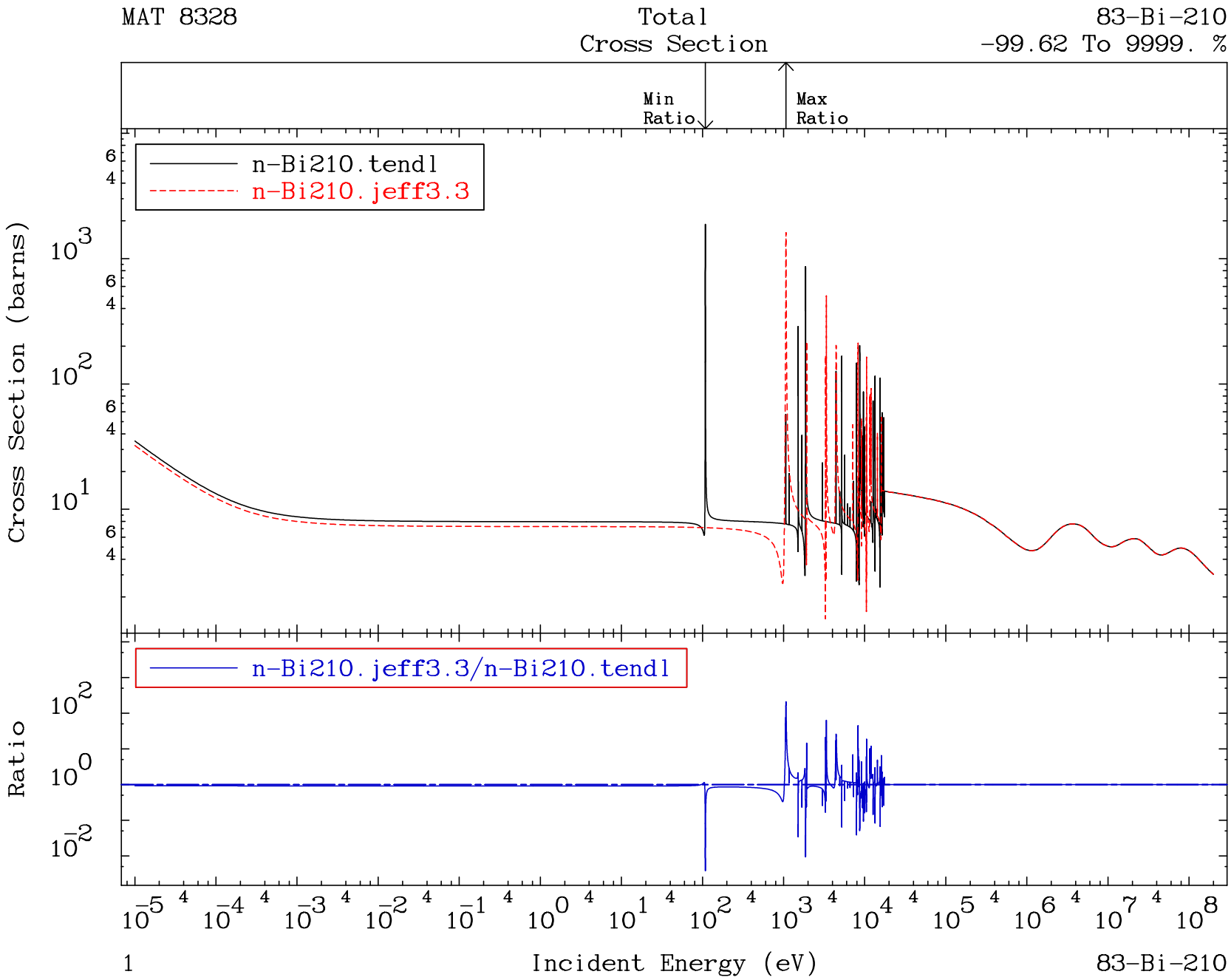
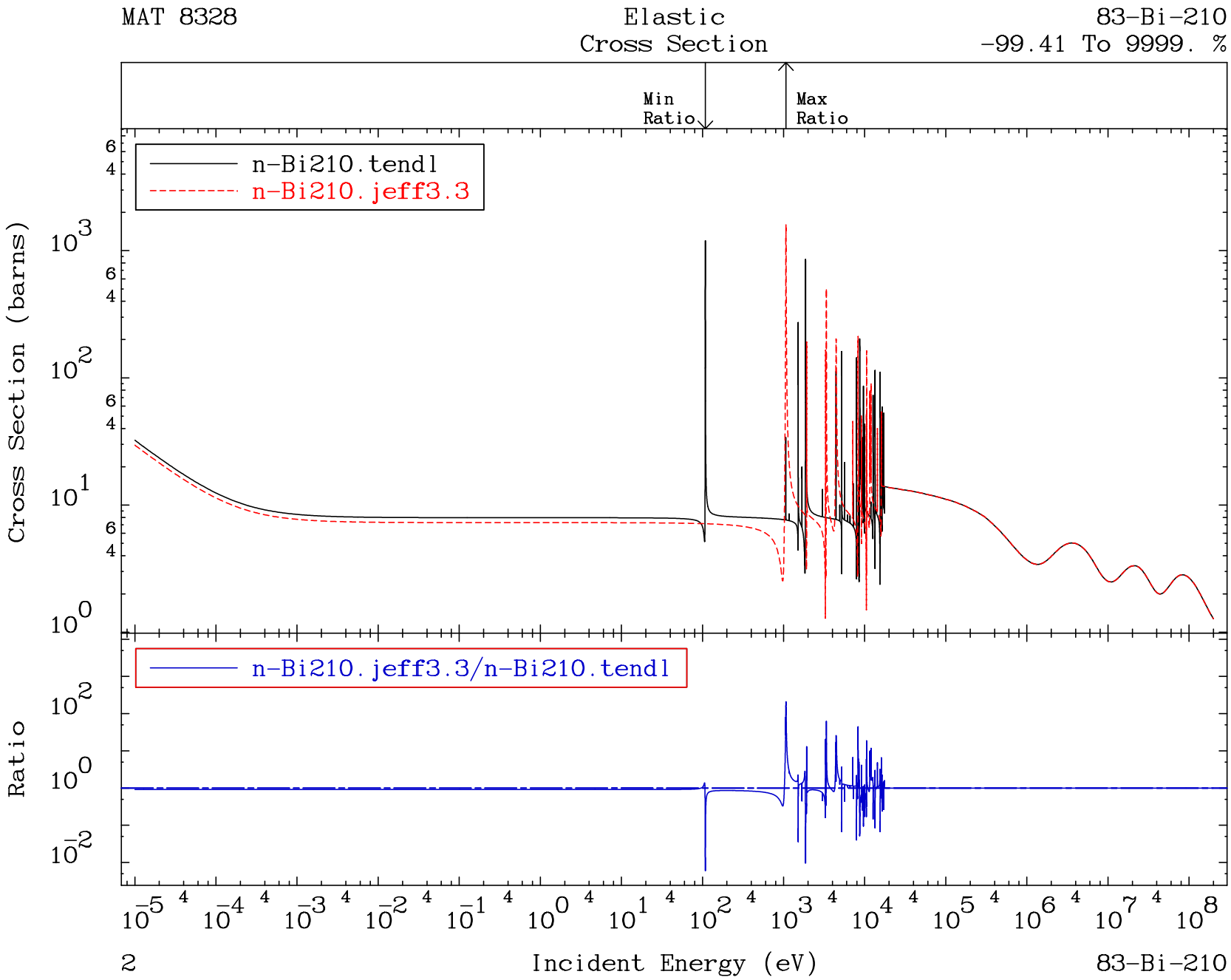
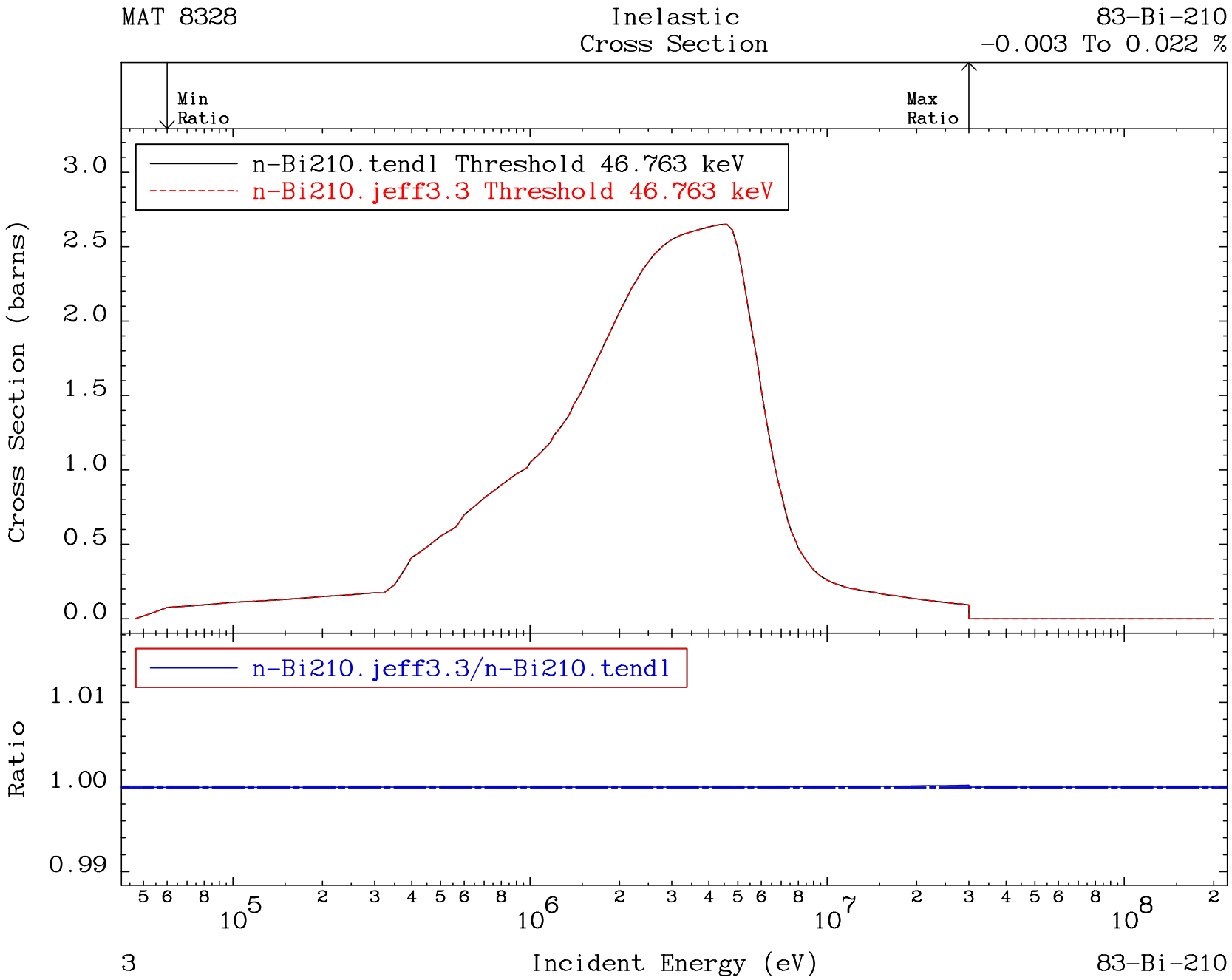
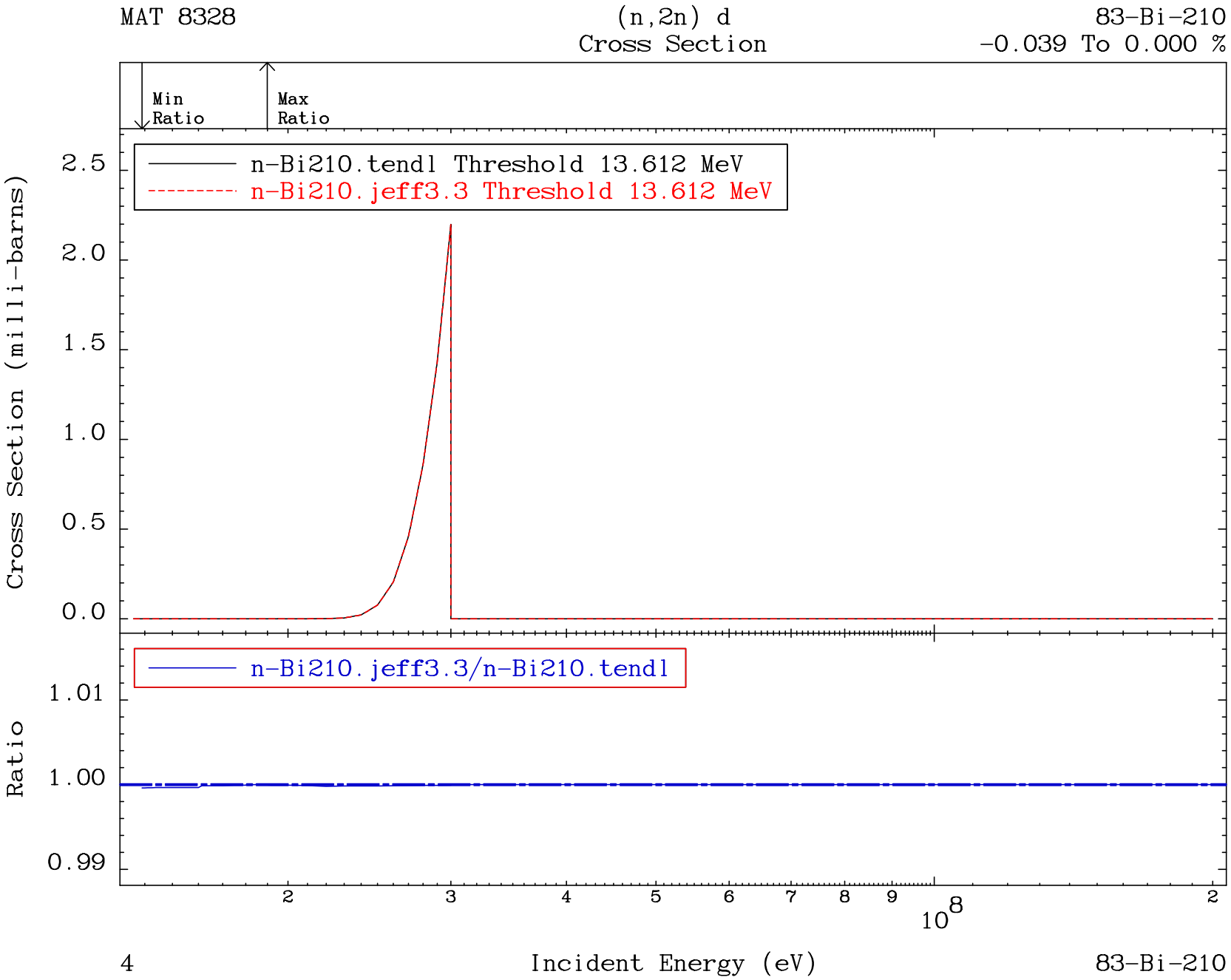
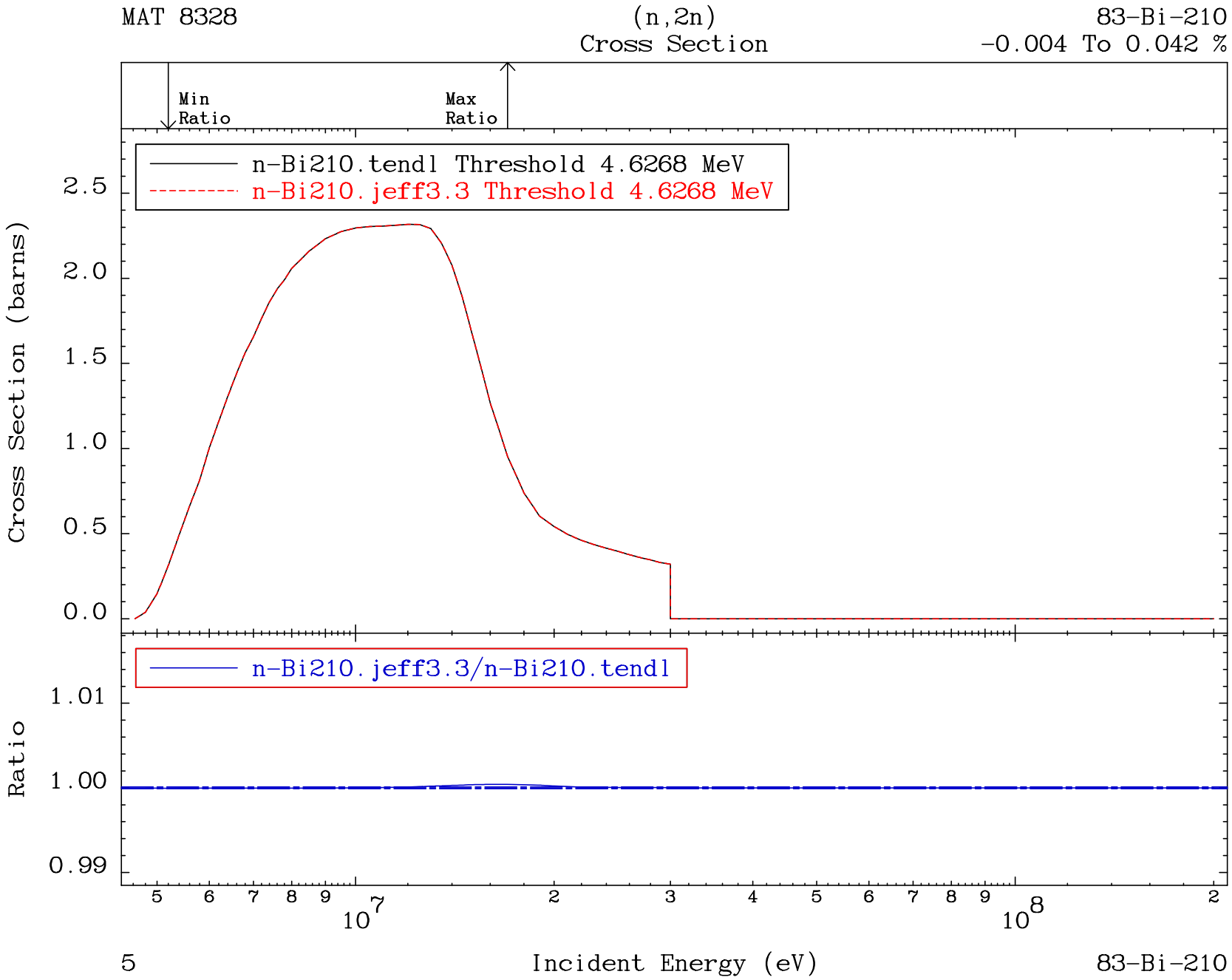
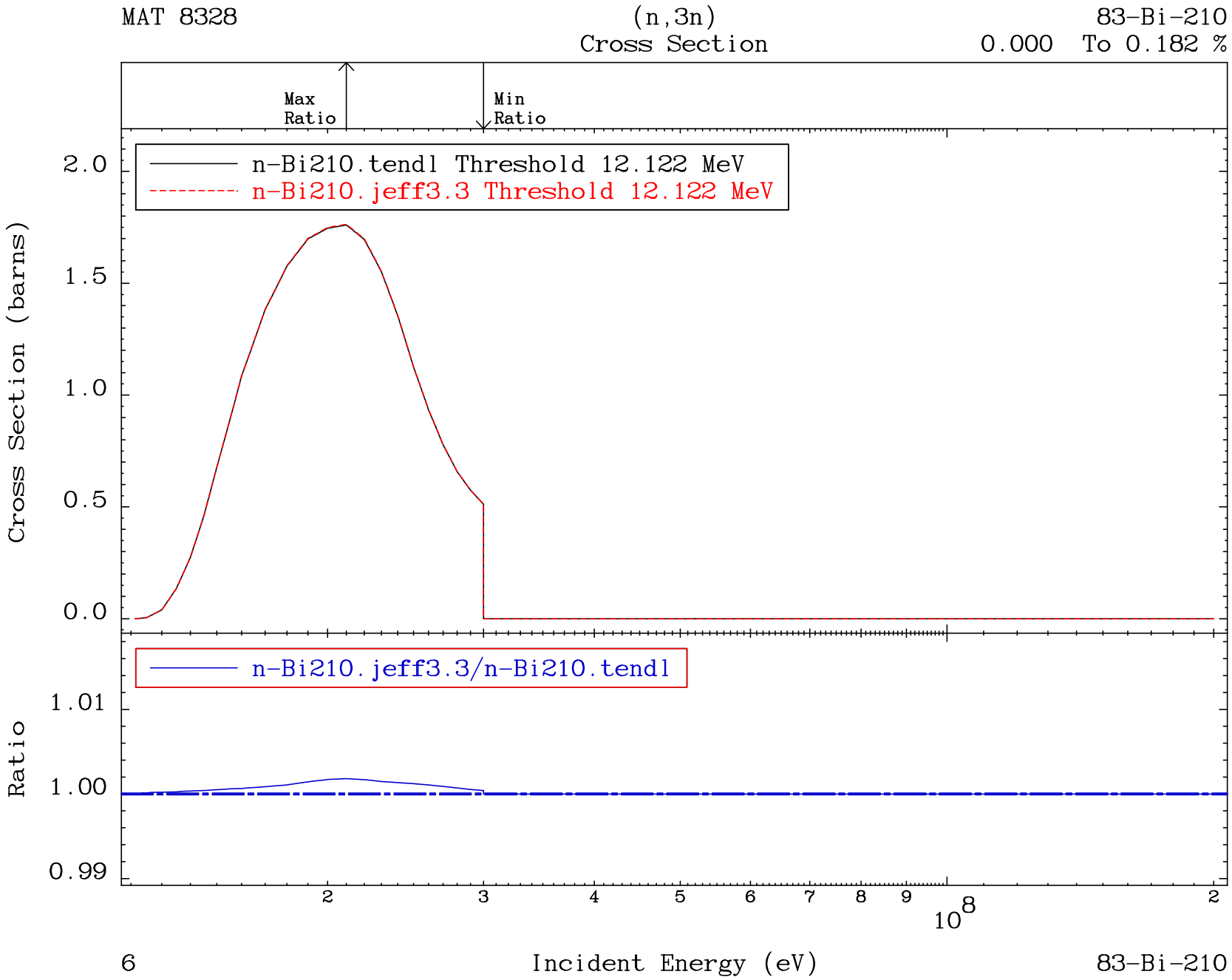

MAT 8328
Total
Cross Section
83-Bi-210
-99.62 To 9999. %
Min
Ratio
Max
Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
1
83-Bi-210

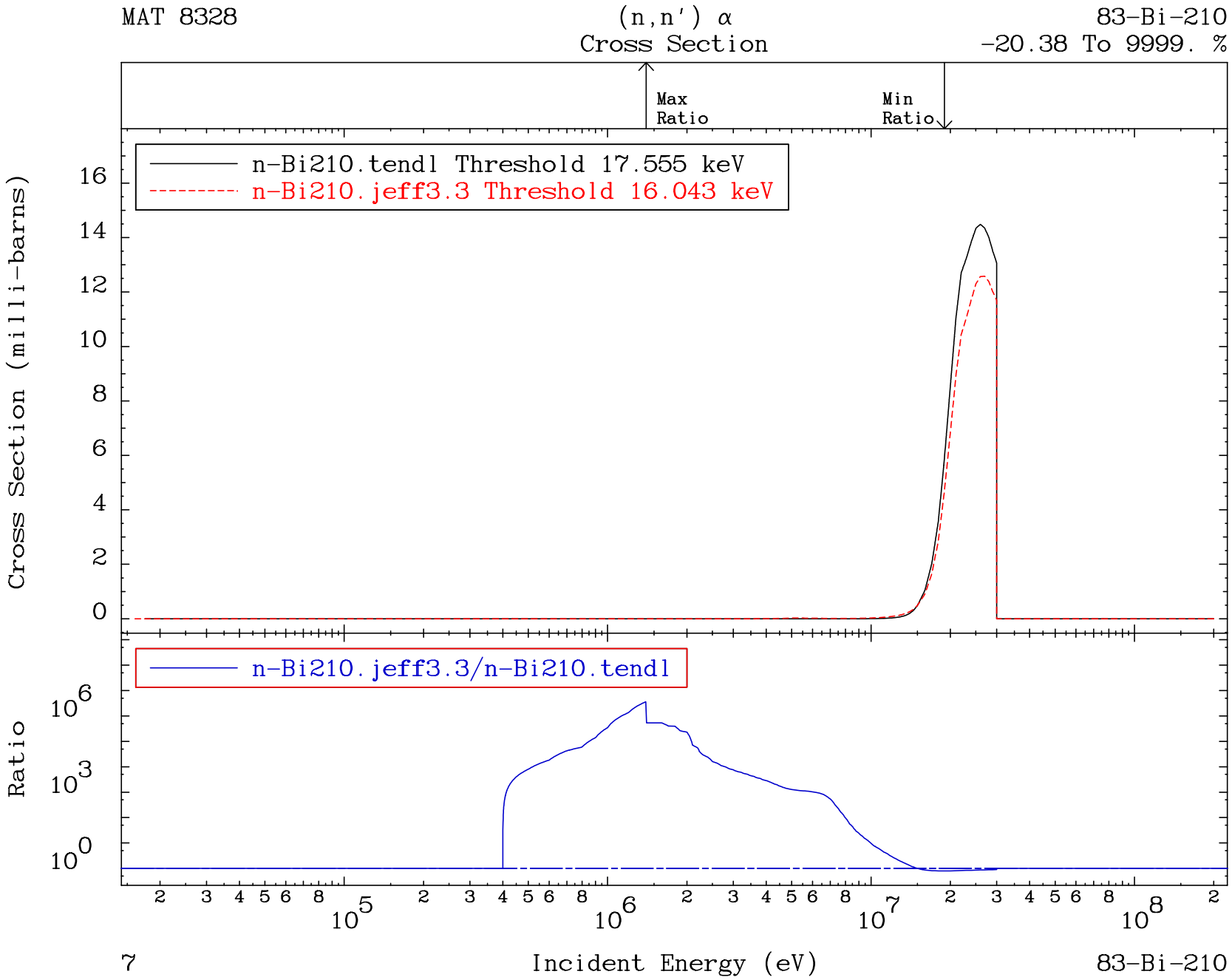

MAT 8328
Elastic
Cross Section
83-Bi-210
-99.41 To 9999. %
Min
Ratio
Max
Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
2
83-Bi-210

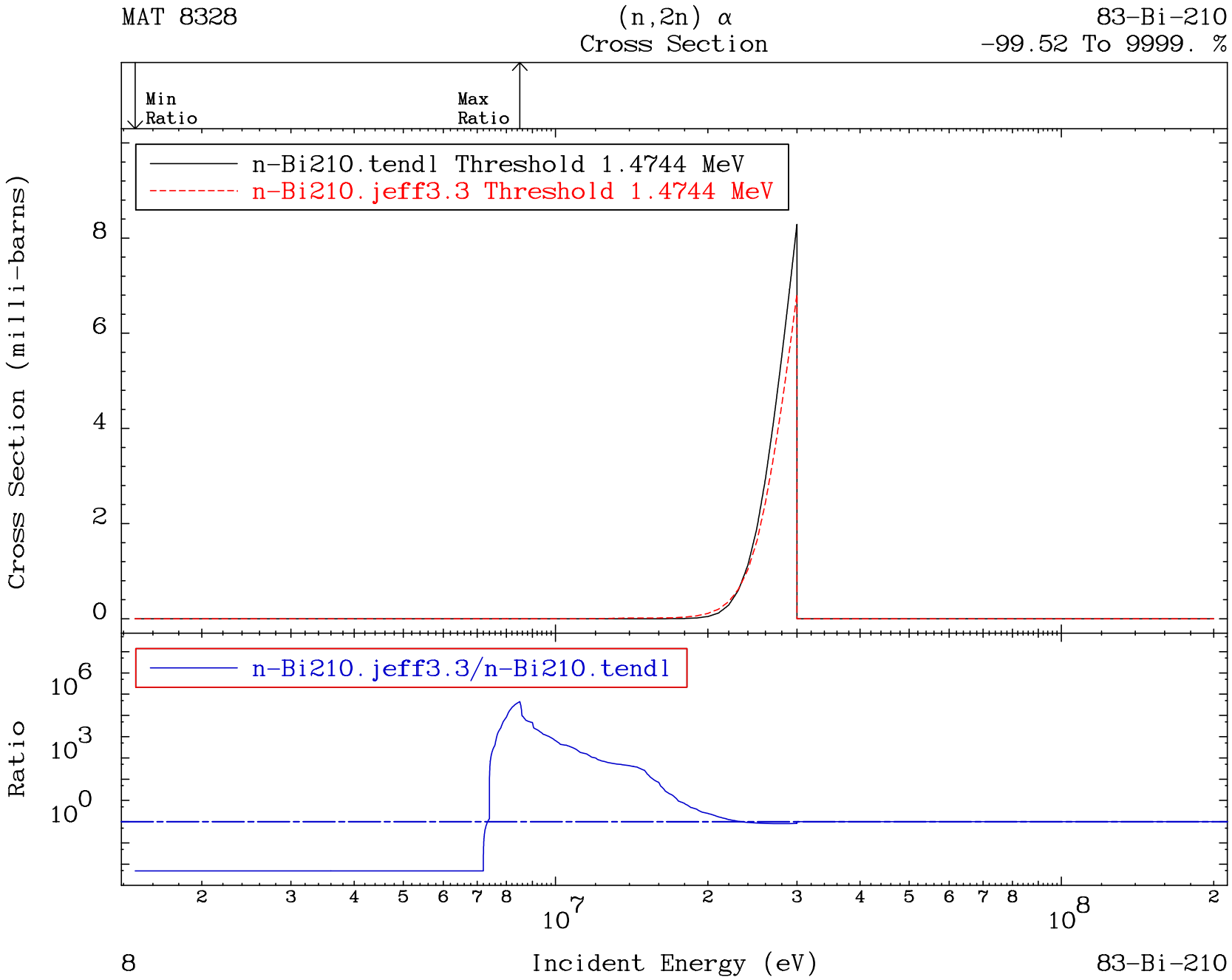

MAT 8328
Inelastic
Cross Section
83-Bi-210
-0.003 To 0.022 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 46.763 keV
n-Bi210.jeff3.3 Threshold 46.763 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
3
Incident Energy (eV)
83-Bi-210

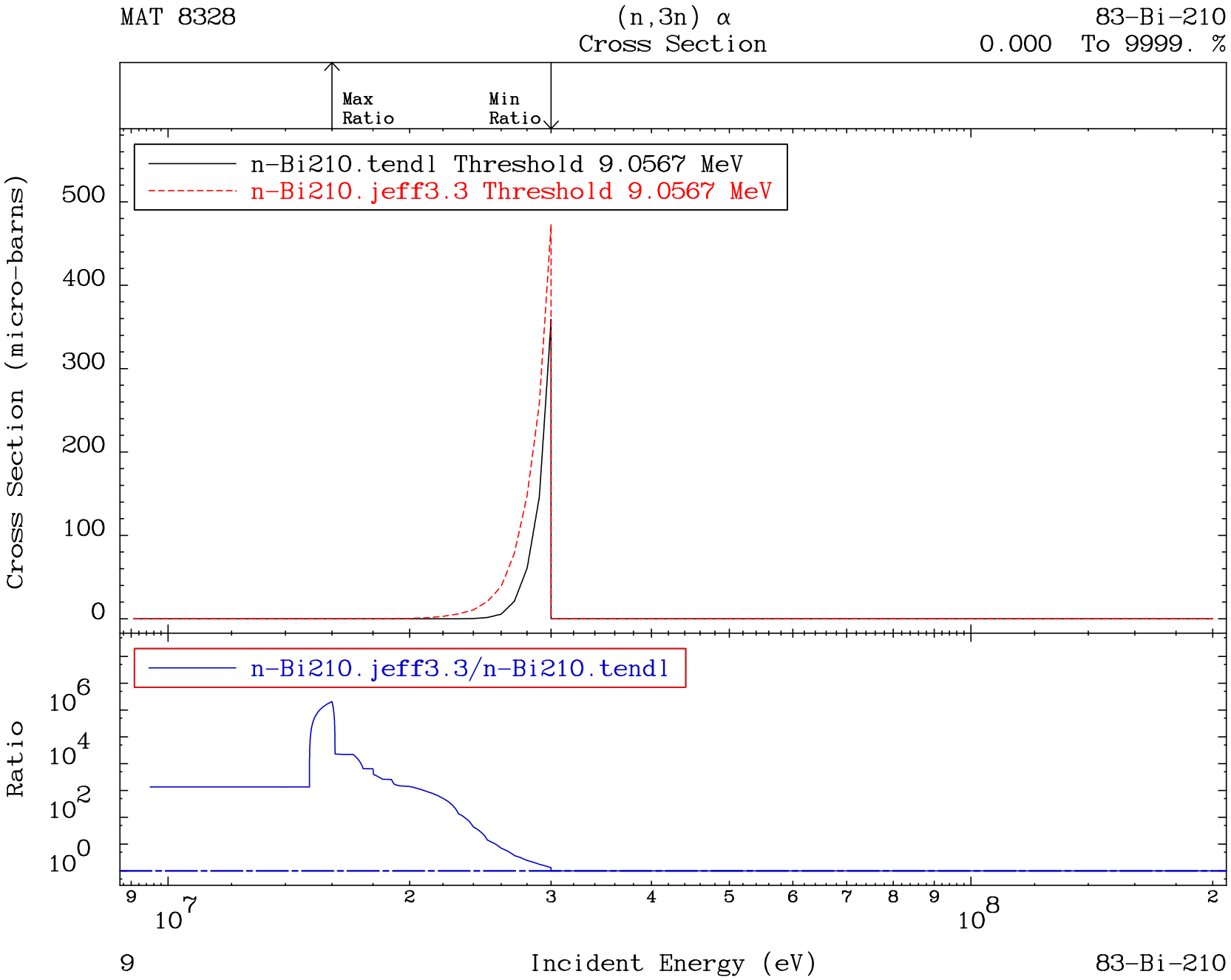

MAT 8328
(n,2n) d
Cross Section
83-Bi-210
-0.039 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 13.612 MeV
n-Bi210.jeff3.3 Threshold 13.612 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
83-Bi-210

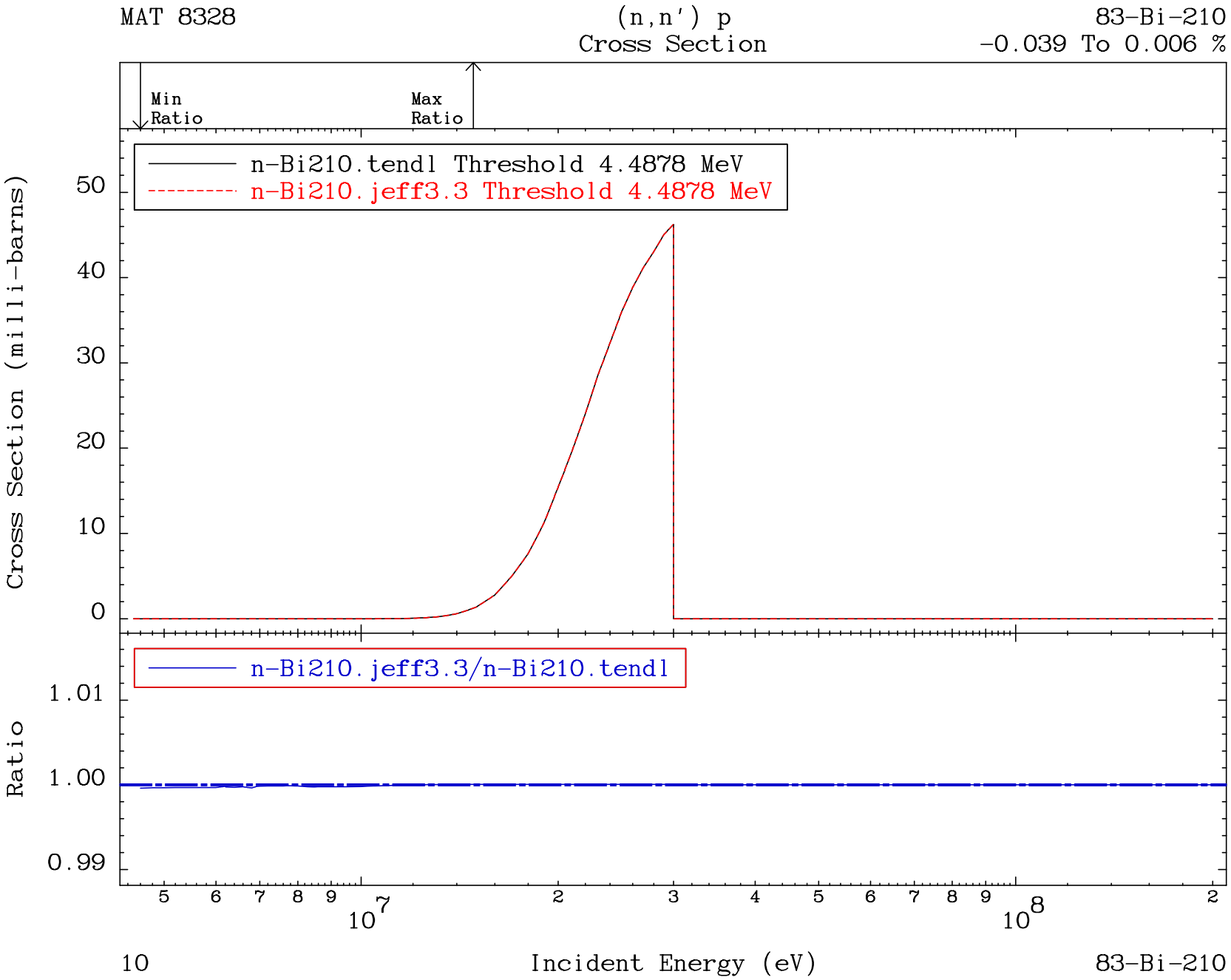

MAT 8328
(n,2n)
Cross Section
83-Bi-210
-0.004 To 0.042 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 4.6268 MeV
n-Bi210.jeff3.3 Threshold 4.6268 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
5
Incident Energy (eV)
83-Bi-210

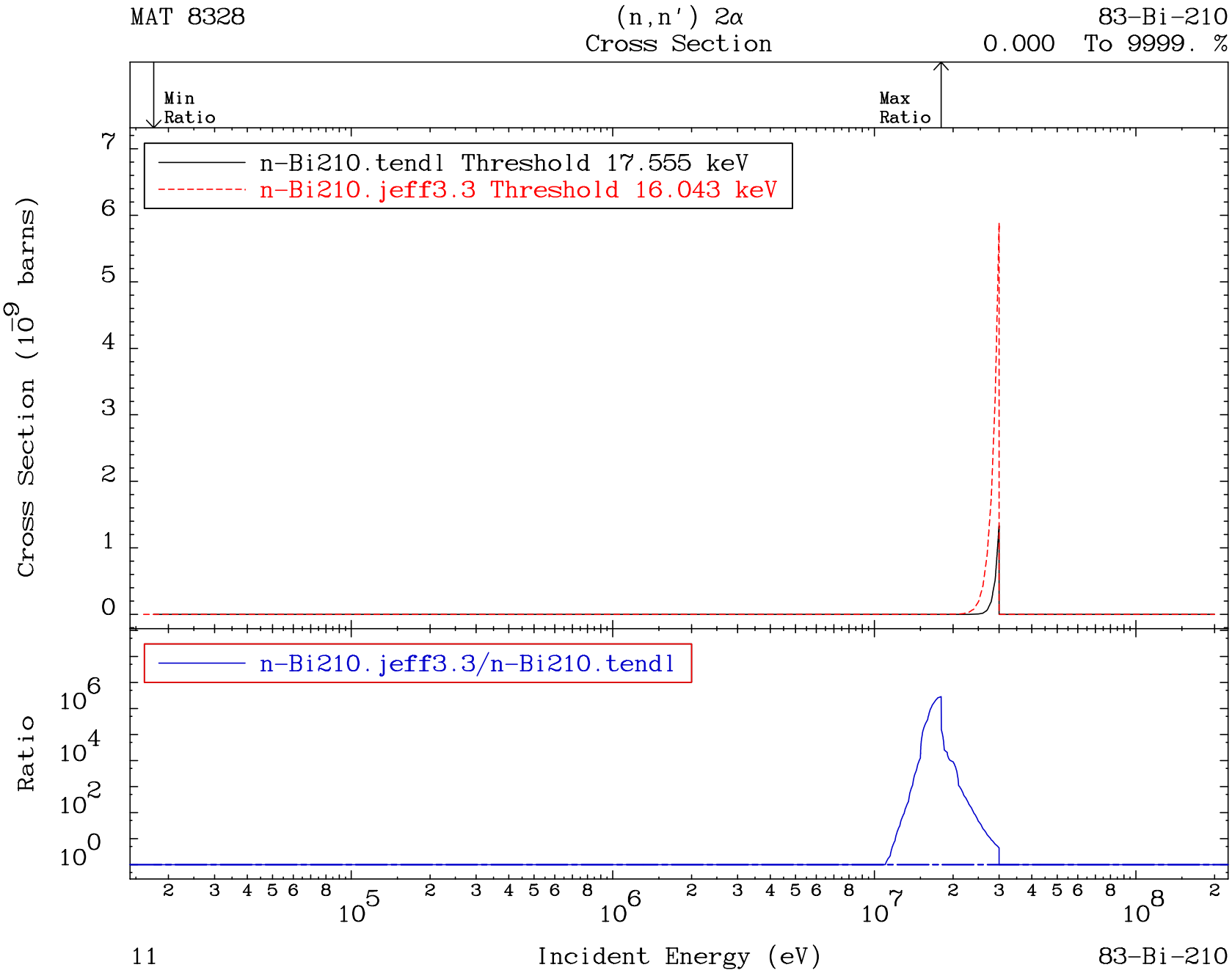

MAT 8328
(n,3n)
Cross Section
83-Bi-210
0.000 To 0.182 %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 12.122 MeV
n-Bi210.jeff3.3 Threshold 12.122 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
83-Bi-210

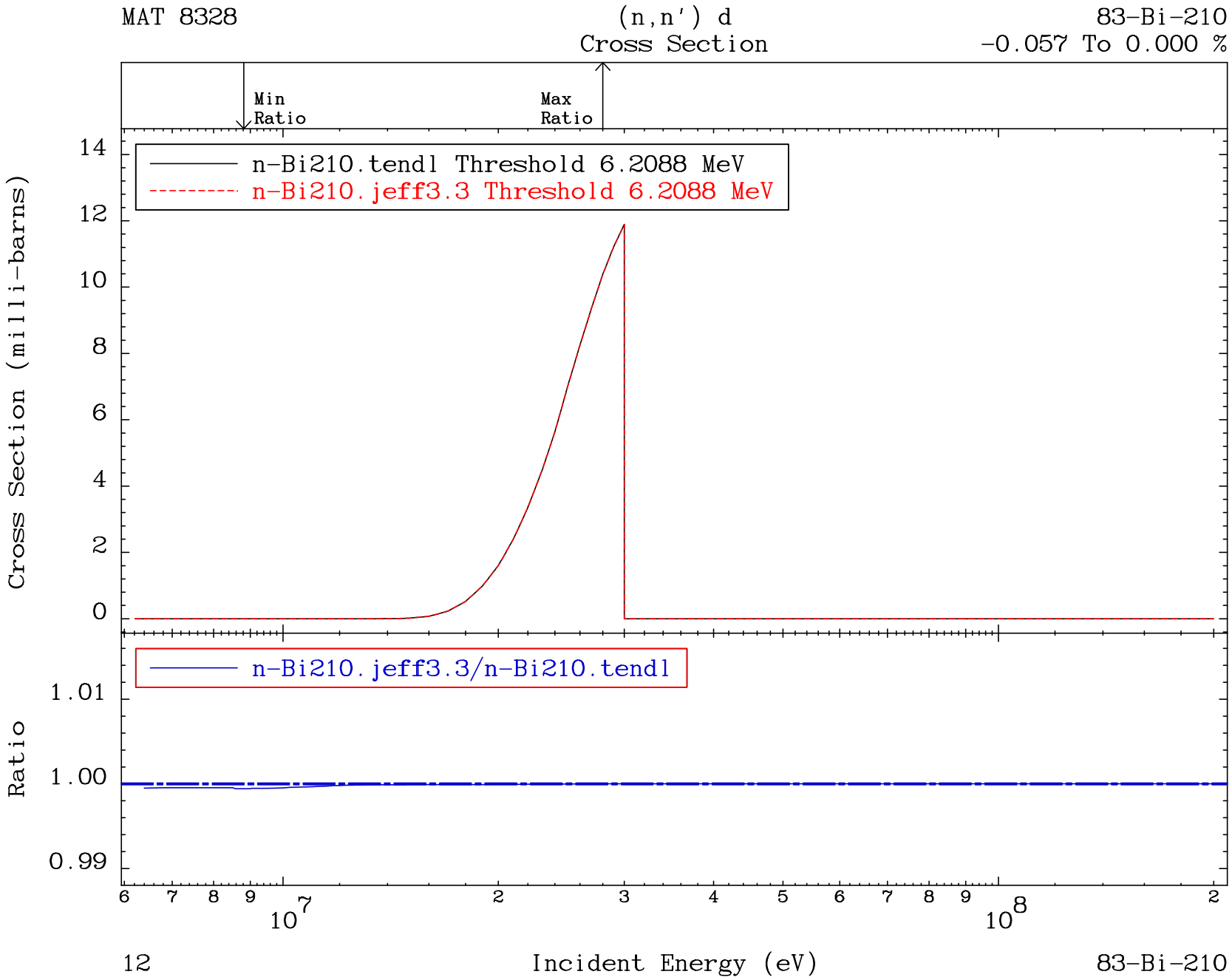

MAT 8328
(n,n') α
Cross Section
83-Bi-210
-20.38 To 9999. %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (milli-barns)
0
2
4
6
8
10
12
14
16
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^0
10^3
10^6
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
7
Incident Energy (eV)
83-Bi-210

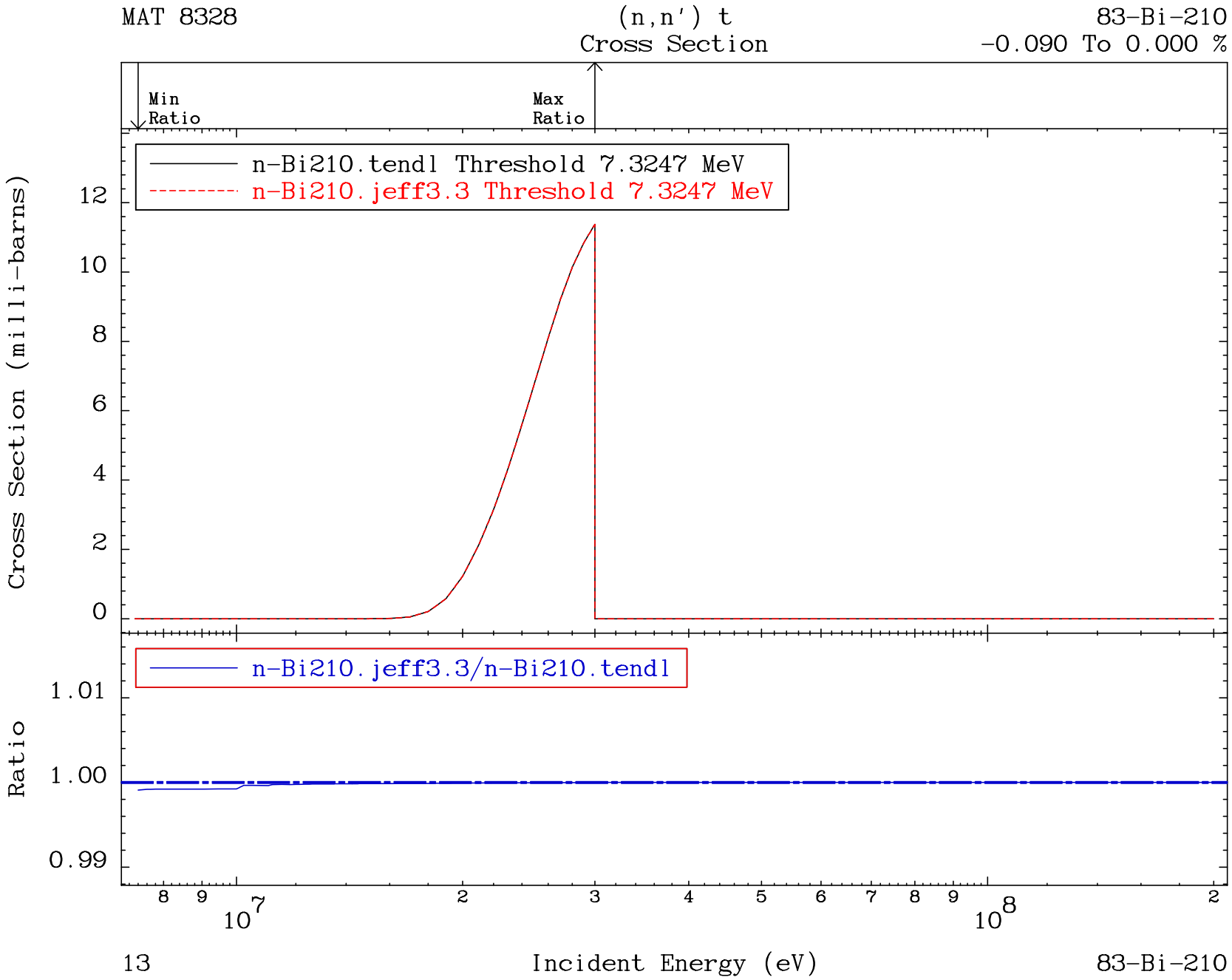

MAT 8328
(n,2n) α
Cross Section
83-Bi-210
-99.52 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 1.4744 MeV
n-Bi210.jeff3.3 Threshold 1.4744 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^0
10^3
10^6
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
8
83-Bi-210

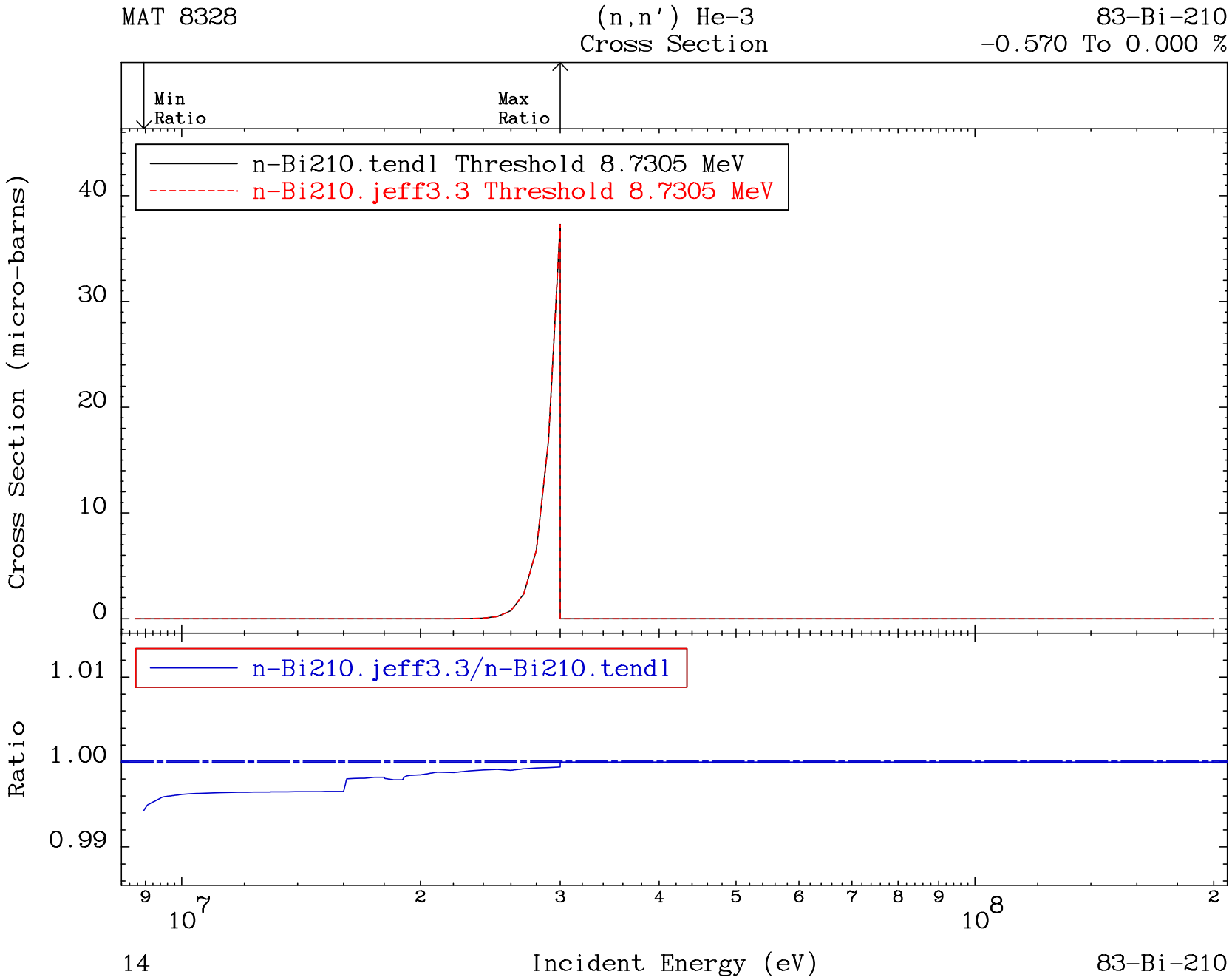

MAT 8328
(n,3n) α
Cross Section
83-Bi-210
0.000 To 9999. %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 9.0567 MeV
n-Bi210.jeff3.3 Threshold 9.0567 MeV
Cross Section (micro-barns)
500
400
300
200
100
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^6
10^4
10^2
10^0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
83-Bi-210

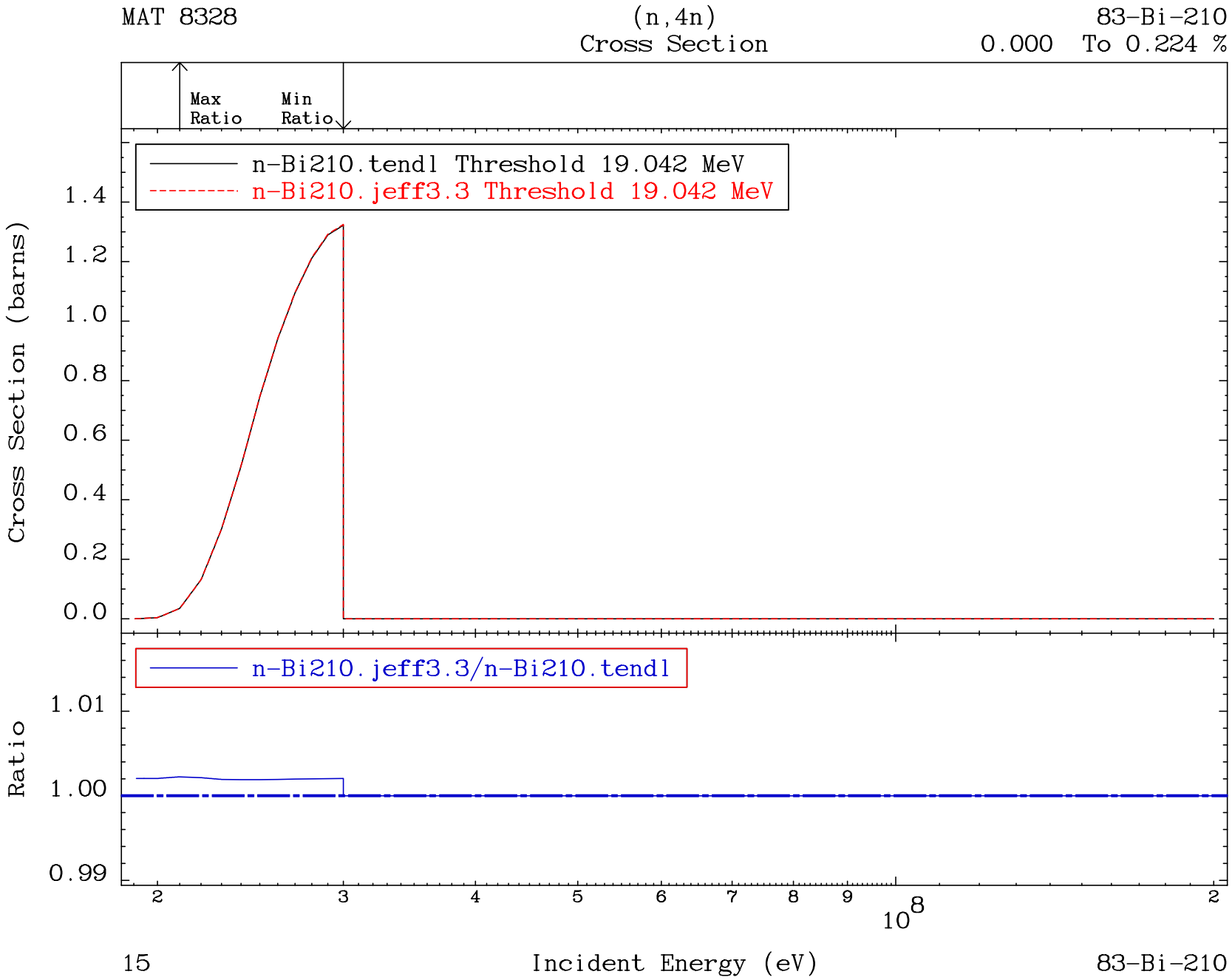

MAT 8328
(n,n') p
Cross Section
83-Bi-210
-0.039 To 0.006 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 4.4878 MeV
n-Bi210.jeff3.3 Threshold 4.4878 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
83-Bi-210

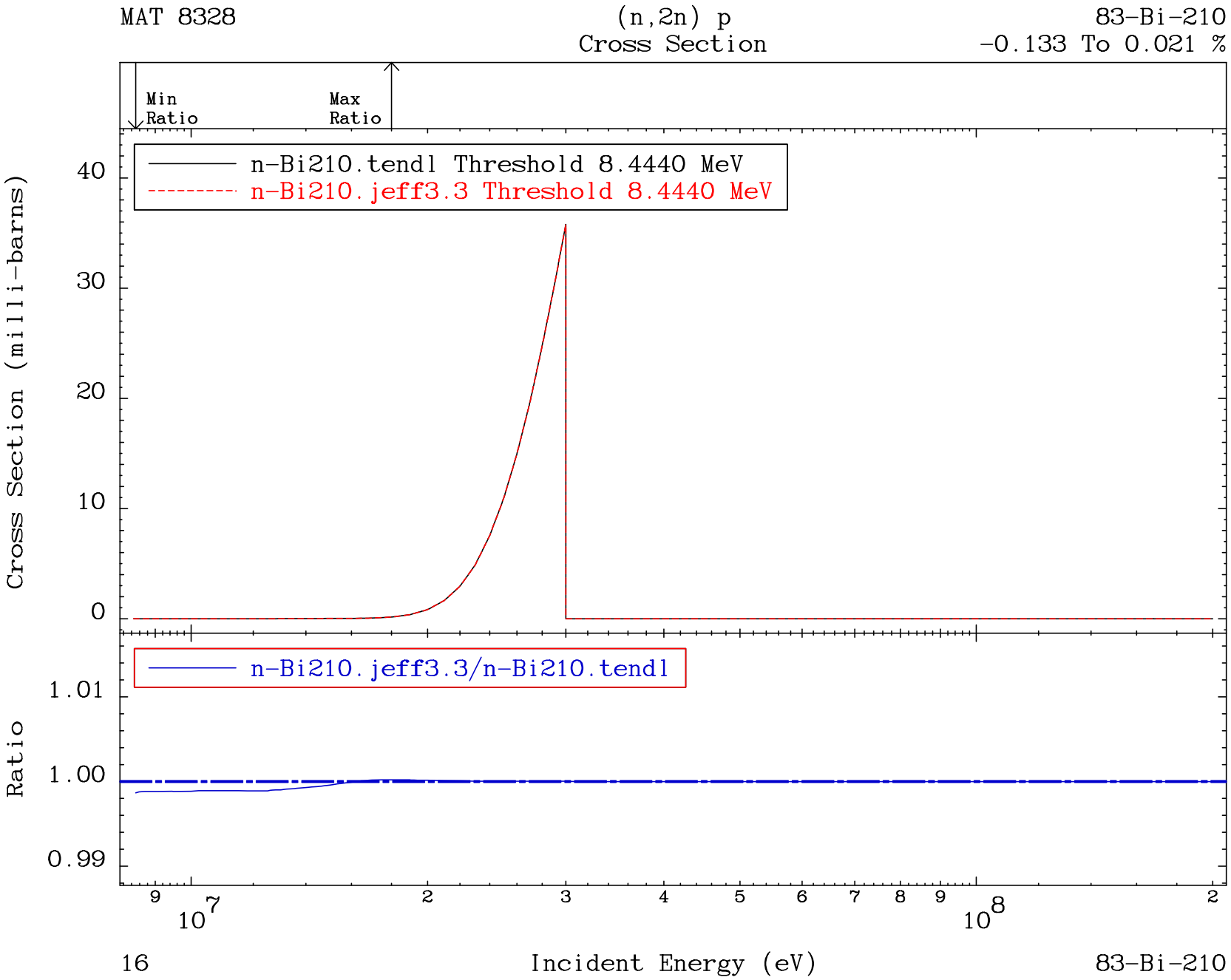

MAT 8328
(n,n') 2α
Cross Section
83-Bi-210
0.000 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (10^{-9} barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
11
83-Bi-210

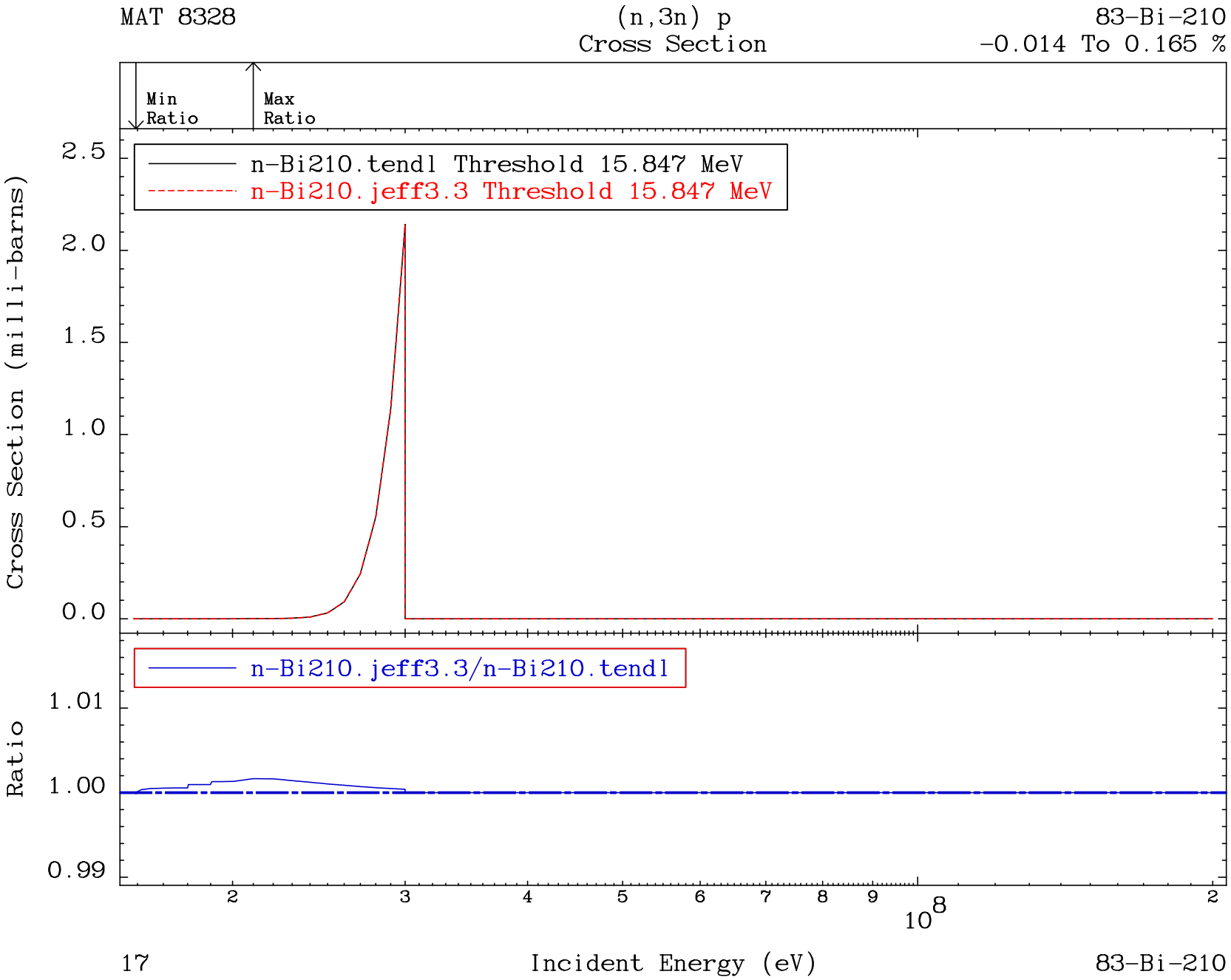

MAT 8328
(n,n') d
Cross Section
83-Bi-210
-0.057 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 6.2088 MeV
n-Bi210.jeff3.3 Threshold 6.2088 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
83-Bi-210

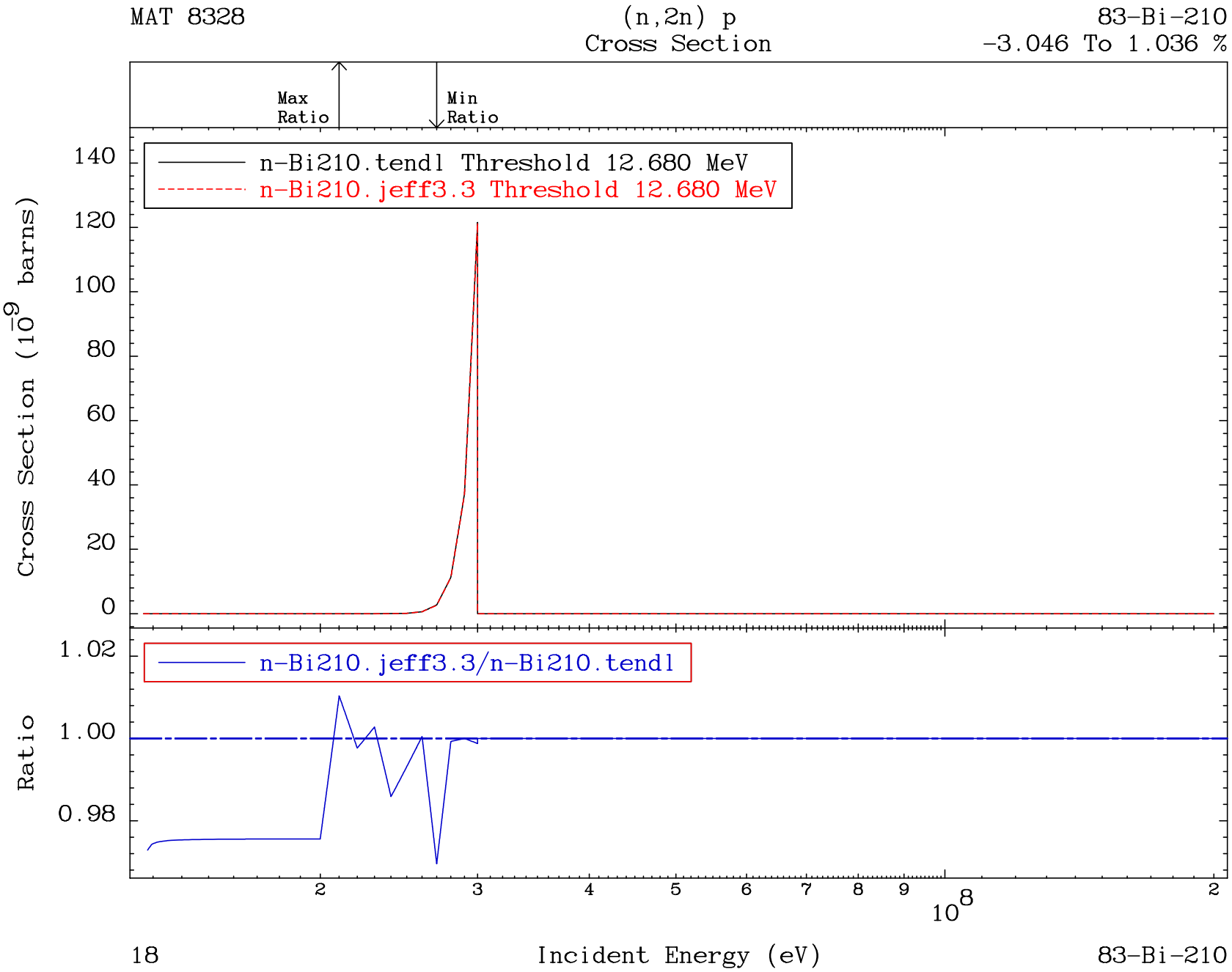

MAT 8328
(n,n') t
Cross Section
83-Bi-210
-0.090 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 7.3247 MeV
n-Bi210.jeff3.3 Threshold 7.3247 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
83-Bi-210

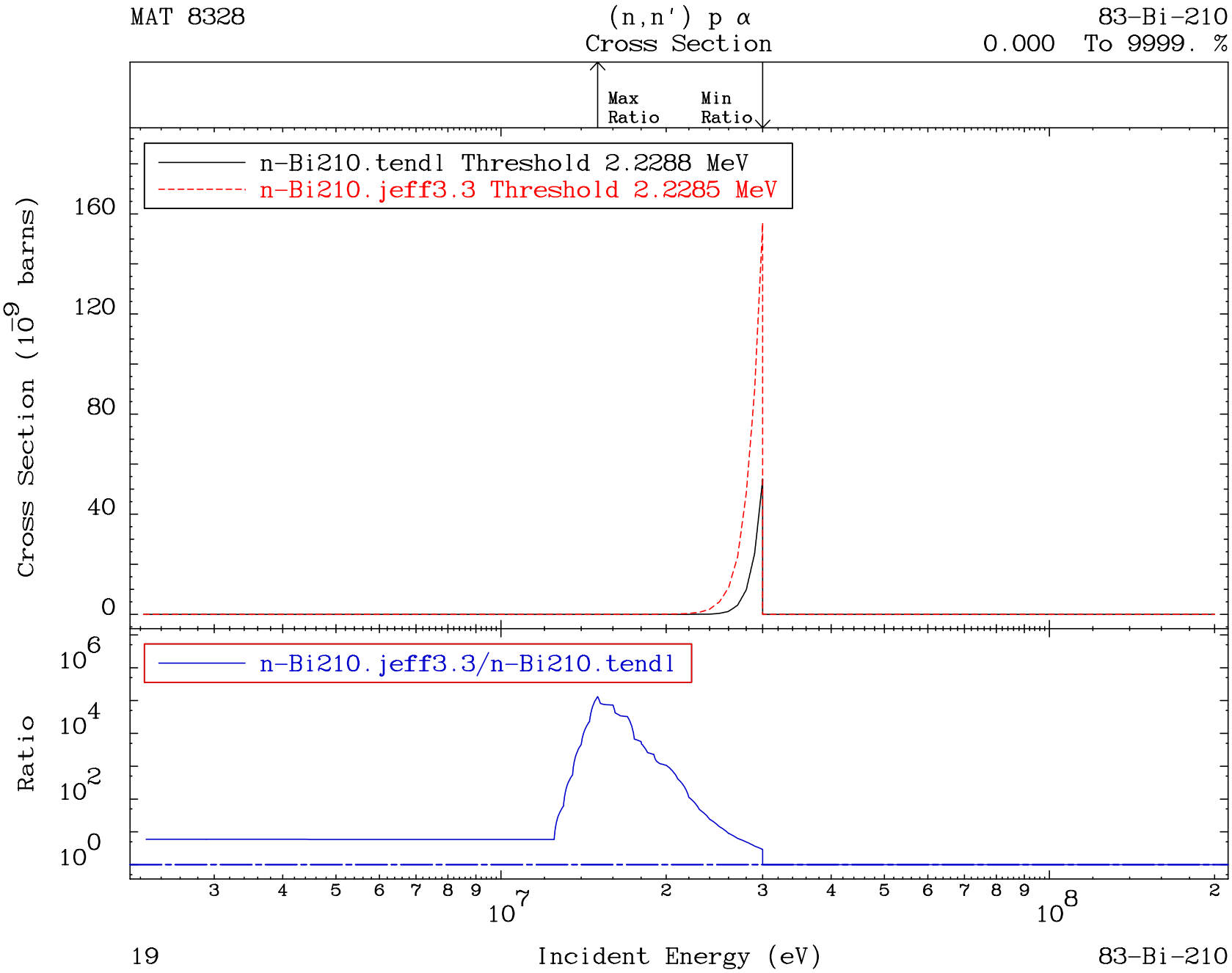

MAT 8328
(n,n') He-3
Cross Section
83-Bi-210
-0.570 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 8.7305 MeV
n-Bi210.jeff3.3 Threshold 8.7305 MeV
Cross Section (micro-barns)
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
83-Bi-210

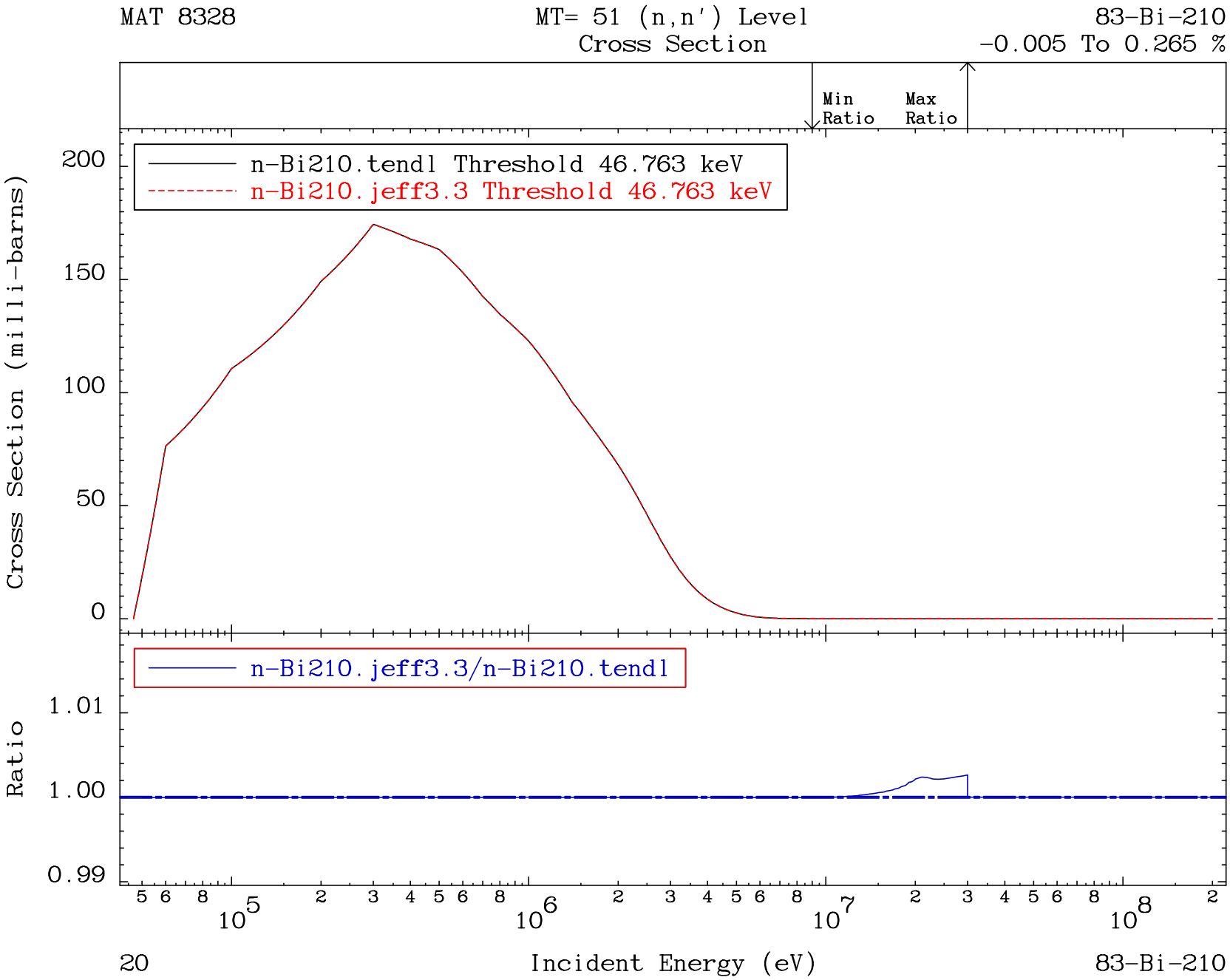

MAT 8328
(n,4n)
Cross Section
83-Bi-210
0.000 To 0.224 %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 19.042 MeV
n-Bi210.jeff3.3 Threshold 19.042 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
15
Incident Energy (eV)
83-Bi-210

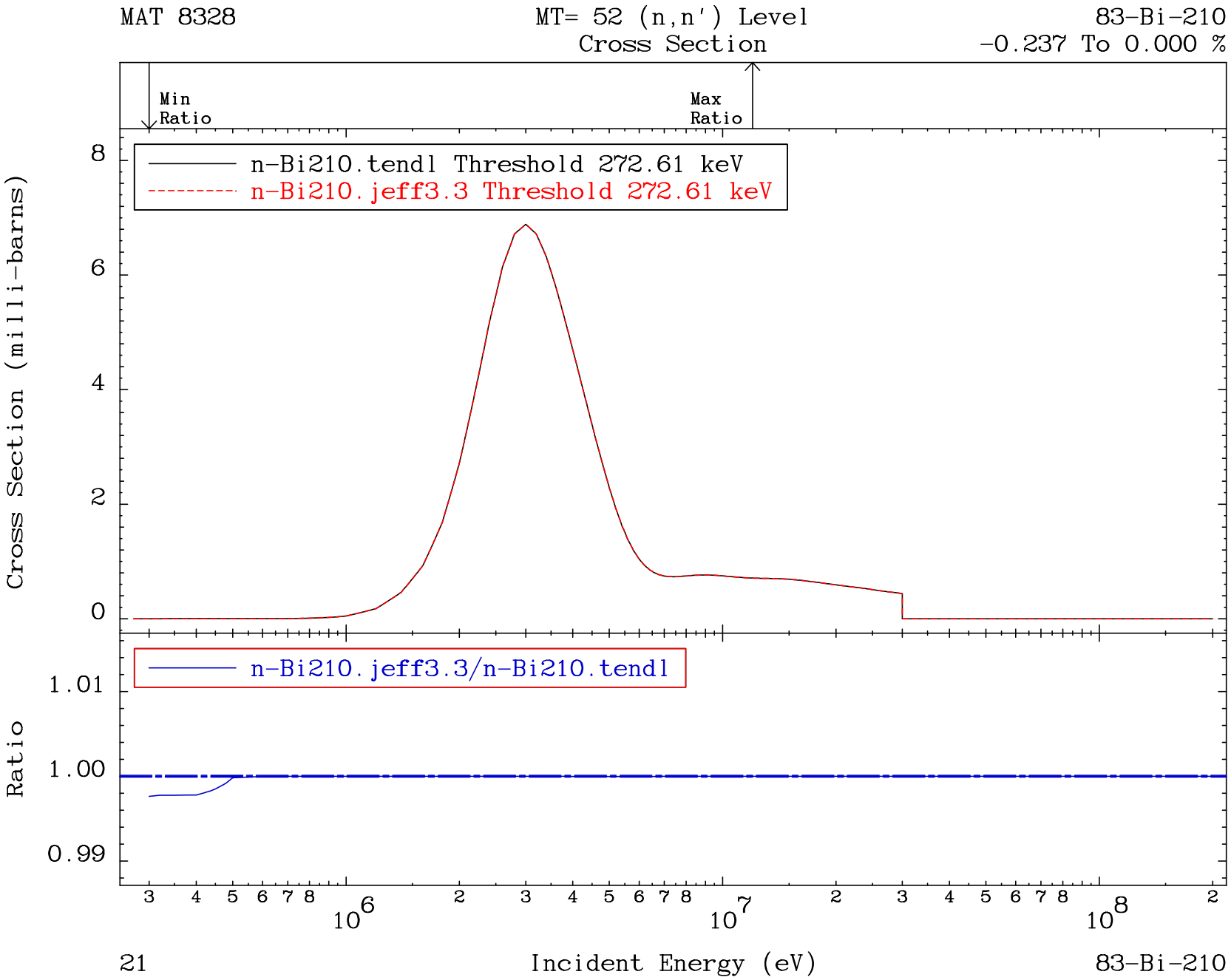

MAT 8328
(n,2n) p
Cross Section
83-Bi-210
-0.133 To 0.021 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 8.4440 MeV
n-Bi210.jeff3.3 Threshold 8.4440 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
83-Bi-210

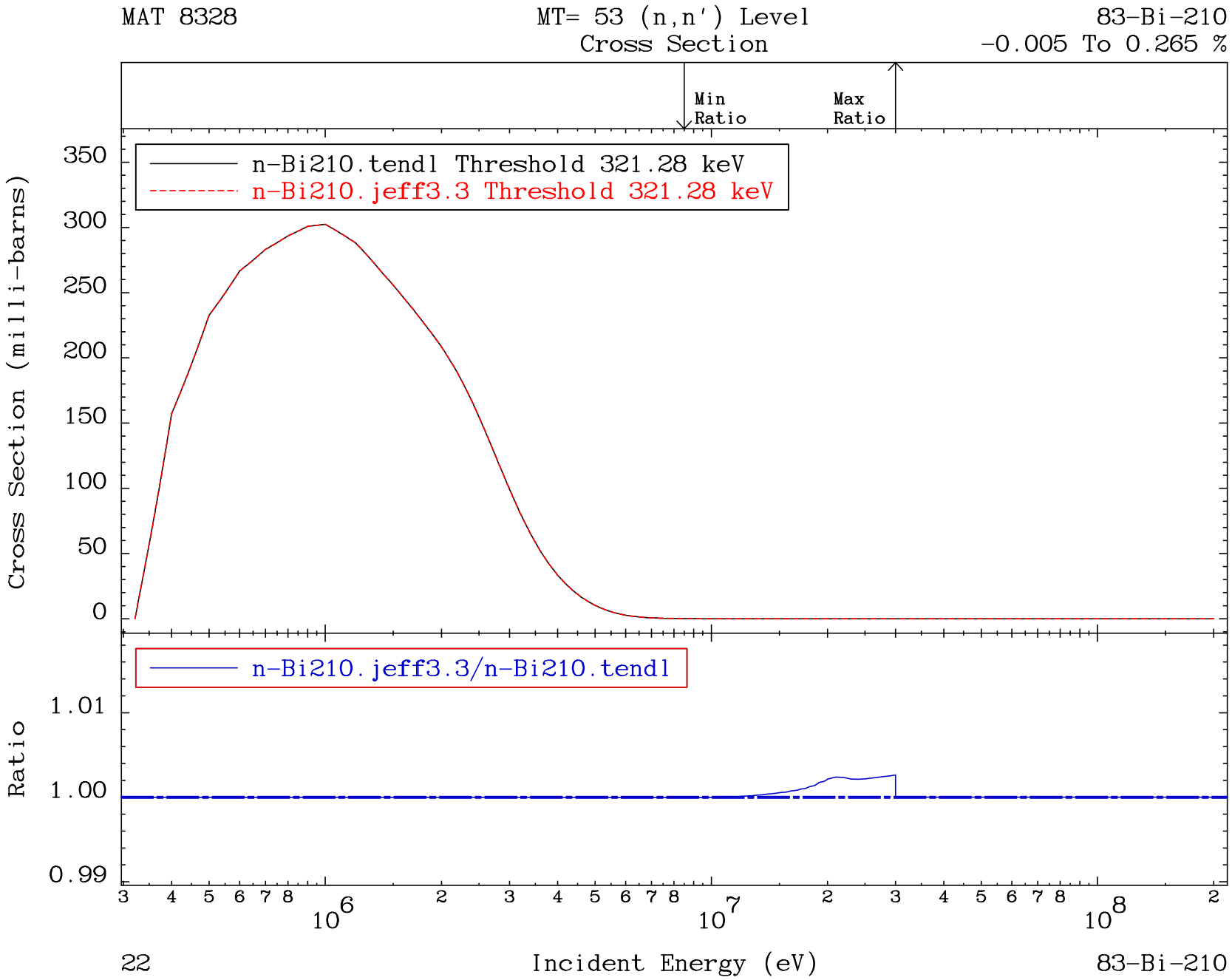

MAT 8328
(n,3n) p
Cross Section
83-Bi-210
-0.014 To 0.165 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 15.847 MeV
n-Bi210.jeff3.3 Threshold 15.847 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
83-Bi-210

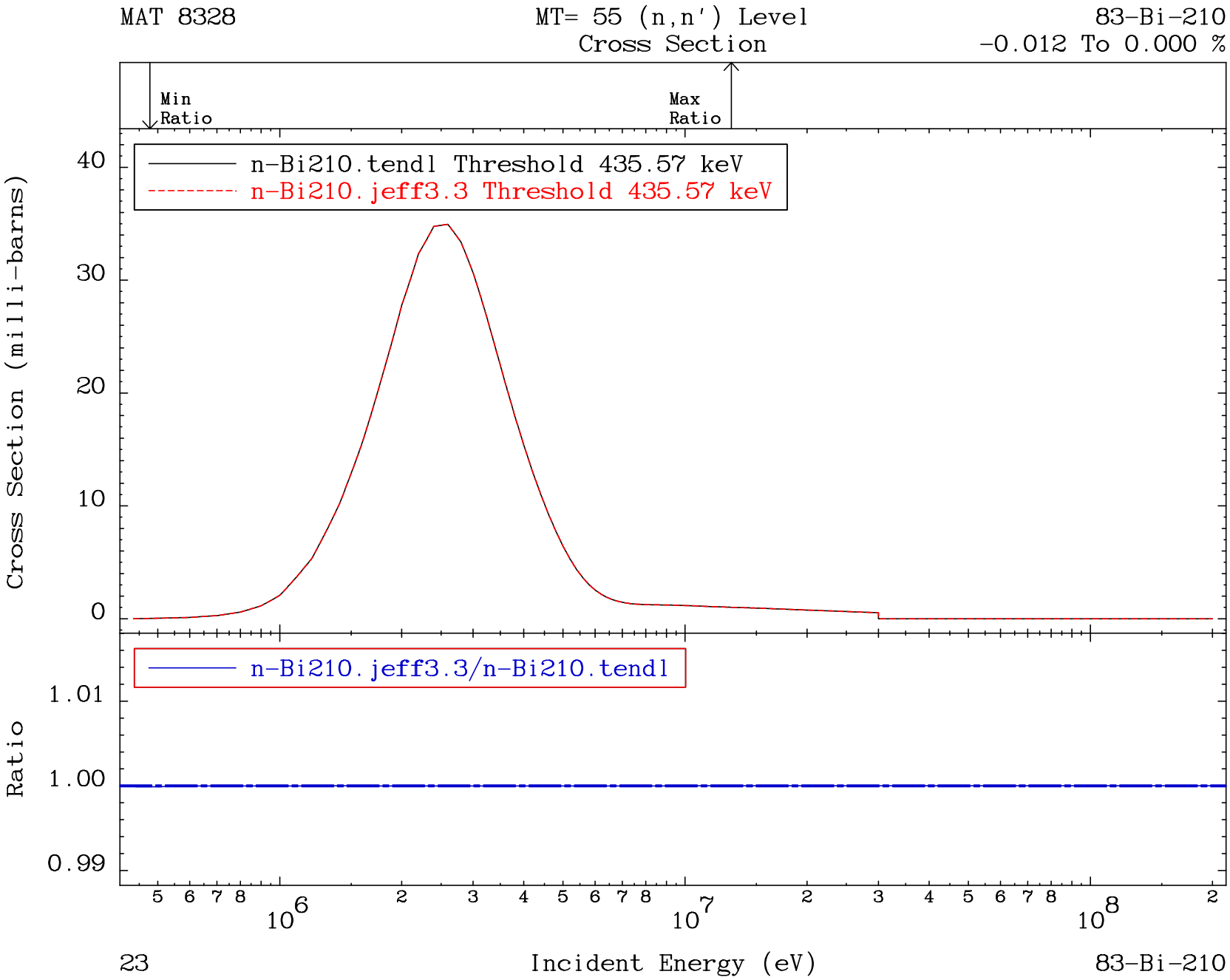

MAT 8328
(n,2n) p
Cross Section
83-Bi-210
-3.046 To 1.036 %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 12.680 MeV
n-Bi210.jeff3.3 Threshold 12.680 MeV
Cross Section (10^{-9} barns)
140
120
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.02
1.00
0.98
2
3
4
5
6
7
8
9
10^8
2
18
Incident Energy (eV)
83-Bi-210

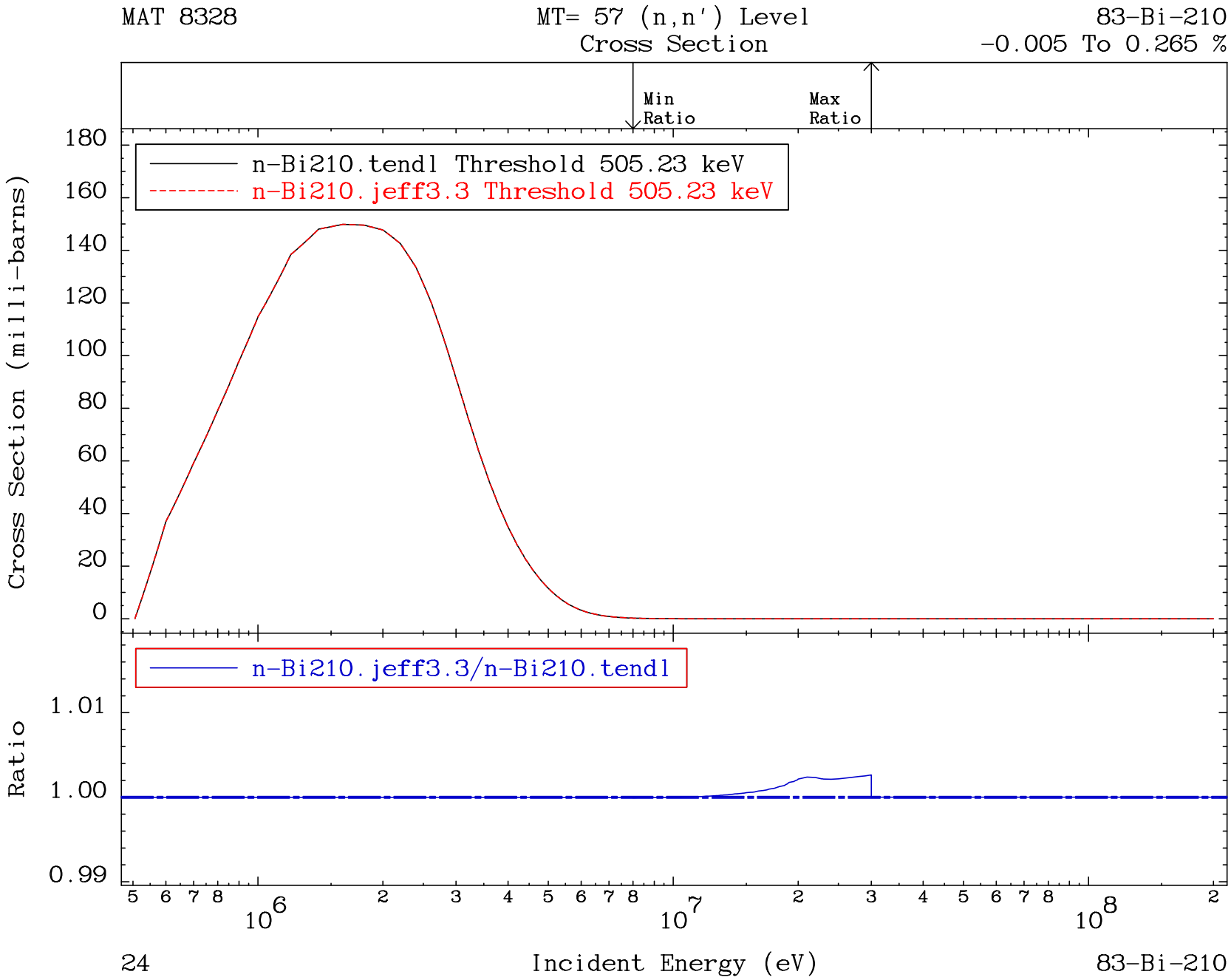

MAT 8328
(n,n') p α
Cross Section
83-Bi-210
0.000 To 9999. %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 2.2288 MeV
n-Bi210.jeff3.3 Threshold 2.2285 MeV
Cross Section (10^-9 barns)
160
120
80
40
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^6
10^4
10^2
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
19
Incident Energy (eV)
83-Bi-210

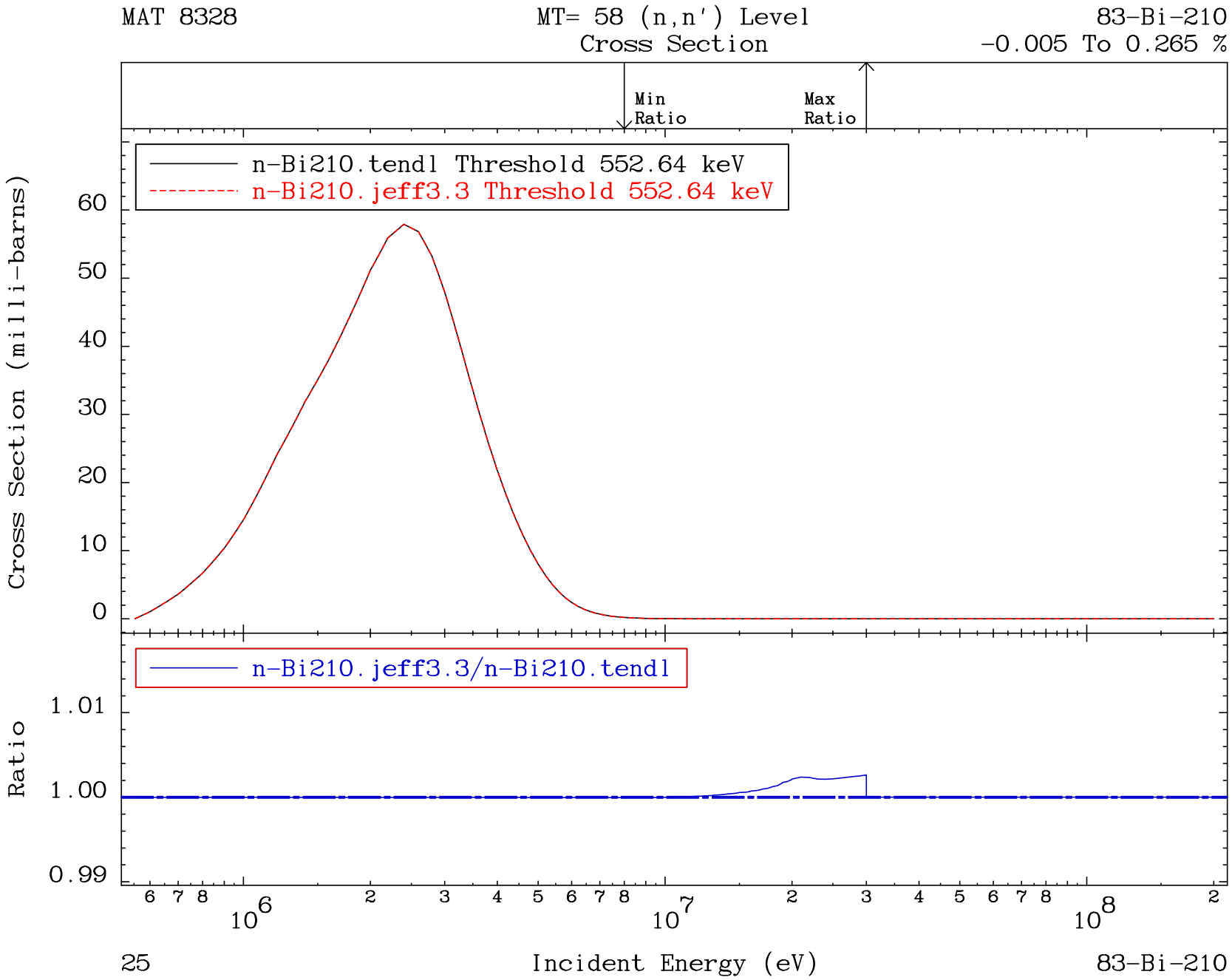

MAT 8328
MT= 51 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 46.763 keV
n-Bi210.jeff3.3 Threshold 46.763 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
20
Incident Energy (eV)
83-Bi-210

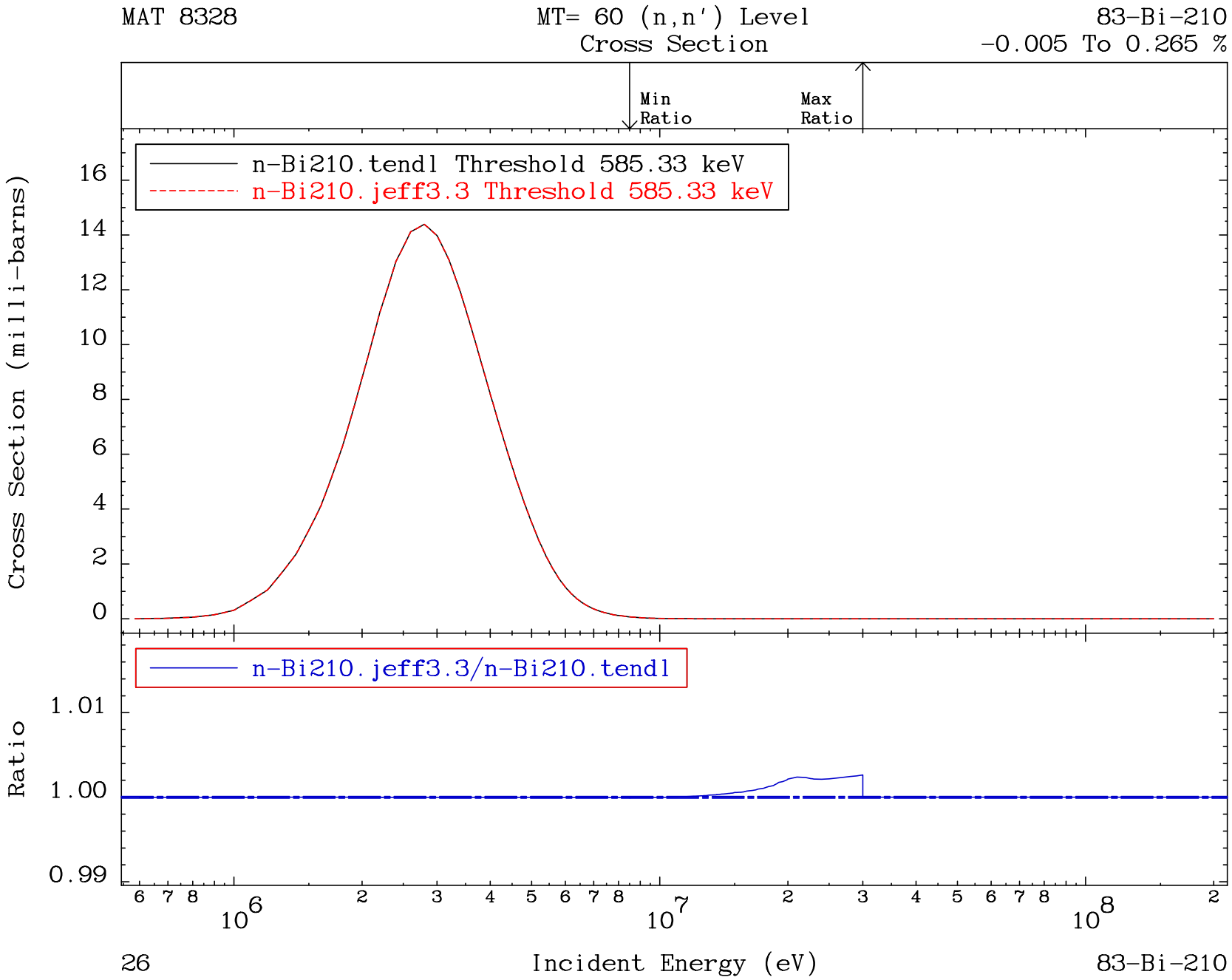

MAT 8328
MT= 52 (n,n') Level
Cross Section
83-Bi-210
-0.237 To 0.000 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 272.61 keV
n-Bi210.jeff3.3 Threshold 272.61 keV
Cross Section (milli-barns)
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
83-Bi-210

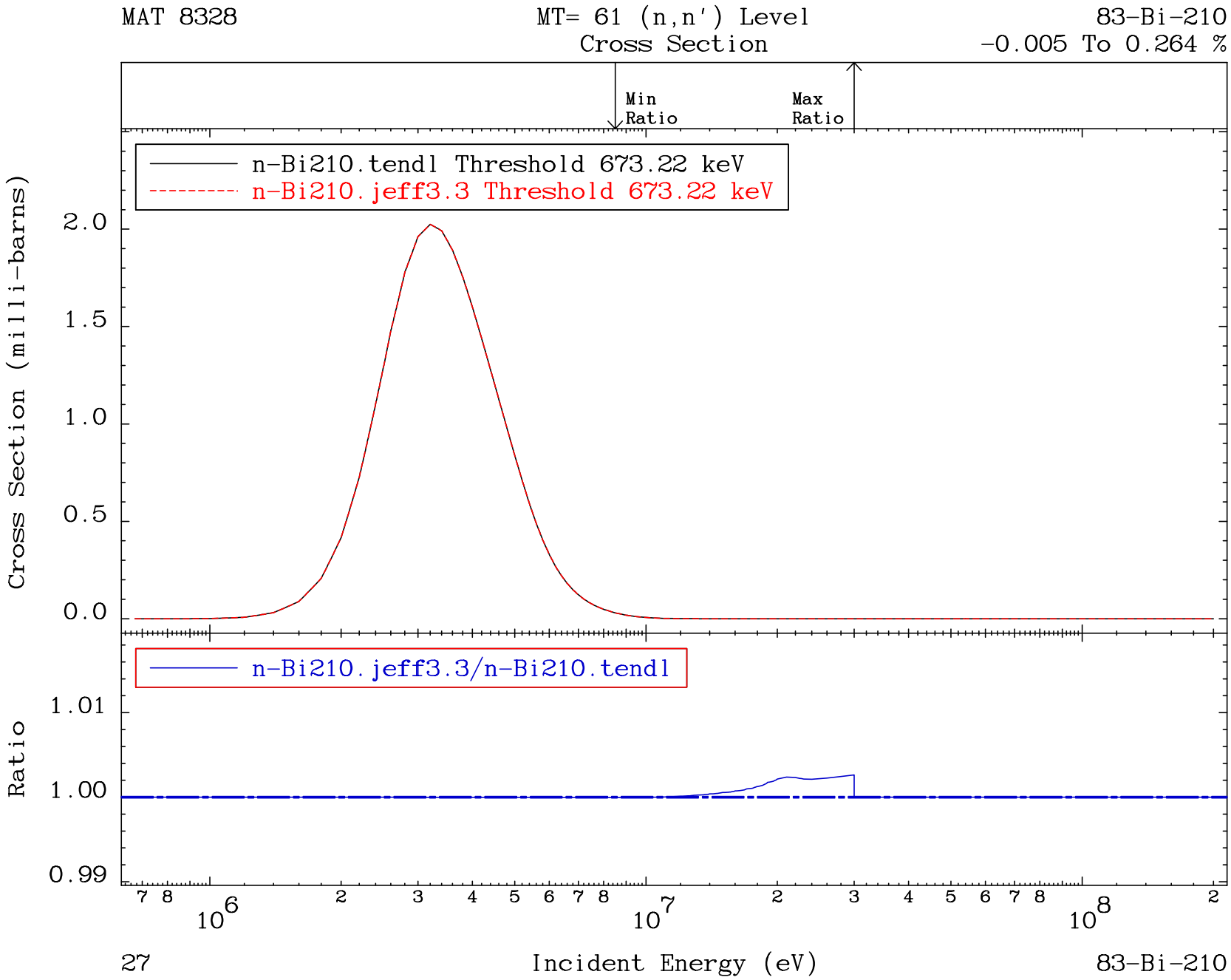

MAT 8328
MT= 53 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 321.28 keV
n-Bi210.jeff3.3 Threshold 321.28 keV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
22
Incident Energy (eV)
83-Bi-210

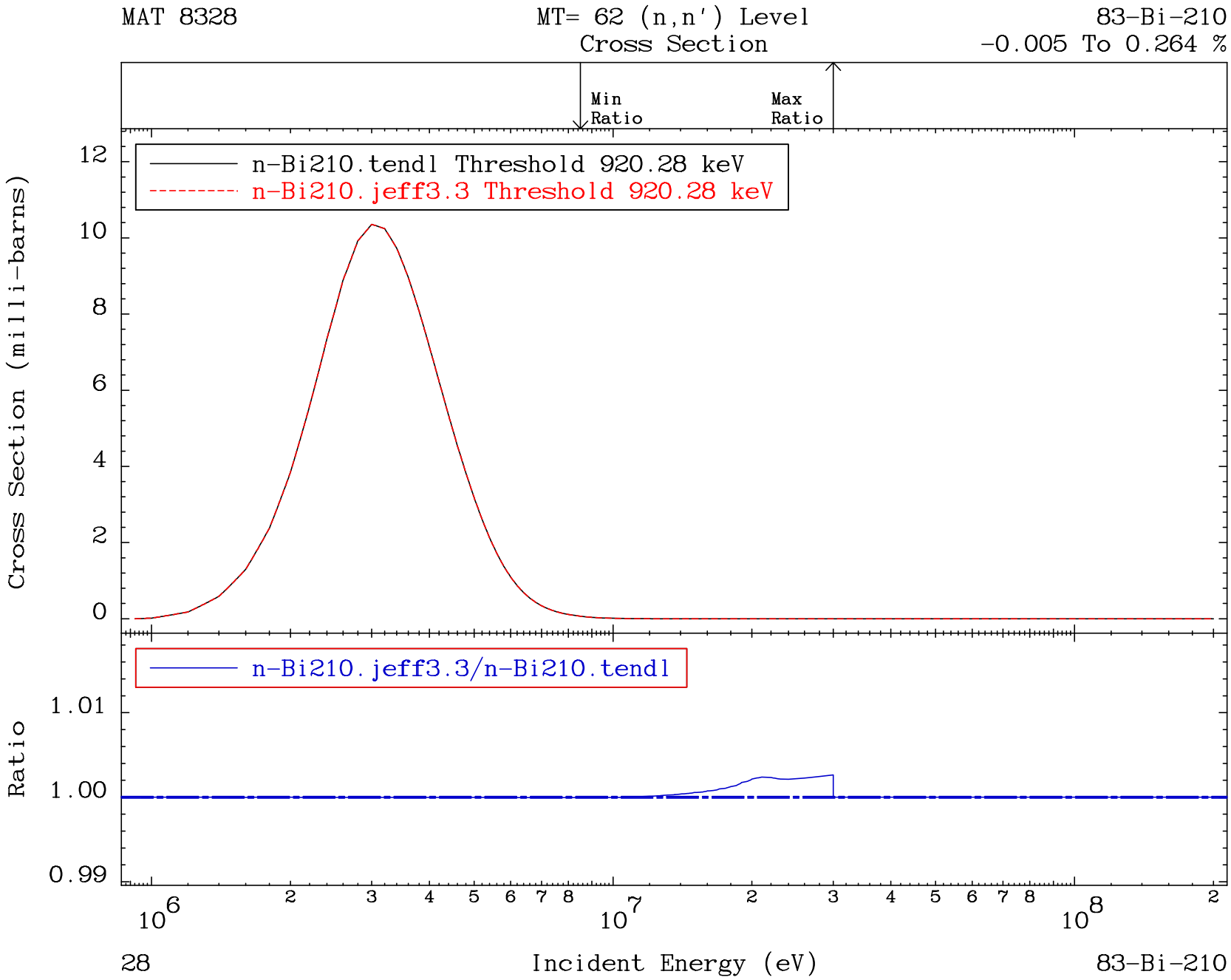

MAT 8328
MT= 55 (n,n') Level
Cross Section
83-Bi-210
-0.012 To 0.000 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 435.57 keV
n-Bi210.jeff3.3 Threshold 435.57 keV
Cross Section (milli-barns)
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
83-Bi-210

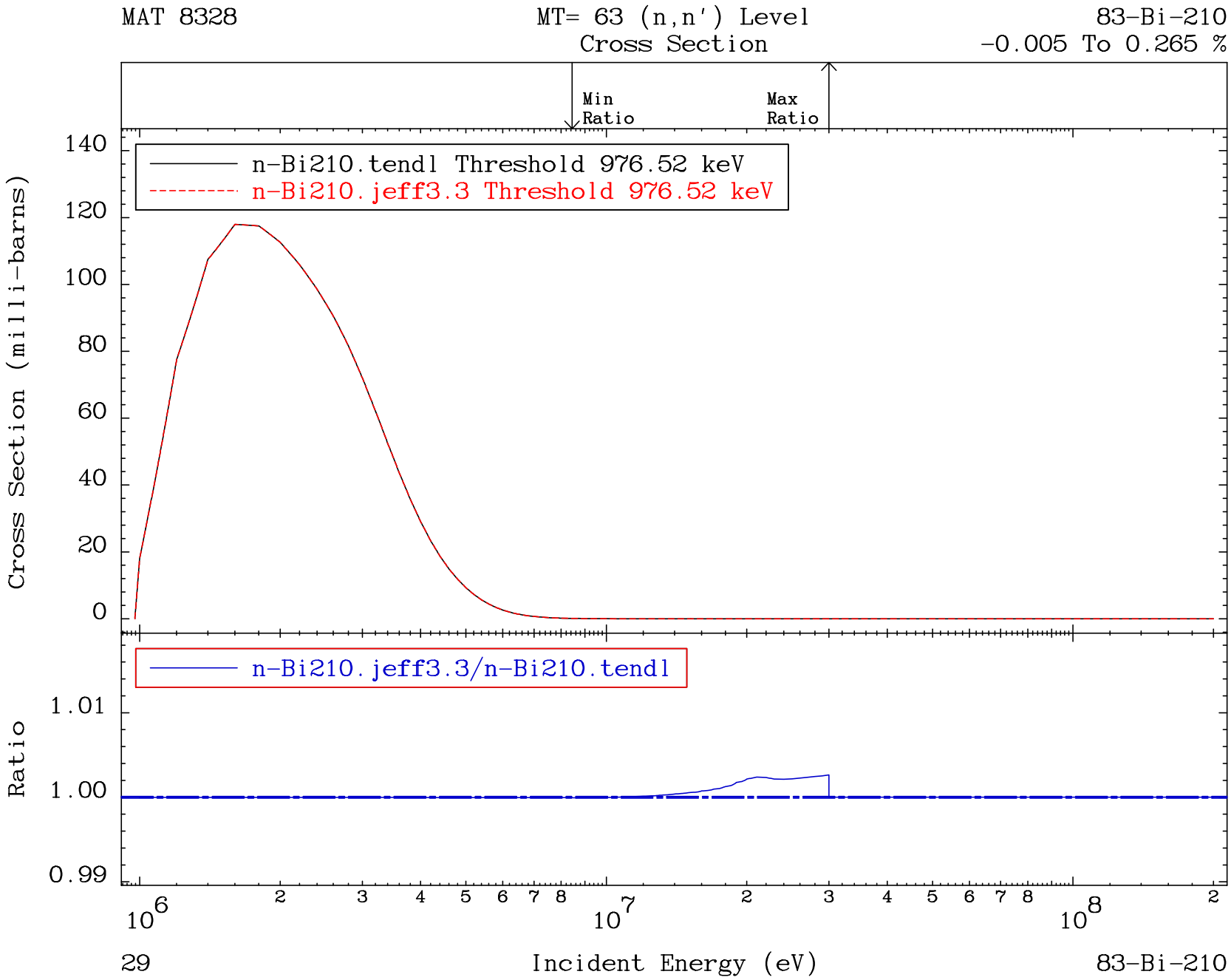

MAT 8328
MT= 57 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 505.23 keV
n-Bi210.jeff3.3 Threshold 505.23 keV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
24
Incident Energy (eV)
83-Bi-210

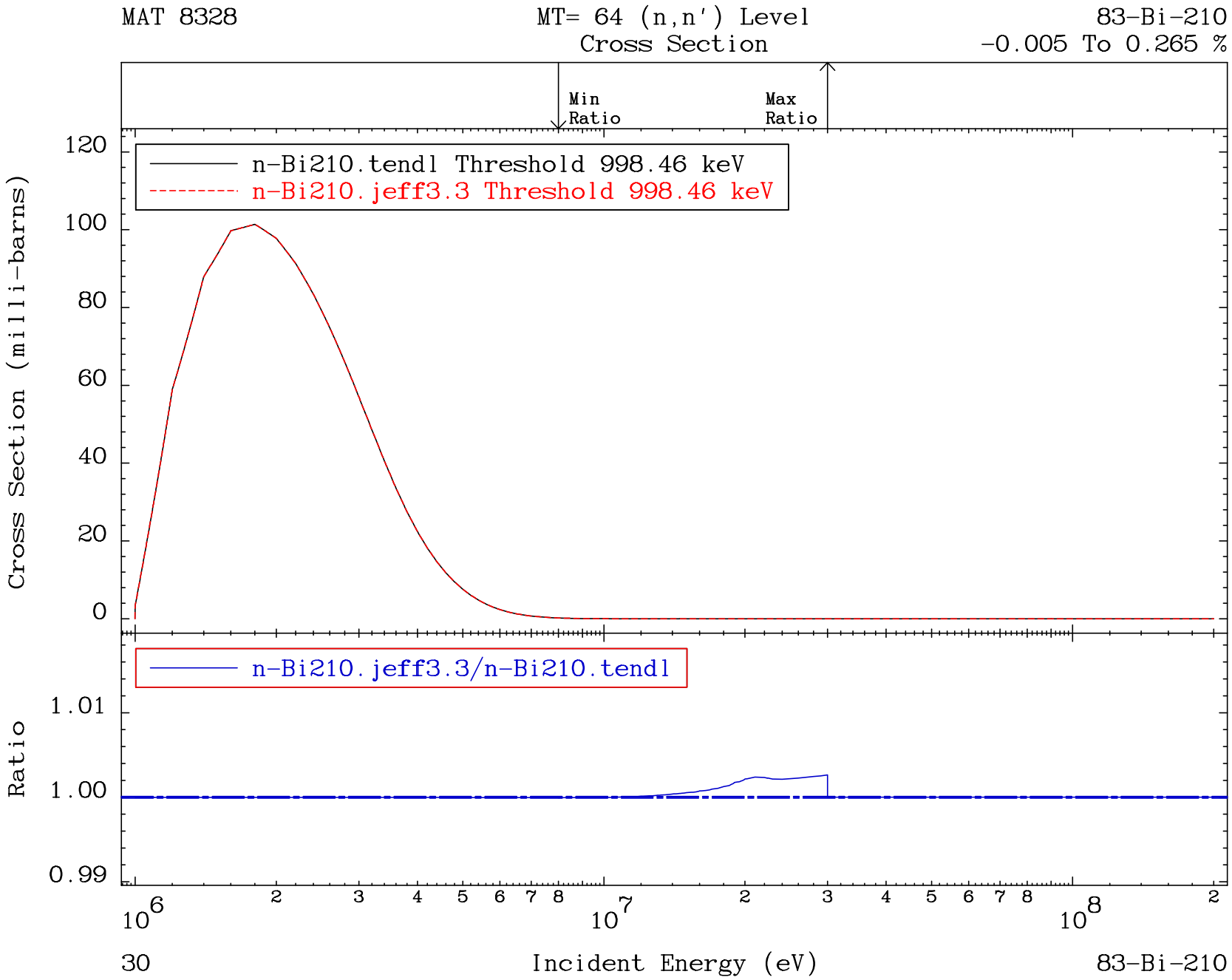

MAT 8328
MT= 58 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 552.64 keV
n-Bi210.jeff3.3 Threshold 552.64 keV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
25
Incident Energy (eV)
83-Bi-210

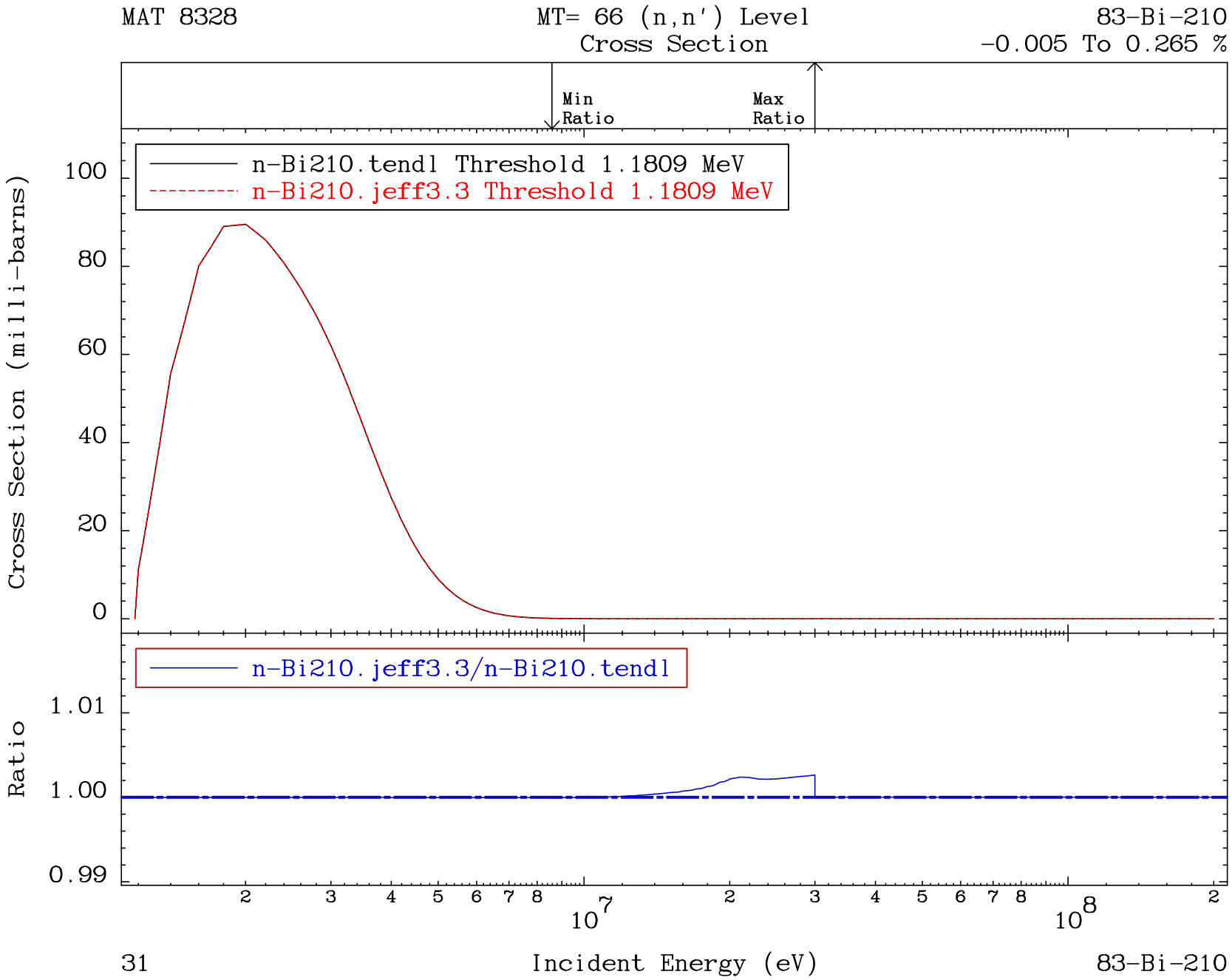

MAT 8328
MT= 60 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 585.33 keV
n-Bi210.jeff3.3 Threshold 585.33 keV
Cross Section (milli-barns)
16
14
12
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
6 7 8
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
26
Incident Energy (eV)
83-Bi-210

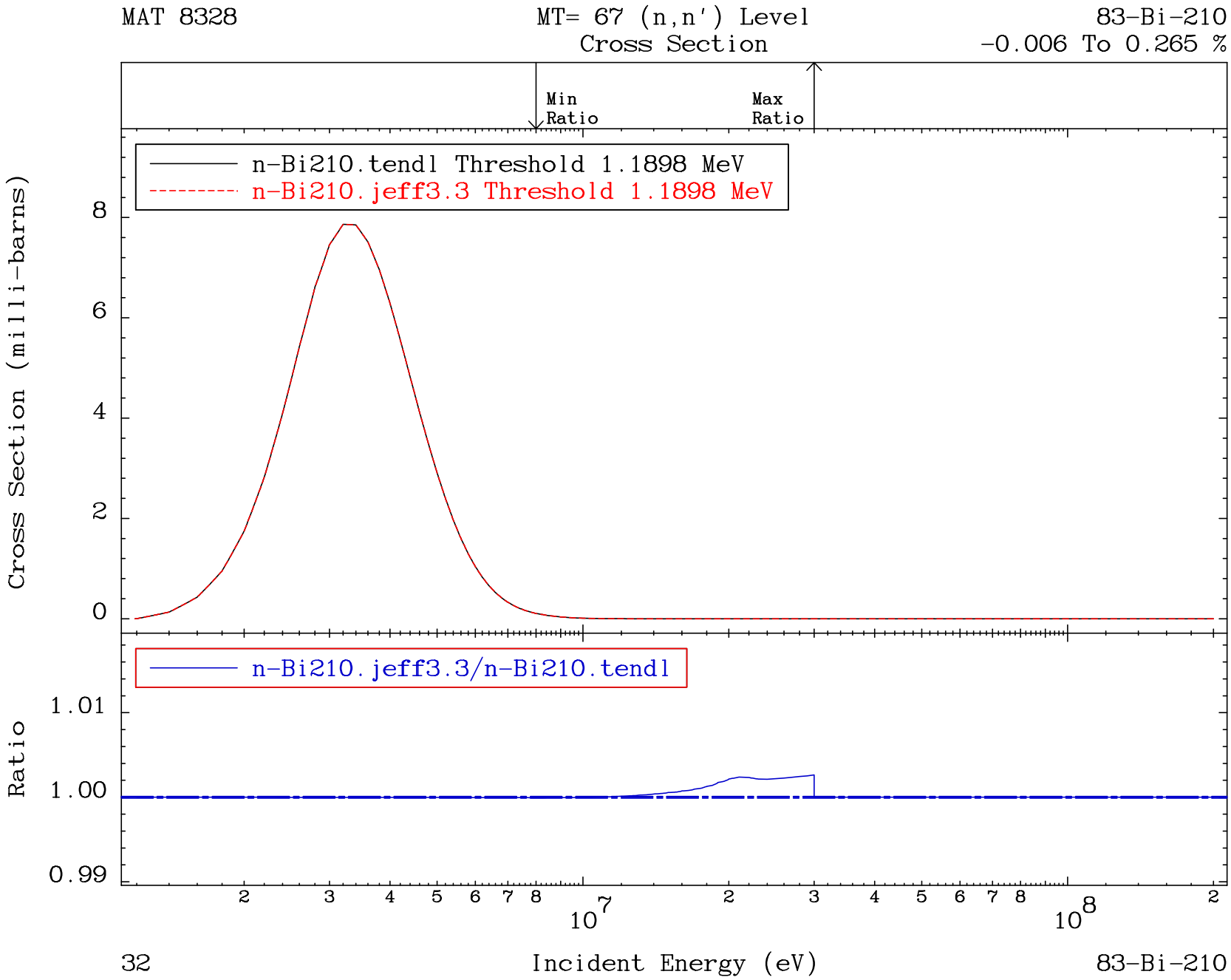

MAT 8328
MT= 61 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.264 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 673.22 keV
n-Bi210.jeff3.3 Threshold 673.22 keV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
27
Incident Energy (eV)
83-Bi-210

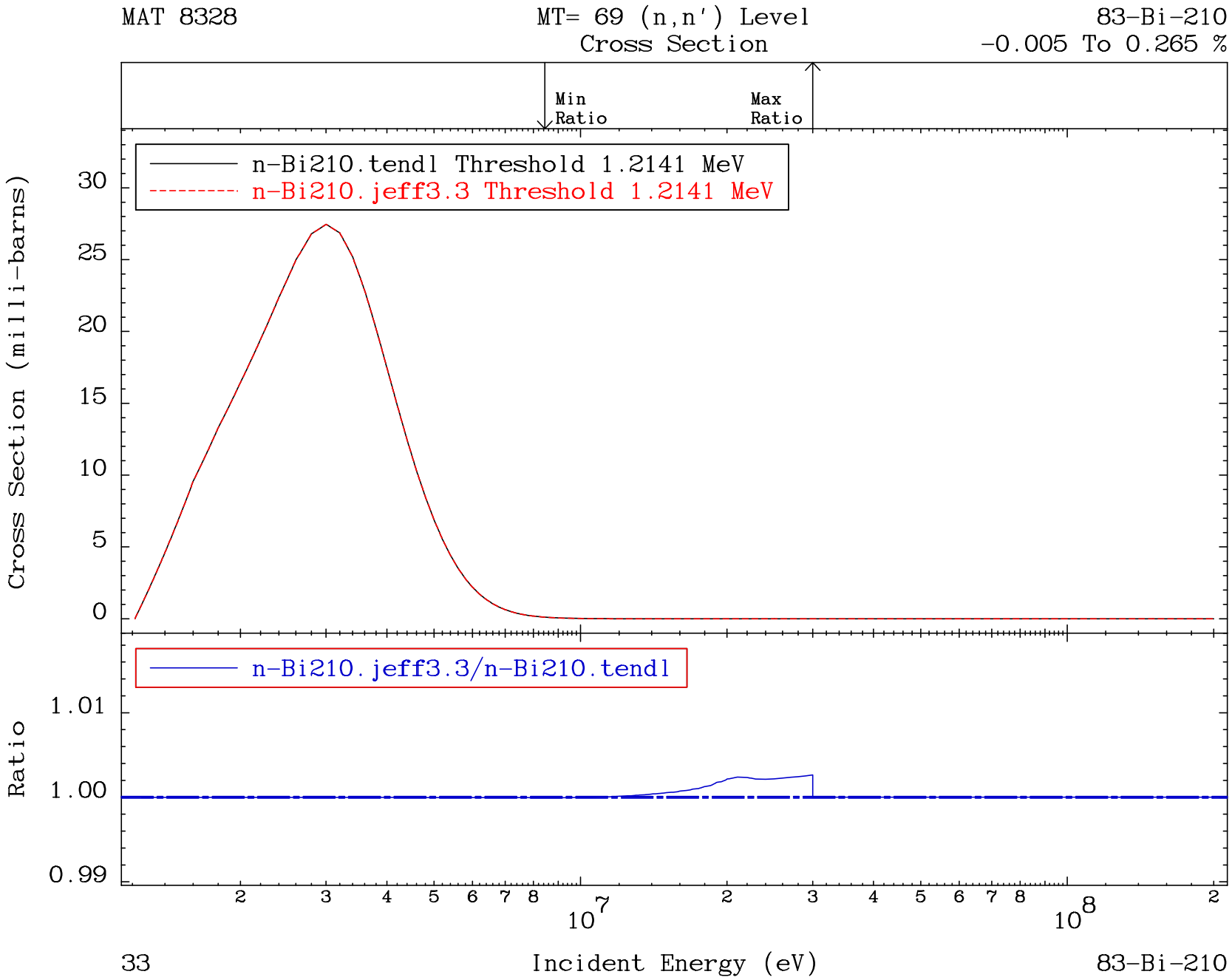

MAT 8328
MT= 62 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.264 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 920.28 keV
n-Bi210.jeff3.3 Threshold 920.28 keV
Cross Section (milli-barns)
12
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
10^6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
83-Bi-210

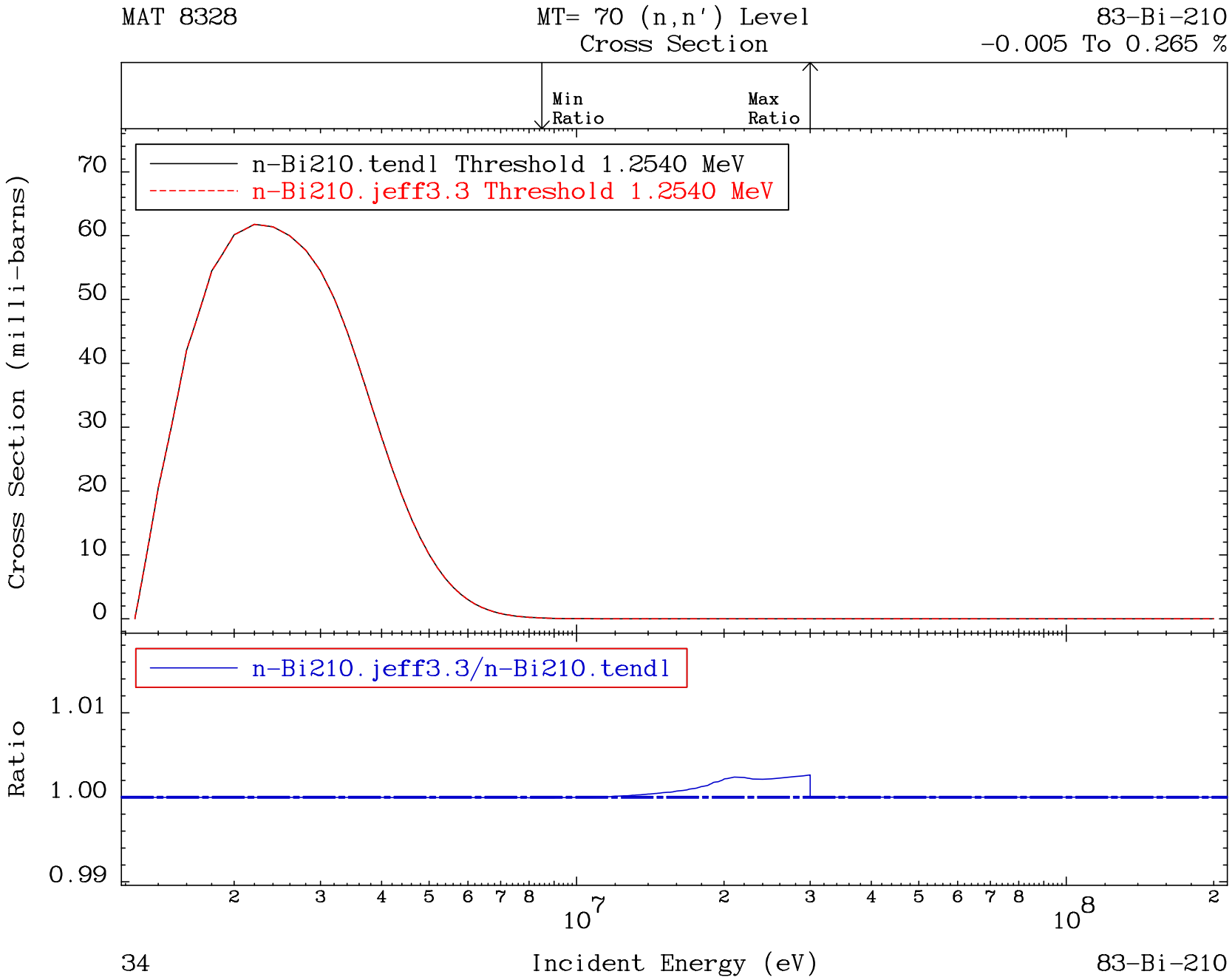

MAT 8328
MT= 63 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 976.52 keV
n-Bi210.jeff3.3 Threshold 976.52 keV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
29
Incident Energy (eV)
83-Bi-210

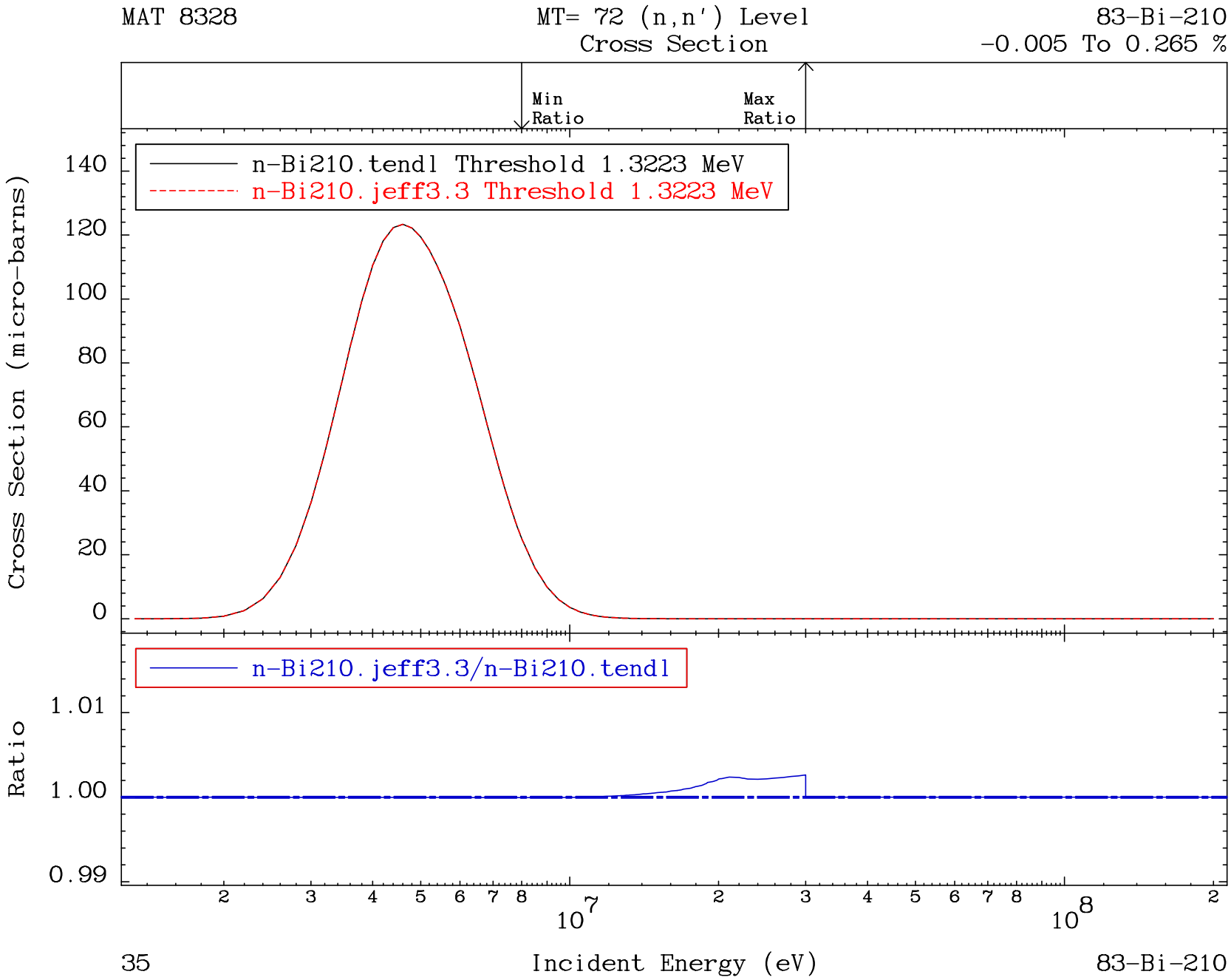

MAT 8328
MT= 64 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 998.46 keV
n-Bi210.jeff3.3 Threshold 998.46 keV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
10^6
10^7
10^8
30
Incident Energy (eV)
83-Bi-210

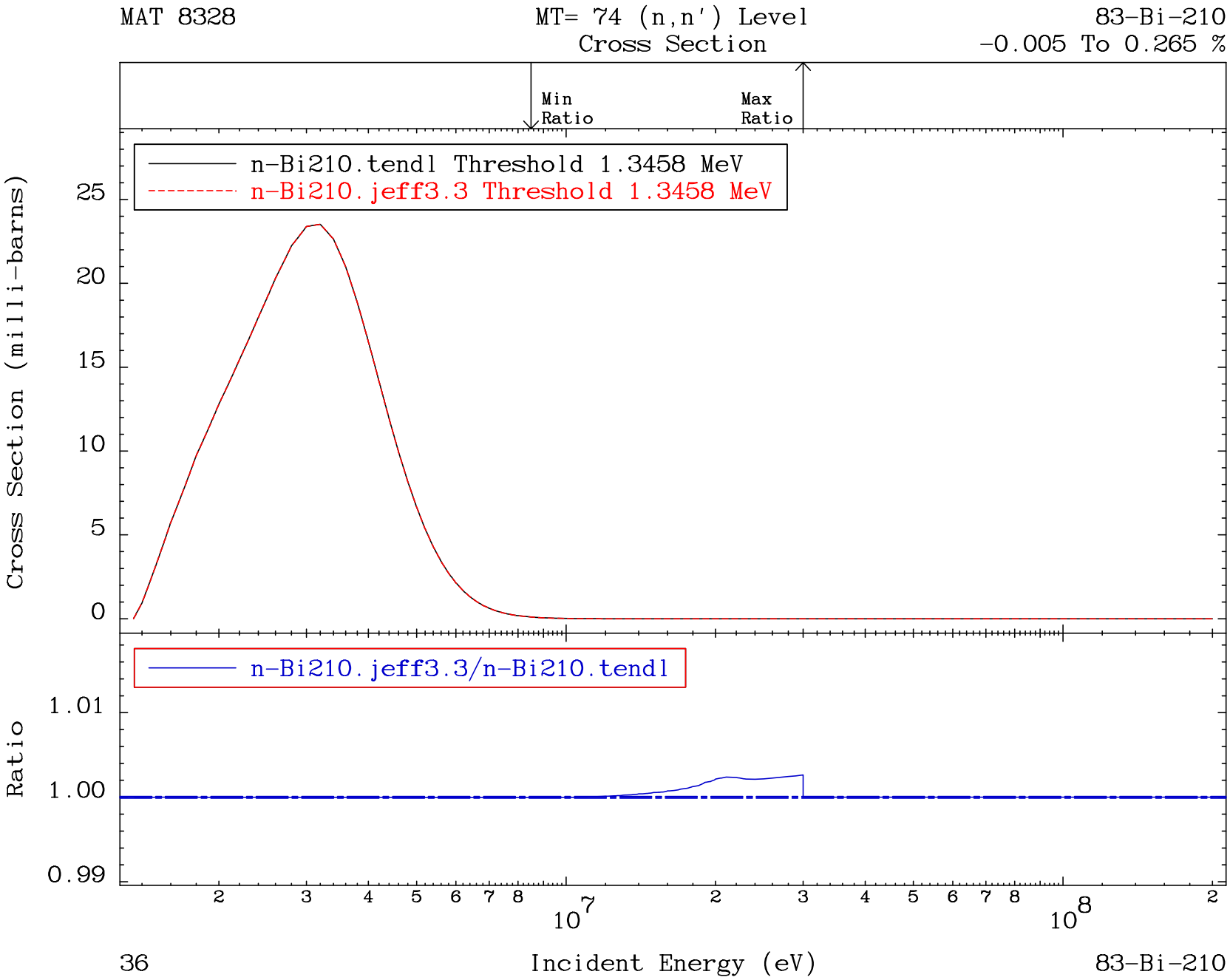

MAT 8328
MT= 66 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.1809 MeV
n-Bi210.jeff3.3 Threshold 1.1809 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
31
Incident Energy (eV)
83-Bi-210

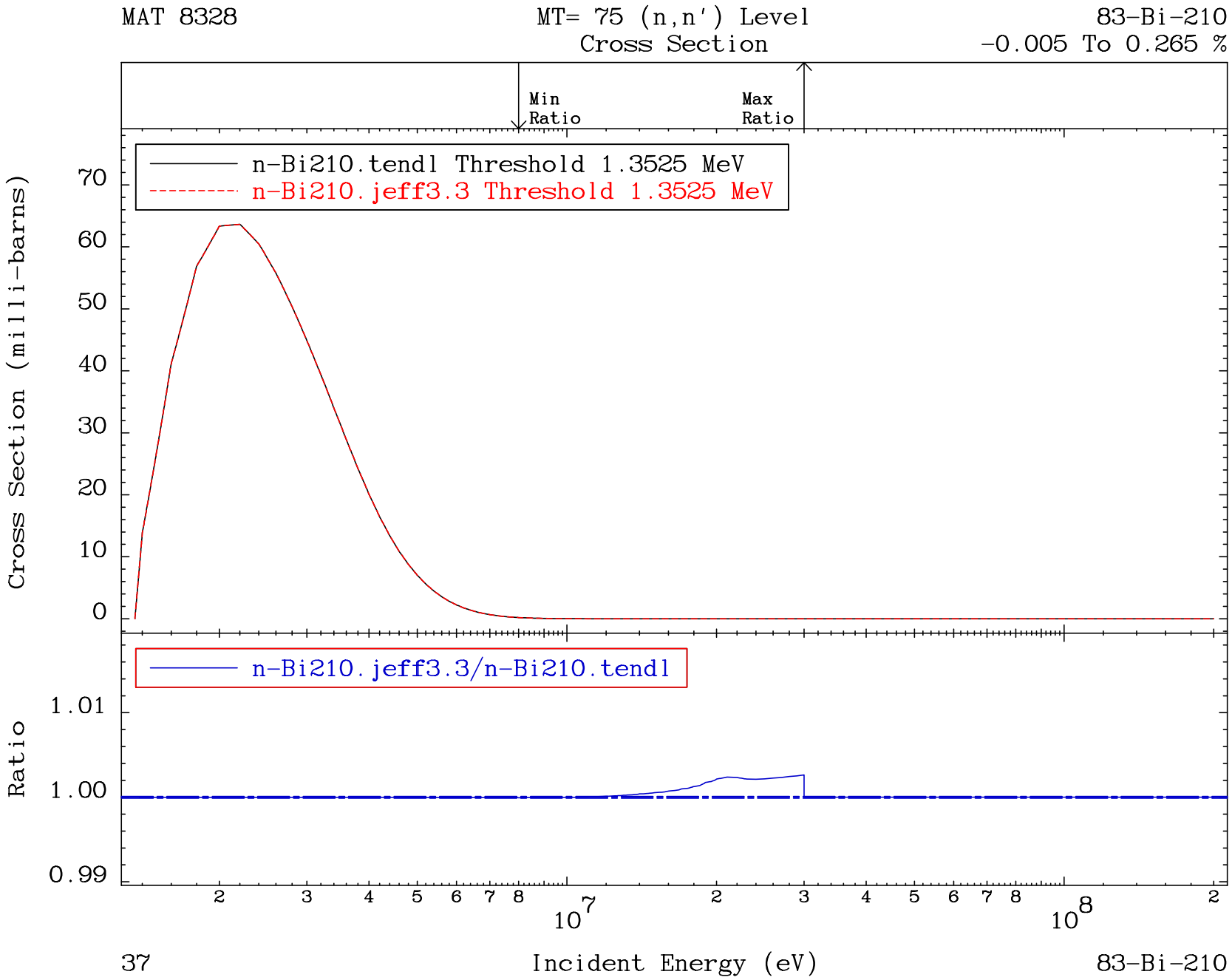

MAT 8328
MT= 67 (n,n') Level
Cross Section
83-Bi-210
-0.006 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.1898 MeV
n-Bi210.jeff3.3 Threshold 1.1898 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
32
Incident Energy (eV)
83-Bi-210

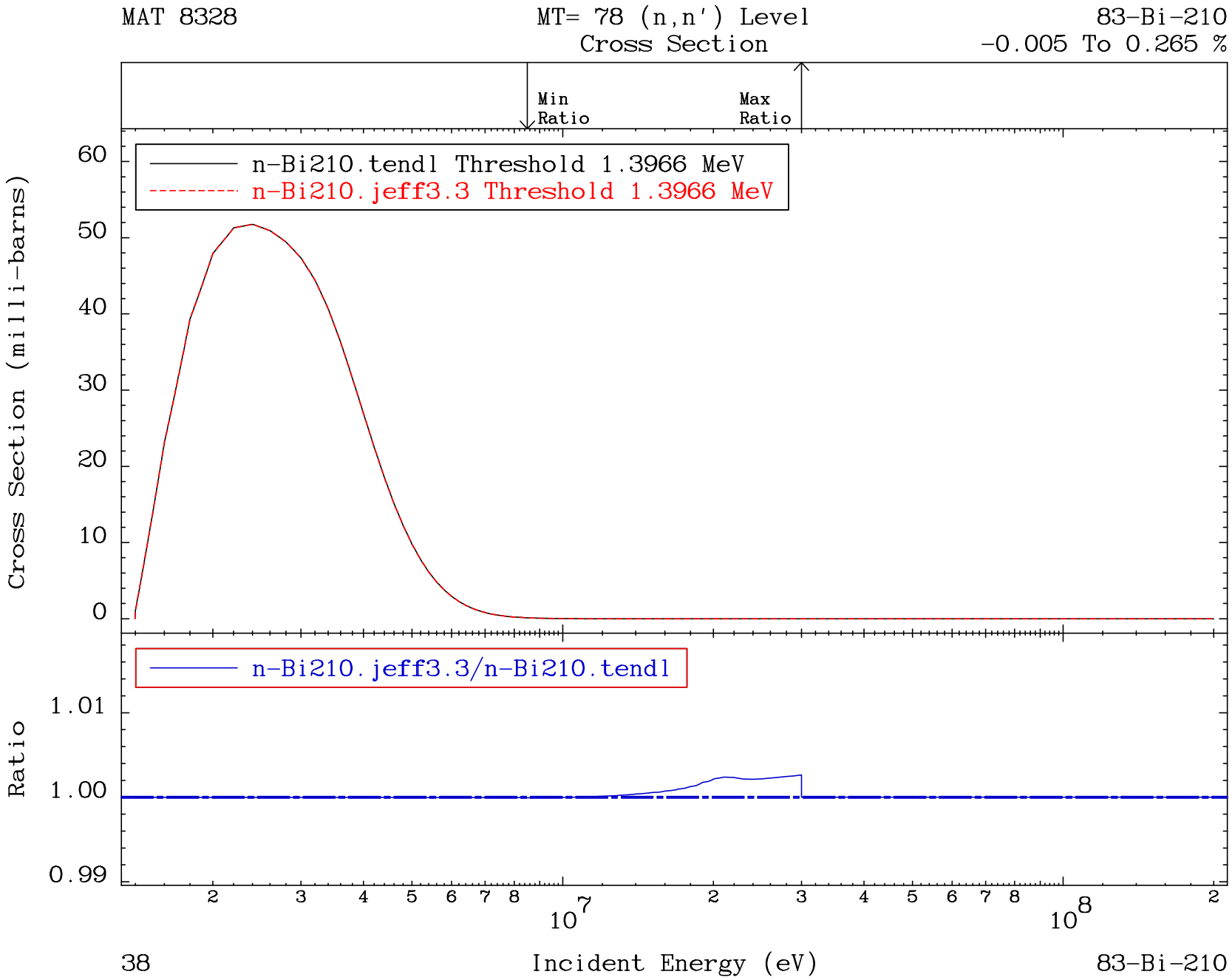

MAT 8328
MT= 69 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.2141 MeV
n-Bi210.jeff3.3 Threshold 1.2141 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
33
Incident Energy (eV)
83-Bi-210

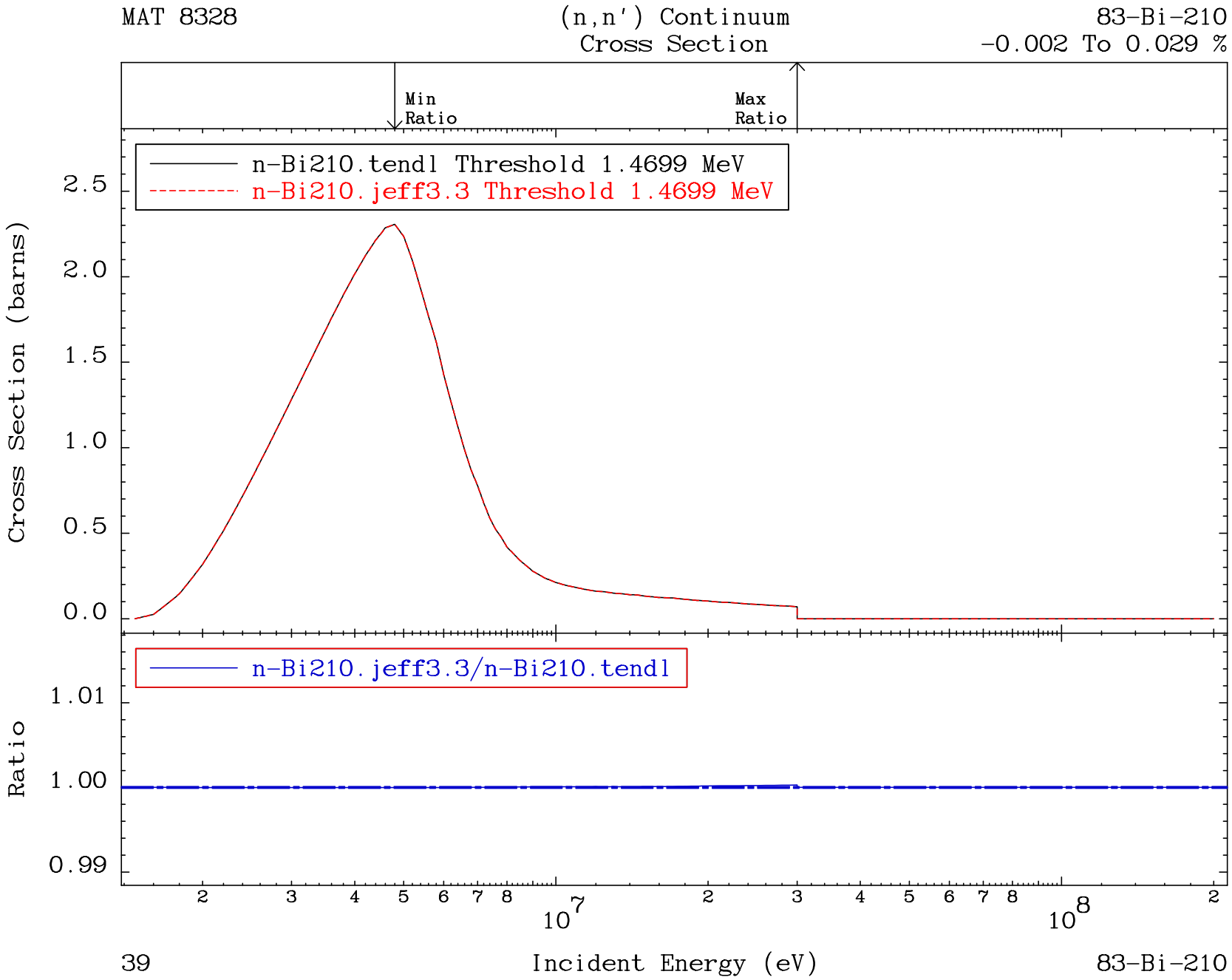

MAT 8328
MT= 70 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 1.2540 MeV
n-Bi210.jeff3.3 Threshold 1.2540 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
34
Incident Energy (eV)
83-Bi-210

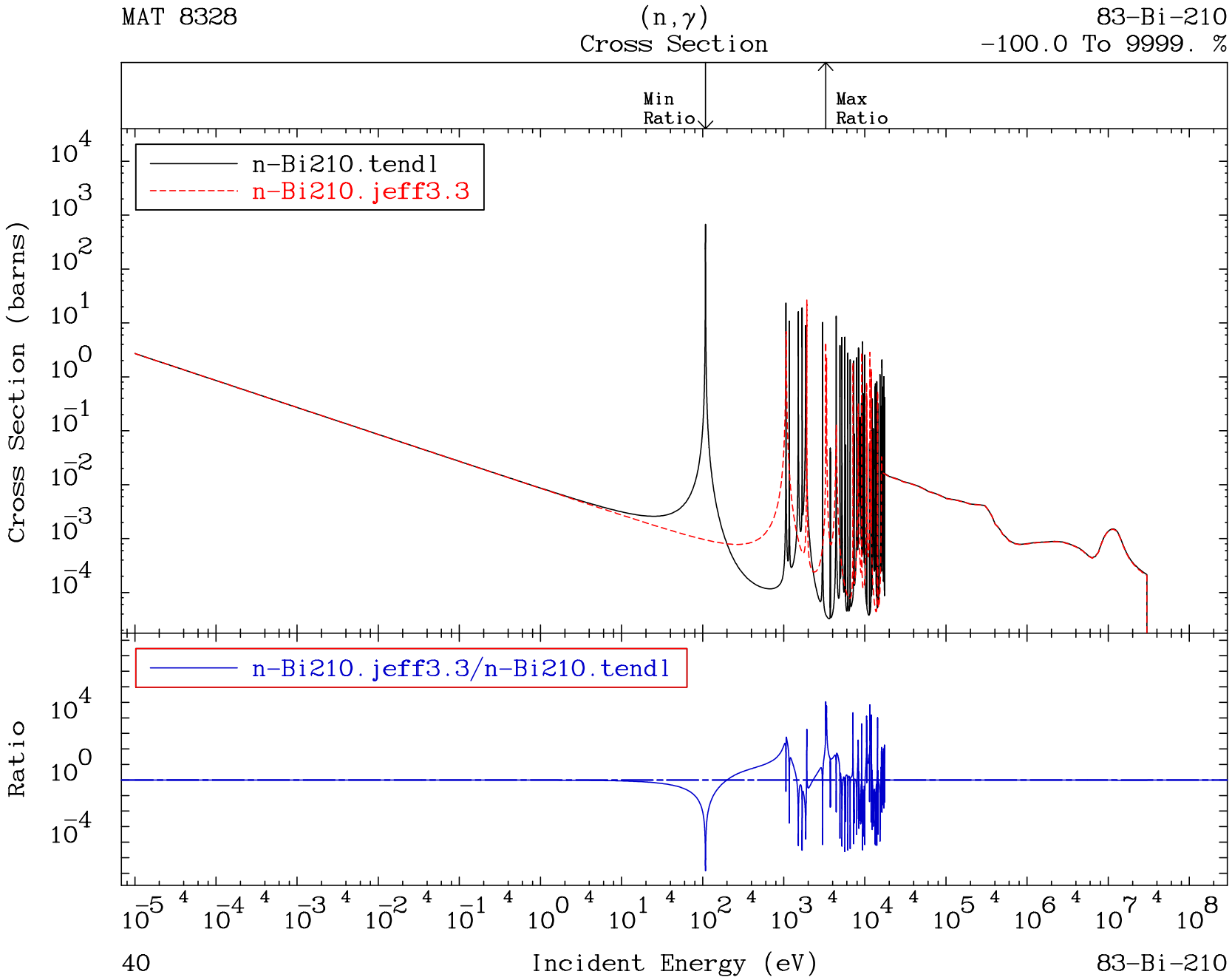

MAT 8328
MT= 72 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.3223 MeV
n-Bi210.jeff3.3 Threshold 1.3223 MeV
Cross Section (micro-barns)
140
120
100
80
60
40
20
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
35
Incident Energy (eV)
83-Bi-210

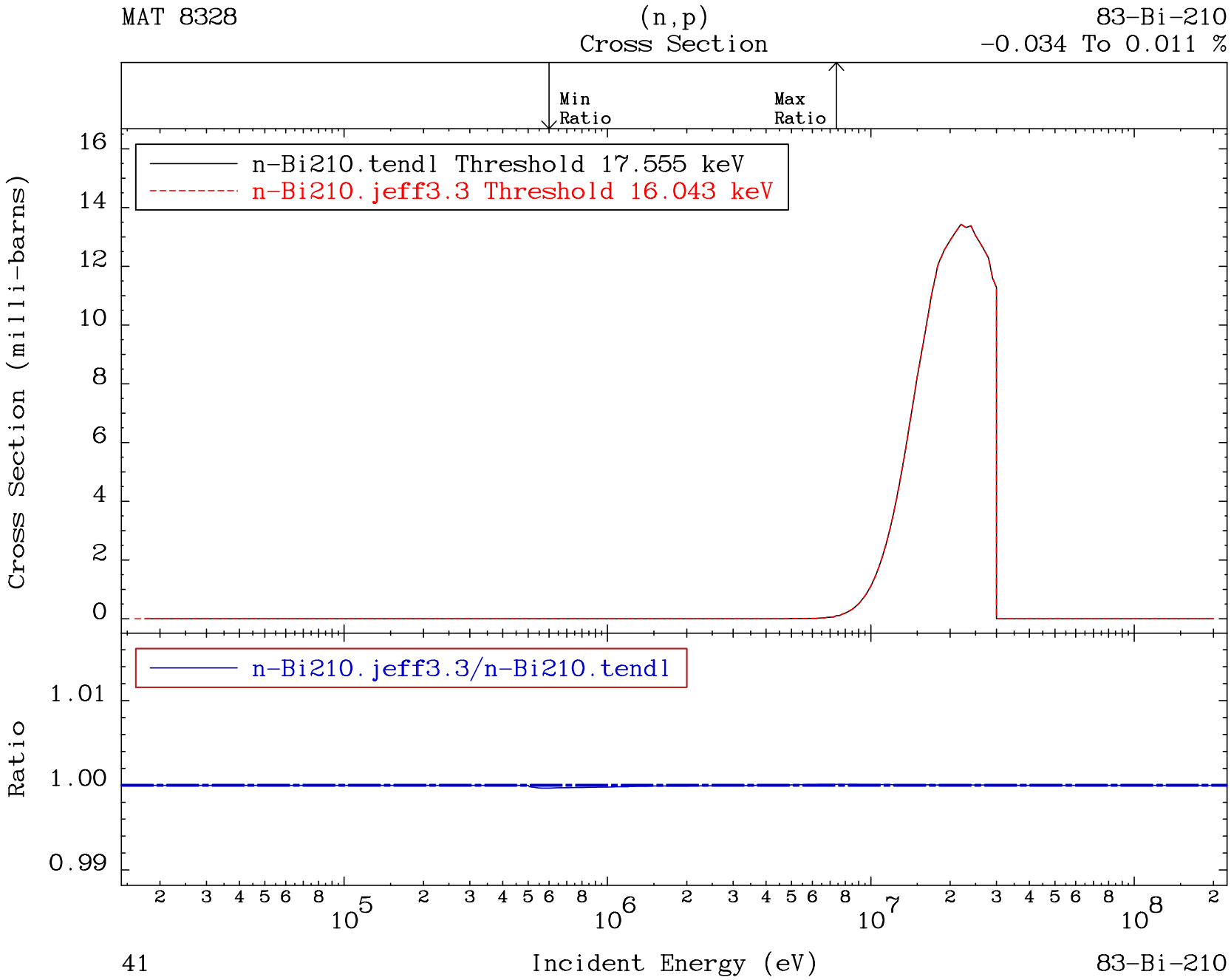

MAT 8328
MT= 74 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.3458 MeV
n-Bi210.jeff3.3 Threshold 1.3458 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
36
Incident Energy (eV)
83-Bi-210

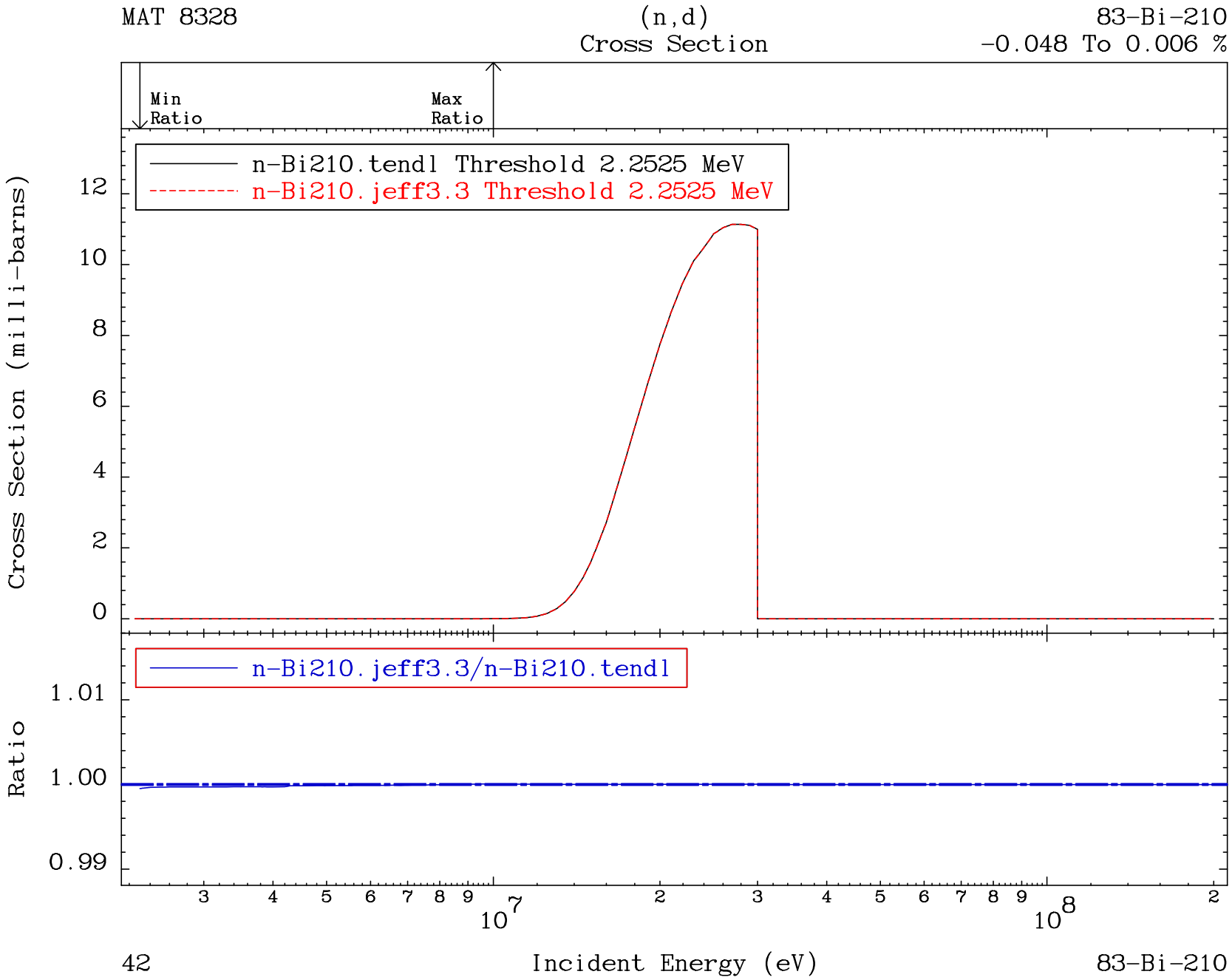

MAT 8328
MT= 75 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 1.3525 MeV
n-Bi210.jeff3.3 Threshold 1.3525 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
37
Incident Energy (eV)
83-Bi-210

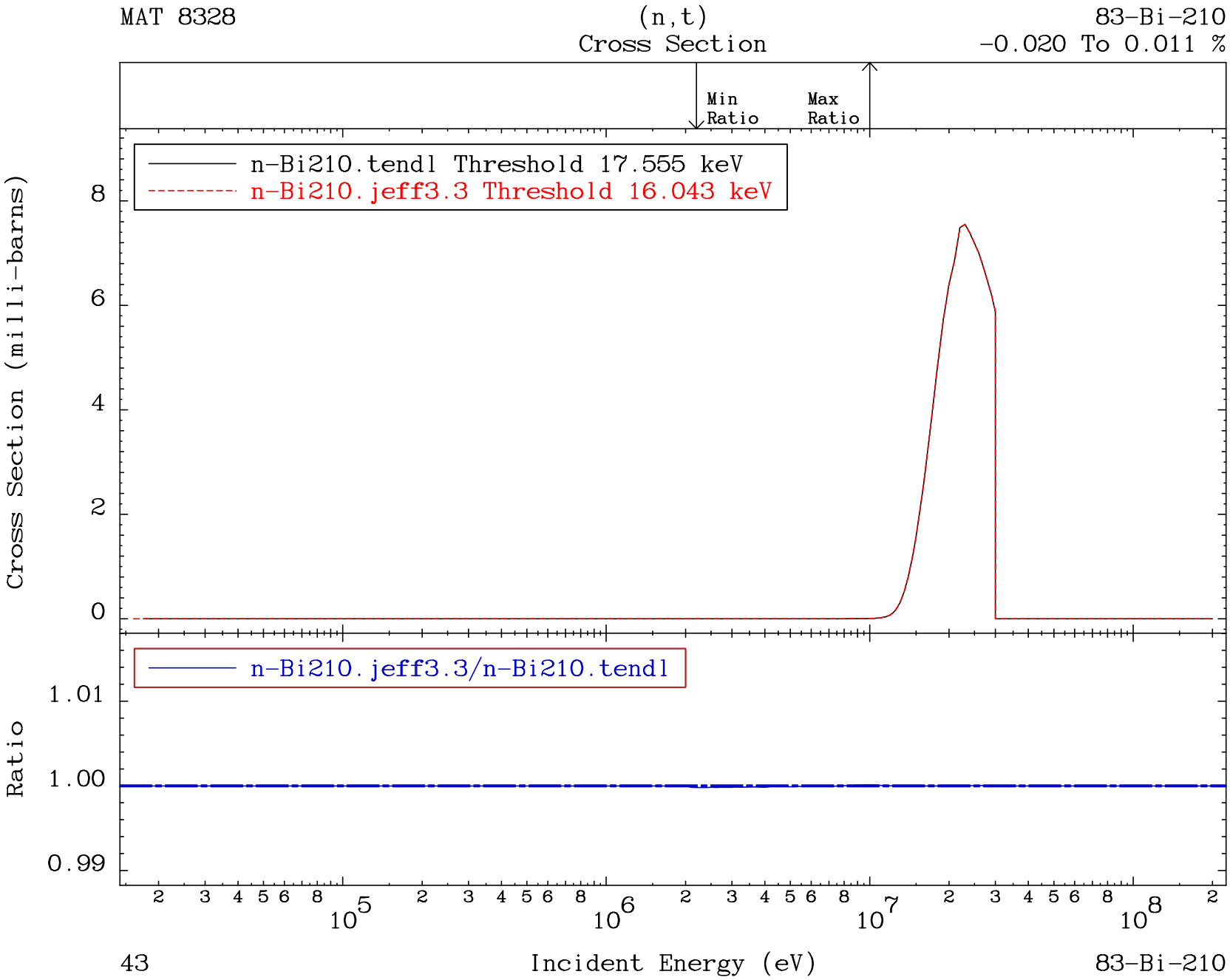

MAT 8328
MT= 78 (n,n') Level
Cross Section
83-Bi-210
-0.005 To 0.265 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.3966 MeV
n-Bi210.jeff3.3 Threshold 1.3966 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
38
Incident Energy (eV)
83-Bi-210

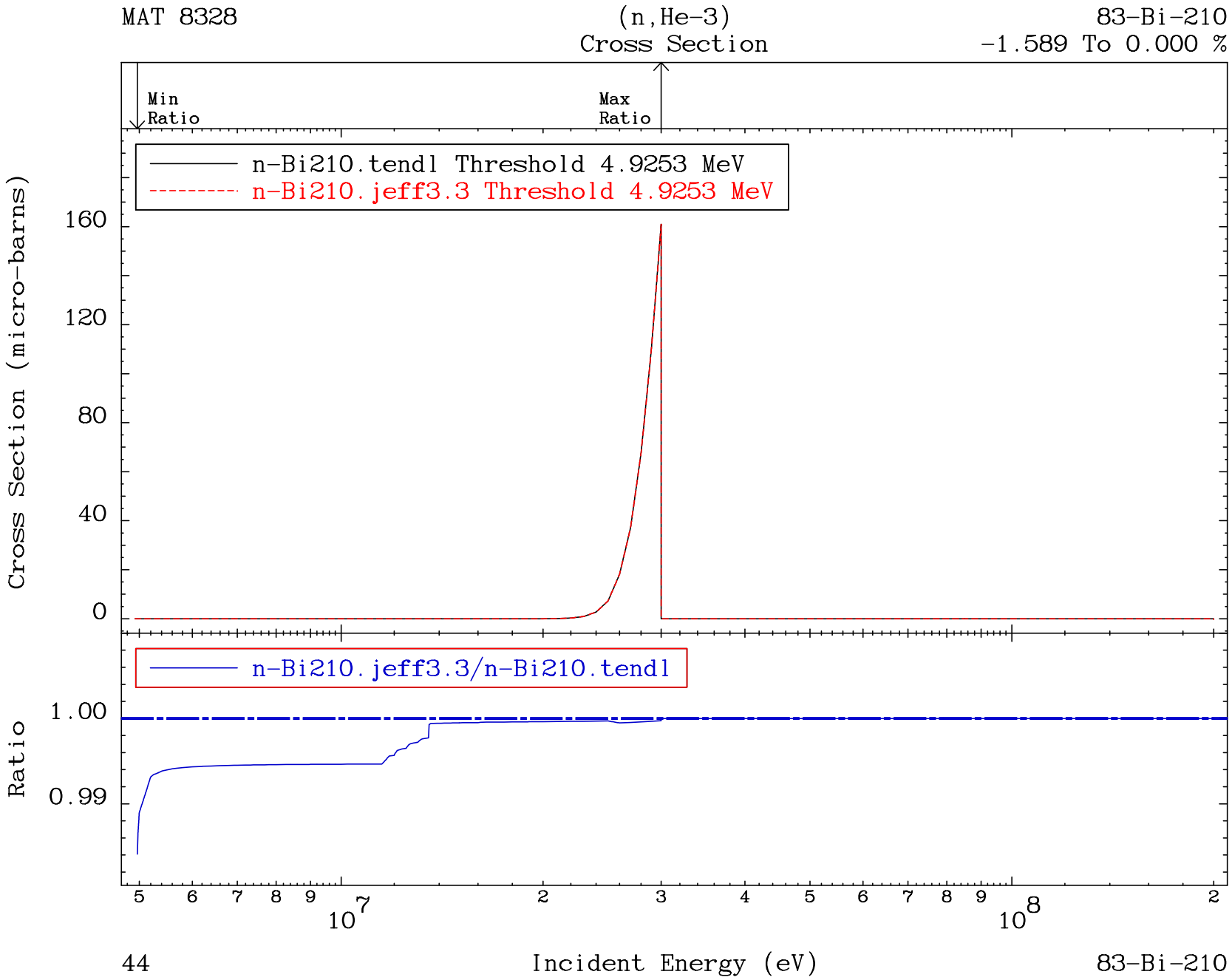

MAT 8328
(n,n') Continuum
Cross Section
83-Bi-210
-0.002 To 0.029 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 1.4699 MeV
n-Bi210.jeff3.3 Threshold 1.4699 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
39
Incident Energy (eV)
83-Bi-210

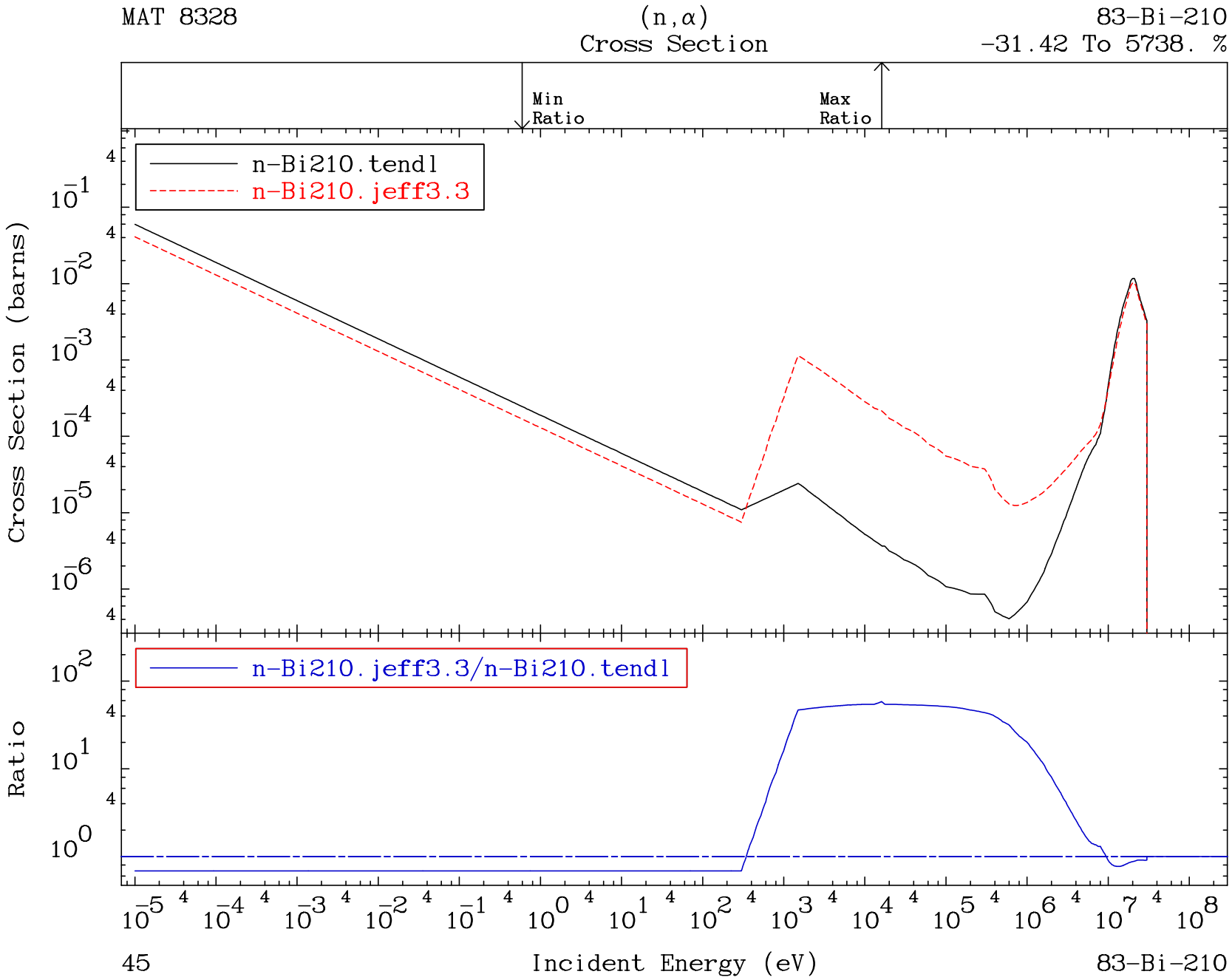

MAT 8328
(n,γ)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
40
83-Bi-210

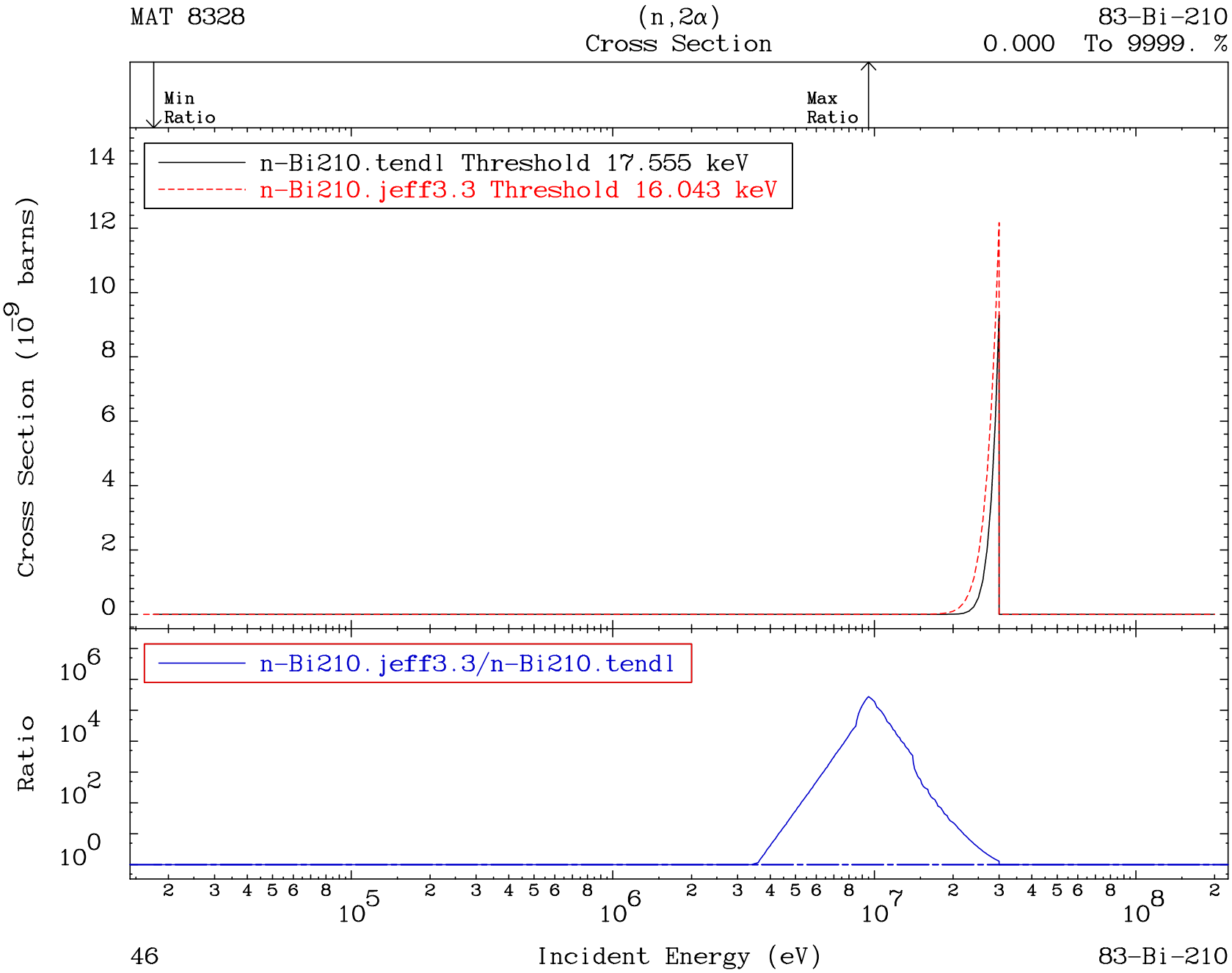

MAT 8328
(n,p)
Cross Section
83-Bi-210
-0.034 To 0.011 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (milli-barns)
16
14
12
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
41
Incident Energy (eV)
83-Bi-210

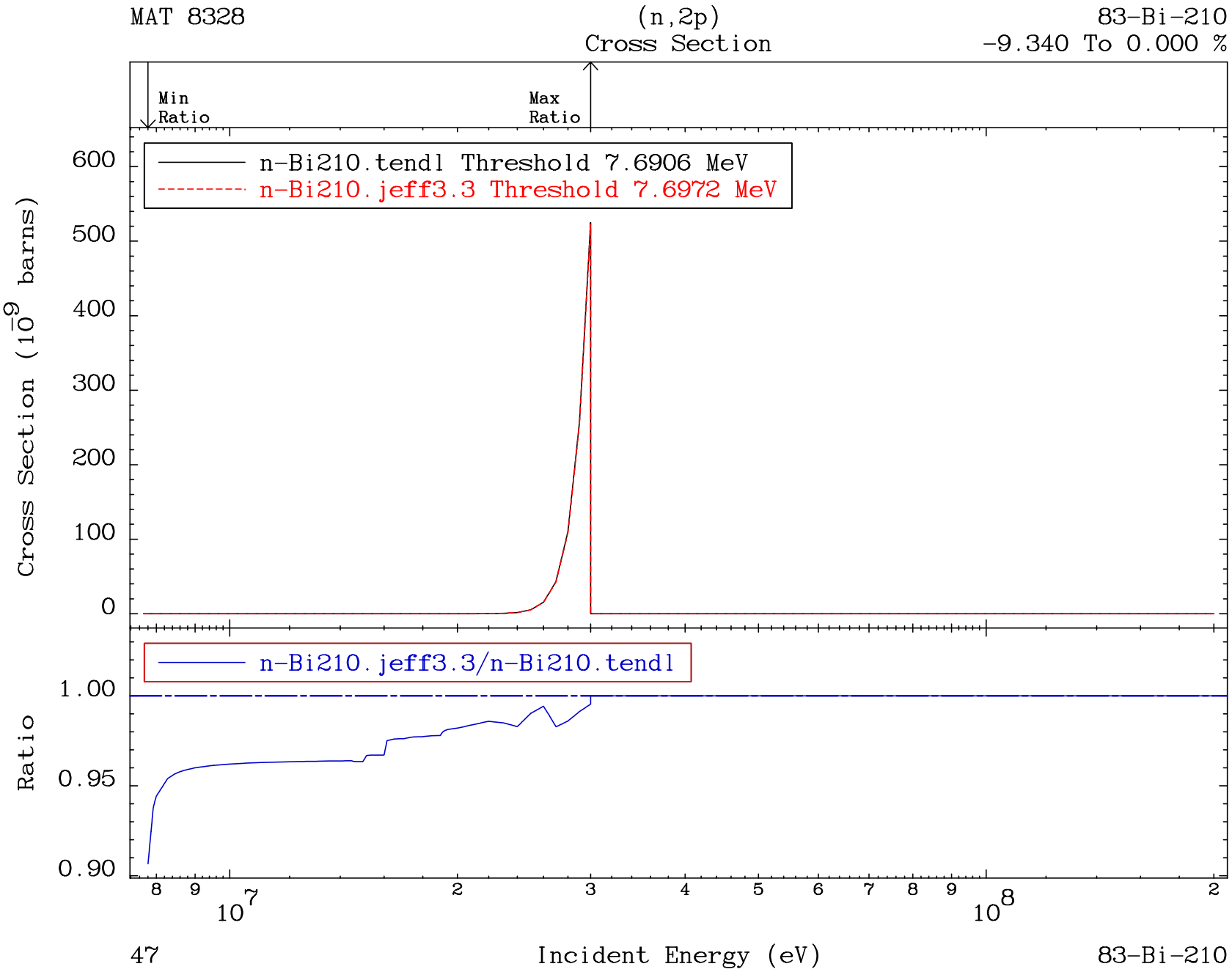

MAT 8328
(n,d)
Cross Section
83-Bi-210
-0.048 To 0.006 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 2.2525 MeV
n-Bi210.jeff3.3 Threshold 2.2525 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
42
Incident Energy (eV)
83-Bi-210

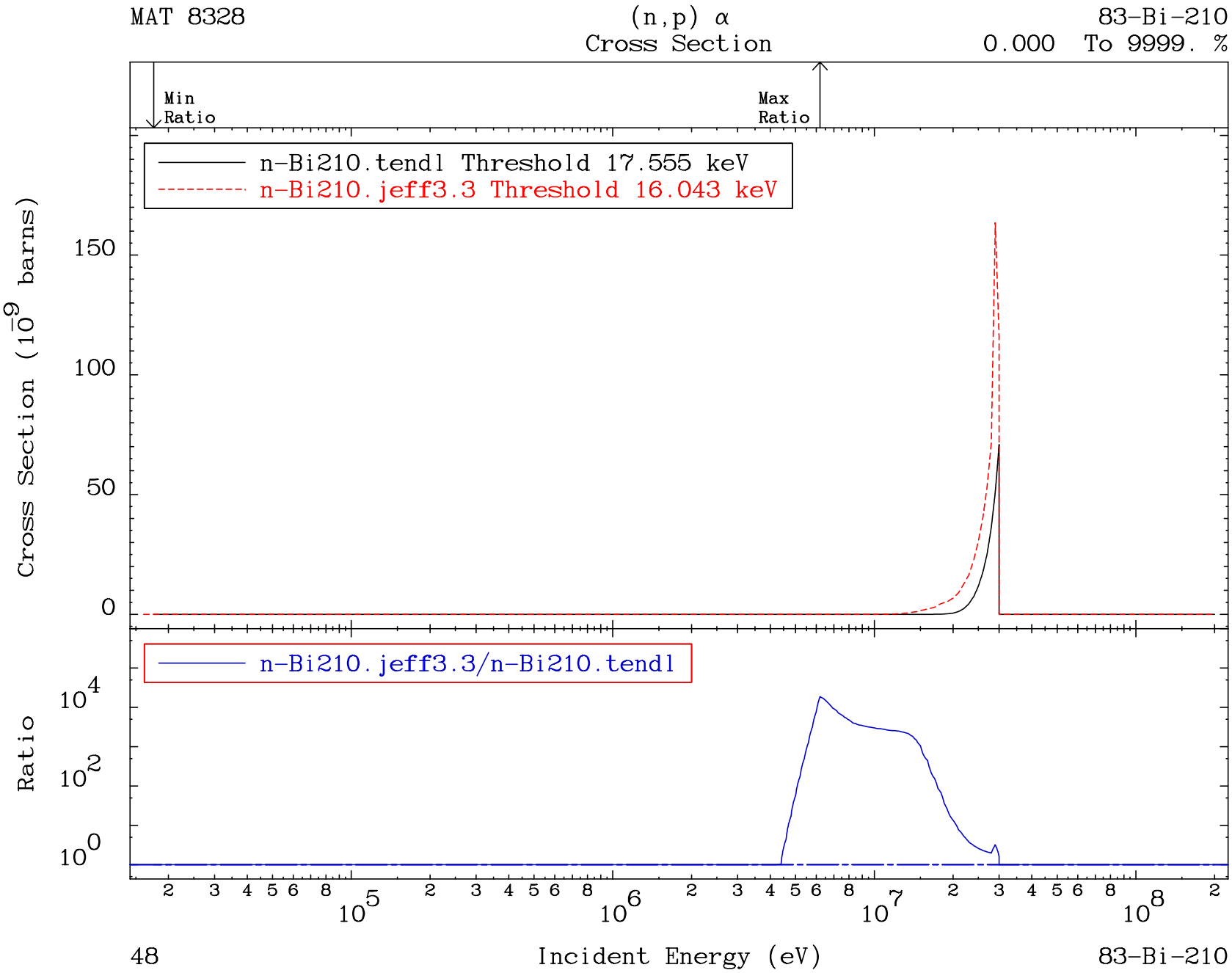

MAT 8328
(n,t)
Cross Section
83-Bi-210
-0.020 To 0.011 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (milli-barns)
0
2
4
6
8
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
43
Incident Energy (eV)
83-Bi-210

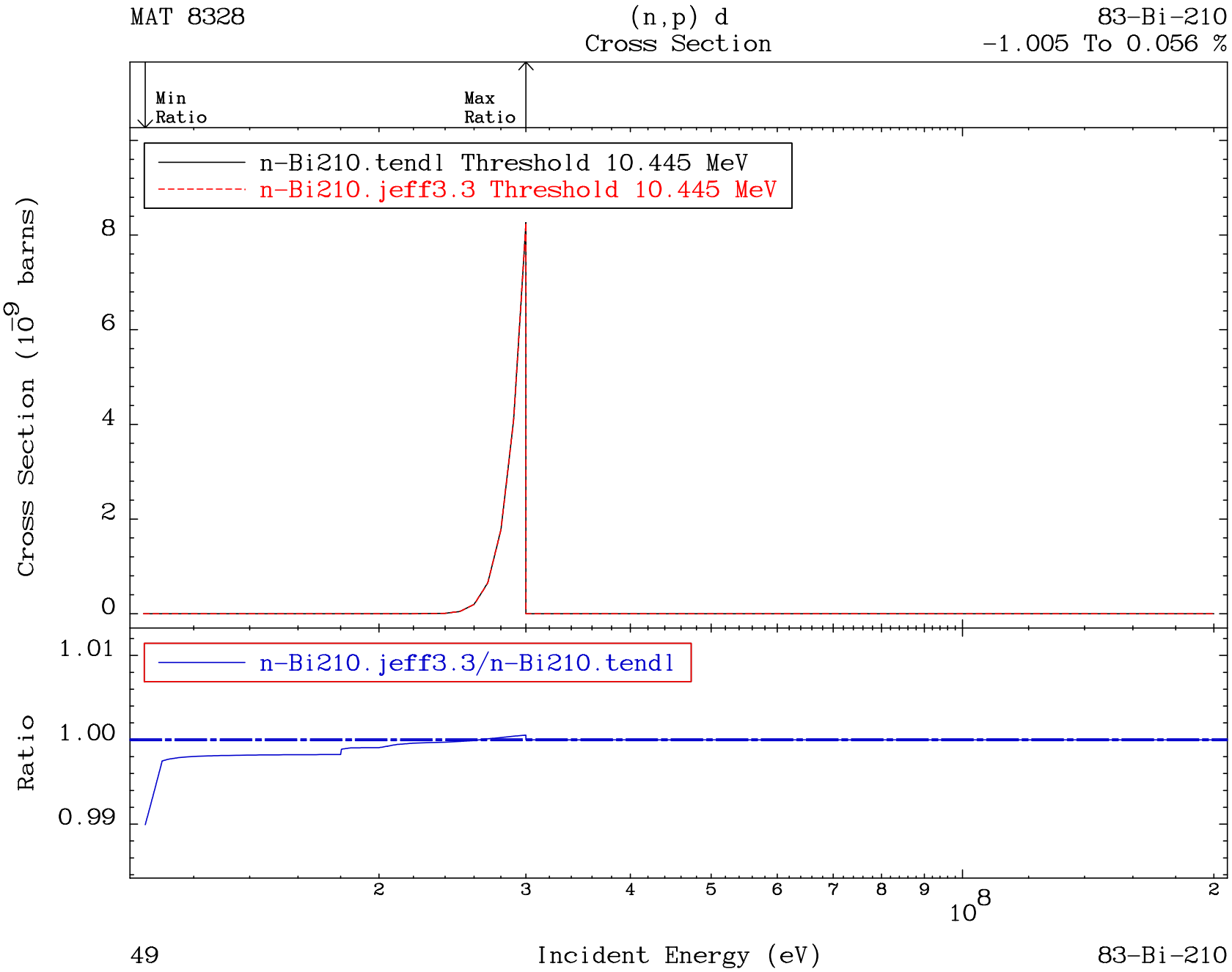

MAT 8328
(n,He-3)
Cross Section
83-Bi-210
-1.589 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 4.9253 MeV
n-Bi210.jeff3.3 Threshold 4.9253 MeV
Cross Section (micro-barns)
160
120
80
40
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.00
0.99
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
44
Incident Energy (eV)
83-Bi-210

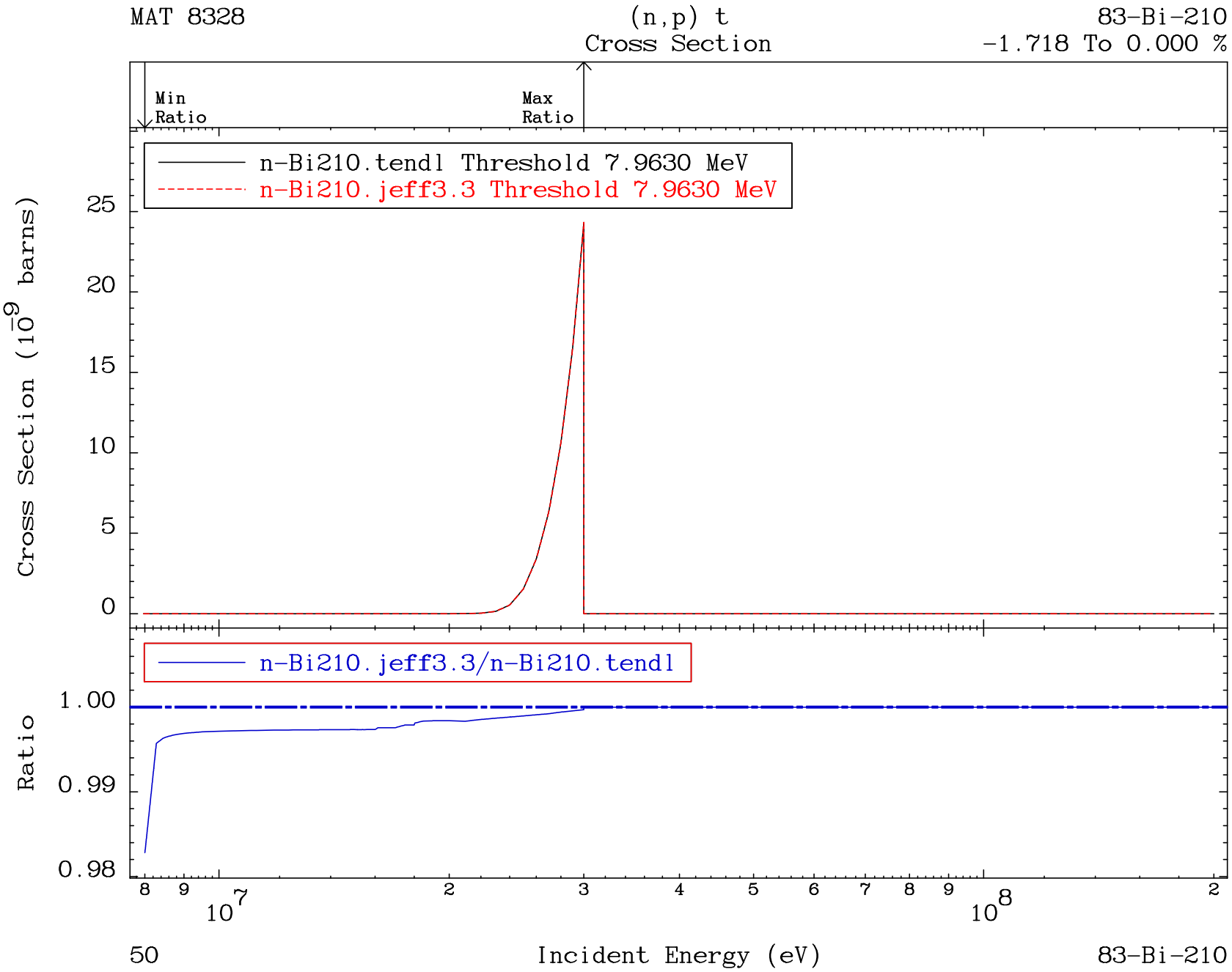

MAT 8328
(n,α)
Cross Section
83-Bi-210
-31.42 To 5738. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
45
83-Bi-210

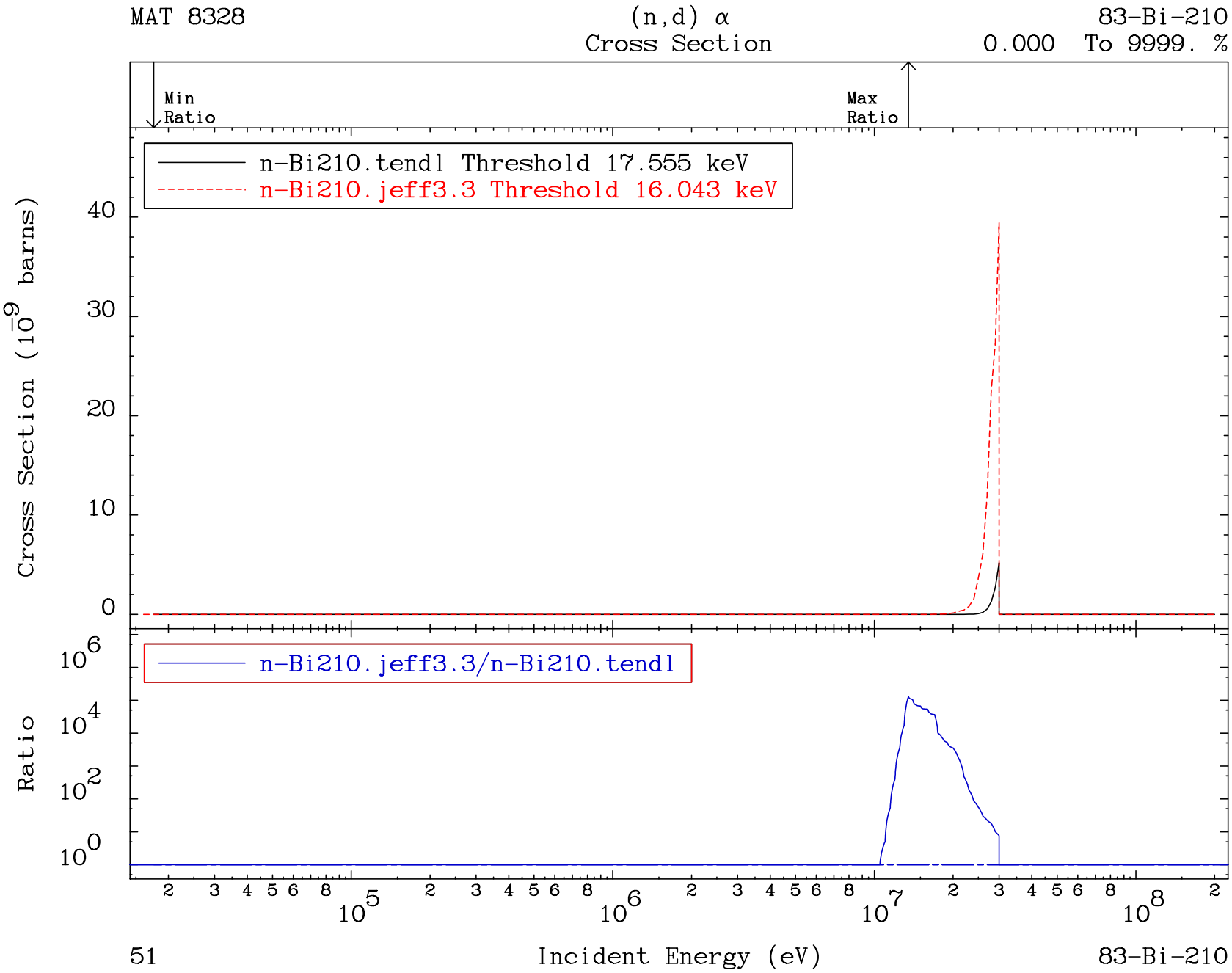

MAT 8328
(n,2α)
Cross Section
83-Bi-210
0.000 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (10^{-9} barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
46
83-Bi-210

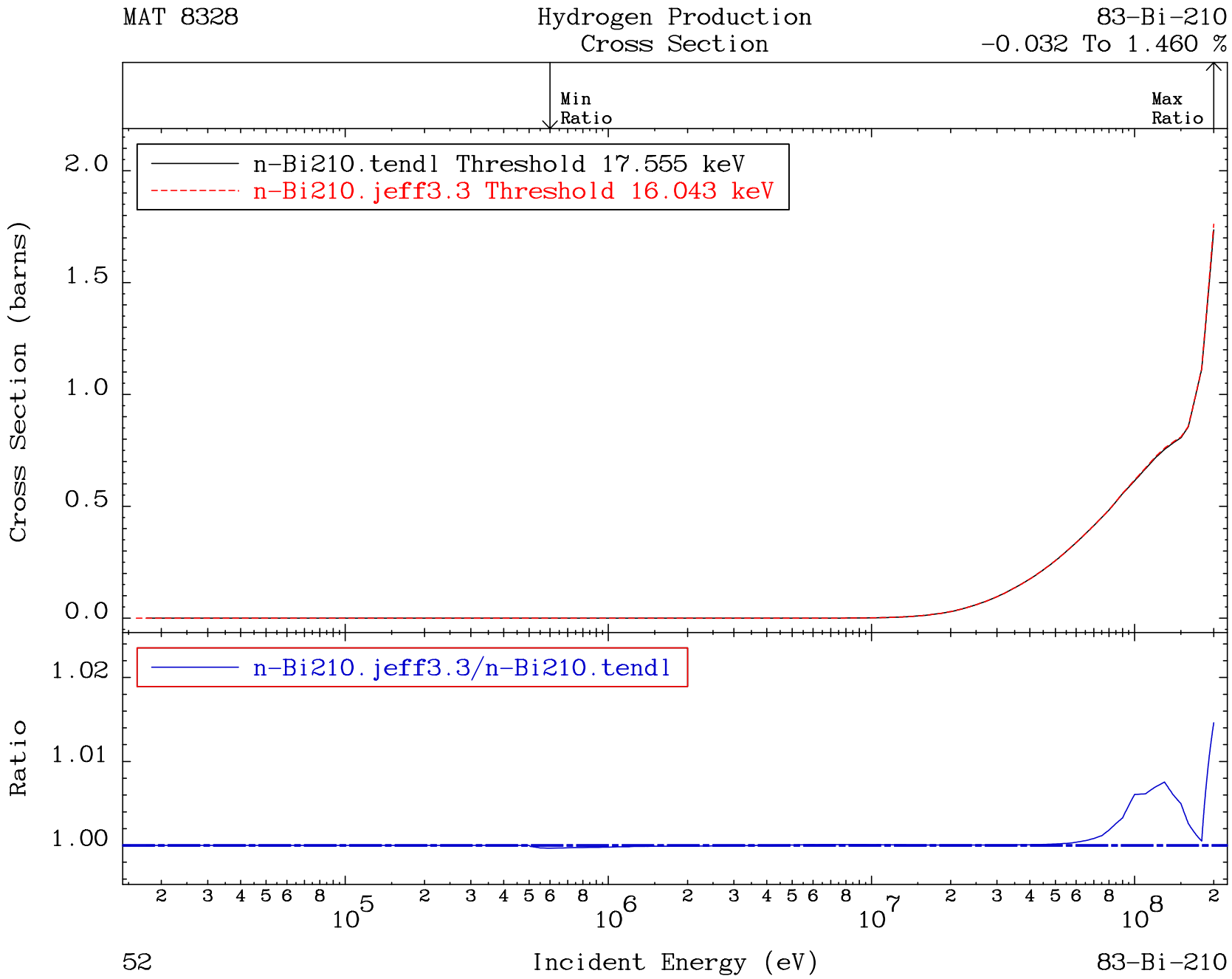

MAT 8328
(n,2p)
Cross Section
83-Bi-210
-9.340 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 7.6906 MeV
n-Bi210.jeff3.3 Threshold 7.6972 MeV
Cross Section (10^{-9} barns)
600
500
400
300
200
100
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.00
0.95
0.90
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
47
Incident Energy (eV)
83-Bi-210

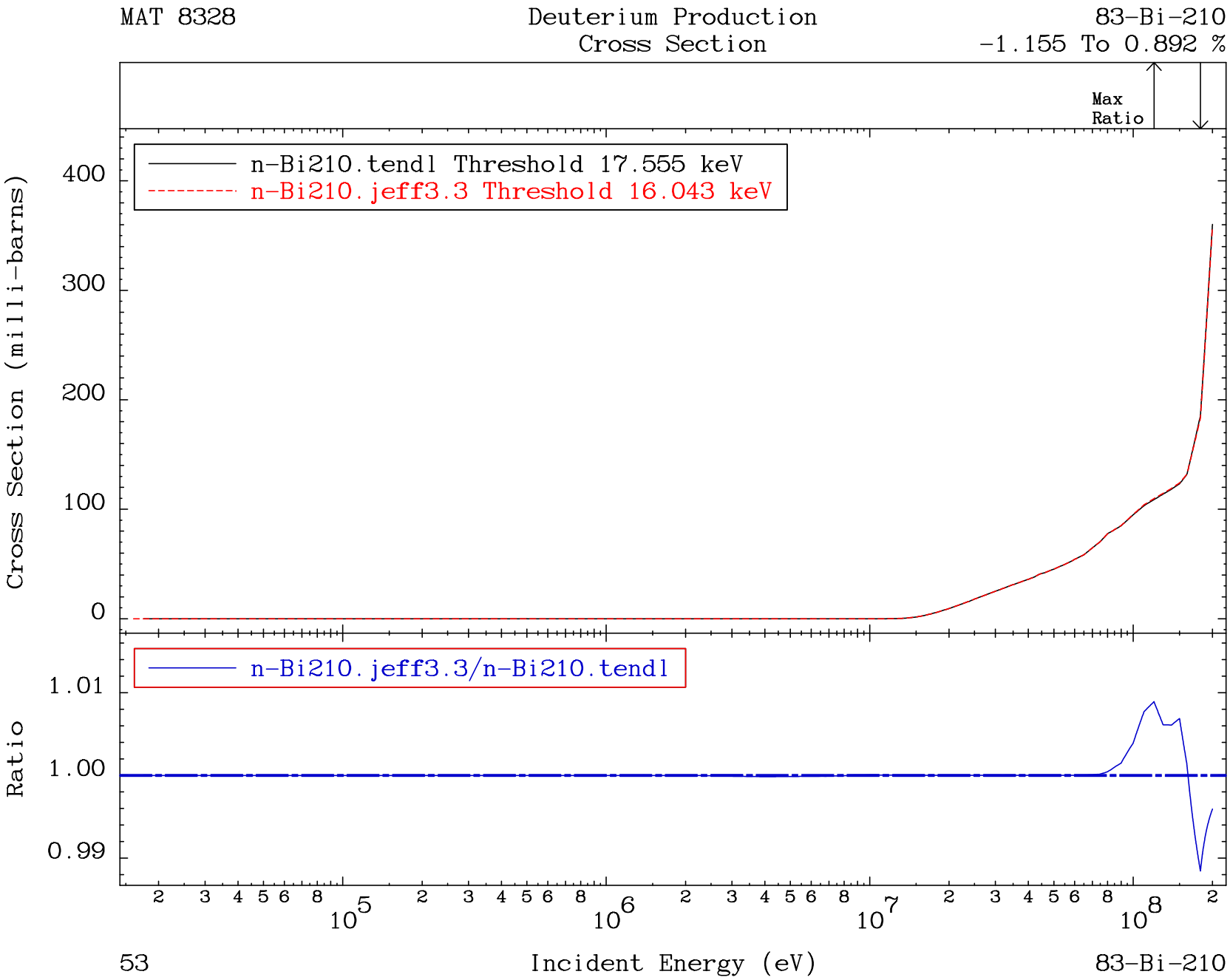

MAT 8328
(n,p) α
Cross Section
83-Bi-210
0.000 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (10^-9 barns)
150
100
50
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^4
10^2
10^0
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
48
Incident Energy (eV)
83-Bi-210

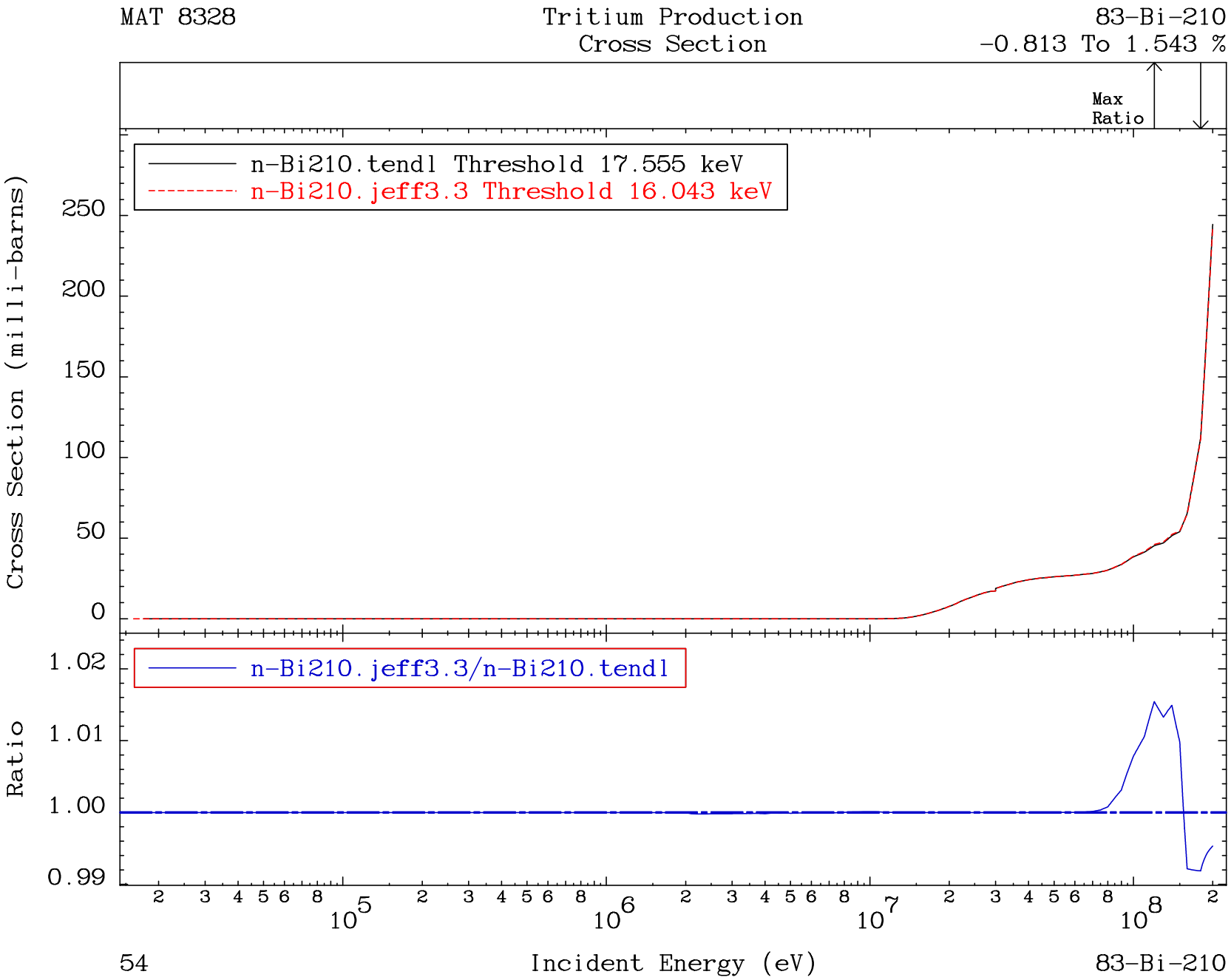

MAT 8328
(n,p) d
Cross Section
83-Bi-210
-1.005 To 0.056 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 10.445 MeV
n-Bi210.jeff3.3 Threshold 10.445 MeV
Cross Section (10^{-9} barns)
0
2
4
6
8
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
2
3
4
5
6
7
8
9
10^8
2
49
Incident Energy (eV)
83-Bi-210

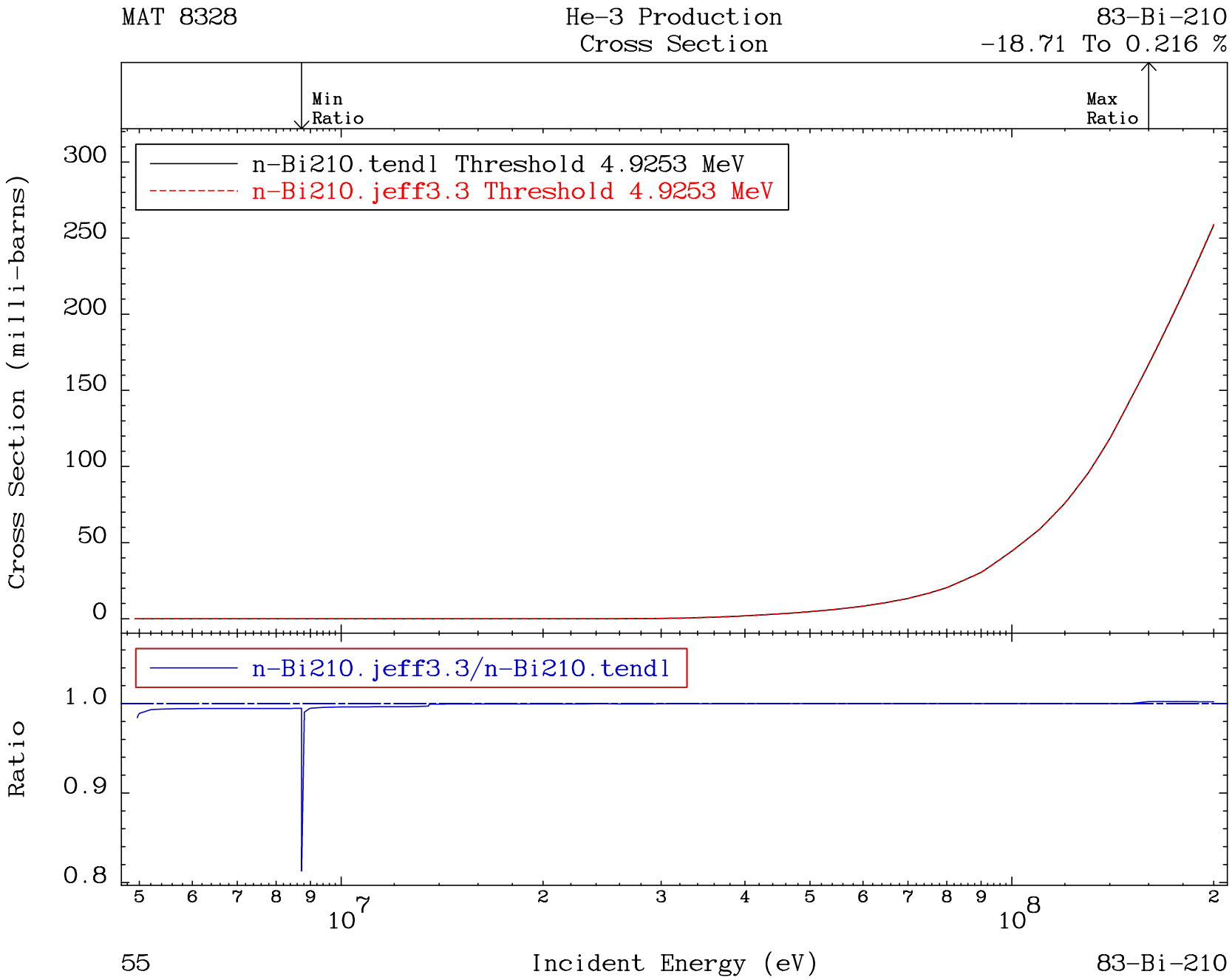

MAT 8328
(n,p) t
Cross Section
83-Bi-210
-1.718 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 7.9630 MeV
n-Bi210.jeff3.3 Threshold 7.9630 MeV
Cross Section (10-9 barns)
25
20
15
10
5
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.00
0.99
0.98
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
50
Incident Energy (eV)
83-Bi-210

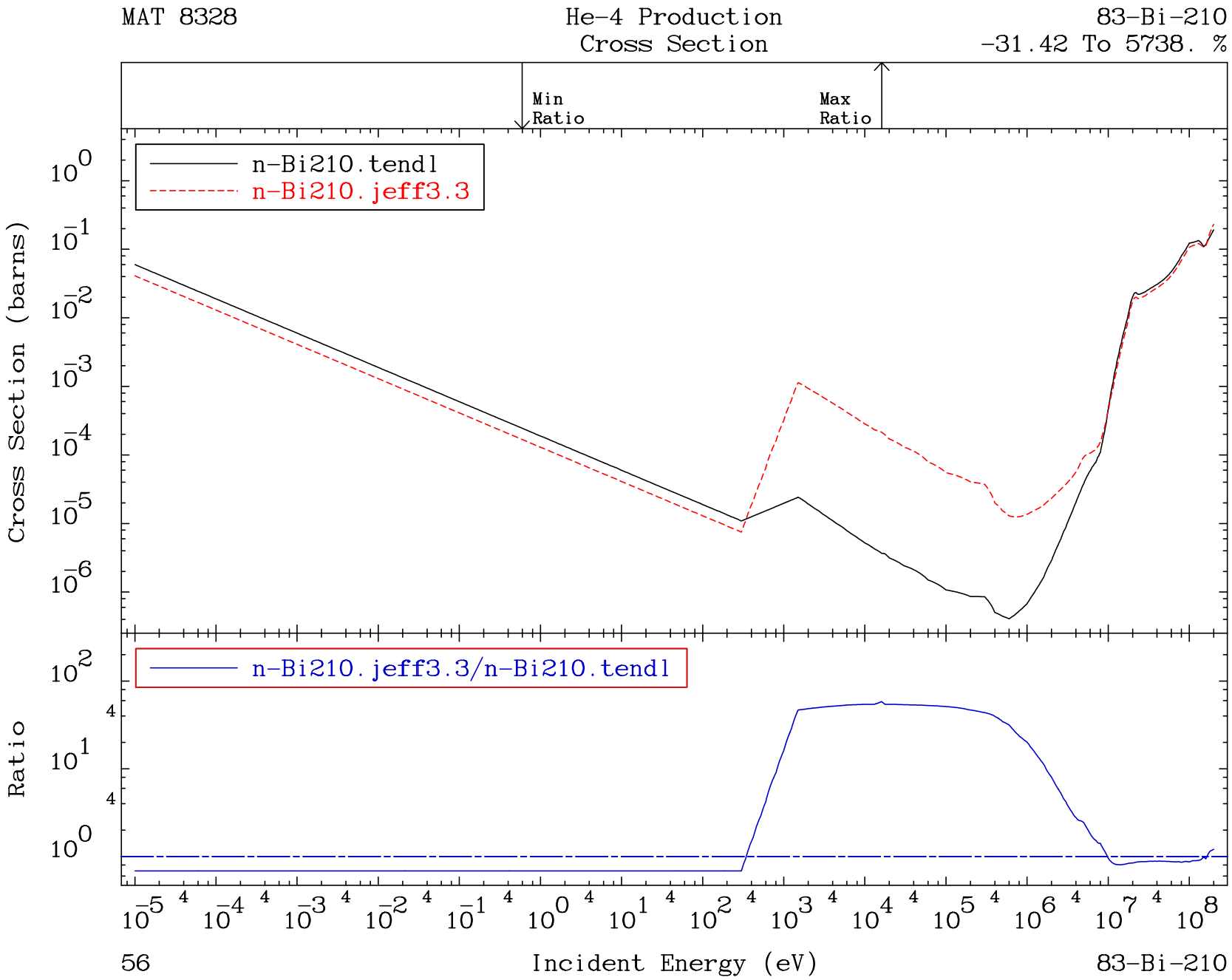

MAT 8328
(n,d) α
Cross Section
83-Bi-210
0.000 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (10^{-9} barns)
40
30
20
10
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
10^6
10^4
10^2
10^0
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
51
Incident Energy (eV)
83-Bi-210

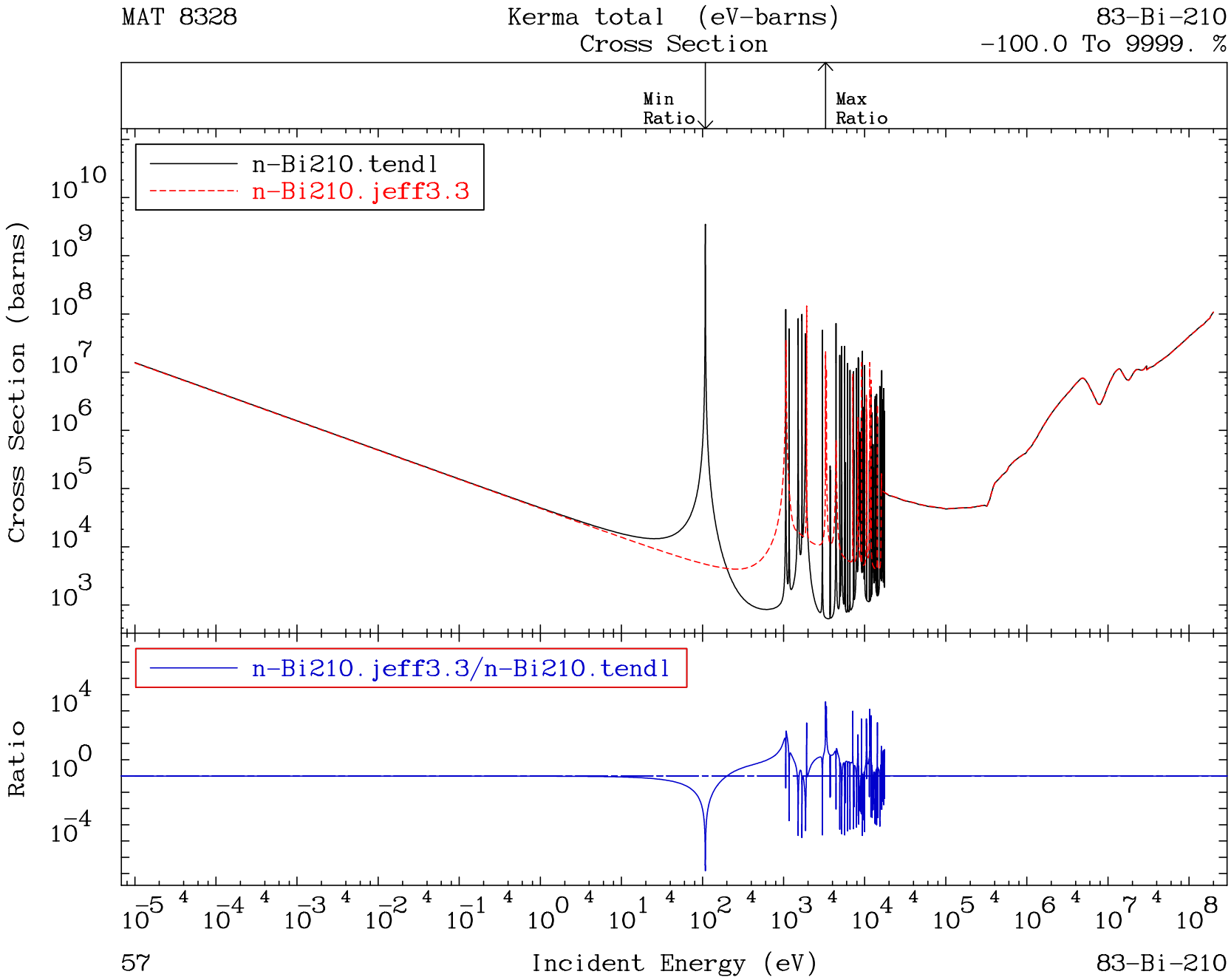

MAT 8328
Hydrogen Production
Cross Section
83-Bi-210
-0.032 To 1.460 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.02
1.01
1.00
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
52
Incident Energy (eV)
83-Bi-210

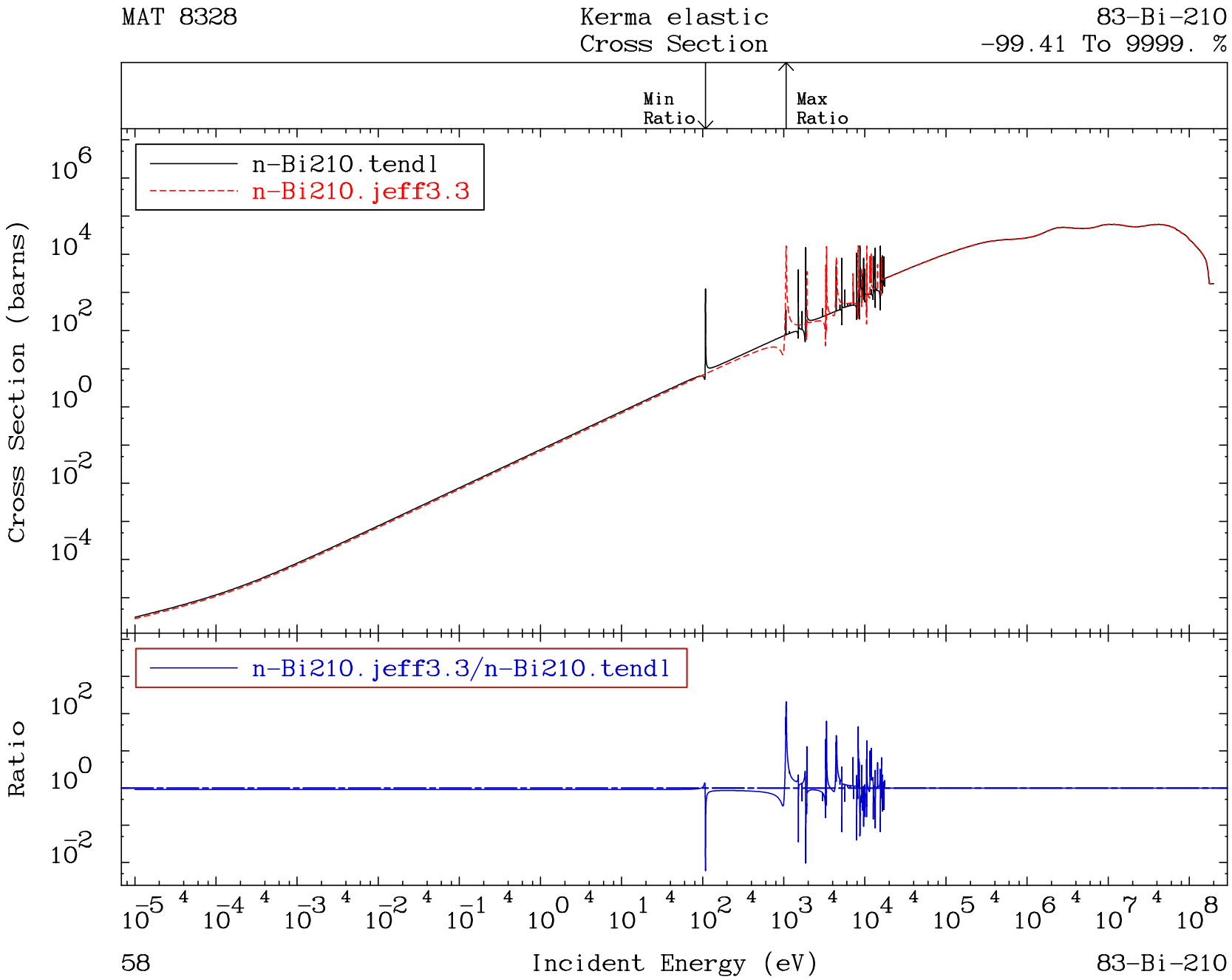

MAT 8328
Deuterium Production
Cross Section
83-Bi-210
-1.155 To 0.892 %
Max
Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (milli-barns)
400
300
200
100
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
53
Incident Energy (eV)
83-Bi-210

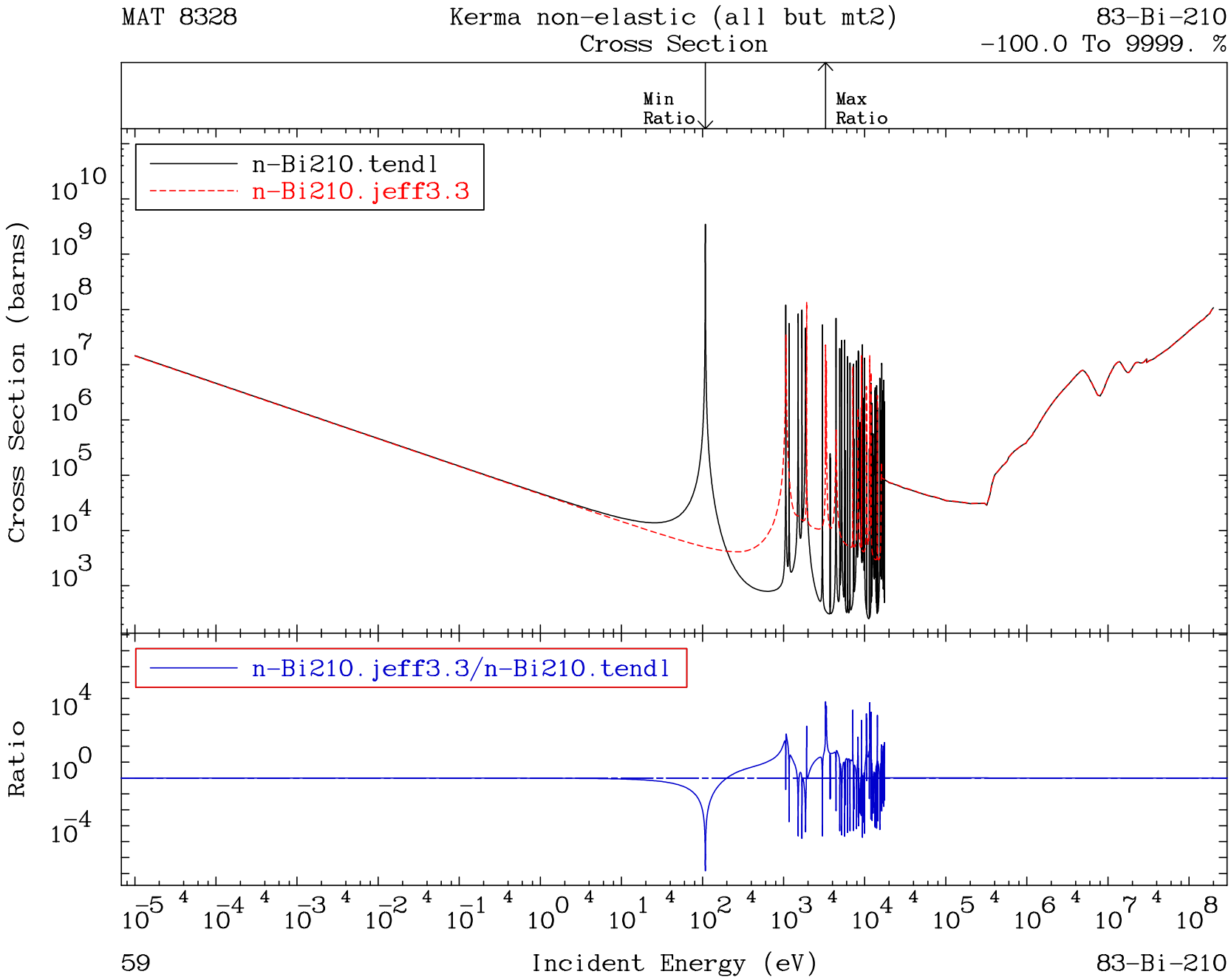

MAT 8328
Tritium Production
Cross Section
83-Bi-210
-0.813 To 1.543 %
Max
Ratio
n-Bi210.tendl Threshold 17.555 keV
n-Bi210.jeff3.3 Threshold 16.043 keV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.02
1.01
1.00
0.99
2 3 4 5 6 8 10^5 2 3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
54
Incident Energy (eV)
83-Bi-210

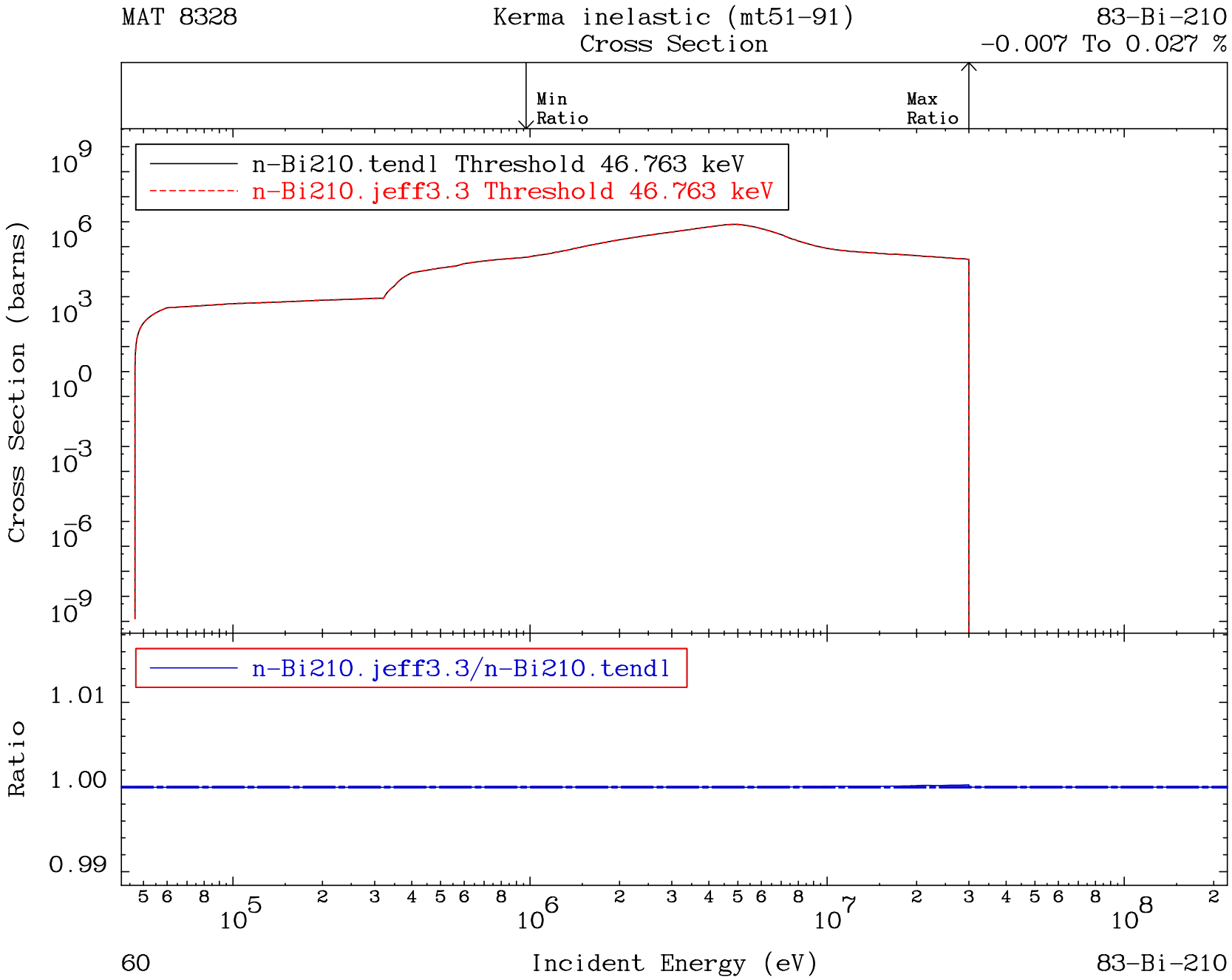

MAT 8328
He-3 Production
Cross Section
83-Bi-210
-18.71 To 0.216 %
Min
Ratio
Max
Ratio
n-Bi210.tendl Threshold 4.9253 MeV
n-Bi210.jeff3.3 Threshold 4.9253 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.0
0.9
0.8
5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
55
Incident Energy (eV)
83-Bi-210

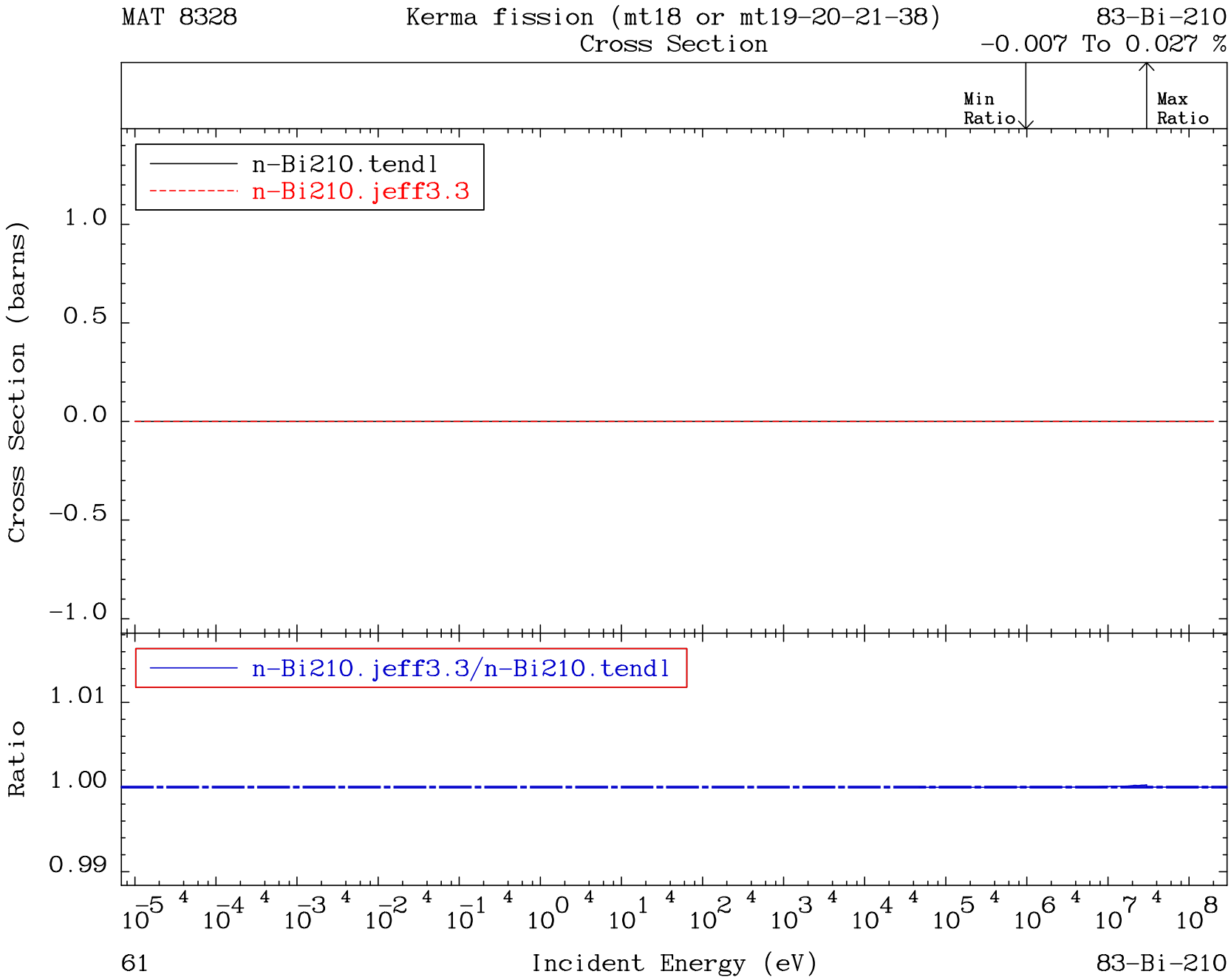

MAT 8328
He-4 Production
Cross Section
83-Bi-210
-31.42 To 5738. %
Min
Ratio
Max
Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
56
83-Bi-210

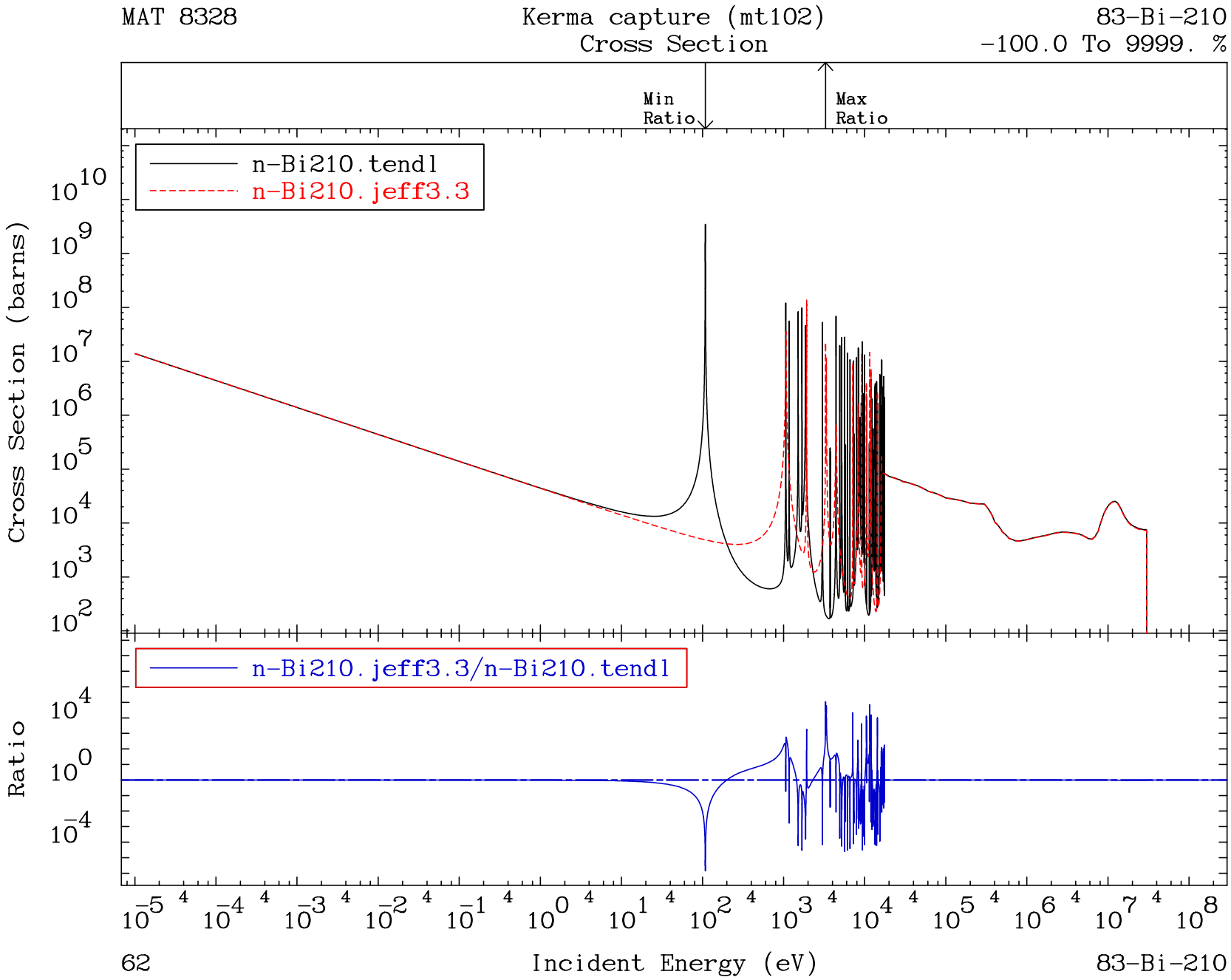

MAT 8328
Kerma total (eV-barns)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
57
Incident Energy (eV)
83-Bi-210

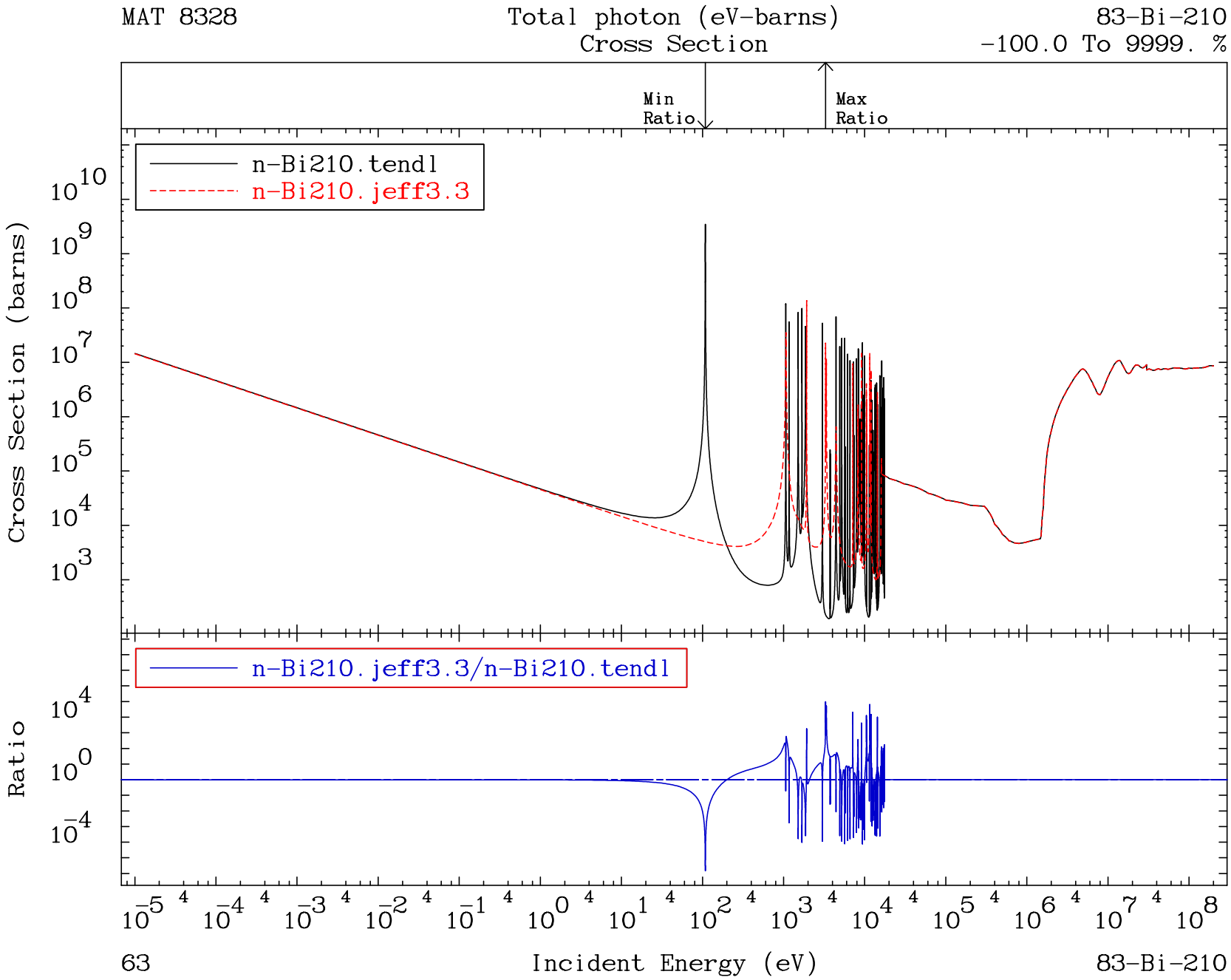

MAT 8328
Kerma elastic
Cross Section
83-Bi-210
-99.41 To 9999. %
Min
Ratio
Max
Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
58
Incident Energy (eV)
83-Bi-210

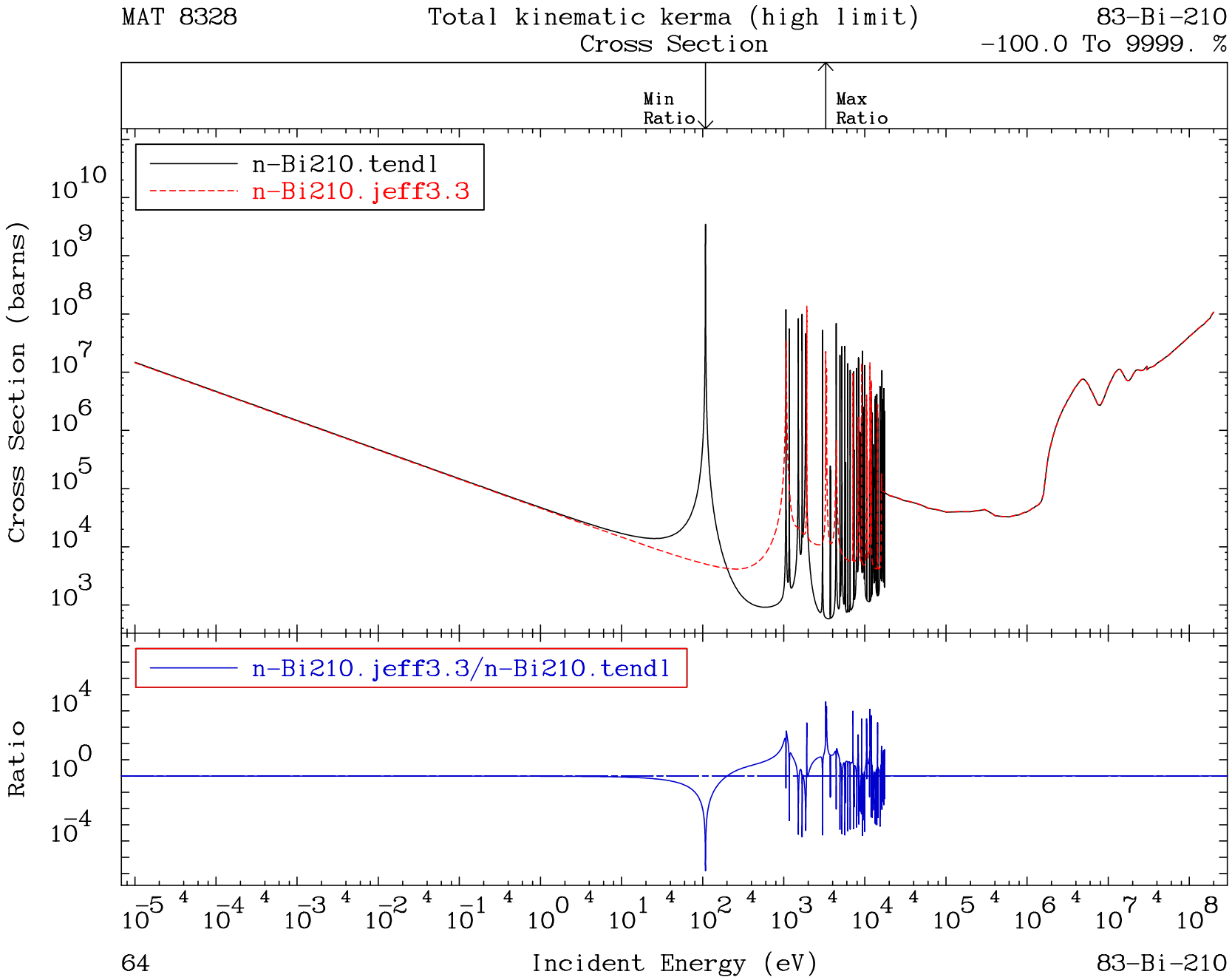

MAT 8328
Kerma non-elastic (all but mt2)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
59
Incident Energy (eV)
83-Bi-210

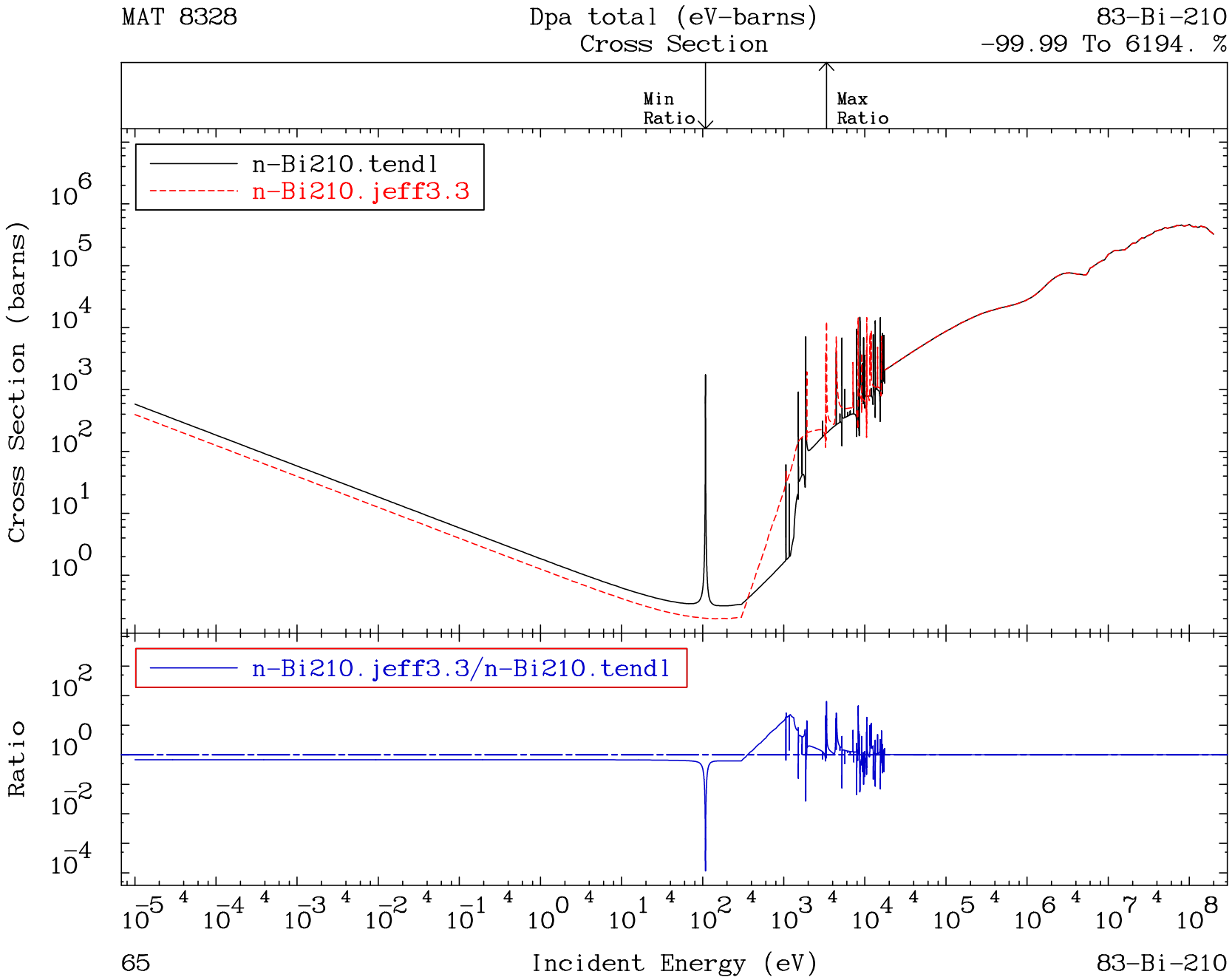

MAT 8328
Kerma inelastic (mt51-91)
Cross Section
83-Bi-210
-0.007 To 0.027 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 46.763 keV
n-Bi210.jeff3.3 Threshold 46.763 keV
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
60
83-Bi-210

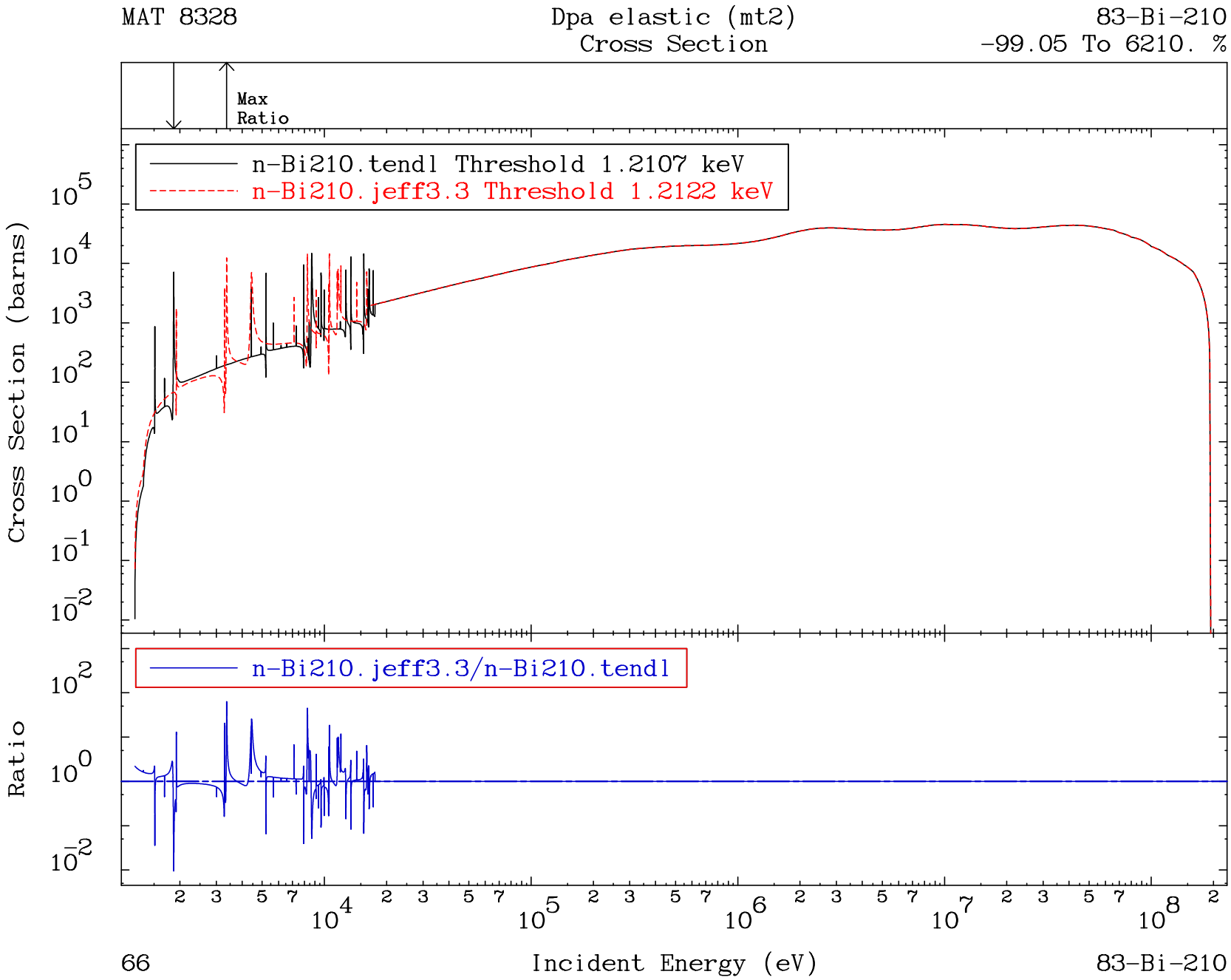

MAT 8328
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
83-Bi-210
-0.007 To 0.027 %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
61
Incident Energy (eV)
83-Bi-210

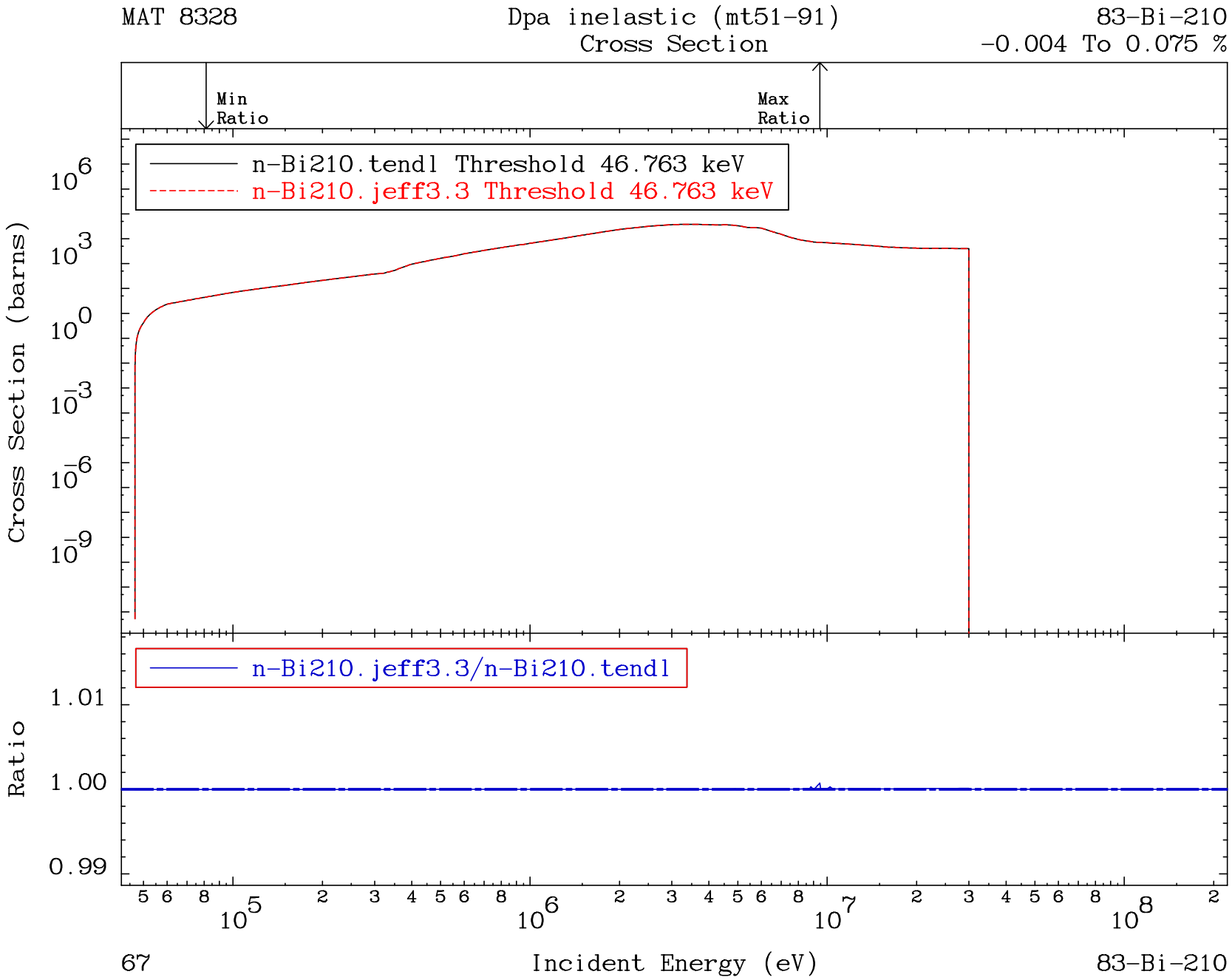

MAT 8328
Kerma capture (mt102)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
62
Incident Energy (eV)
83-Bi-210

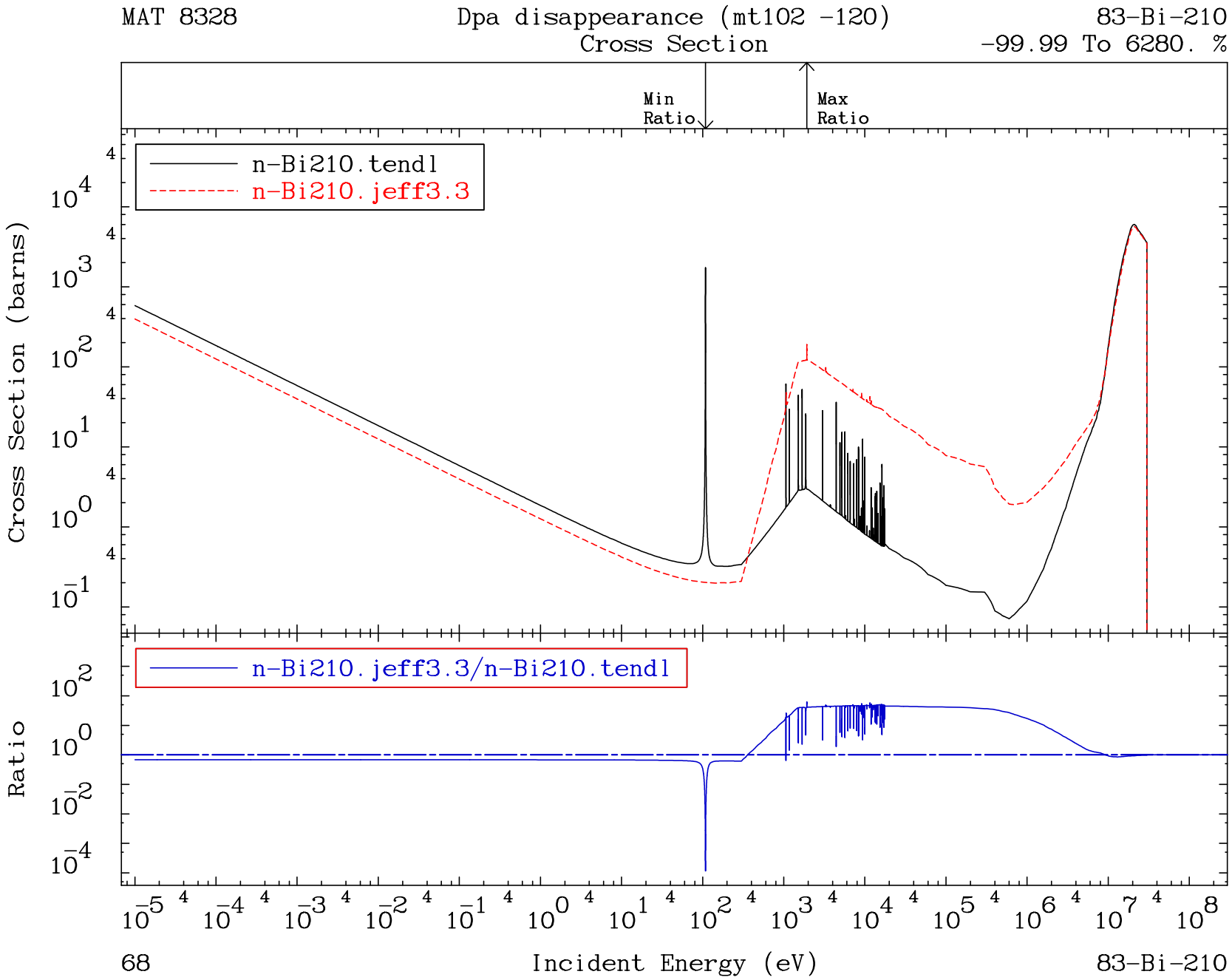

MAT 8328
Total photon (eV-barns)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min
Ratio
Max
Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
63
Incident Energy (eV)
83-Bi-210

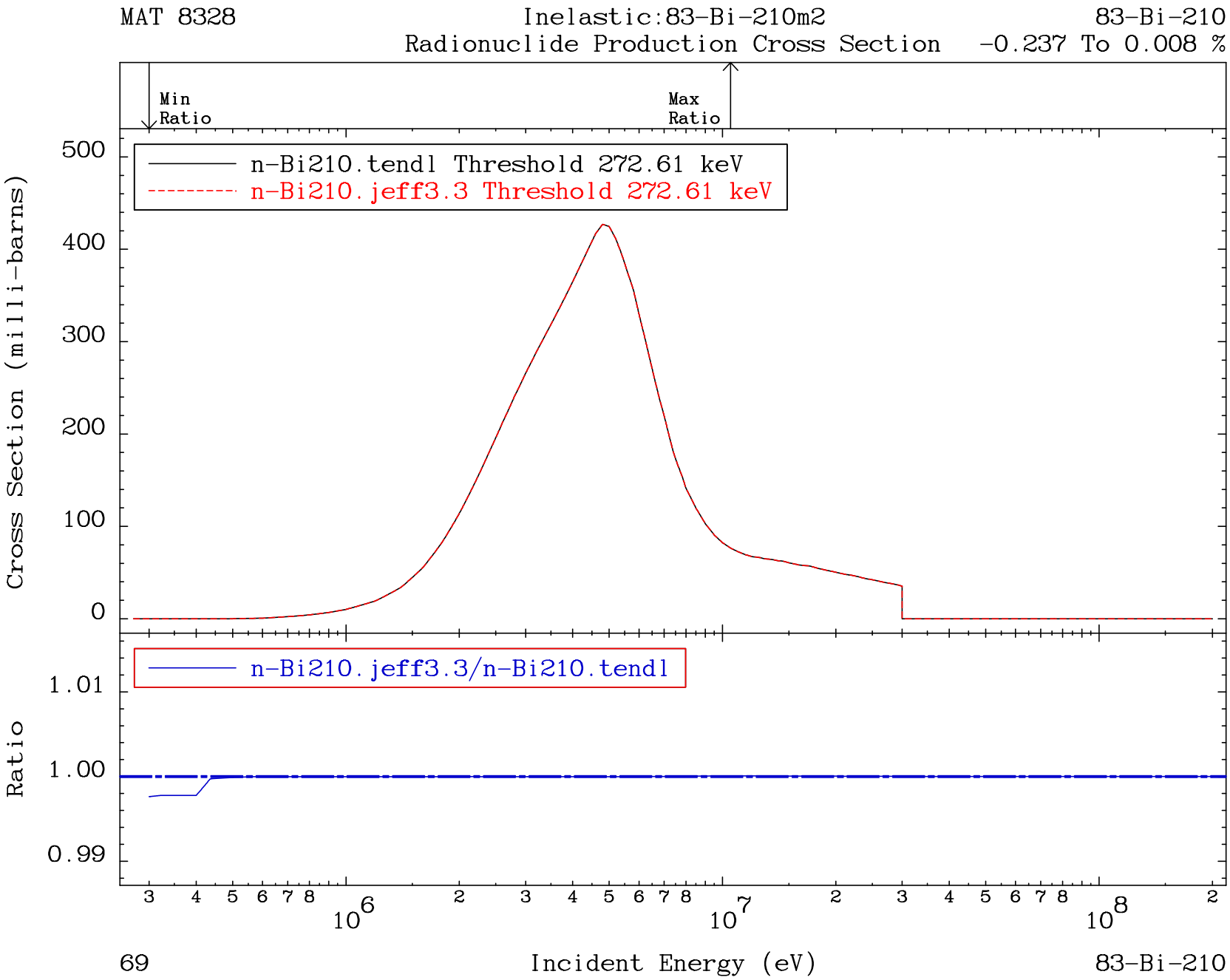

MAT 8328
Total kinematic kerma (high limit)
Cross Section
83-Bi-210
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
64
83-Bi-210

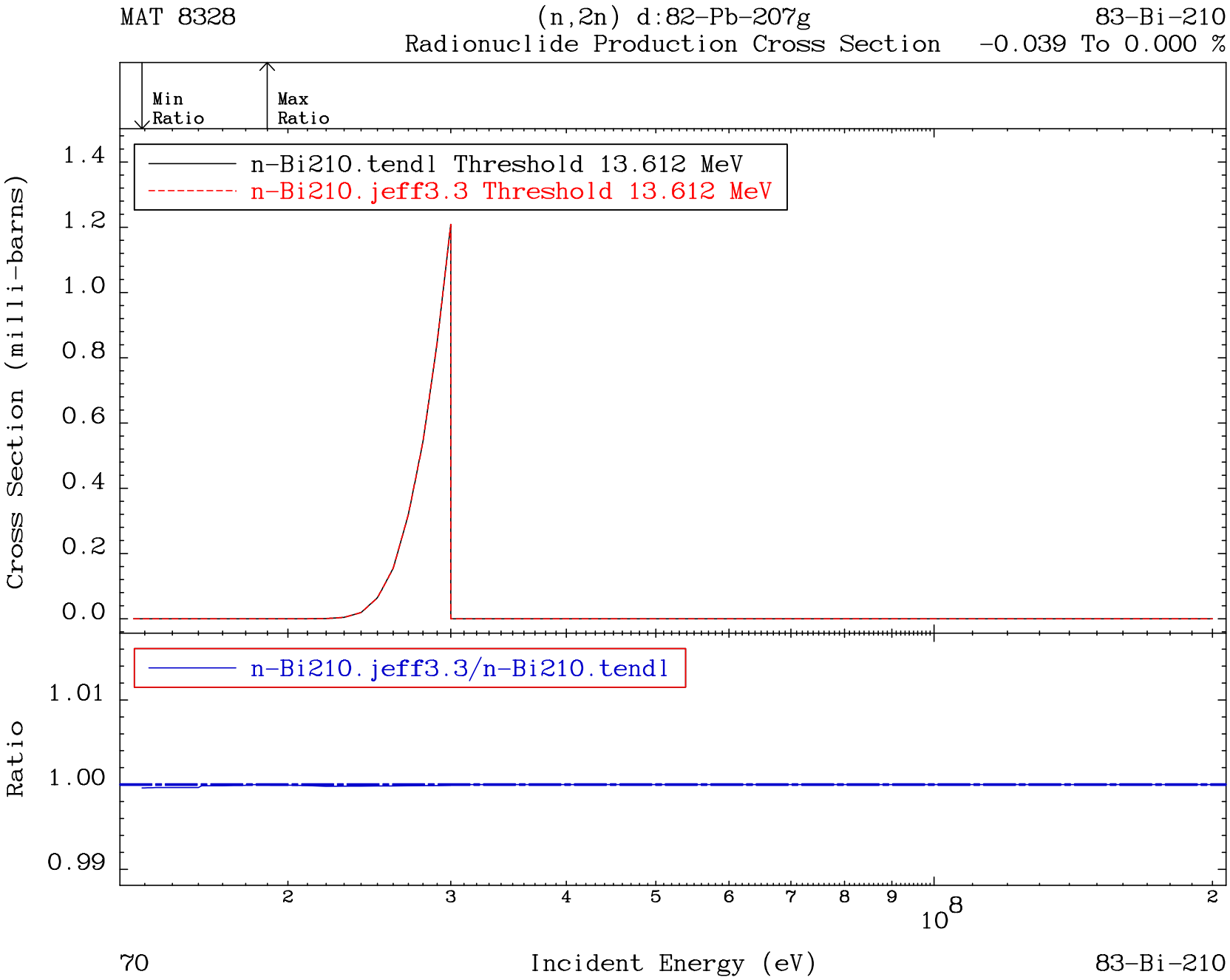

MAT 8328
Dpa total (eV-barns)
Cross Section
83-Bi-210
-99.99 To 6194. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
65
Incident Energy (eV)
83-Bi-210

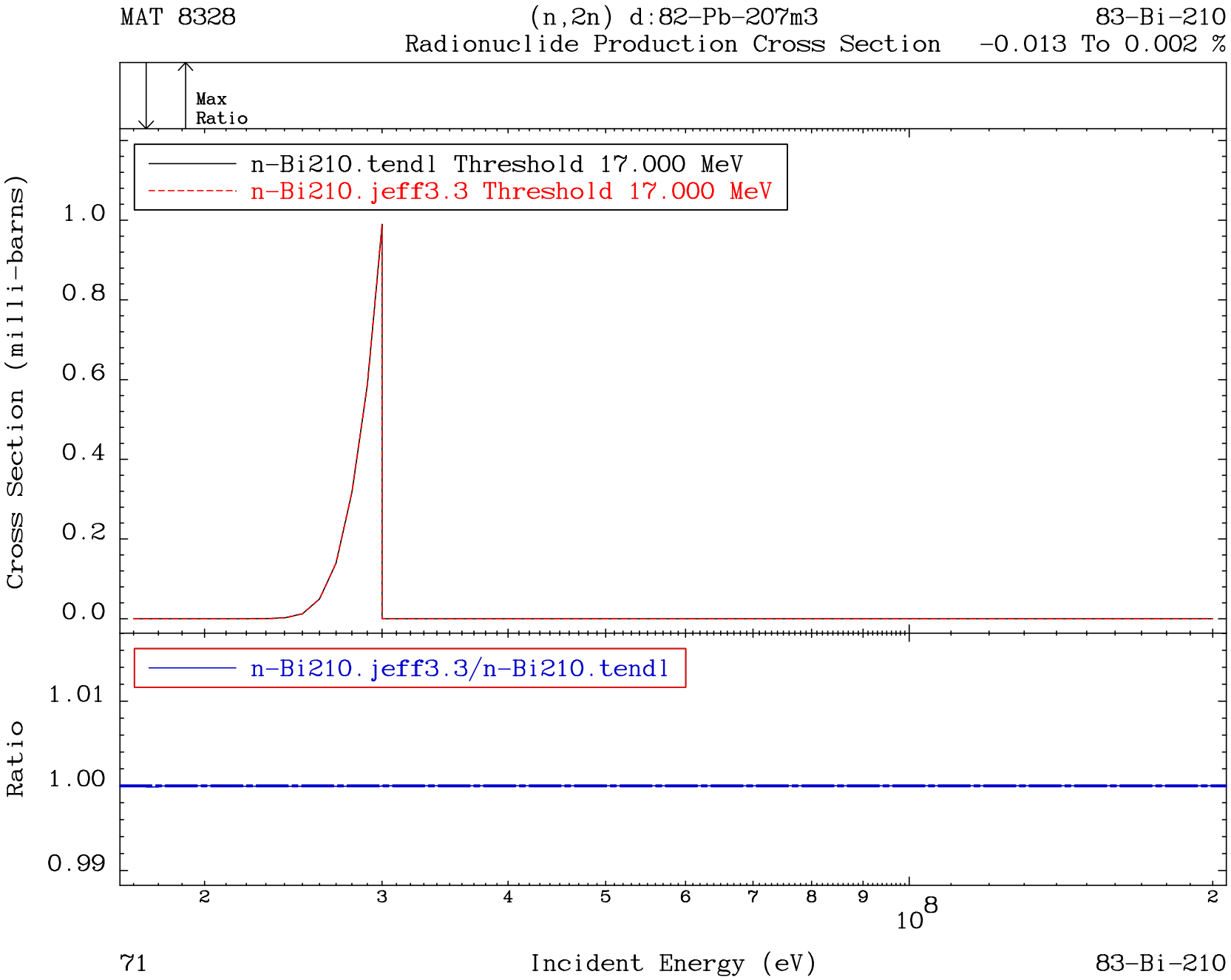

MAT 8328
Dpa elastic (mt2)
Cross Section
83-Bi-210
-99.05 To 6210. %
Max
Ratio
n-Bi210.tendl Threshold 1.2107 keV
n-Bi210.jeff3.3 Threshold 1.2122 keV
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
66
83-Bi-210

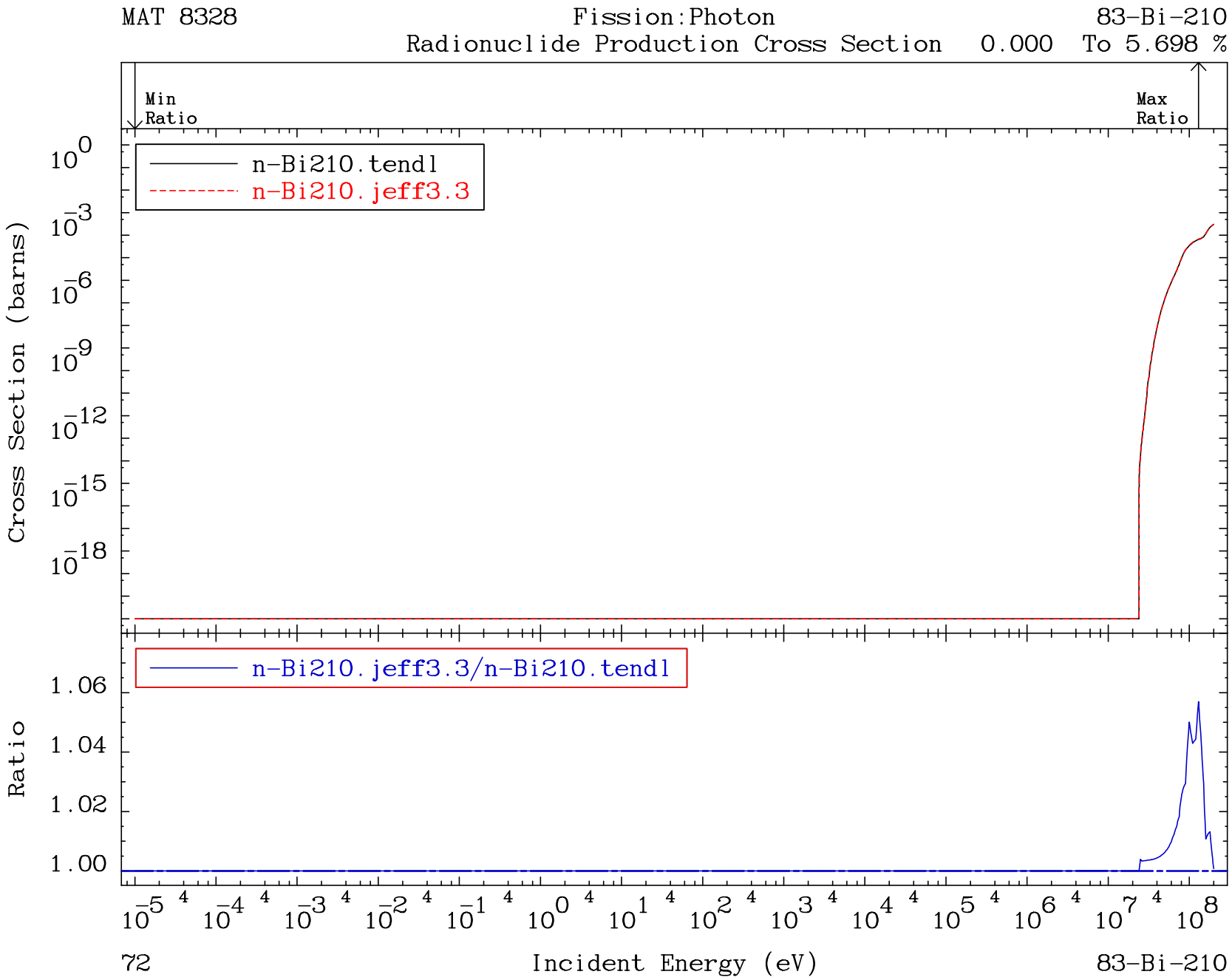

MAT 8328
Dpa inelastic (mt51-91)
Cross Section
83-Bi-210
-0.004 To 0.075 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 46.763 keV
n-Bi210.jeff3.3 Threshold 46.763 keV
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
67
83-Bi-210

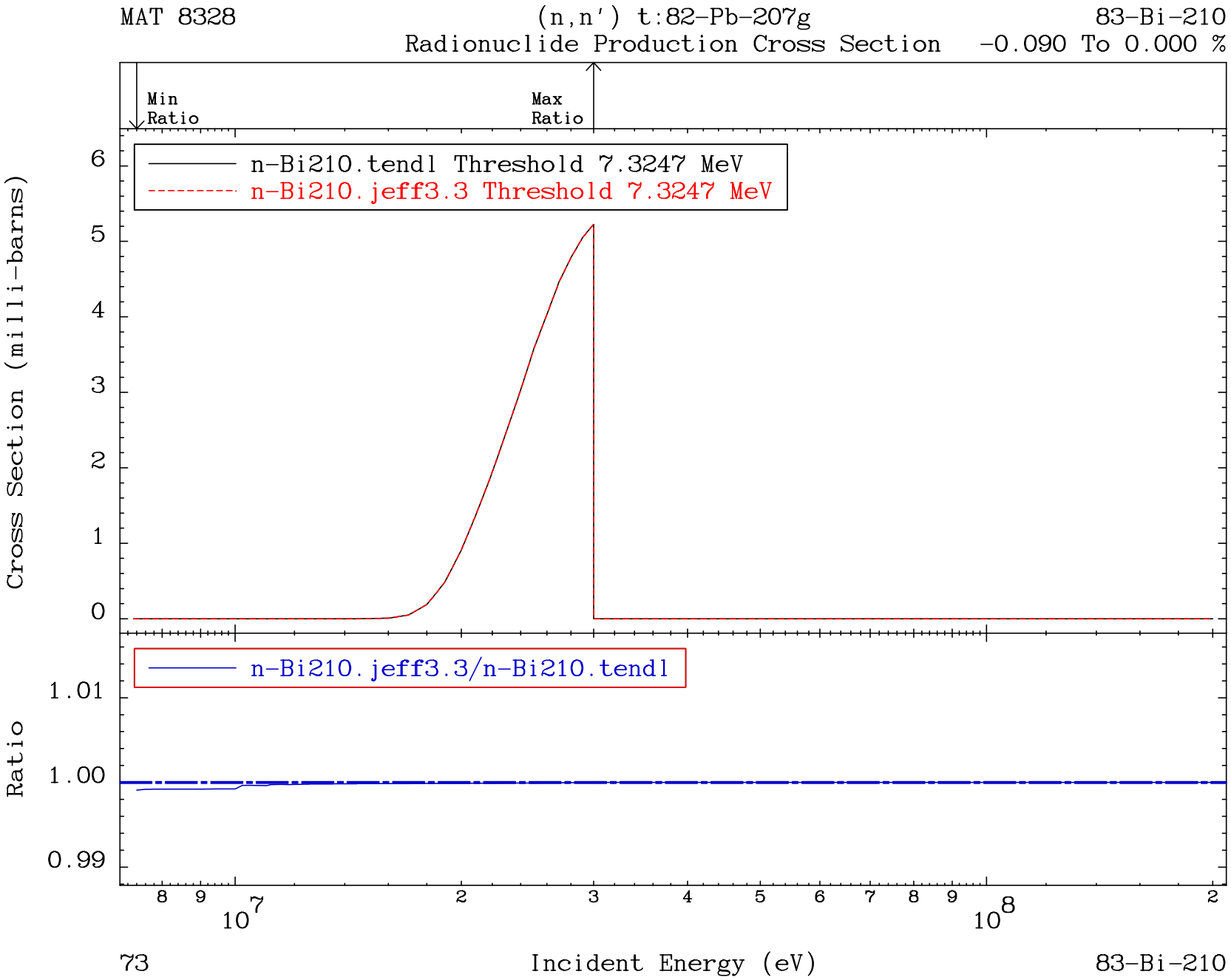

MAT 8328
Dpa disappearance (mt102 -120)
Cross Section
83-Bi-210
-99.99 To 6280. %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
68
Incident Energy (eV)
83-Bi-210

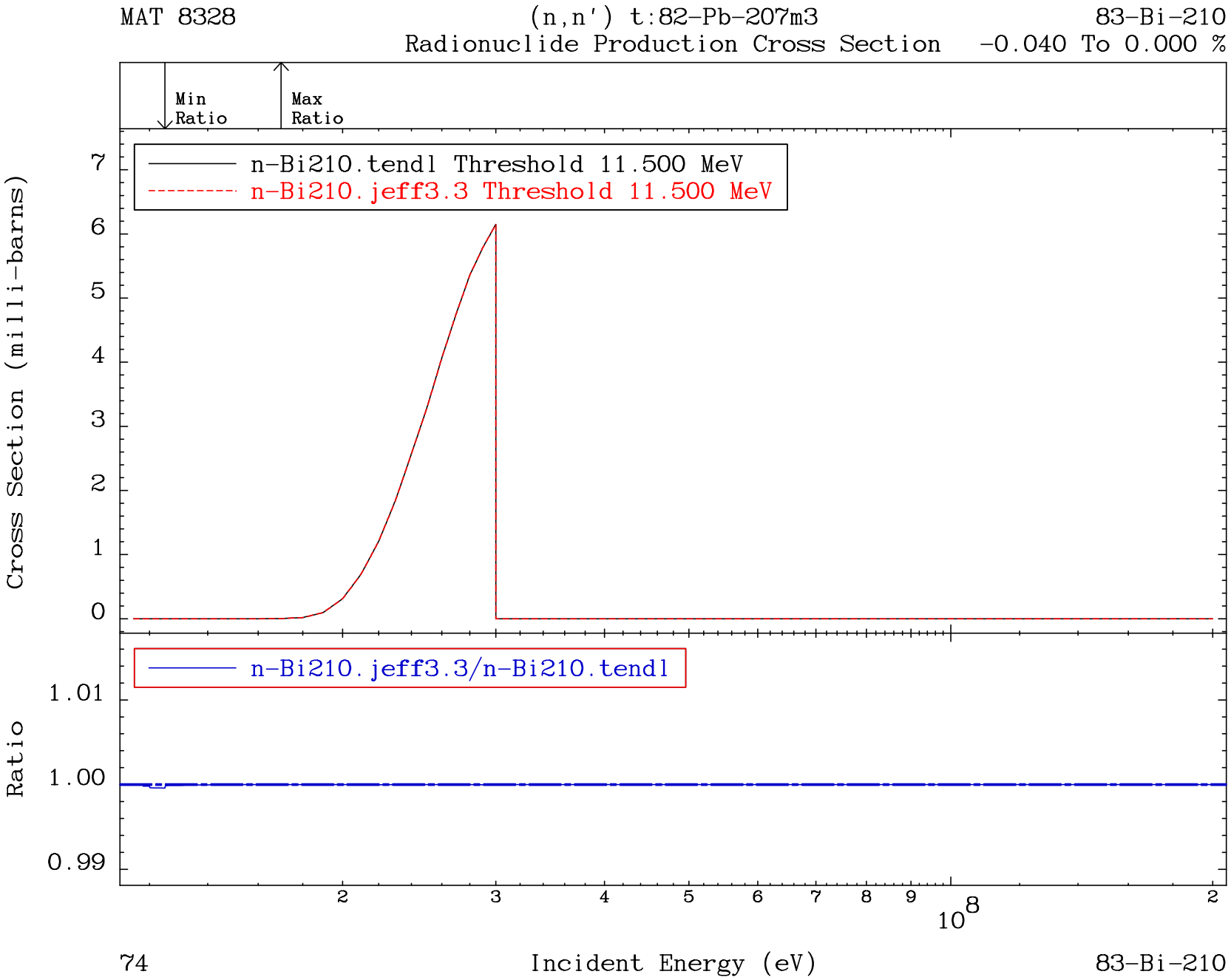

MAT 8328
Inelastic:83-Bi-210m2
83-Bi-210
Radionuclide Production Cross Section -0.237 To 0.008 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 272.61 keV
n-Bi210.jeff3.3 Threshold 272.61 keV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
3 4 5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
69
Incident Energy (eV)
83-Bi-210

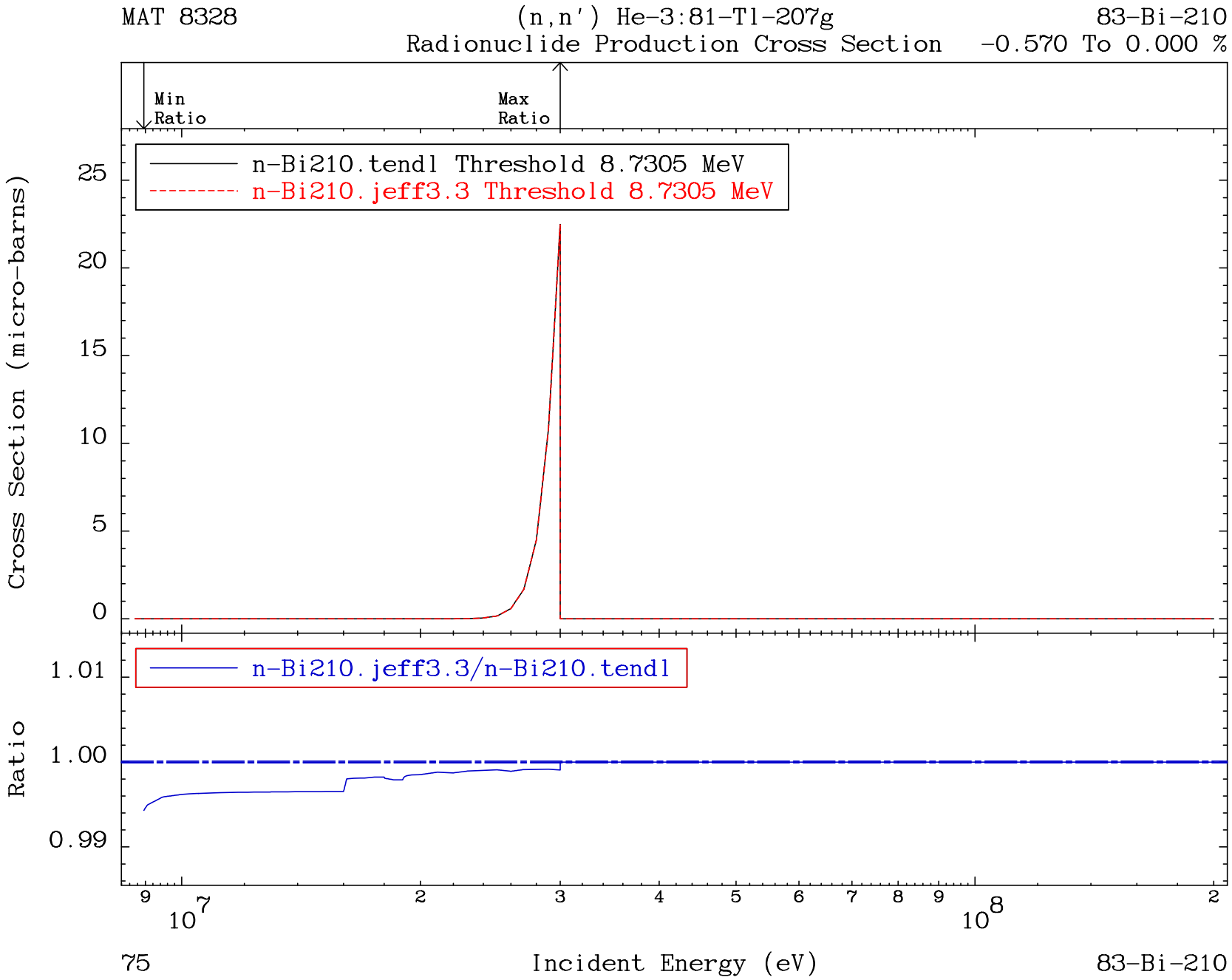

MAT 8328
(n,2n) d:82-Pb-207g
83-Bi-210
Radionuclide Production Cross Section
-0.039 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 13.612 MeV
n-Bi210.jeff3.3 Threshold 13.612 MeV
Cross Section (milli-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
70
Incident Energy (eV)
83-Bi-210

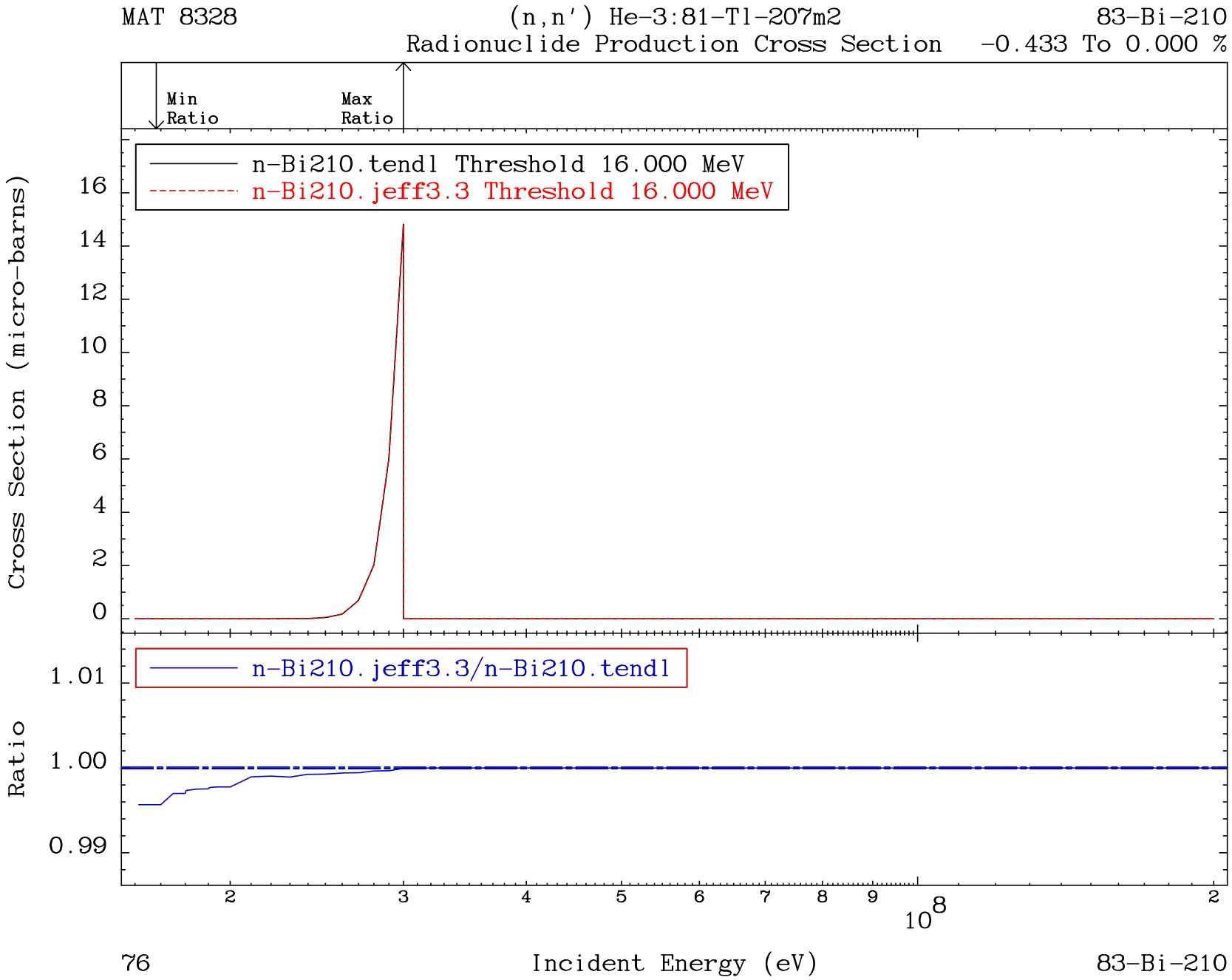

MAT 8328
(n,2n) d:82-Pb-207m3
83-Bi-210
Radionuclide Production Cross Section
-0.013 To 0.002 %
Max
Ratio
n-Bi210.tendl Threshold 17.000 MeV
n-Bi210.jeff3.3 Threshold 17.000 MeV
Cross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
71
Incident Energy (eV)
83-Bi-210

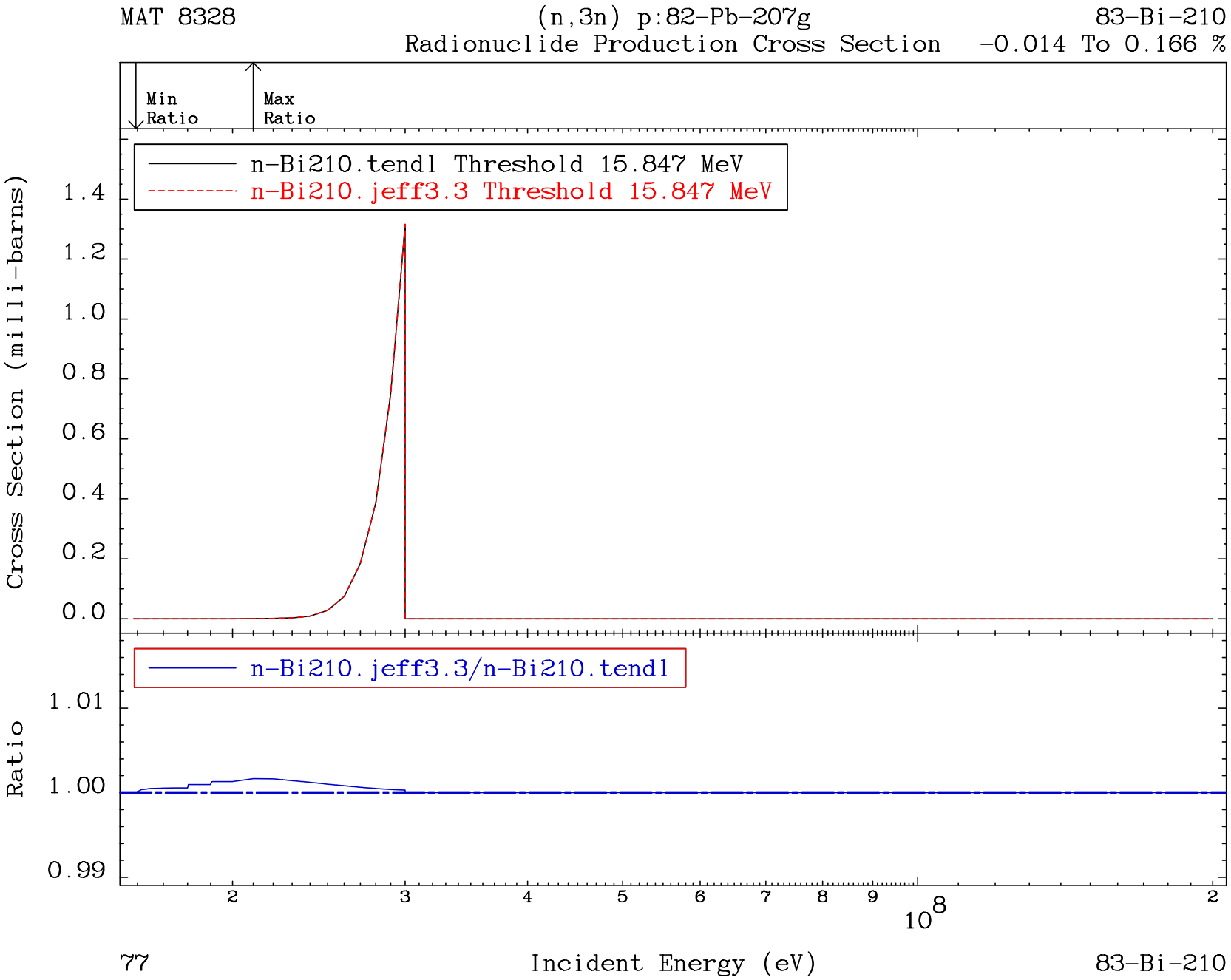

MAT 8328
Fission:Photon
83-Bi-210
Radionuclide Production Cross Section 0.000 To 5.698 %
Min Ratio
Max Ratio
n-Bi210.tendl
n-Bi210.jeff3.3
Cross Section (barns)
10^0
10^-3
10^-6
10^-9
10^-12
10^-15
10^-18
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.06
1.04
1.02
1.00
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
72
Incident Energy (eV)
83-Bi-210

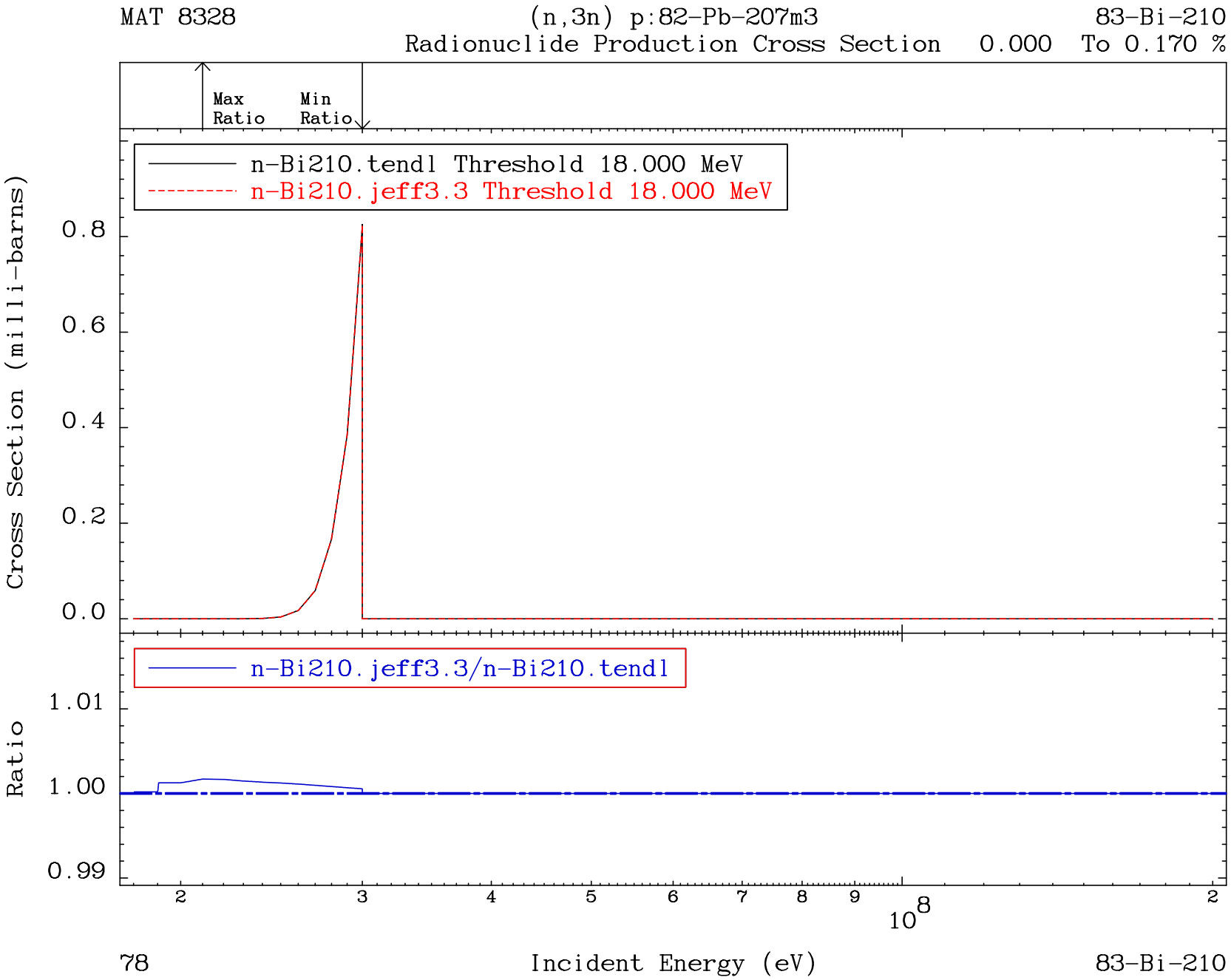

MAT 8328
(n,n') t:82-Pb-207g
83-Bi-210
Radionuclide Production Cross Section -0.090 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 7.3247 MeV
n-Bi210.jeff3.3 Threshold 7.3247 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
73
Incident Energy (eV)
83-Bi-210

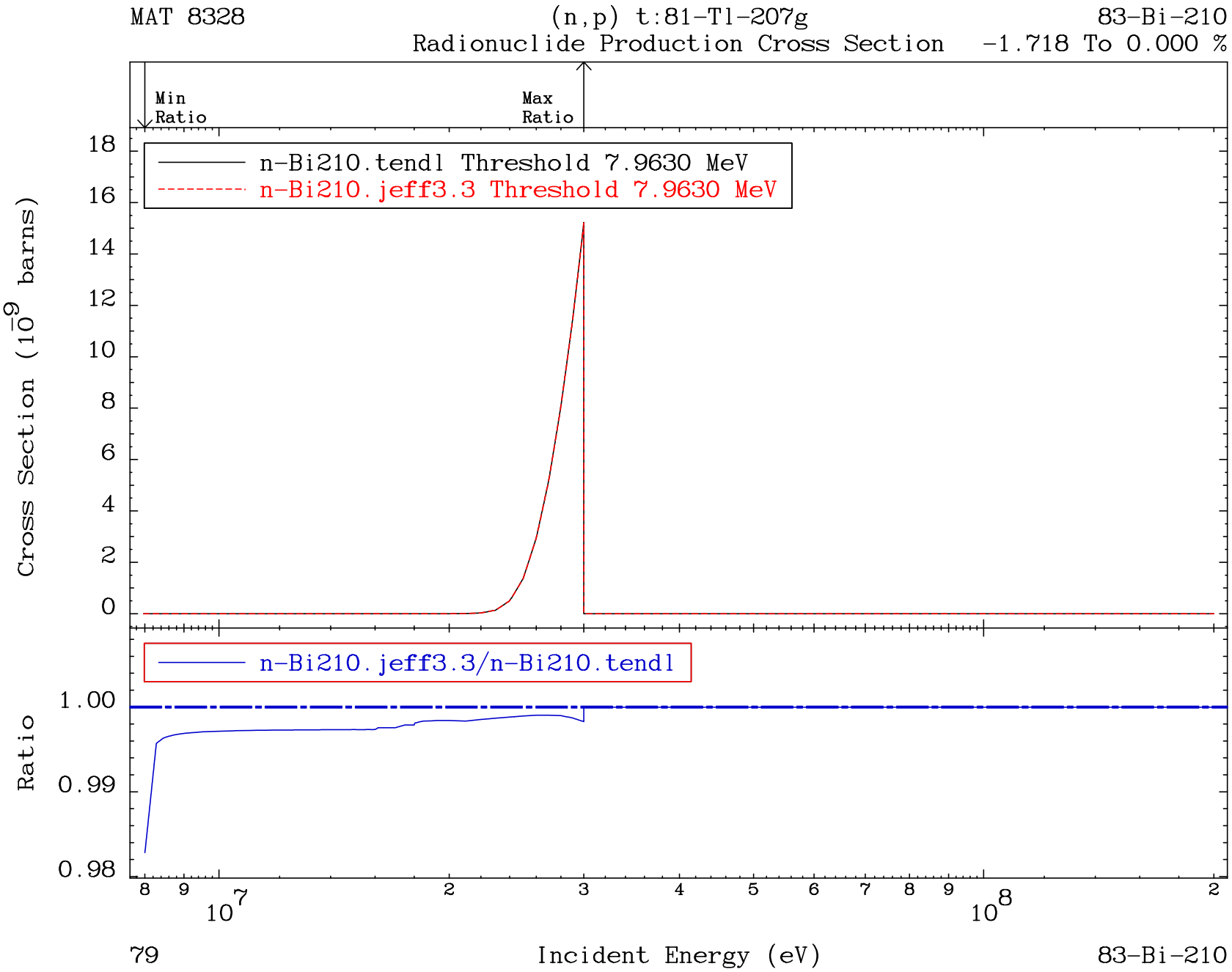

MAT 8328
(n,n') t:82-Pb-207m3
83-Bi-210
Radionuclide Production Cross Section
-0.040 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 11.500 MeV
n-Bi210.jeff3.3 Threshold 11.500 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
7
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
0.99
1.00
1.01
2
3
4
5
6
7
8
9
10^8
2
74
Incident Energy (eV)
83-Bi-210

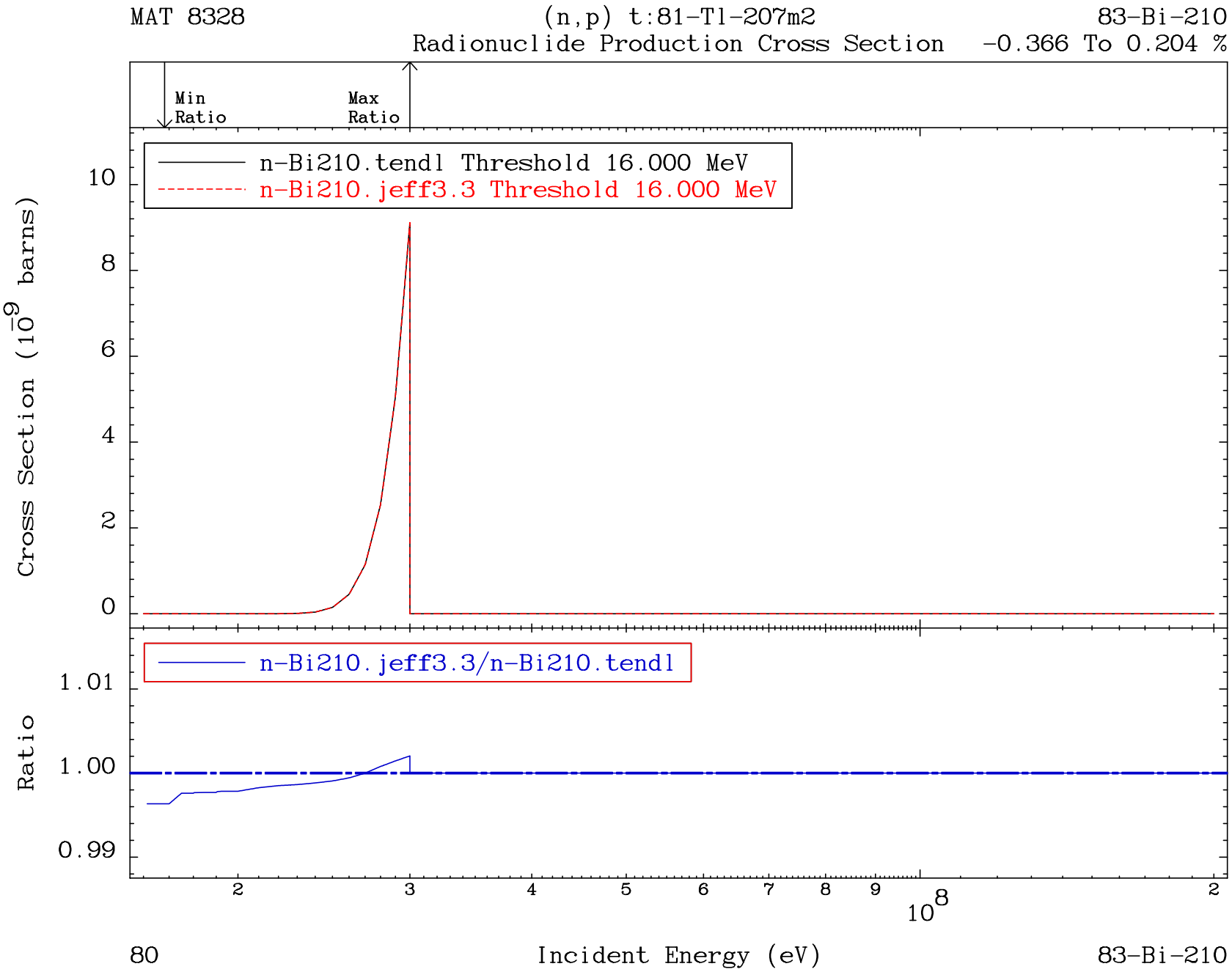

MAT 8328
(n,n') He-3:81-Tl-207g
83-Bi-210
Radionuclide Production Cross Section -0.570 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 8.7305 MeV
n-Bi210.jeff3.3 Threshold 8.7305 MeV
Cross Section (micro-barns)
25
20
15
10
5
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
9
10^7
2
3
4
5
6
7
8
9
10^8
2
75
Incident Energy (eV)
83-Bi-210


MAT 8328
(n,n') He-3:81-Tl-207m2
Radionuclide Production Cross Section
83-Bi-210
-0.433 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 16.000 MeV
n-Bi210.jeff3.3 Threshold 16.000 MeV
Cross Section (micro-barns)
16
14
12
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
76
Incident Energy (eV)
83-Bi-210


MAT 8328
(n,3n) p:82-Pb-207g
83-Bi-210
Radionuclide Production Cross Section
-0.014 To 0.166 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 15.847 MeV
n-Bi210.jeff3.3 Threshold 15.847 MeV
Cross Section (milli-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
77
Incident Energy (eV)
83-Bi-210


MAT 8328
(n,3n) p:82-Pb-207m3
83-Bi-210
Radionuclide Production Cross Section 0.000 To 0.170 %
Max Ratio
Min Ratio
n-Bi210.tendl Threshold 18.000 MeV
n-Bi210.jeff3.3 Threshold 18.000 MeV
Cross Section (milli-barns)
0.8
0.6
0.4
0.2
0.0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^8
2
78
Incident Energy (eV)
83-Bi-210


MAT 8328
(n,p) t:81-Tl-207g
83-Bi-210
Radionuclide Production Cross Section -1.718 To 0.000 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 7.9630 MeV
n-Bi210.jeff3.3 Threshold 7.9630 MeV
Cross Section (10^{-9} barns)
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
Incident Energy (eV)
79
83-Bi-210


MAT 8328
(n,p) t:81-Tl-207m2
83-Bi-210
Radionuclide Production Cross Section
-0.366 To 0.204 %
Min Ratio
Max Ratio
n-Bi210.tendl Threshold 16.000 MeV
n-Bi210.jeff3.3 Threshold 16.000 MeV
Cross Section (10^{-9} barns)
10
8
6
4
2
0
n-Bi210.jeff3.3/n-Bi210.tendl
Ratio
1.01
1.00
0.99
2
3
4
5
6
7
8
9
10^{8}
2
80
Incident Energy (eV)
83-Bi-210