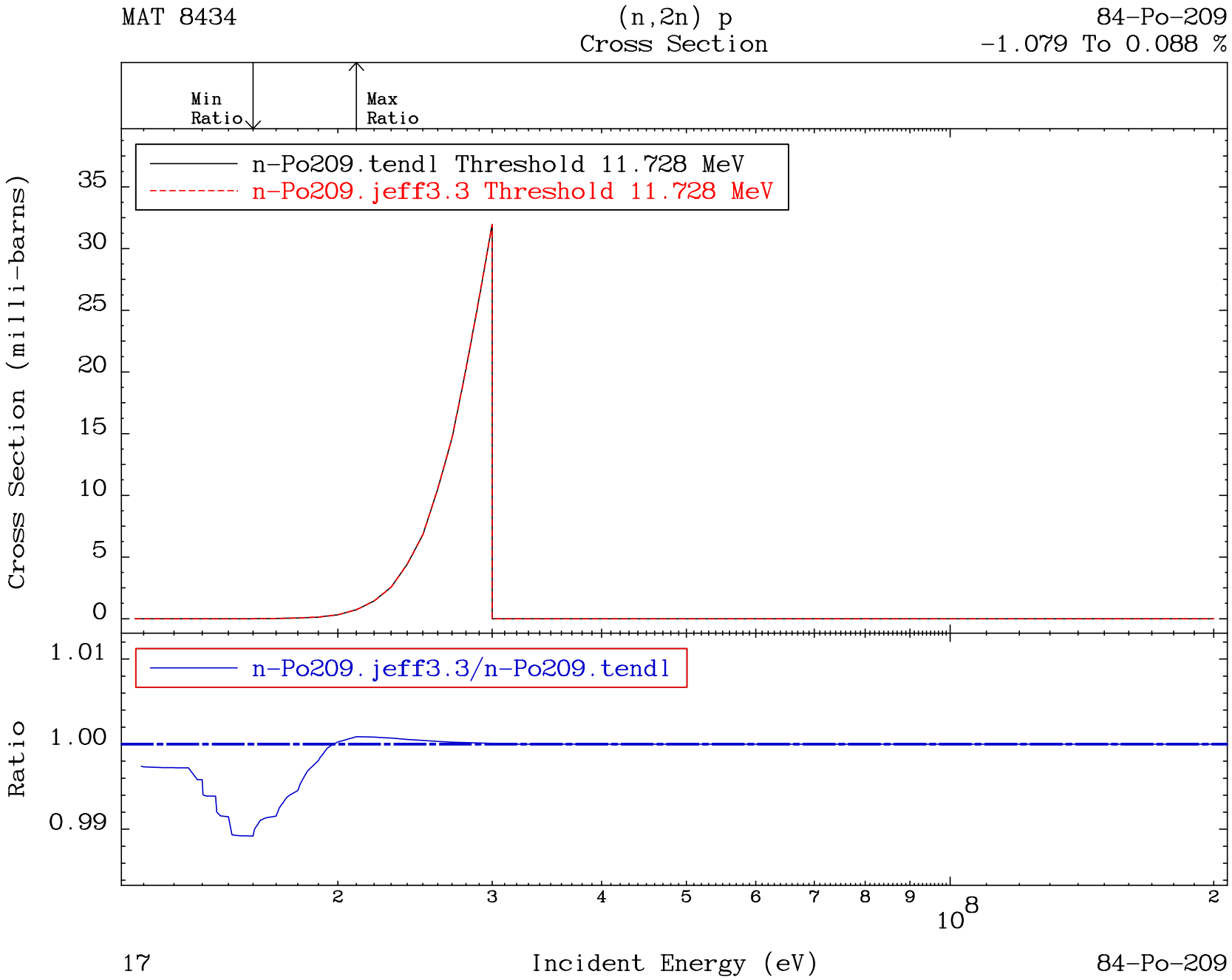

MAT 8434
(n,2n) 2α
Cross Section
84-Po-209
0.000 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (10^-9 barns)
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^6
10^3
10^0
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
12
Incident Energy (eV)
84-Po-209

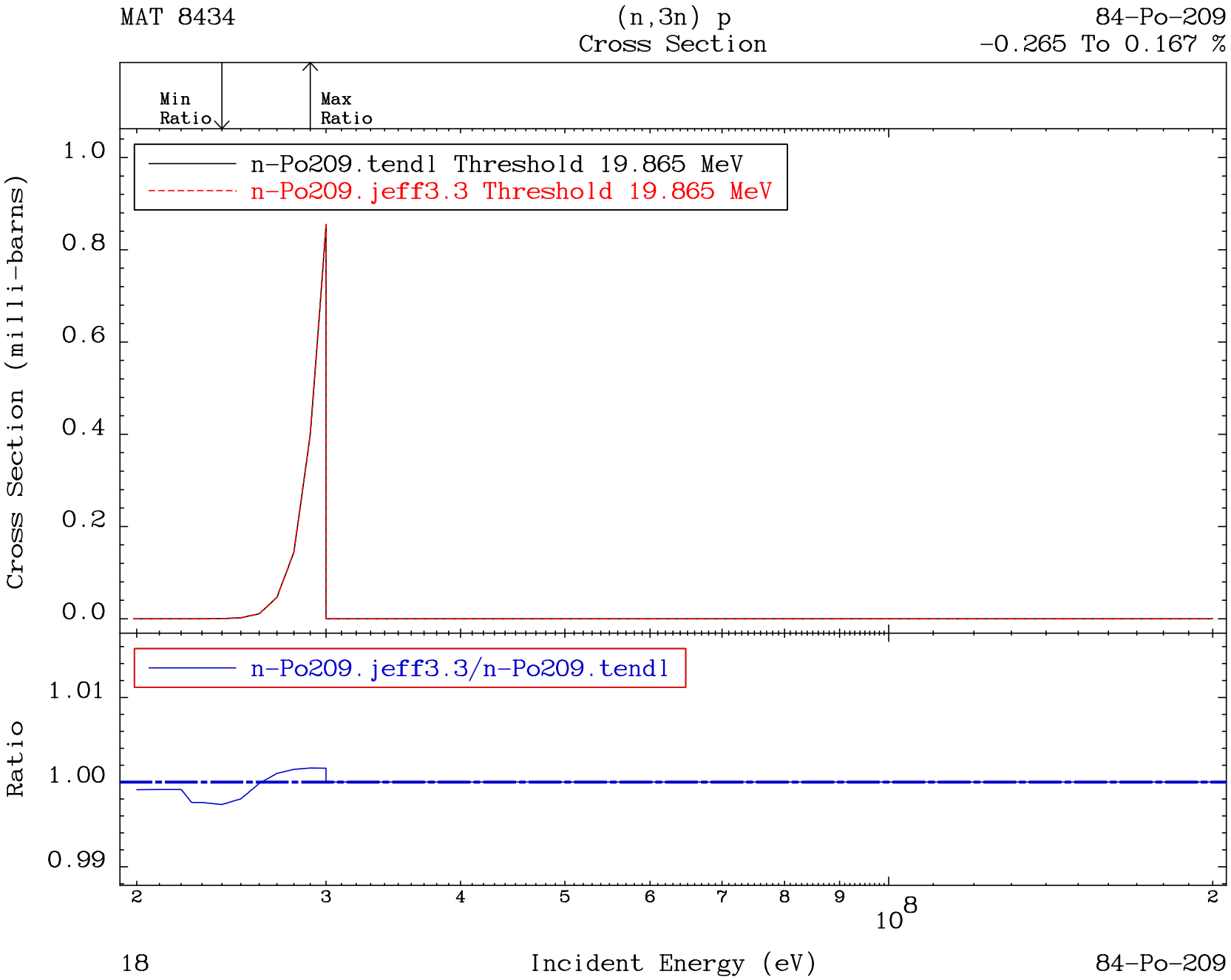

MAT 8434
(n,n') d
Cross Section
84-Po-209
-0.005 To 0.073 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 9.4928 MeV
n-Po209.jeff3.3 Threshold 9.4928 MeV
Cross Section (milli-barns)
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
10^7
2
3
4
5
6
7
8
9
10^8
2
13
Incident Energy (eV)
84-Po-209

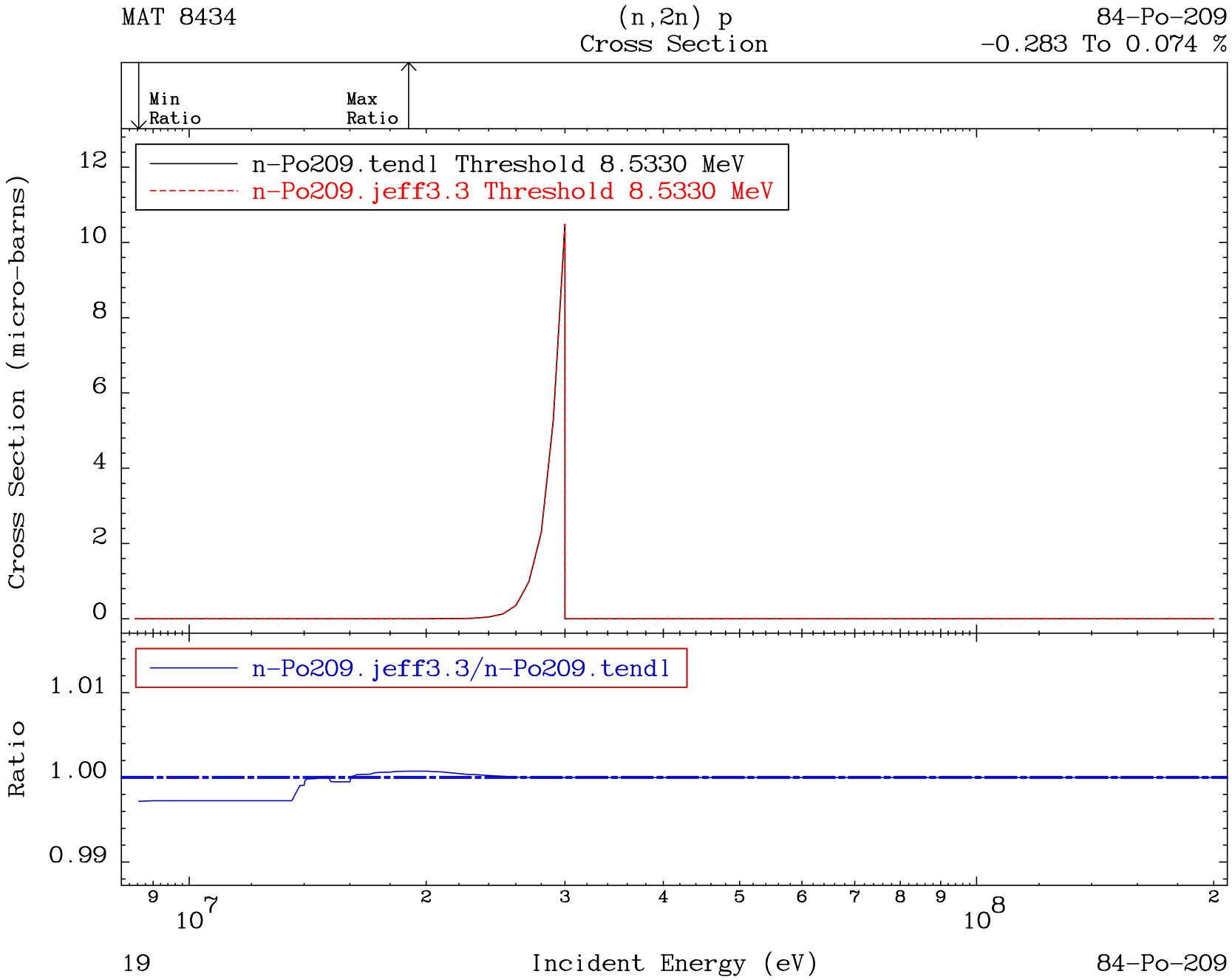

MAT 8434
(n,n') t
Cross Section
84-Po-209
-0.007 To 0.025 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 11.342 MeV
n-Po209.jeff3.3 Threshold 11.342 MeV
Cross Section (milli-barns)
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
84-Po-209

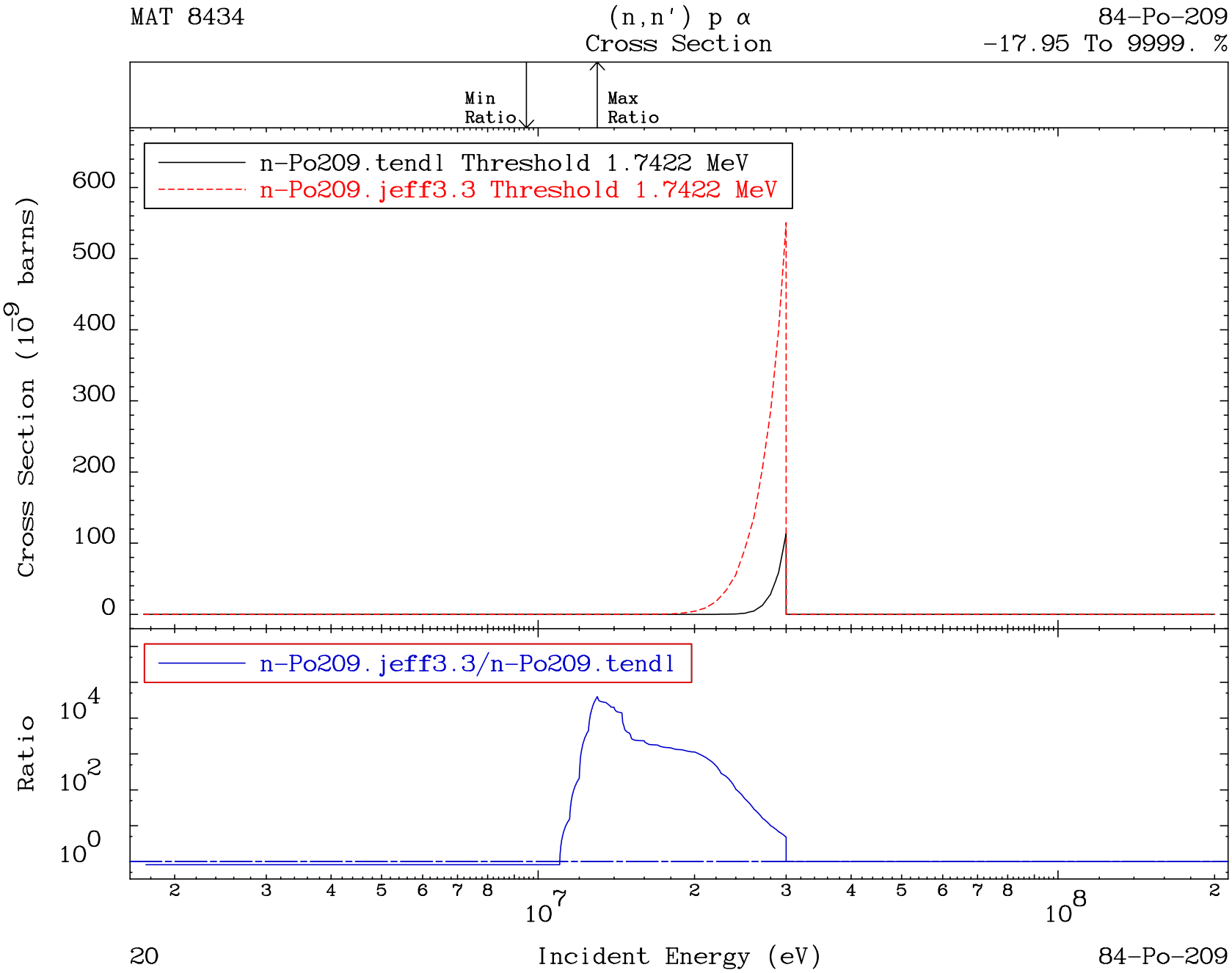

MAT 8434
(n,n') He-3
Cross Section
84-Po-209
-0.037 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 7.5480 MeV
n-Po209.jeff3.3 Threshold 7.5480 MeV
Cross Section (micro-barns)
120
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
84-Po-209

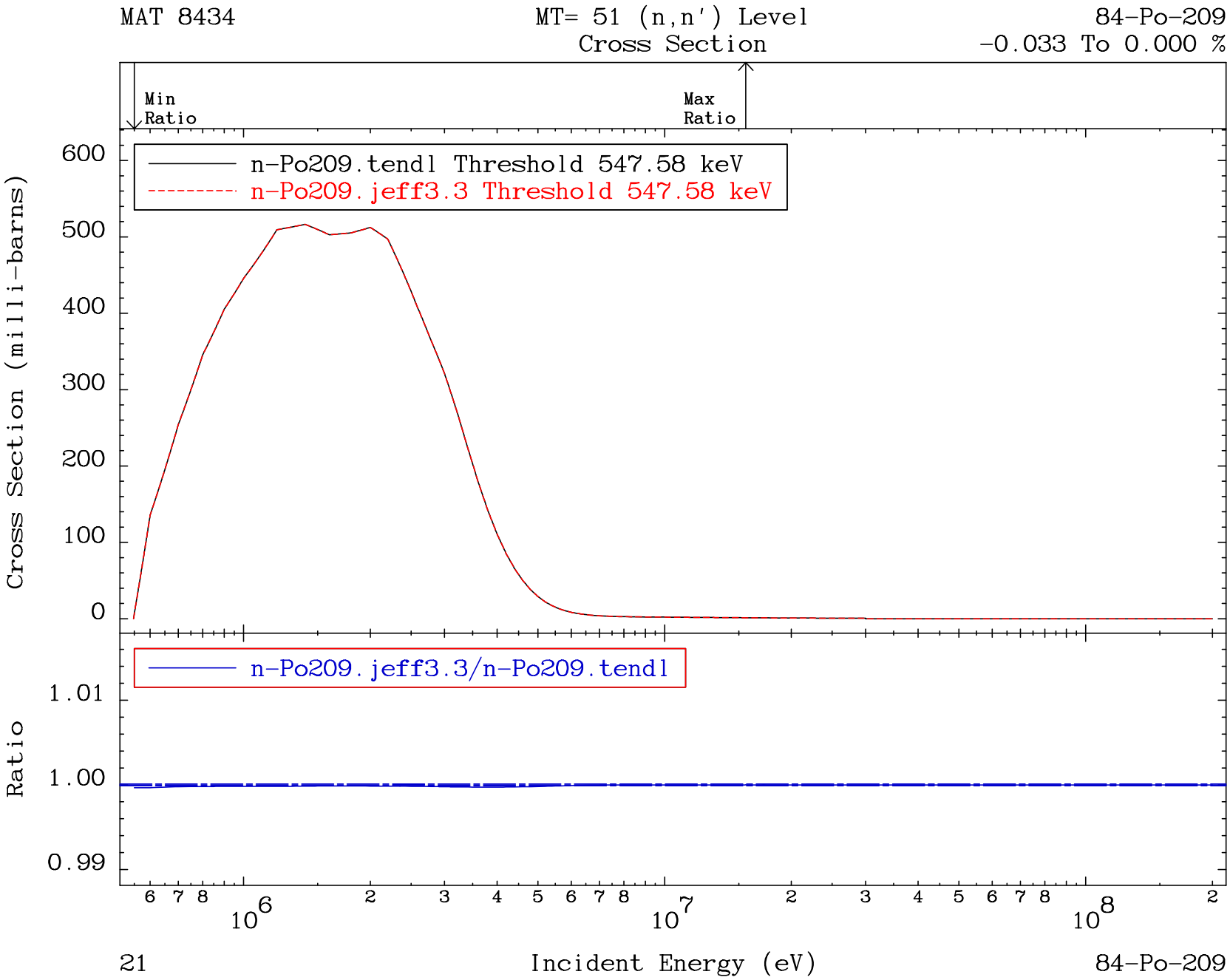

MAT 8434
(n,4n)
Cross Section
84-Po-209
-0.028 To 0.103 %
Min
Ratio
n-Po209.tendl Threshold 22.500 MeV
n-Po209.jeff3.3 Threshold 22.500 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
40
60
80
100
120
140
160
180
200
16
Incident Energy (MeV)
84-Po-209

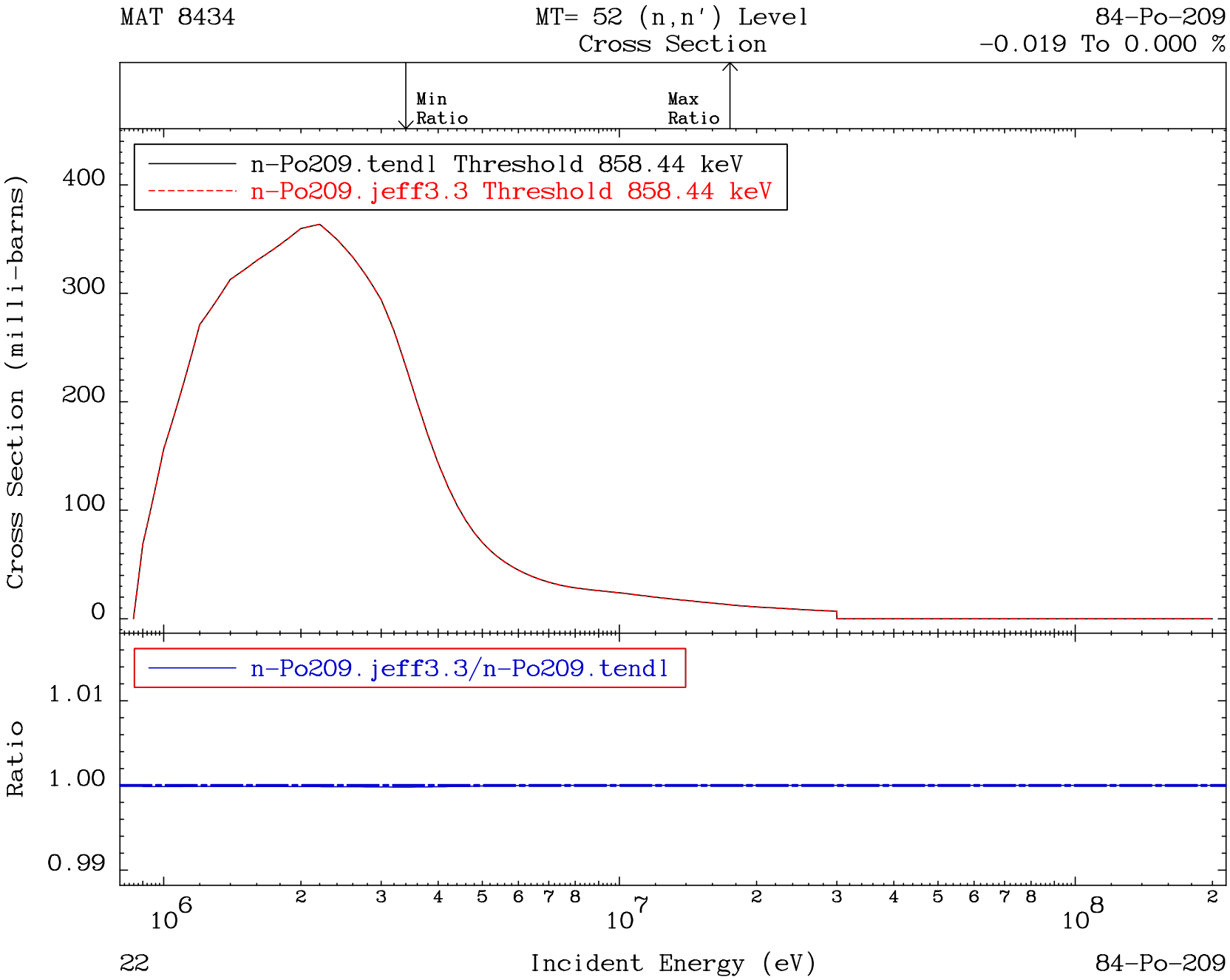

MAT 8434
(n,2n) p
Cross Section
84-Po-209
-1.079 To 0.088 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 11.728 MeV
n-Po209.jeff3.3 Threshold 11.728 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
84-Po-209

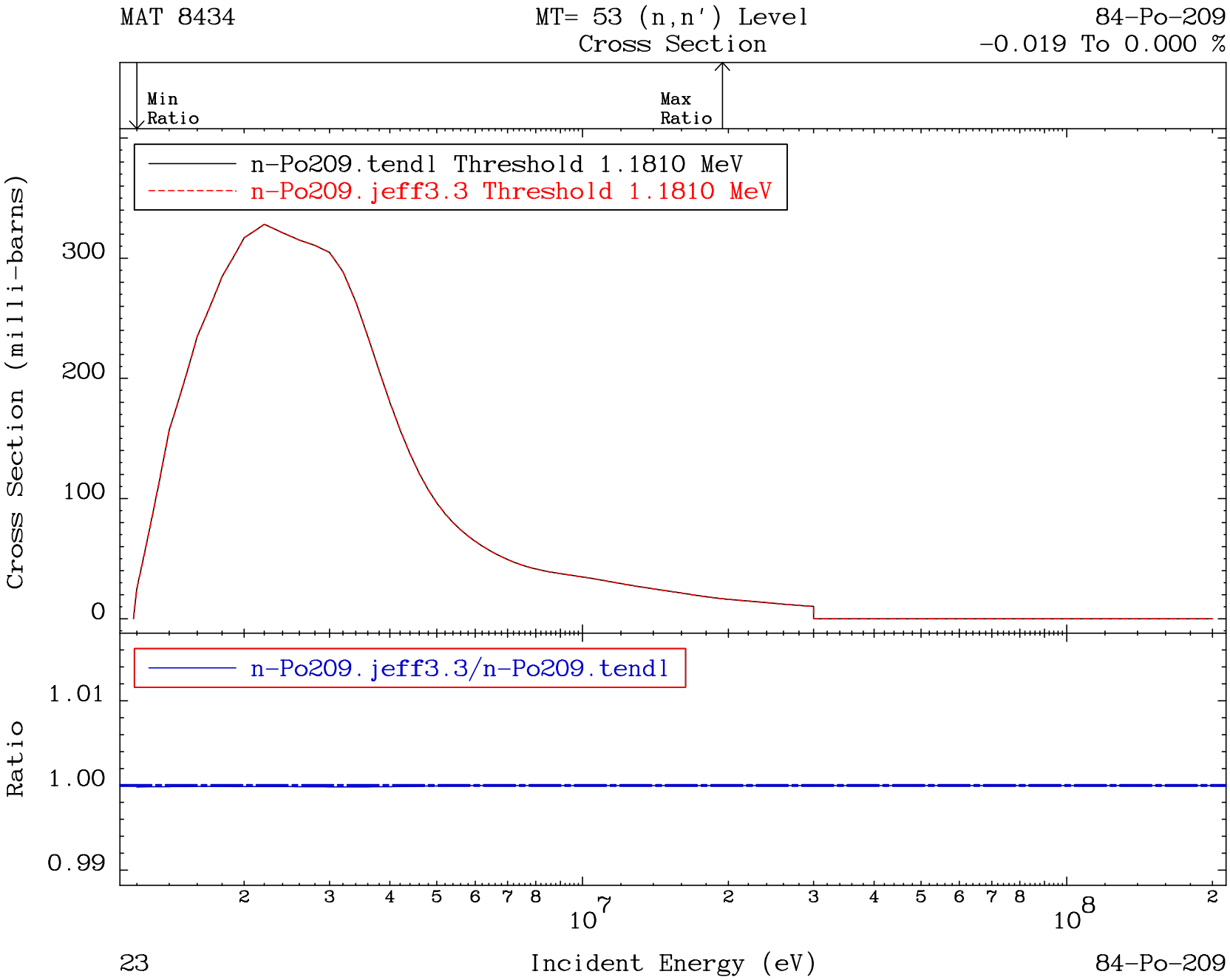

MAT 8434
(n,3n) p
Cross Section
84-Po-209
-0.265 To 0.167 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 19.865 MeV
n-Po209.jeff3.3 Threshold 19.865 MeV
Cross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
18
Incident Energy (eV)
84-Po-209

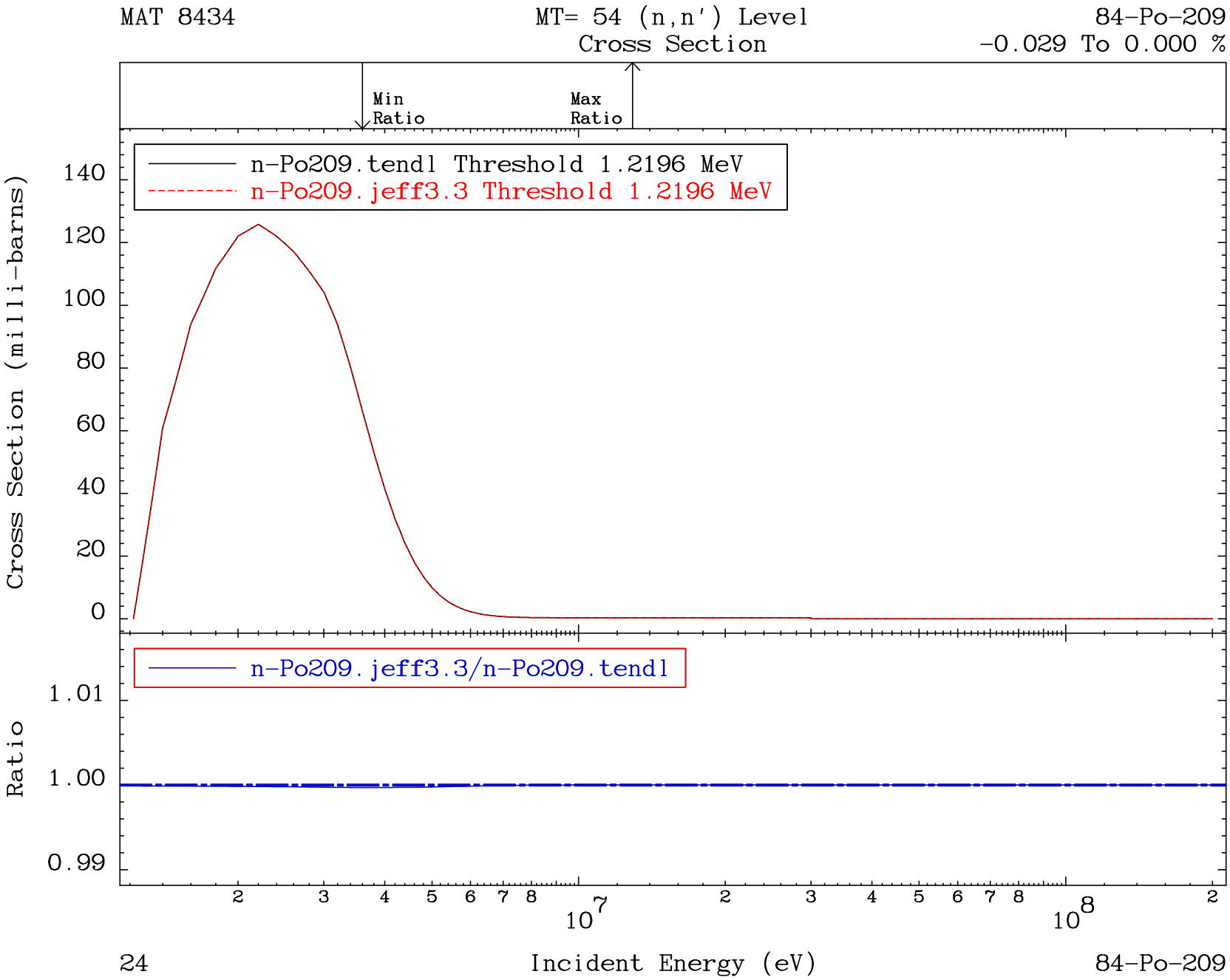

MAT 8434
(n,2n) p
Cross Section
84-Po-209
-0.283 To 0.074 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 8.5330 MeV
n-Po209.jeff3.3 Threshold 8.5330 MeV
Cross Section (micro-barns)
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
84-Po-209

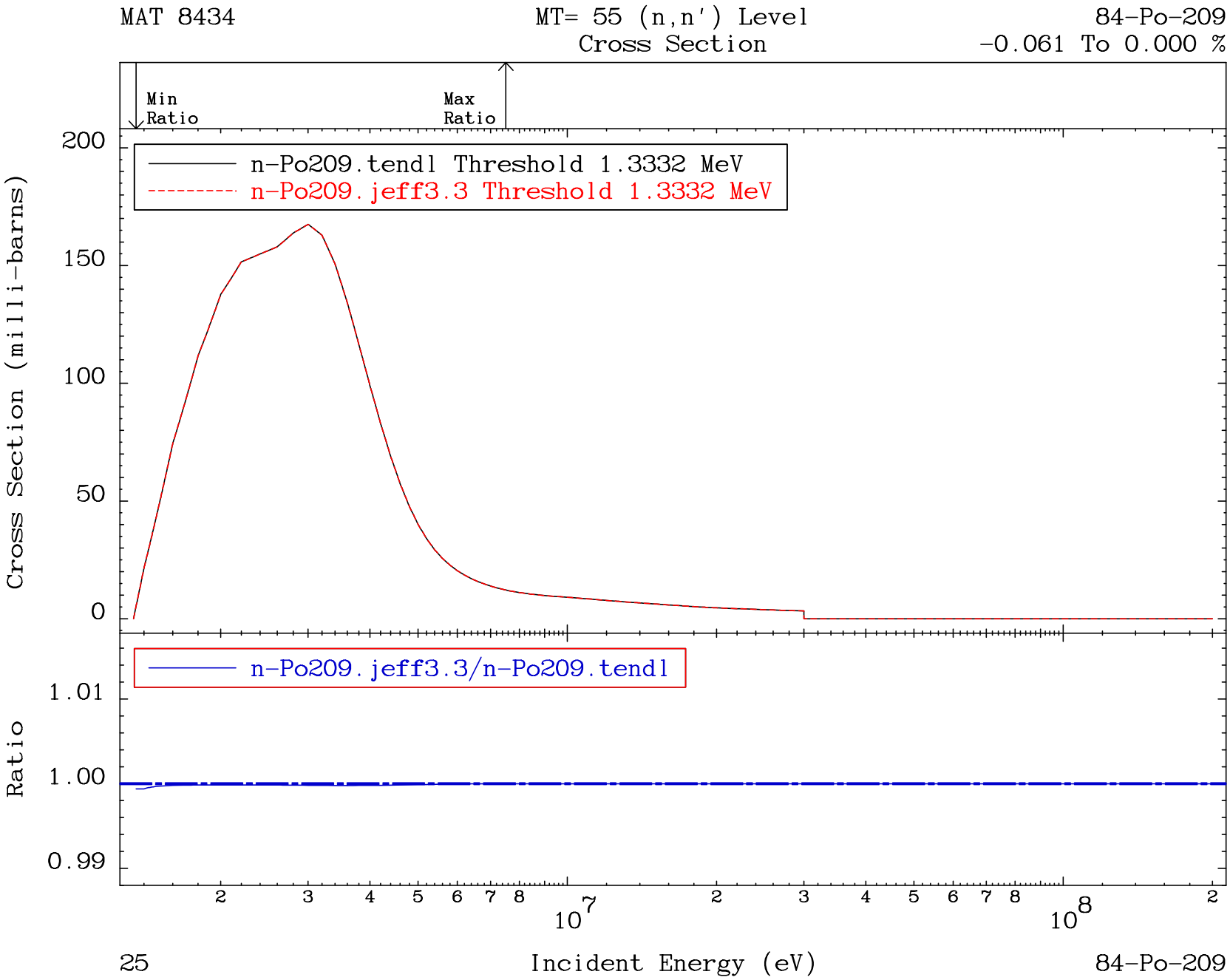

MAT 8434
(n,n') p α
Cross Section
84-Po-209
-17.95 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.7422 MeV
n-Po209.jeff3.3 Threshold 1.7422 MeV
Cross Section (10^{-9} barns)
600
500
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^4
10^2
10^0
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
20
Incident Energy (eV)
84-Po-209

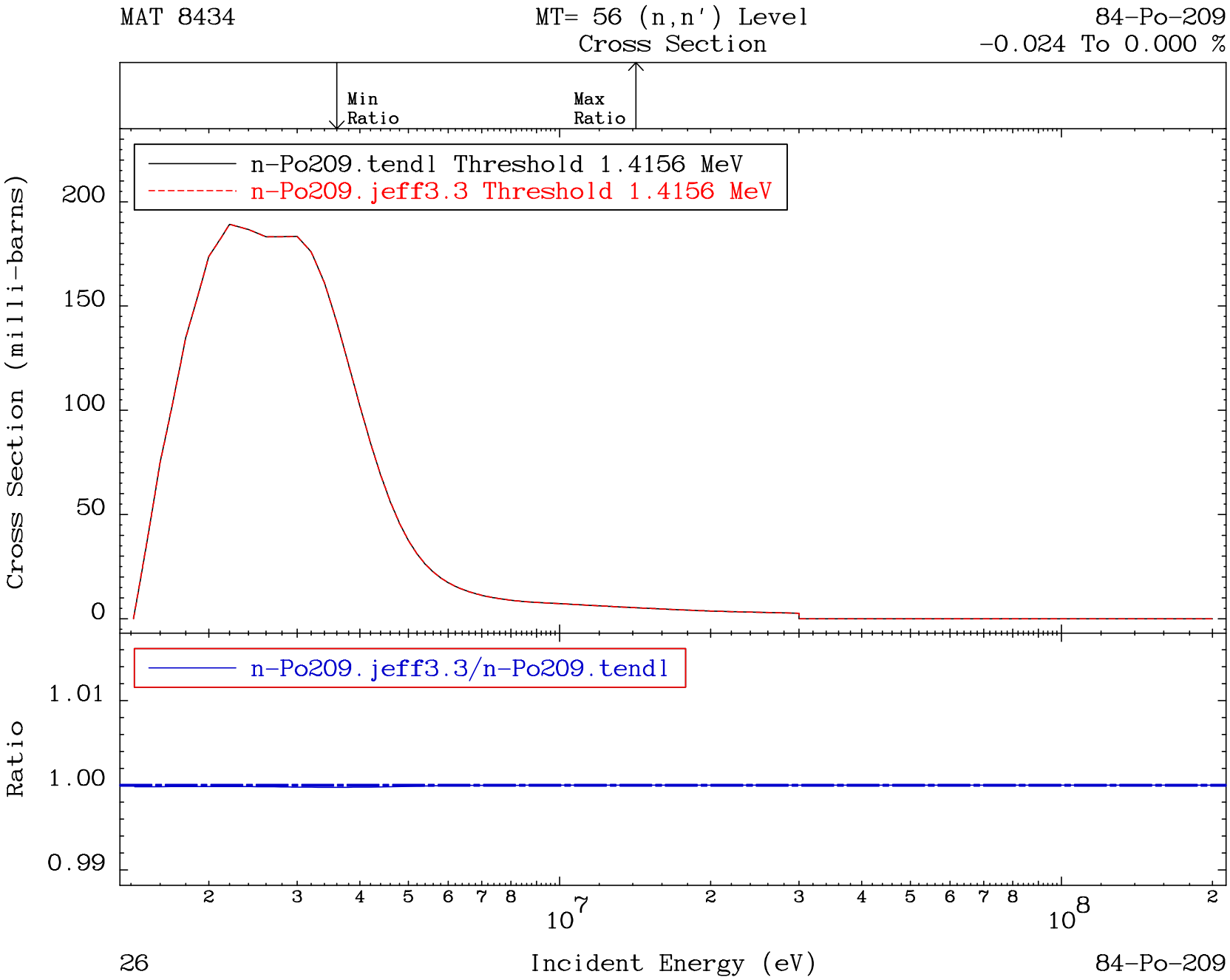

MAT 8434
MT= 51 (n,n') Level
Cross Section
84-Po-209
-0.033 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 547.58 keV
n-Po209.jeff3.3 Threshold 547.58 keV
Cross Section (milli-barns)
600
500
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
84-Po-209

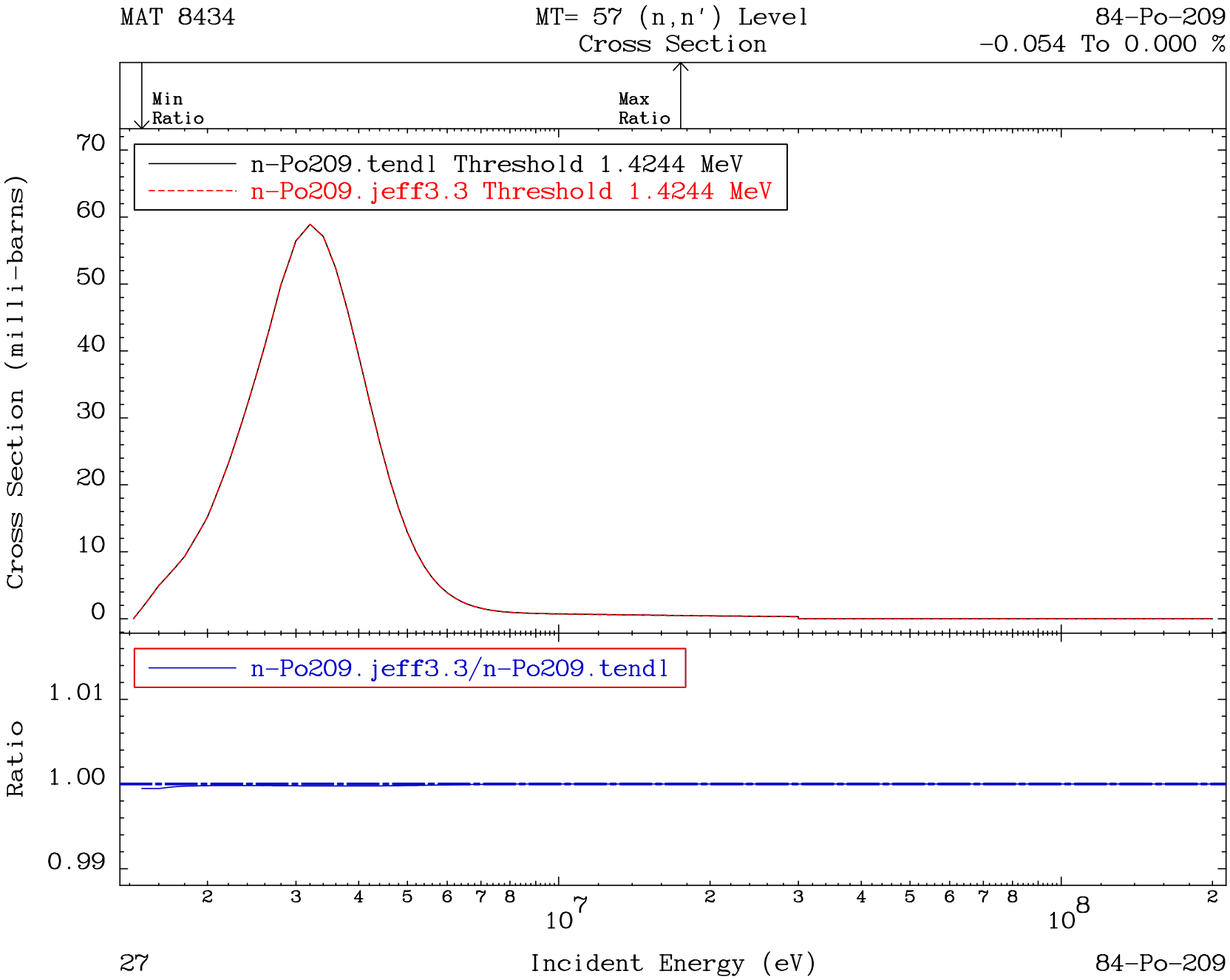

MAT 8434
MT= 52 (n,n') Level
Cross Section
84-Po-209
-0.019 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 858.44 keV
n-Po209.jeff3.3 Threshold 858.44 keV
Cross Section (milli-barns)
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
22
Incident Energy (eV)
84-Po-209

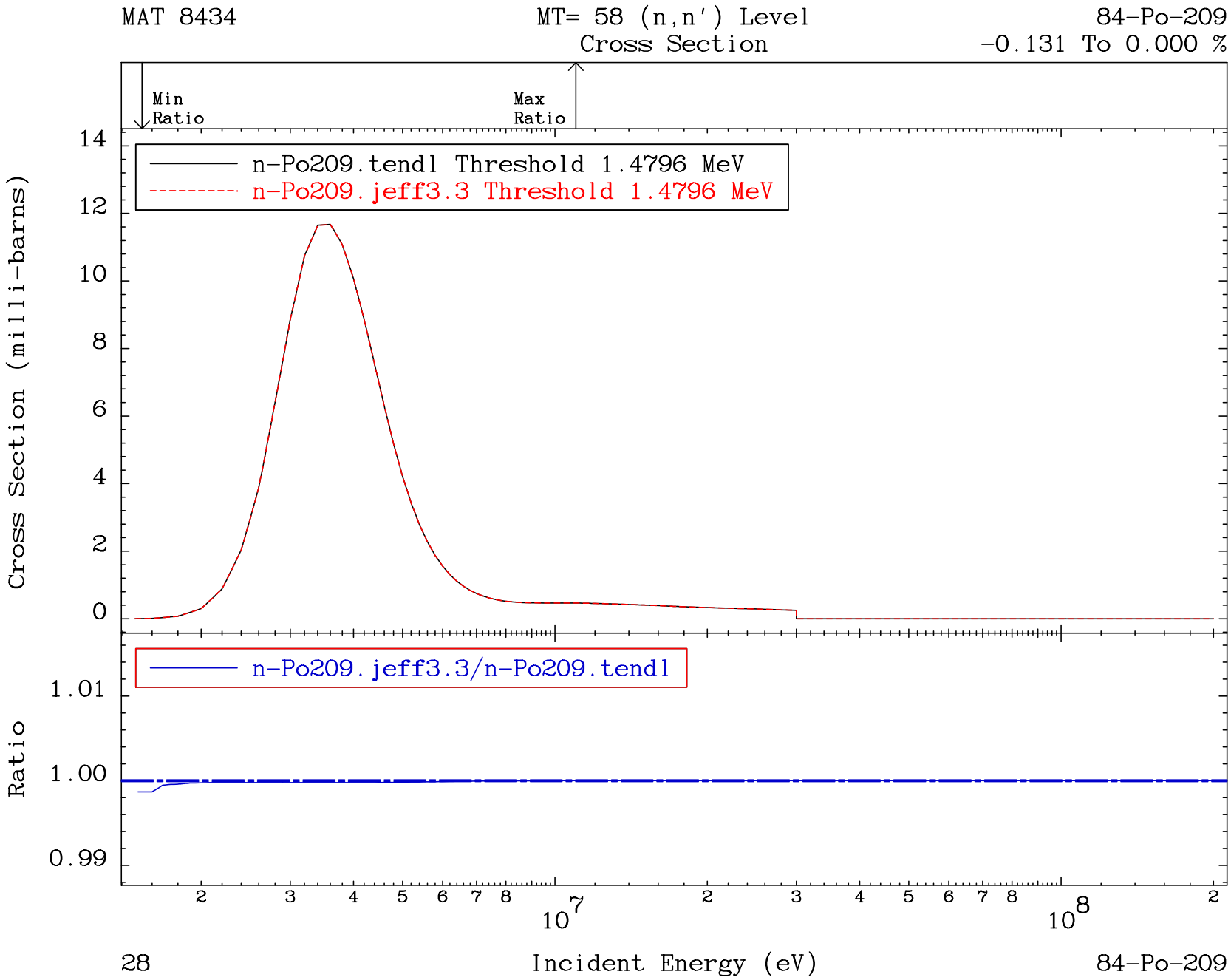

MAT 8434
MT= 53 (n,n') Level
Cross Section
84-Po-209
-0.019 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 1.1810 MeV
n-Po209.jeff3.3 Threshold 1.1810 MeV
Cross Section (milli-barns)
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
23
Incident Energy (eV)
84-Po-209

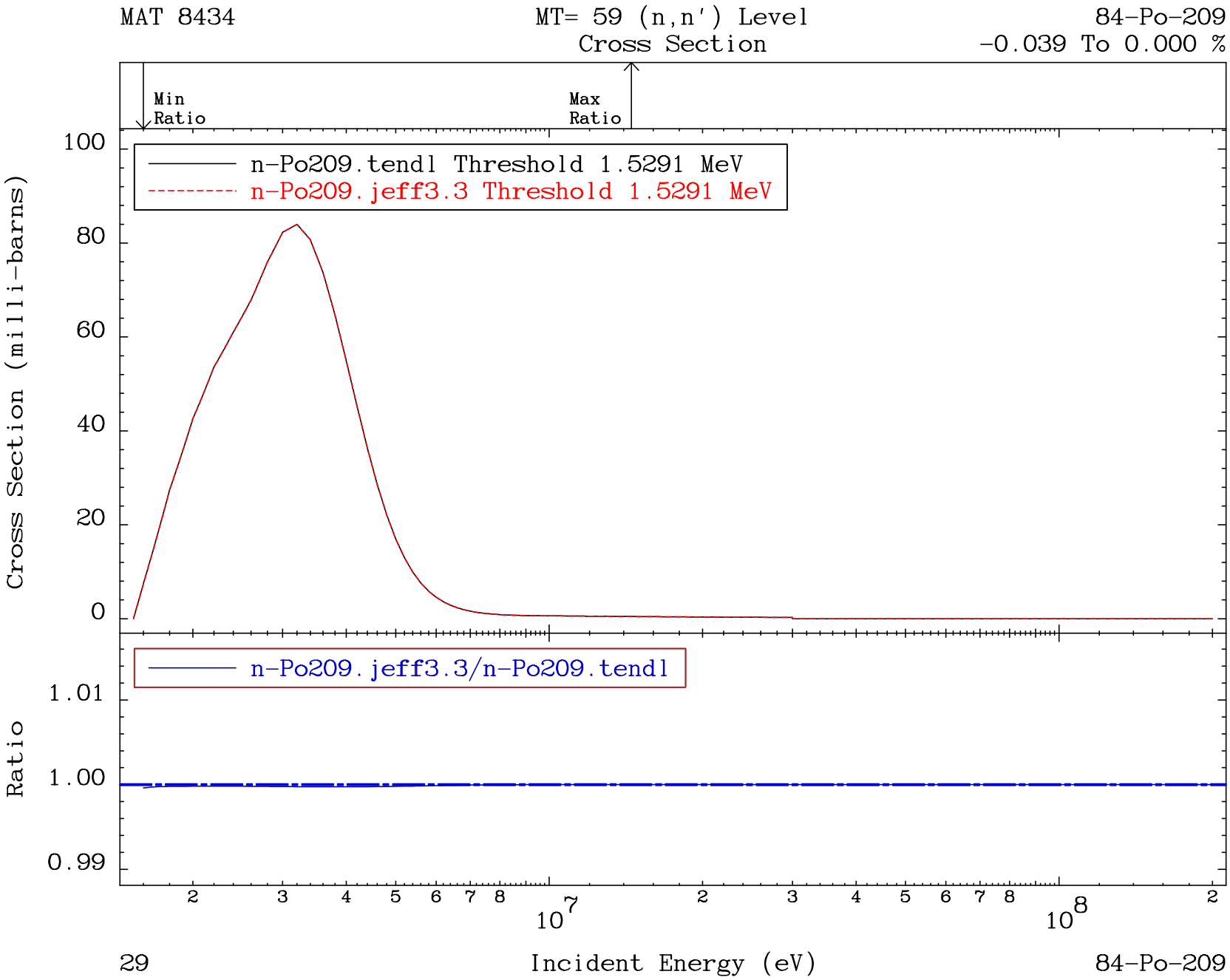

MAT 8434
MT= 54 (n,n') Level
Cross Section
84-Po-209
-0.029 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.2196 MeV
n-Po209.jeff3.3 Threshold 1.2196 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
24
Incident Energy (eV)
84-Po-209

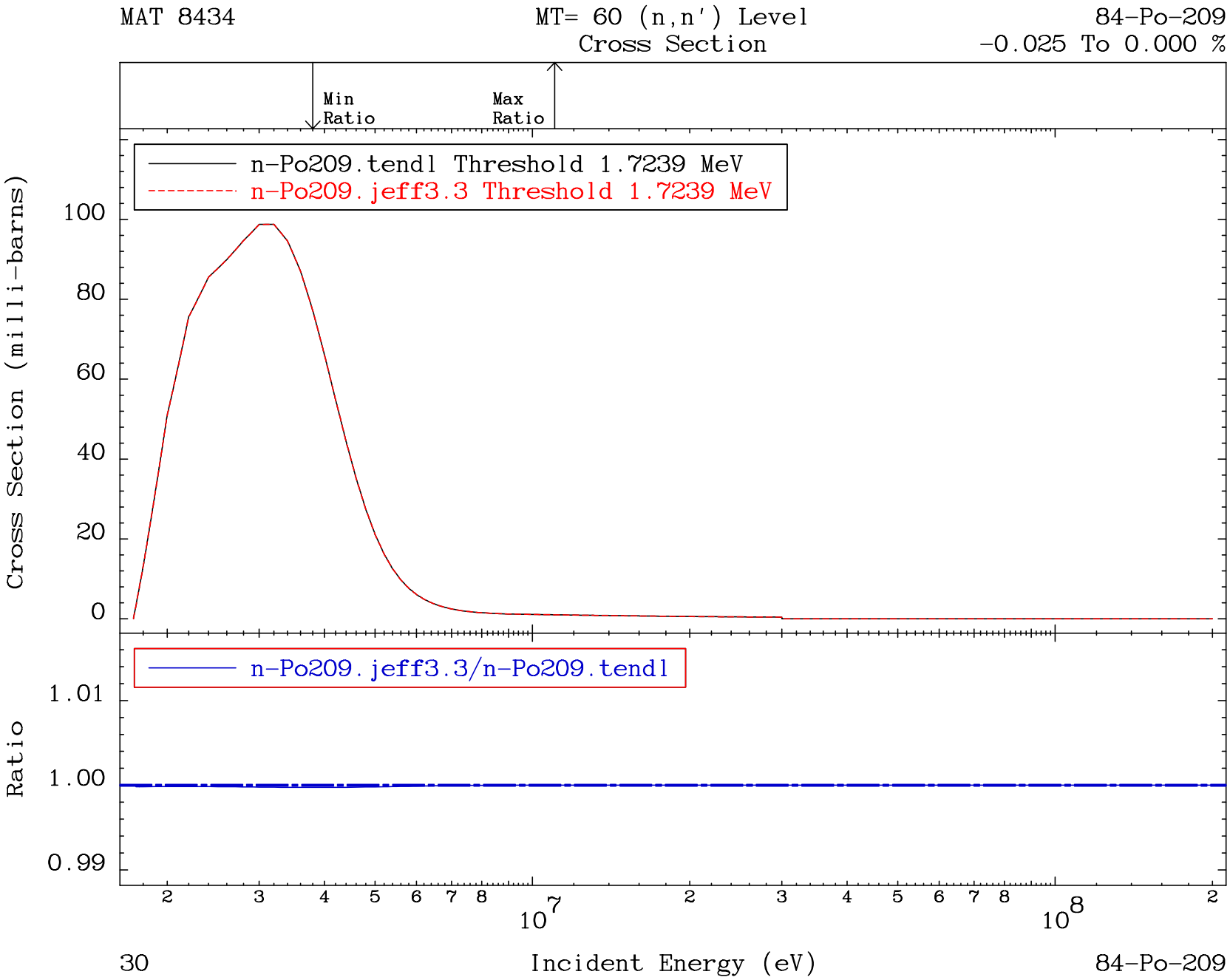

MAT 8434
MT= 55 (n,n') Level
Cross Section
84-Po-209
-0.061 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.3332 MeV
n-Po209.jeff3.3 Threshold 1.3332 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
25
Incident Energy (eV)
84-Po-209

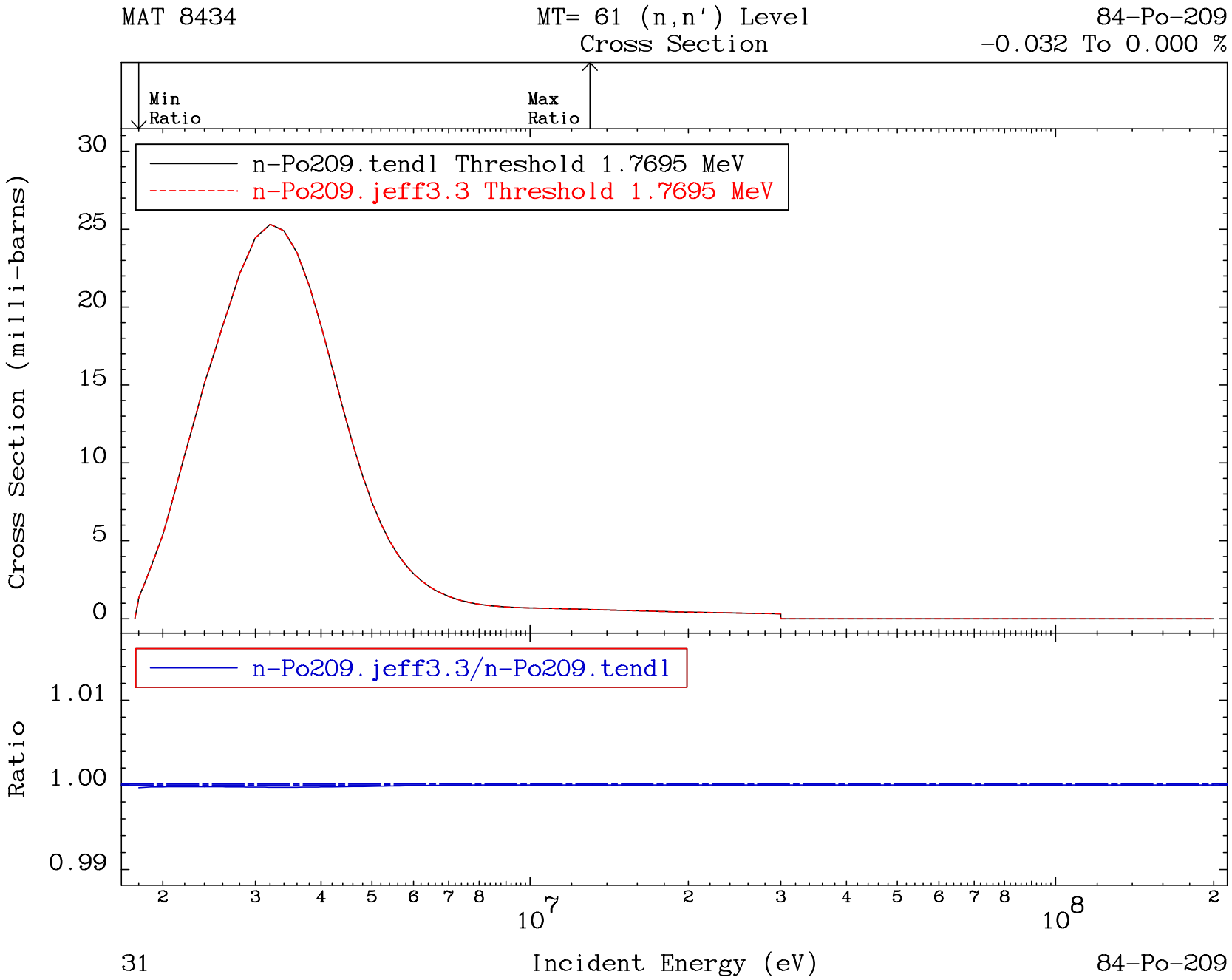

MAT 8434
MT= 56 (n,n') Level
Cross Section
84-Po-209
-0.024 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 1.4156 MeV
n-Po209.jeff3.3 Threshold 1.4156 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
26
Incident Energy (eV)
84-Po-209

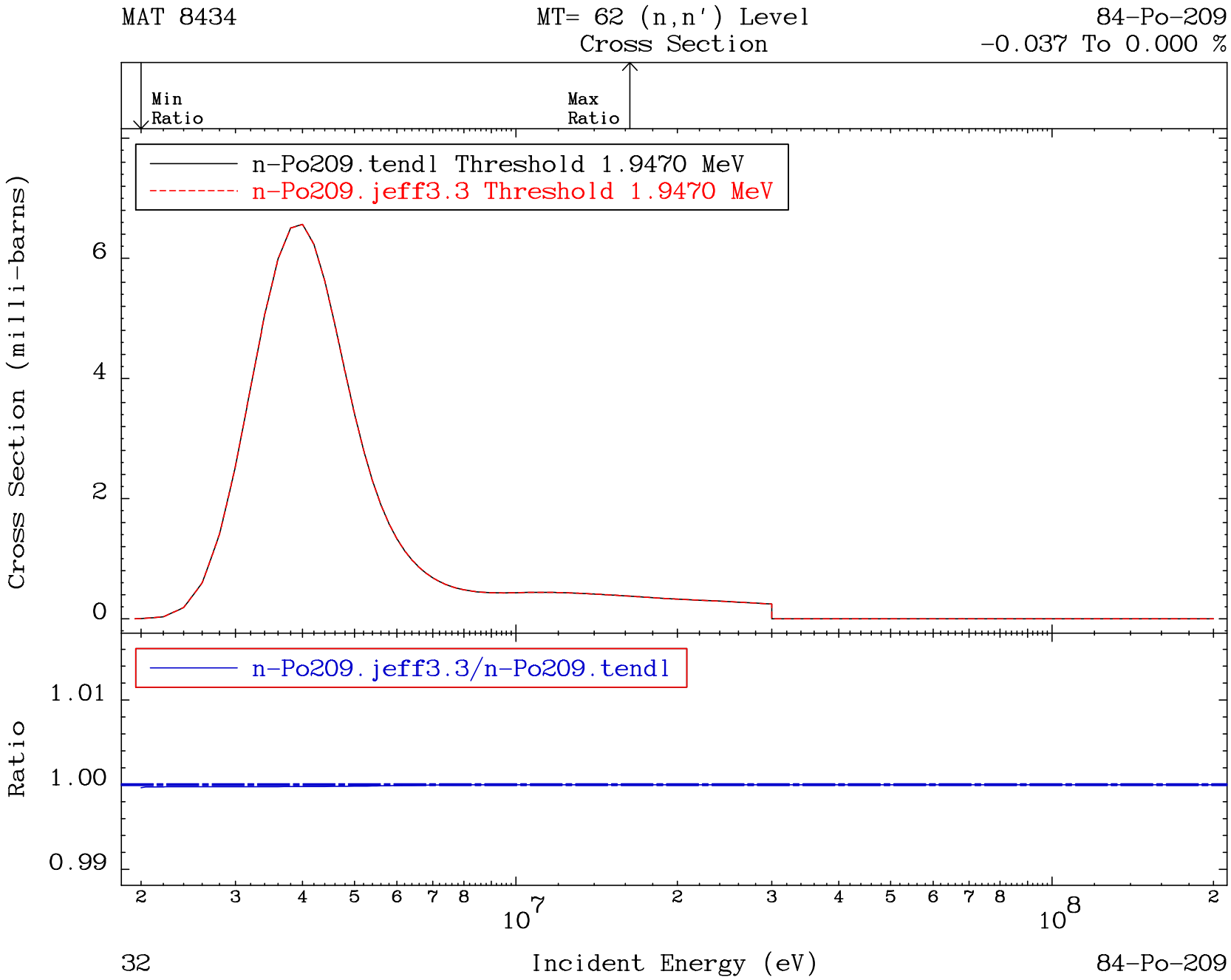

MAT 8434
MT= 57 (n,n') Level
Cross Section
84-Po-209
-0.054 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.4244 MeV
n-Po209.jeff3.3 Threshold 1.4244 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
27
Incident Energy (eV)
84-Po-209

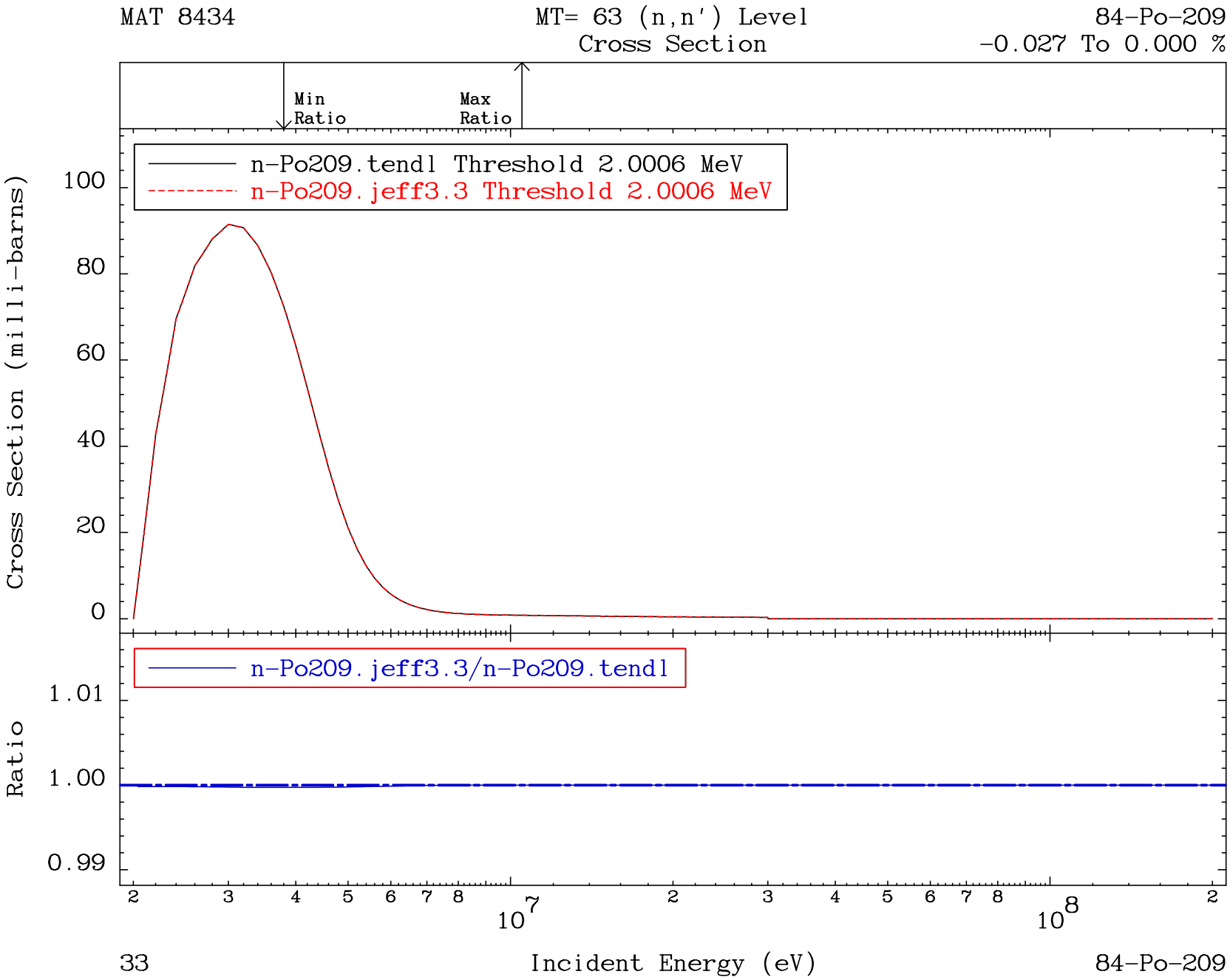

MAT 8434
MT= 58 (n,n') Level
Cross Section
84-Po-209
-0.131 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.4796 MeV
n-Po209.jeff3.3 Threshold 1.4796 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
84-Po-209

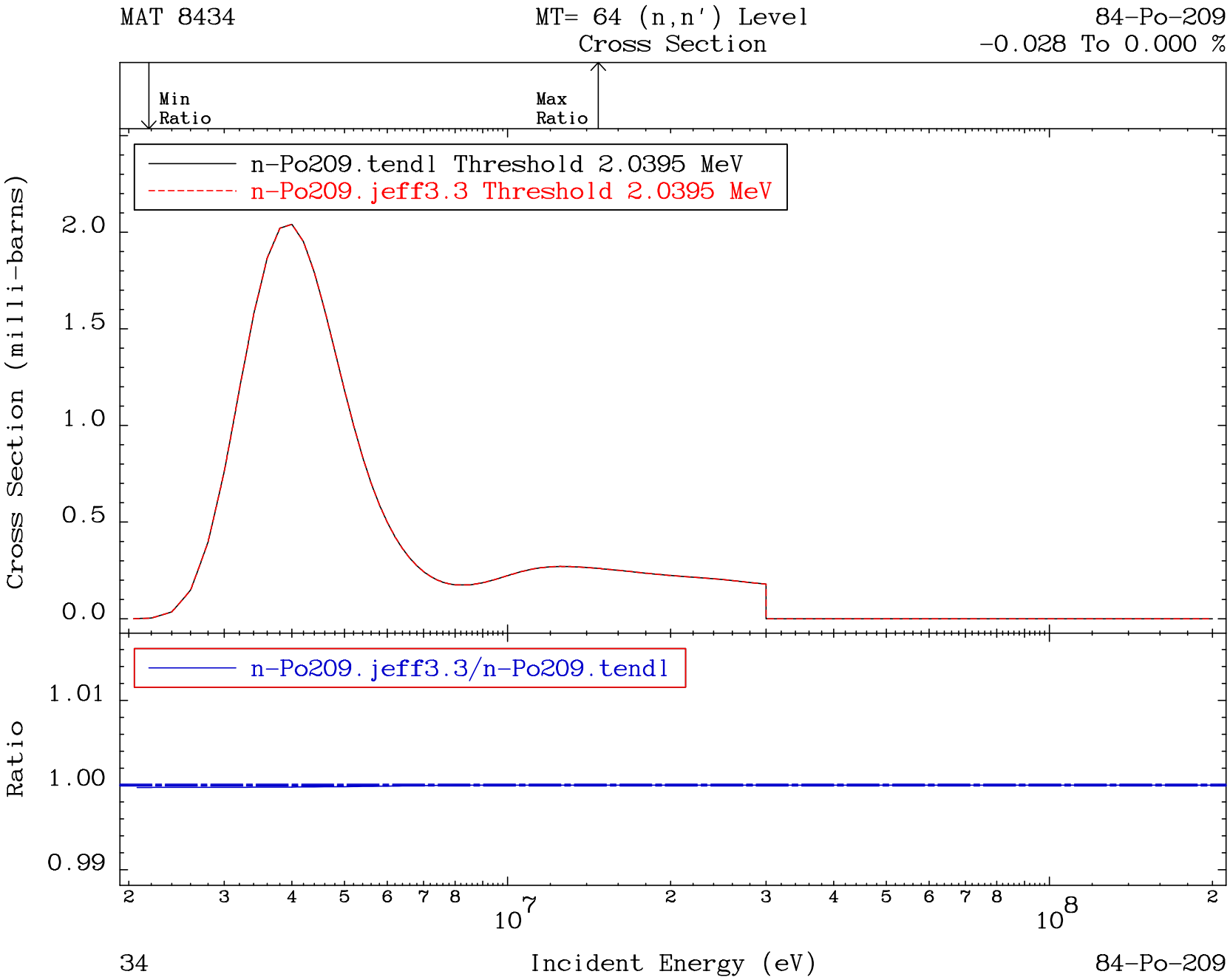

MAT 8434
MT= 59 (n,n') Level
Cross Section
84-Po-209
-0.039 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.5291 MeV
n-Po209.jeff3.3 Threshold 1.5291 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
29
Incident Energy (eV)
84-Po-209

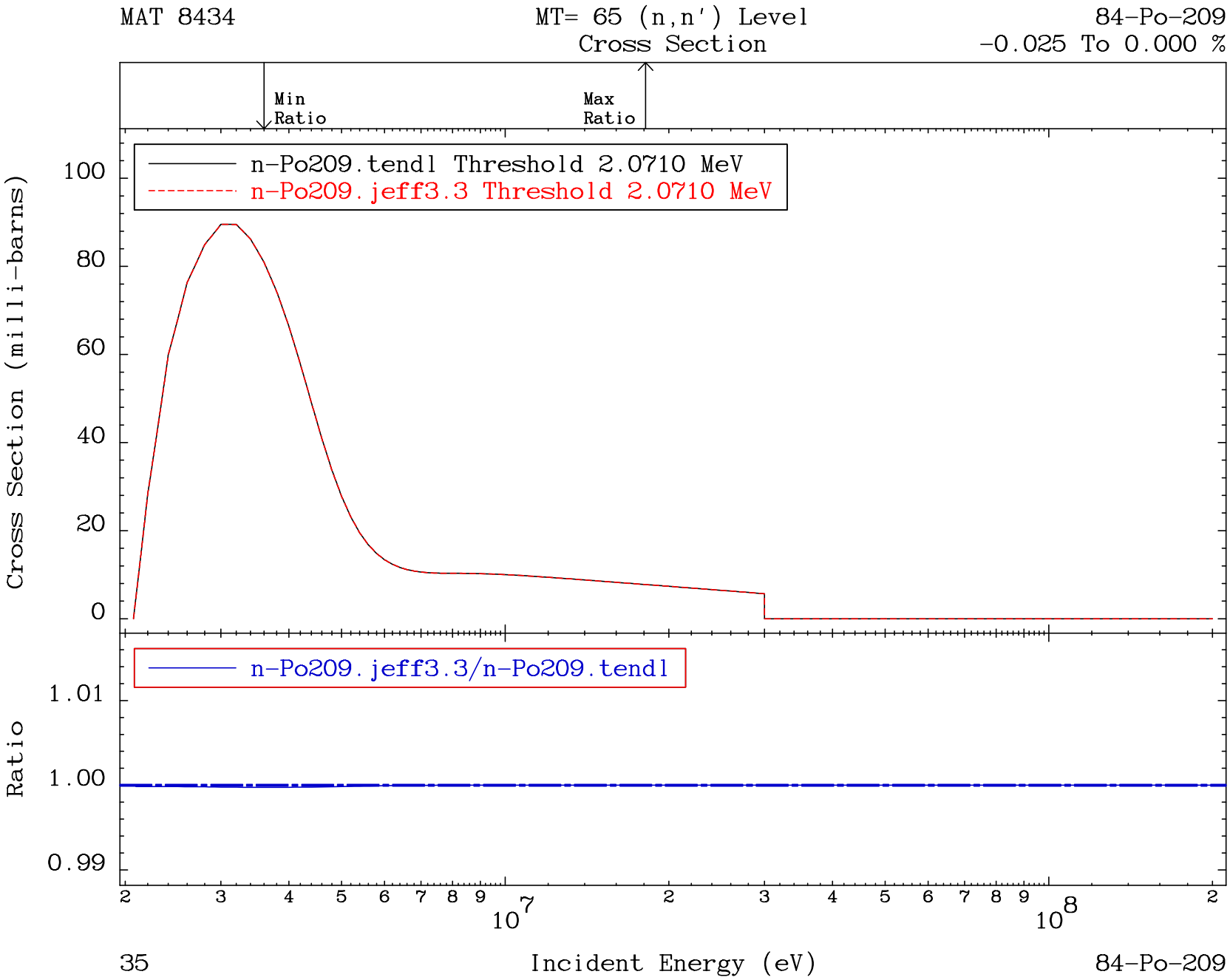

MAT 8434
MT= 60 (n,n') Level
Cross Section
84-Po-209
-0.025 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.7239 MeV
n-Po209.jeff3.3 Threshold 1.7239 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
30
Incident Energy (eV)
84-Po-209

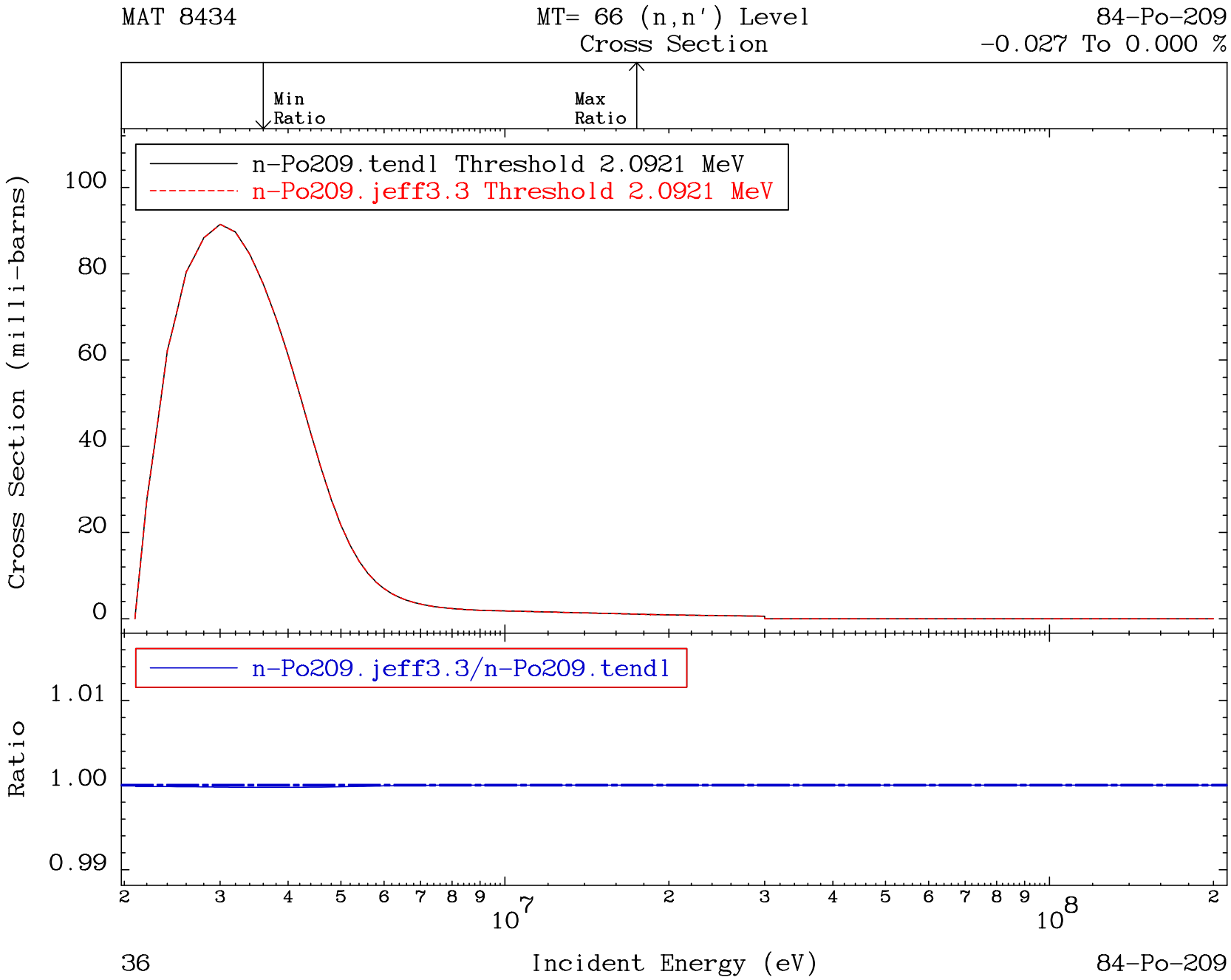

MAT 8434
MT= 61 (n,n') Level
Cross Section
84-Po-209
-0.032 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.7695 MeV
n-Po209.jeff3.3 Threshold 1.7695 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
31
Incident Energy (eV)
84-Po-209

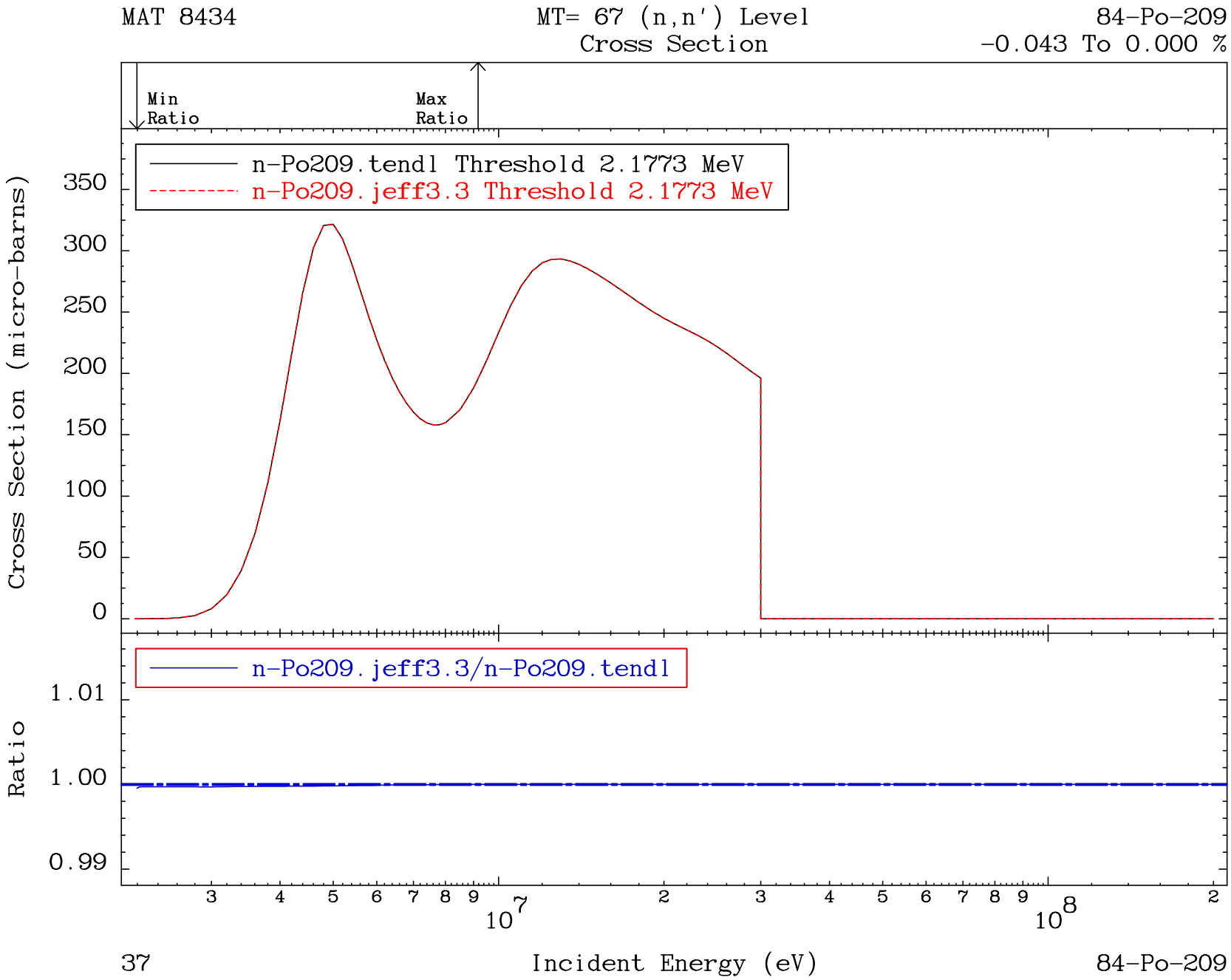

MAT 8434
MT= 62 (n,n') Level
Cross Section
84-Po-209
-0.037 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.9470 MeV
n-Po209.jeff3.3 Threshold 1.9470 MeV
Cross Section (milli-barns)
0
2
4
6
n-Po209.jeff3.3/n-Po209.tendl
Ratio
0.99
1.00
1.01
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
32
Incident Energy (eV)
84-Po-209

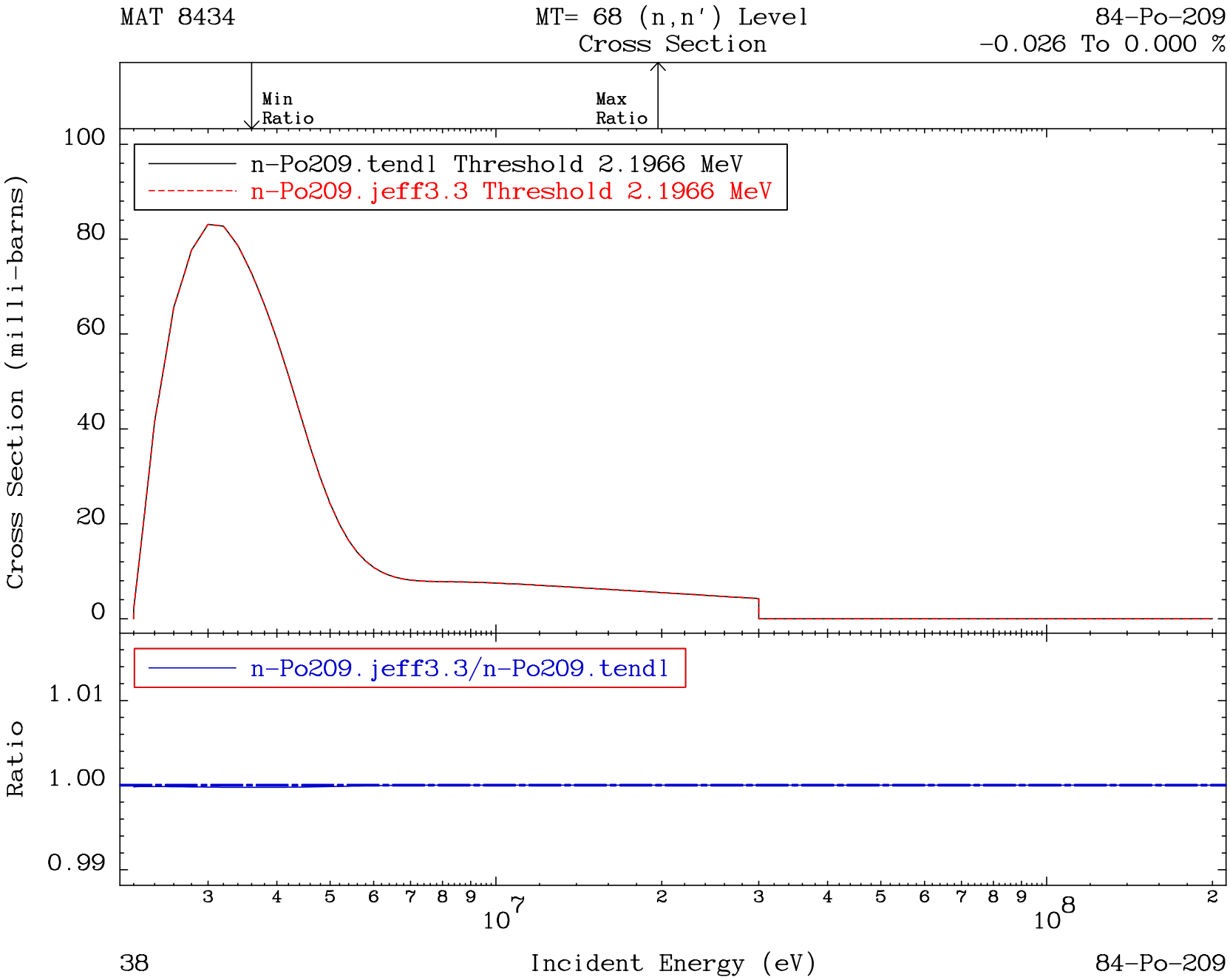

MAT 8434
MT= 63 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.0006 MeV
n-Po209.jeff3.3 Threshold 2.0006 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
33
Incident Energy (eV)
84-Po-209

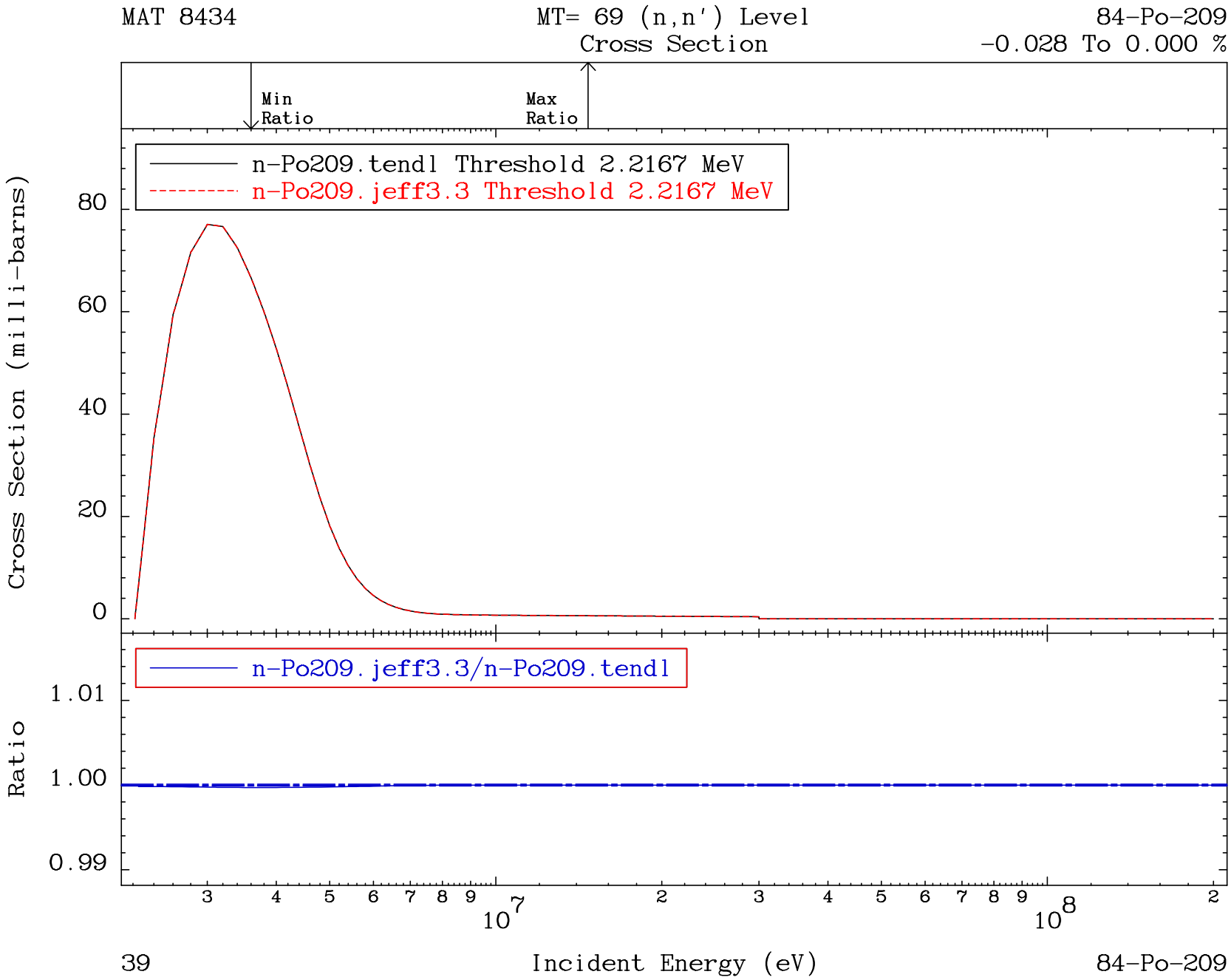

MAT 8434
MT= 64 (n,n') Level
Cross Section
84-Po-209
-0.028 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.0395 MeV
n-Po209.jeff3.3 Threshold 2.0395 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
34
Incident Energy (eV)
84-Po-209

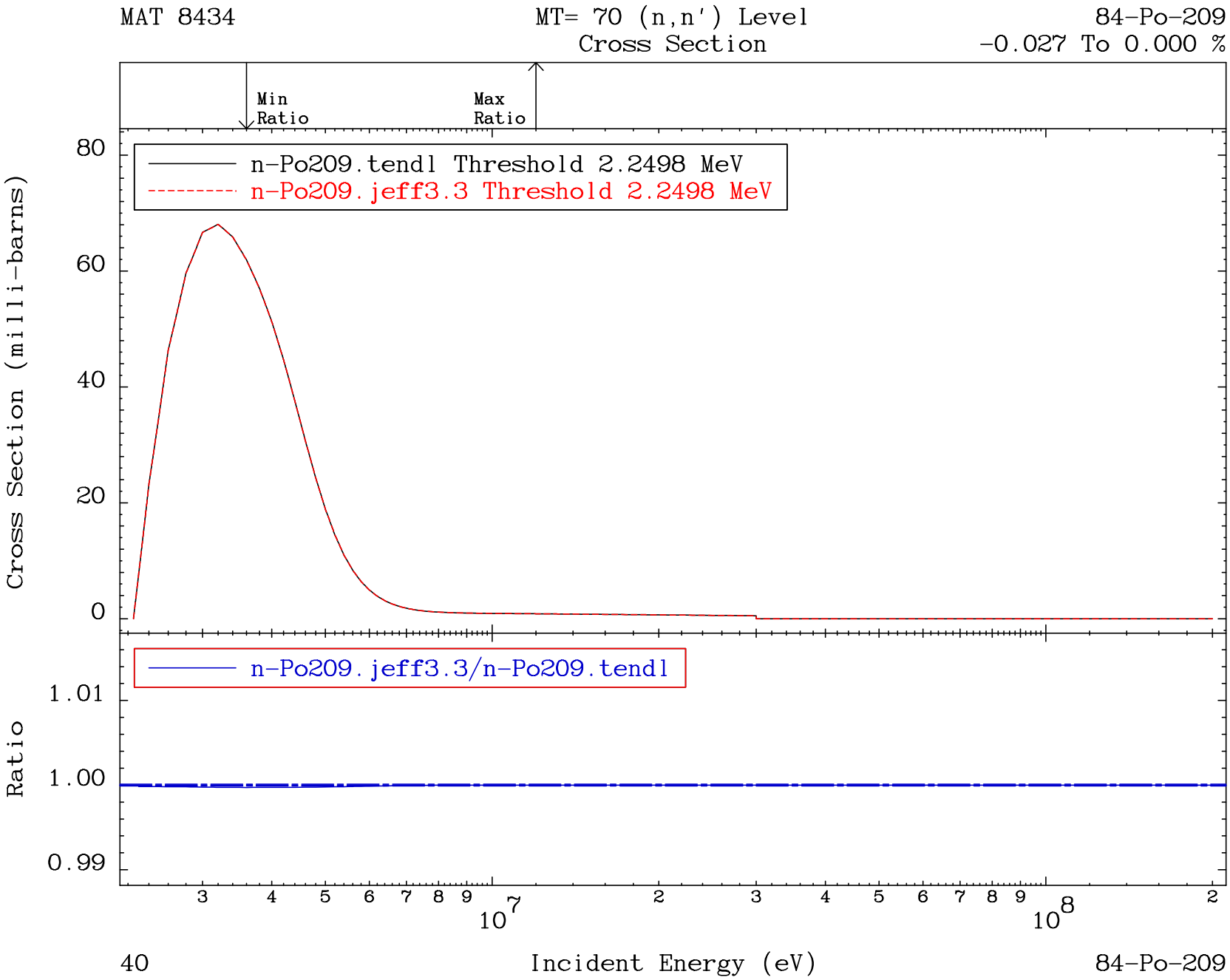

MAT 8434
MT= 65 (n,n') Level
Cross Section
84-Po-209
-0.025 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 2.0710 MeV
n-Po209.jeff3.3 Threshold 2.0710 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
35
Incident Energy (eV)
84-Po-209

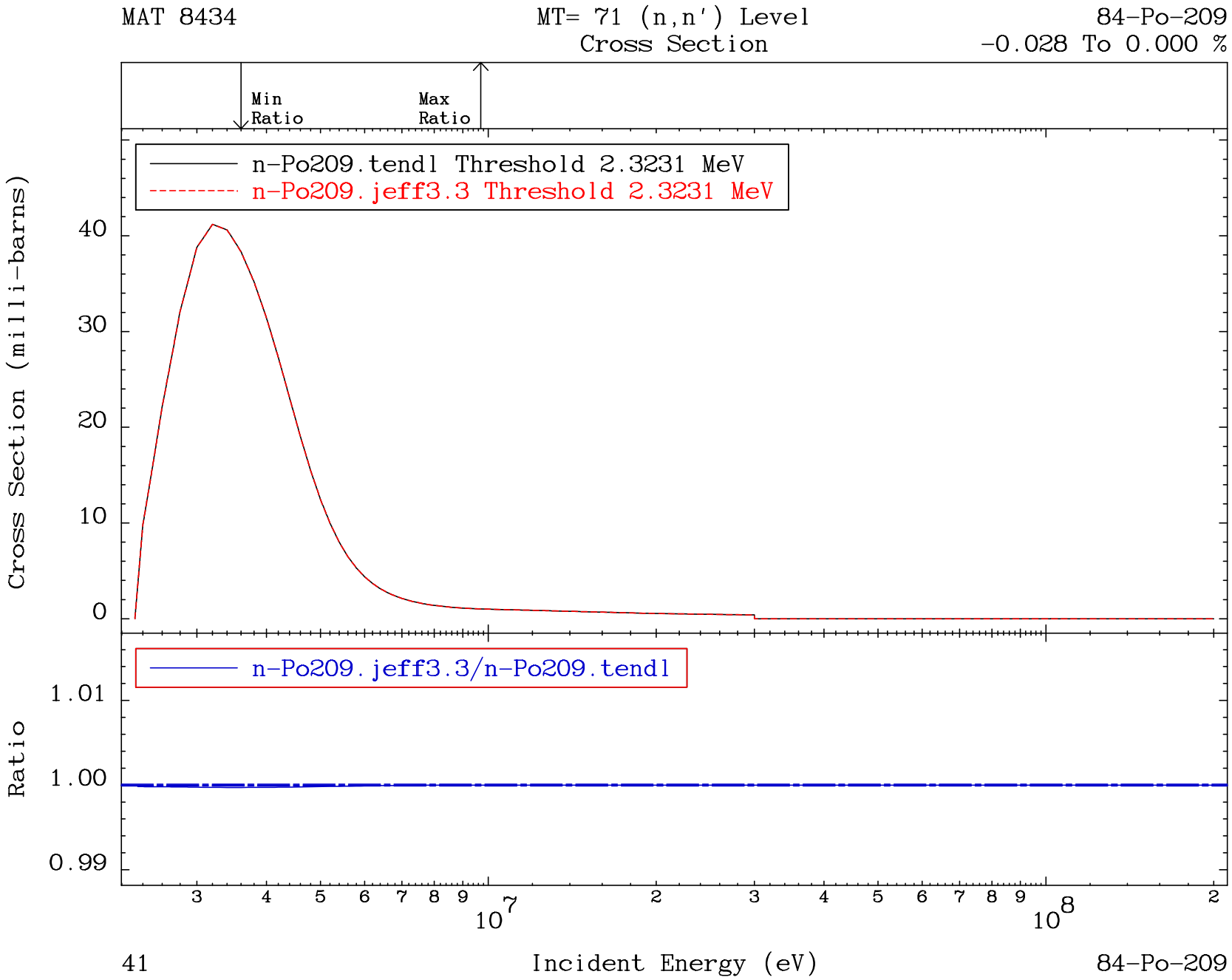

MAT 8434
MT= 66 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.0921 MeV
n-Po209.jeff3.3 Threshold 2.0921 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
36
Incident Energy (eV)
84-Po-209

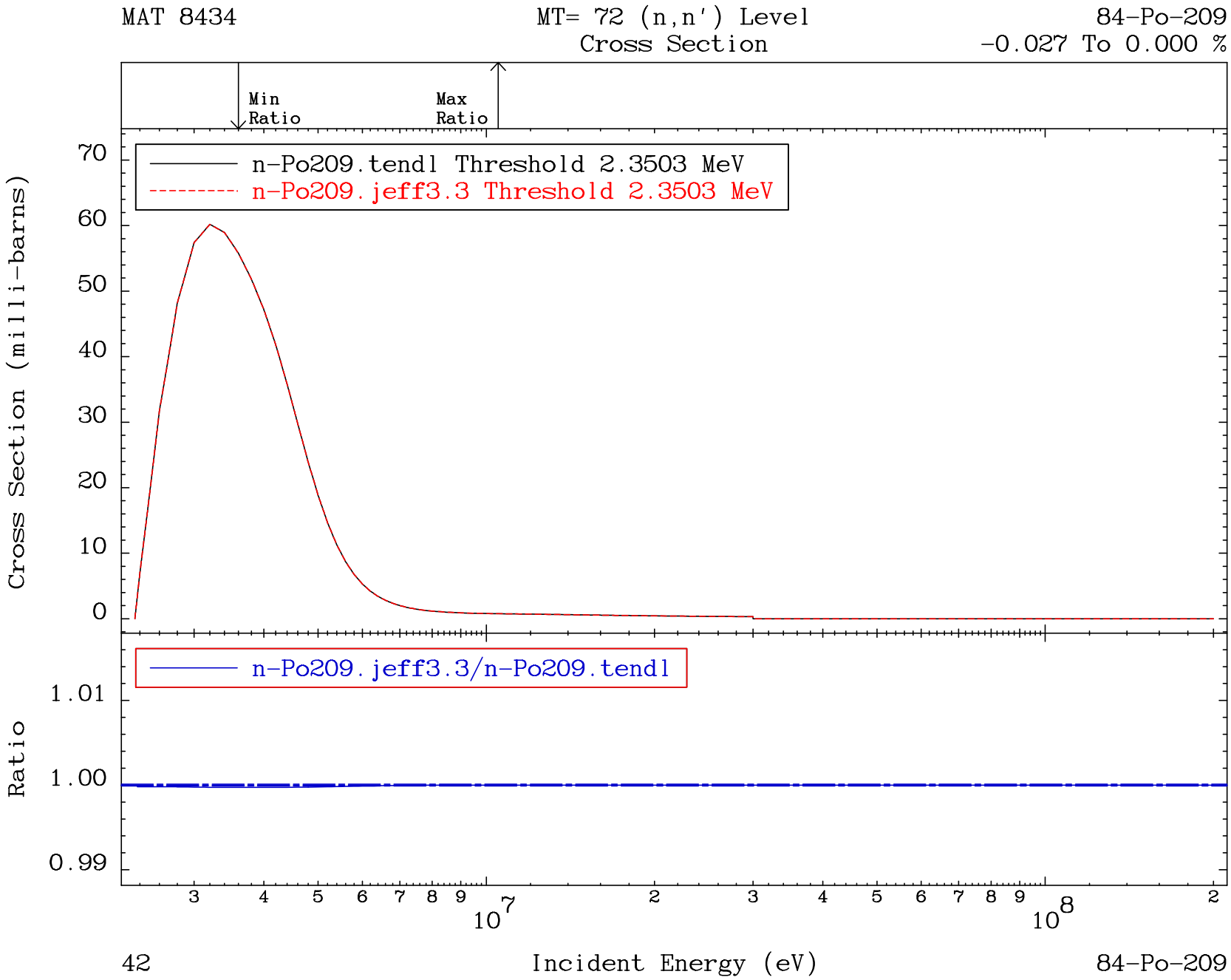

MAT 8434
MT= 67 (n,n') Level
Cross Section
84-Po-209
-0.043 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.1773 MeV
n-Po209.jeff3.3 Threshold 2.1773 MeV
Cross Section (micro-barns)
350
300
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
37
Incident Energy (eV)
84-Po-209

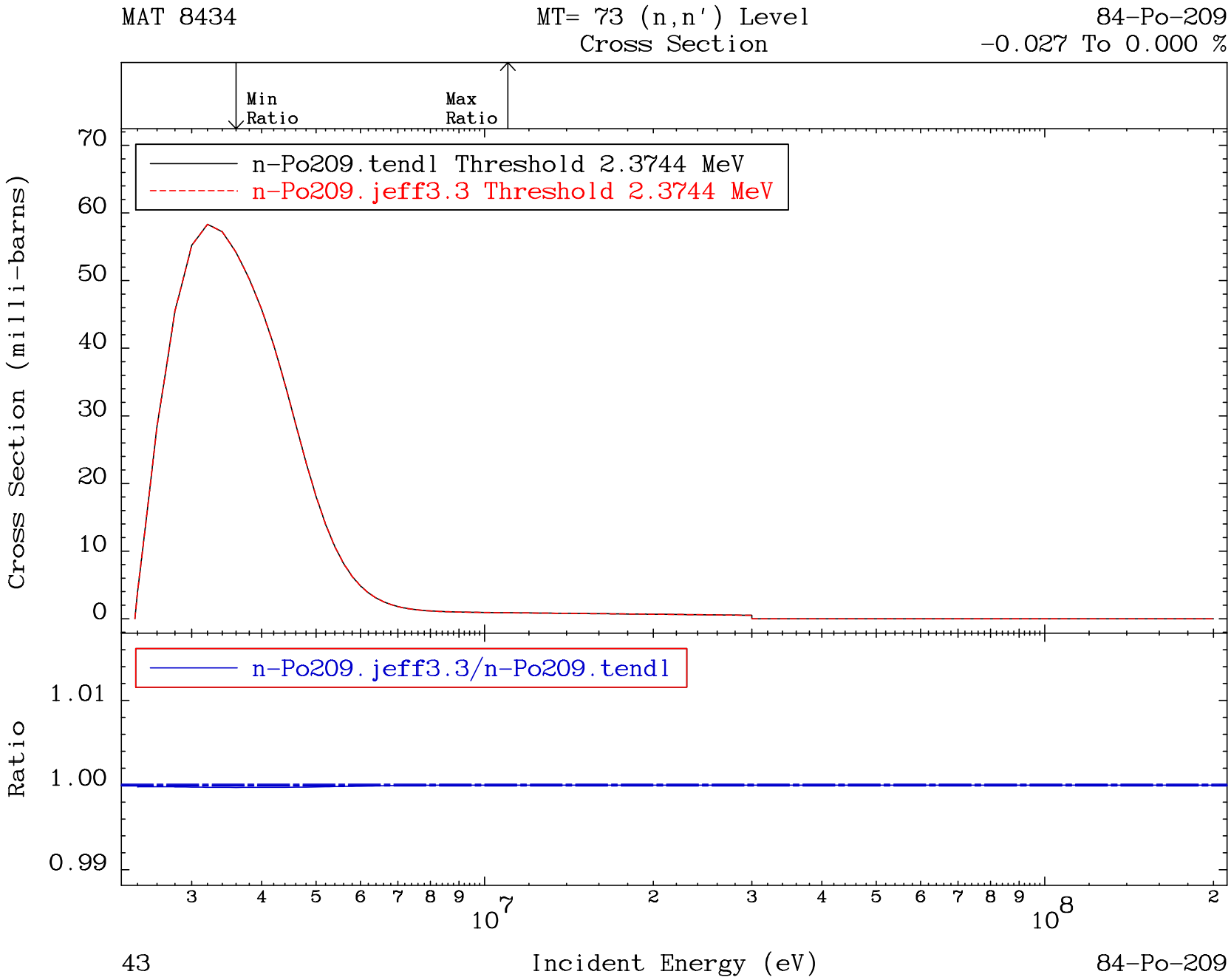

MAT 8434
MT= 68 (n,n') Level
Cross Section
84-Po-209
-0.026 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 2.1966 MeV
n-Po209.jeff3.3 Threshold 2.1966 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
38
Incident Energy (eV)
84-Po-209

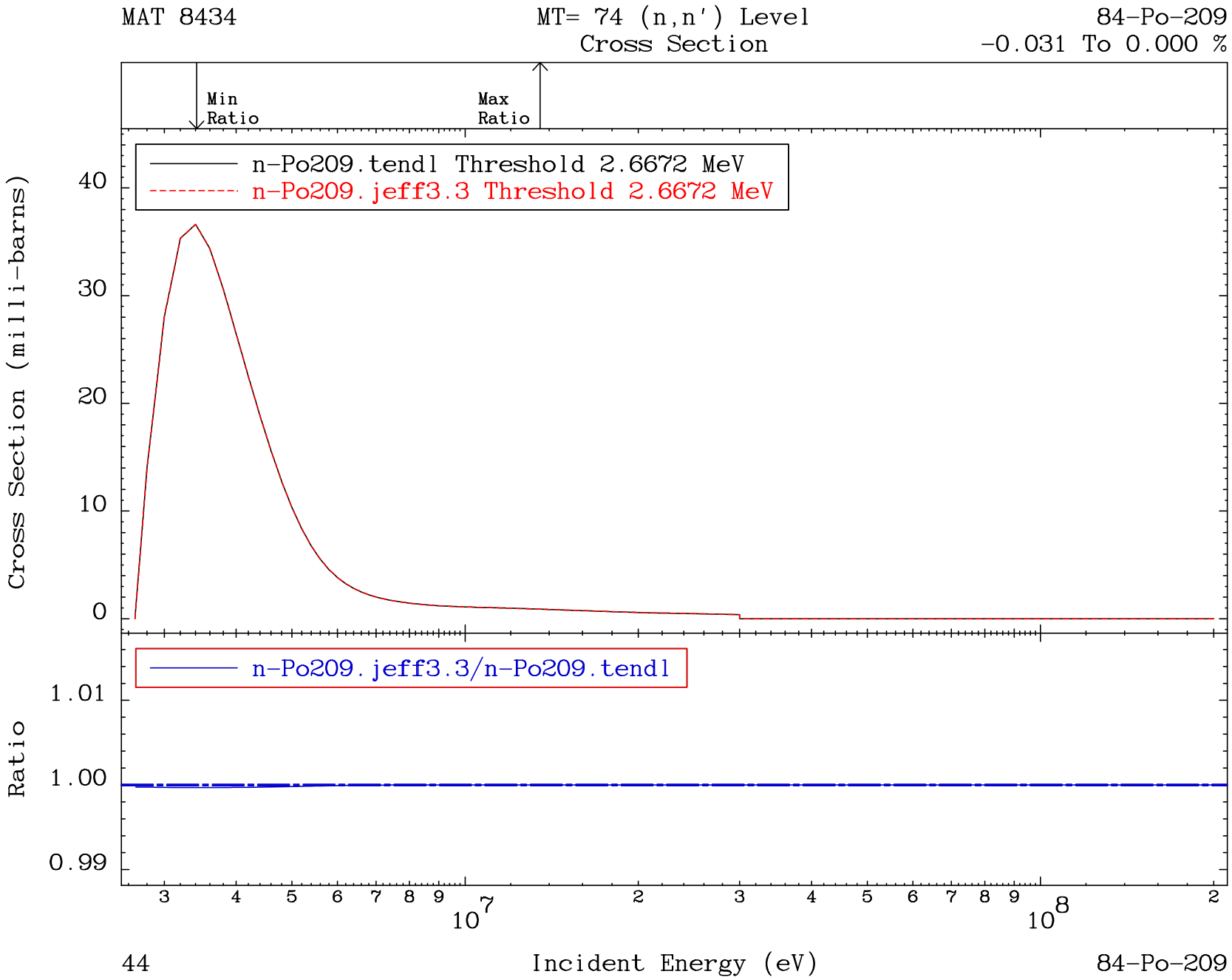

MAT 8434
MT= 69 (n,n') Level
Cross Section
84-Po-209
-0.028 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 2.2167 MeV
n-Po209.jeff3.3 Threshold 2.2167 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
39
Incident Energy (eV)
84-Po-209

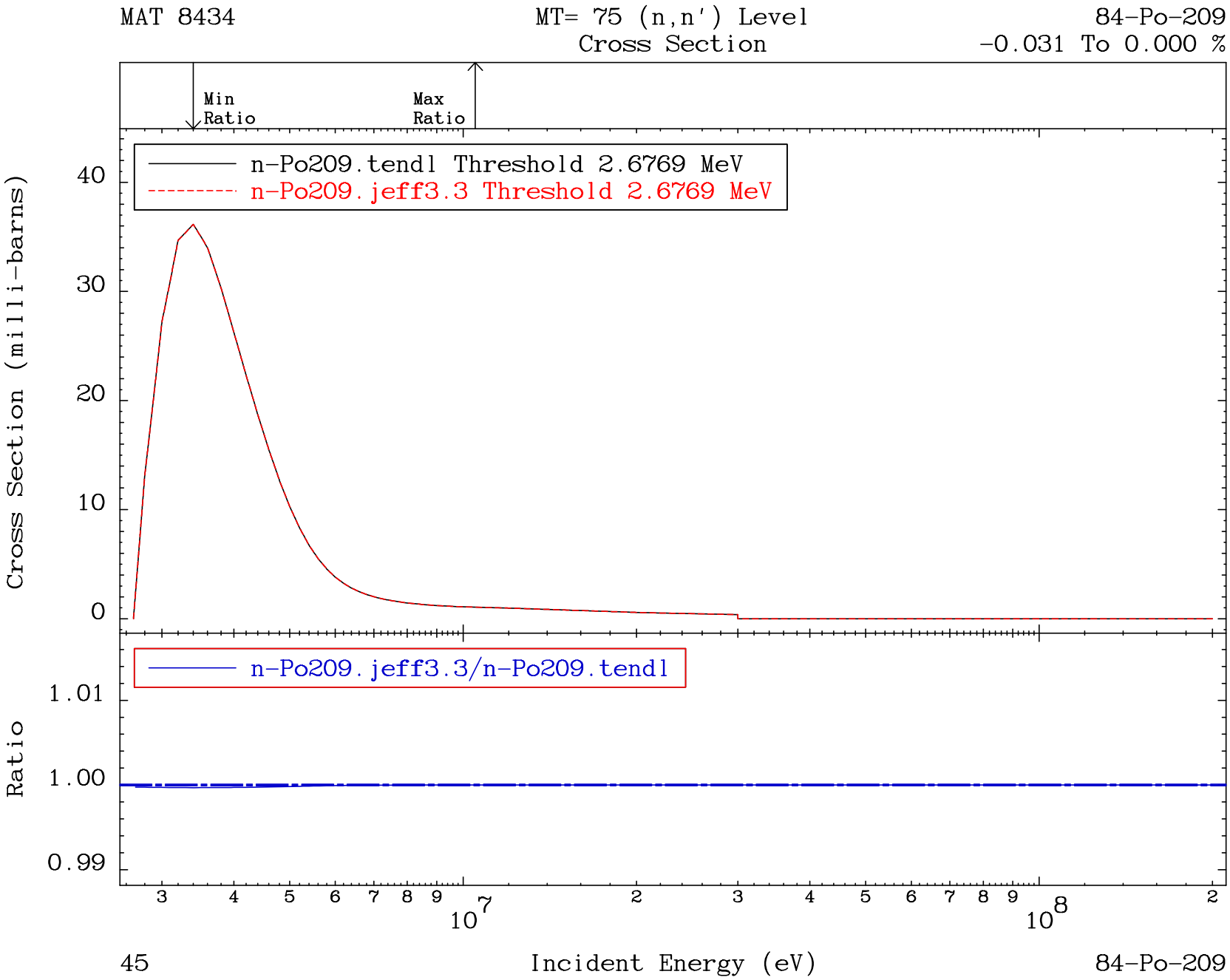

MAT 8434
MT= 70 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.2498 MeV
n-Po209.jeff3.3 Threshold 2.2498 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
40
Incident Energy (eV)
84-Po-209

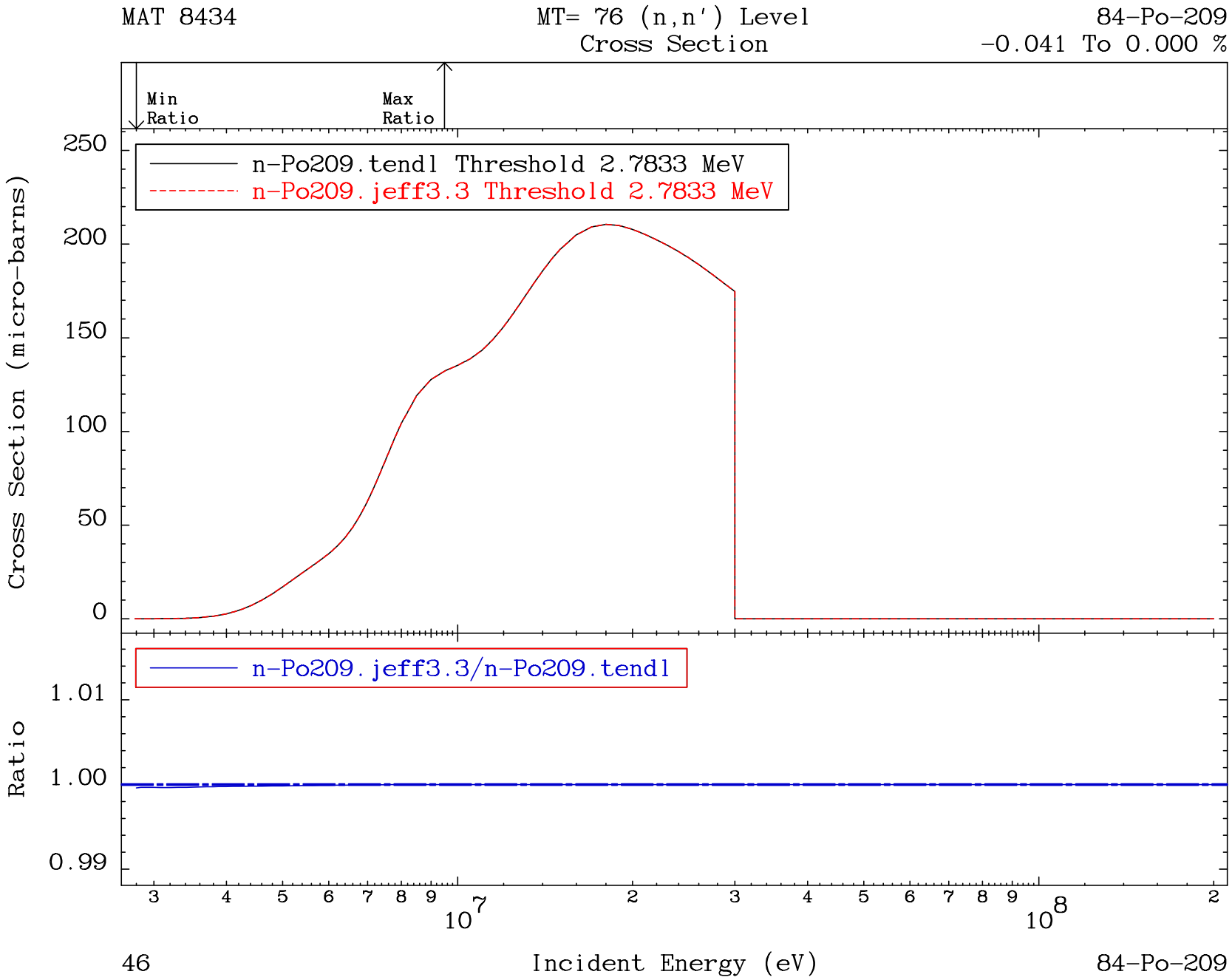

MAT 8434
MT= 71 (n,n') Level
Cross Section
84-Po-209
-0.028 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.3231 MeV
n-Po209.jeff3.3 Threshold 2.3231 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
41
Incident Energy (eV)
84-Po-209

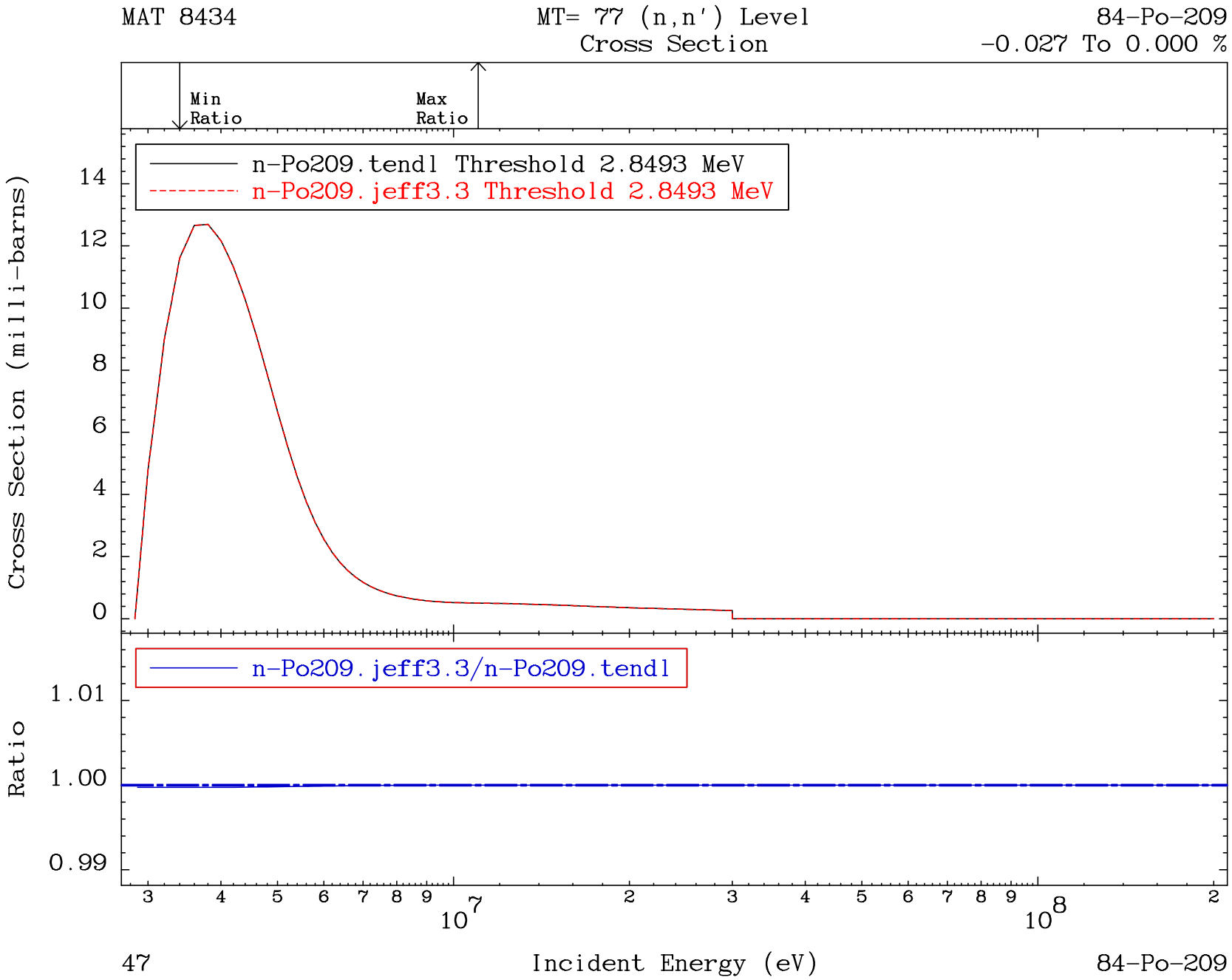

MAT 8434
MT= 72 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.3503 MeV
n-Po209.jeff3.3 Threshold 2.3503 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
42
Incident Energy (eV)
84-Po-209

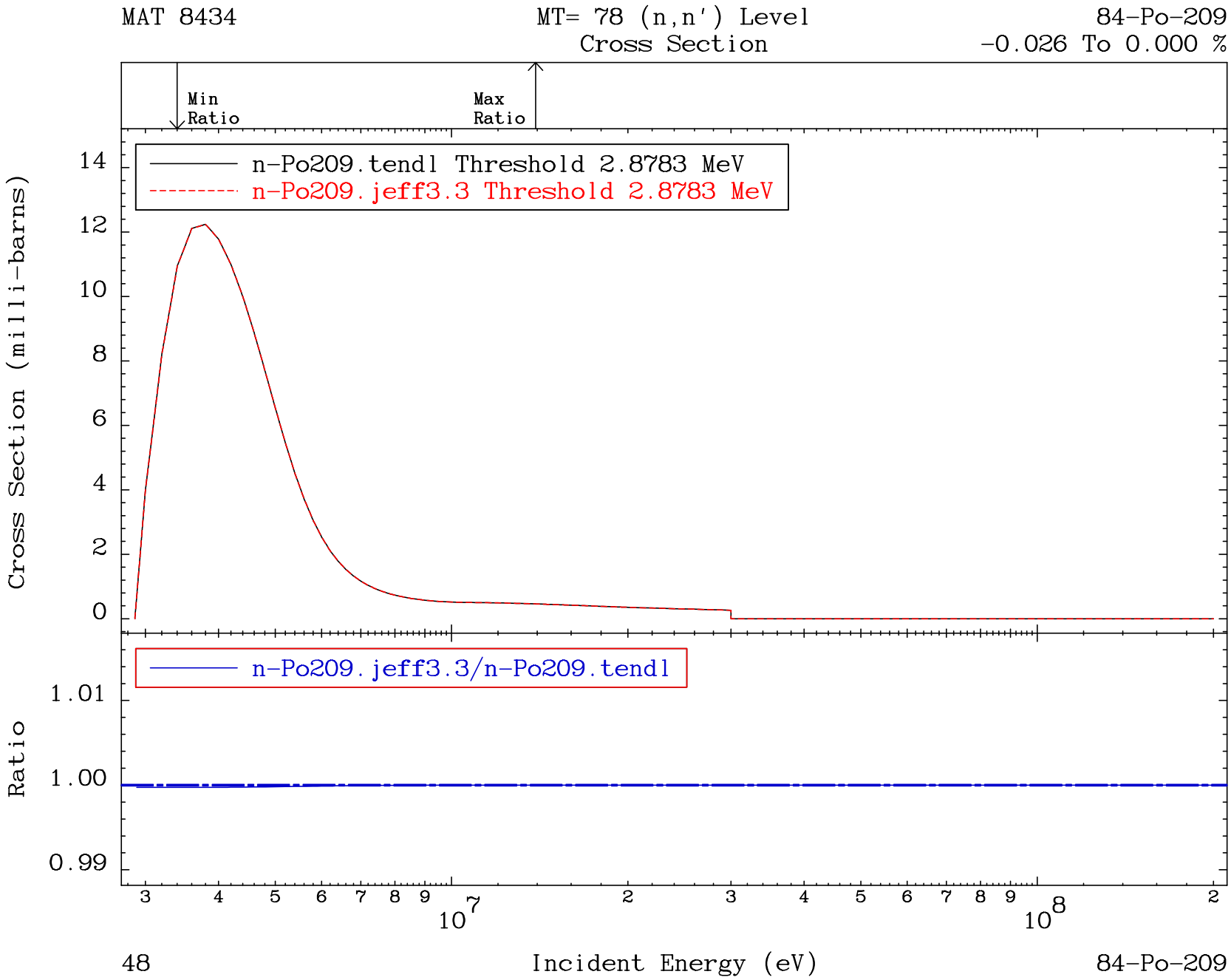

MAT 8434
MT= 73 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.3744 MeV
n-Po209.jeff3.3 Threshold 2.3744 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
43
Incident Energy (eV)
84-Po-209

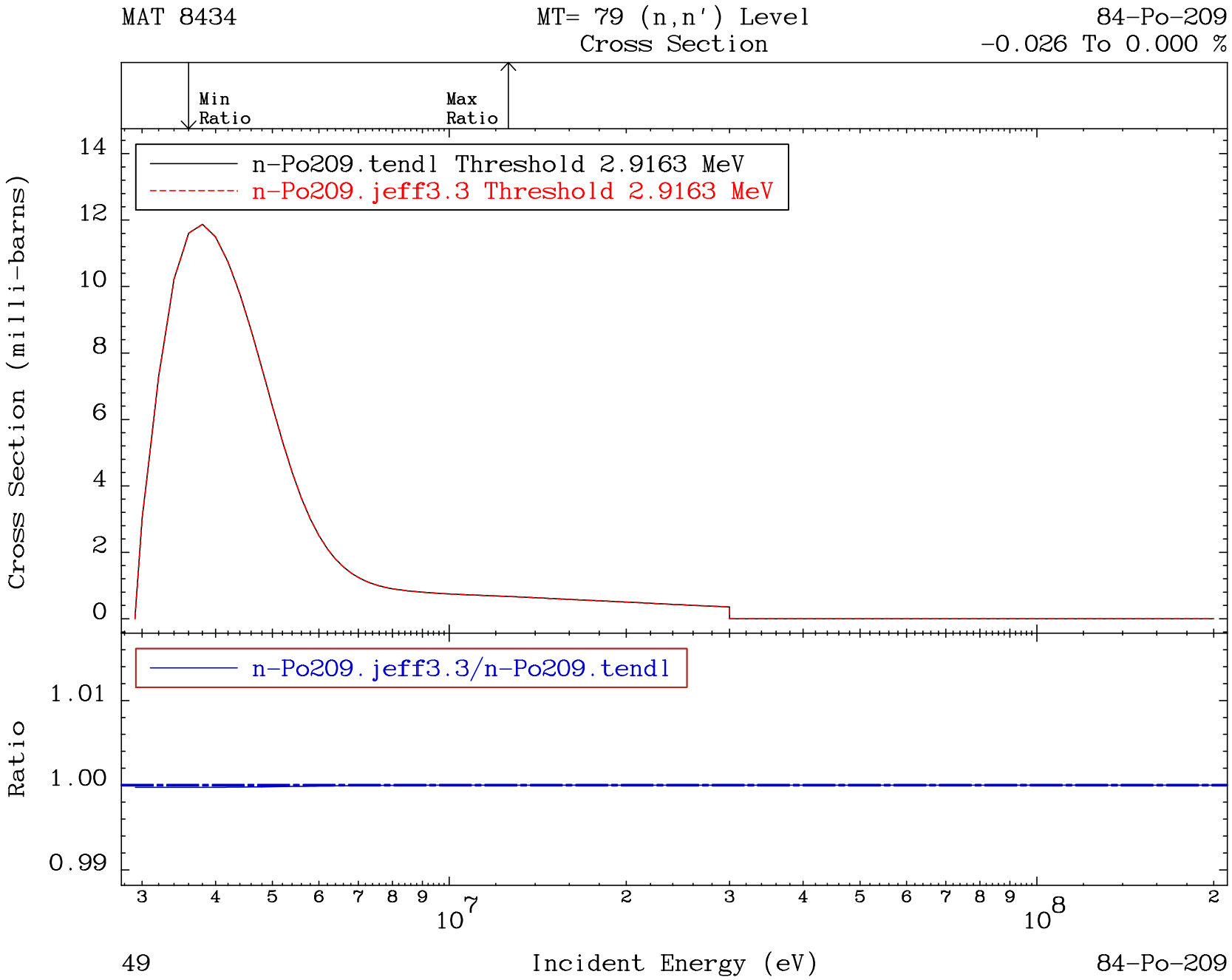

MAT 8434
MT= 74 (n,n') Level
Cross Section
84-Po-209
-0.031 To 0.000 %
Min
Ratio
Max
Ratio
n-Po209.tendl Threshold 2.6672 MeV
n-Po209.jeff3.3 Threshold 2.6672 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
44
Incident Energy (eV)
84-Po-209

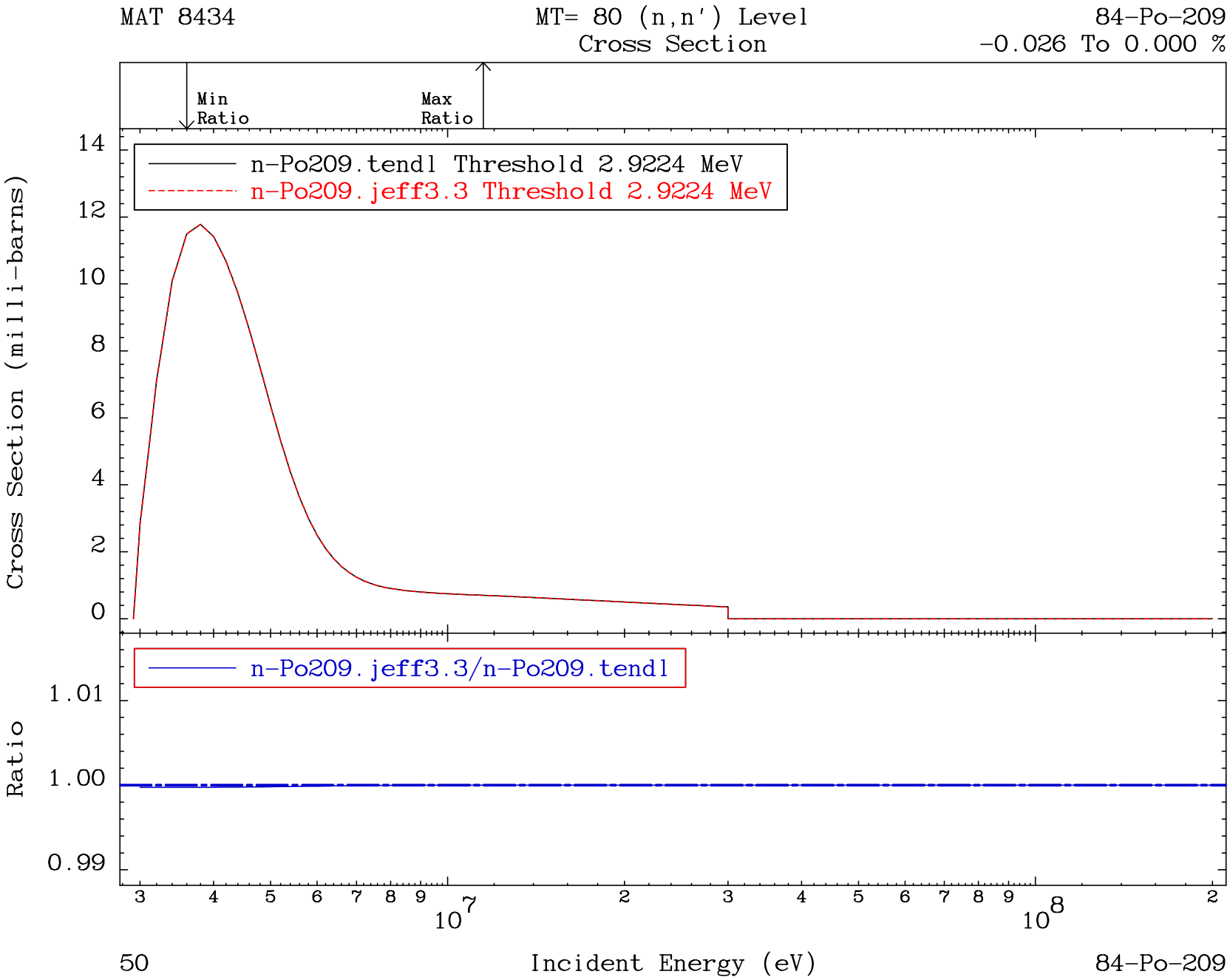

MAT 8434
MT= 75 (n,n') Level
Cross Section
84-Po-209
-0.031 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.6769 MeV
n-Po209.jeff3.3 Threshold 2.6769 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
45
Incident Energy (eV)
84-Po-209

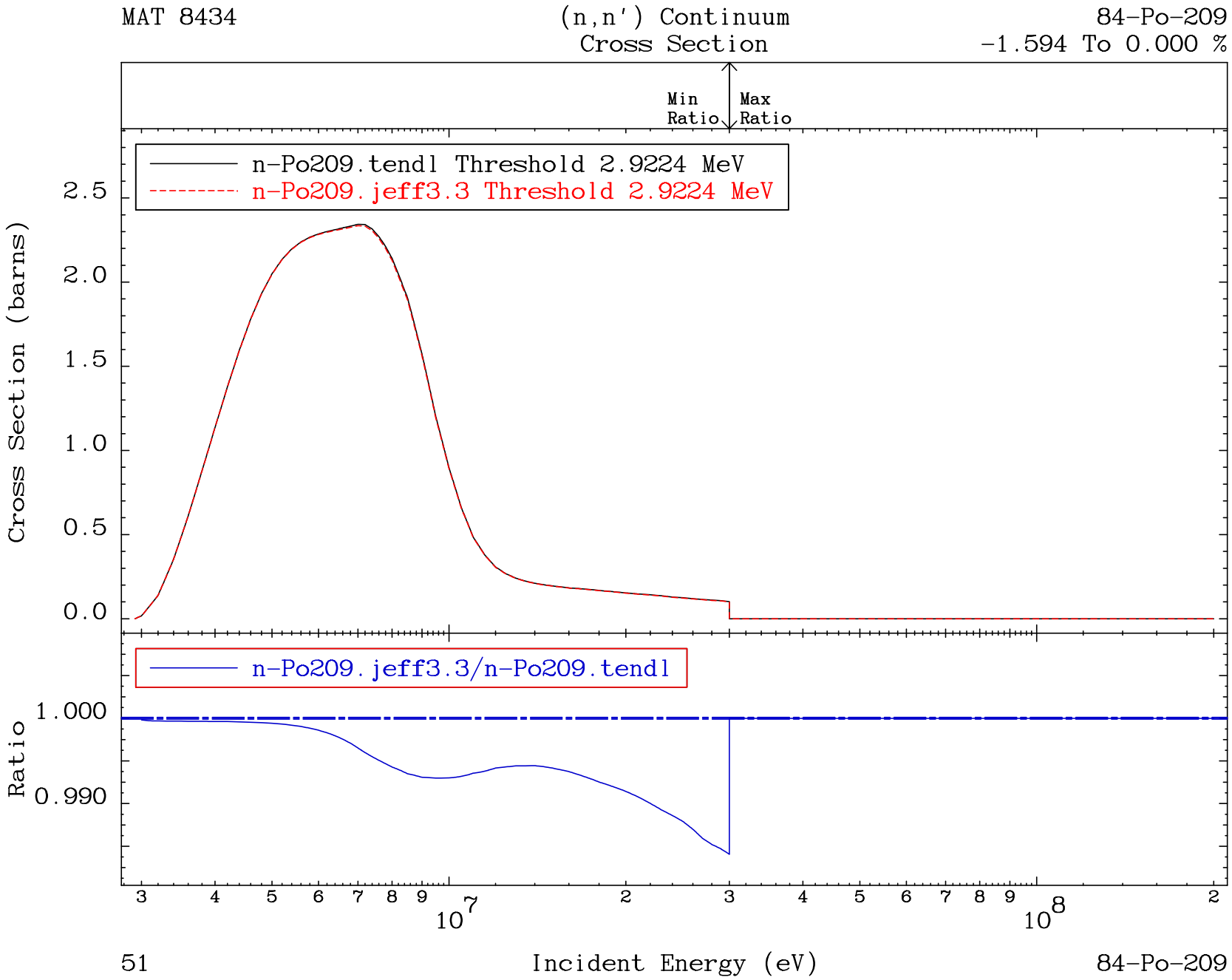

MAT 8434
MT= 76 (n,n') Level
Cross Section
84-Po-209
-0.041 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.7833 MeV
n-Po209.jeff3.3 Threshold 2.7833 MeV
Cross Section (micro-barns)
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
46
Incident Energy (eV)
84-Po-209

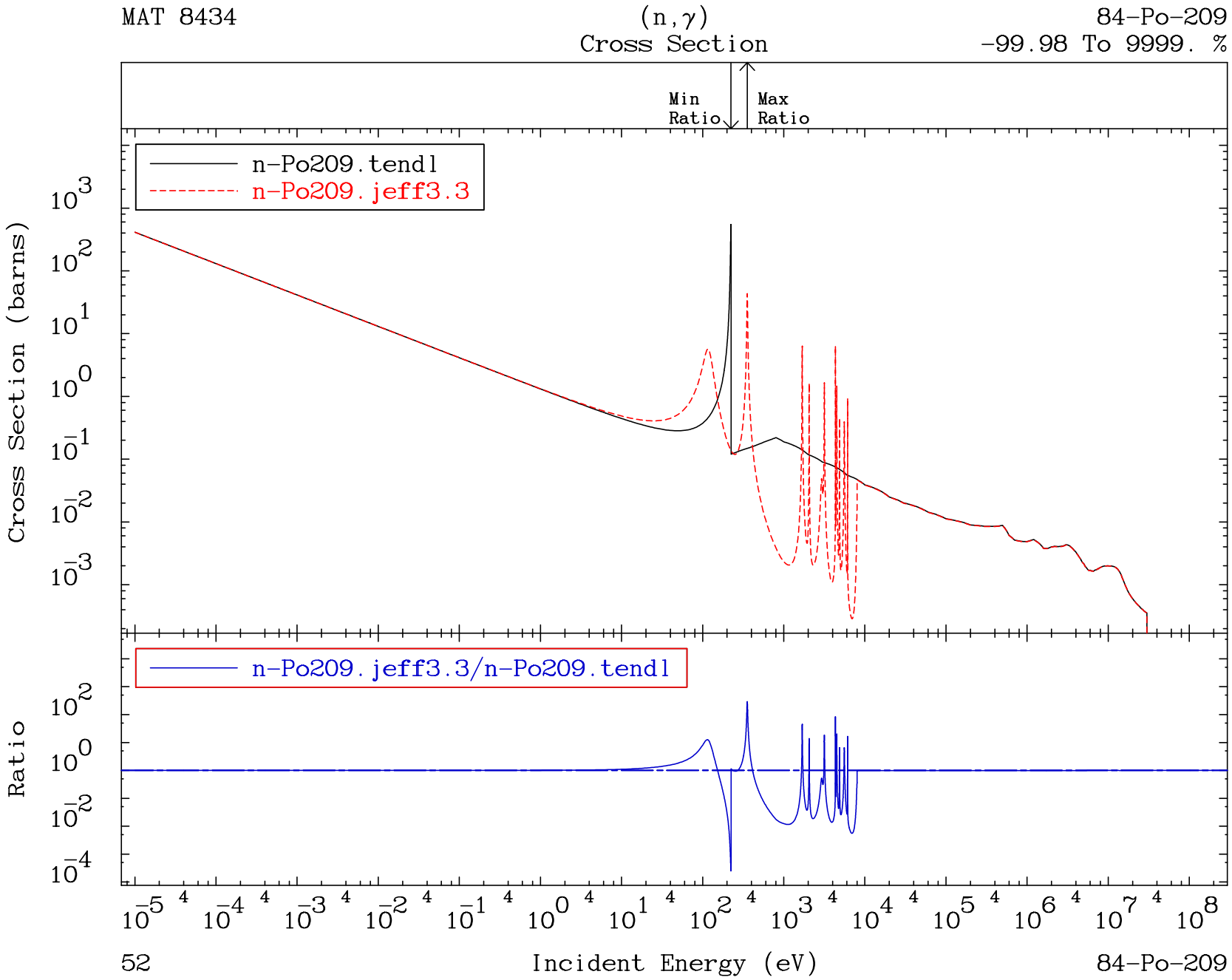

MAT 8434
MT= 77 (n,n') Level
Cross Section
84-Po-209
-0.027 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.8493 MeV
n-Po209.jeff3.3 Threshold 2.8493 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
14
n-Po209.jeff3.3/n-Po209.tendl
Ratio
0.99
1.00
1.01
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
47
Incident Energy (eV)
84-Po-209

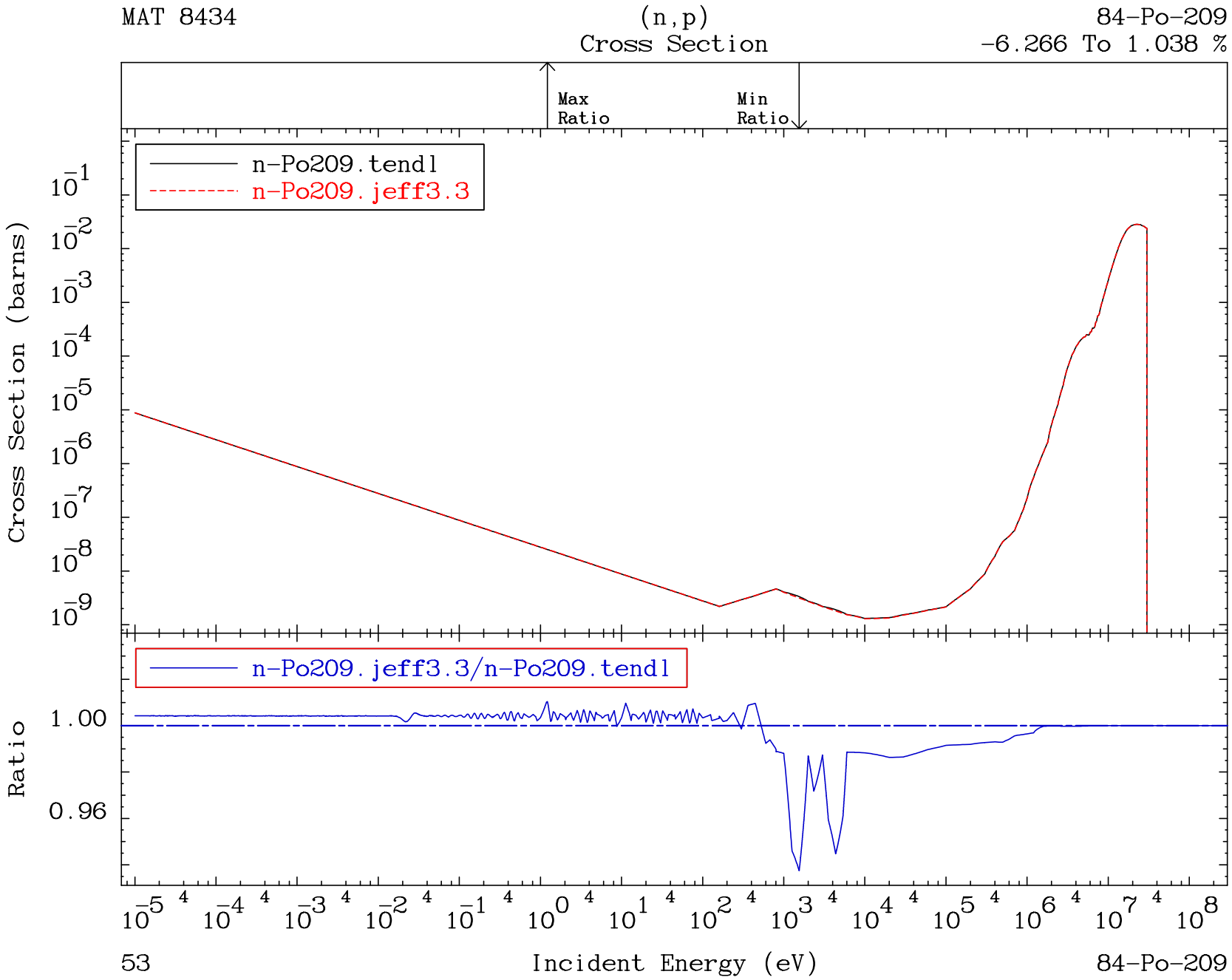

MAT 8434
MT= 78 (n,n') Level
Cross Section
84-Po-209
-0.026 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.8783 MeV
n-Po209.jeff3.3 Threshold 2.8783 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
48
Incident Energy (eV)
84-Po-209

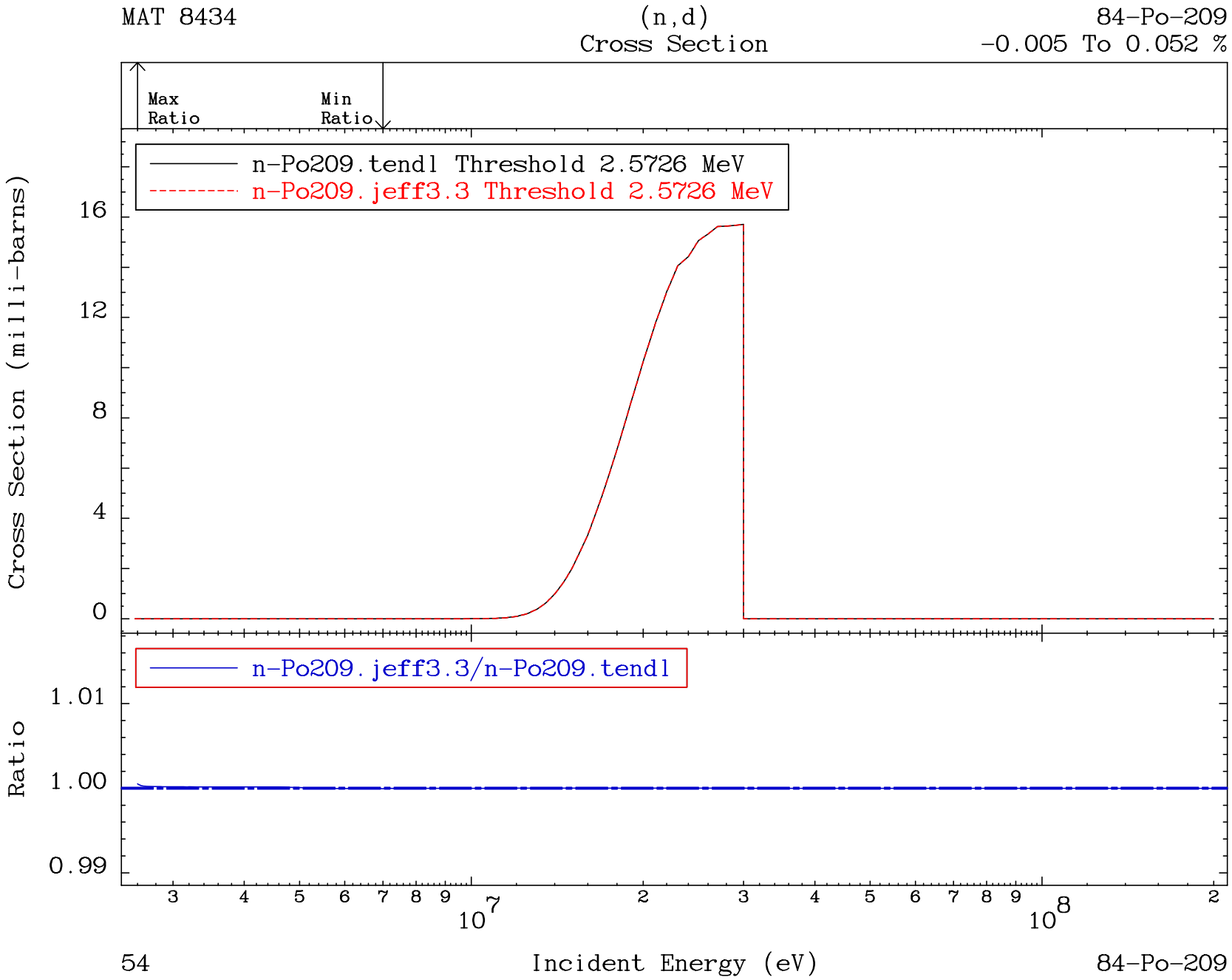

MAT 8434
MT= 79 (n,n') Level
Cross Section
84-Po-209
-0.026 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.9163 MeV
n-Po209.jeff3.3 Threshold 2.9163 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
49
Incident Energy (eV)
84-Po-209

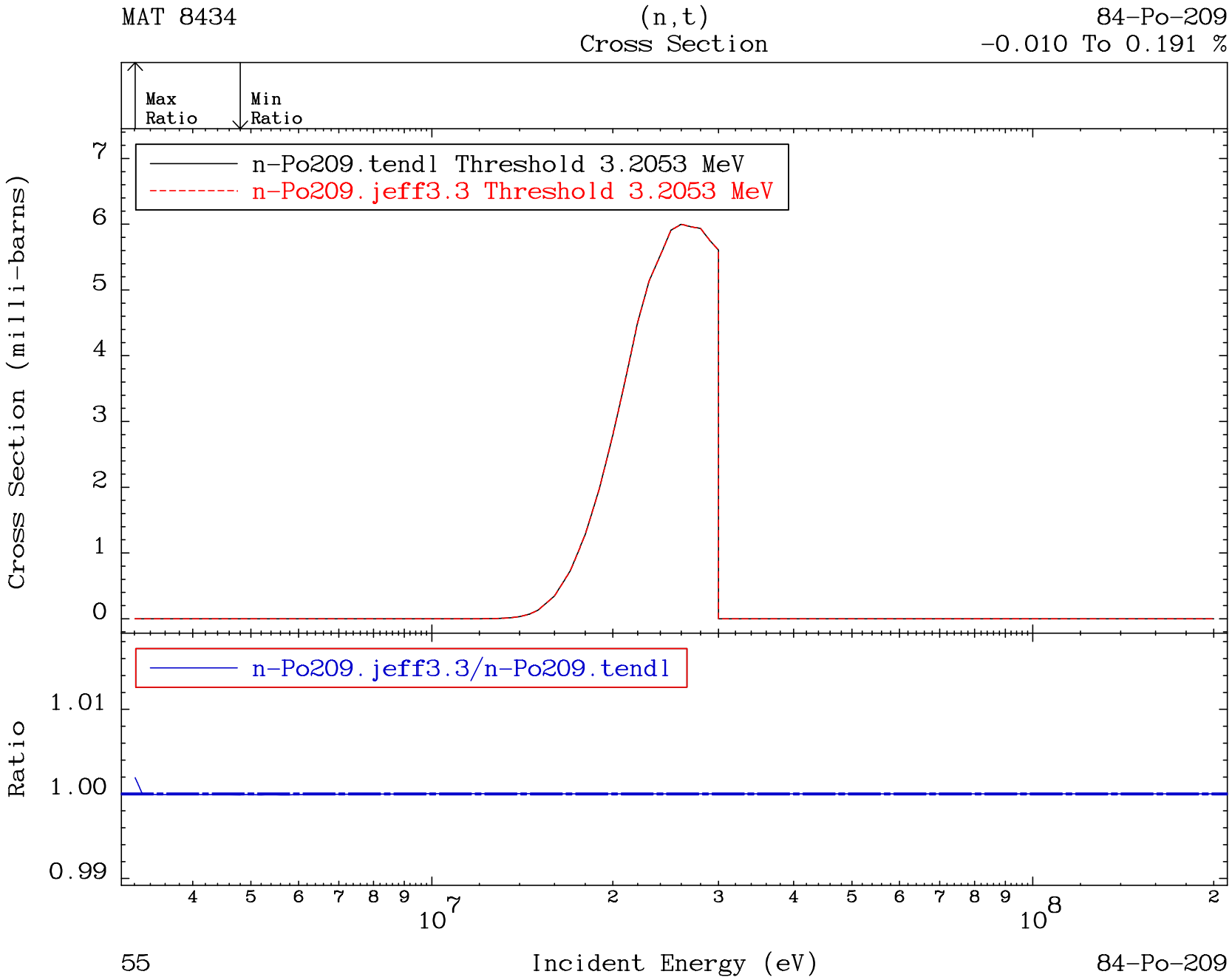

MAT 8434
MT= 80 (n,n') Level
Cross Section
84-Po-209
-0.026 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.9224 MeV
n-Po209.jeff3.3 Threshold 2.9224 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
50
Incident Energy (eV)
84-Po-209

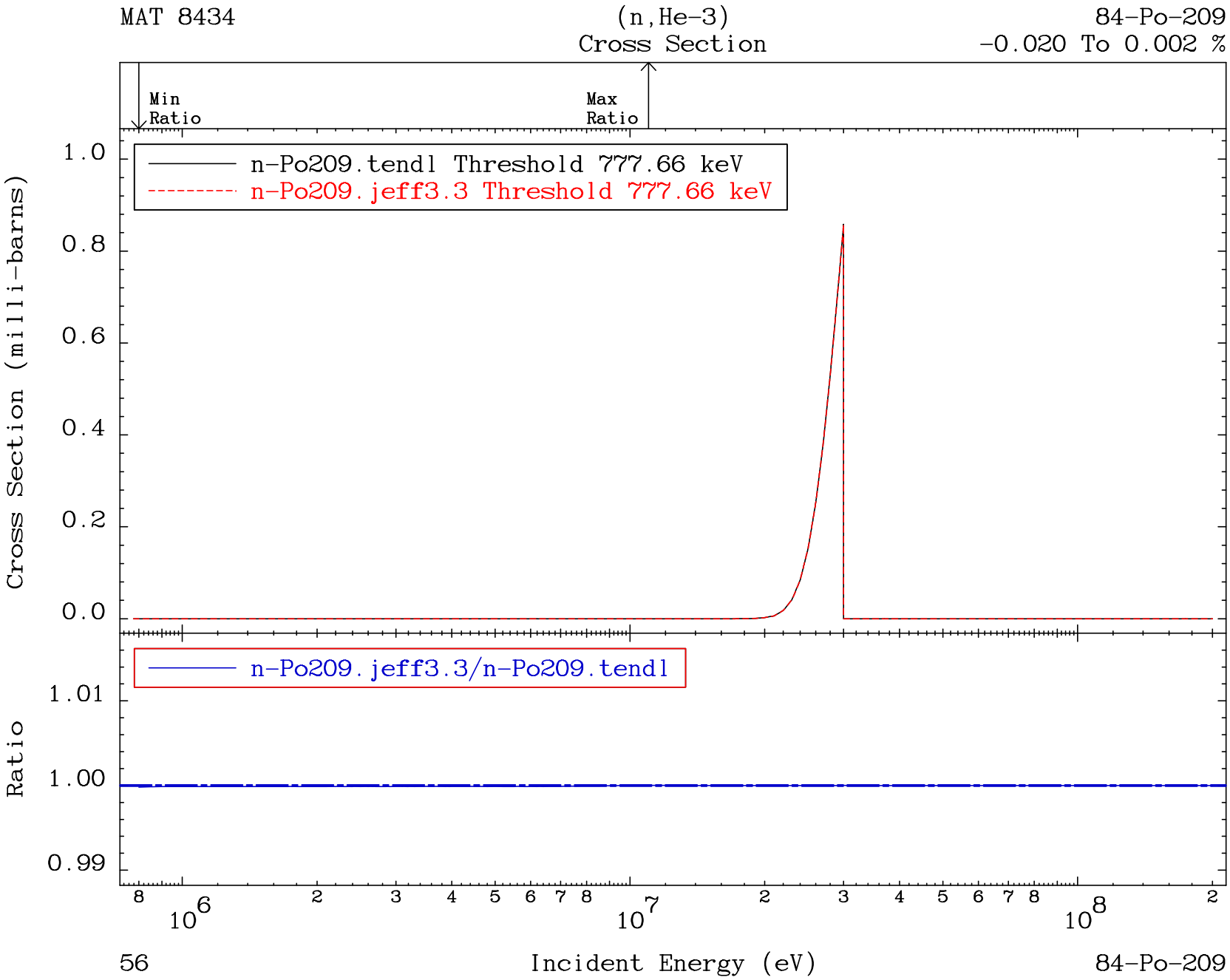

MAT 8434
(n,n') Continuum
Cross Section
84-Po-209
-1.594 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 2.9224 MeV
n-Po209.jeff3.3 Threshold 2.9224 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.000
0.990
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
51
Incident Energy (eV)
84-Po-209

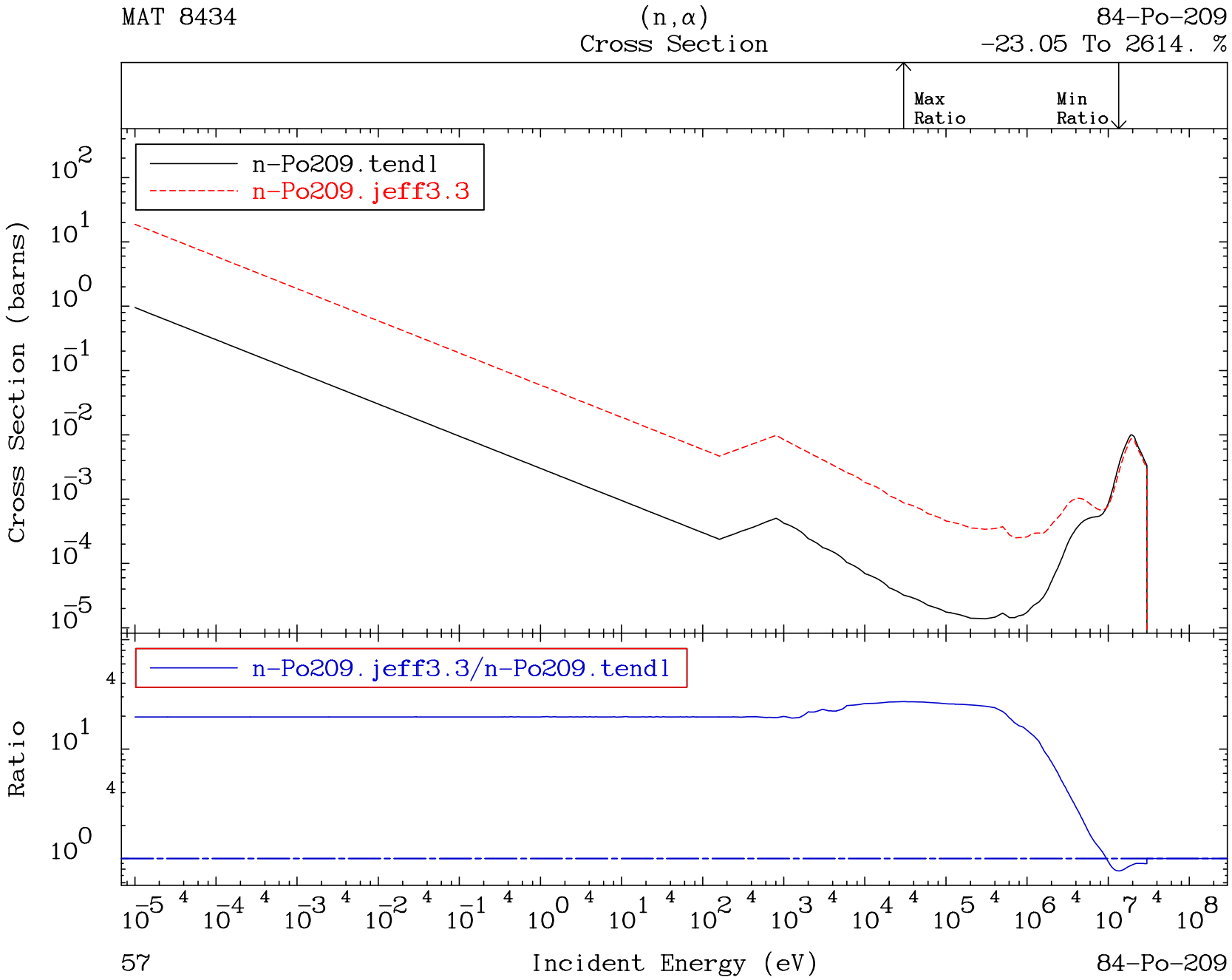

MAT 8434
(n,γ)
Cross Section
84-Po-209
-99.98 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
52
84-Po-209

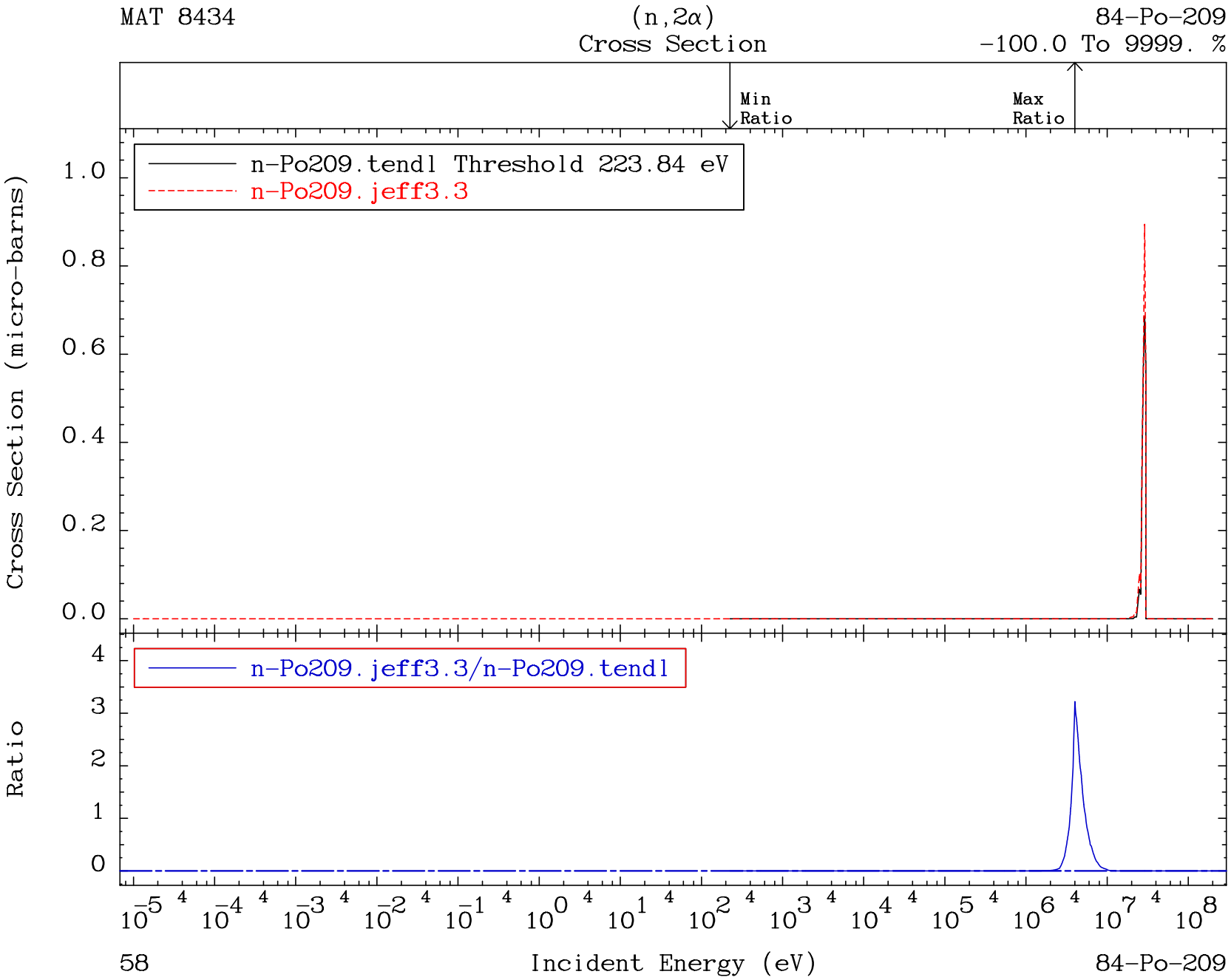

MAT 8434
(n,p)
Cross Section
84-Po-209
-6.266 To 1.038 %
Max Ratio
Min Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.00
0.96
53
Incident Energy (eV)
84-Po-209

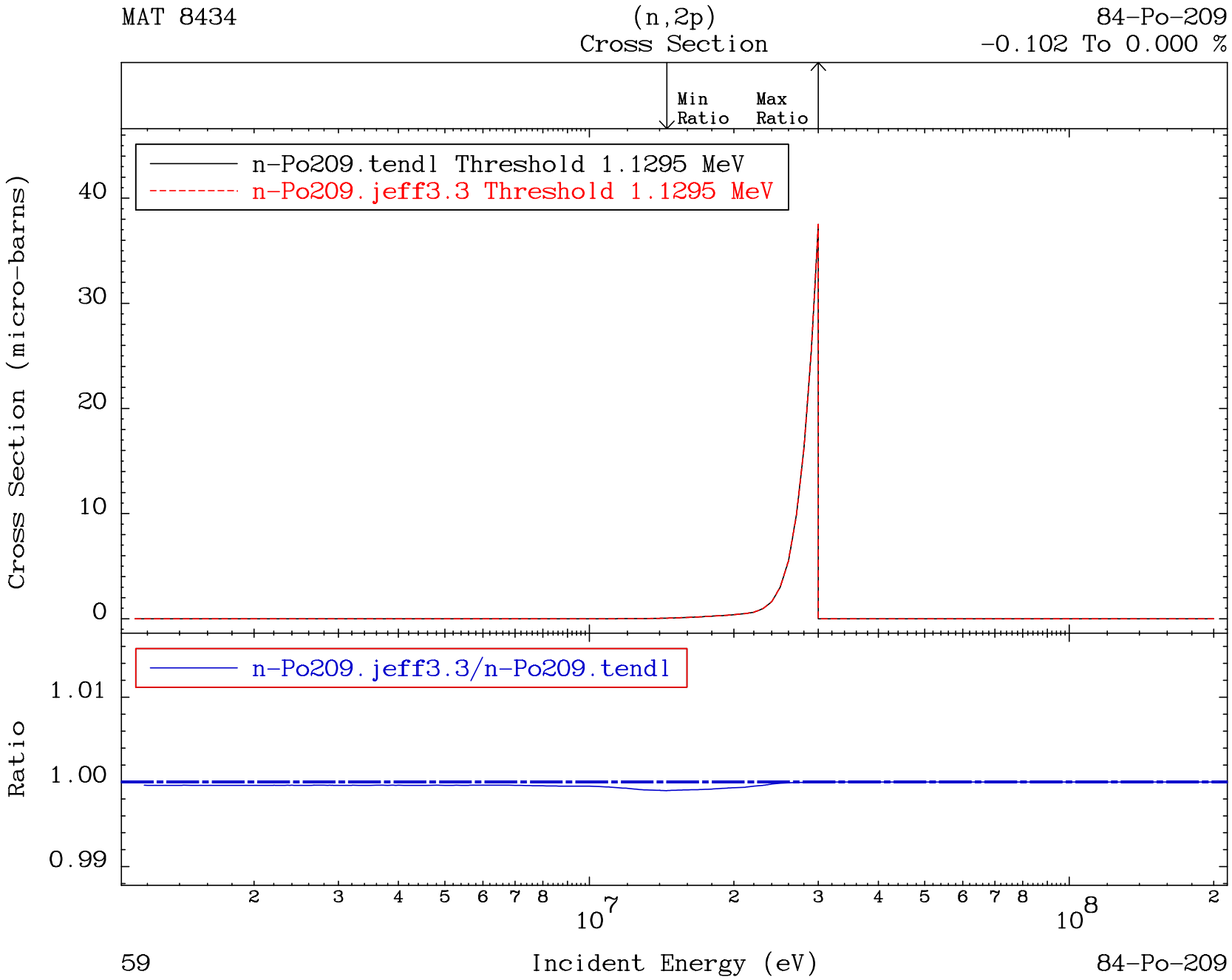

MAT 8434
(n,d)
Cross Section
84-Po-209
-0.005 To 0.052 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 2.5726 MeV
n-Po209.jeff3.3 Threshold 2.5726 MeV
Cross Section (milli-barns)
16
12
8
4
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
54
Incident Energy (eV)
84-Po-209

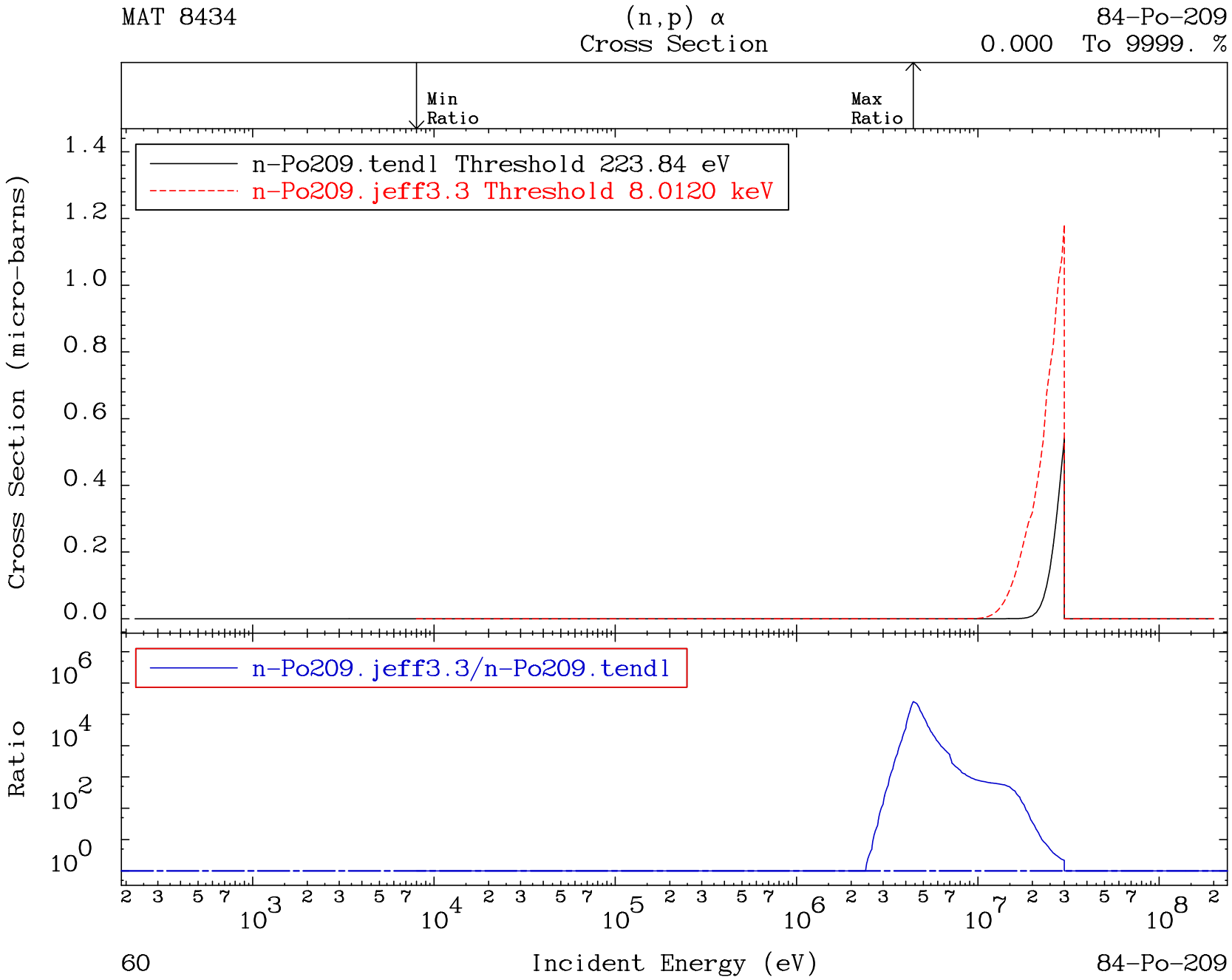

MAT 8434
(n,t)
Cross Section
84-Po-209
-0.010 To 0.191 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 3.2053 MeV
n-Po209.jeff3.3 Threshold 3.2053 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
7
n-Po209.jeff3.3/n-Po209.tendl
Ratio
0.99
1.00
1.01
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
Incident Energy (eV)
55
84-Po-209

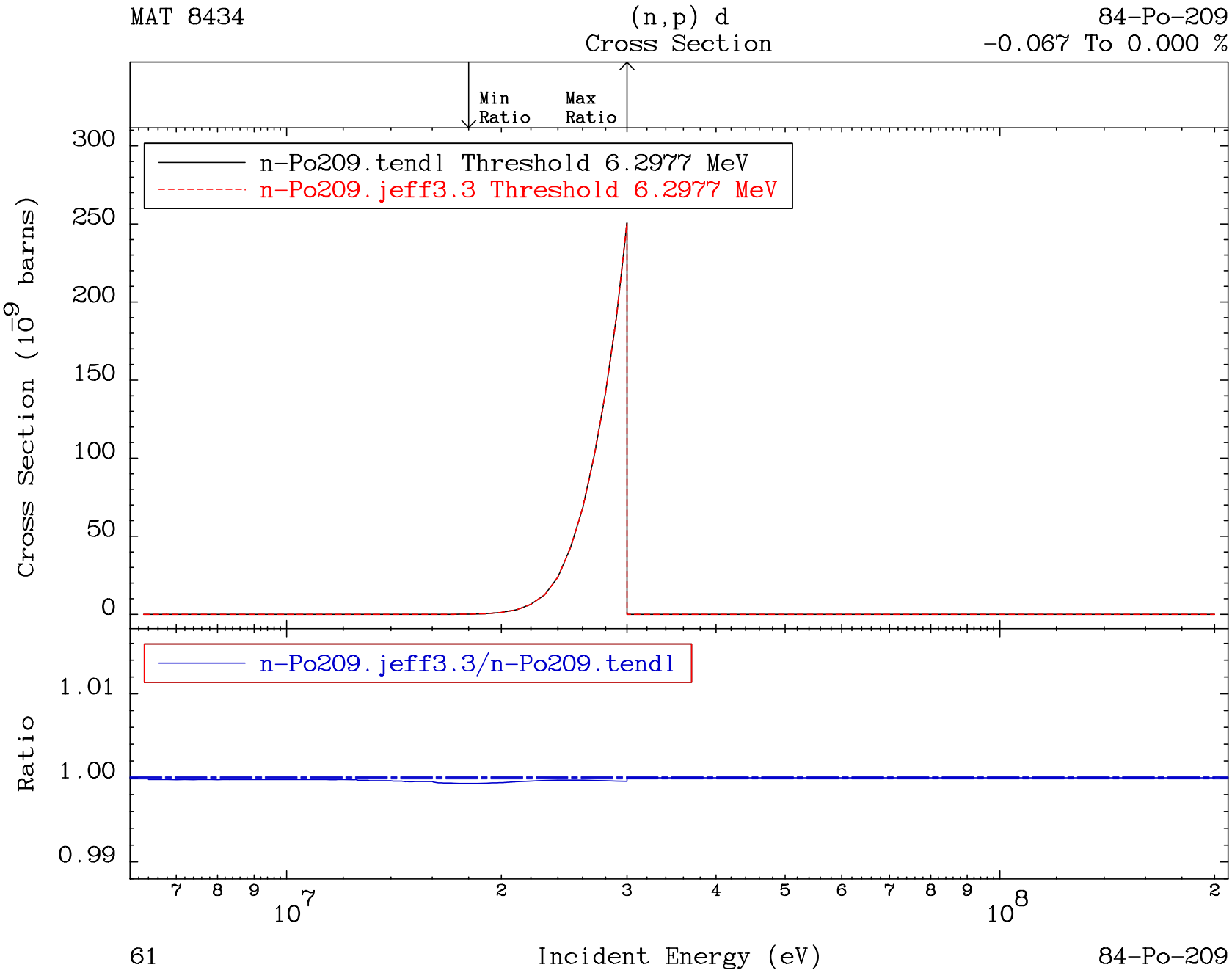

MAT 8434
(n,He-3)
Cross Section
84-Po-209
-0.020 To 0.002 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 777.66 keV
n-Po209.jeff3.3 Threshold 777.66 keV
Cross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
56
Incident Energy (eV)
84-Po-209

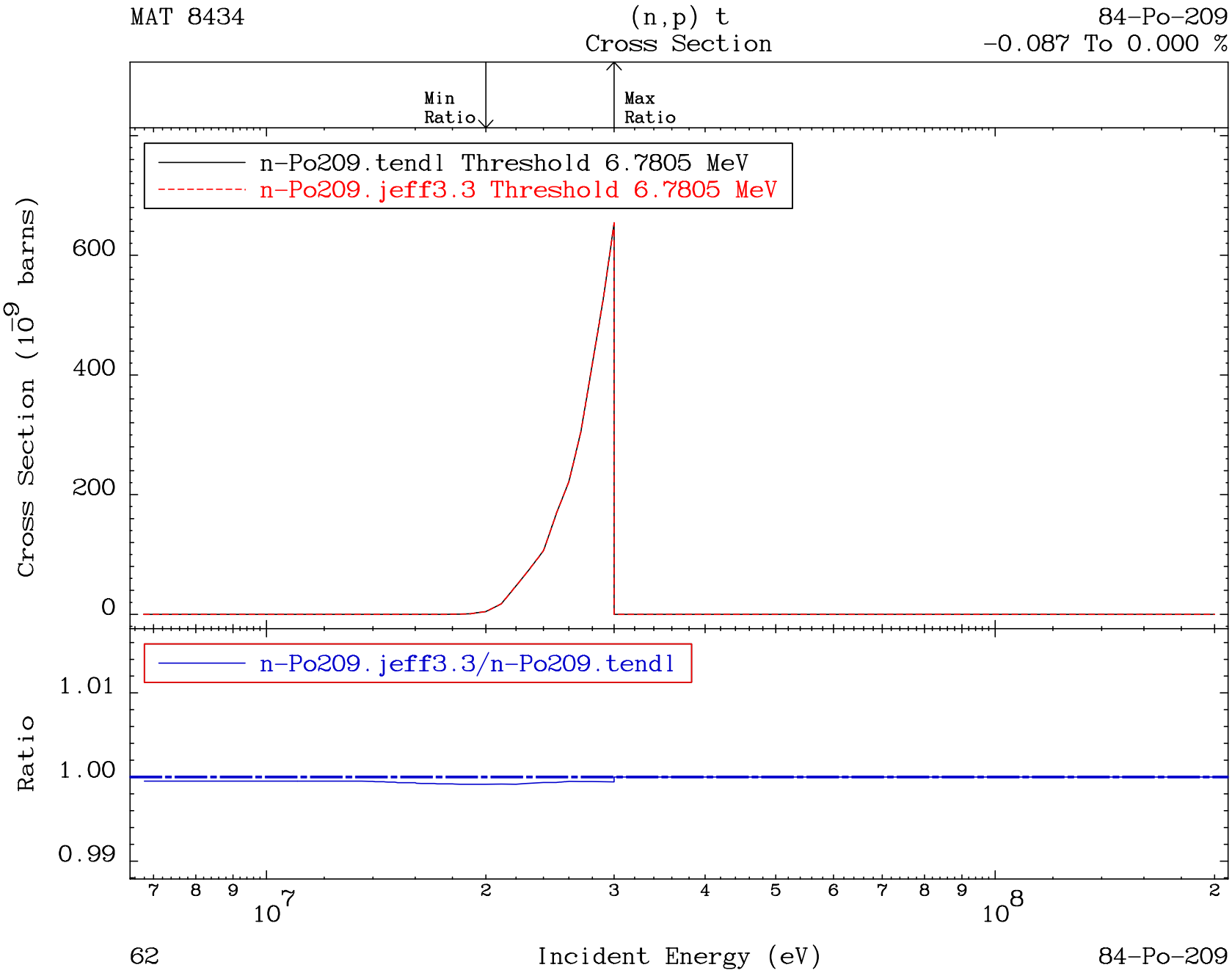

MAT 8434
(n,α)
Cross Section
84-Po-209
-23.05 To 2614. %
Max Ratio
Min Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
57
84-Po-209

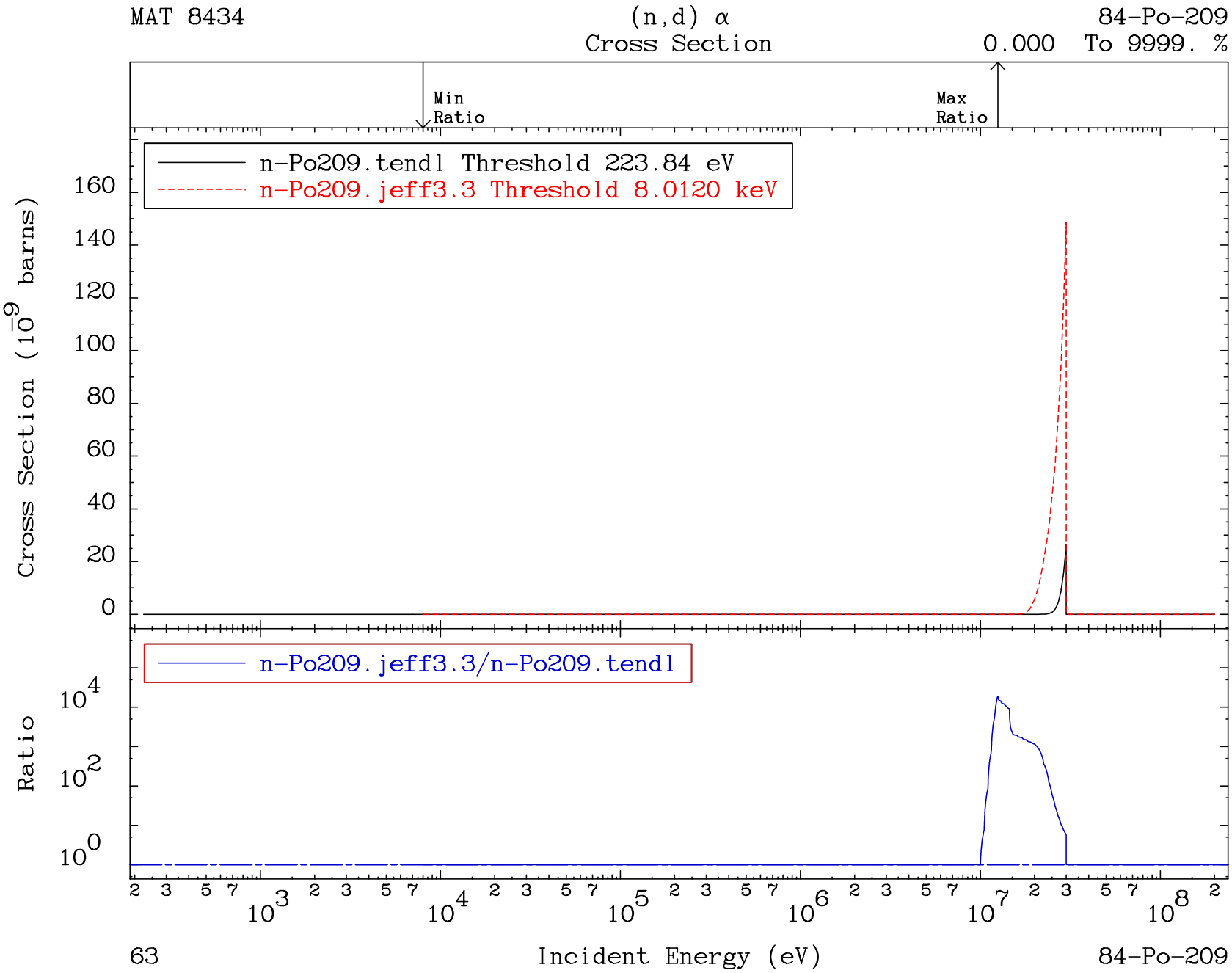

MAT 8434
(n,2α)
Cross Section
84-Po-209
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3
Cross Section (micro-barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
4
3
2
1
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
58
Incident Energy (eV)
84-Po-209

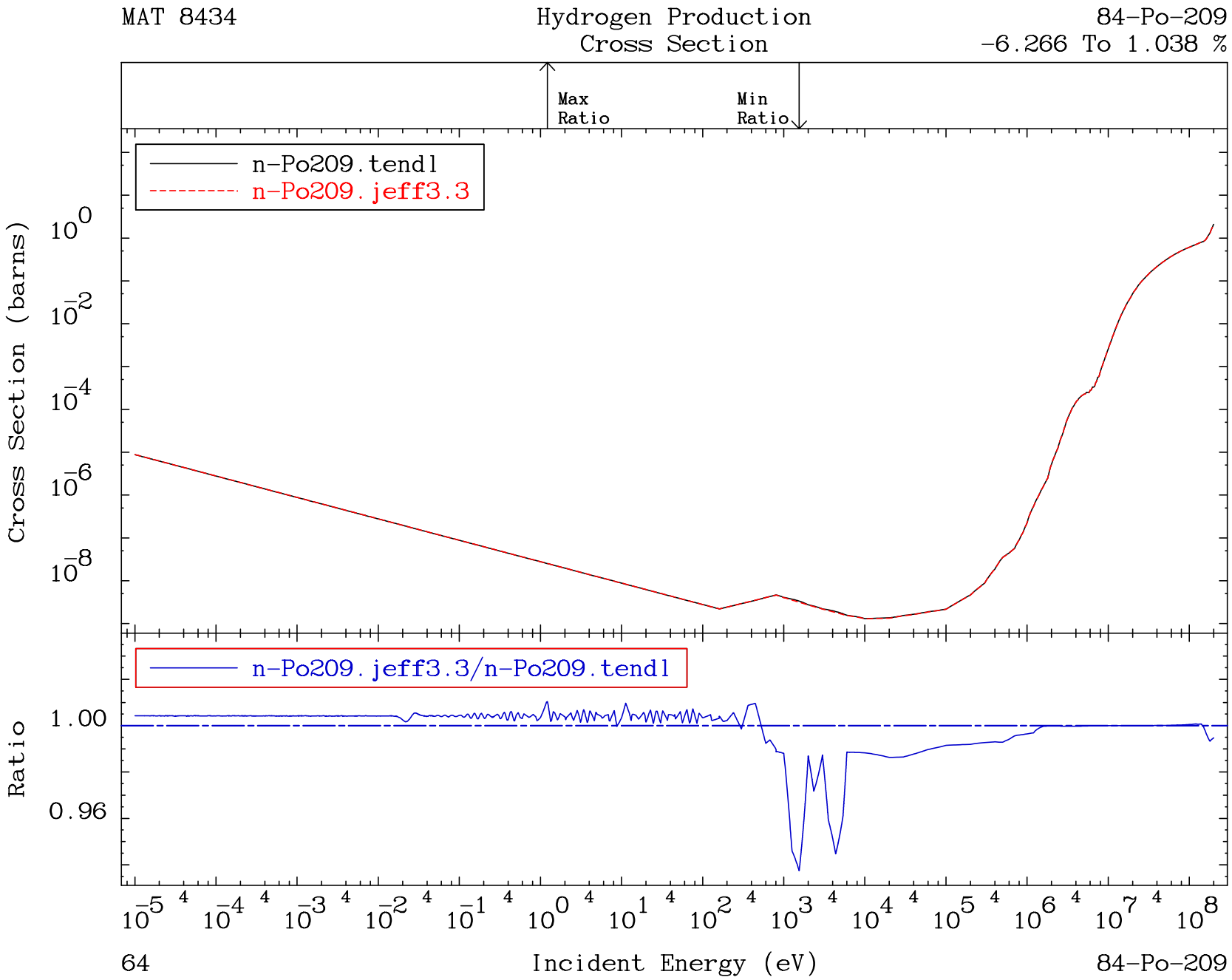

MAT 8434
(n,2p)
Cross Section
84-Po-209
-0.102 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 1.1295 MeV
n-Po209.jeff3.3 Threshold 1.1295 MeV
Cross Section (micro-barns)
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
59
Incident Energy (eV)
84-Po-209

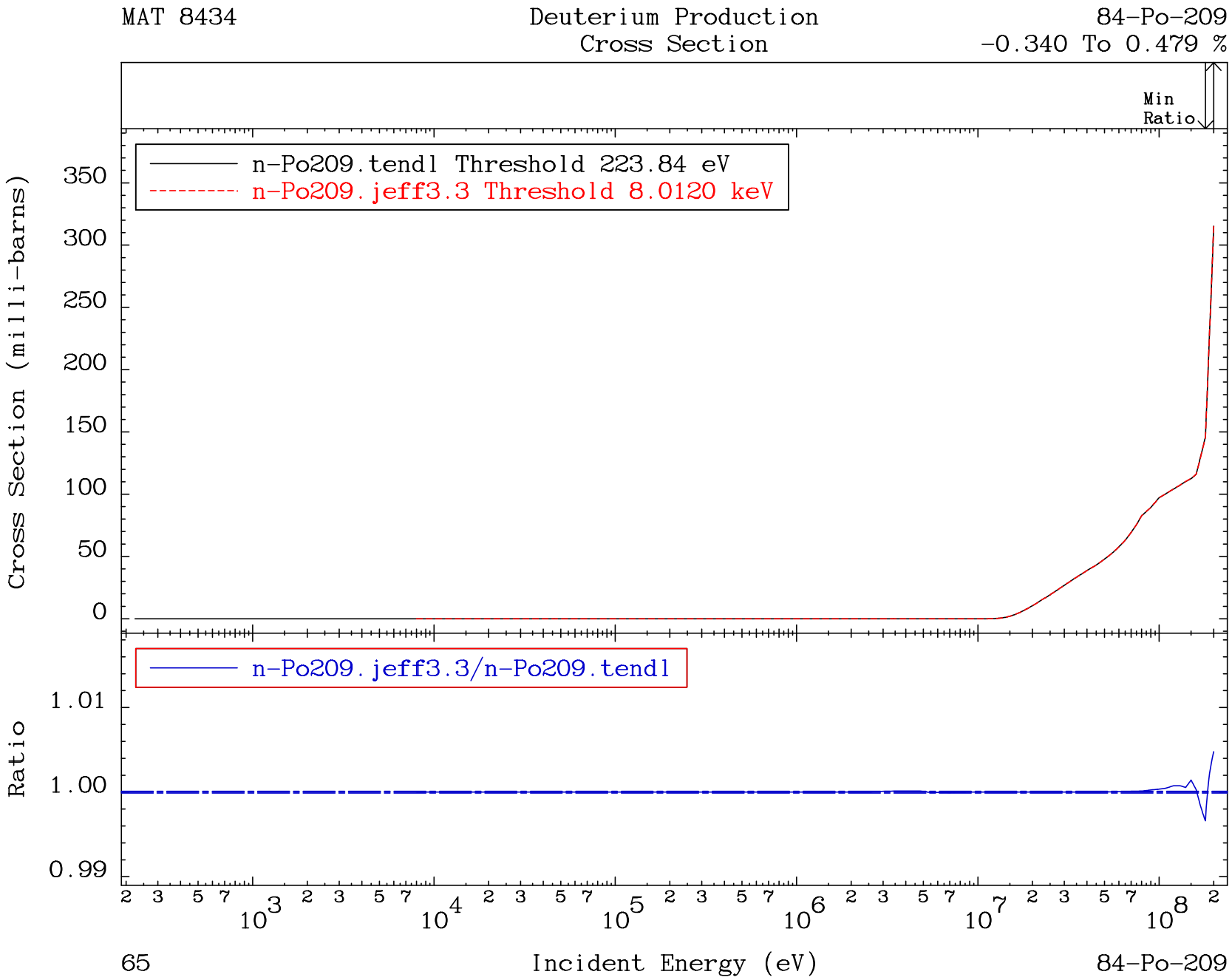

MAT 8434
(n,p) α
Cross Section
84-Po-209
0.000 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (micro-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^6
10^4
10^2
10^0
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
60
Incident Energy (eV)
84-Po-209

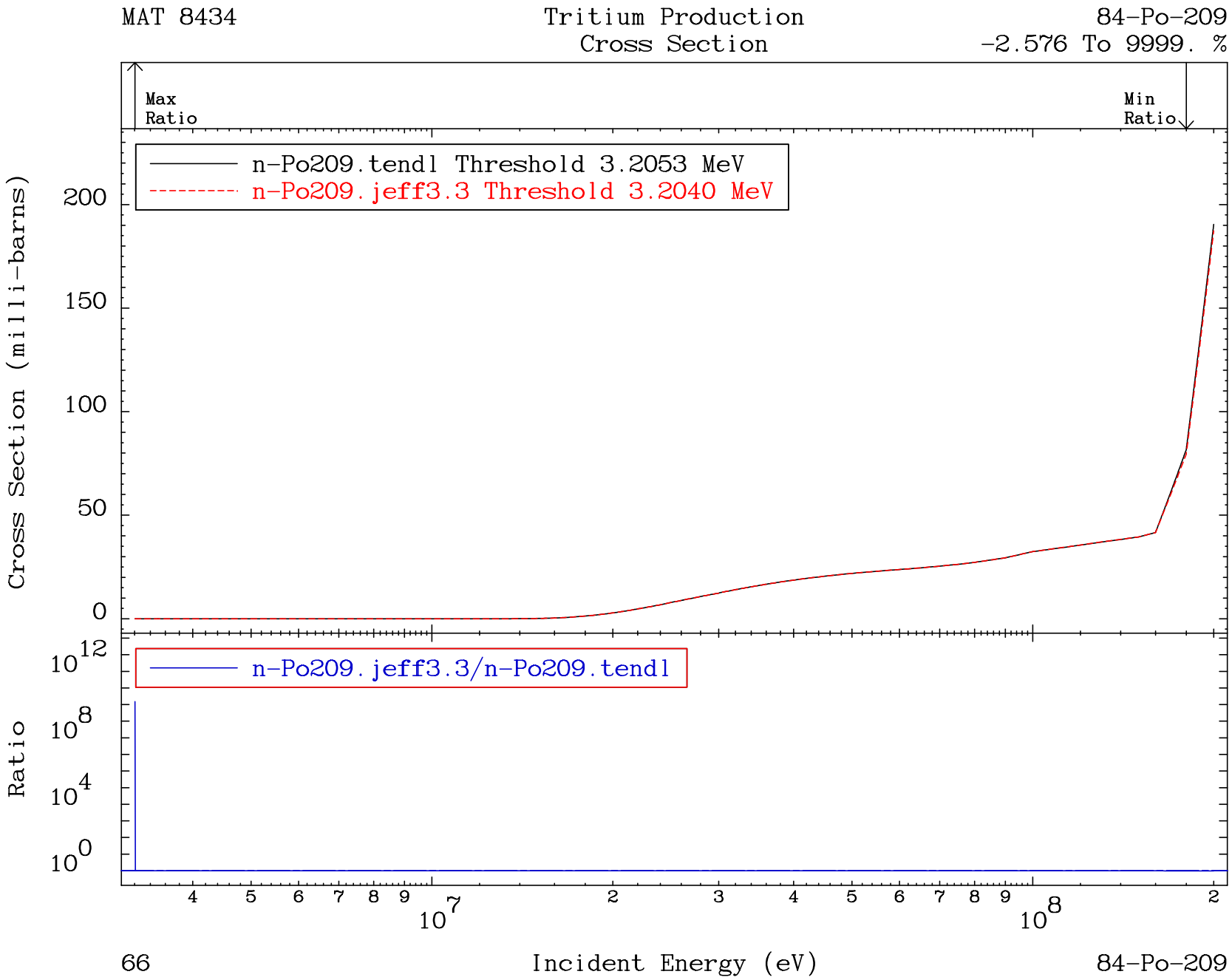

MAT 8434
(n,p) d
Cross Section
84-Po-209
-0.067 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 6.2977 MeV
n-Po209.jeff3.3 Threshold 6.2977 MeV
Cross Section (10^{-9} barns)
300
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
7 8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
61
Incident Energy (eV)
84-Po-209

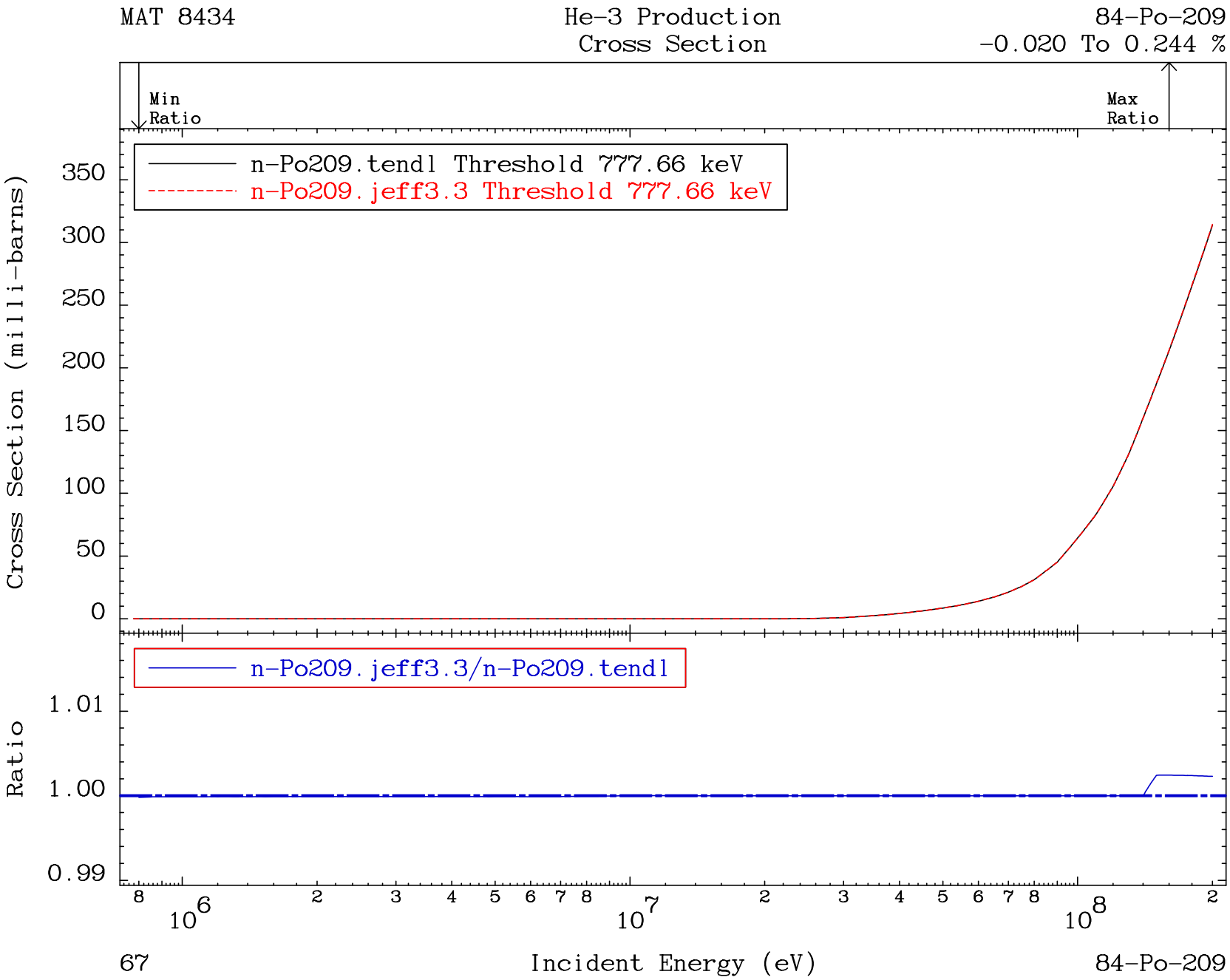

MAT 8434
(n,p) t
Cross Section
84-Po-209
-0.087 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 6.7805 MeV
n-Po209.jeff3.3 Threshold 6.7805 MeV
Cross Section (10^{-9} barns)
600
400
200
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
7 8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
62
Incident Energy (eV)
84-Po-209

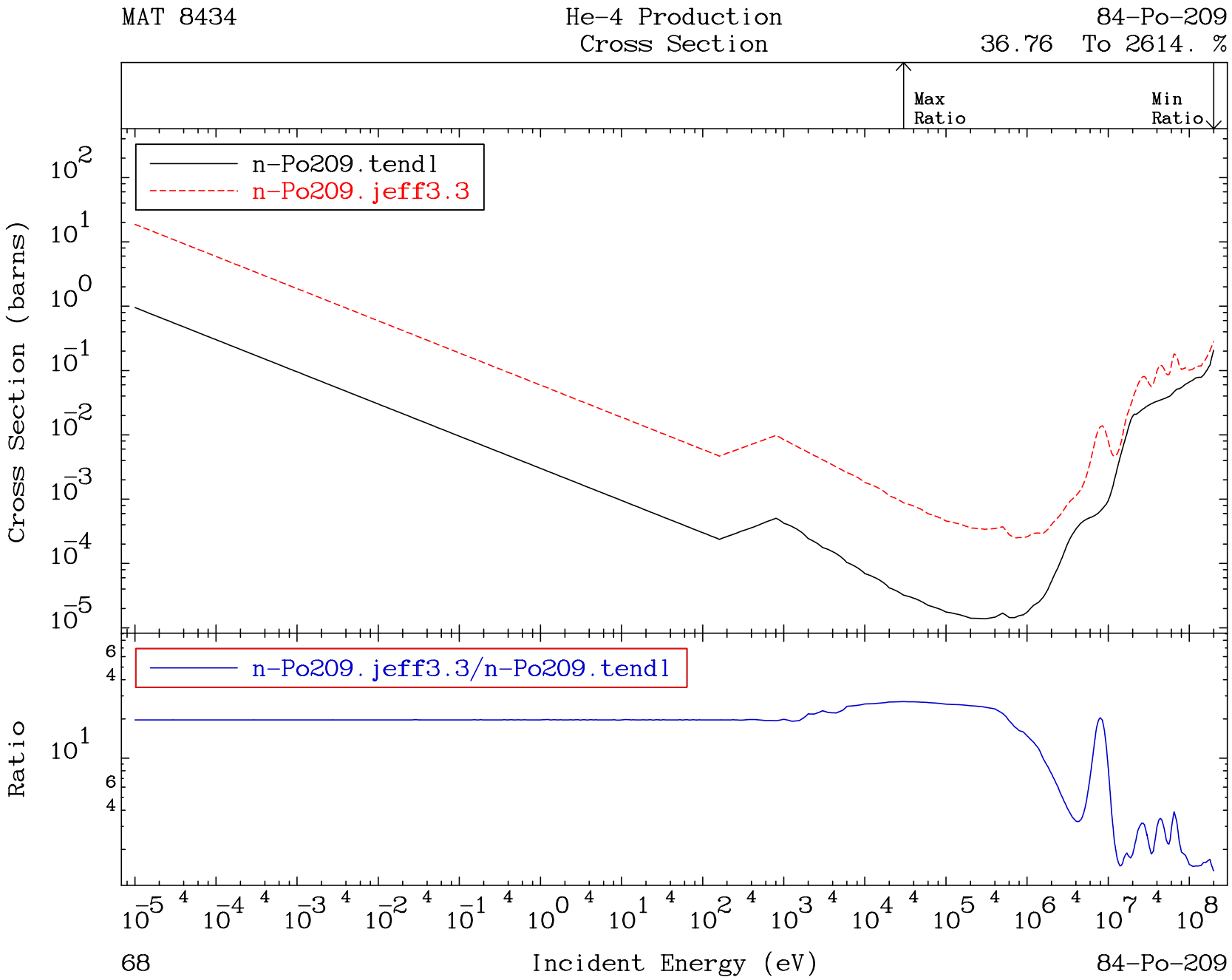

MAT 8434
(n,d) α
Cross Section
84-Po-209
0.000 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (10^{-9} barns)
160
140
120
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^4
10^2
10^0
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
63
Incident Energy (eV)
84-Po-209

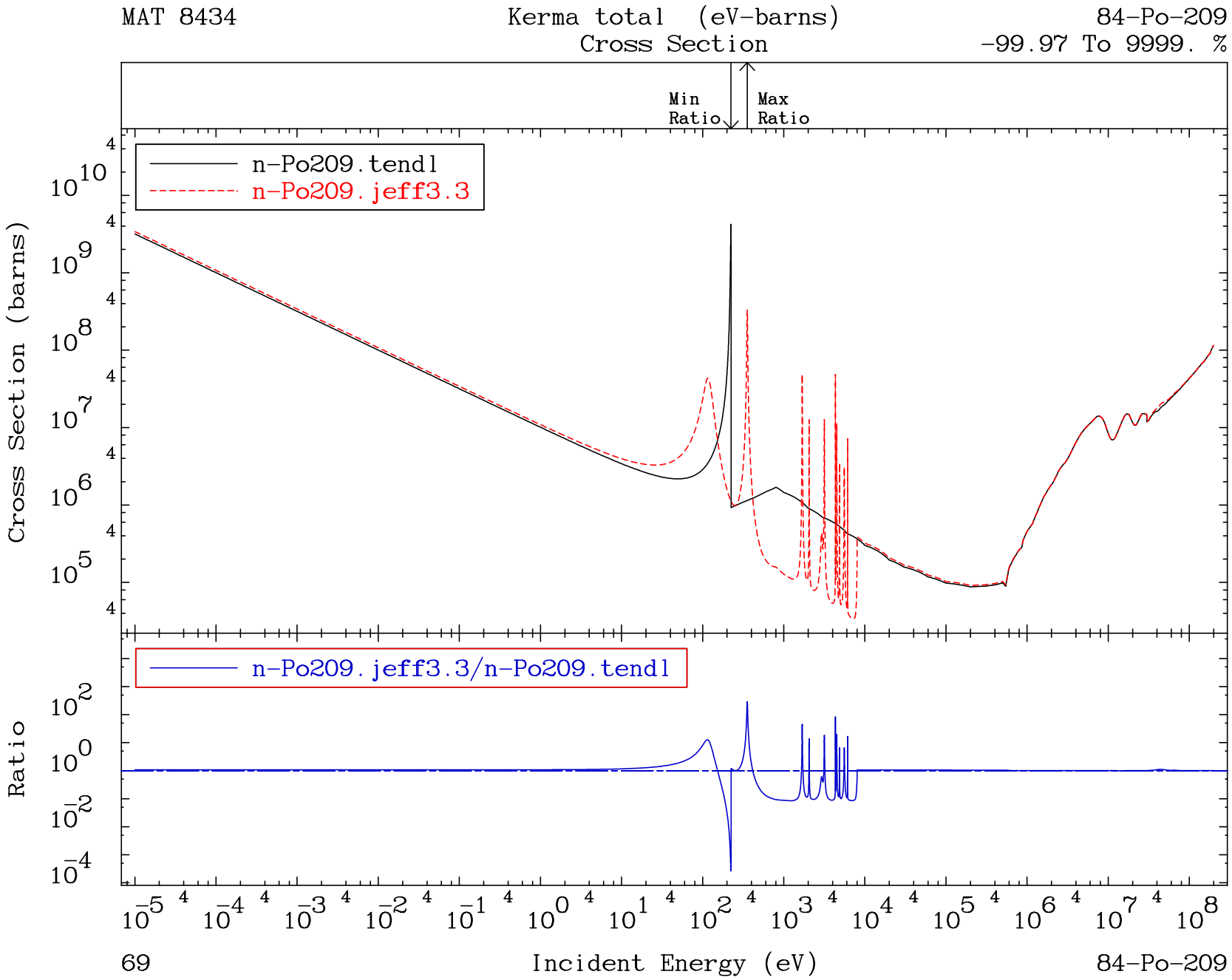

MAT 8434
Hydrogen Production
Cross Section
84-Po-209
-6.266 To 1.038 %
Max Ratio
Min Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
10^-8
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.00
0.96
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
64
Incident Energy (eV)
84-Po-209

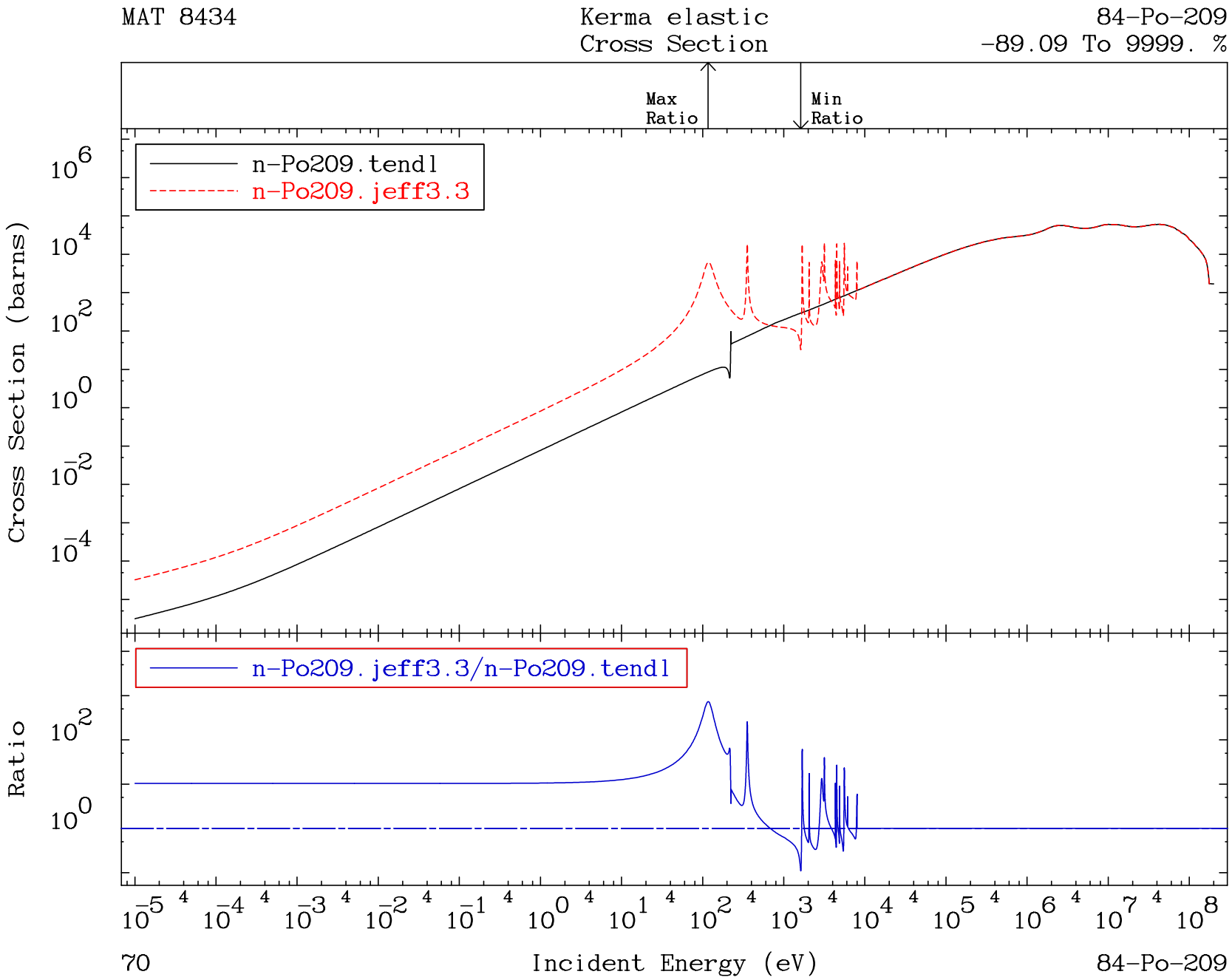

MAT 8434
Deuterium Production
Cross Section
84-Po-209
-0.340 To 0.479 %
Min
Ratio
n-Po209.tendl Threshold 223.84 eV
n-Po209.jeff3.3 Threshold 8.0120 keV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2 3 5 7 10^3 2 3 5 7 10^4 2 3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
65
Incident Energy (eV)
84-Po-209

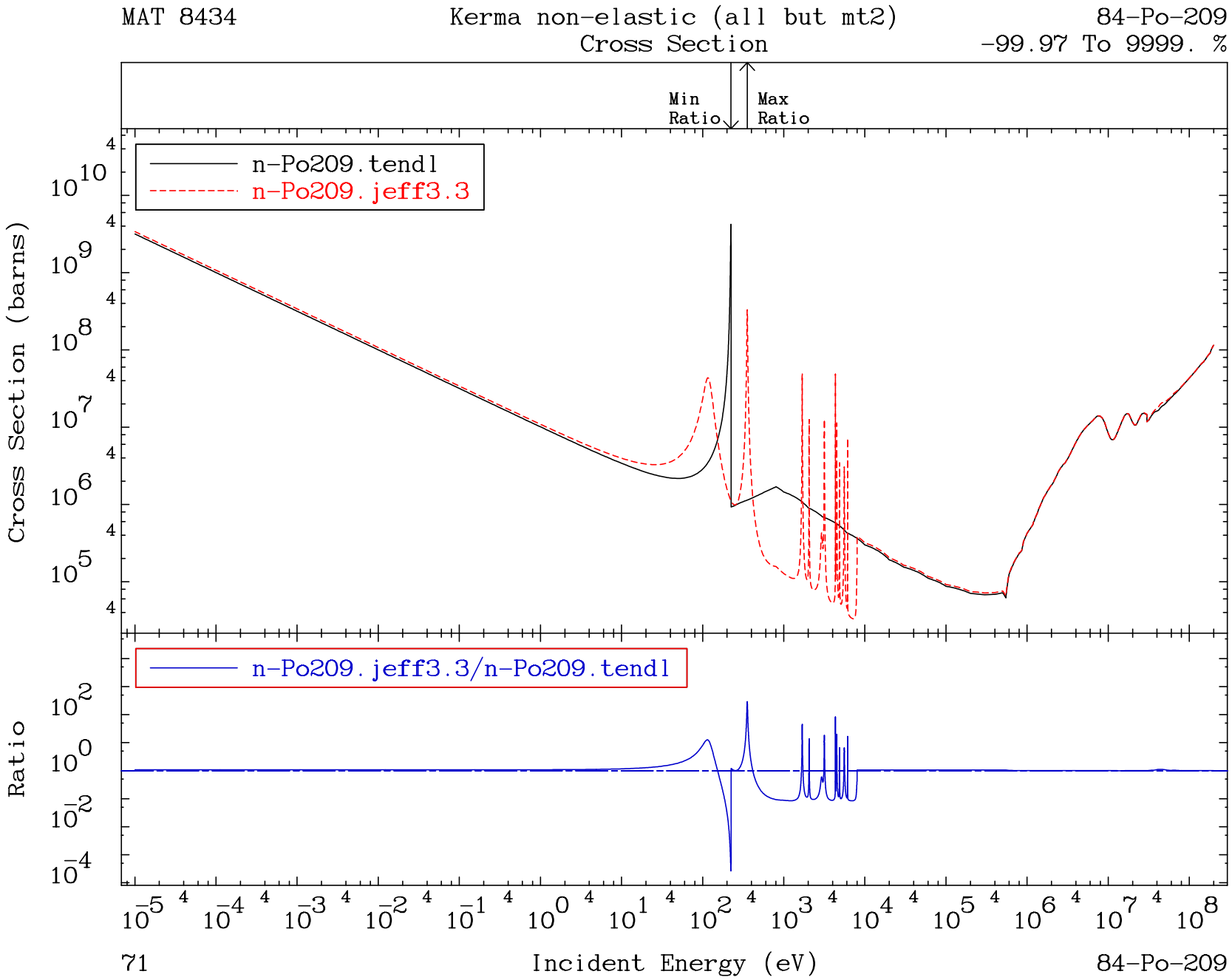

MAT 8434
Tritium Production
Cross Section
84-Po-209
-2.576 To 9999. %
Max
Ratio
Min
Ratio
n-Po209.tendl Threshold 3.2053 MeV
n-Po209.jeff3.3 Threshold 3.2040 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^12
10^8
10^4
10^0
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
66
Incident Energy (eV)
84-Po-209

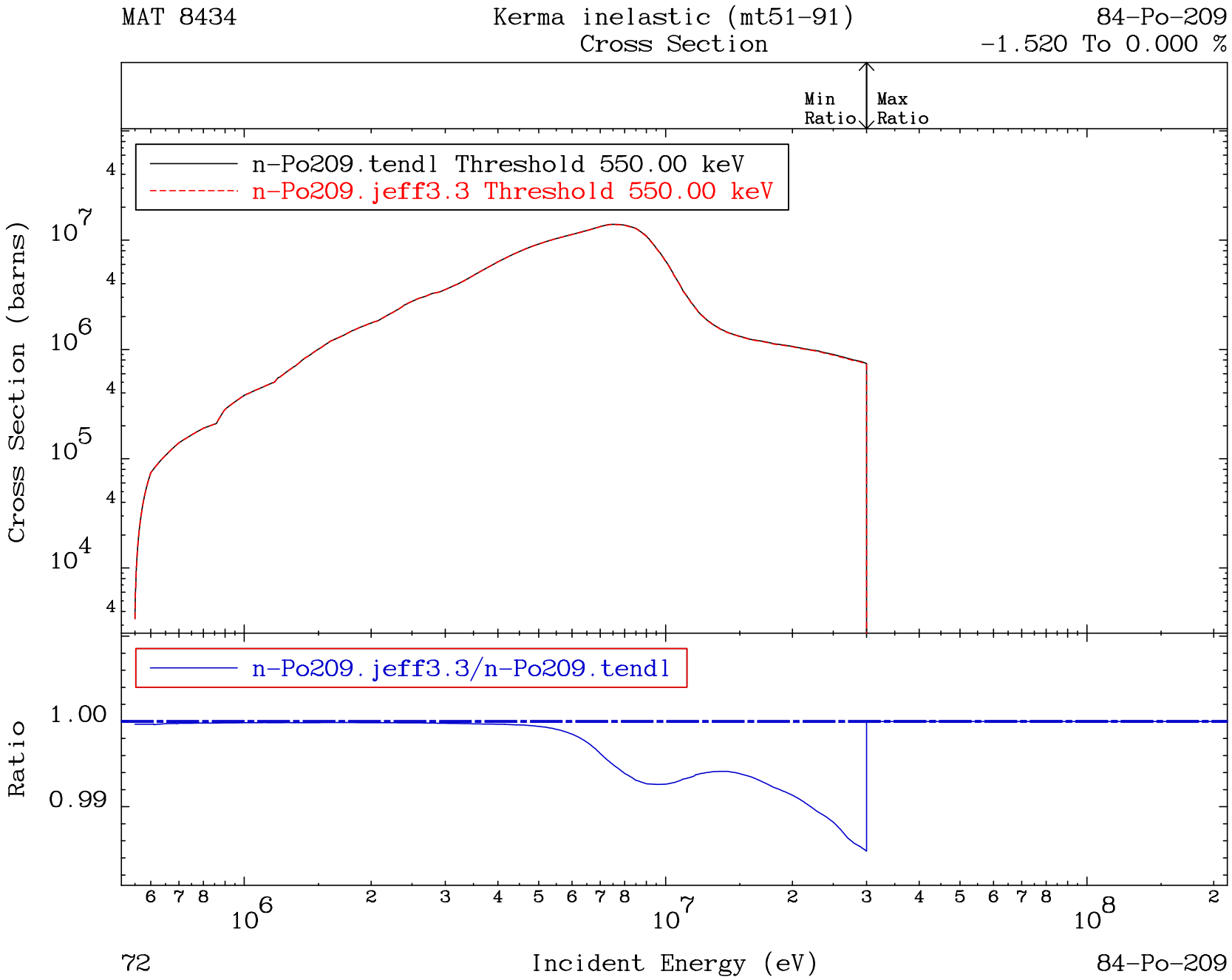

MAT 8434
He-3 Production
Cross Section
84-Po-209
-0.020 To 0.244 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 777.66 keV
n-Po209.jeff3.3 Threshold 777.66 keV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
67
Incident Energy (eV)
84-Po-209

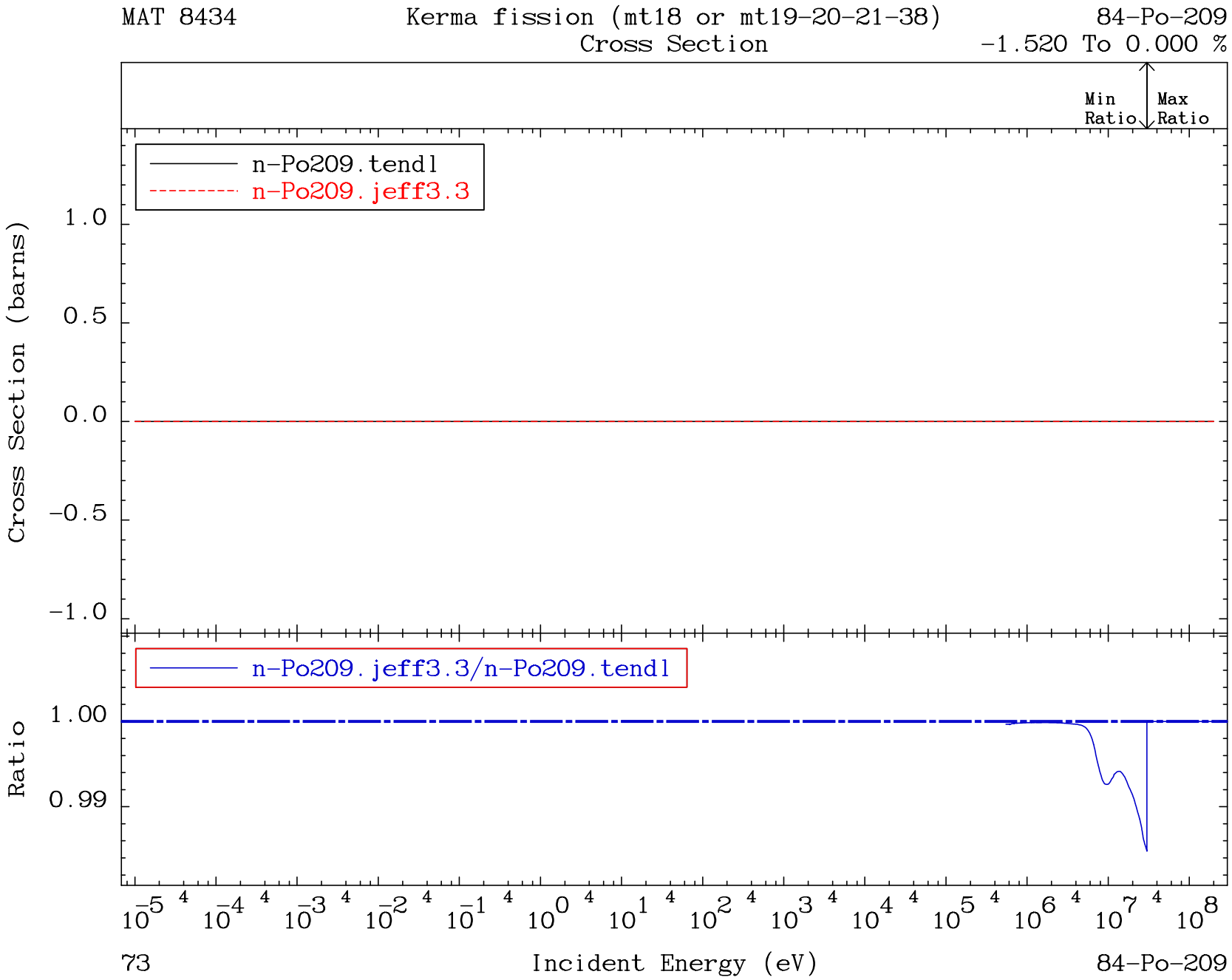

MAT 8434
He-4 Production
Cross Section
84-Po-209
36.76 To 2614. %
Max Ratio
Min Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
68
84-Po-209

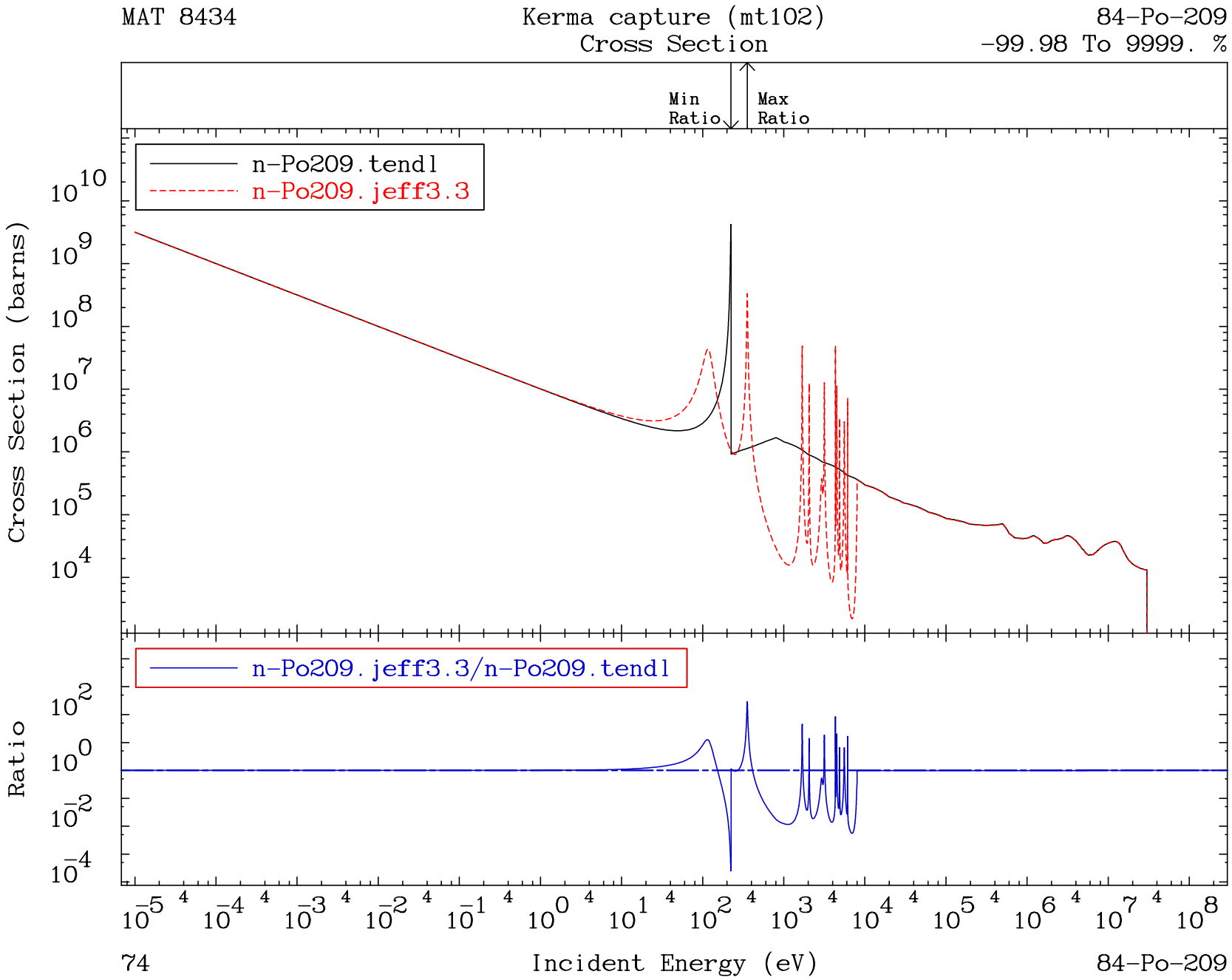

MAT 8434
Kerma total (eV-barns)
Cross Section
84-Po-209
-99.97 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
69
Incident Energy (eV)
84-Po-209

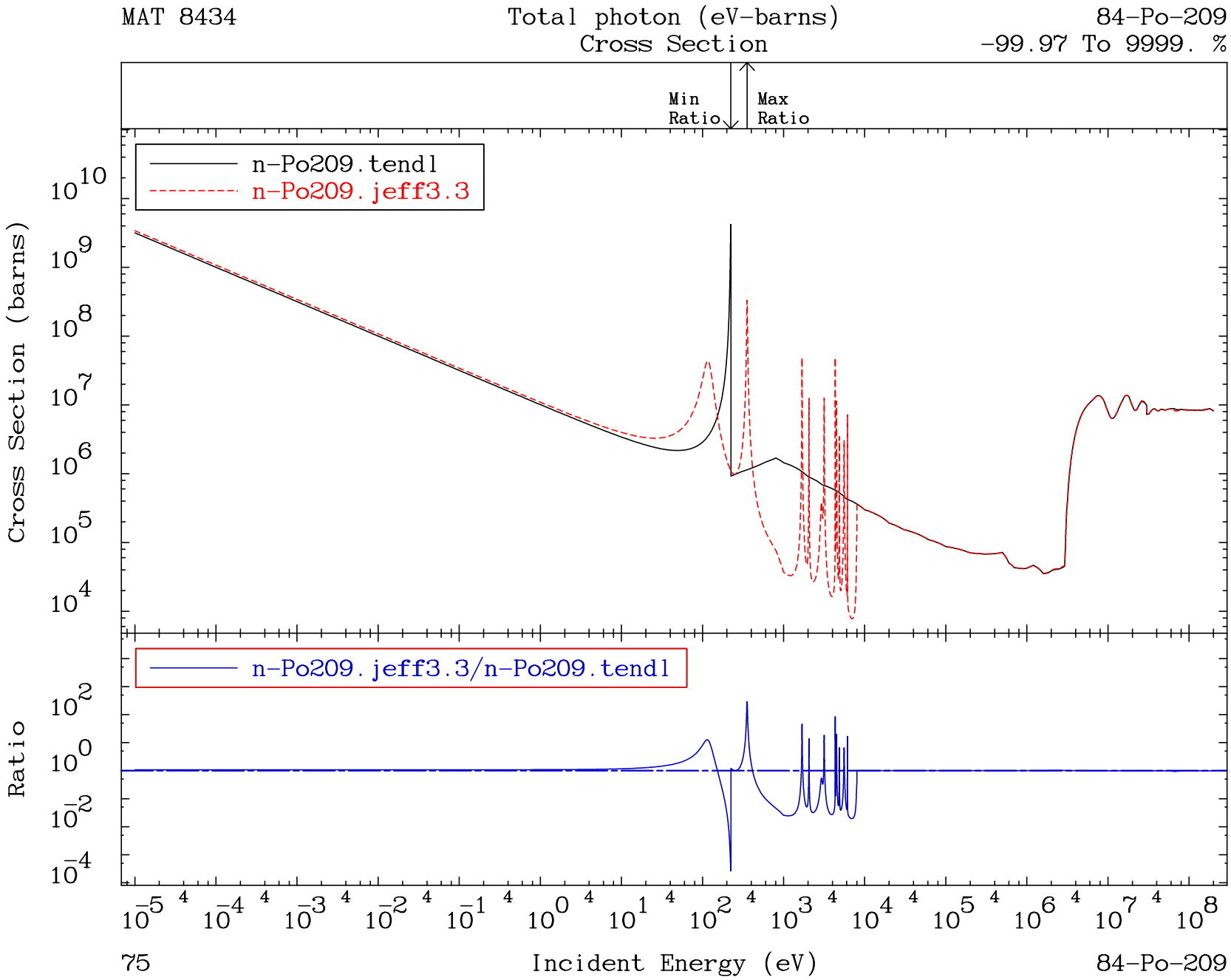

MAT 8434
Kerma elastic
Cross Section
84-Po-209
-89.09 To 9999. %
Max
Ratio
Min
Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
70
84-Po-209

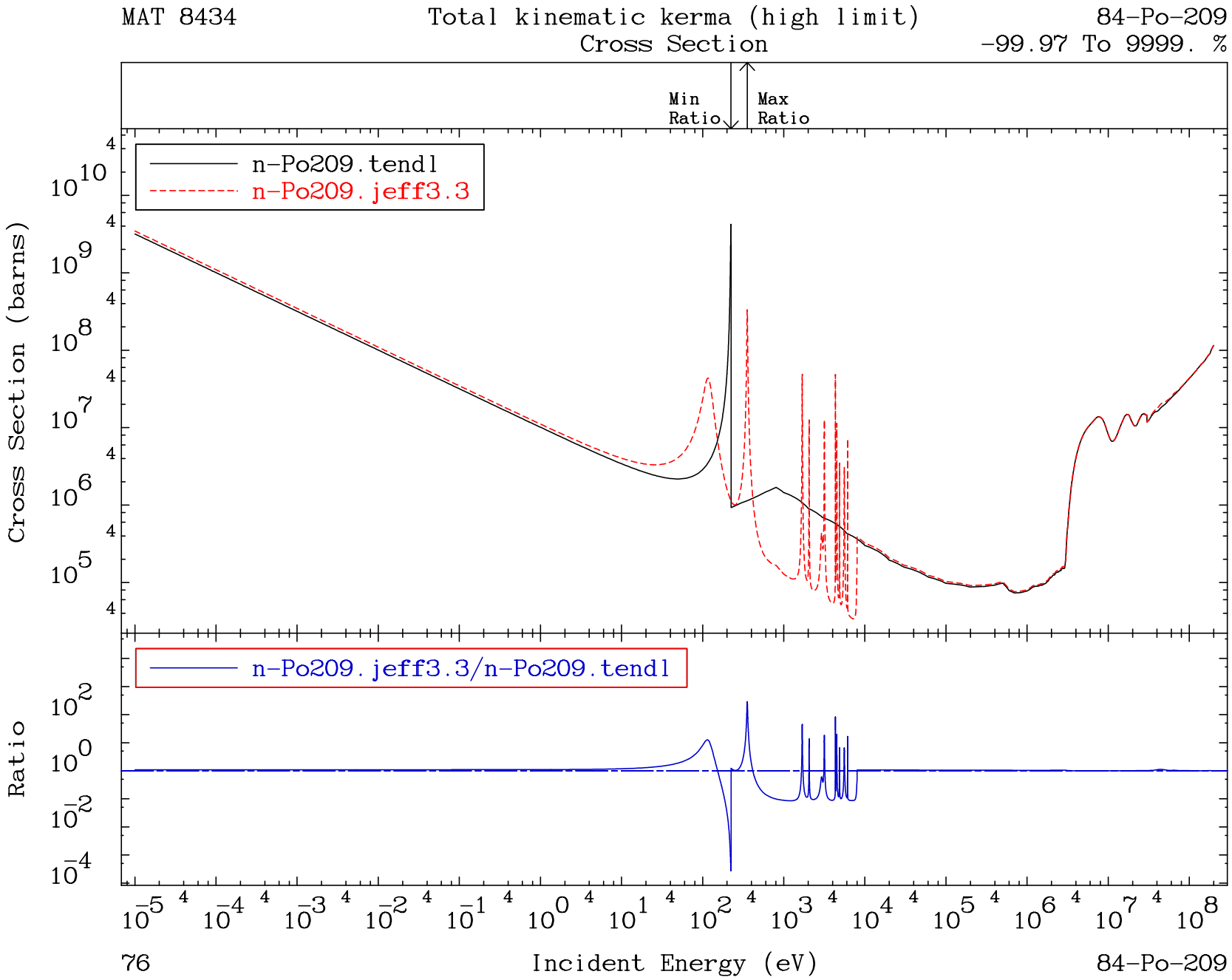

MAT 8434
Kerma non-elastic (all but mt2)
Cross Section
84-Po-209
-99.97 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
71
84-Po-209

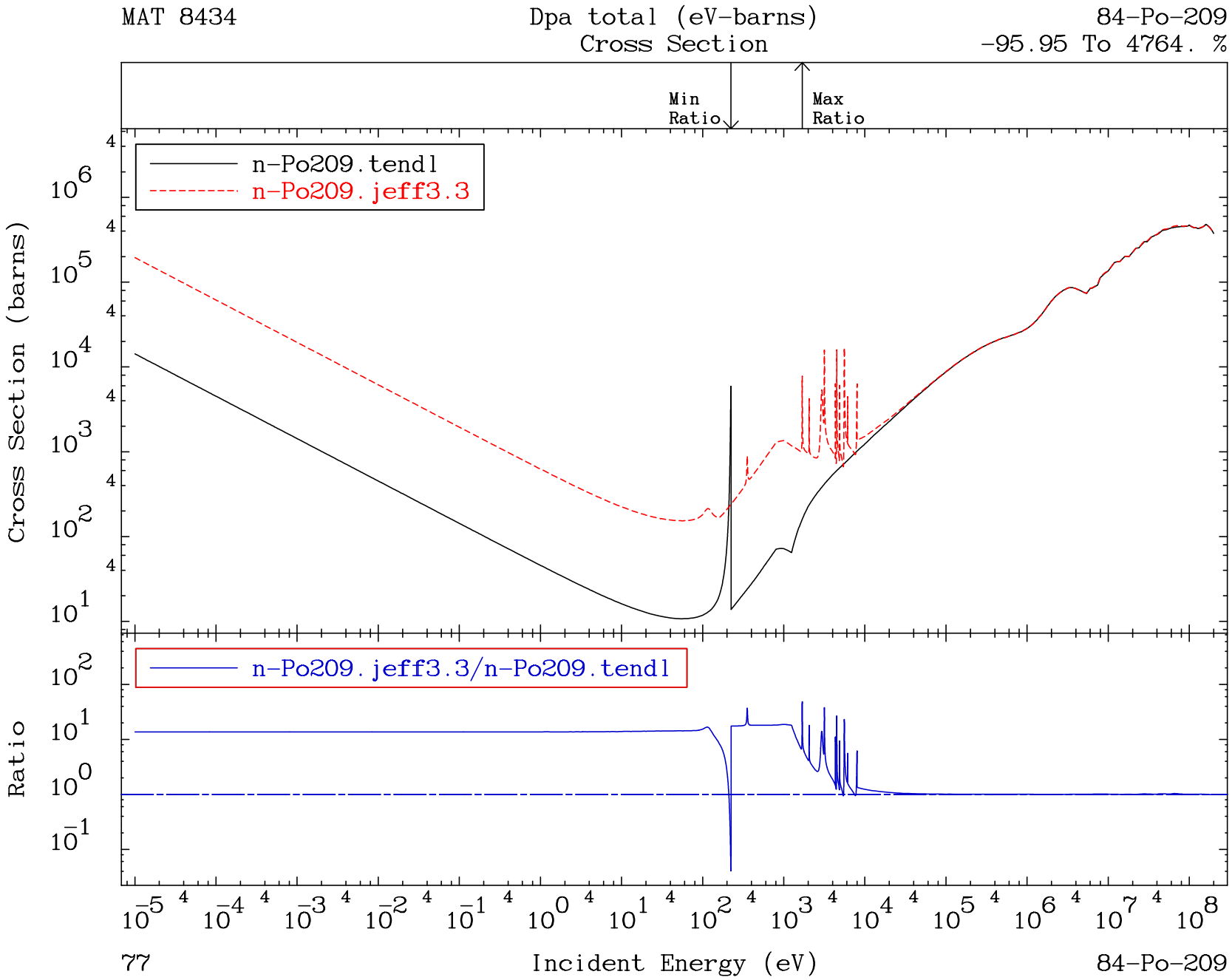

MAT 8434
Kerma inelastic (mt51-91)
Cross Section
84-Po-209
-1.520 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 550.00 keV
n-Po209.jeff3.3 Threshold 550.00 keV
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
72
84-Po-209

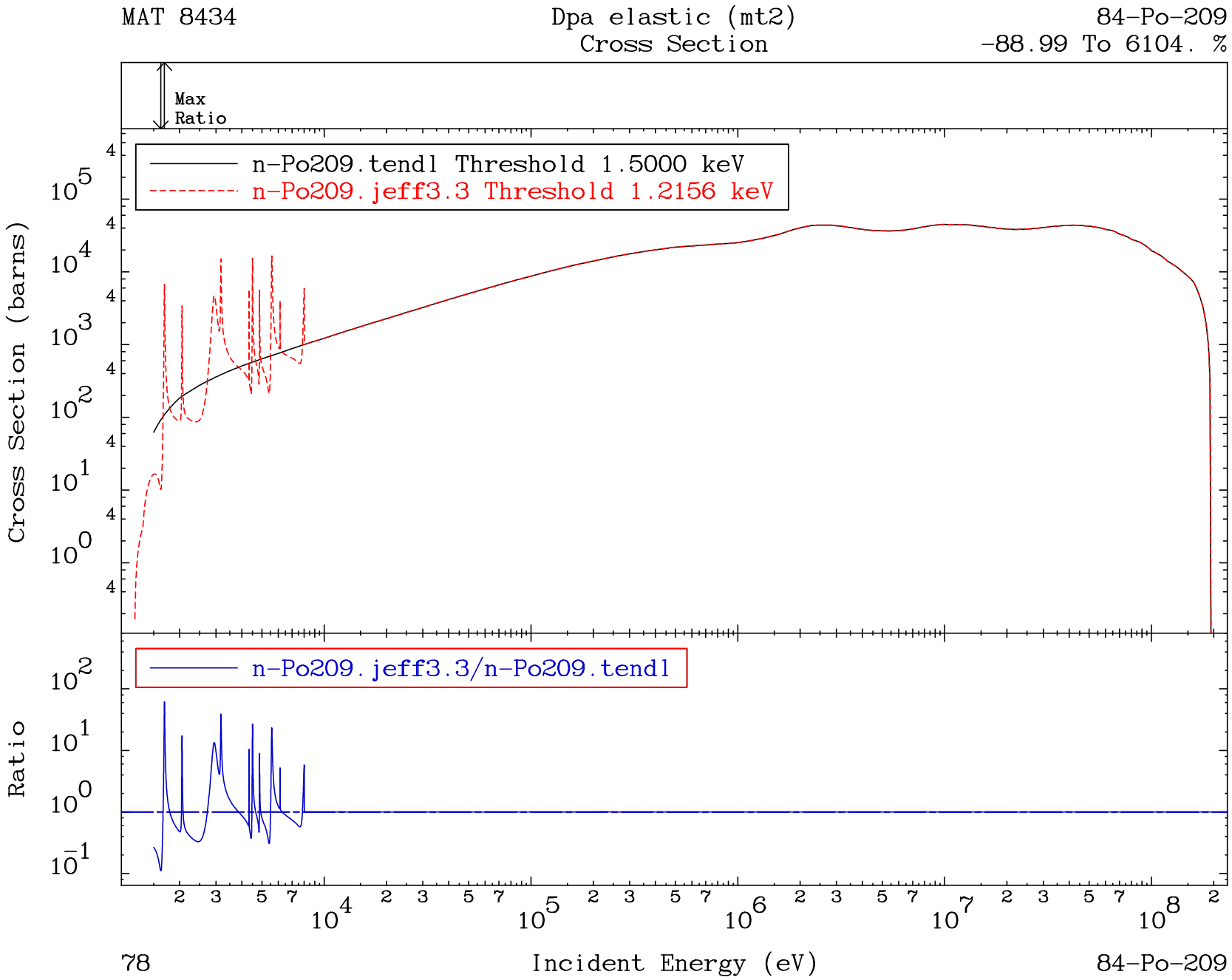

MAT 8434
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
84-Po-209
-1.520 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.00
0.99
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
73
Incident Energy (eV)
84-Po-209

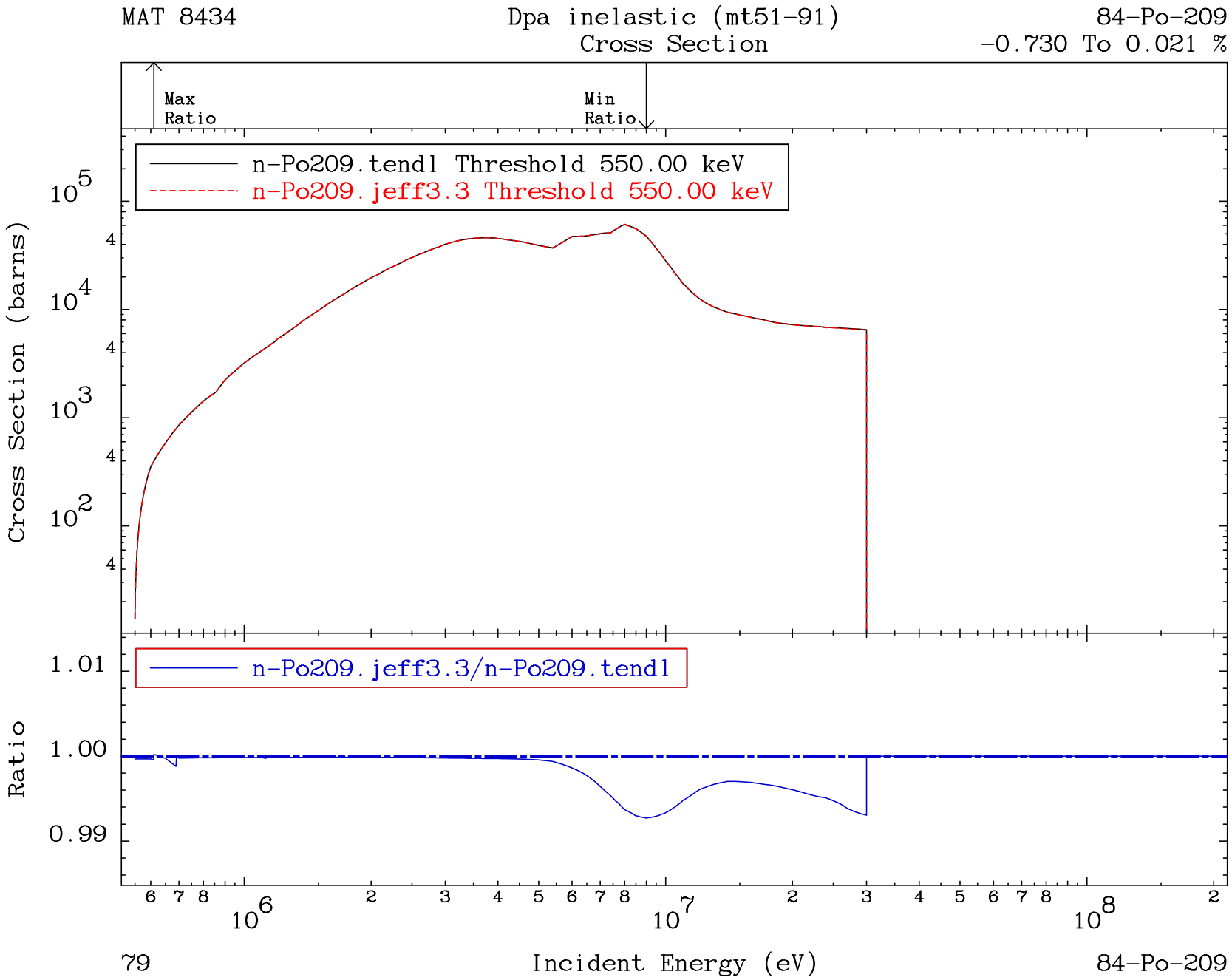

MAT 8434
Kerma capture (mt102)
Cross Section
84-Po-209
-99.98 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
74
84-Po-209

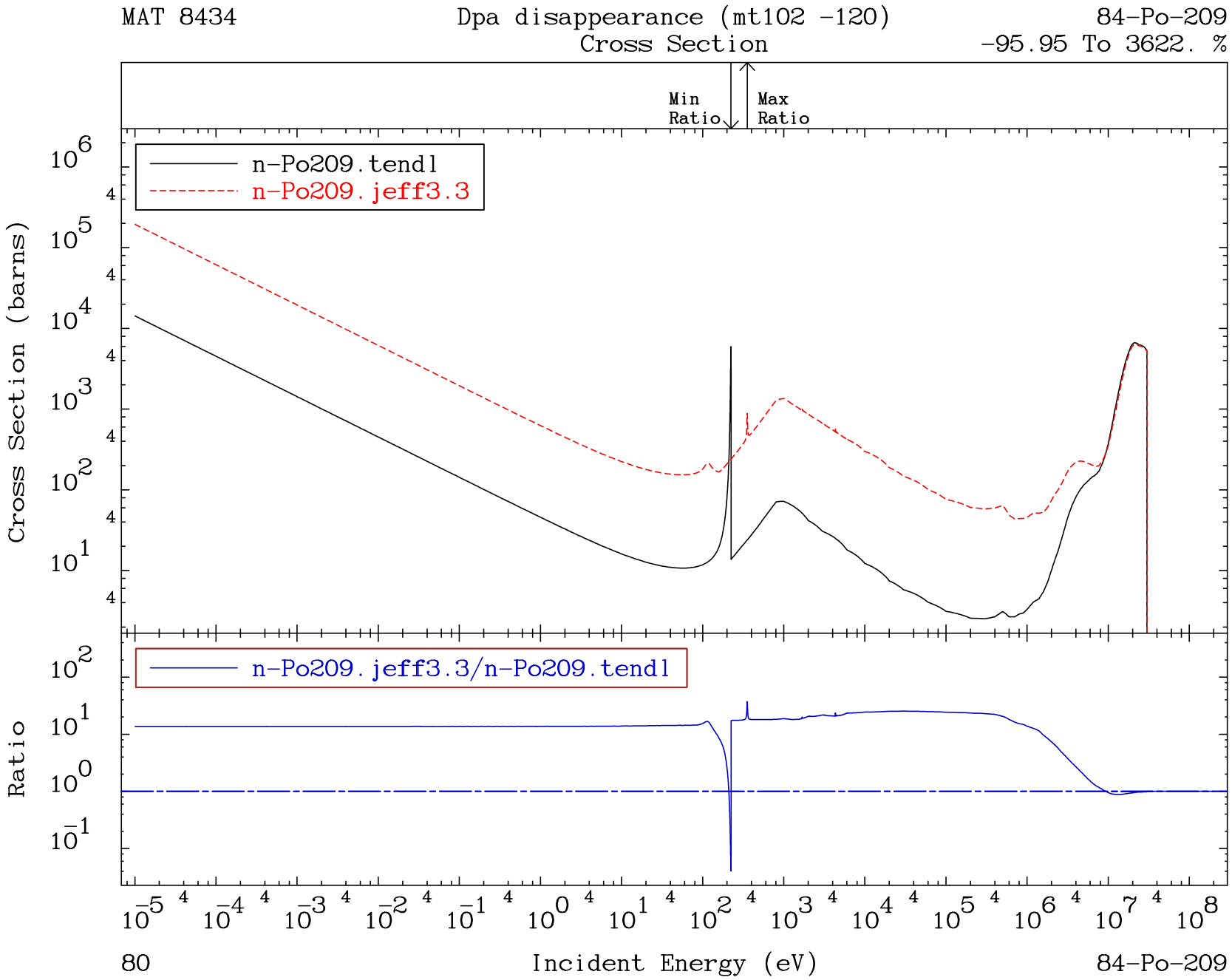

MAT 8434
Total photon (eV-barns)
Cross Section
84-Po-209
-99.97 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
75
84-Po-209

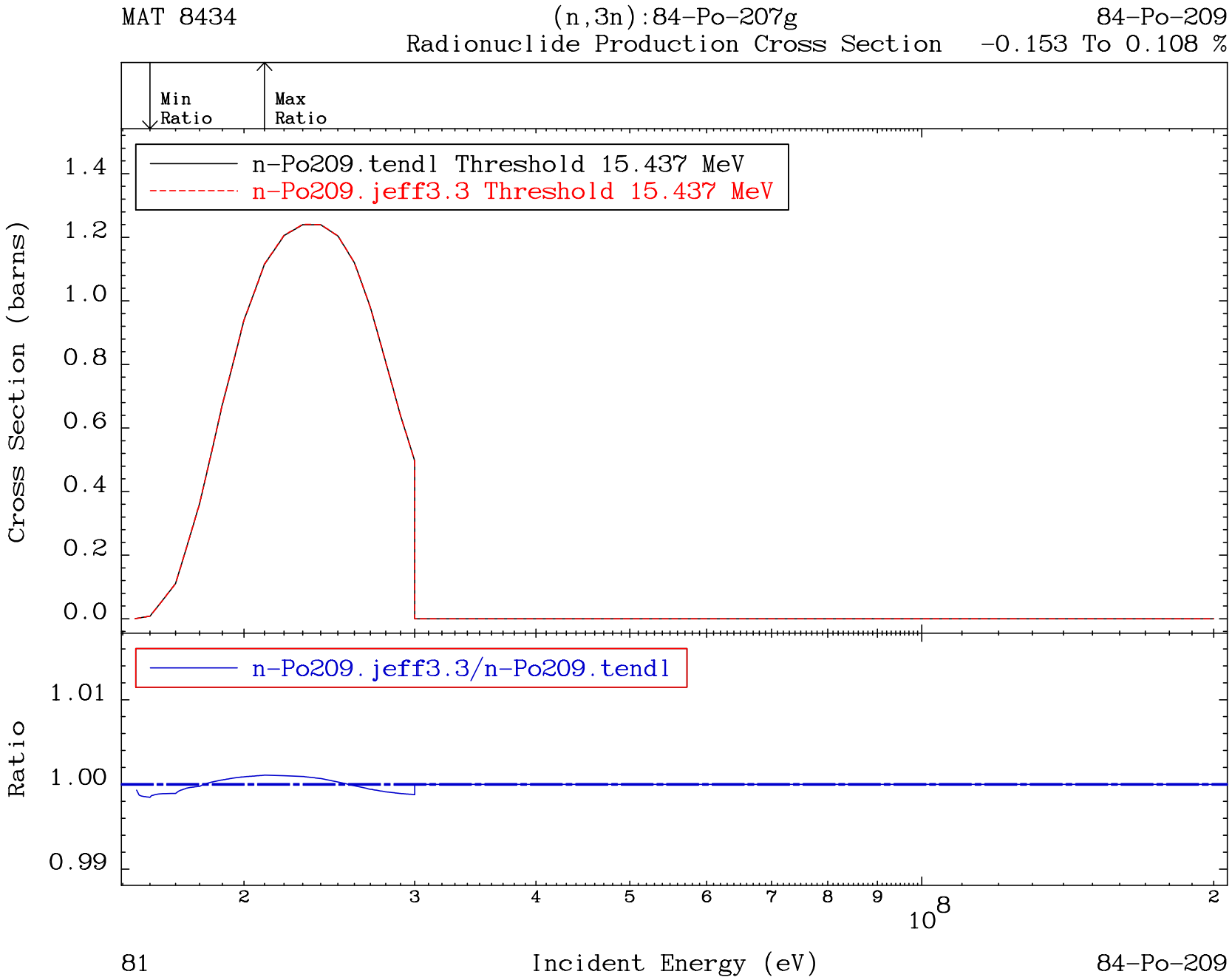

MAT 8434
Total kinematic kerma (high limit)
Cross Section
84-Po-209
-99.97 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
76
84-Po-209

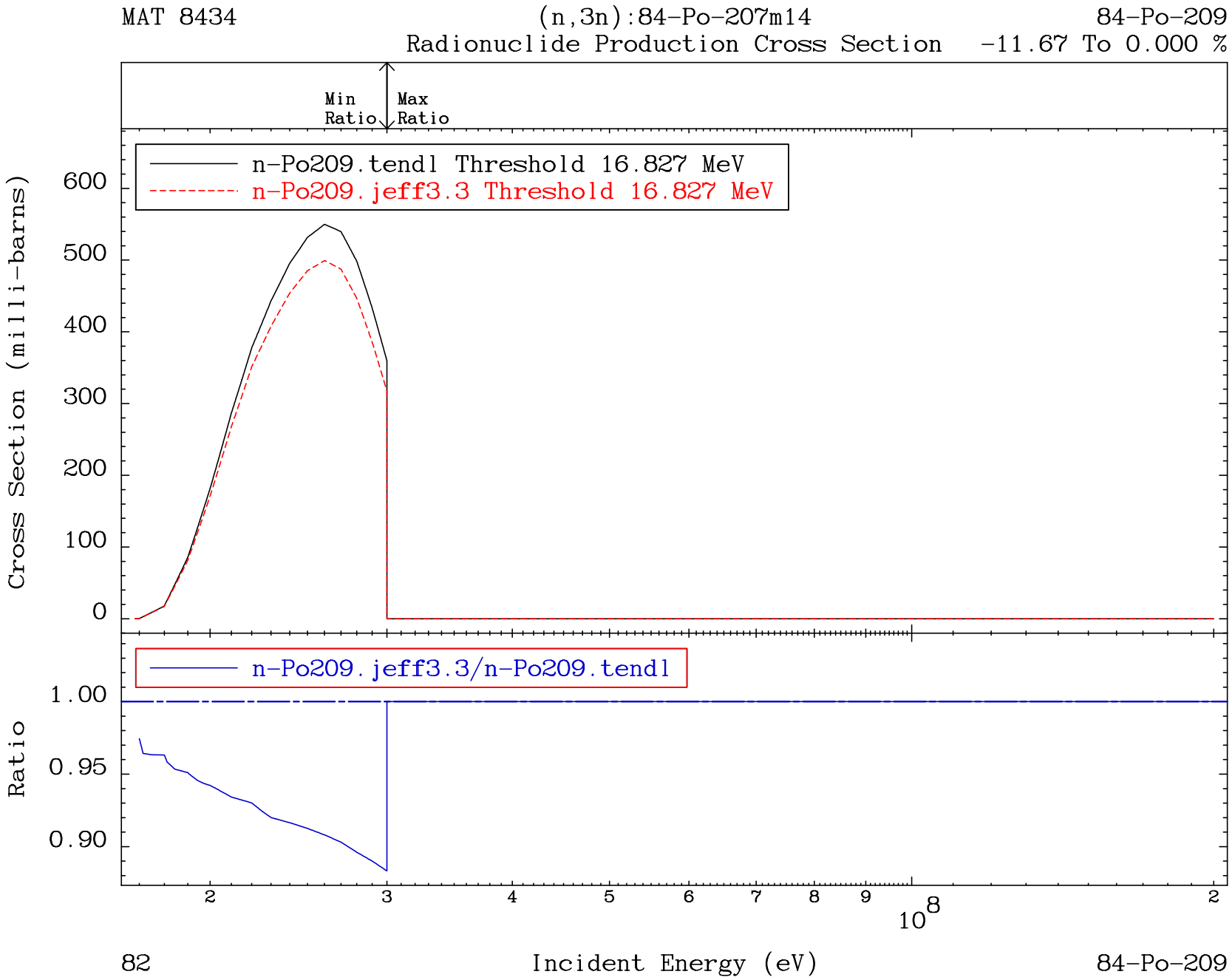

MAT 8434
Dpa total (eV-barns)
Cross Section
84-Po-209
-95.95 To 4764. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
77
84-Po-209

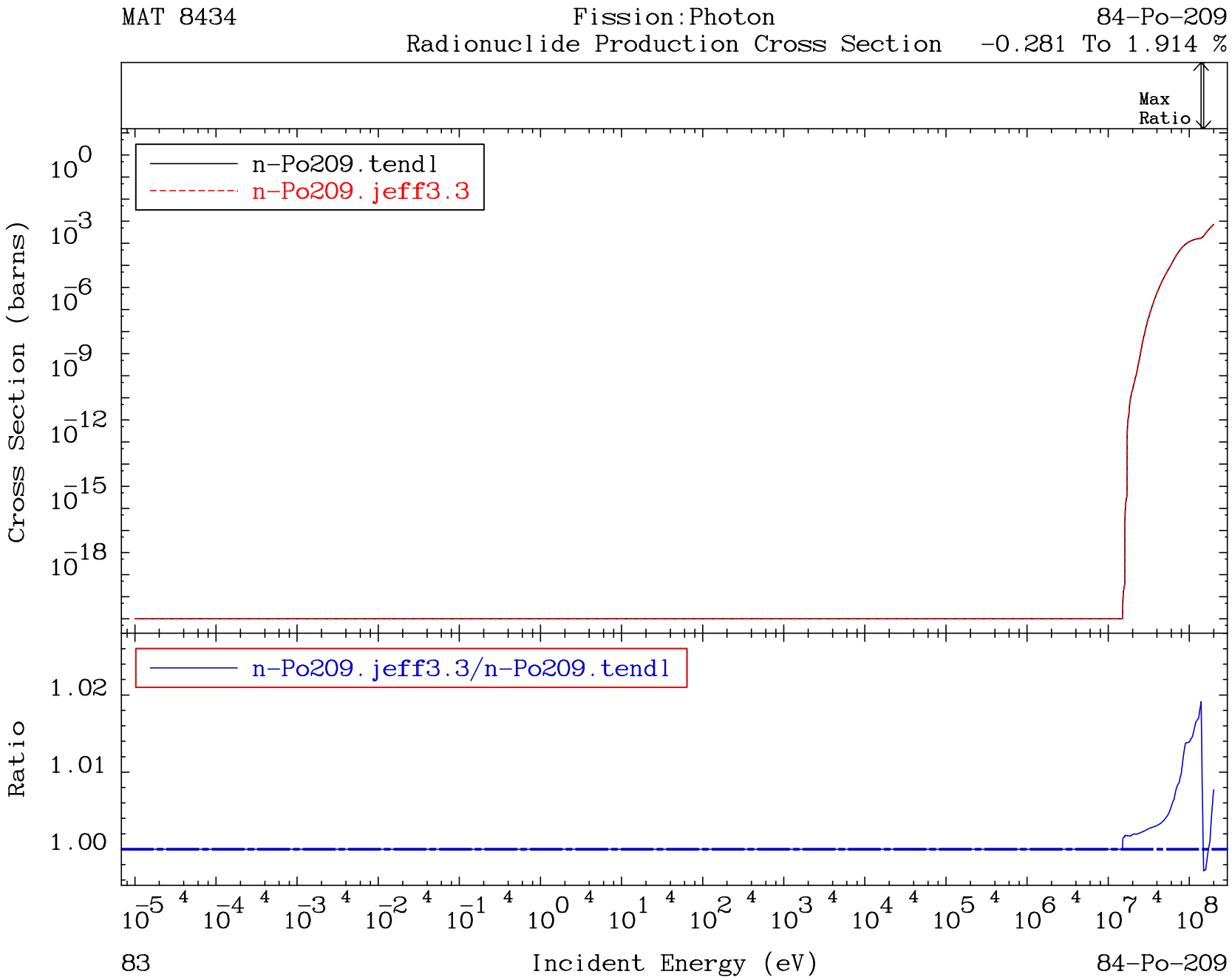

MAT 8434
Dpa elastic (mt2)
Cross Section
84-Po-209
-88.99 To 6104. %
Max
Ratio
n-Po209.tendl Threshold 1.5000 keV
n-Po209.jeff3.3 Threshold 1.2156 keV
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
78
84-Po-209

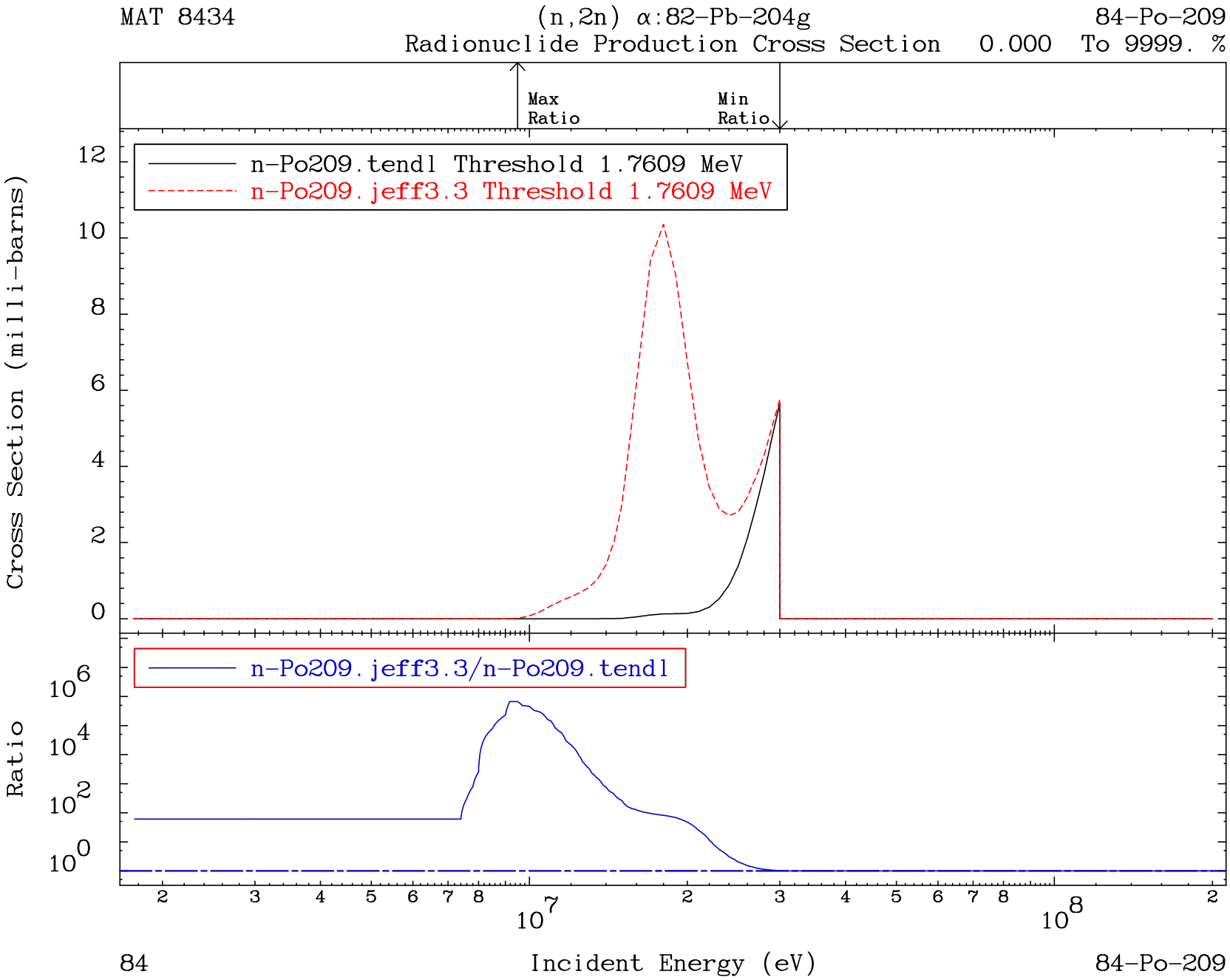

MAT 8434
Dpa inelastic (mt51-91)
Cross Section
84-Po-209
-0.730 To 0.021 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 550.00 keV
n-Po209.jeff3.3 Threshold 550.00 keV
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
79
84-Po-209

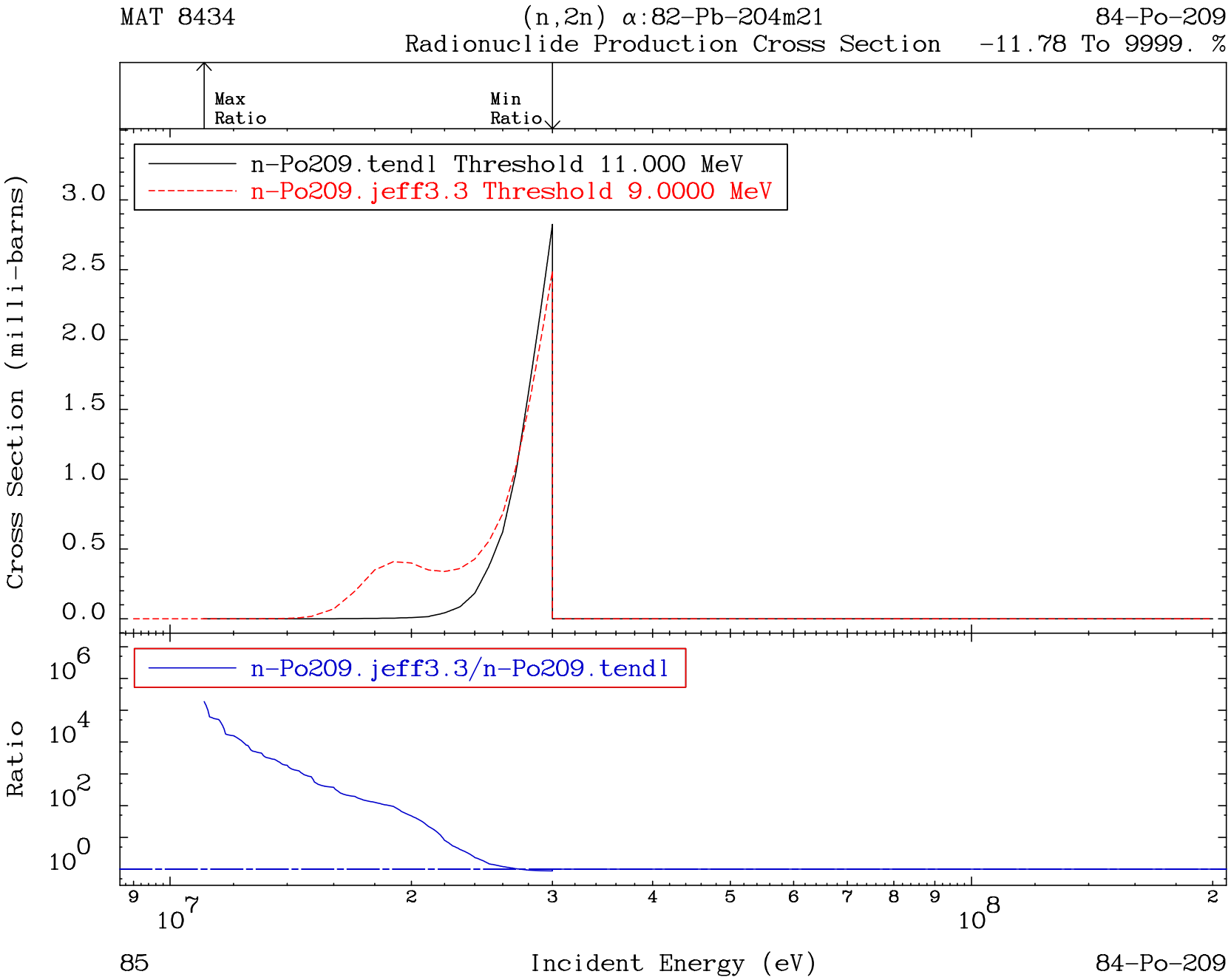

MAT 8434
Dpa disappearance (mt102 -120)
Cross Section
84-Po-209
-95.95 To 3622. %
Min Ratio
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
n-Po209.jeff3.3/n-Po209.tendl
Ratio
Incident Energy (eV)
80
84-Po-209

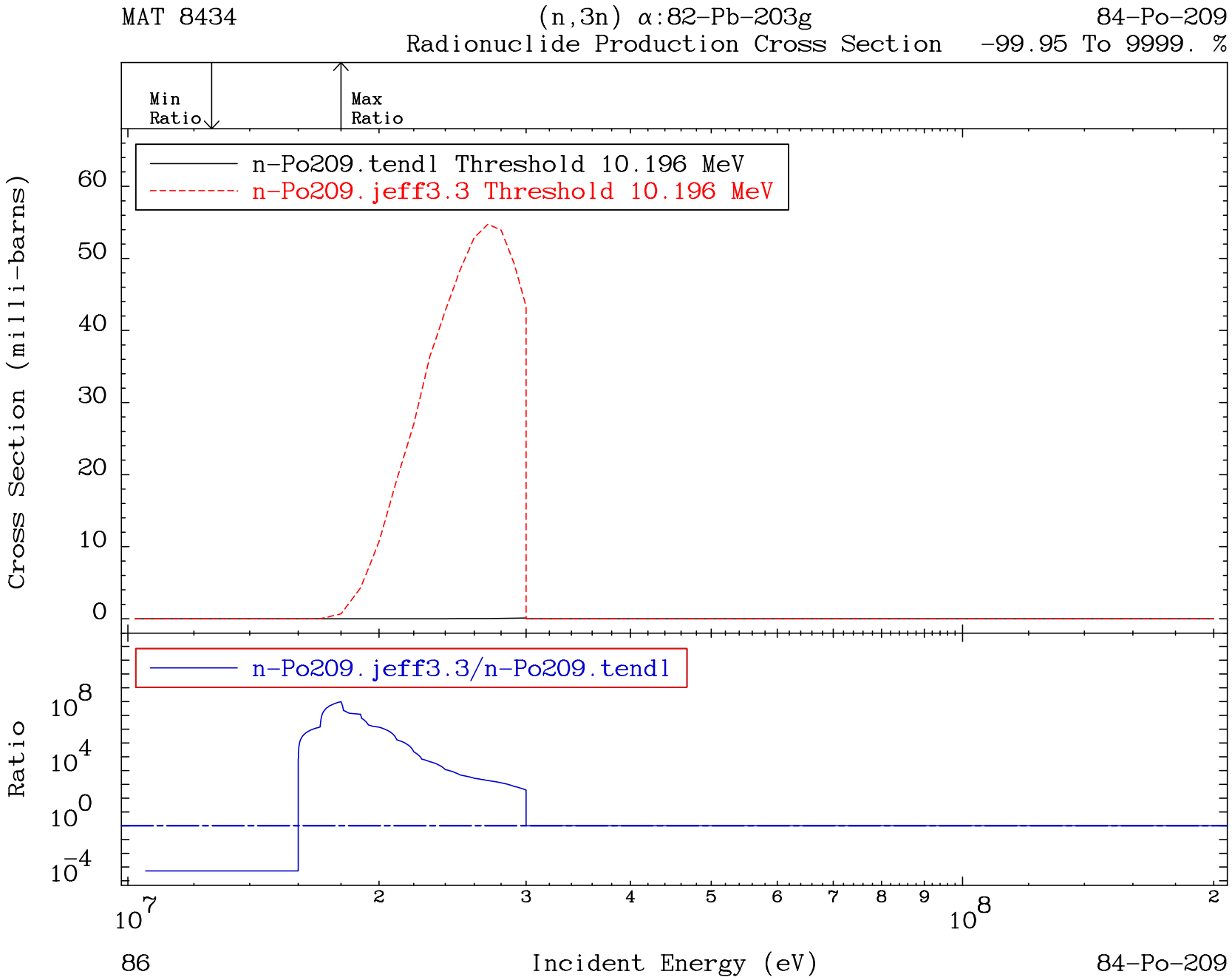

MAT 8434
(n,3n):84-Po-207g
84-Po-209
Radionuclide Production Cross Section
-0.153 To 0.108 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 15.437 MeV
n-Po209.jeff3.3 Threshold 15.437 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
81
Incident Energy (eV)
84-Po-209

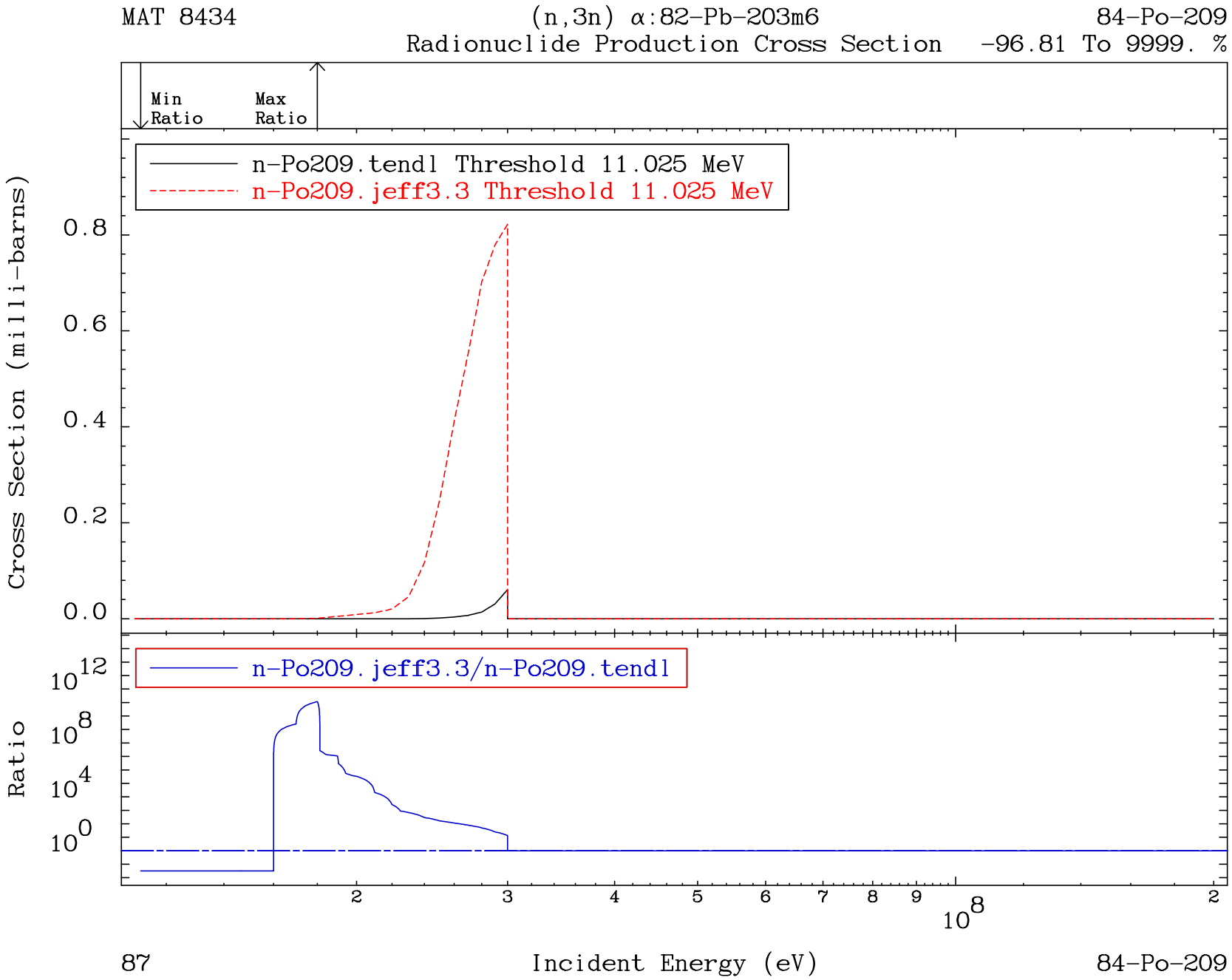

MAT 8434
(n,3n):84-Po-207m14
84-Po-209
Radionuclide Production Cross Section -11.67 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 16.827 MeV
n-Po209.jeff3.3 Threshold 16.827 MeV
Cross Section (milli-barns)
600
500
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.00
0.95
0.90
2
3
4
5
6
7
8
9
10^8
2
82
Incident Energy (eV)
84-Po-209

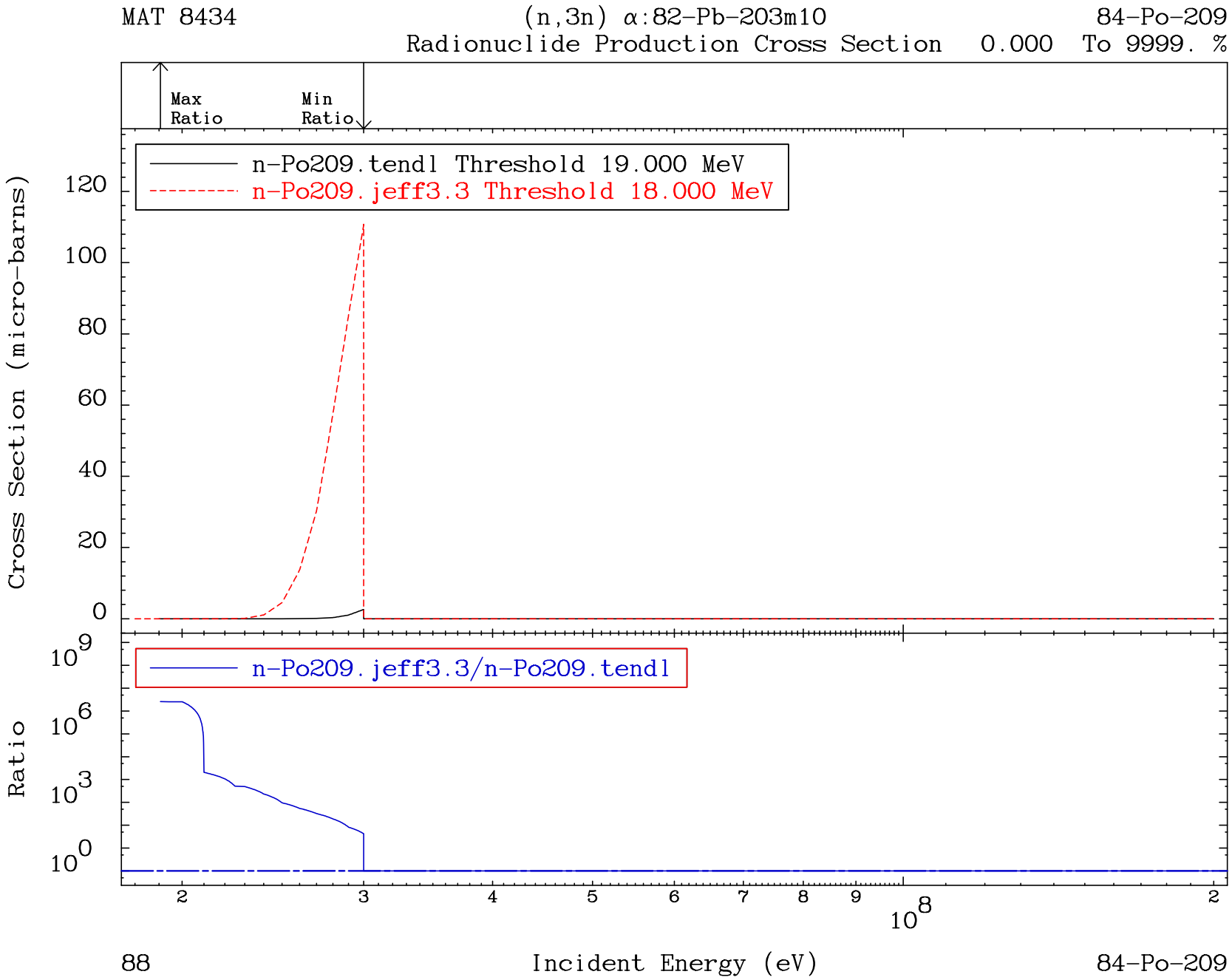

MAT 8434
Fission:Photon
84-Po-209
Radionuclide Production Cross Section
-0.281 To 1.914 %
Max Ratio
n-Po209.tendl
n-Po209.jeff3.3
Cross Section (barns)
10^0
10^-3
10^-6
10^-9
10^-12
10^-15
10^-18
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.02
1.01
1.00
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
10^8
83
Incident Energy (eV)
84-Po-209

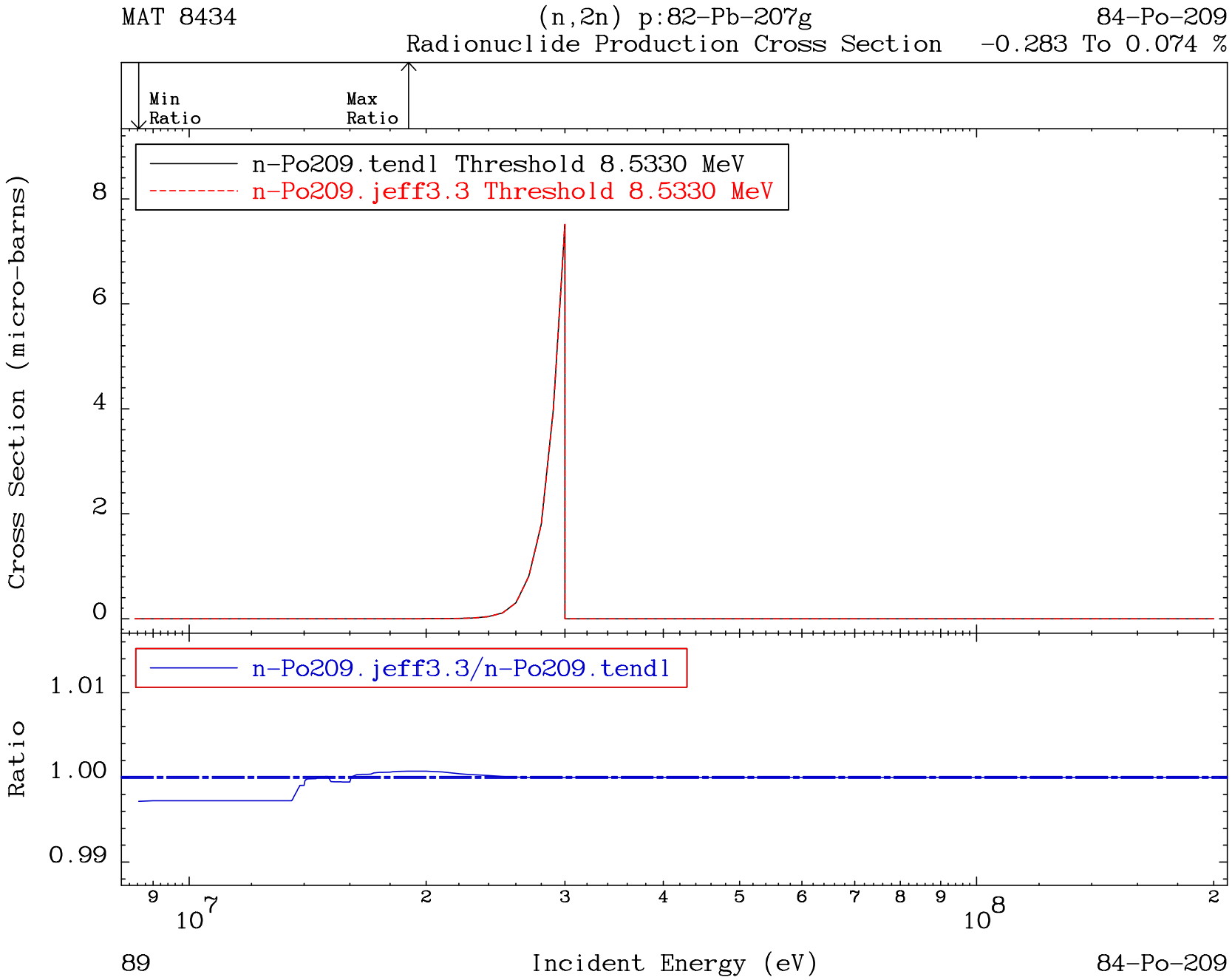

MAT 8434
(n,2n) α:82-Pb-204g
84-Po-209
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 1.7609 MeV
n-Po209.jeff3.3 Threshold 1.7609 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^0
10^2
10^4
10^6
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
84
Incident Energy (eV)
84-Po-209

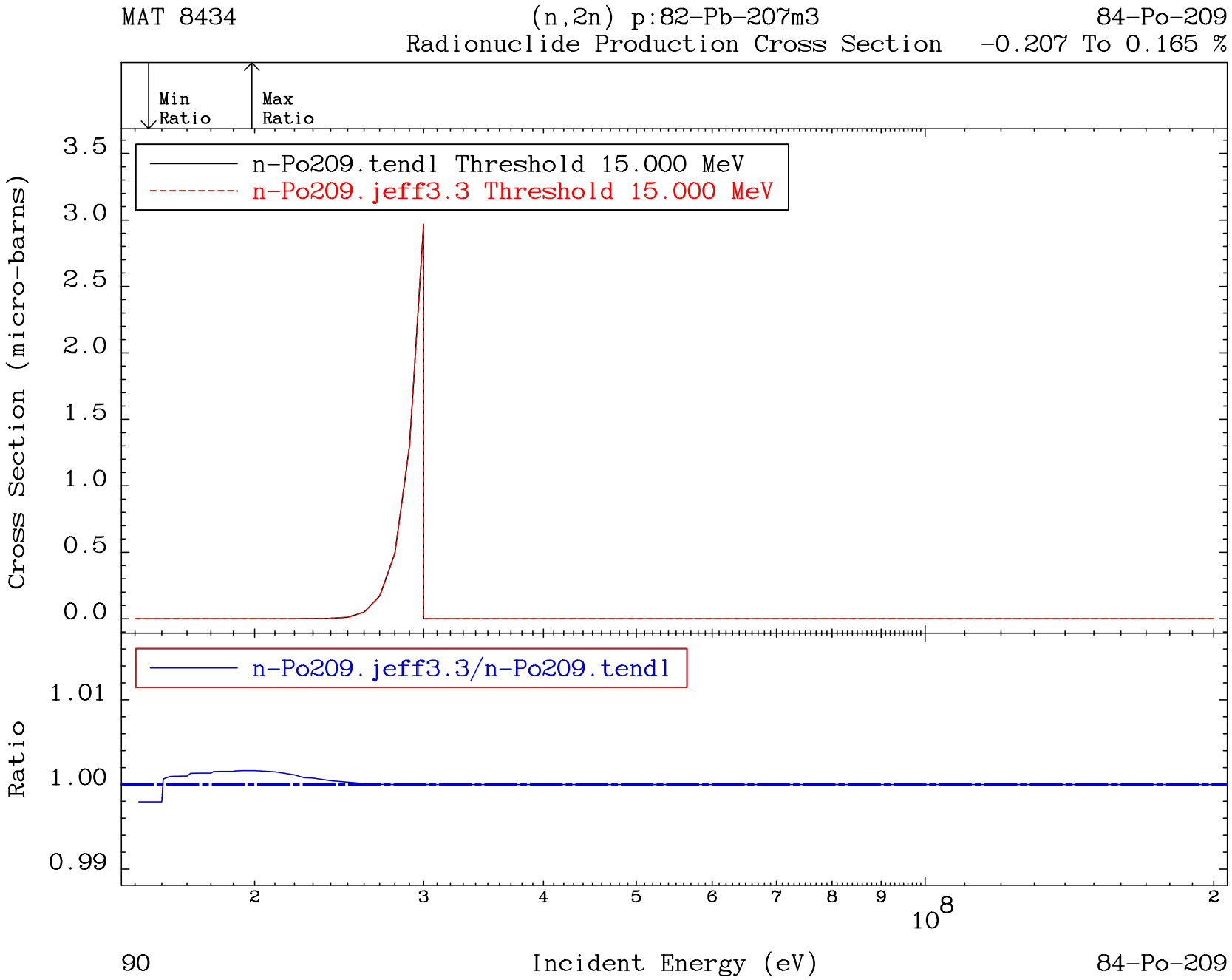

MAT 8434
(n,2n) α:82-Pb-204m21
84-Po-209
Radionuclide Production Cross Section -11.78 To 9999. %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 11.000 MeV
n-Po209.jeff3.3 Threshold 9.0000 MeV
Cross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^6
10^4
10^2
10^0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
85
Incident Energy (eV)
84-Po-209

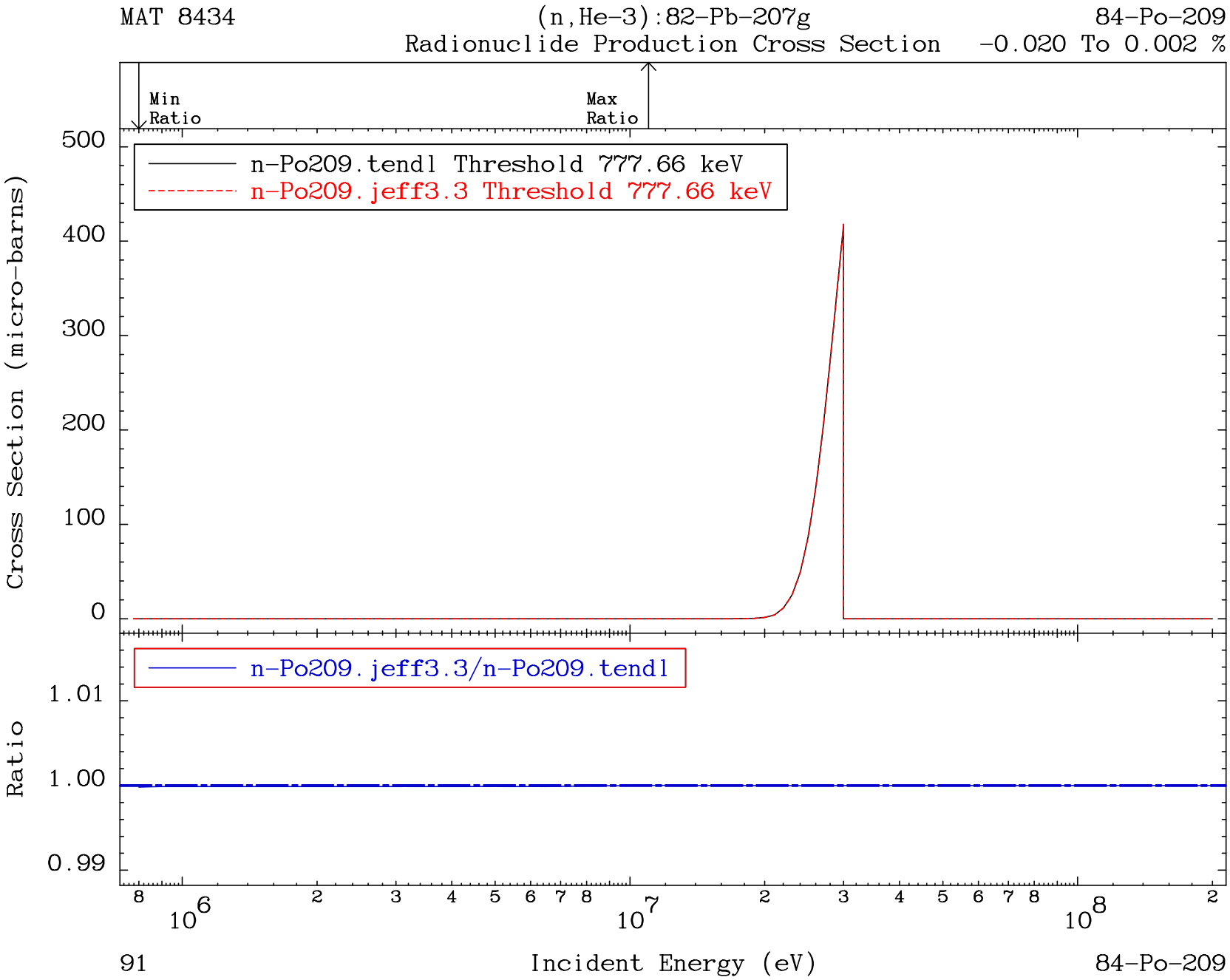

MAT 8434
(n,3n) α:82-Pb-203g
84-Po-209
Radionuclide Production Cross Section -99.95 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 10.196 MeV
n-Po209.jeff3.3 Threshold 10.196 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^8
10^4
10^0
10^-4
10^7
2
3
4
5
6
7
8
9
10^8
2
86
Incident Energy (eV)
84-Po-209

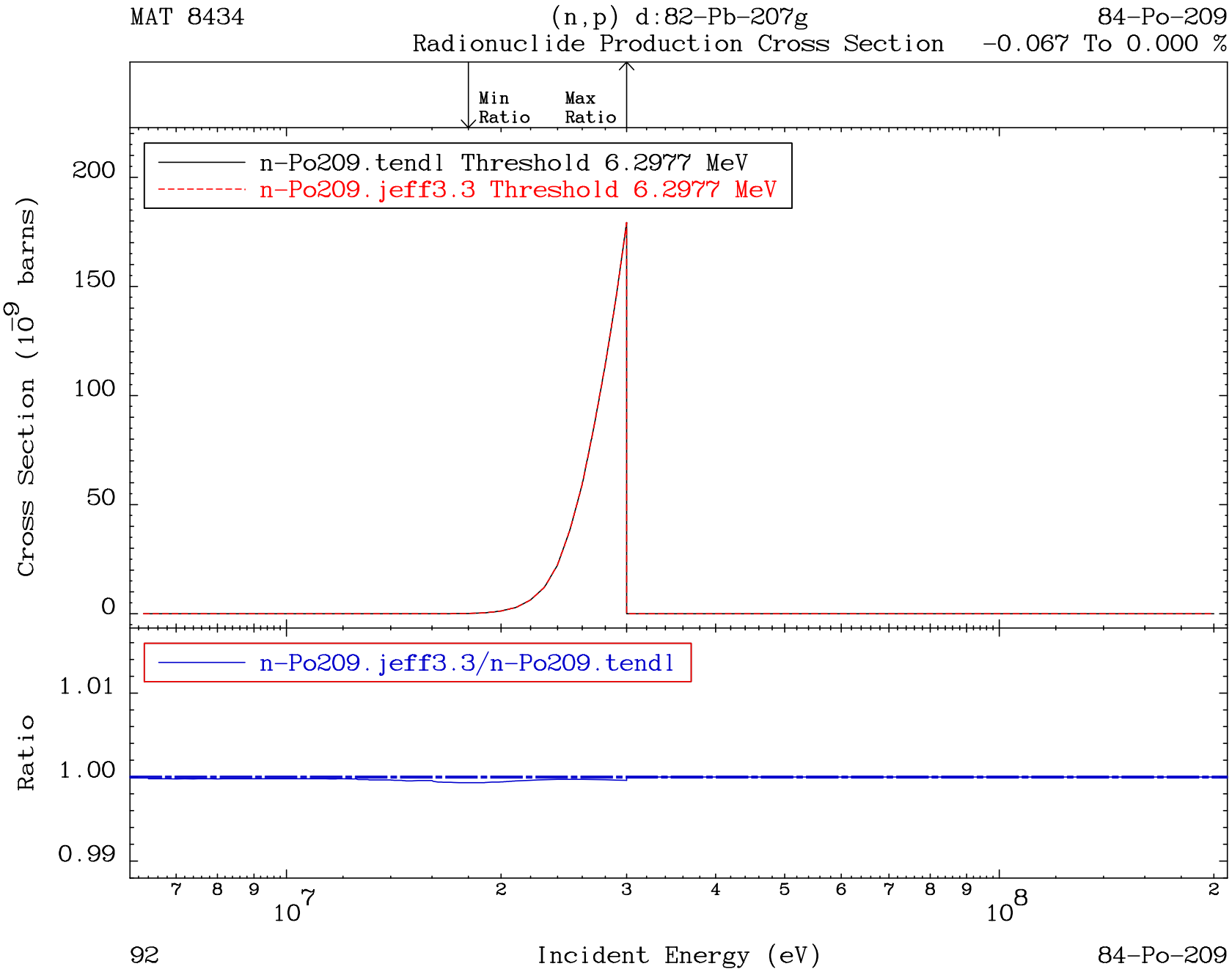

MAT 8434
(n,3n) α:82-Pb-203m6
84-Po-209
Radionuclide Production Cross Section -96.81 To 9999. %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 11.025 MeV
n-Po209.jeff3.3 Threshold 11.025 MeV
Cross Section (milli-barns)
0.8
0.6
0.4
0.2
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^12
10^8
10^4
10^0
2
3
4
5
6
7
8
9
10^8
2
87
Incident Energy (eV)
84-Po-209

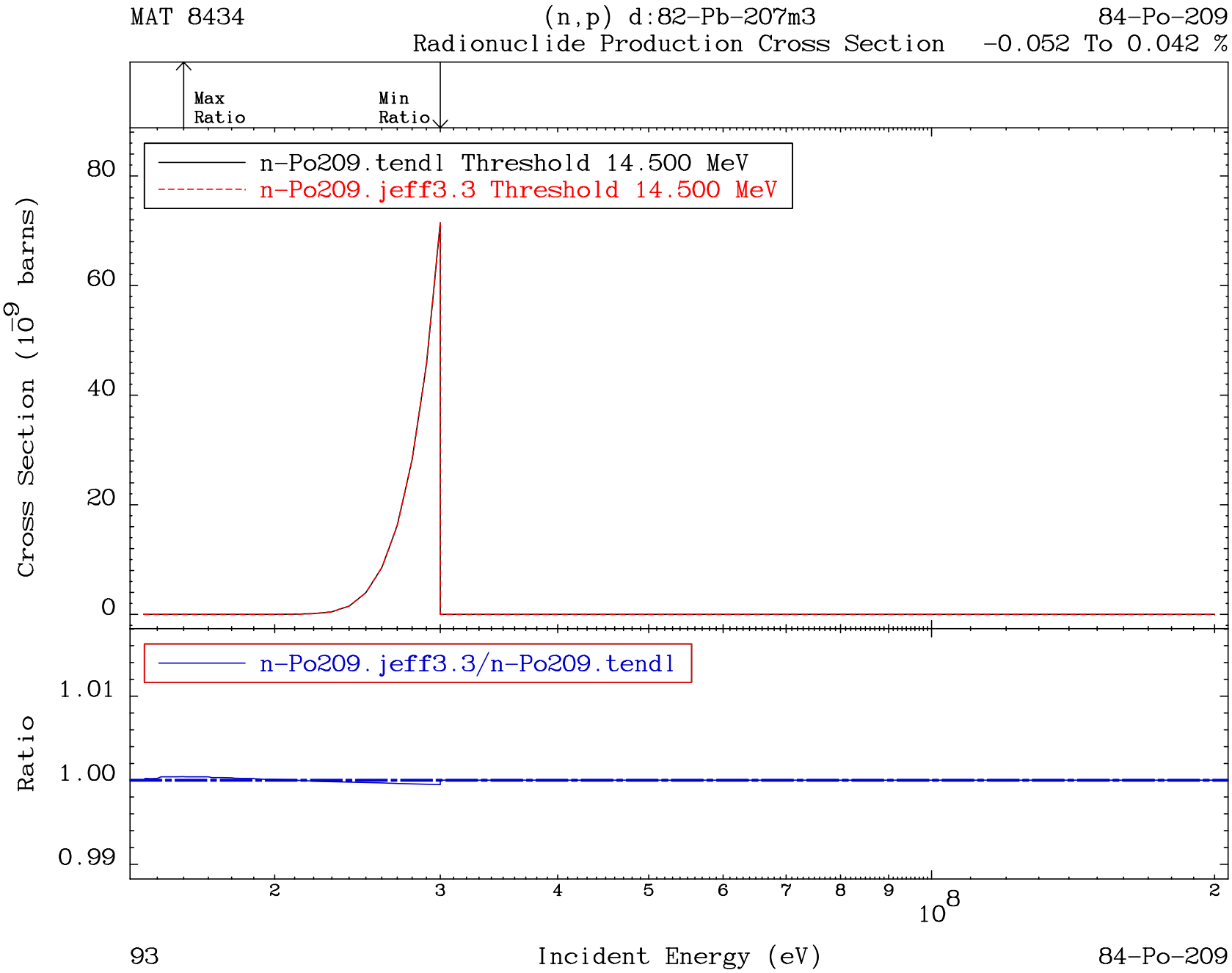

MAT 8434
(n,3n) α:82-Pb-203m10
84-Po-209
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 19.000 MeV
n-Po209.jeff3.3 Threshold 18.000 MeV
Cross Section (micro-barns)
120
100
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
10^9
10^6
10^3
10^0
2
3
4
5
6
7
8
9
10^8
2
88
Incident Energy (eV)
84-Po-209


MAT 8434
(n,2n) p:82-Pb-207g
84-Po-209
Radionuclide Production Cross Section -0.283 To 0.074 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 8.5330 MeV
n-Po209.jeff3.3 Threshold 8.5330 MeV
Cross Section (micro-barns)
0
2
4
6
8
n-Po209.jeff3.3/n-Po209.tendl
Ratio
0.99
1.00
1.01
9
10^7
2
3
4
5
6
7
8
9
10^8
2
89
Incident Energy (eV)
84-Po-209


MAT 8434
(n,2n) p:82-Pb-207m3
84-Po-209
Radionuclide Production Cross Section -0.207 To 0.165 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 15.000 MeV
n-Po209.jeff3.3 Threshold 15.000 MeV
Cross Section (micro-barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
90
Incident Energy (eV)
84-Po-209


MAT 8434
(n,He-3):82-Pb-207g
84-Po-209
Radionuclide Production Cross Section
-0.020 To 0.002 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 777.66 keV
n-Po209.jeff3.3 Threshold 777.66 keV
Cross Section (micro-barns)
500
400
300
200
100
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
91
Incident Energy (eV)
84-Po-209


MAT 8434
(n,p) d:82-Pb-207g
84-Po-209
Radionuclide Production Cross Section -0.067 To 0.000 %
Min Ratio
Max Ratio
n-Po209.tendl Threshold 6.2977 MeV
n-Po209.jeff3.3 Threshold 6.2977 MeV
Cross Section (10^{-9} barns)
200
150
100
50
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
92
Incident Energy (eV)
84-Po-209


MAT 8434
(n,p) d:82-Pb-207m3
84-Po-209
Radionuclide Production Cross Section -0.052 To 0.042 %
Max Ratio
Min Ratio
n-Po209.tendl Threshold 14.500 MeV
n-Po209.jeff3.3 Threshold 14.500 MeV
Cross Section (10^{-9} barns)
80
60
40
20
0
n-Po209.jeff3.3/n-Po209.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
93
Incident Energy (eV)
84-Po-209