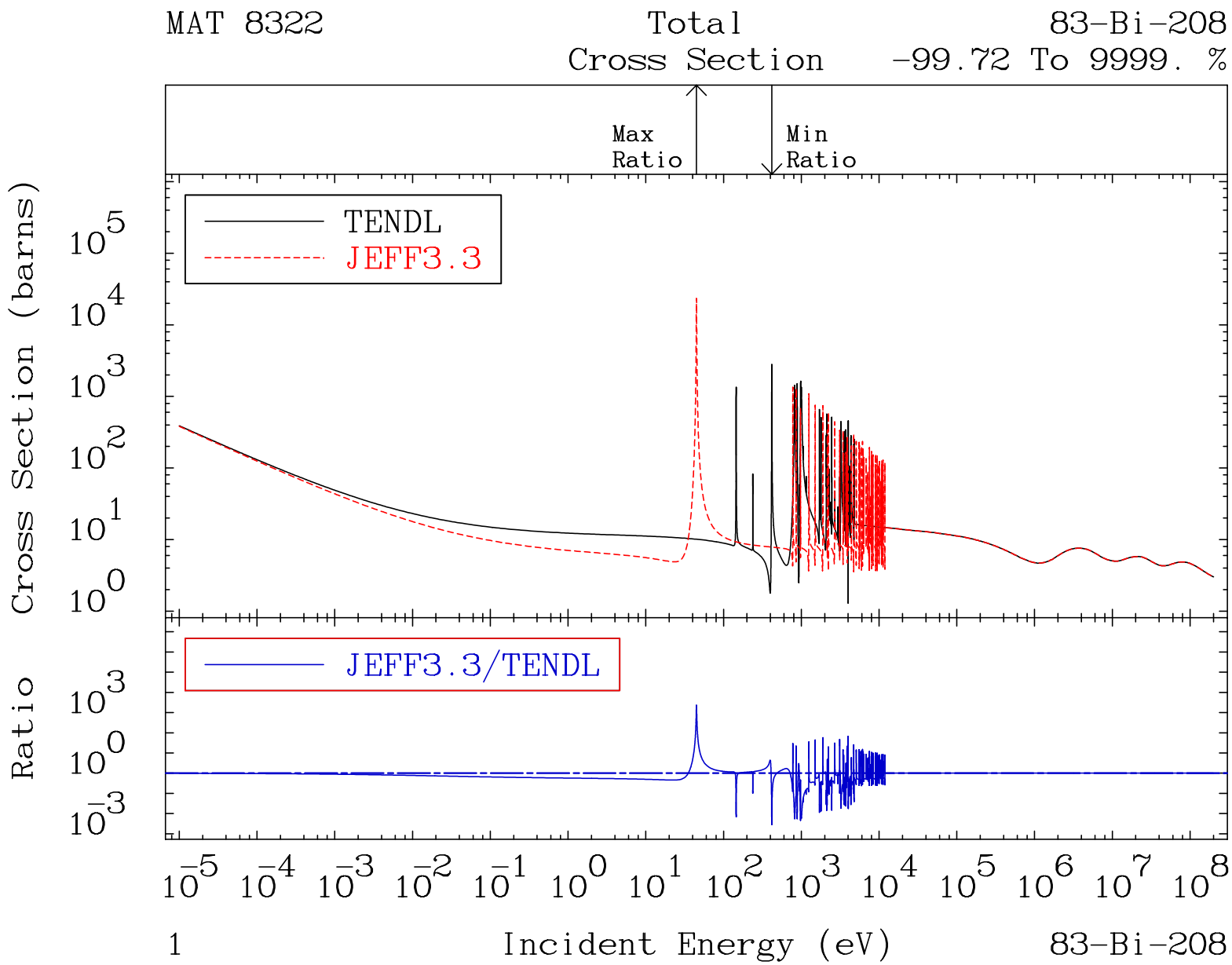
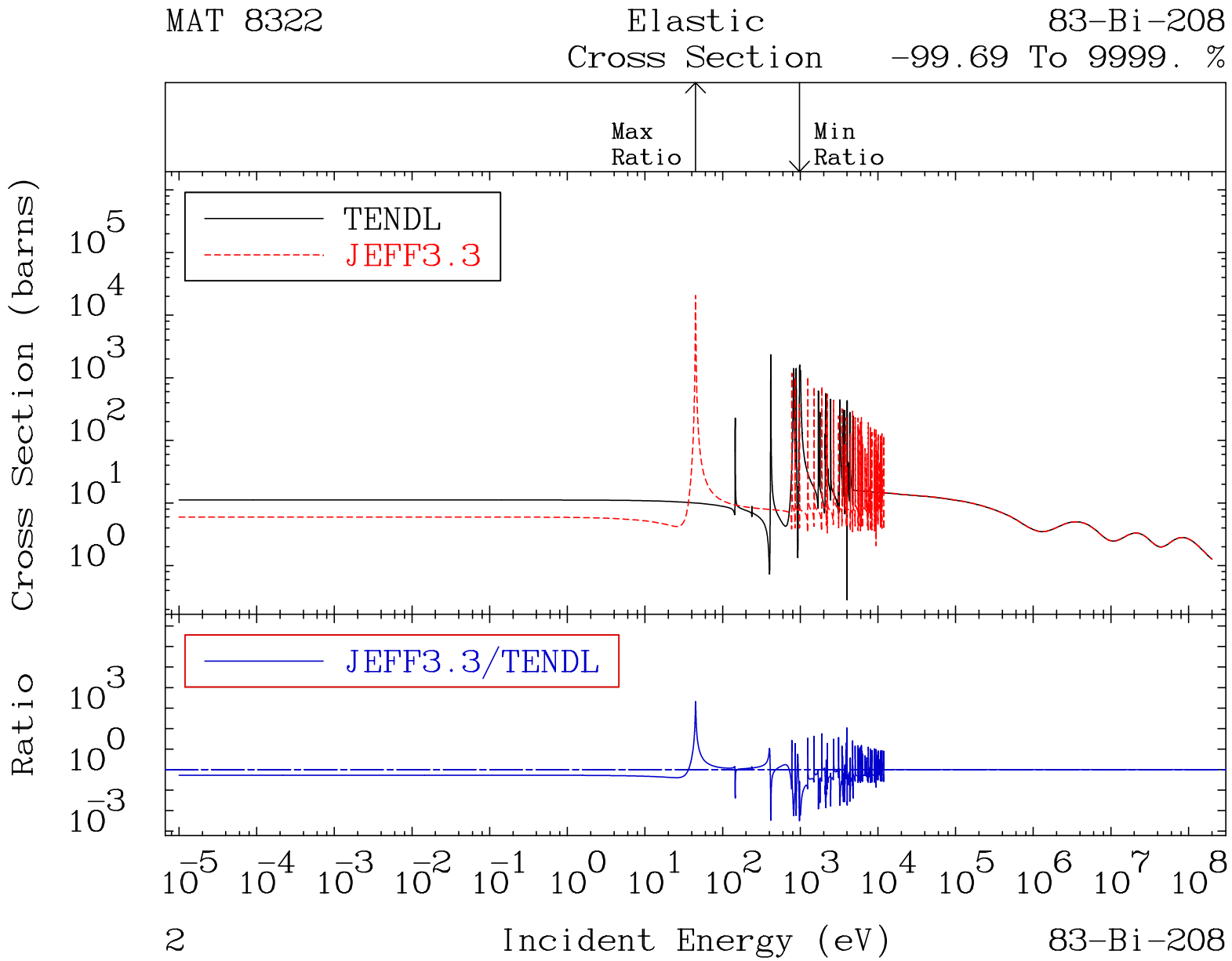
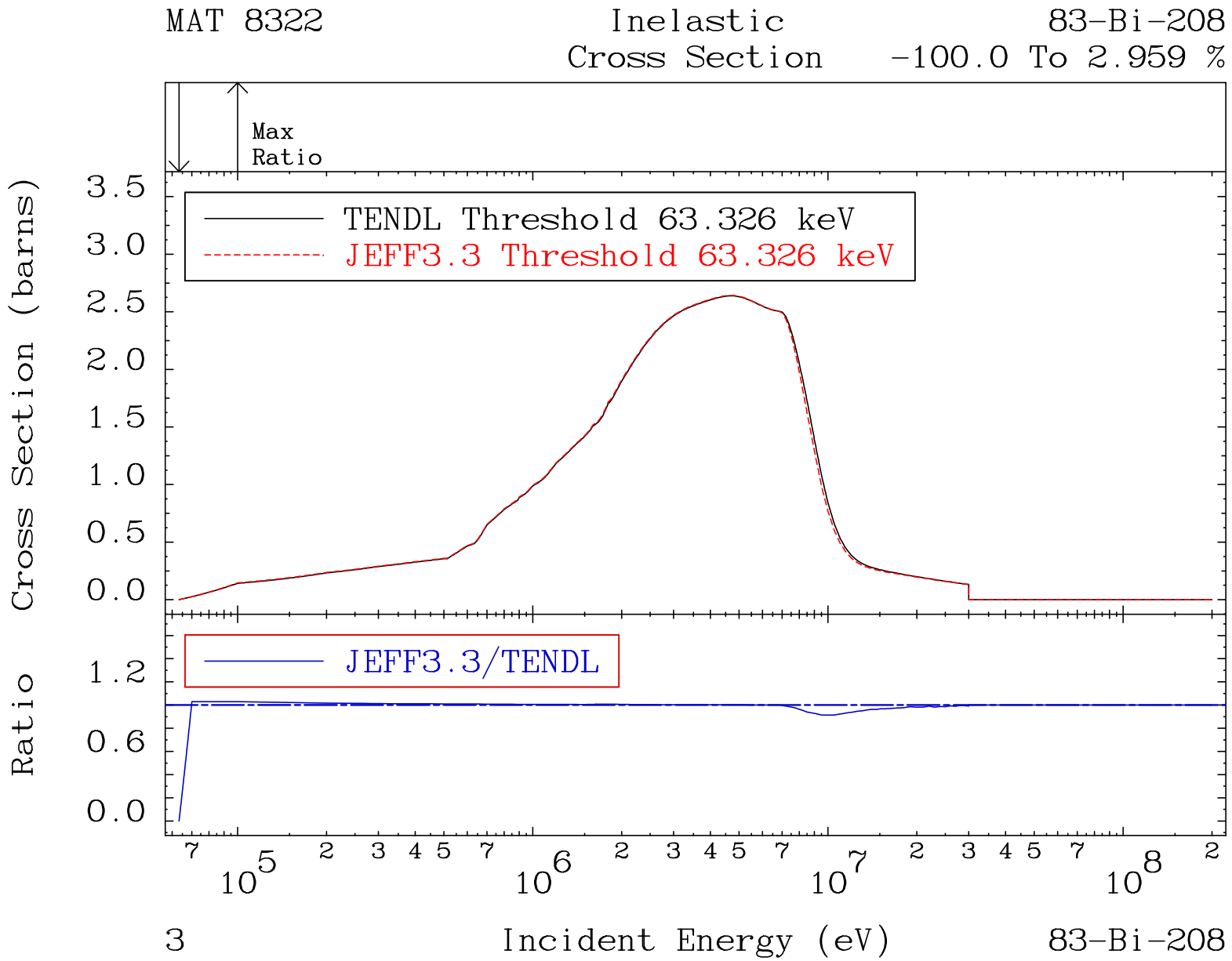
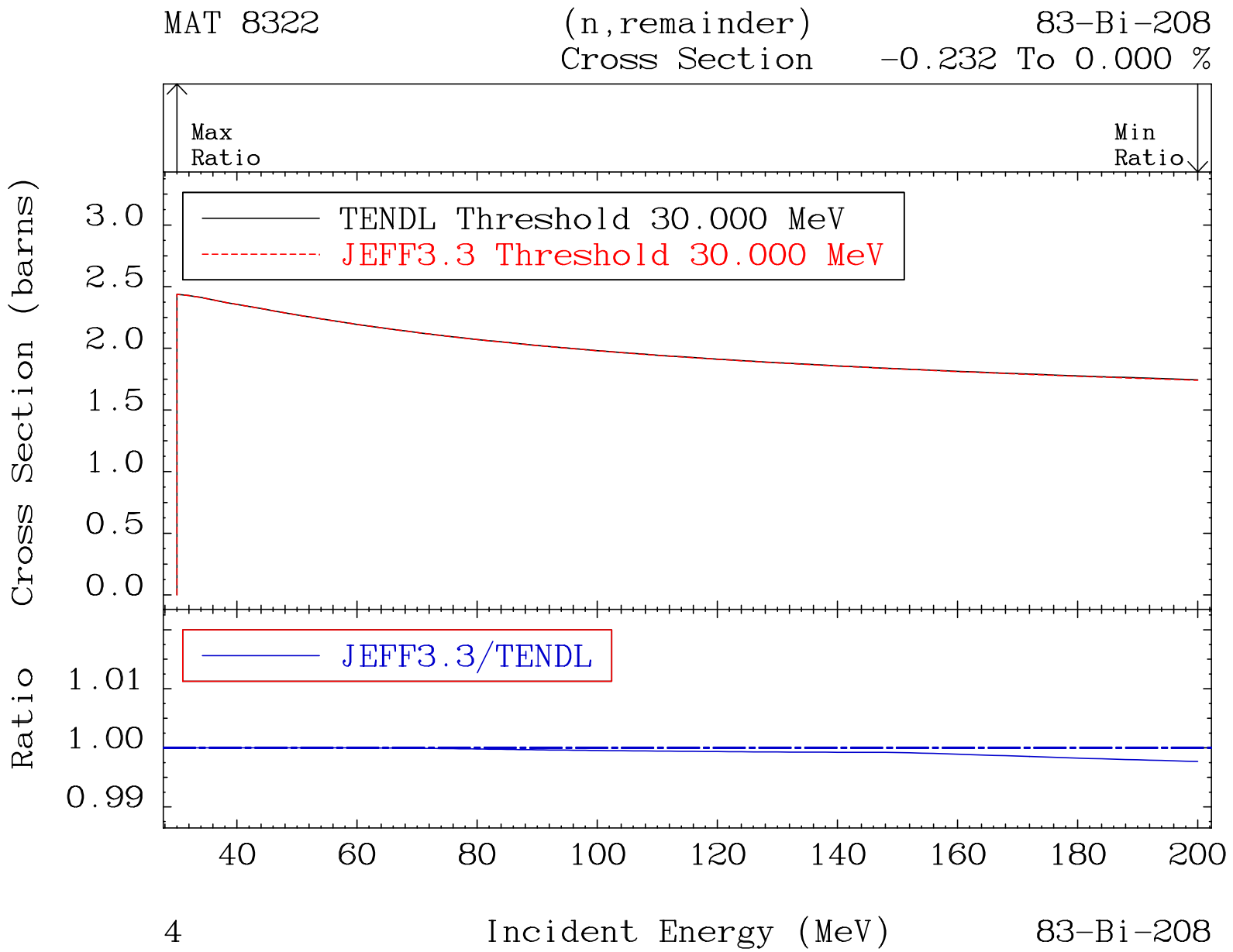
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

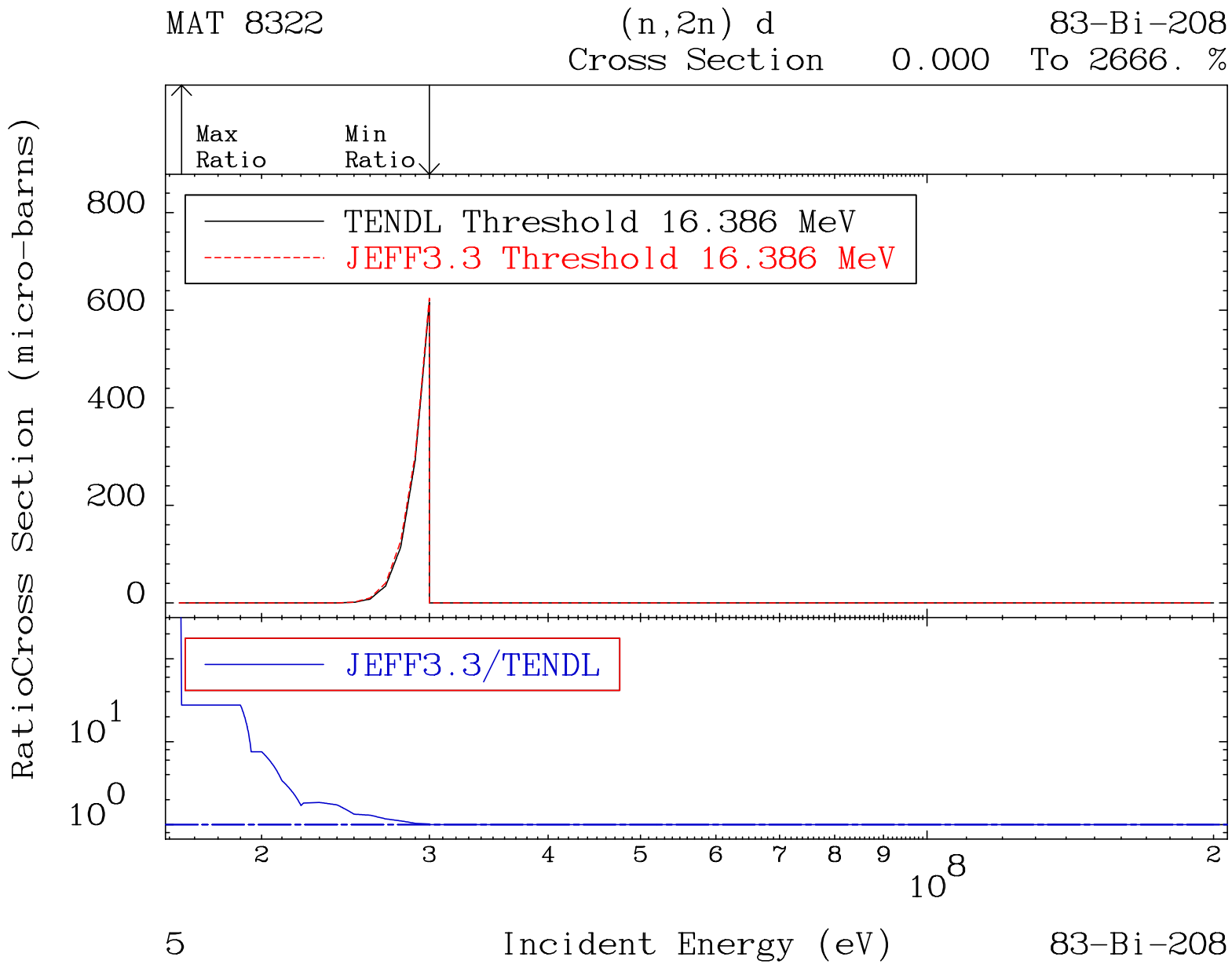
Press Mouse Button to Start

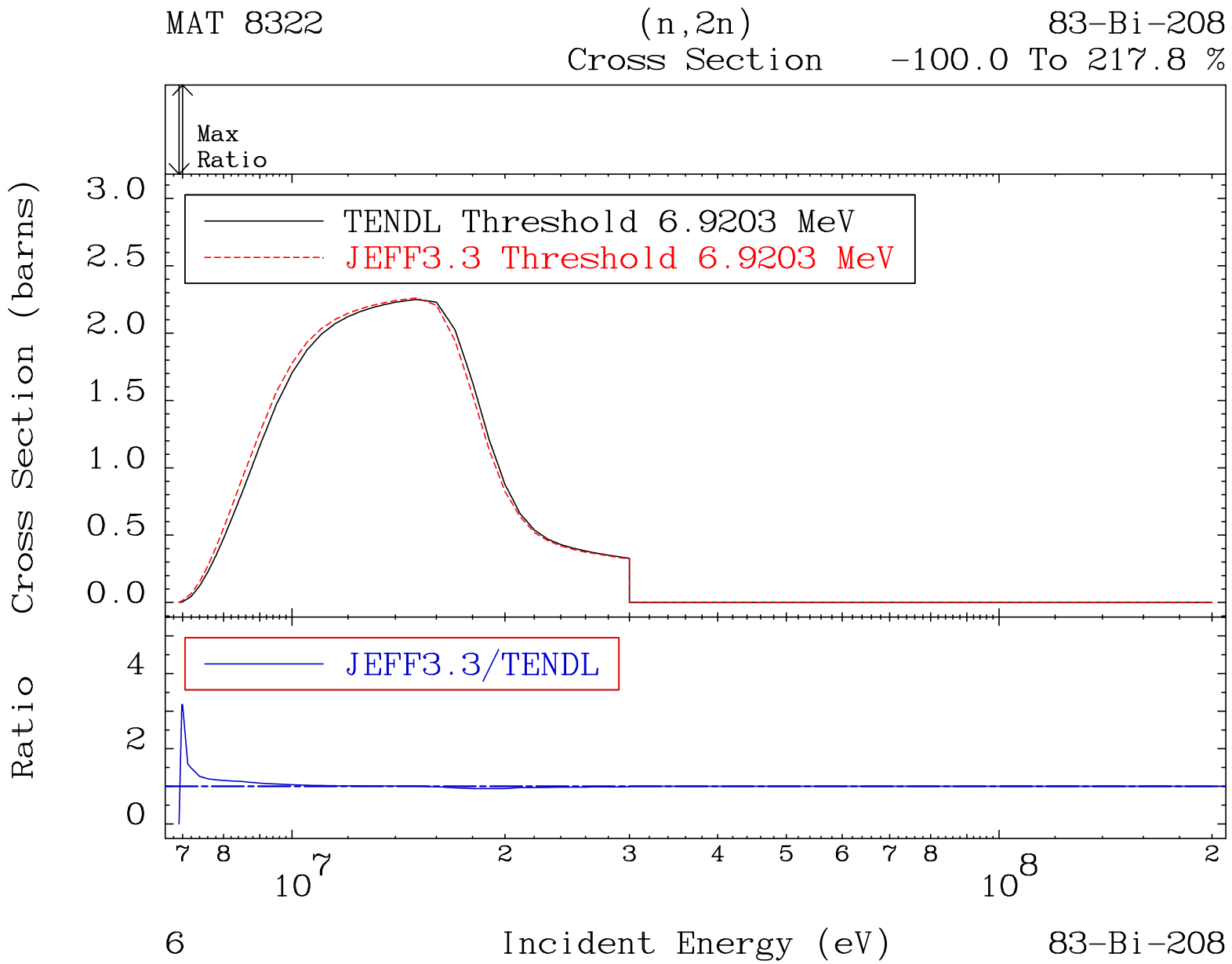

MAT 8322
Total
Cross Section
83-Bi-208
-99.72 To 9999. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
83-Bi-208

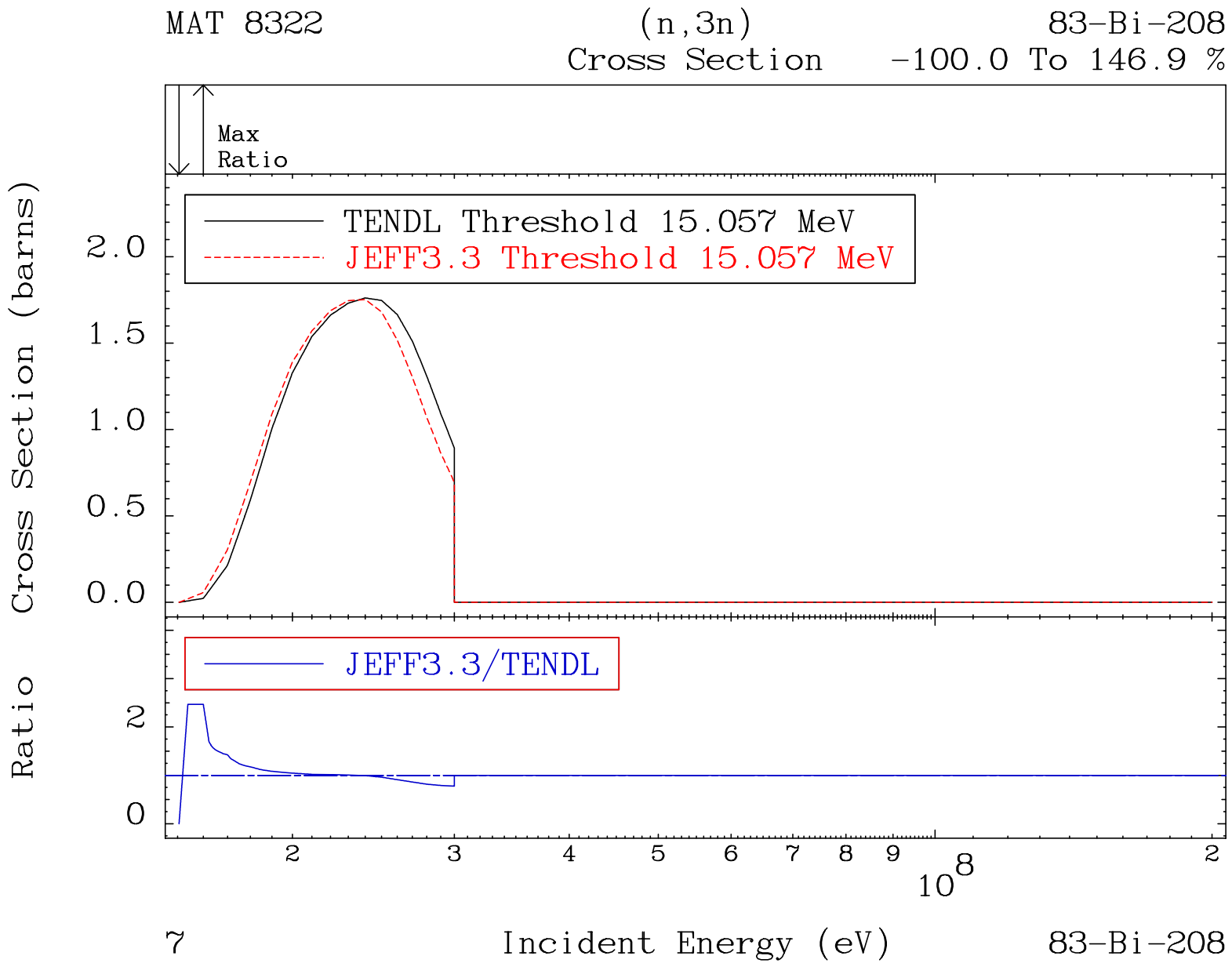

MAT 8322
Elastic
Cross Section
83-Bi-208
-99.69 To 9999. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
83-Bi-208

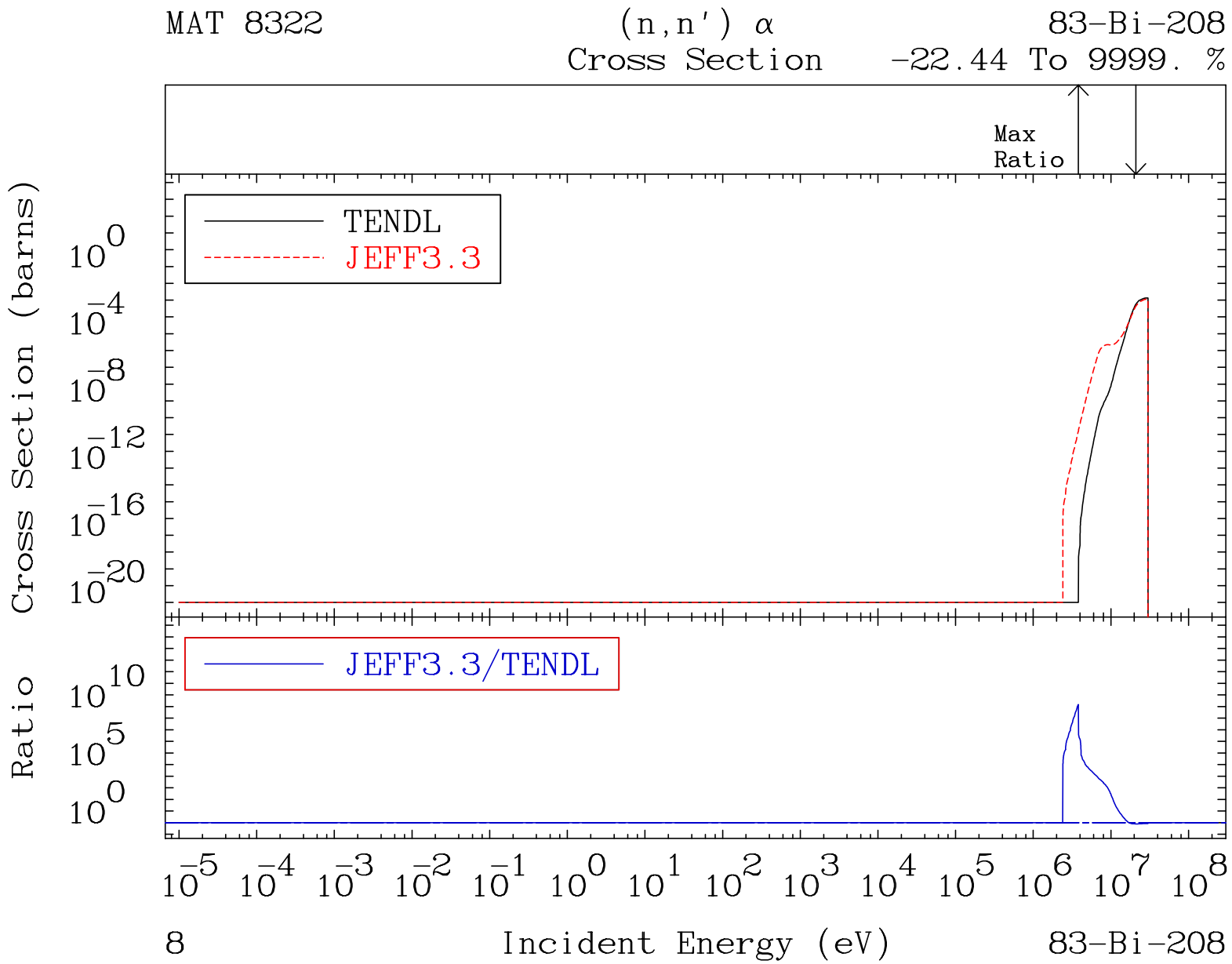

MAT 8322
Inelastic
Cross Section
83-Bi-208
-100.0 To 2.959 %
Max
Ratio
TENDL Threshold 63.326 keV
JEFF3.3 Threshold 63.326 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
3
83-Bi-208

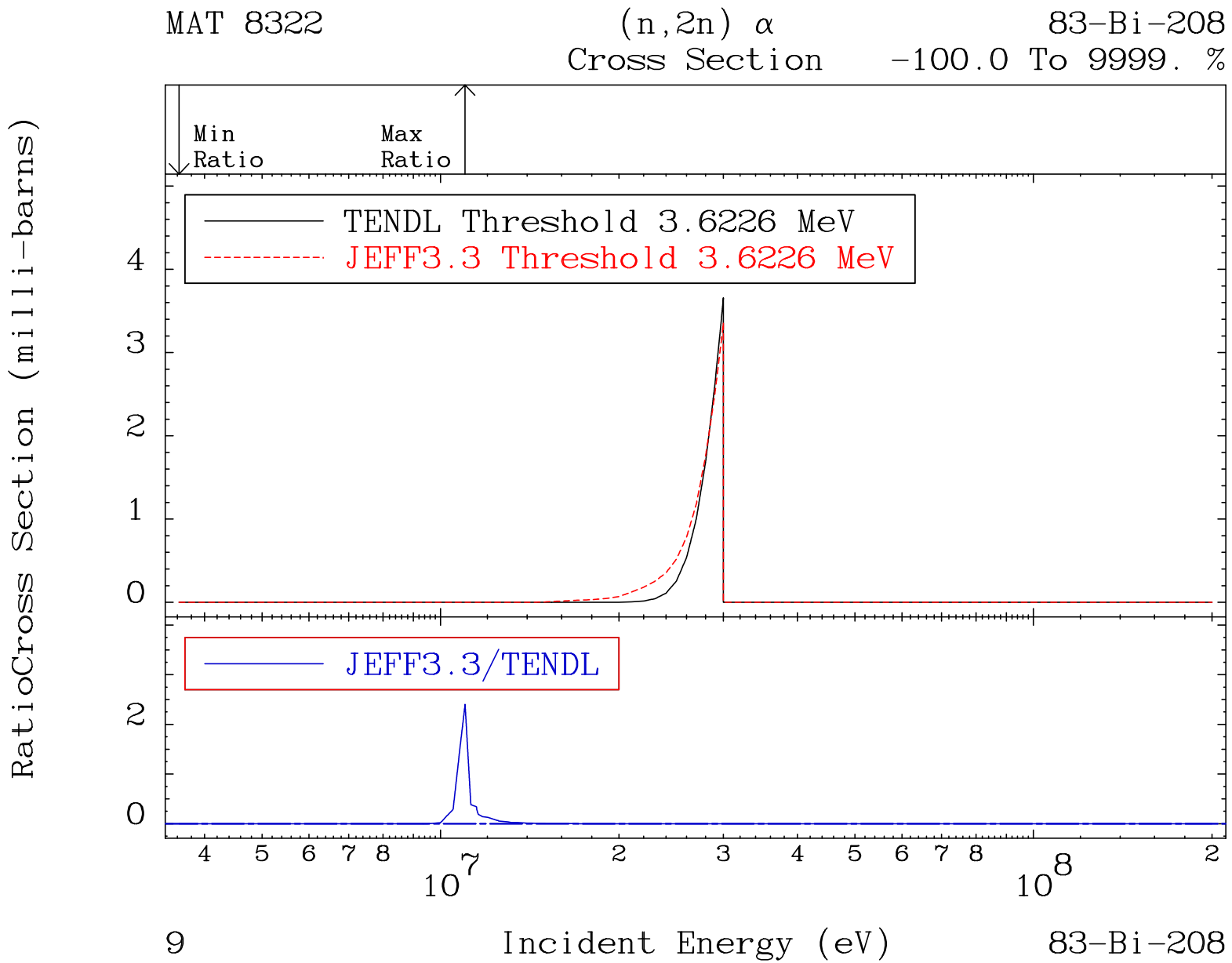

MAT 8322
(n,remainder)
Cross Section
83-Bi-208
-0.232 To 0.000 %
Max
Ratio
Min
Ratio
TENDL Threshold 30.000 MeV
JEFF3.3 Threshold 30.000 MeV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
1.01
1.00
0.99
40
60
80
100
120
140
160
180
200
4
Incident Energy (MeV)
83-Bi-208

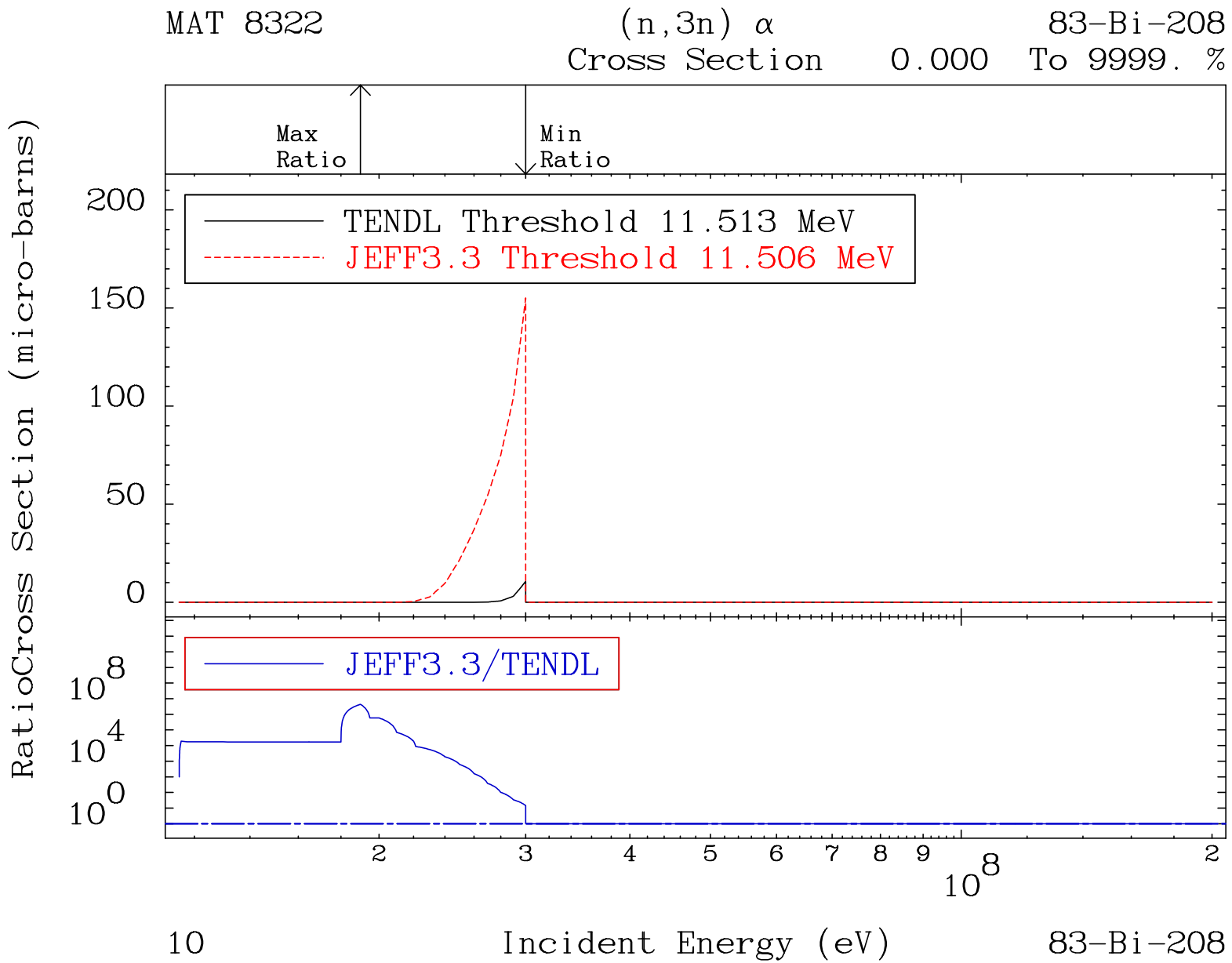

MAT 8322
(n,2n) d
83-Bi-208
Cross Section 0.000 To 2666. %
Max Ratio
Min Ratio
TENDL Threshold 16.386 MeV
JEFF3.3 Threshold 16.386 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
800
600
400
200
0
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
83-Bi-208

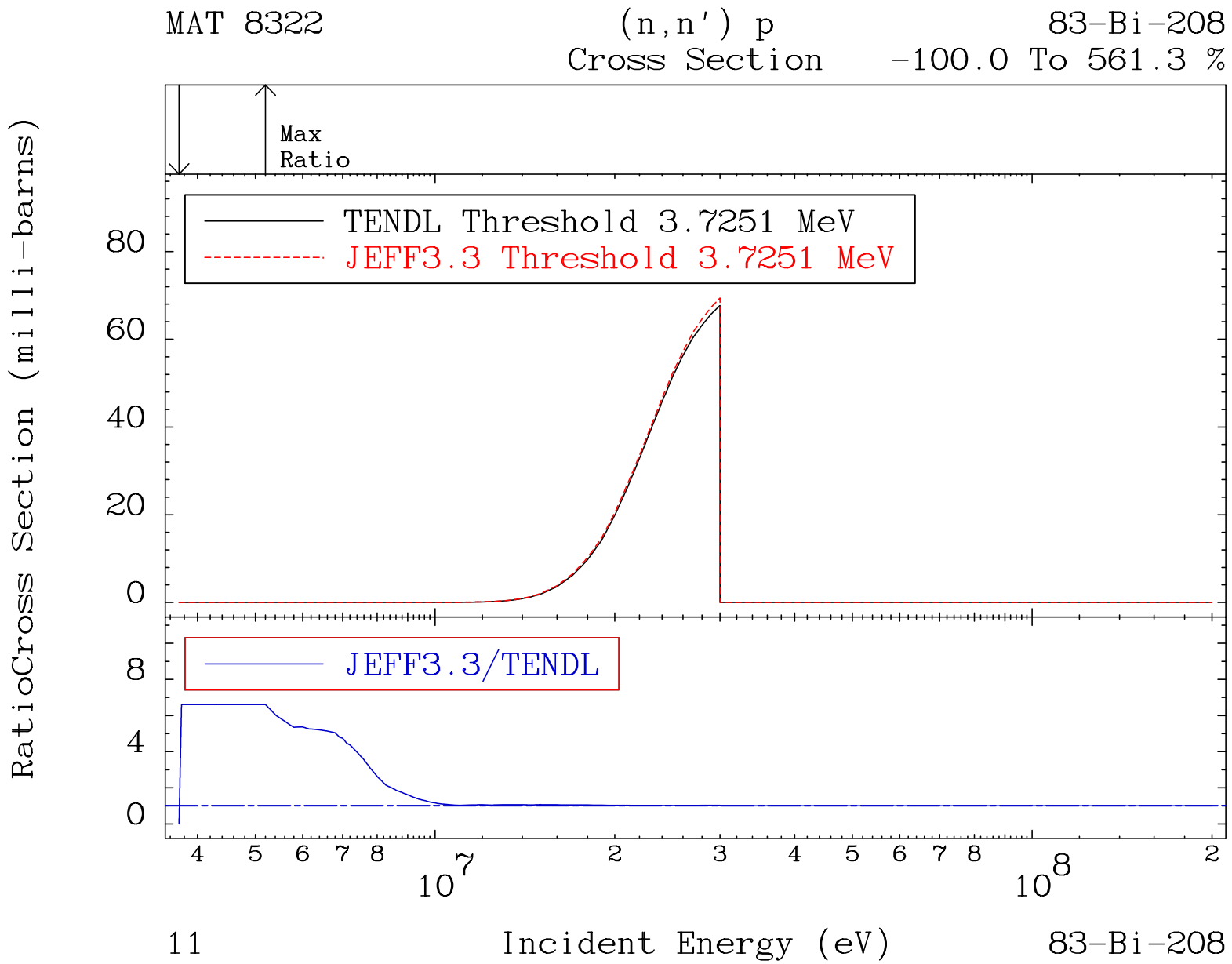

MAT 8322
(n,2n)
Cross Section
83-Bi-208
-100.0 To 217.8 %
Max
Ratio
TENDL Threshold 6.9203 MeV
JEFF3.3 Threshold 6.9203 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
6
83-Bi-208

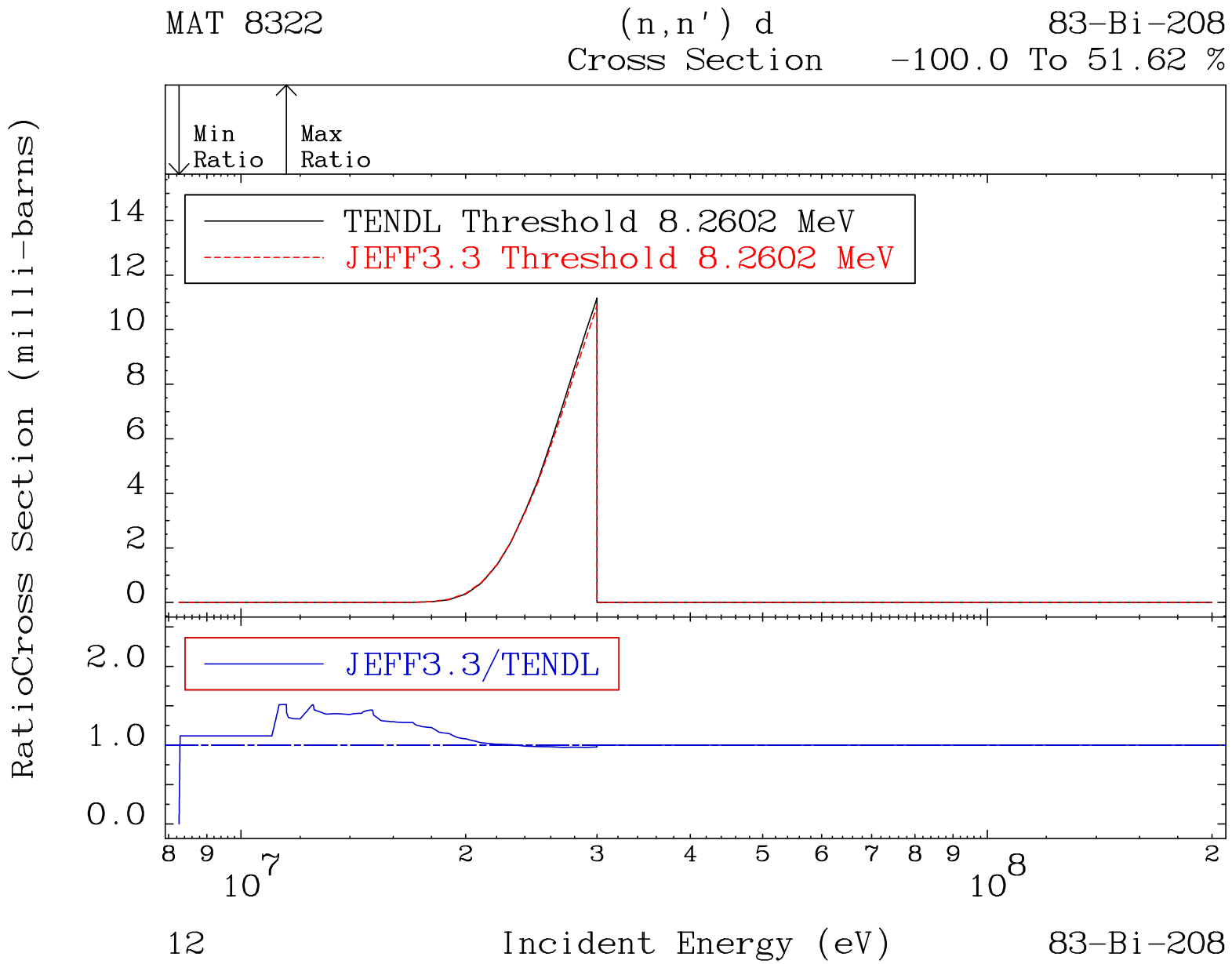

MAT 8322
(n,3n)
Cross Section
83-Bi-208
-100.0 To 146.9 %
Max
Ratio
TENDL Threshold 15.057 MeV
JEFF3.3 Threshold 15.057 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
2
0
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
83-Bi-208

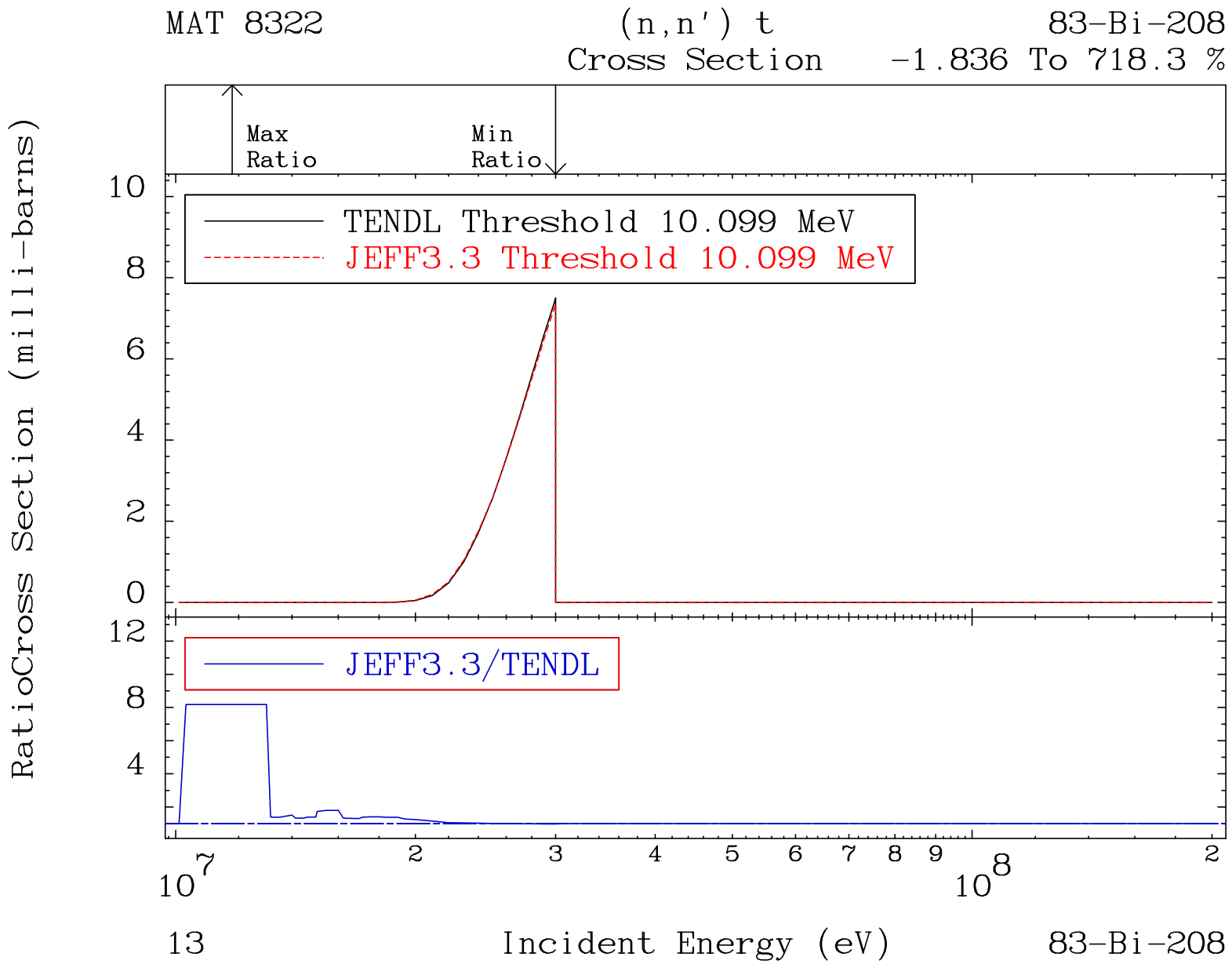

MAT 8322
(n,n') α
Cross Section
83-Bi-208
-22.44 To 9999. %
Max
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
8
83-Bi-208

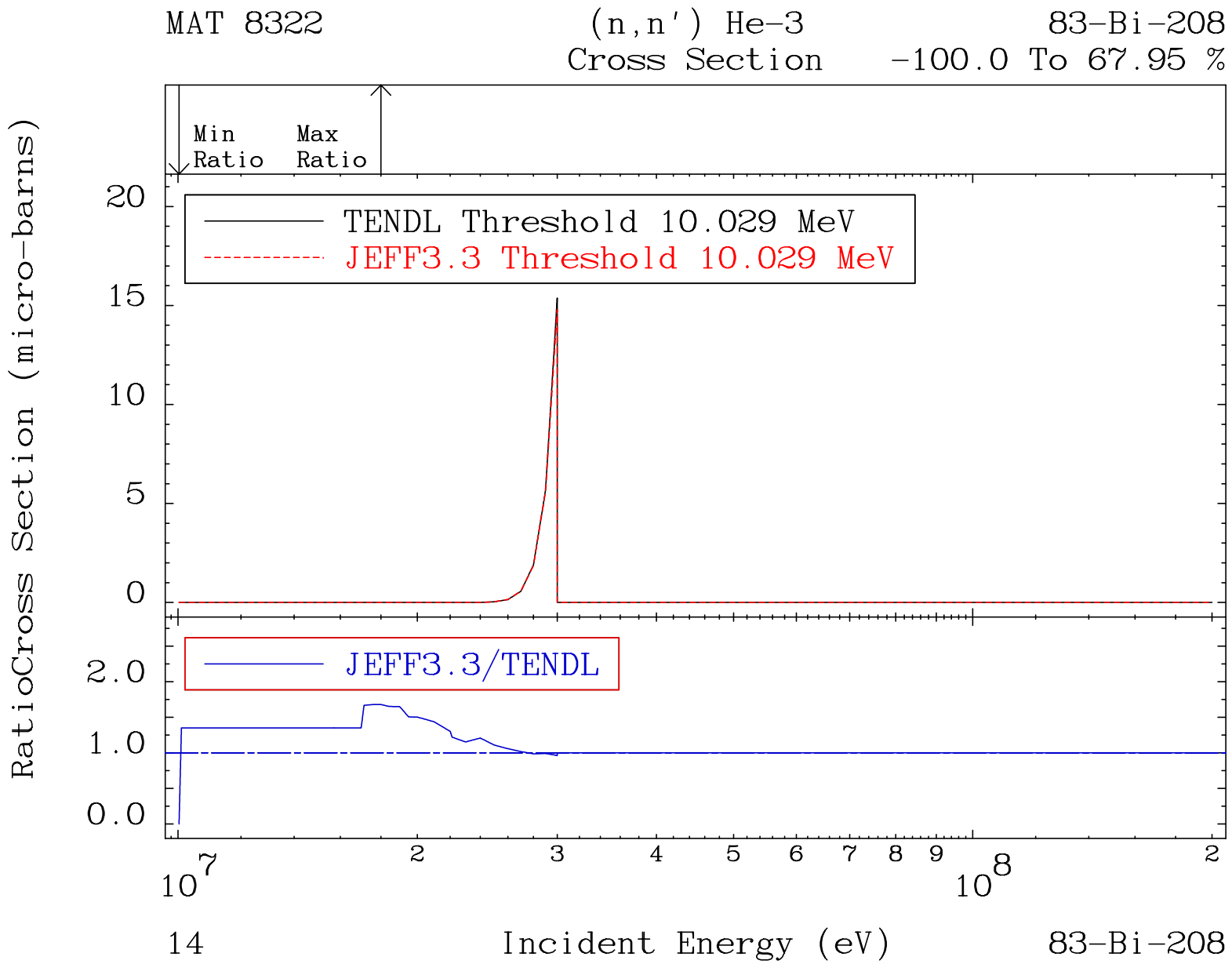

MAT 8322
(n,2n) α
Cross Section
83-Bi-208
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 3.6226 MeV
JEFF3.3 Threshold 3.6226 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
9
83-Bi-208

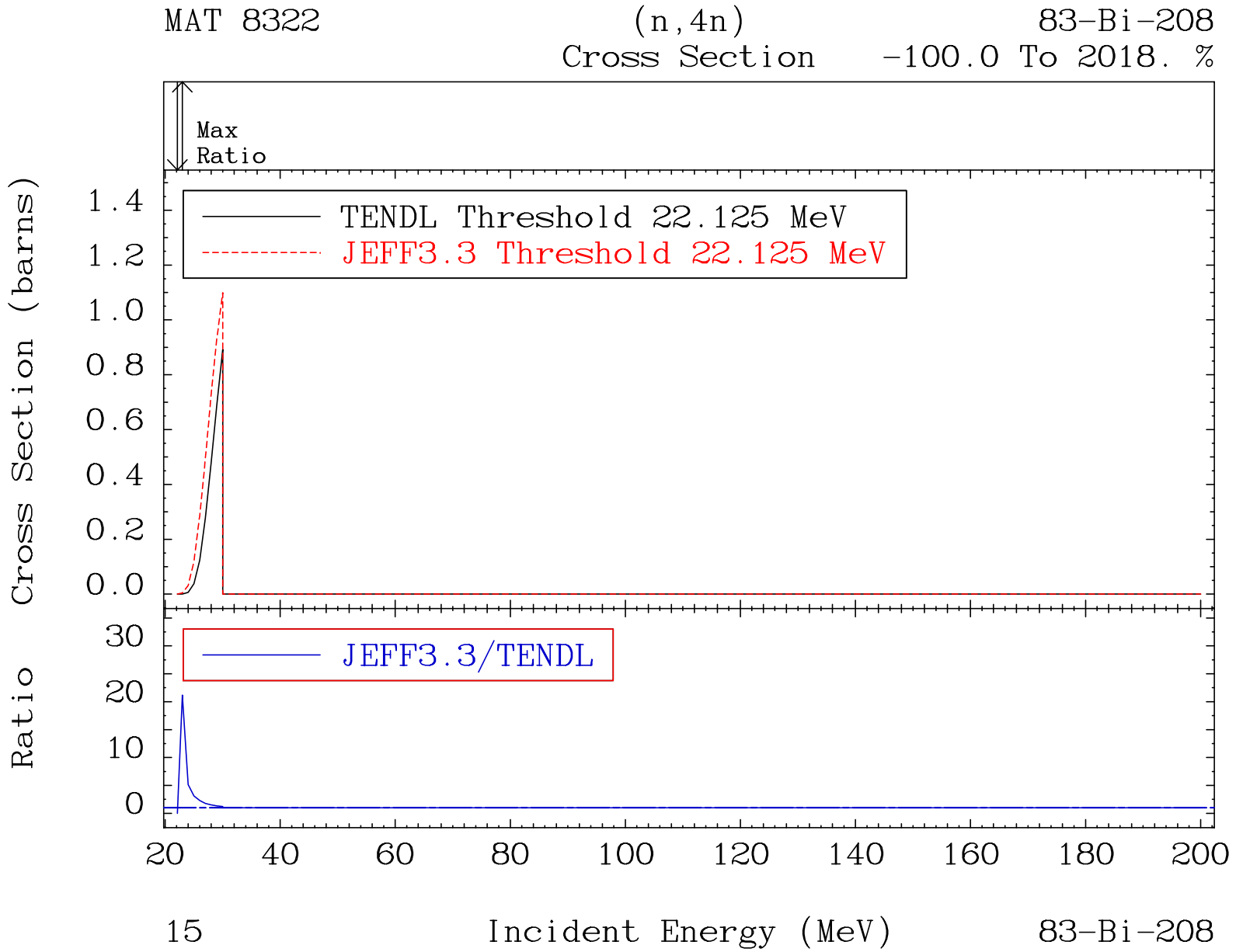

MAT 8322
(n,3n) α
83-Bi-208
Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 11.513 MeV
JEFF3.3 Threshold 11.506 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
200
150
100
50
0
10^8
10^4
10^0
2
3
4
5
6
7
8
9
10^8
2
10
Incident Energy (eV)
83-Bi-208

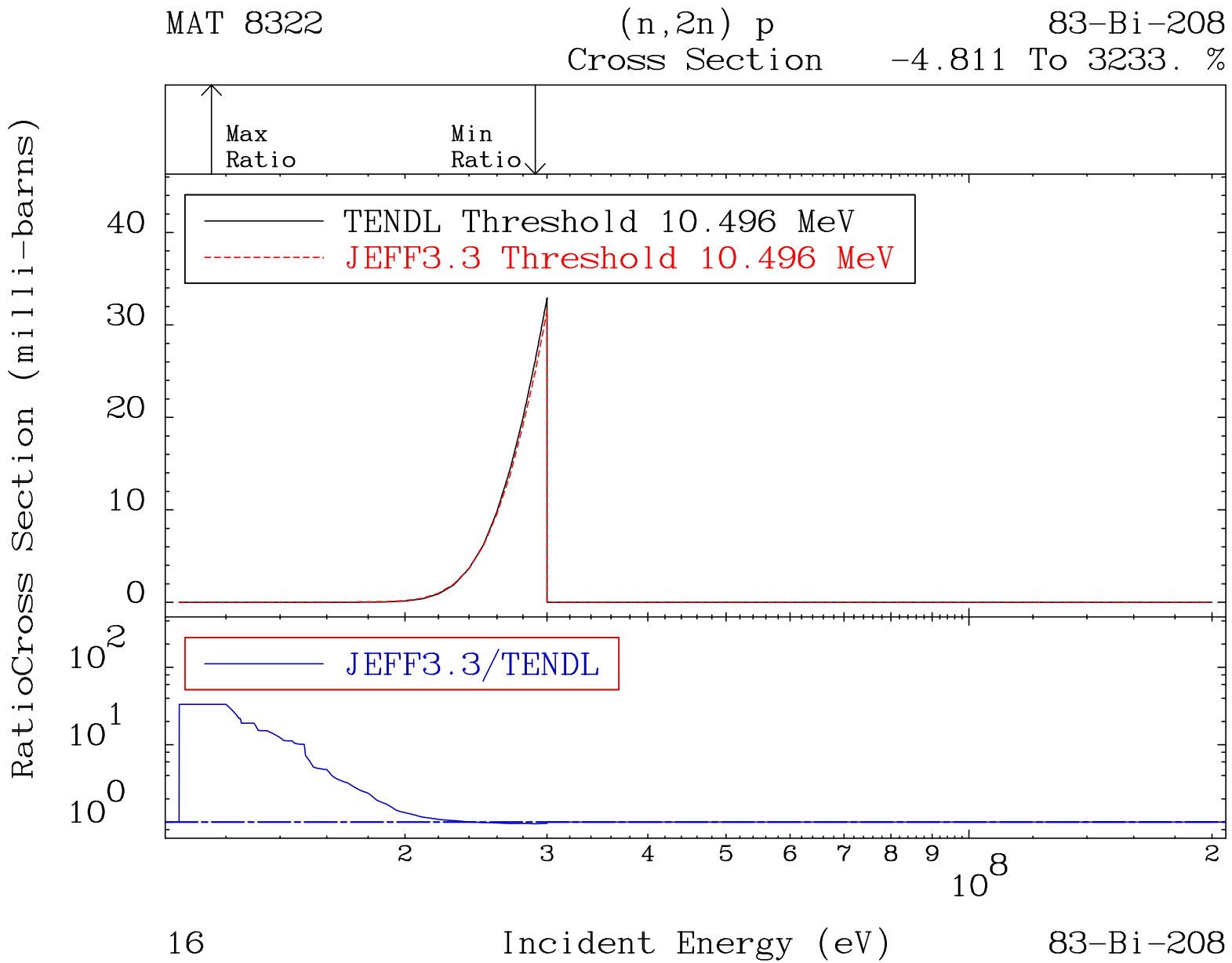

MAT 8322
(n,n') p
Cross Section
83-Bi-208
-100.0 To 561.3 %
Max
Ratio
TENDL Threshold 3.7251 MeV
JEFF3.3 Threshold 3.7251 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
8
4
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
11
Incident Energy (eV)
83-Bi-208

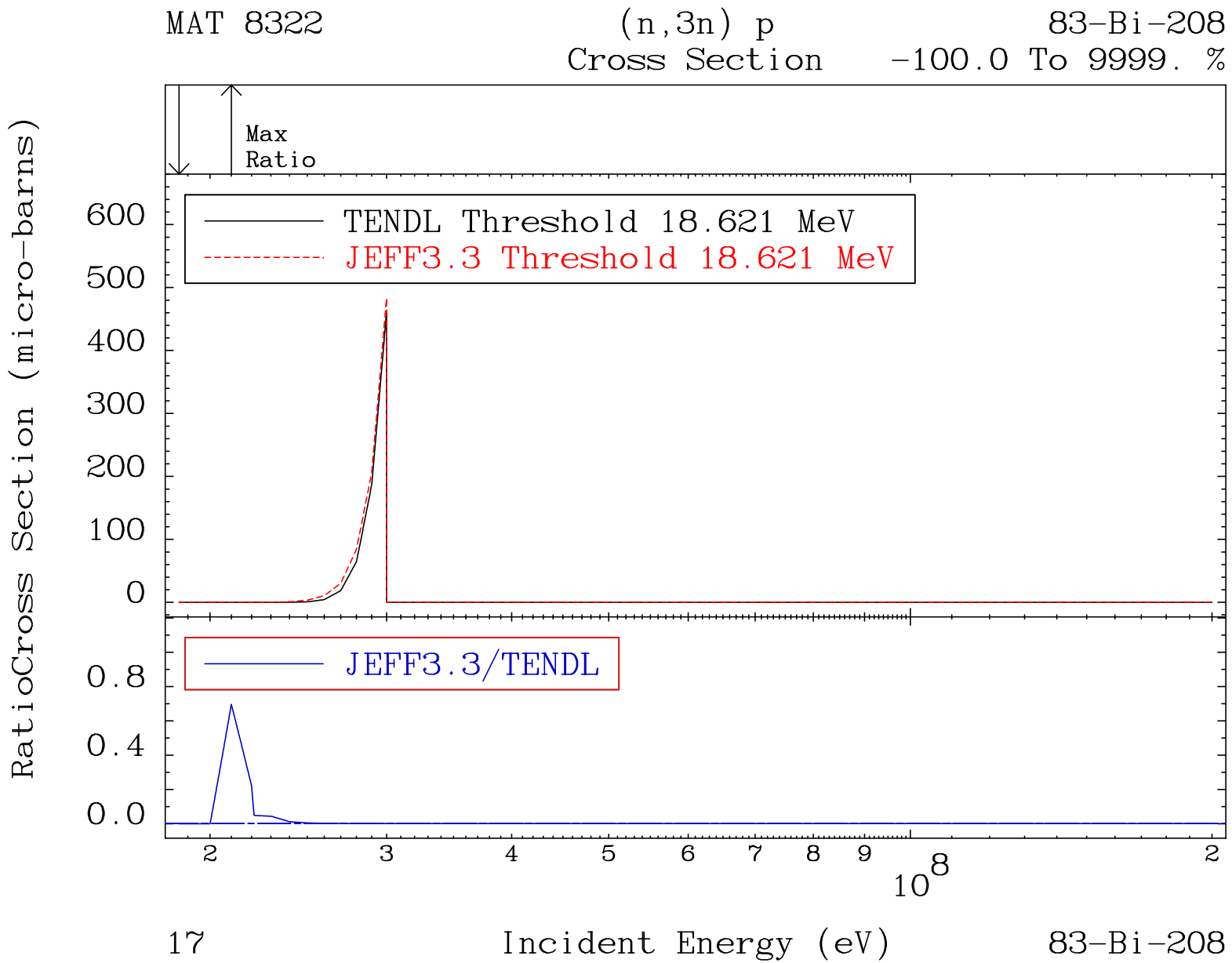

MAT 8322
(n,n') d
Cross Section
83-Bi-208
-100.0 To 51.62 %
Min Ratio
Max Ratio
TENDL Threshold 8.2602 MeV
JEFF3.3 Threshold 8.2602 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
12
83-Bi-208

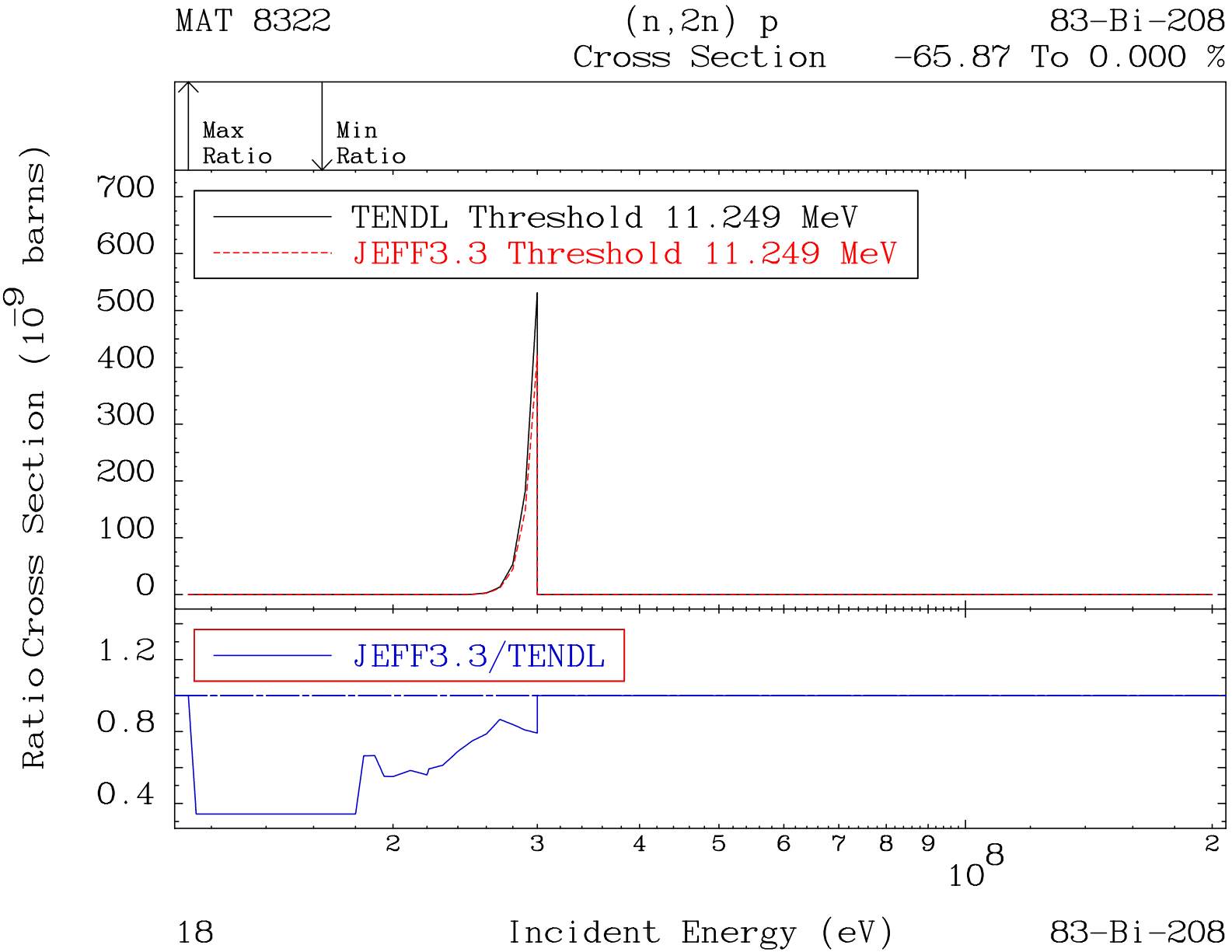

MAT 8322
(n,n') t
Cross Section
83-Bi-208
-1.836 To 718.3 %
Max Ratio
Min Ratio
TENDL Threshold 10.099 MeV
JEFF3.3 Threshold 10.099 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
13
83-Bi-208

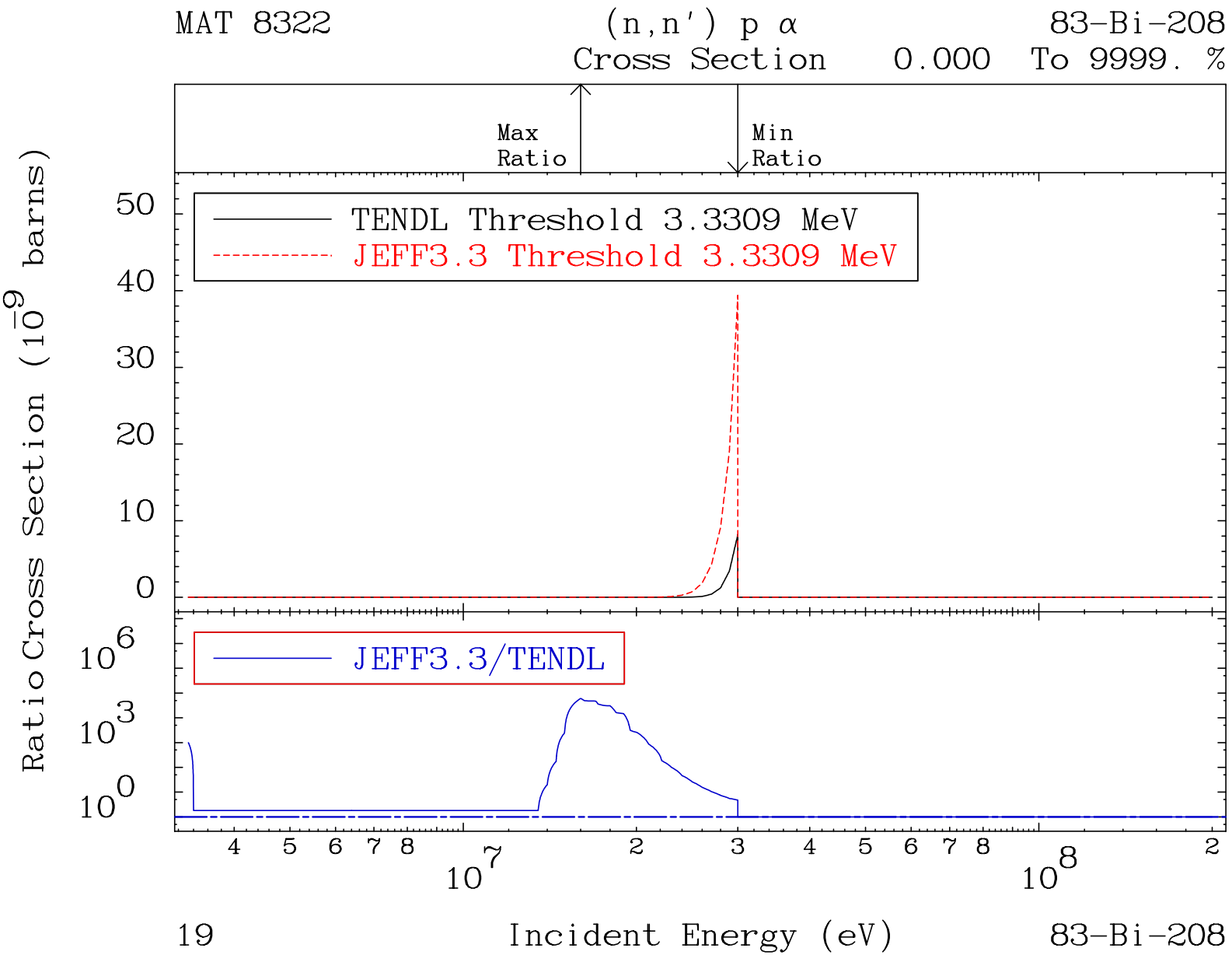

MAT 8322
(n,n') He-3
Cross Section
83-Bi-208
-100.0 To 67.95 %
Min Ratio
Max Ratio
TENDL Threshold 10.029 MeV
JEFF3.3 Threshold 10.029 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
20
15
10
5
0
2.0
1.0
0.0
10^7
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
83-Bi-208

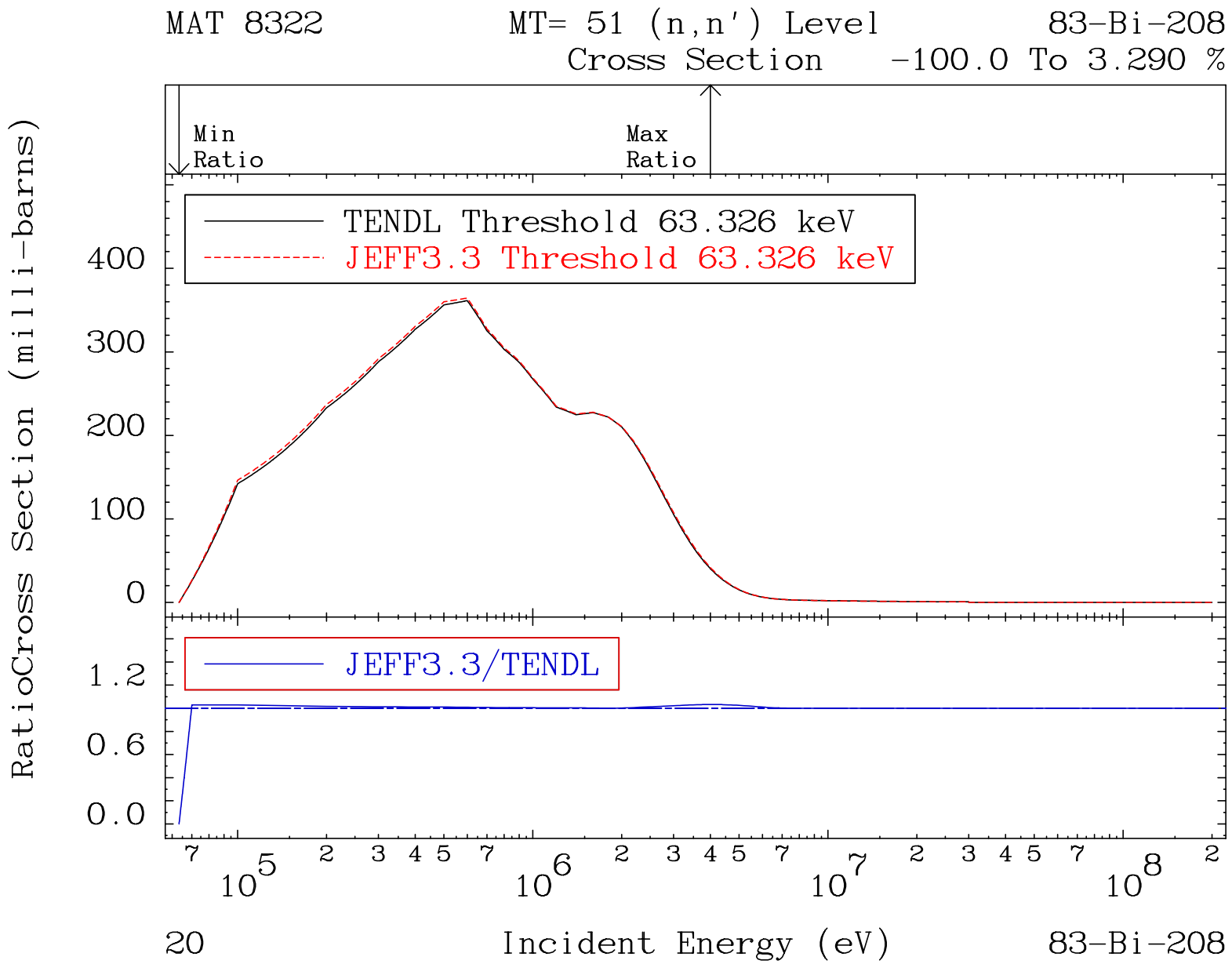

MAT 8322
(n,4n)
83-Bi-208
Cross Section
-100.0 To 2018. %
Max
Ratio
TENDL Threshold 22.125 MeV
JEFF3.3 Threshold 22.125 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
30
20
10
0
20
40
60
80
100
120
140
160
180
200
15
Incident Energy (MeV)
83-Bi-208

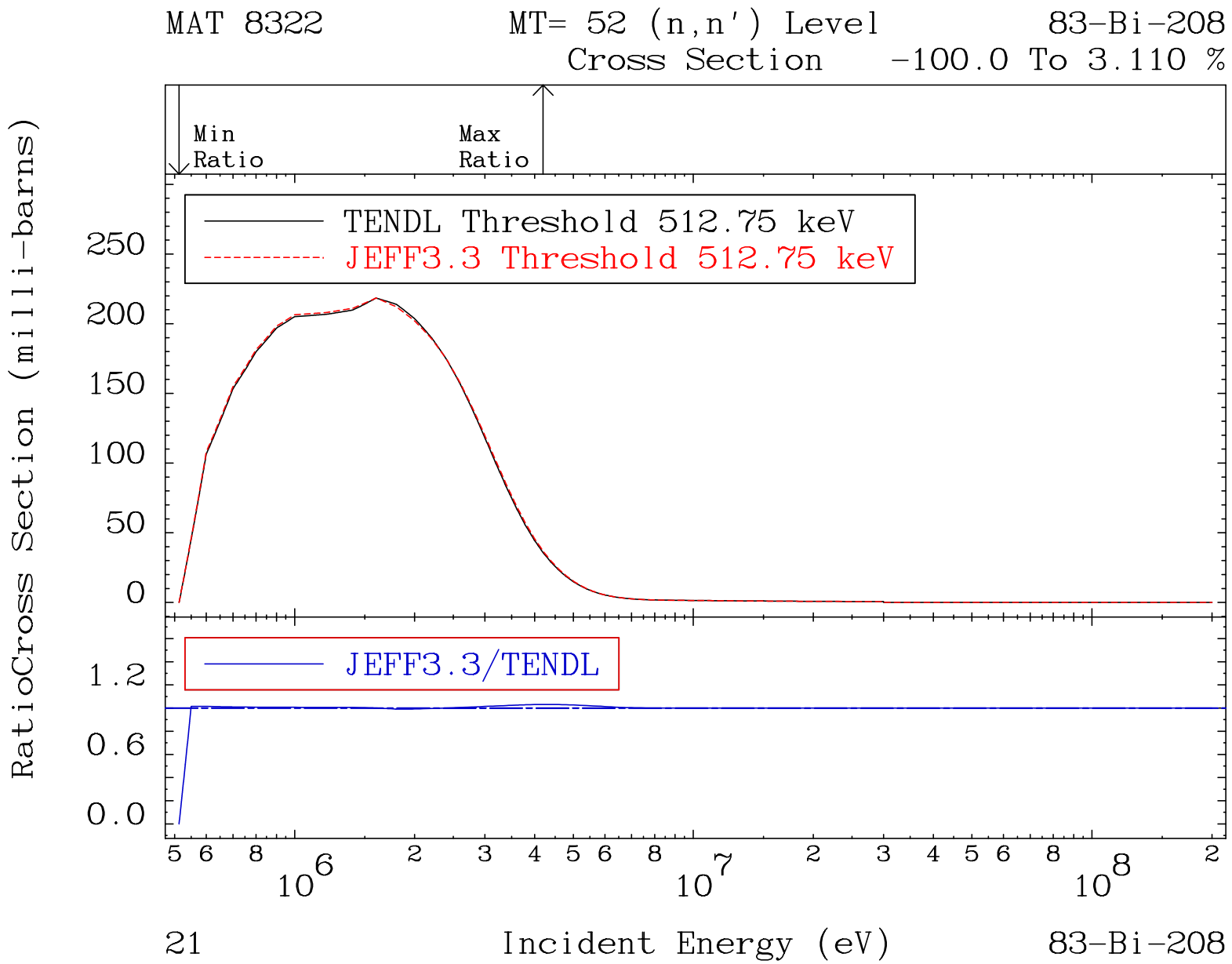

MAT 8322
(n,2n) p
Cross Section
83-Bi-208
-4.811 To 3233. %
Max Ratio
Min Ratio
TENDL Threshold 10.496 MeV
JEFF3.3 Threshold 10.496 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
83-Bi-208

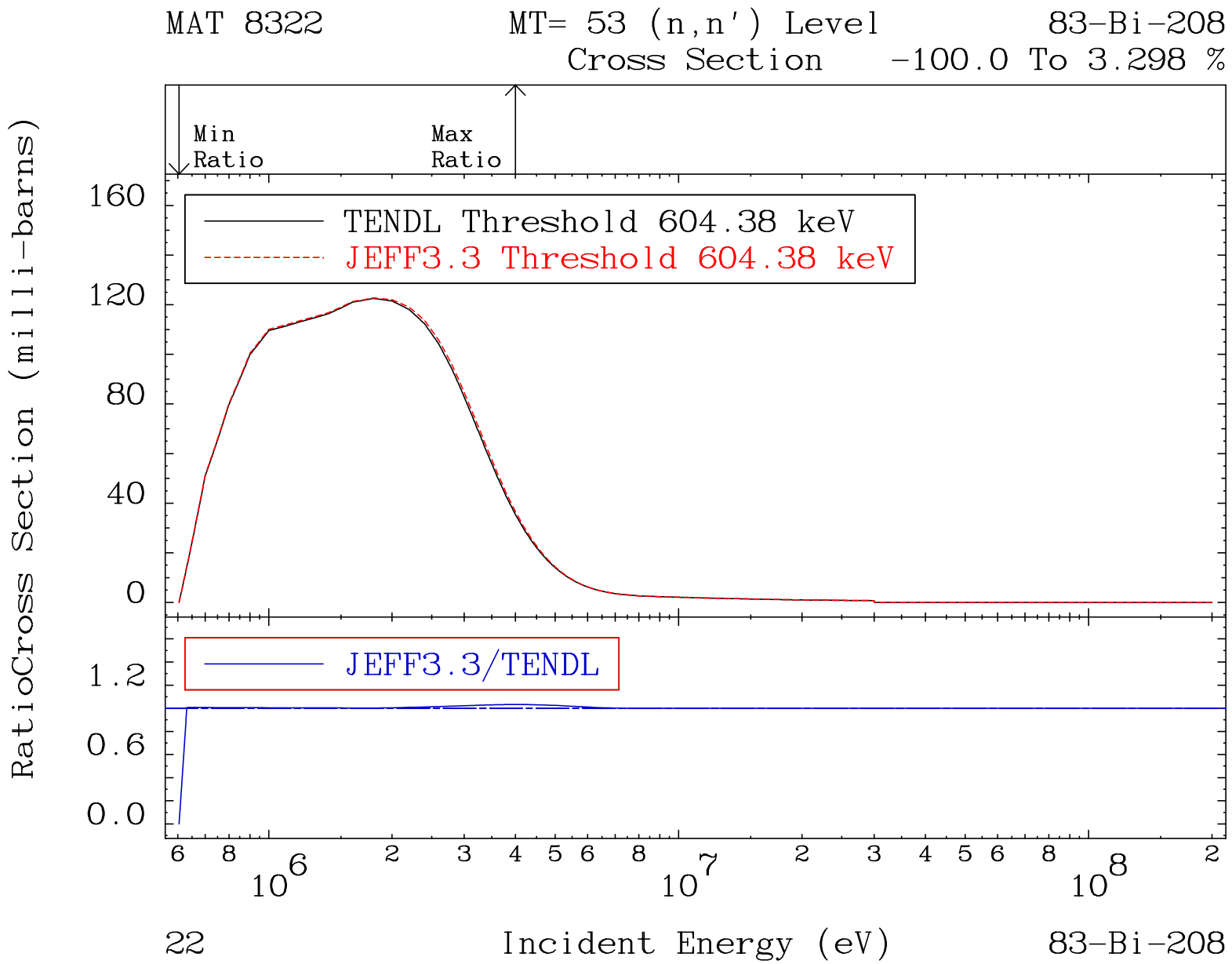

MAT 8322
(n,3n) p
Cross Section
83-Bi-208
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 18.621 MeV
JEFF3.3 Threshold 18.621 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
500
400
300
200
100
0
0.8
0.4
0.0
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
83-Bi-208

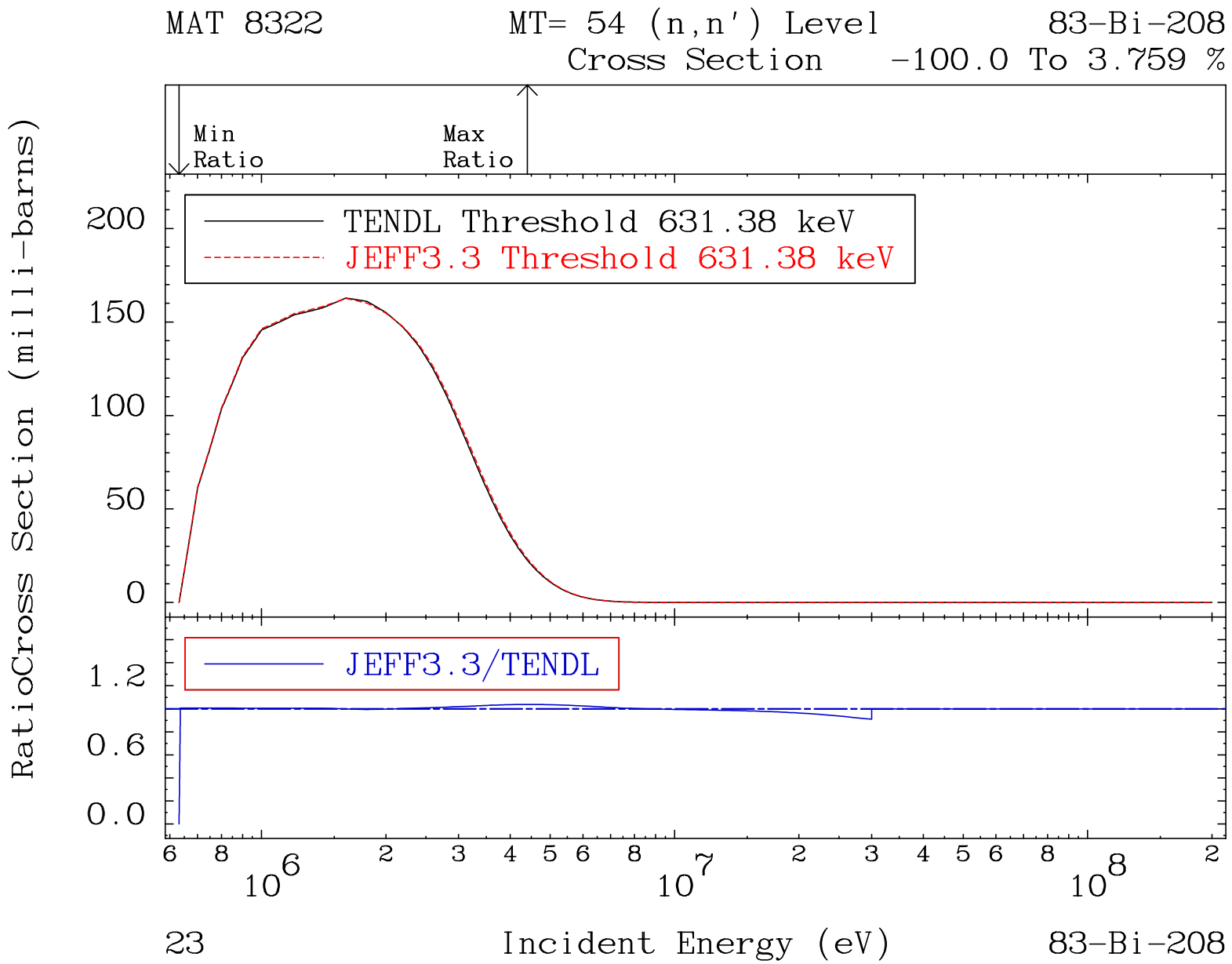

MAT 8322
(n,2n) p
Cross Section
83-Bi-208
-65.87 To 0.000 %
Max Ratio
Min Ratio
TENDL Threshold 11.249 MeV
JEFF3.3 Threshold 11.249 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
700
600
500
400
300
200
100
0
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
18
Incident Energy (eV)
83-Bi-208

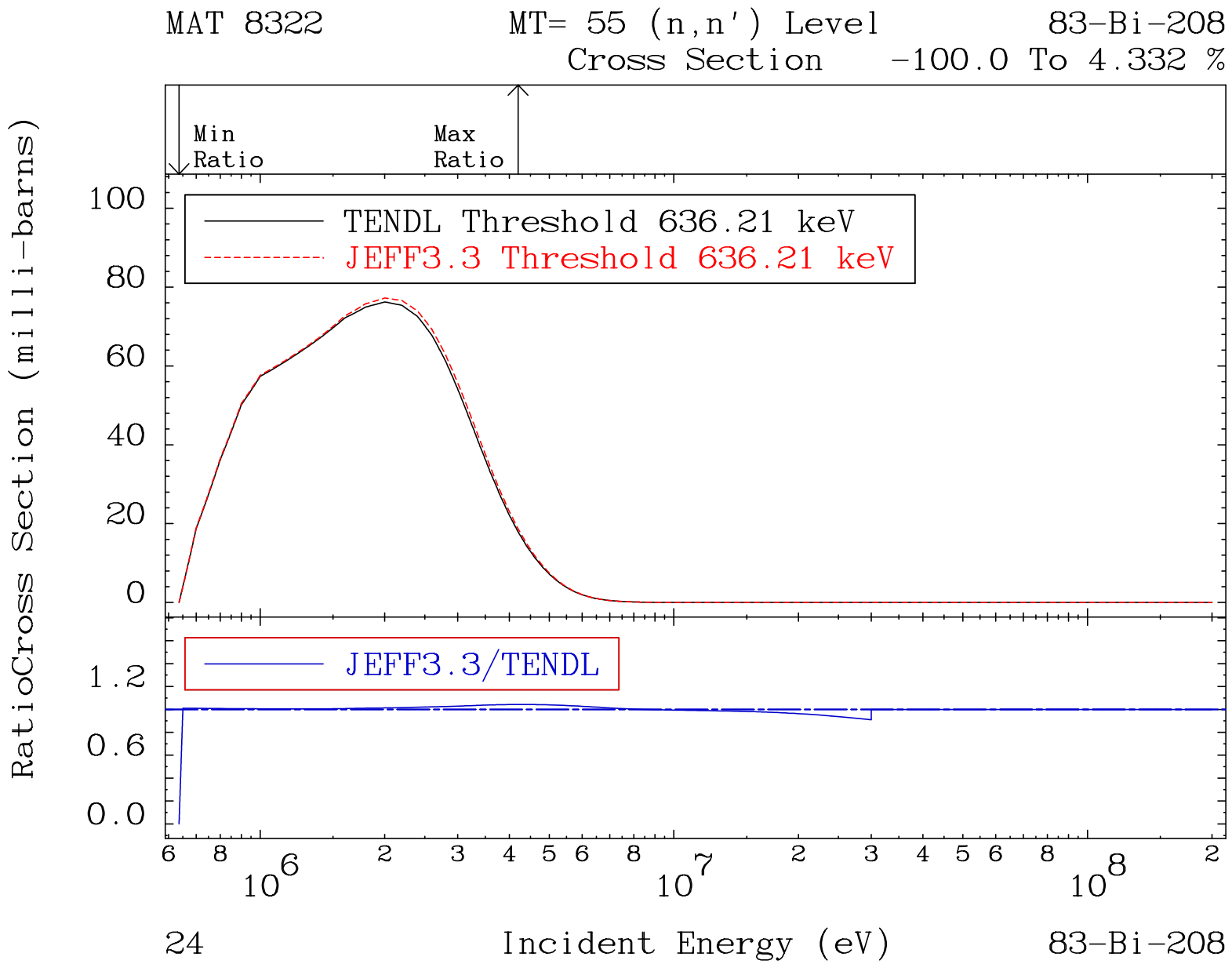

MAT 8322
(n,n') p α
83-Bi-208
Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.3309 MeV
JEFF3.3 Threshold 3.3309 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
50
40
30
20
10
0
10^{6}
10^{3}
10^{0}
4 5 6 7 8 10^{7} 2 3 4 5 6 7 8 10^{8} 2
19
Incident Energy (eV)
83-Bi-208

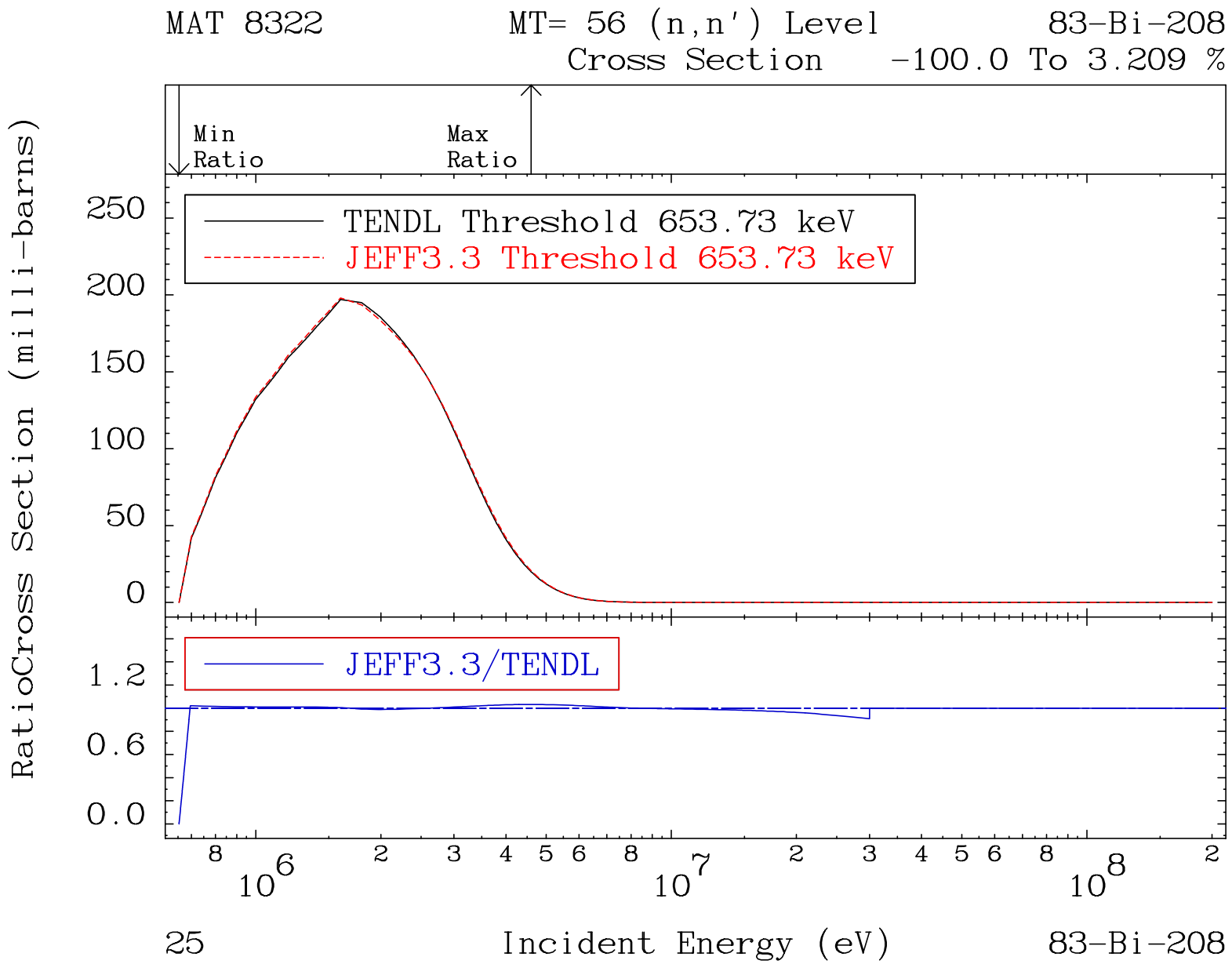

MAT 8322
MT= 51 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.290 %
Min Ratio
Max Ratio
TENDL Threshold 63.326 keV
JEFF3.3 Threshold 63.326 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
1.2
0.6
0.0
7 2 3 4 5 7 2 3 4 5 7 2 3 4 5 7 2
10^5 10^6 10^7 10^8
20
Incident Energy (eV)
83-Bi-208

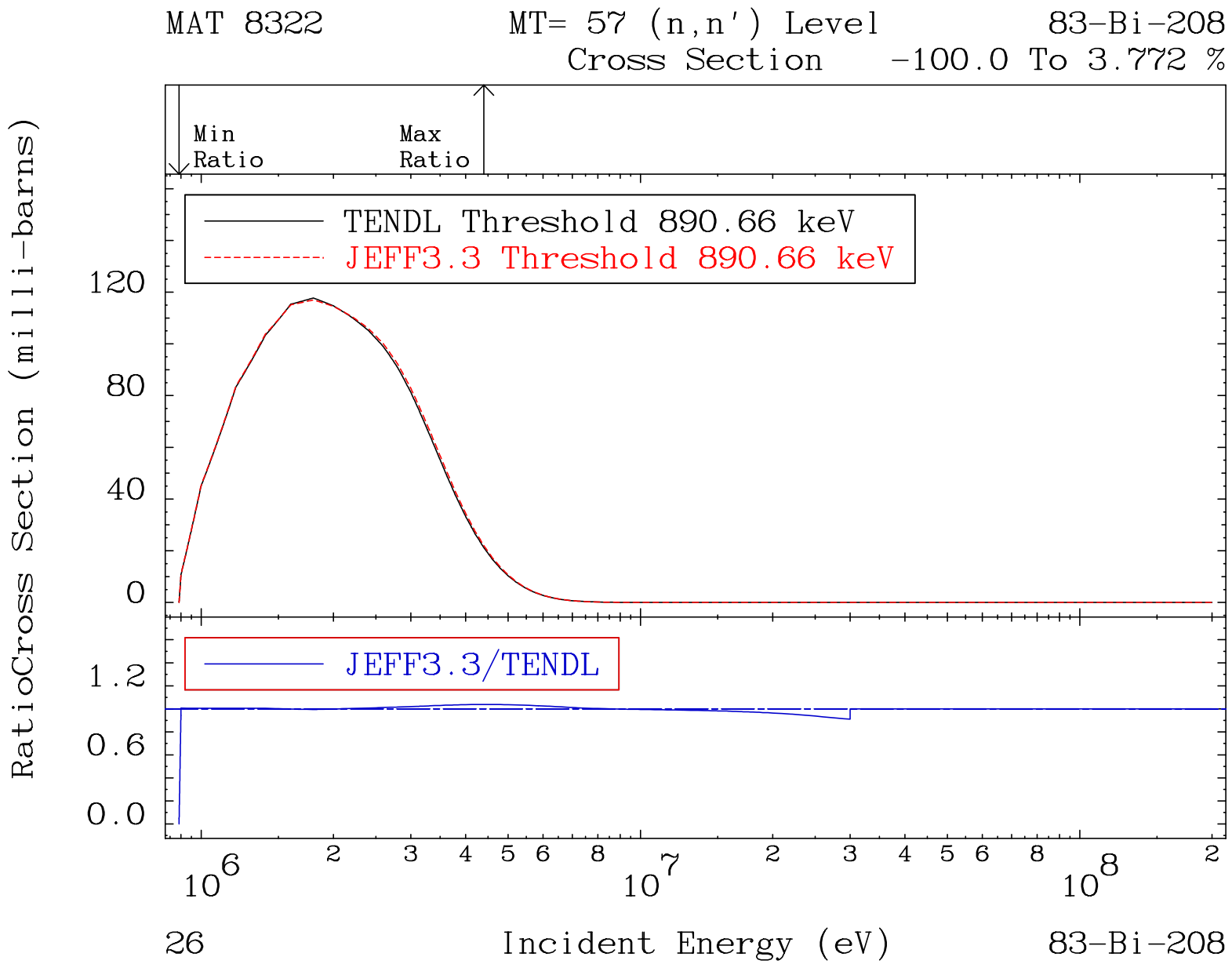

MAT 8322
MT= 52 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.110 %
Min Ratio
Max Ratio
TENDL Threshold 512.75 keV
JEFF3.3 Threshold 512.75 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.2
0.6
0.0
5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
21
Incident Energy (eV)
83-Bi-208

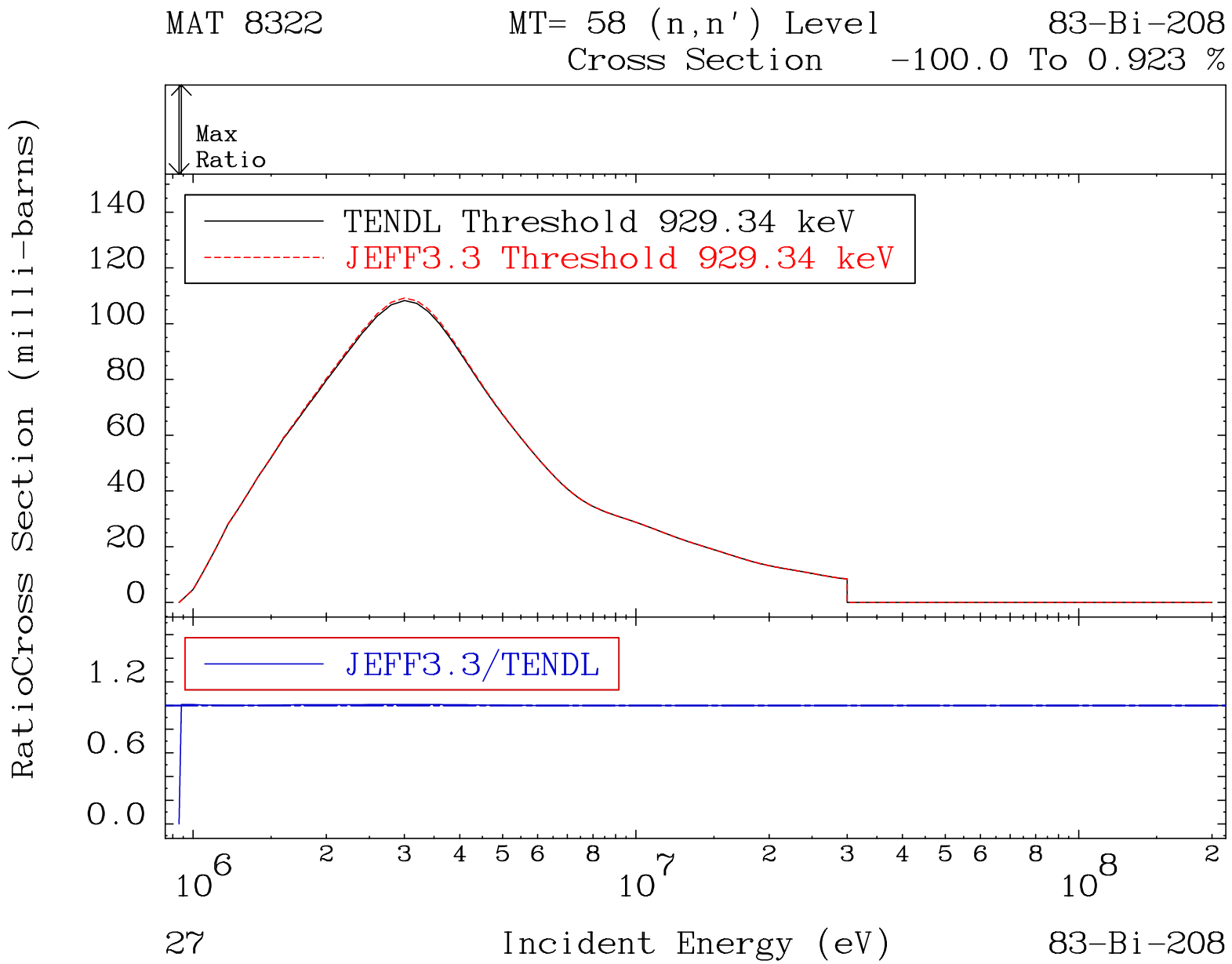

MAT 8322
MT= 53 (n,n') Level
83-Bi-208
Cross Section
-100.0 To 3.298 %
Min Ratio
Max Ratio
TENDL Threshold 604.38 keV
JEFF3.3 Threshold 604.38 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.2
0.6
0.0
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
22
Incident Energy (eV)
83-Bi-208

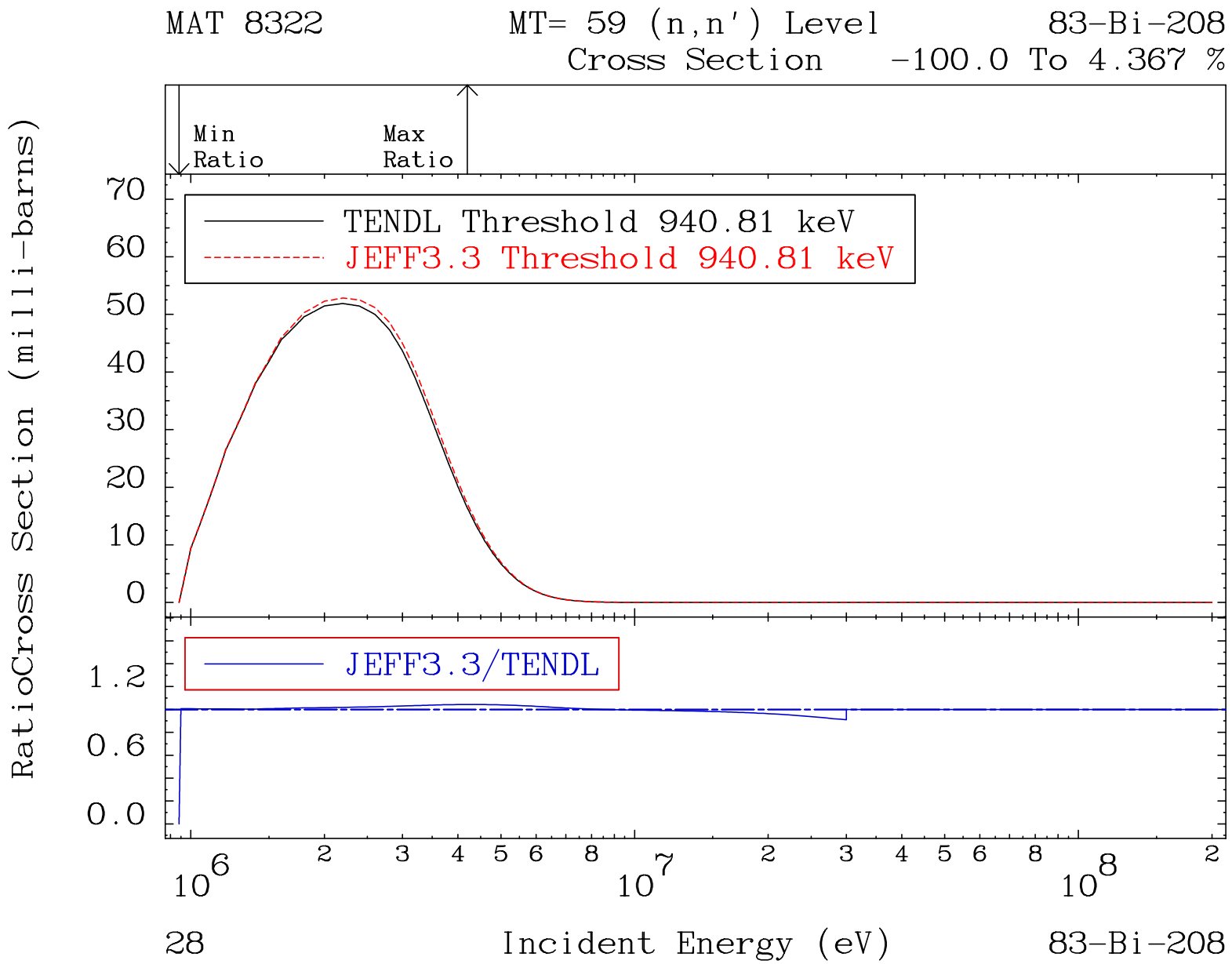

MAT 8322
MT= 54 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.759 %
Min Ratio
Max Ratio
TENDL Threshold 631.38 keV
JEFF3.3 Threshold 631.38 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.2
0.6
0.0
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
23
Incident Energy (eV)
83-Bi-208

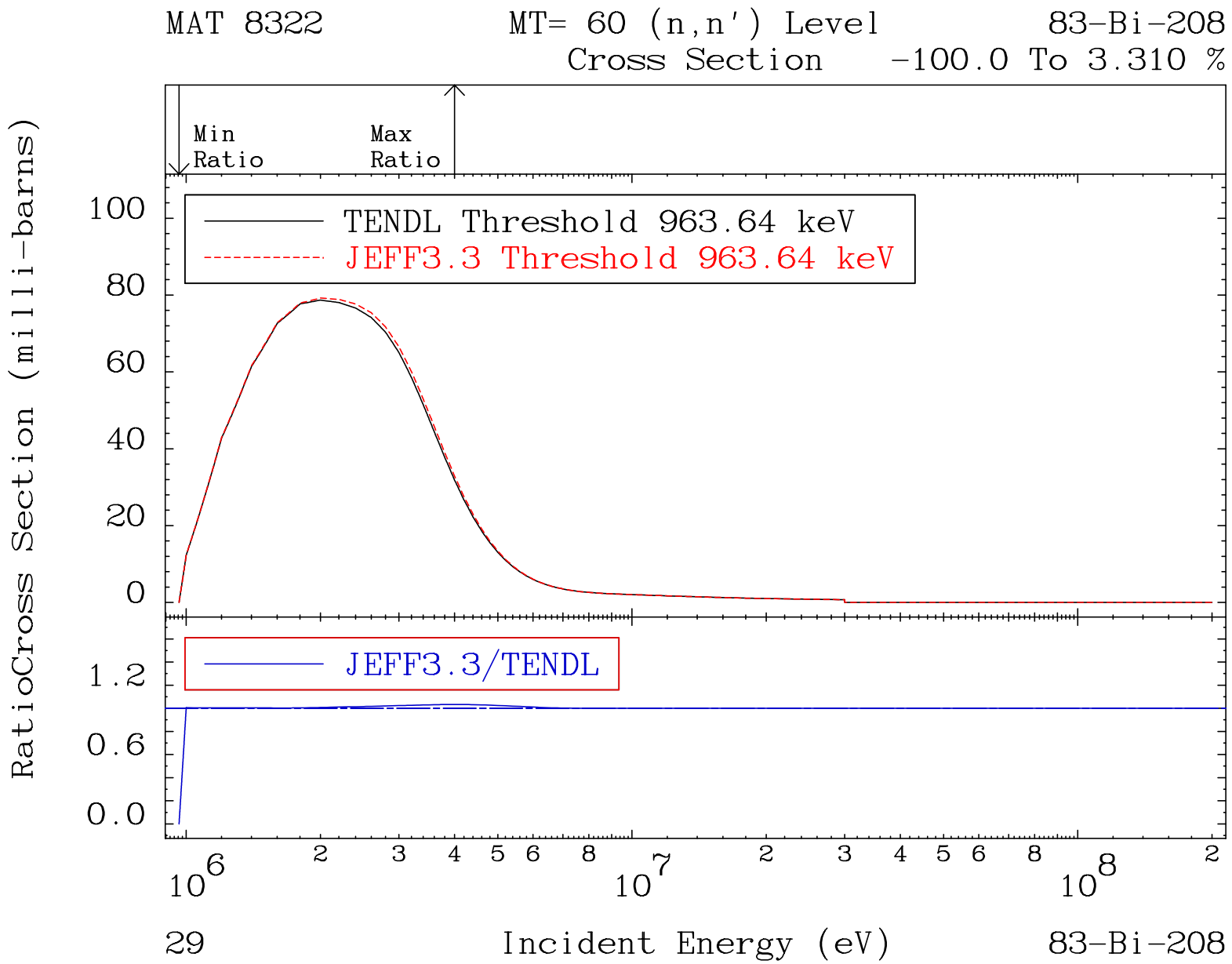

MAT 8322
MT= 55 (n,n') Level
83-Bi-208
Cross Section -100.0 To 4.332 %
Min Ratio
Max Ratio
TENDL Threshold 636.21 keV
JEFF3.3 Threshold 636.21 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
1.2
0.6
0.0
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
24
Incident Energy (eV)
83-Bi-208

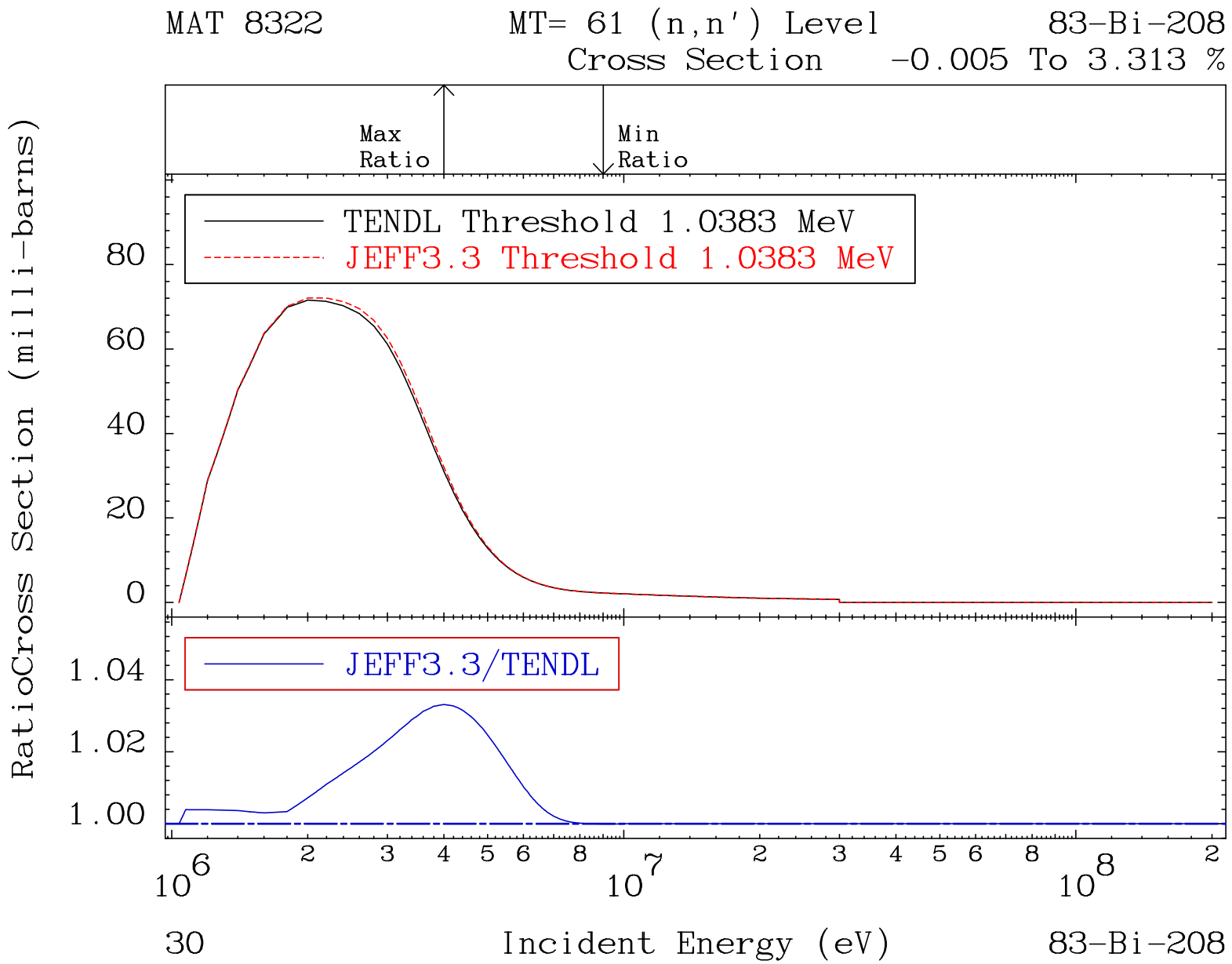

MAT 8322
MT= 56 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.209 %
Min Ratio
Max Ratio
TENDL Threshold 653.73 keV
JEFF3.3 Threshold 653.73 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.2
0.6
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
25
Incident Energy (eV)
83-Bi-208

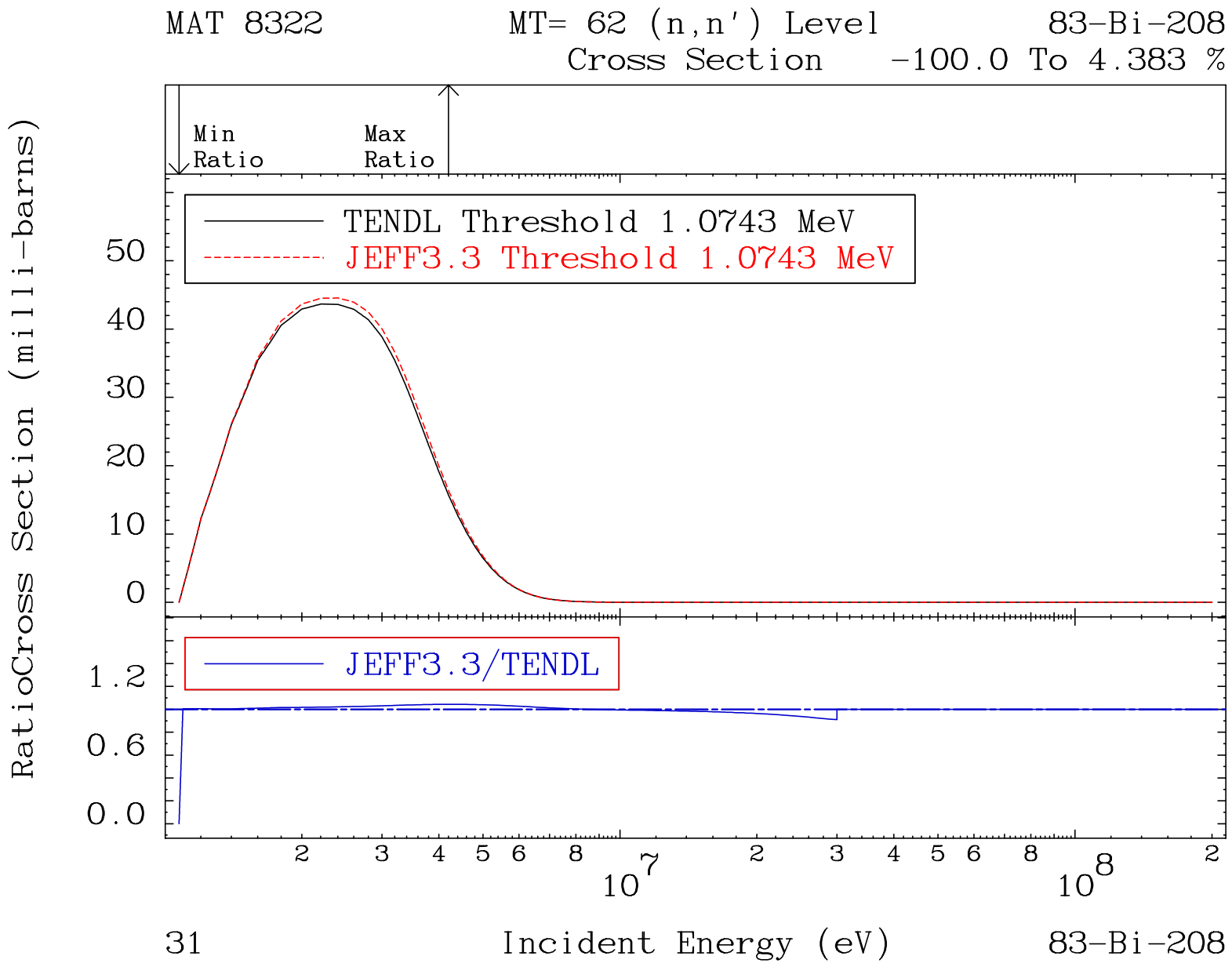

MAT 8322
MT= 57 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.772 %
Min Ratio
Max Ratio
TENDL Threshold 890.66 keV
JEFF3.3 Threshold 890.66 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
80
40
0
1.2
0.6
0.0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
26
Incident Energy (eV)
83-Bi-208

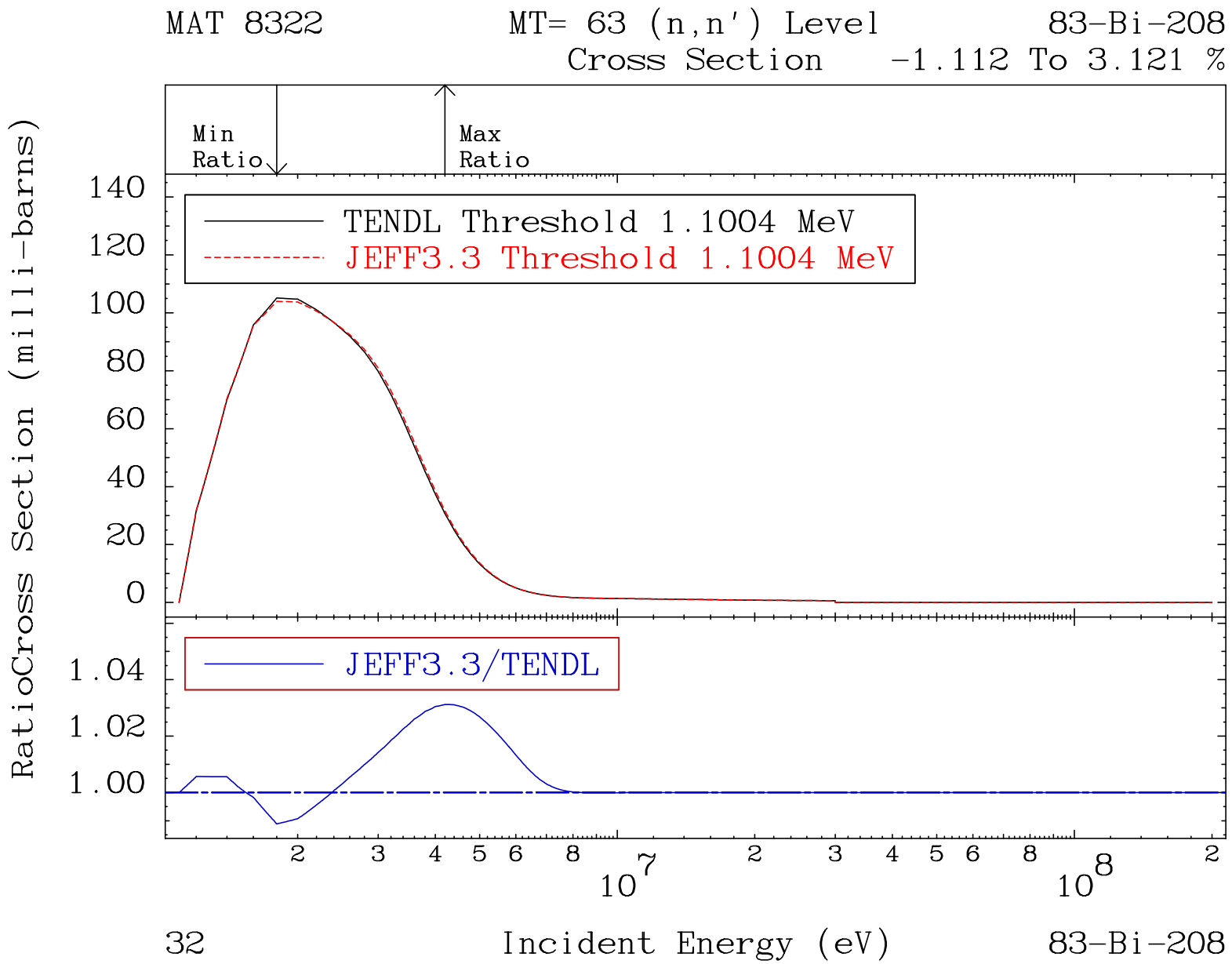

MAT 8322
MT= 58 (n,n') Level
Cross Section
83-Bi-208
-100.0 To 0.923 %
Max
Ratio
TENDL Threshold 929.34 keV
JEFF3.3 Threshold 929.34 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
1.2
0.6
0.0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
27
Incident Energy (eV)
83-Bi-208

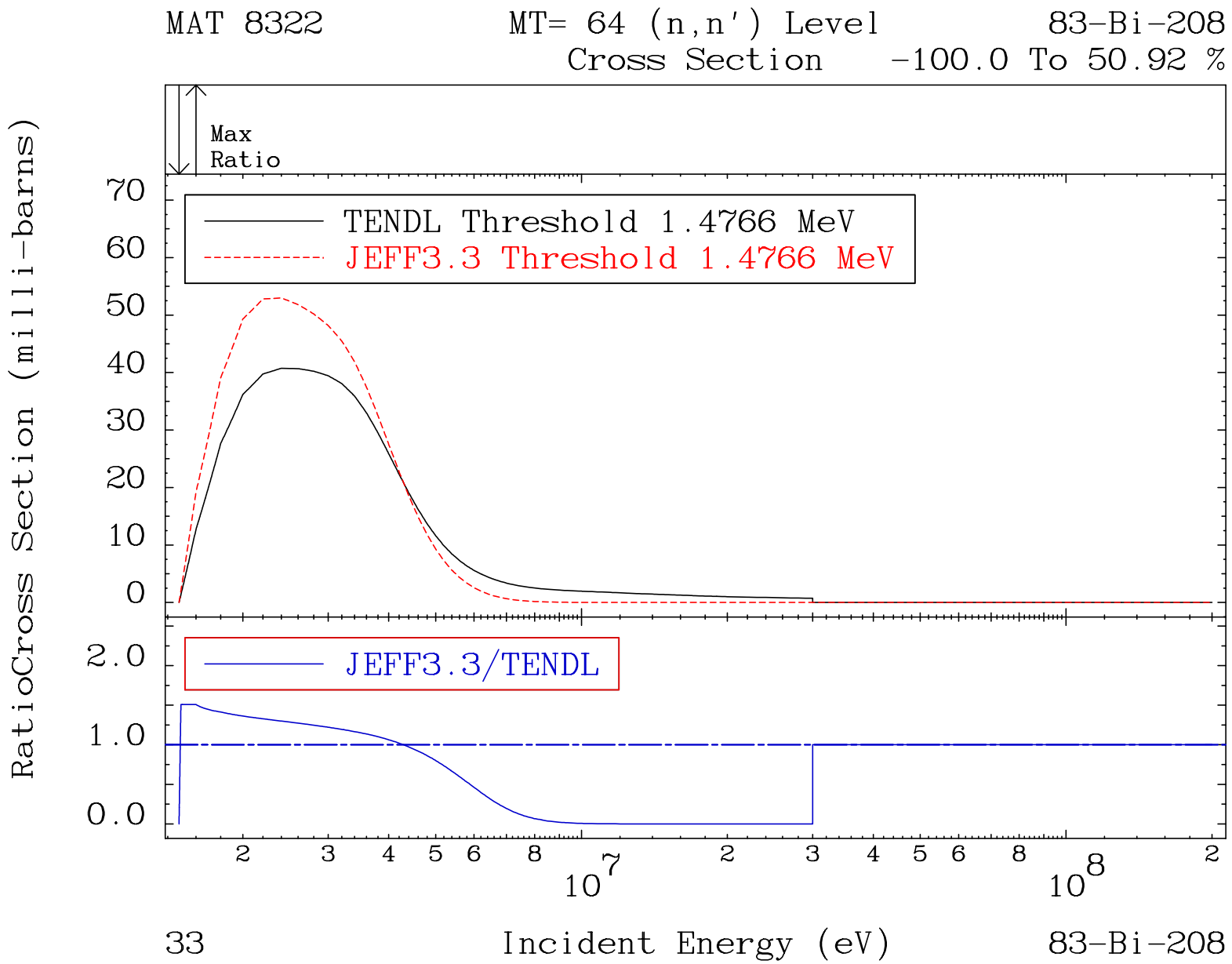

MAT 8322
MT= 59 (n,n') Level
83-Bi-208
Cross Section
-100.0 To 4.367 %
Min Ratio
Max Ratio
TENDL Threshold 940.81 keV
JEFF3.3 Threshold 940.81 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
1.2
0.6
0.0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
28
Incident Energy (eV)
83-Bi-208

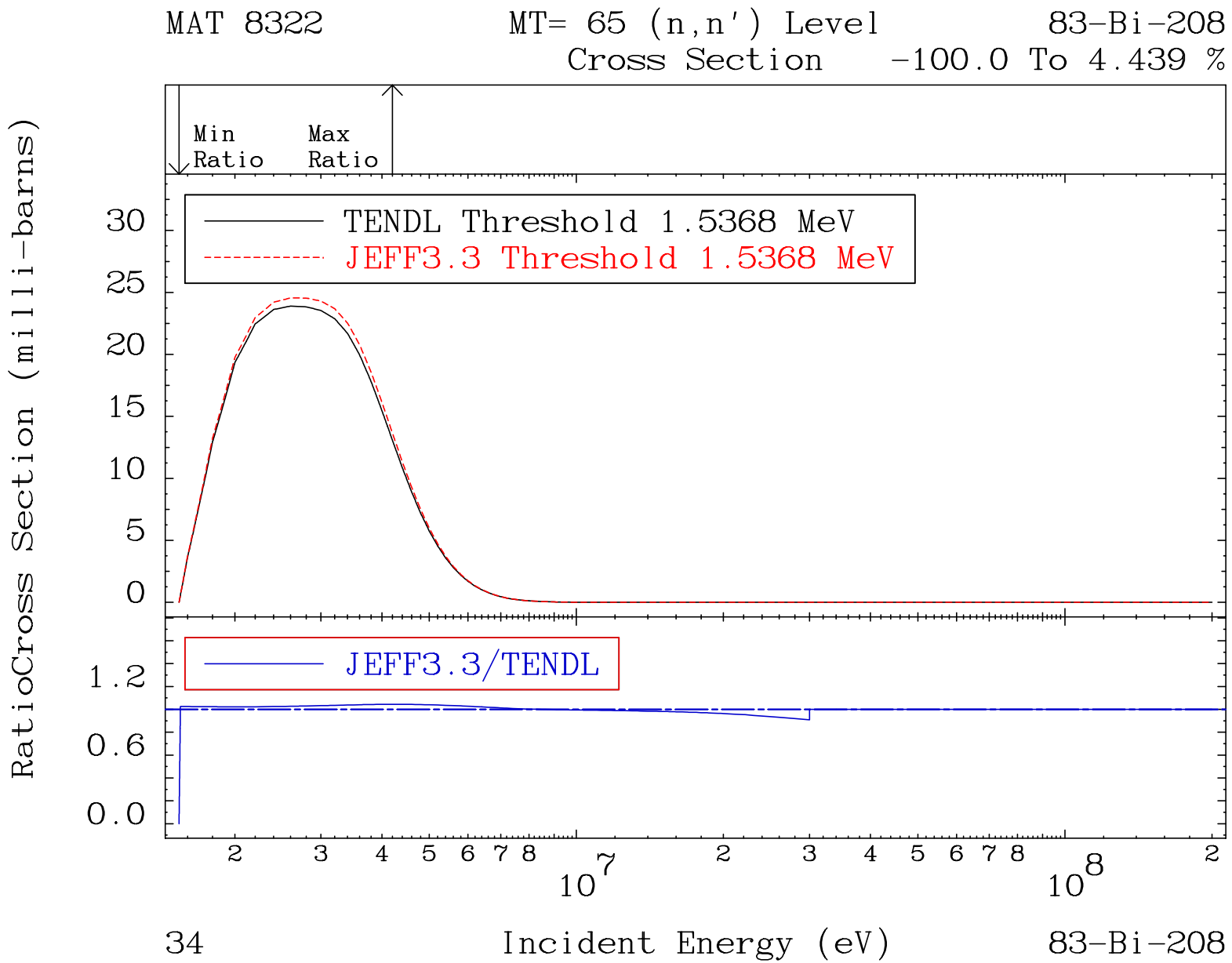

MAT 8322
MT= 60 (n,n') Level
83-Bi-208
Cross Section -100.0 To 3.310 %
Min Ratio
Max Ratio
TENDL Threshold 963.64 keV
JEFF3.3 Threshold 963.64 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
1.2
0.6
0.0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
29
Incident Energy (eV)
83-Bi-208

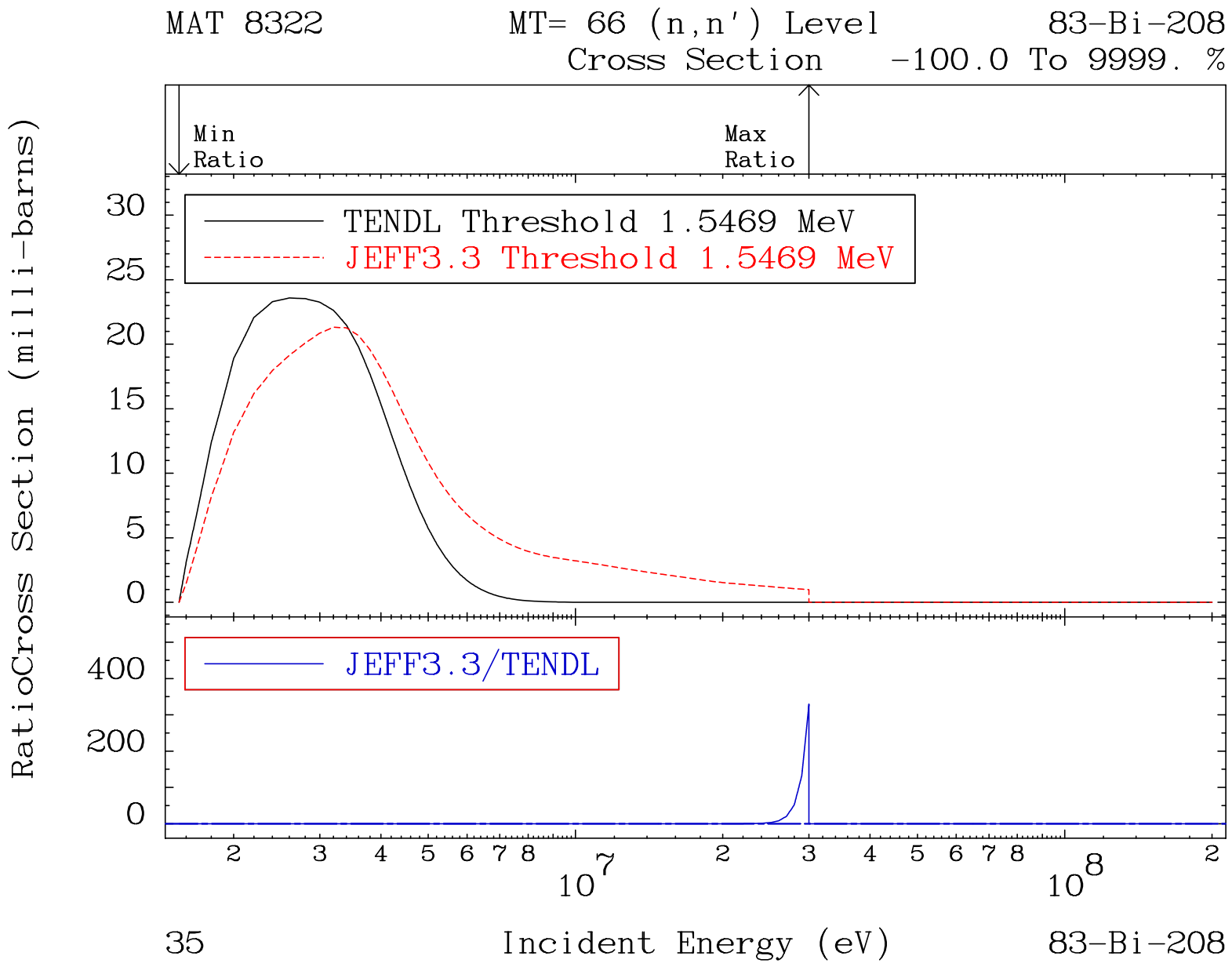

MAT 8322
MT= 61 (n,n') Level
83-Bi-208
Cross Section -0.005 To 3.313 %
Max Ratio
Min Ratio
TENDL Threshold 1.0383 MeV
JEFF3.3 Threshold 1.0383 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
1.04
1.02
1.00
10^6
10^7
10^8
Incident Energy (eV)
30
83-Bi-208

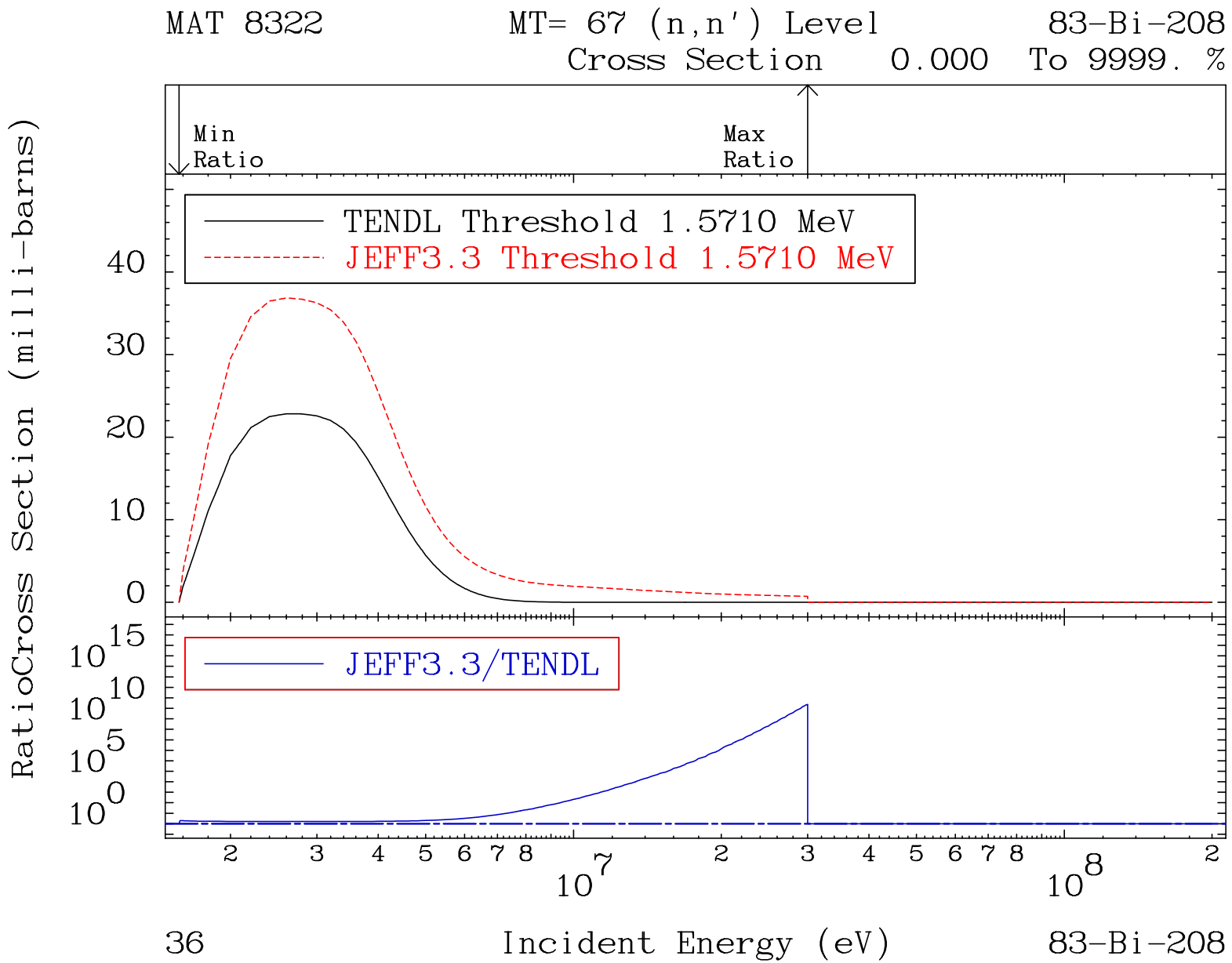

MAT 8322
MT= 62 (n,n') Level
83-Bi-208
Cross Section -100.0 To 4.383 %
Min Ratio
Max Ratio
TENDL Threshold 1.0743 MeV
JEFF3.3 Threshold 1.0743 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
1.2
0.6
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
31
Incident Energy (eV)
83-Bi-208

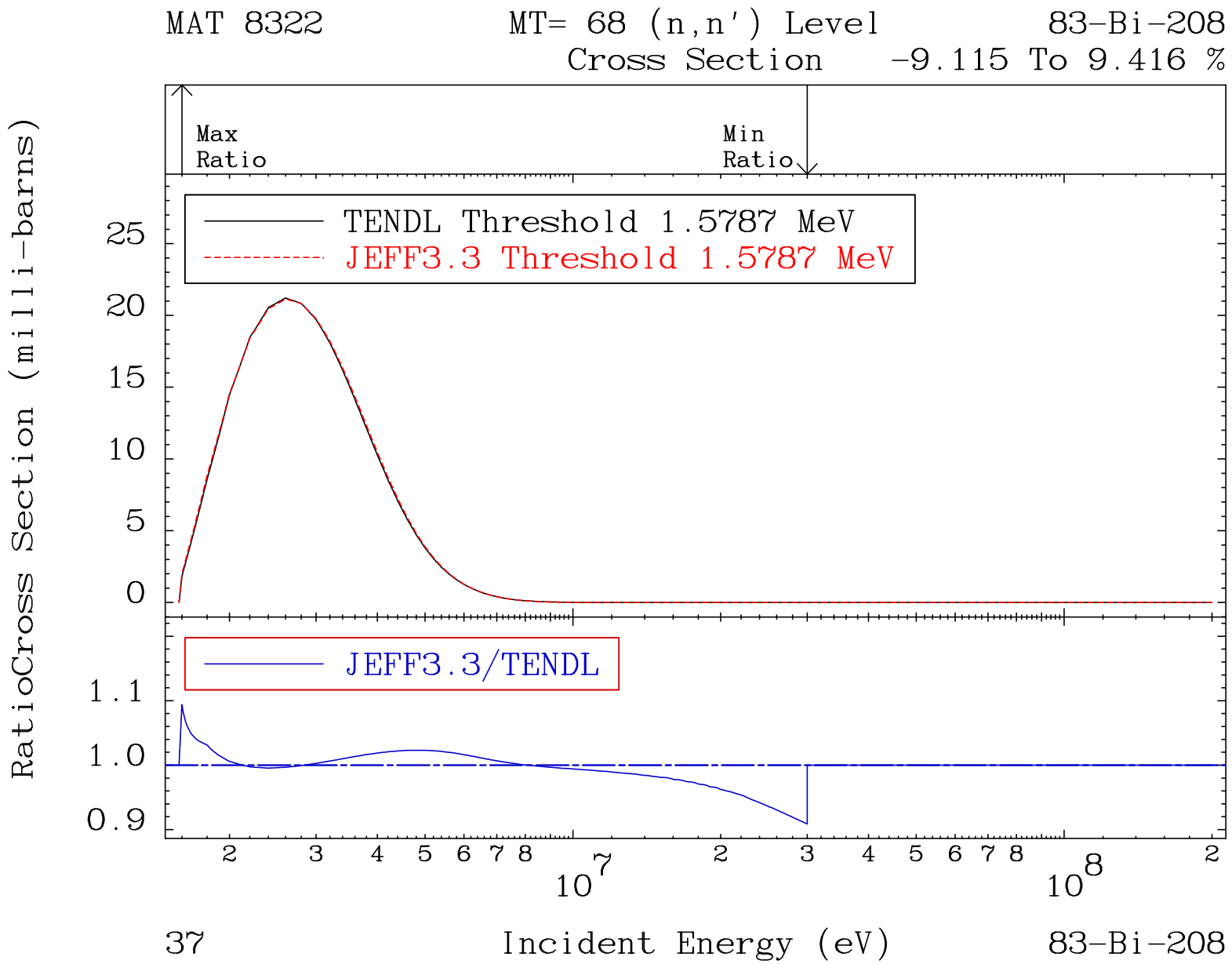

MAT 8322
MT= 63 (n,n') Level
83-Bi-208
Cross Section
-1.112 To 3.121 %
Min Ratio
Max Ratio
TENDL Threshold 1.1004 MeV
JEFF3.3 Threshold 1.1004 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
1.04
1.02
1.00
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
32
Incident Energy (eV)
83-Bi-208

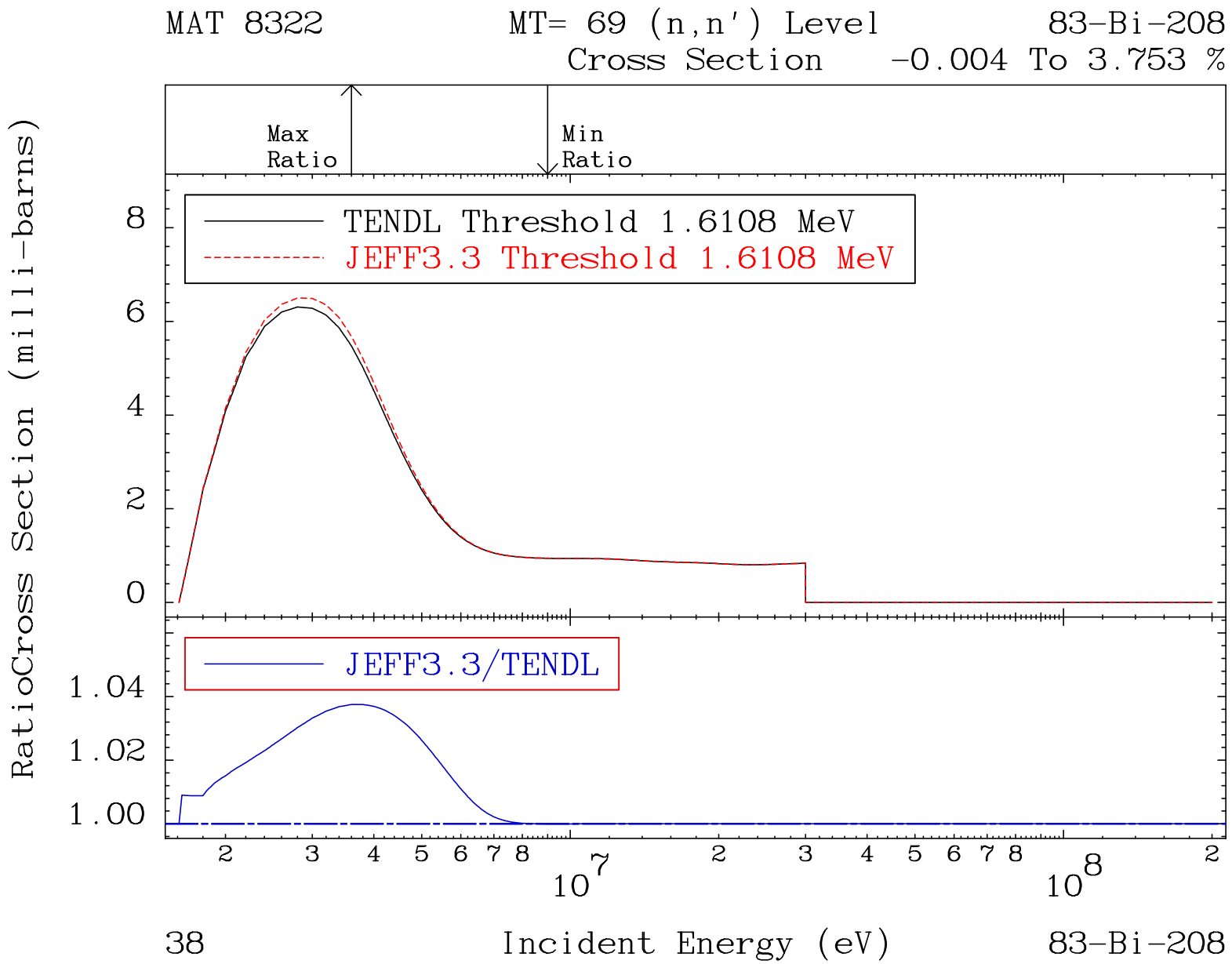

MAT 8322
MT= 64 (n,n') Level
83-Bi-208
Cross Section -100.0 To 50.92 %
Max
Ratio
TENDL Threshold 1.4766 MeV
JEFF3.3 Threshold 1.4766 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
2.0
1.0
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
33
Incident Energy (eV)
83-Bi-208

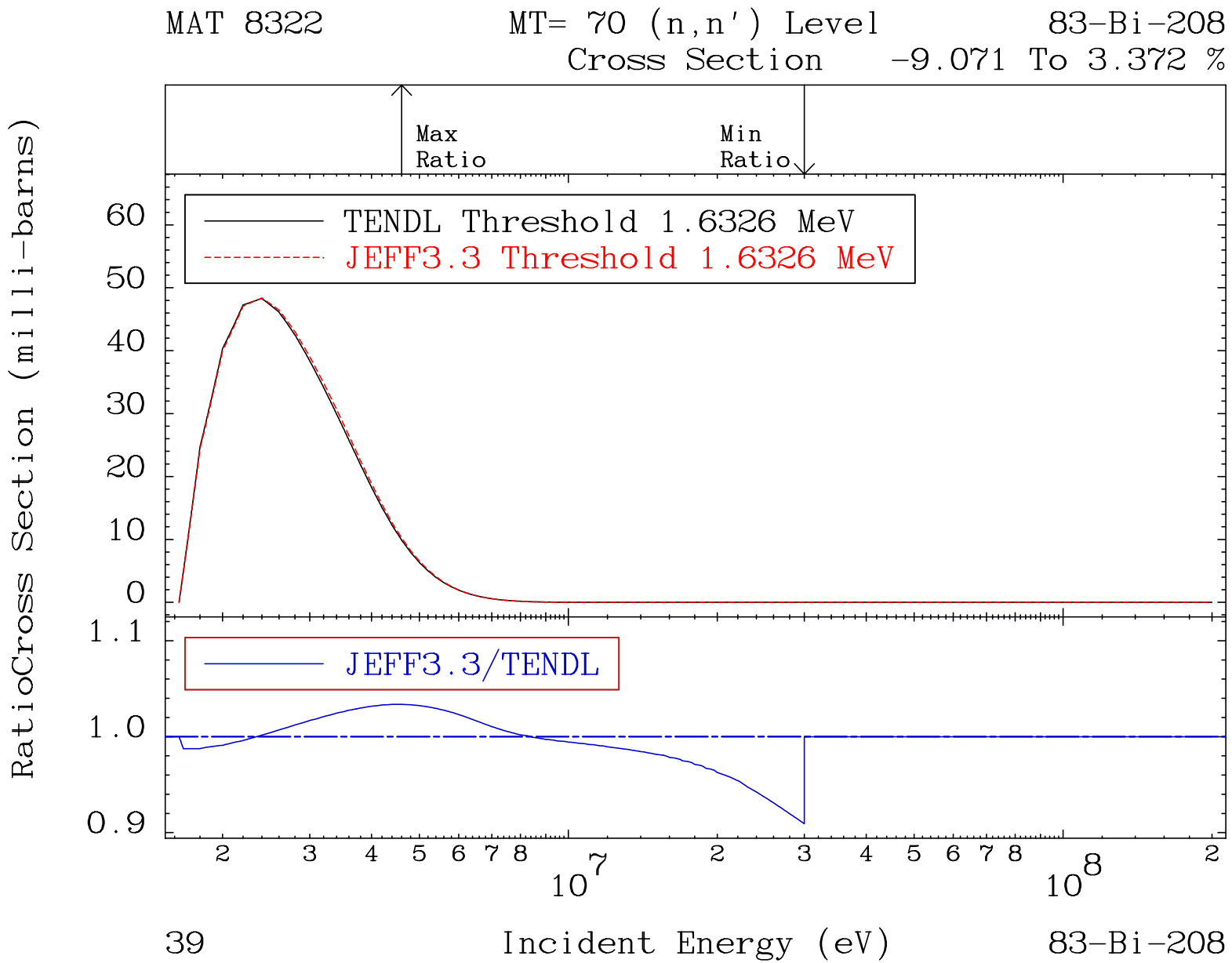

MAT 8322
MT= 65 (n,n') Level
83-Bi-208
Cross Section -100.0 To 4.439 %
Min Ratio
Max Ratio
TENDL Threshold 1.5368 MeV
JEFF3.3 Threshold 1.5368 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
1.2
0.6
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
34
Incident Energy (eV)
83-Bi-208

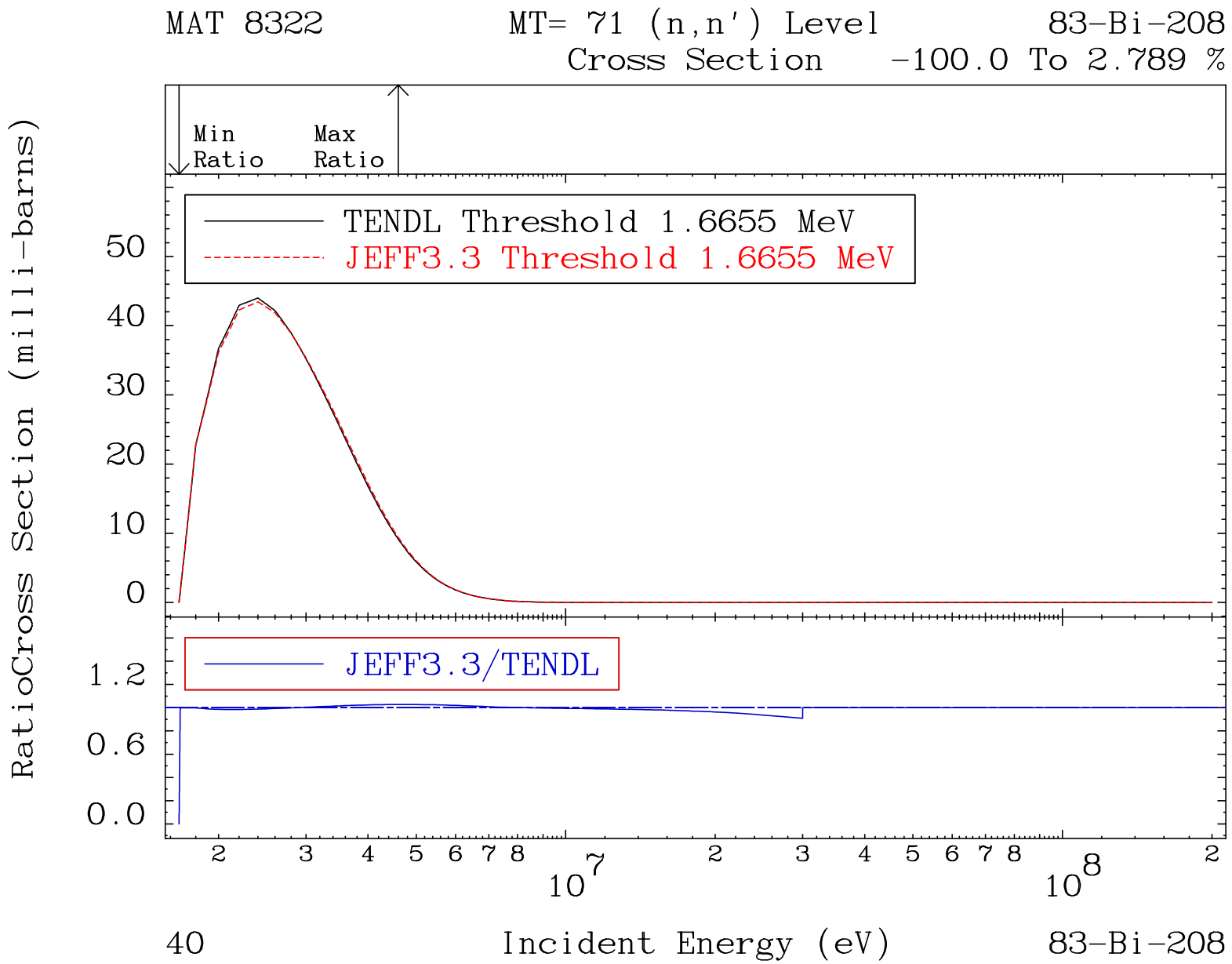

MAT 8322
MT= 66 (n,n') Level
83-Bi-208
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.5469 MeV
JEFF3.3 Threshold 1.5469 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
400
200
0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
35
Incident Energy (eV)
83-Bi-208

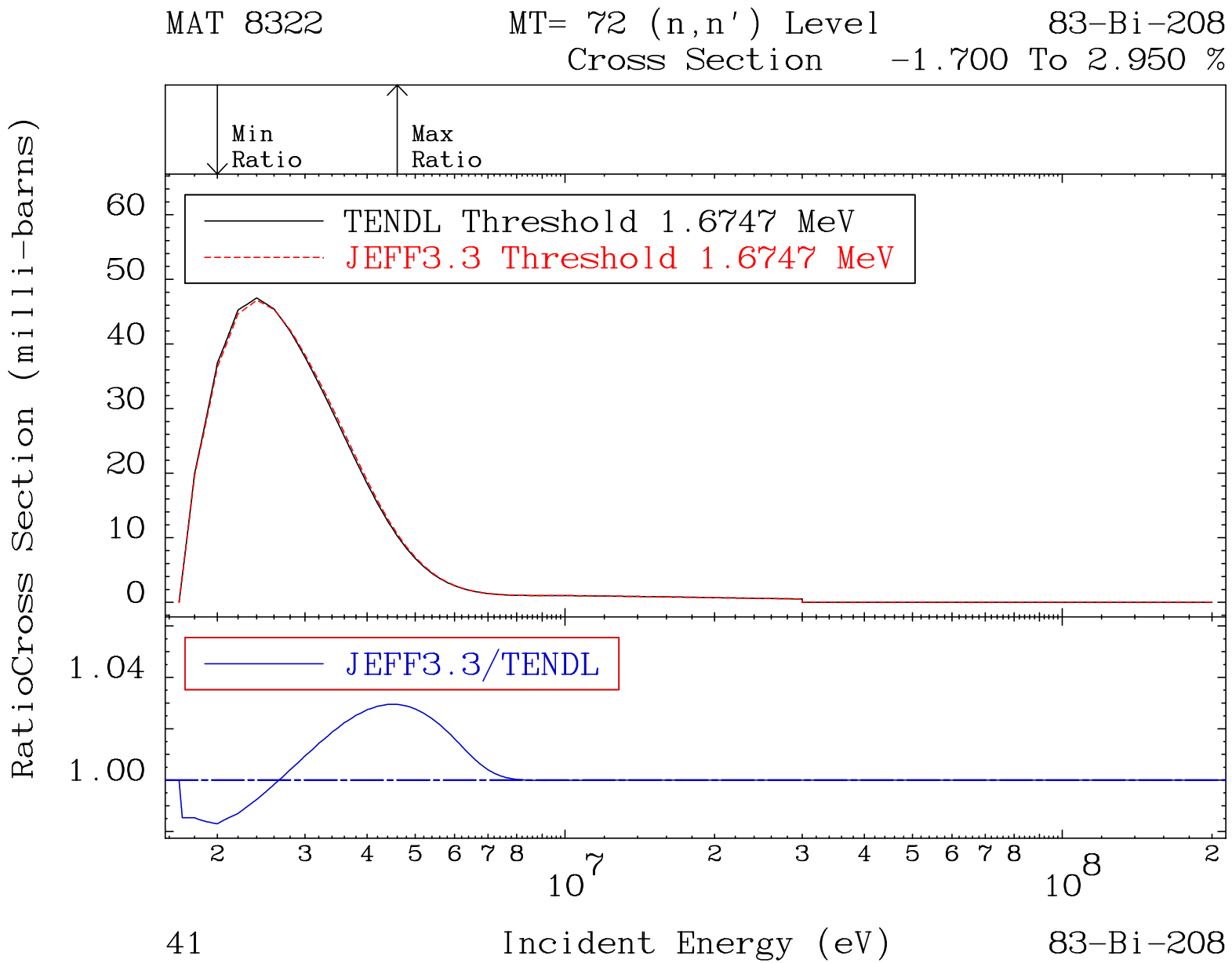

MAT 8322
MT= 67 (n,n') Level
83-Bi-208
Cross Section 0.000 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.5710 MeV
JEFF3.3 Threshold 1.5710 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
10^15
10^10
10^5
10^0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
36
Incident Energy (eV)
83-Bi-208

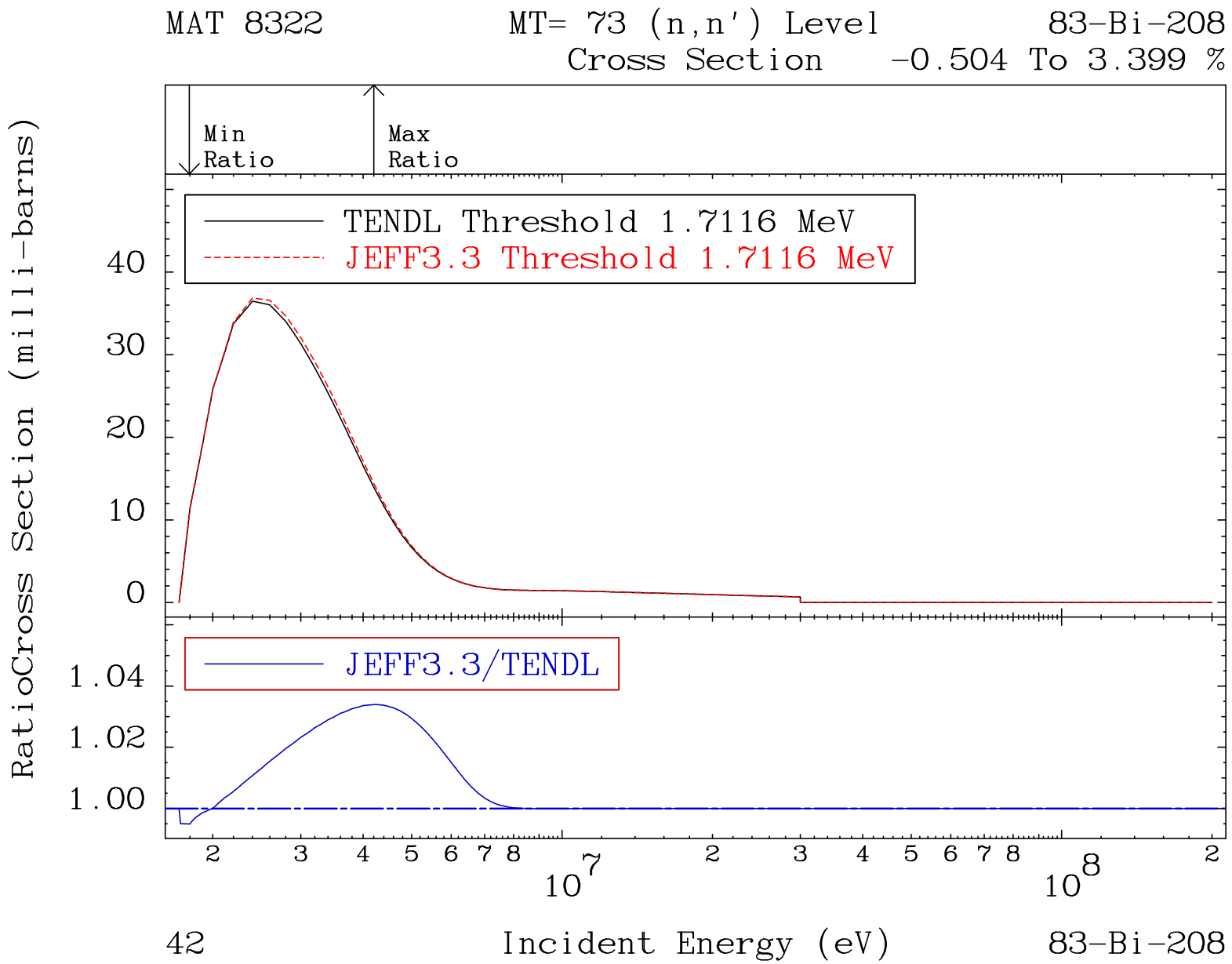

MAT 8322
MT= 68 (n,n') Level
83-Bi-208
Cross Section
-9.115 To 9.416 %
Max Ratio
Min Ratio
TENDL Threshold 1.5787 MeV
JEFF3.3 Threshold 1.5787 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
1.1
1.0
0.9
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
37
Incident Energy (eV)
83-Bi-208

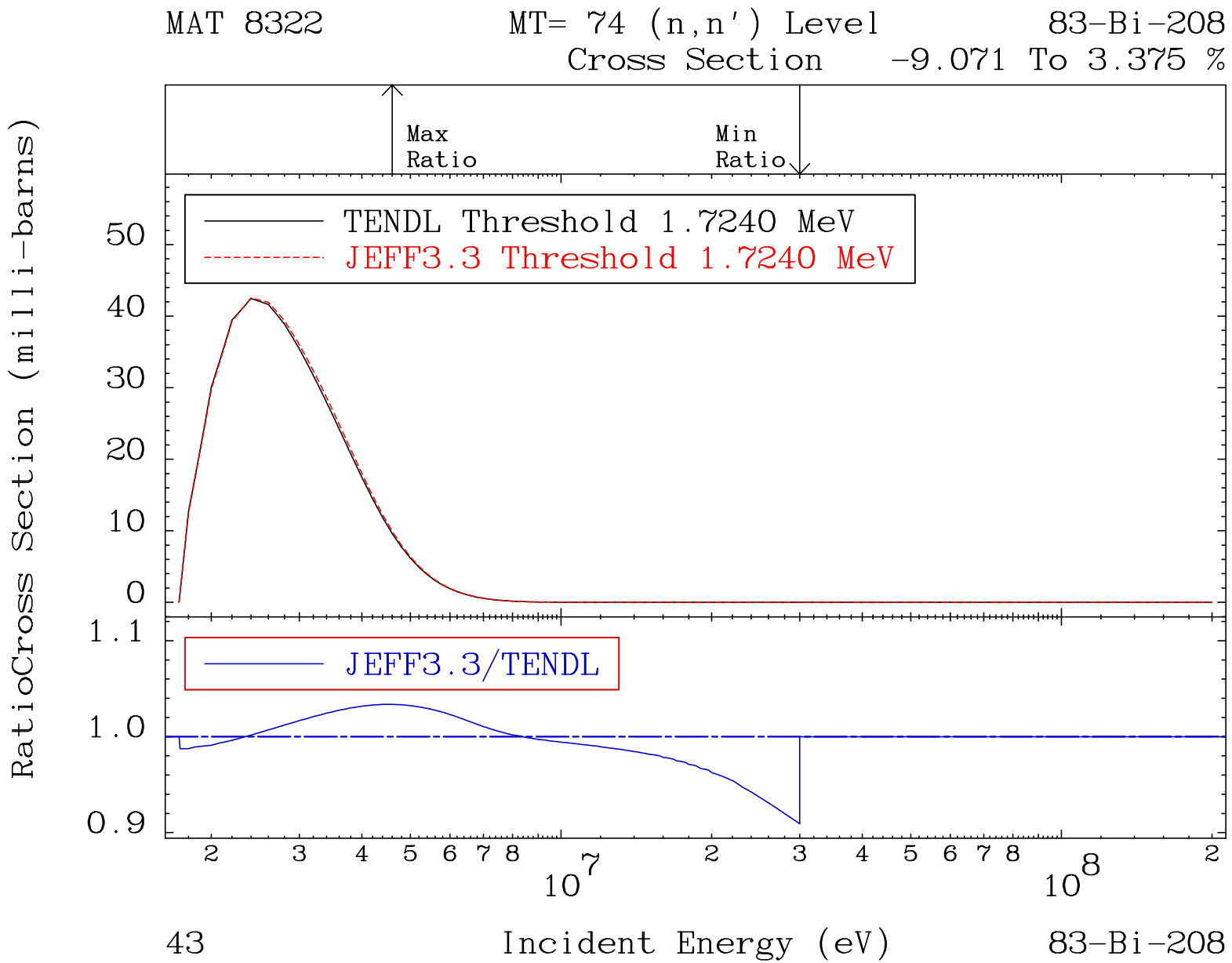

MAT 8322
MT= 69 (n,n') Level
83-Bi-208
Cross Section
-0.004 To 3.753 %
Max Ratio
Min Ratio
TENDL Threshold 1.6108 MeV
JEFF3.3 Threshold 1.6108 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
38
83-Bi-208

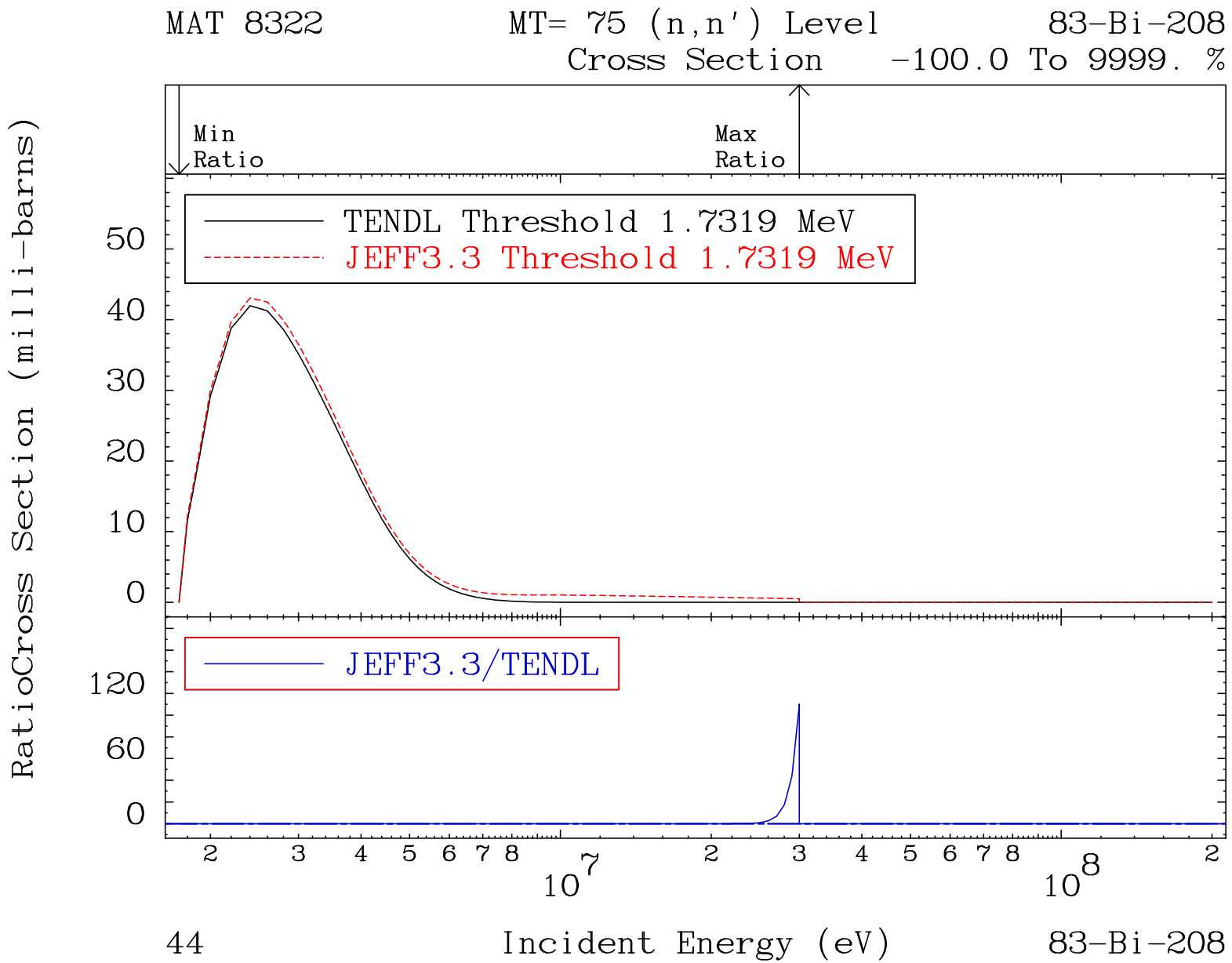

MAT 8322
MT= 70 (n,n') Level
83-Bi-208
Cross Section -9.071 To 3.372 %
Max Ratio
Min Ratio
TENDL Threshold 1.6326 MeV
JEFF3.3 Threshold 1.6326 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
1.1
1.0
0.9
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
39
Incident Energy (eV)
83-Bi-208

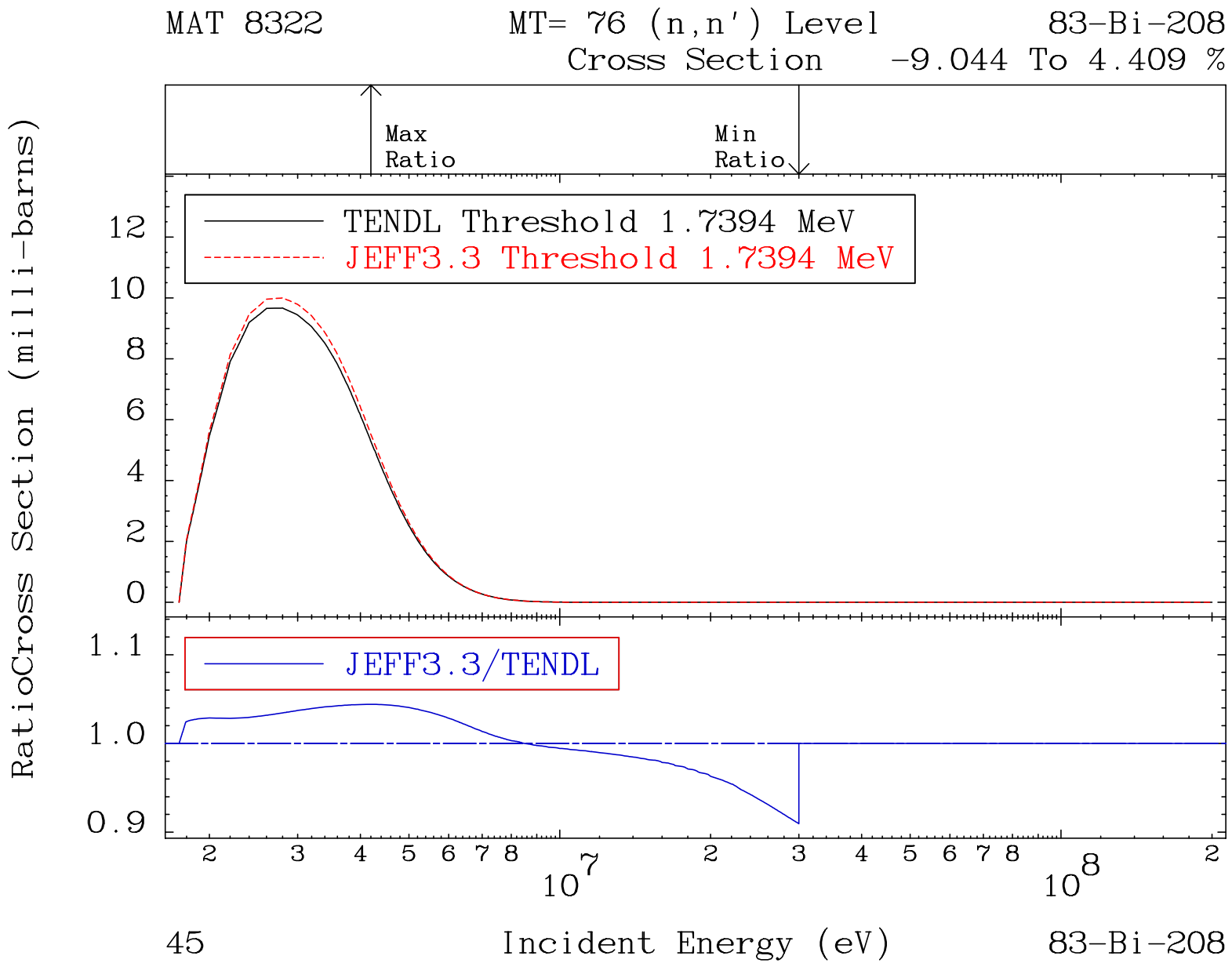

MAT 8322
MT= 71 (n,n') Level
83-Bi-208
Cross Section -100.0 To 2.789 %
Min Ratio
Max Ratio
TENDL Threshold 1.6655 MeV
JEFF3.3 Threshold 1.6655 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
1.2
0.6
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
40
Incident Energy (eV)
83-Bi-208

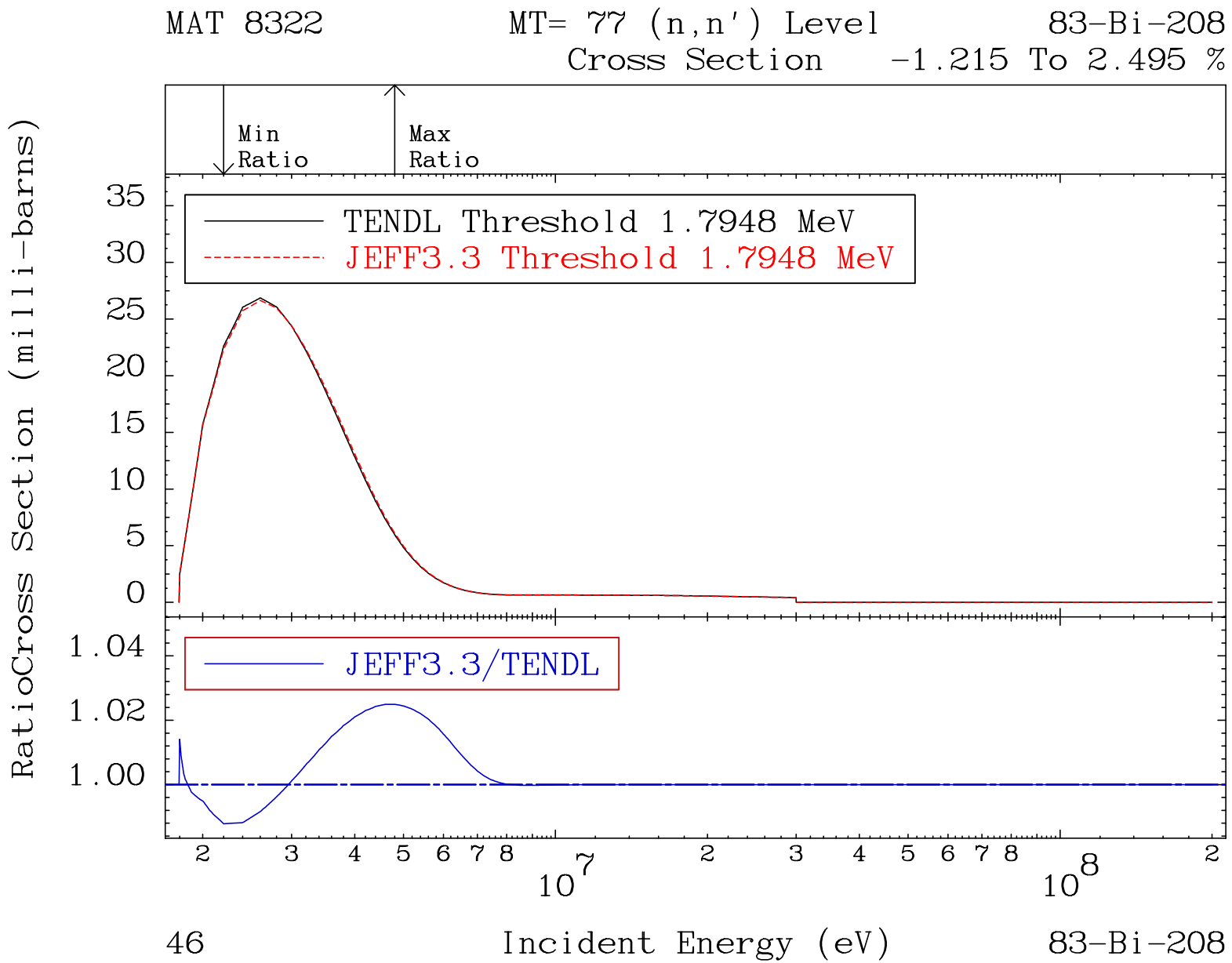

MAT 8322
MT= 72 (n,n') Level
83-Bi-208
Cross Section -1.700 To 2.950 %
Min Ratio
Max Ratio
TENDL Threshold 1.6747 MeV
JEFF3.3 Threshold 1.6747 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
1.04
1.00
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
41
Incident Energy (eV)
83-Bi-208

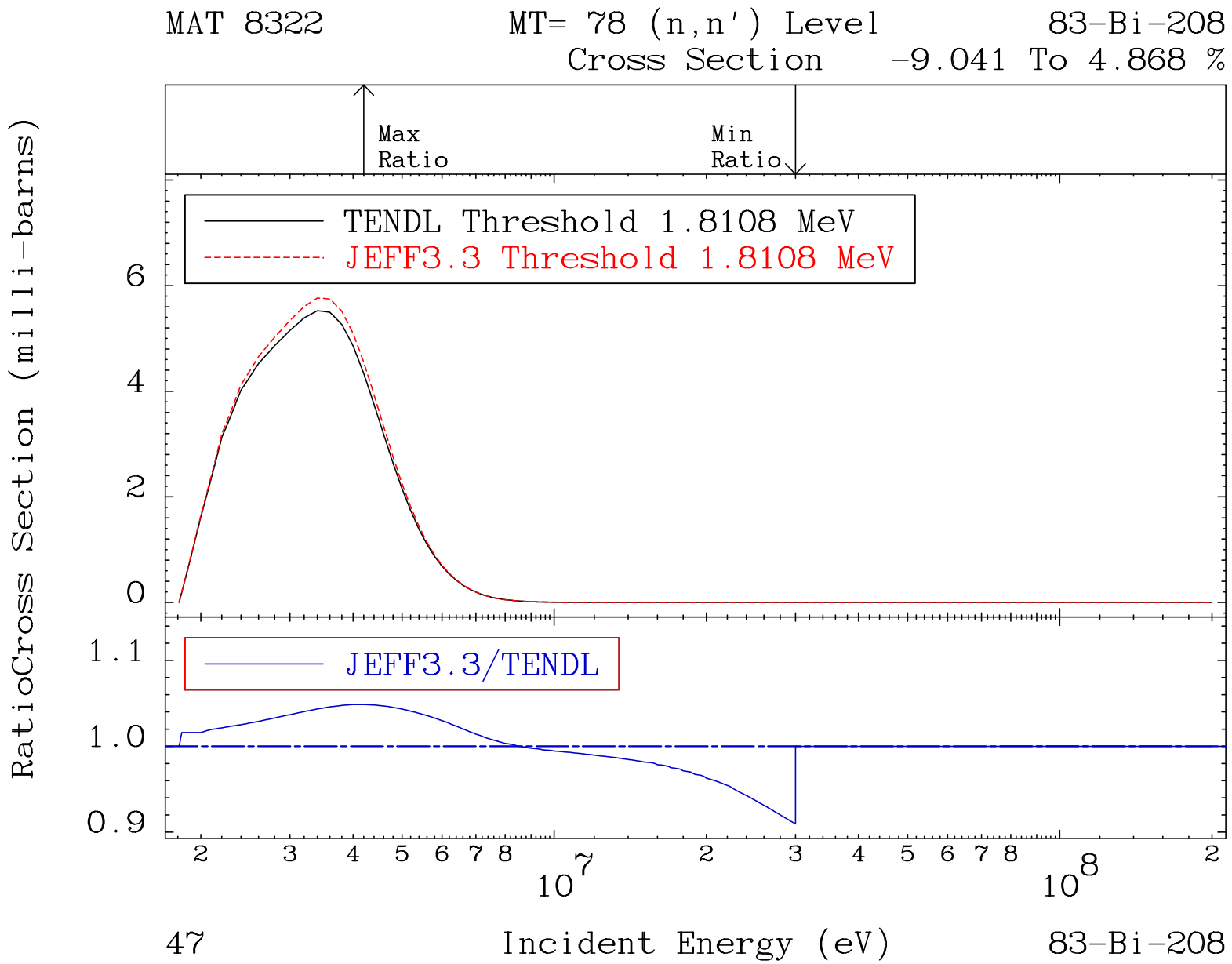

MAT 8322
MT= 73 (n,n') Level
83-Bi-208
Cross Section -0.504 To 3.399 %
Min Ratio
Max Ratio
TENDL Threshold 1.7116 MeV
JEFF3.3 Threshold 1.7116 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.04
1.02
1.00
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
42
Incident Energy (eV)
83-Bi-208

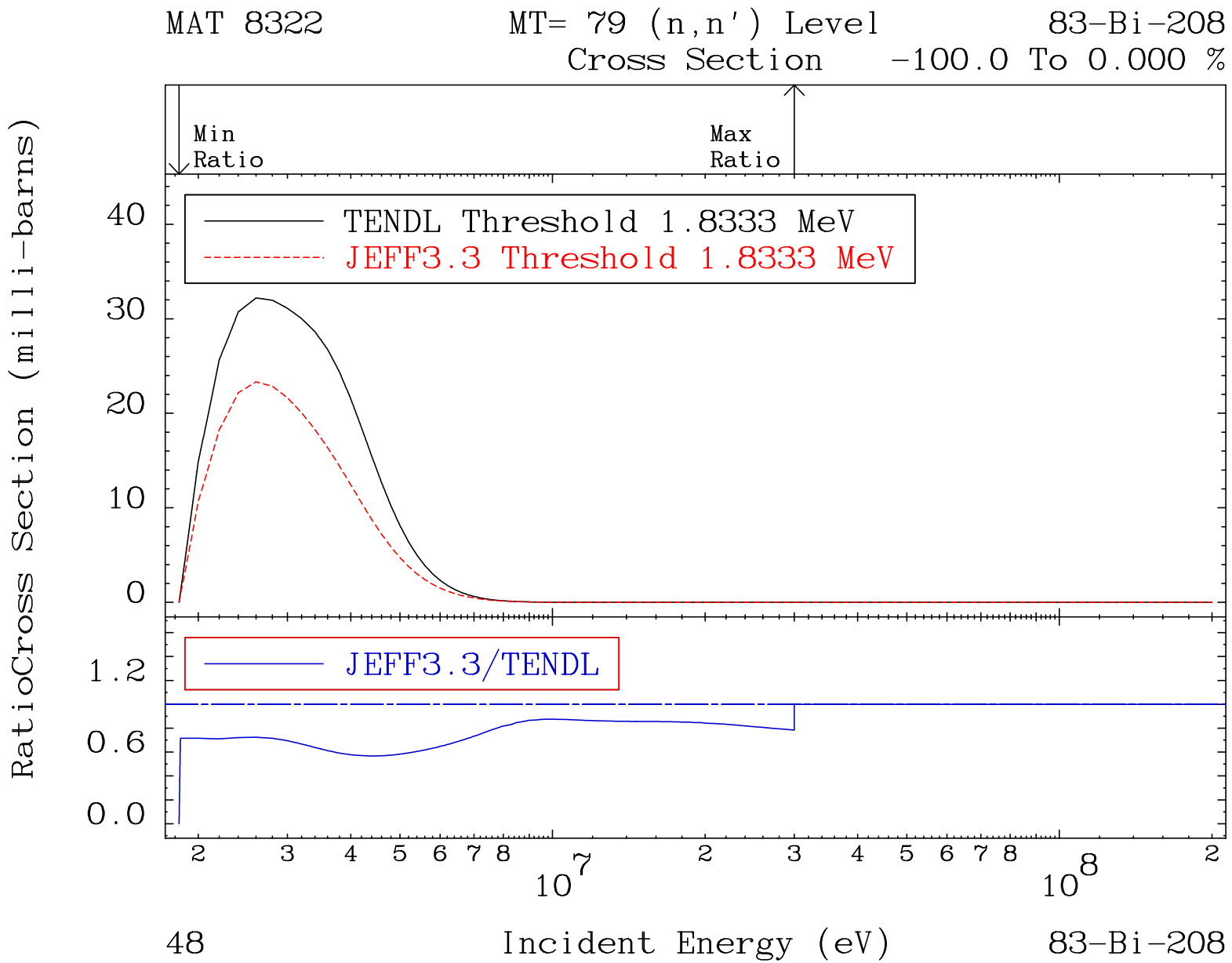

MAT 8322
MT= 74 (n,n') Level
83-Bi-208
Cross Section -9.071 To 3.375 %
Max Ratio
Min Ratio
TENDL Threshold 1.7240 MeV
JEFF3.3 Threshold 1.7240 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
1.1
1.0
0.9
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
43
Incident Energy (eV)
83-Bi-208

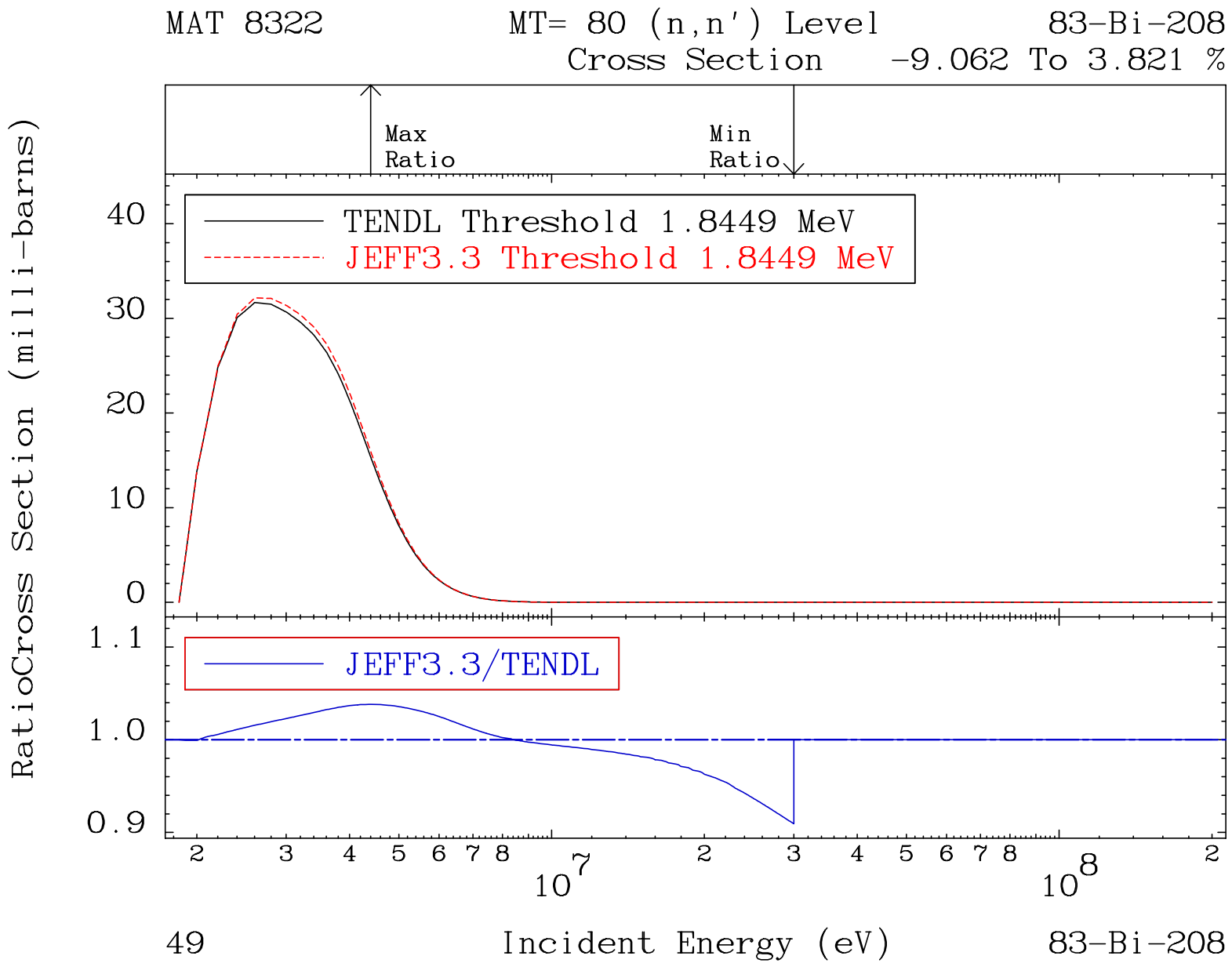

MAT 8322
MT= 75 (n,n') Level
83-Bi-208
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.7319 MeV
JEFF3.3 Threshold 1.7319 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
120
60
0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
44
Incident Energy (eV)
83-Bi-208

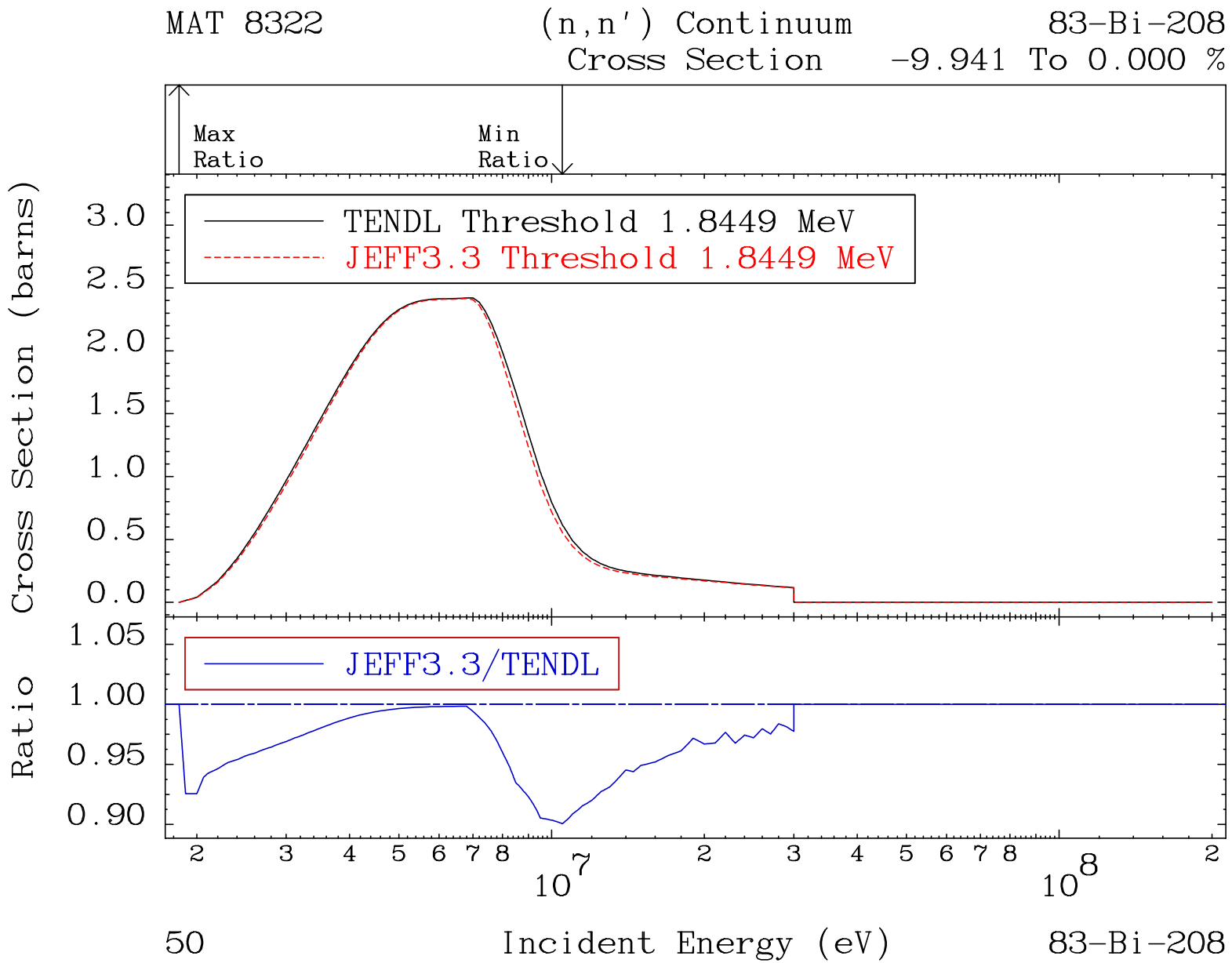

MAT 8322
MT= 76 (n,n') Level
83-Bi-208
Cross Section
-9.044 To 4.409 %
Max Ratio
Min Ratio
TENDL Threshold 1.7394 MeV
JEFF3.3 Threshold 1.7394 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
12
10
8
6
4
2
0
1.1
1.0
0.9
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
45
Incident Energy (eV)
83-Bi-208

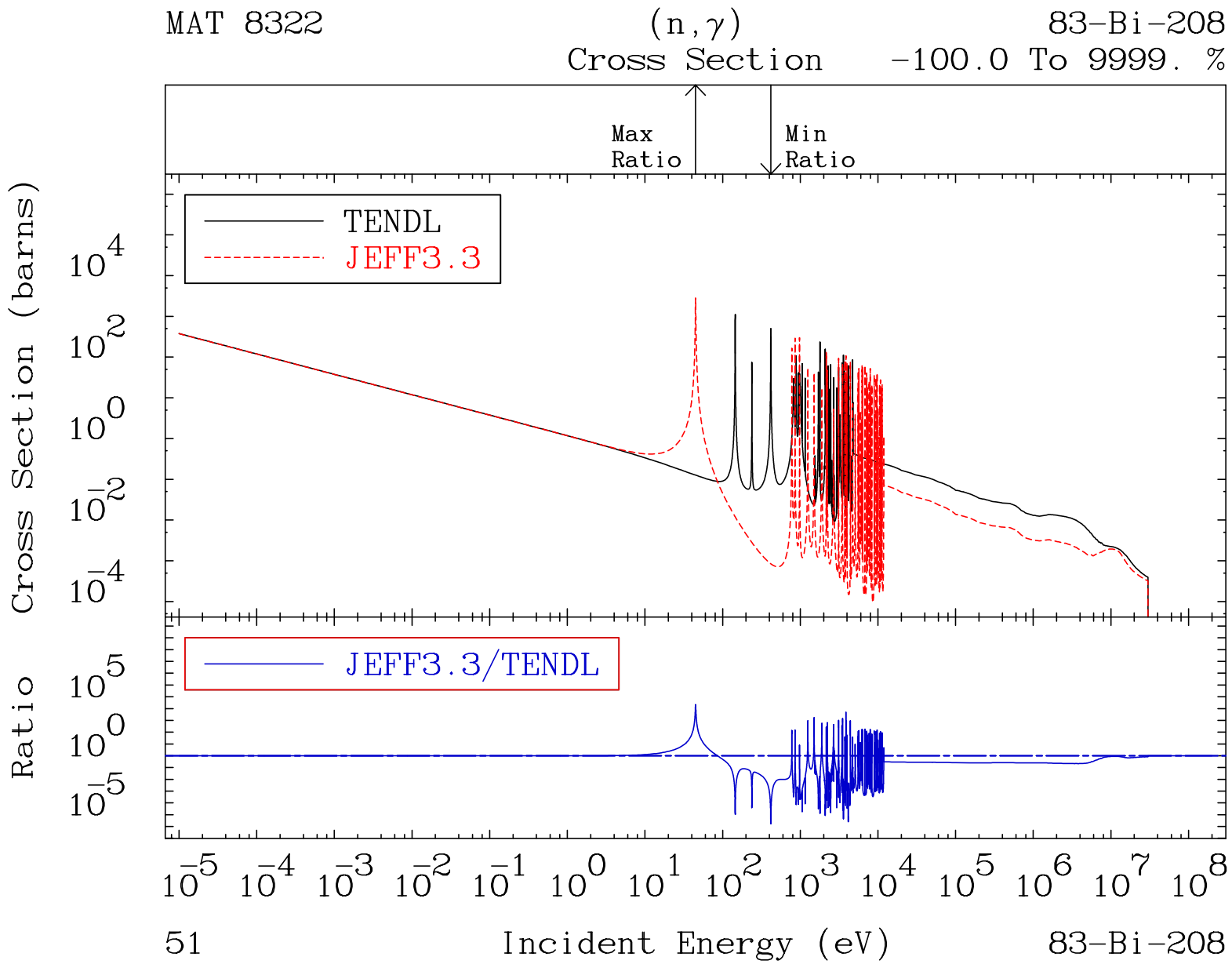

MAT 8322
MT= 77 (n,n') Level
83-Bi-208
Cross Section -1.215 To 2.495 %
Min Ratio
Max Ratio
TENDL Threshold 1.7948 MeV
JEFF3.3 Threshold 1.7948 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
35
30
25
20
15
10
5
0
1.04
1.02
1.00
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
46
Incident Energy (eV)
83-Bi-208

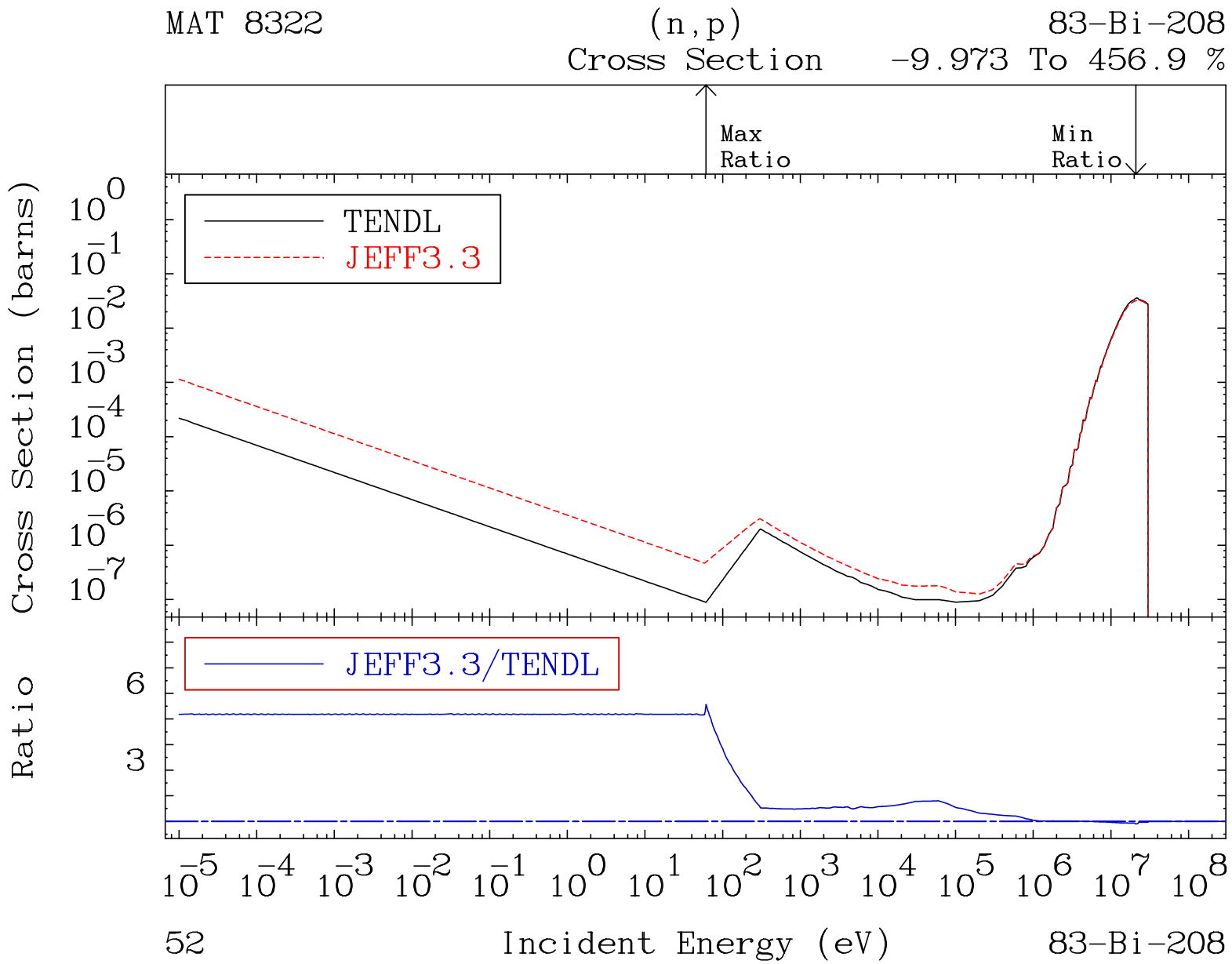

MAT 8322
MT= 78 (n,n') Level
83-Bi-208
Cross Section
-9.041 To 4.868 %
Max Ratio
Min Ratio
TENDL Threshold 1.8108 MeV
JEFF3.3 Threshold 1.8108 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
47
83-Bi-208

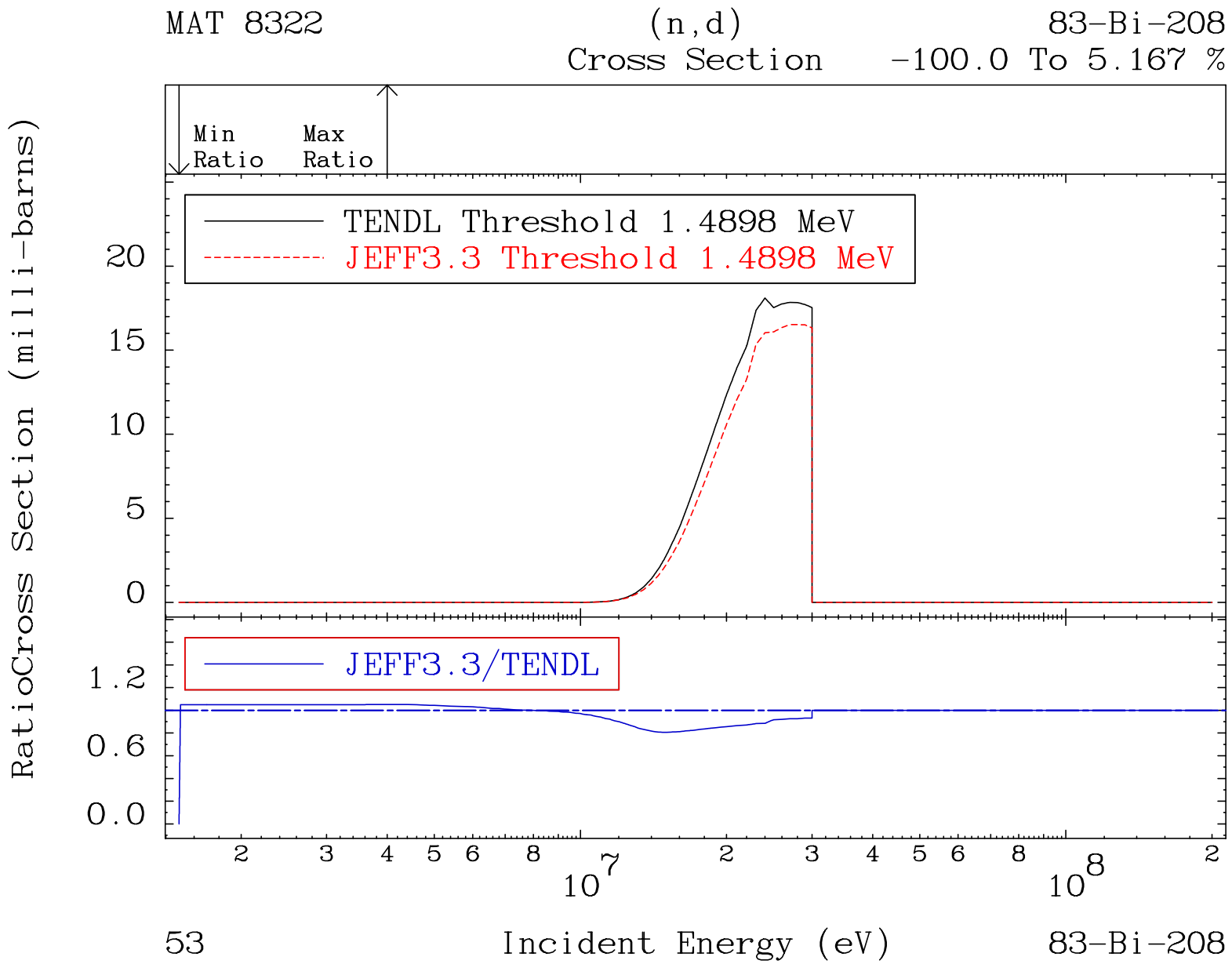

MAT 8322
MT= 79 (n,n') Level
83-Bi-208
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 1.8333 MeV
JEFF3.3 Threshold 1.8333 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.2
0.6
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
48
Incident Energy (eV)
83-Bi-208

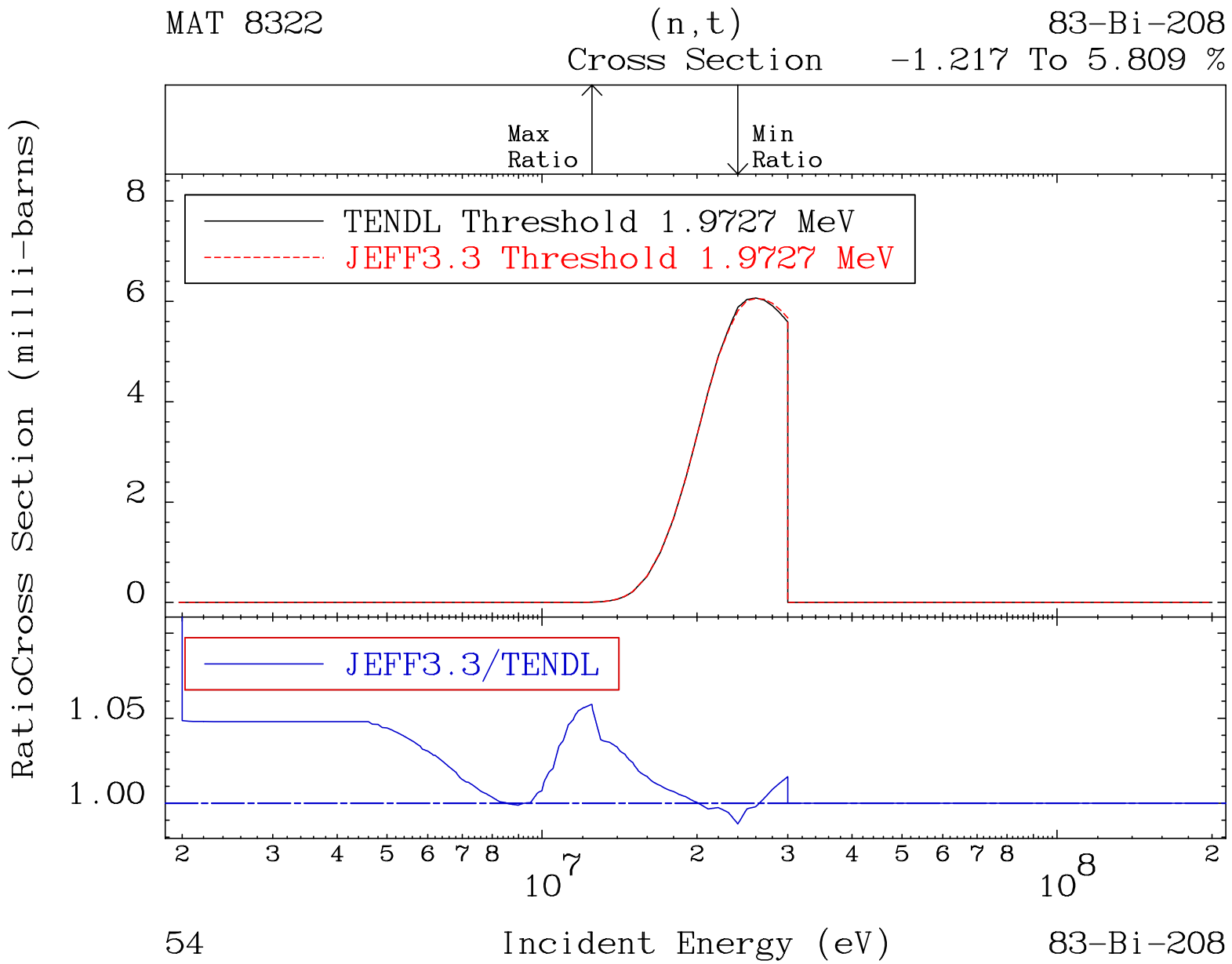

MAT 8322
MT= 80 (n,n') Level
83-Bi-208
Cross Section -9.062 To 3.821 %
Max Ratio
Min Ratio
TENDL Threshold 1.8449 MeV
JEFF3.3 Threshold 1.8449 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.1
1.0
0.9
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
49
Incident Energy (eV)
83-Bi-208

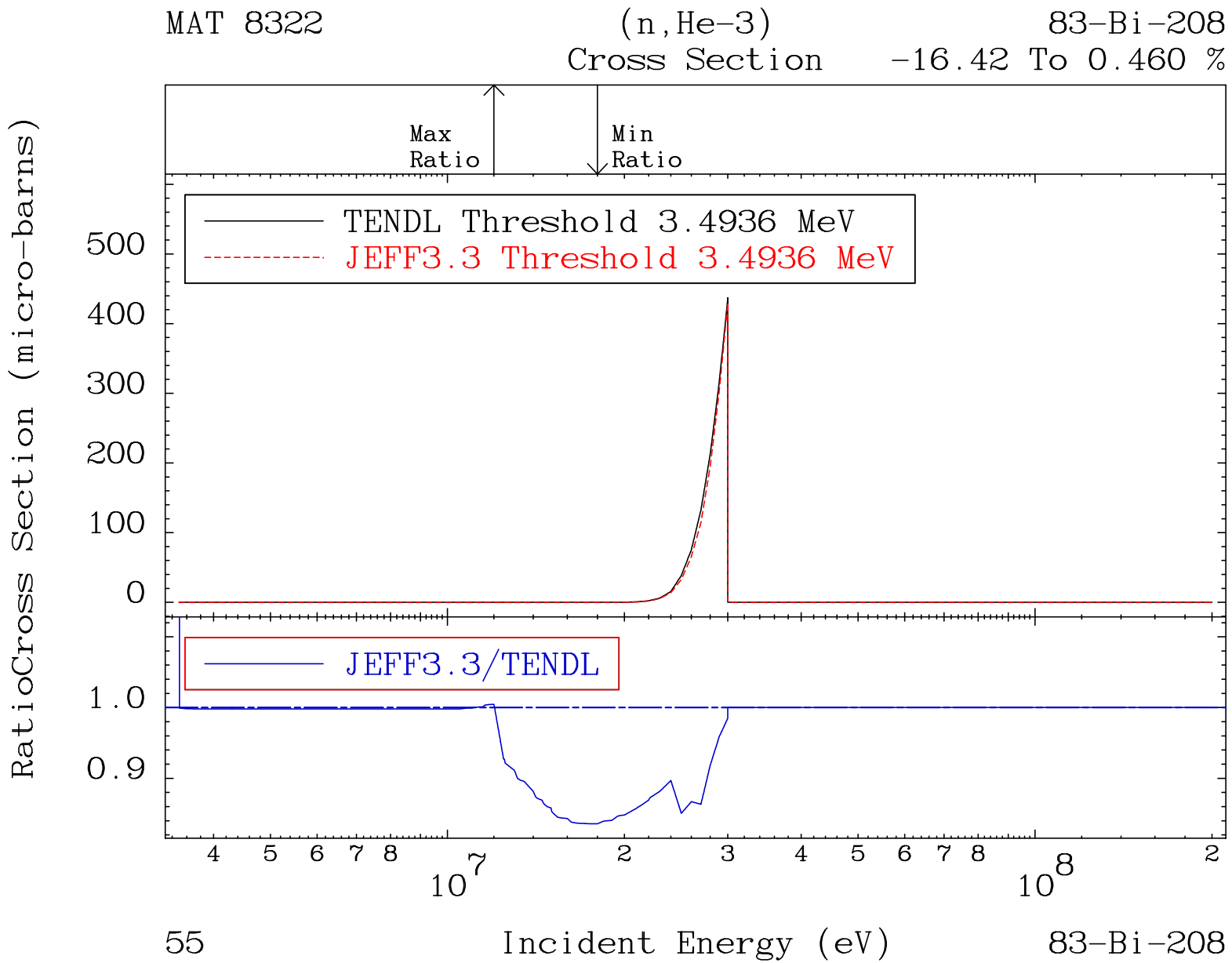

MAT 8322
(n,n') Continuum
Cross Section
83-Bi-208
-9.941 To 0.000 %
Max Ratio
Min Ratio
TENDL Threshold 1.8449 MeV
JEFF3.3 Threshold 1.8449 MeV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
1.05
1.00
0.95
0.90
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
50
Incident Energy (eV)
83-Bi-208

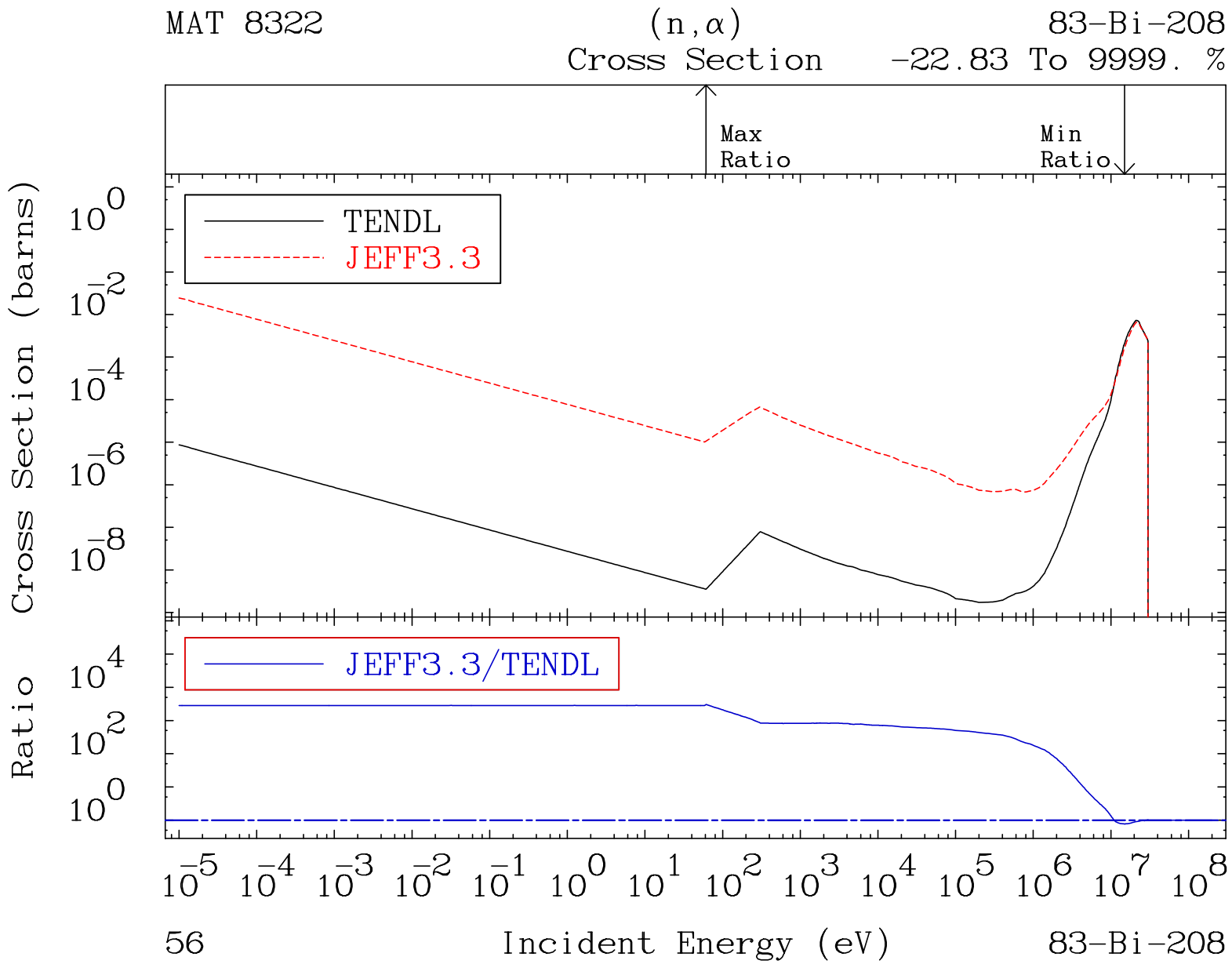

MAT 8322
(n,γ)
Cross Section
83-Bi-208
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
51
83-Bi-208

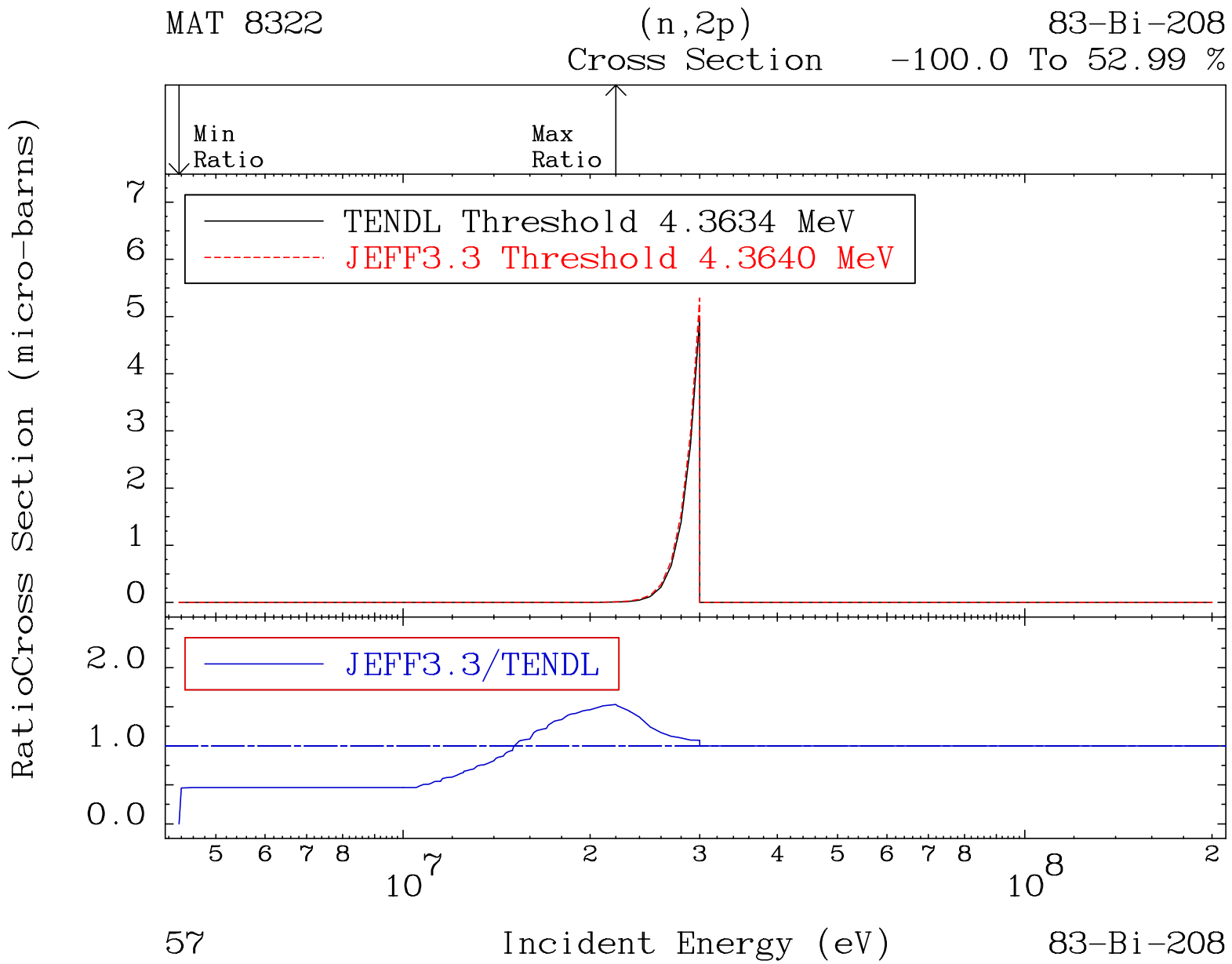

MAT 8322
(n,p)
Cross Section
83-Bi-208
-9.973 To 456.9 %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
52
83-Bi-208

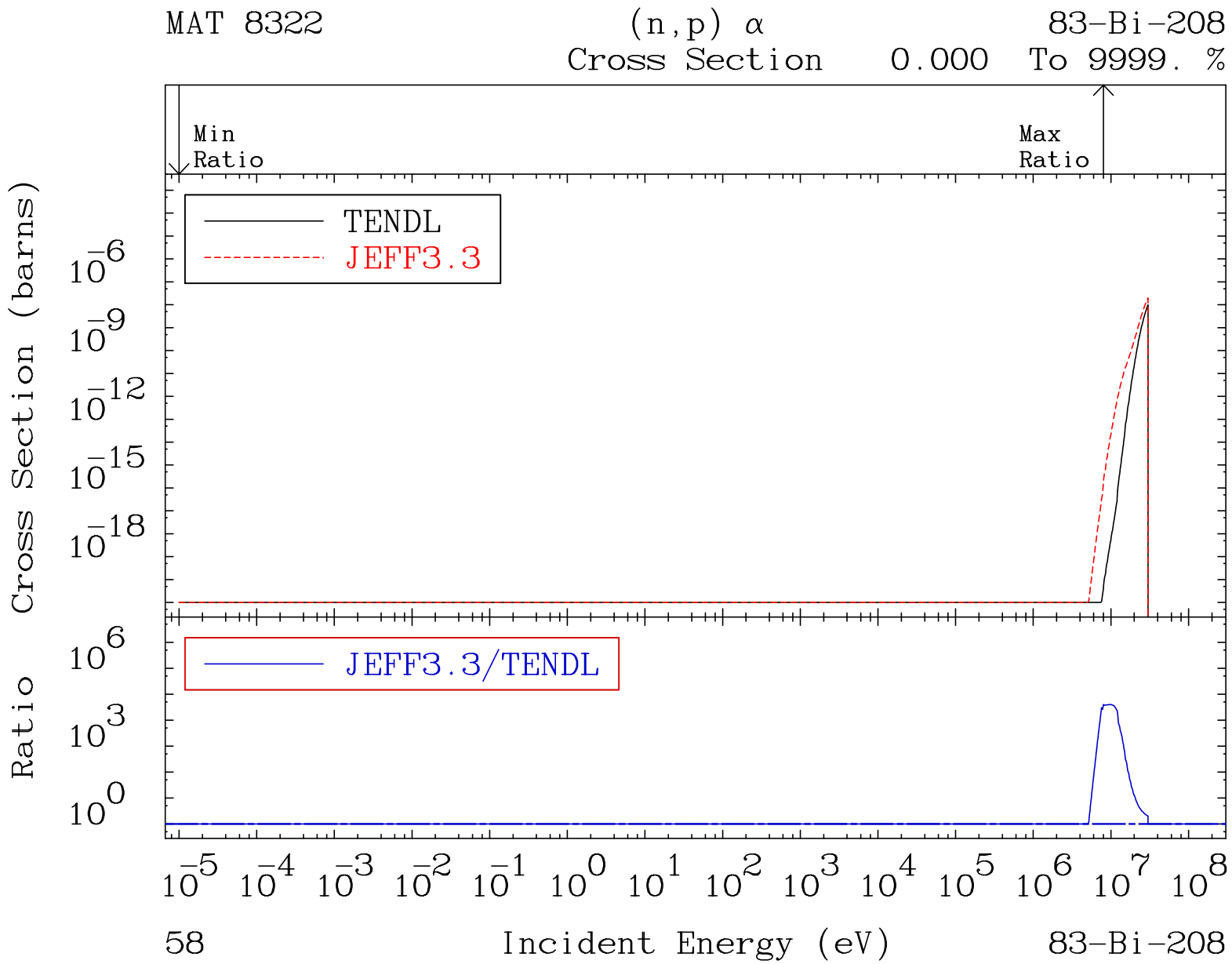

MAT 8322
(n,d)
Cross Section
83-Bi-208
-100.0 To 5.167 %
Min Ratio
Max Ratio
TENDL Threshold 1.4898 MeV
JEFF3.3 Threshold 1.4898 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
20
15
10
5
0
1.2
0.6
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
53
Incident Energy (eV)
83-Bi-208

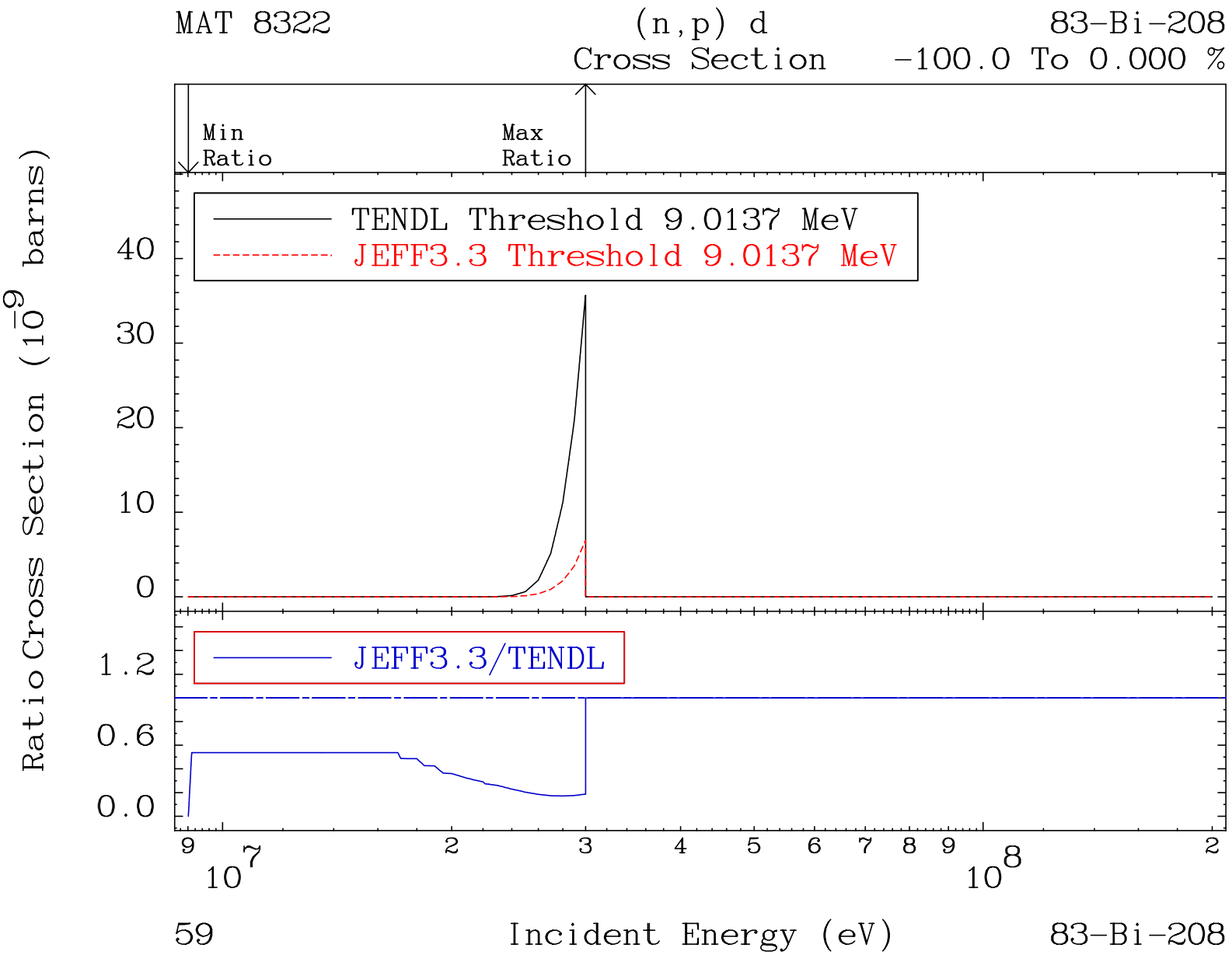

MAT 8322
(n,t)
Cross Section
83-Bi-208
-1.217 To 5.809 %
Max Ratio
Min Ratio
TENDL Threshold 1.9727 MeV
JEFF3.3 Threshold 1.9727 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
8
6
4
2
0
1.05
1.00
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
54
Incident Energy (eV)
83-Bi-208

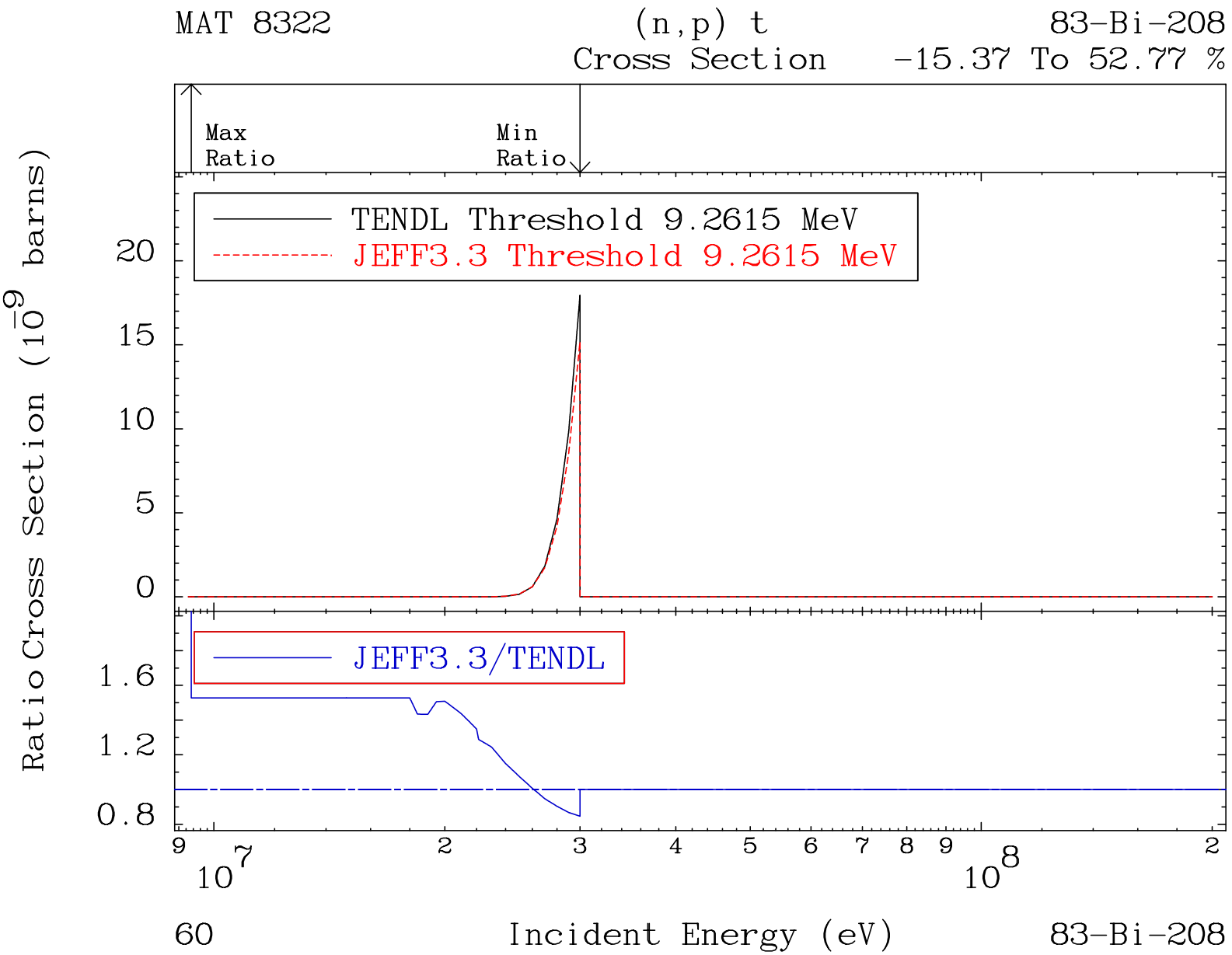

MAT 8322
(n,He-3)
Cross Section
83-Bi-208
-16.42 To 0.460 %
Max Ratio
Min Ratio
TENDL Threshold 3.4936 MeV
JEFF3.3 Threshold 3.4936 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
500
400
300
200
100
0
1.0
0.9
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
55
Incident Energy (eV)
83-Bi-208

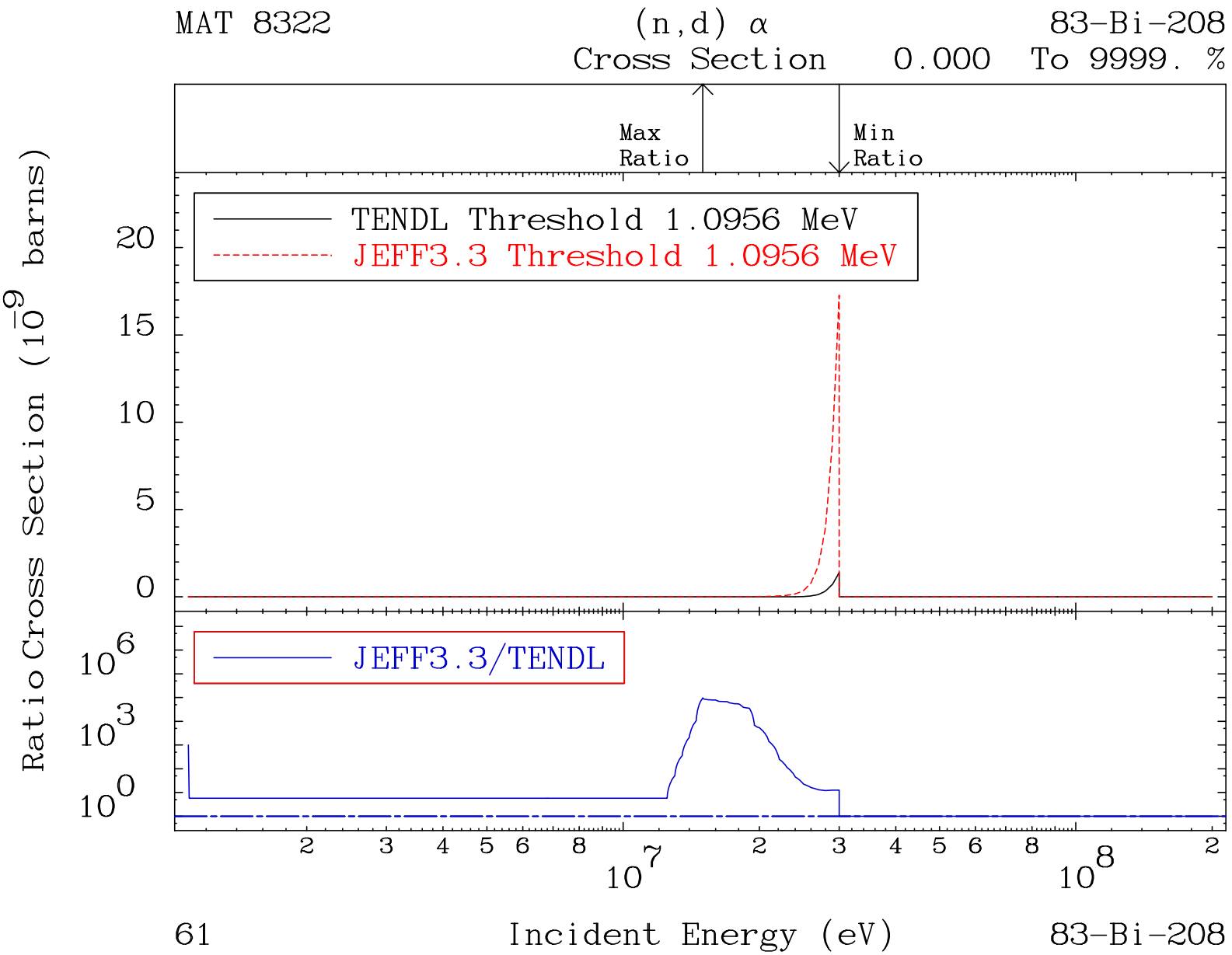

MAT 8322
(n,α)
Cross Section
83-Bi-208
-22.83 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
83-Bi-208

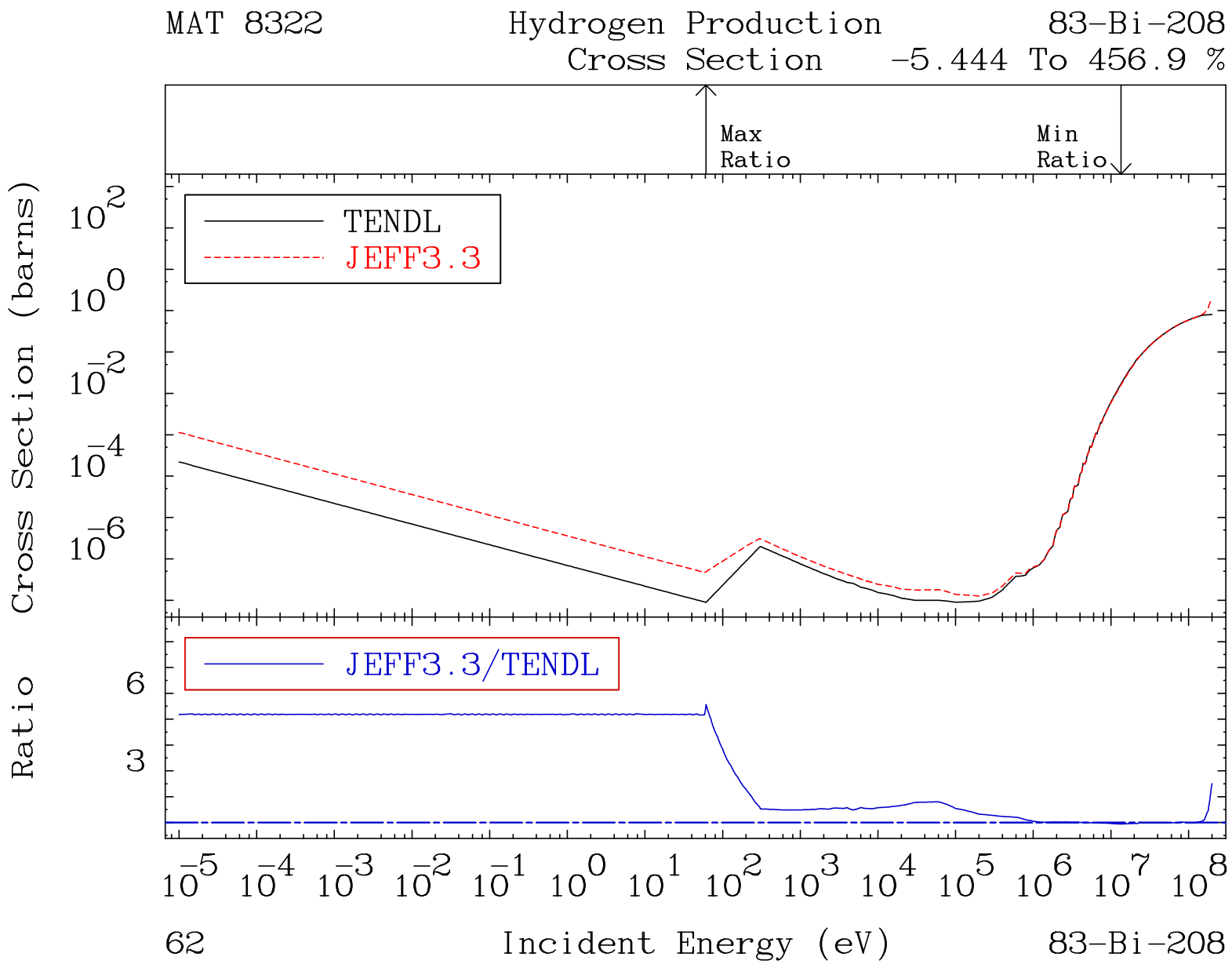

MAT 8322
(n,2p)
83-Bi-208
Cross Section
-100.0 To 52.99 %
Min Ratio
Max Ratio
TENDL Threshold 4.3634 MeV
JEFF3.3 Threshold 4.3640 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
57
83-Bi-208

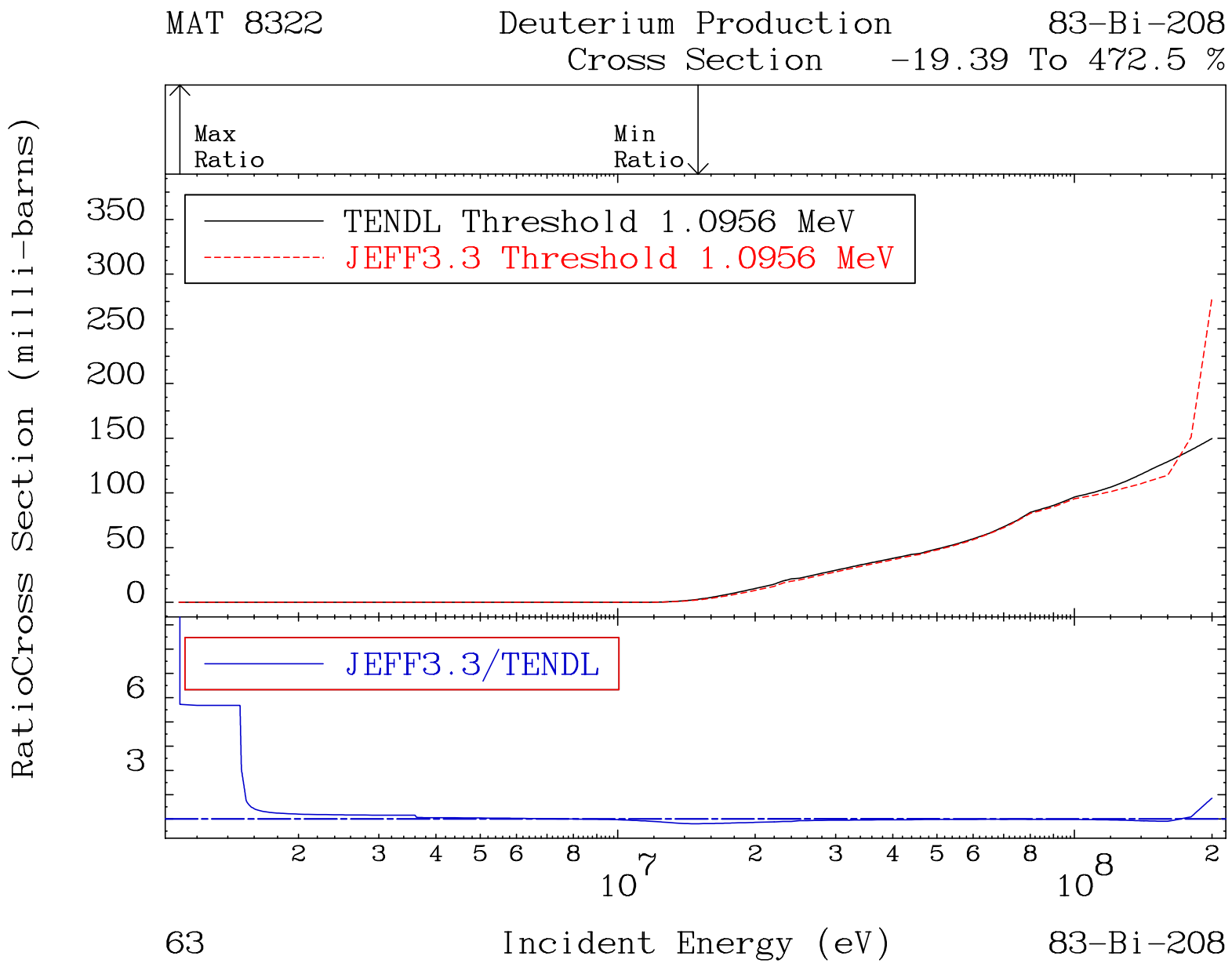

MAT 8322
(n,p) α
83-Bi-208
Cross Section 0.000 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
10^-6
10^-9
10^-12
10^-15
10^-18
10^6
10^3
10^0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
58
Incident Energy (eV)
83-Bi-208

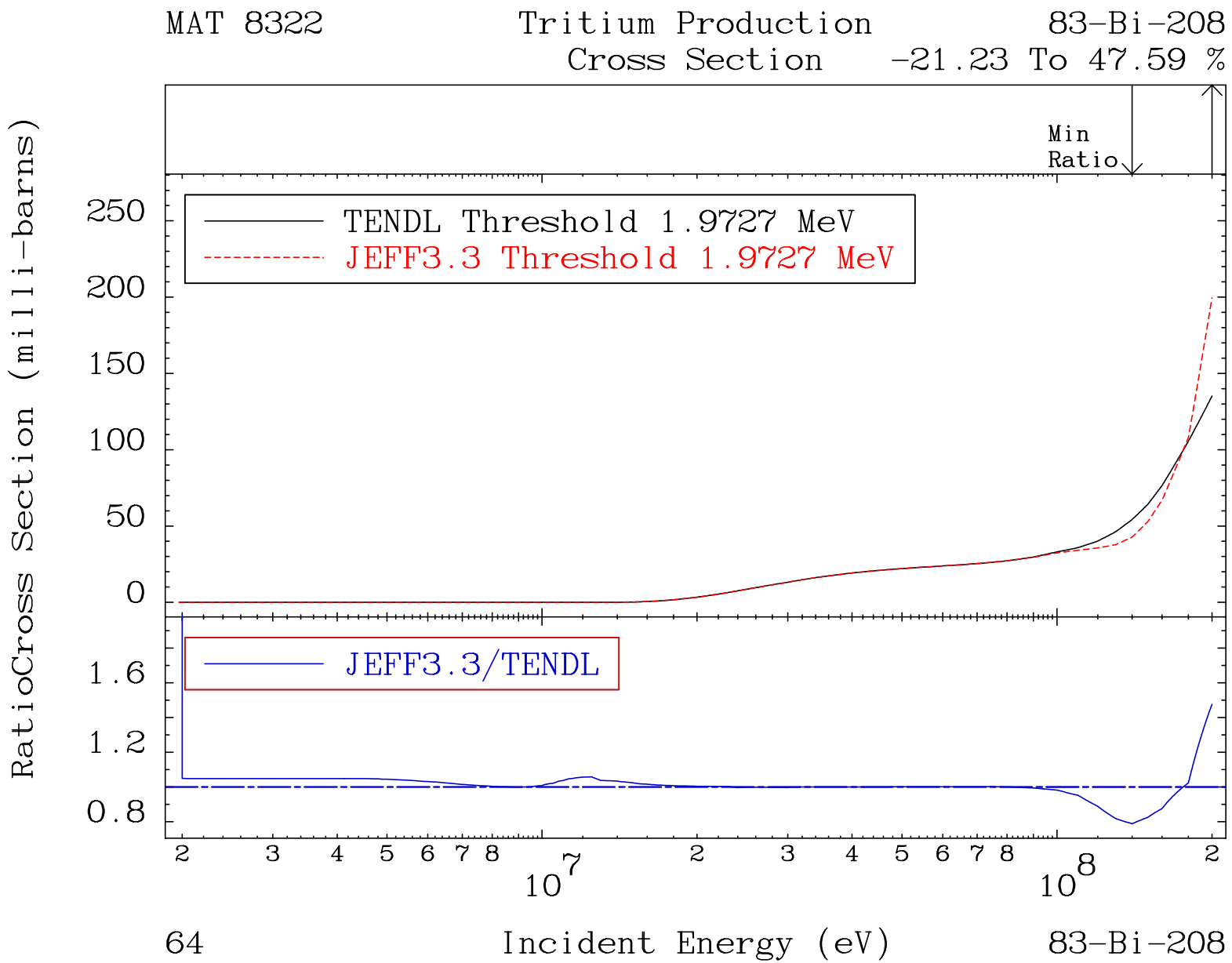

MAT 8322
(n,p) d
Cross Section
83-Bi-208
-100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 9.0137 MeV
JEFF3.3 Threshold 9.0137 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
40
30
20
10
0
1.2
0.6
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
59
Incident Energy (eV)
83-Bi-208

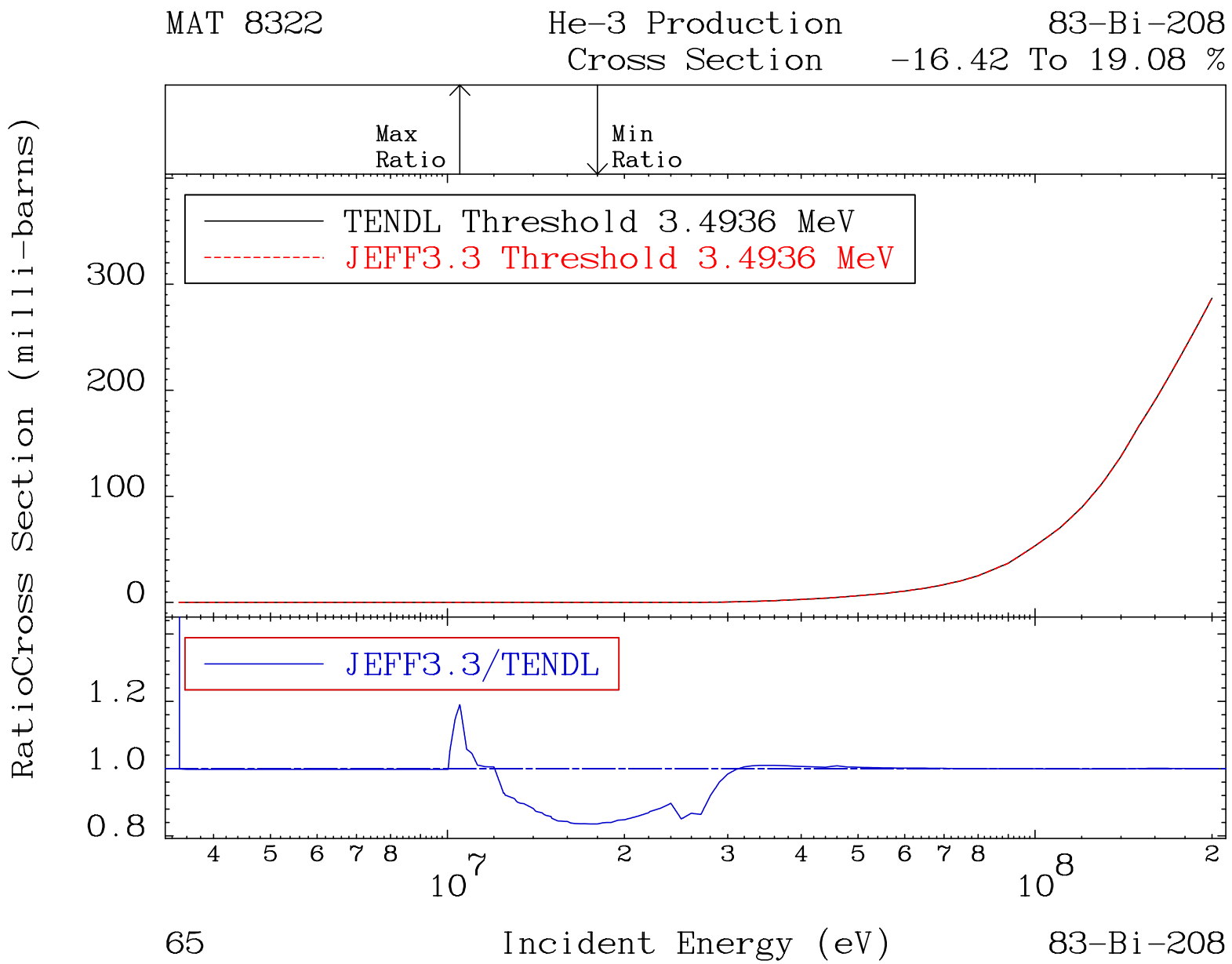

MAT 8322
(n,p) t
Cross Section
83-Bi-208
-15.37 To 52.77 %
Max Ratio
Min Ratio
TENDL Threshold 9.2615 MeV
JEFF3.3 Threshold 9.2615 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
20
15
10
5
0
1.6
1.2
0.8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
60
Incident Energy (eV)
83-Bi-208

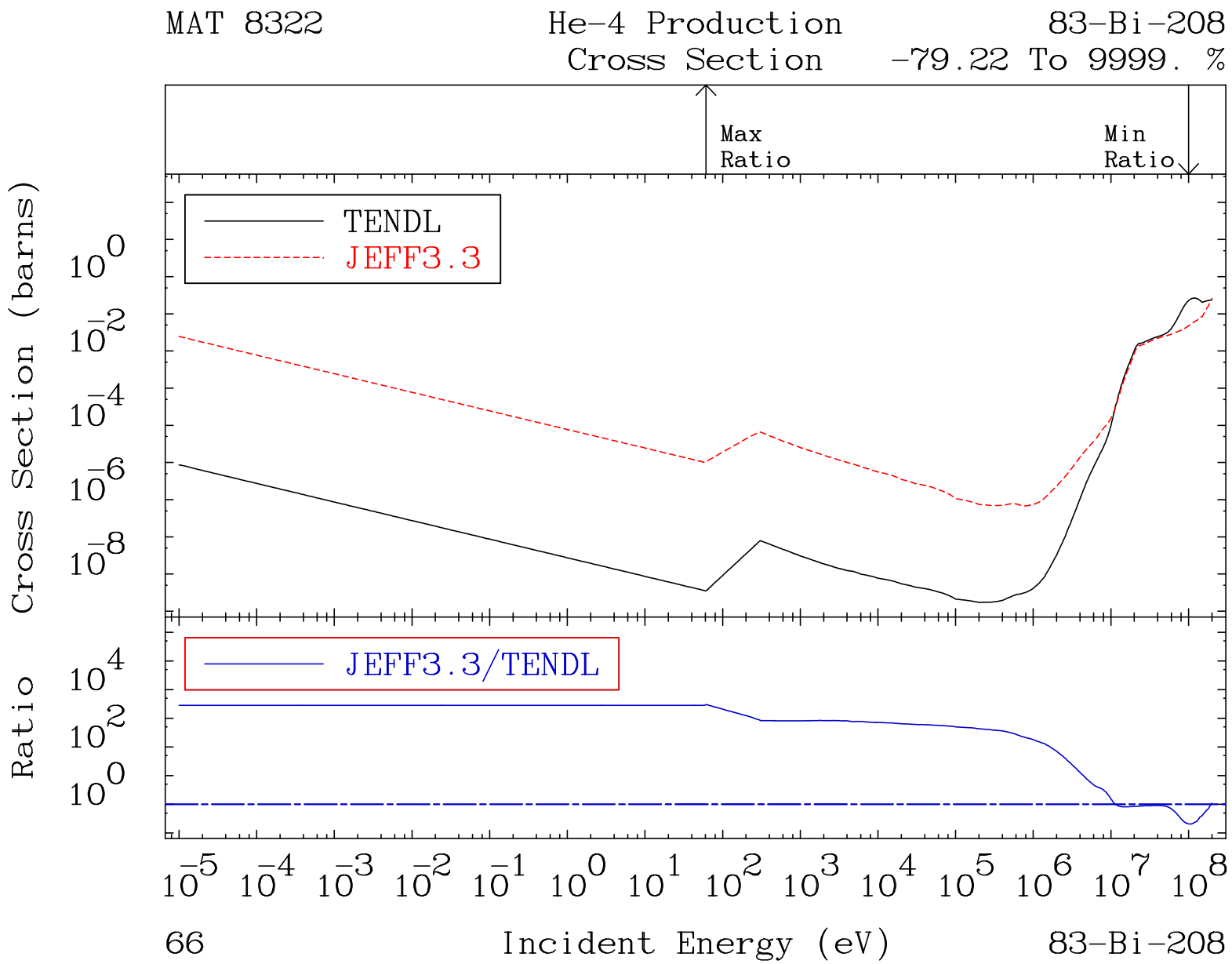

MAT 8322
(n,d) α
83-Bi-208
Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 1.0956 MeV
JEFF3.3 Threshold 1.0956 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
20
15
10
5
0
10^{6}
10^{3}
10^{0}
2 3 4 5 6 8 10^{7} 2 3 4 5 6 8 10^{8} 2
61
Incident Energy (eV)
83-Bi-208

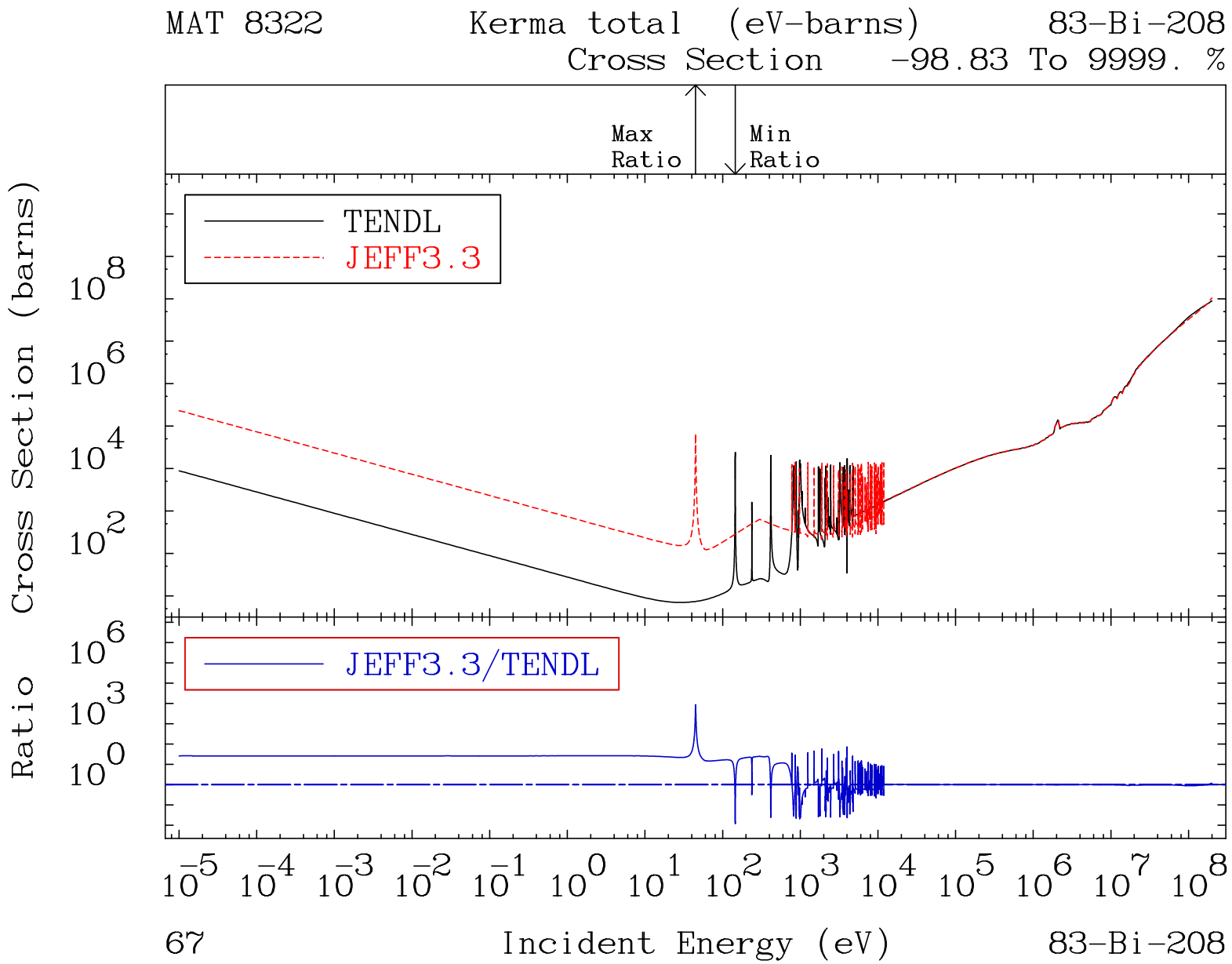

MAT 8322
Hydrogen Production
Cross Section
83-Bi-208
-5.444 To 456.9 %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
62
83-Bi-208

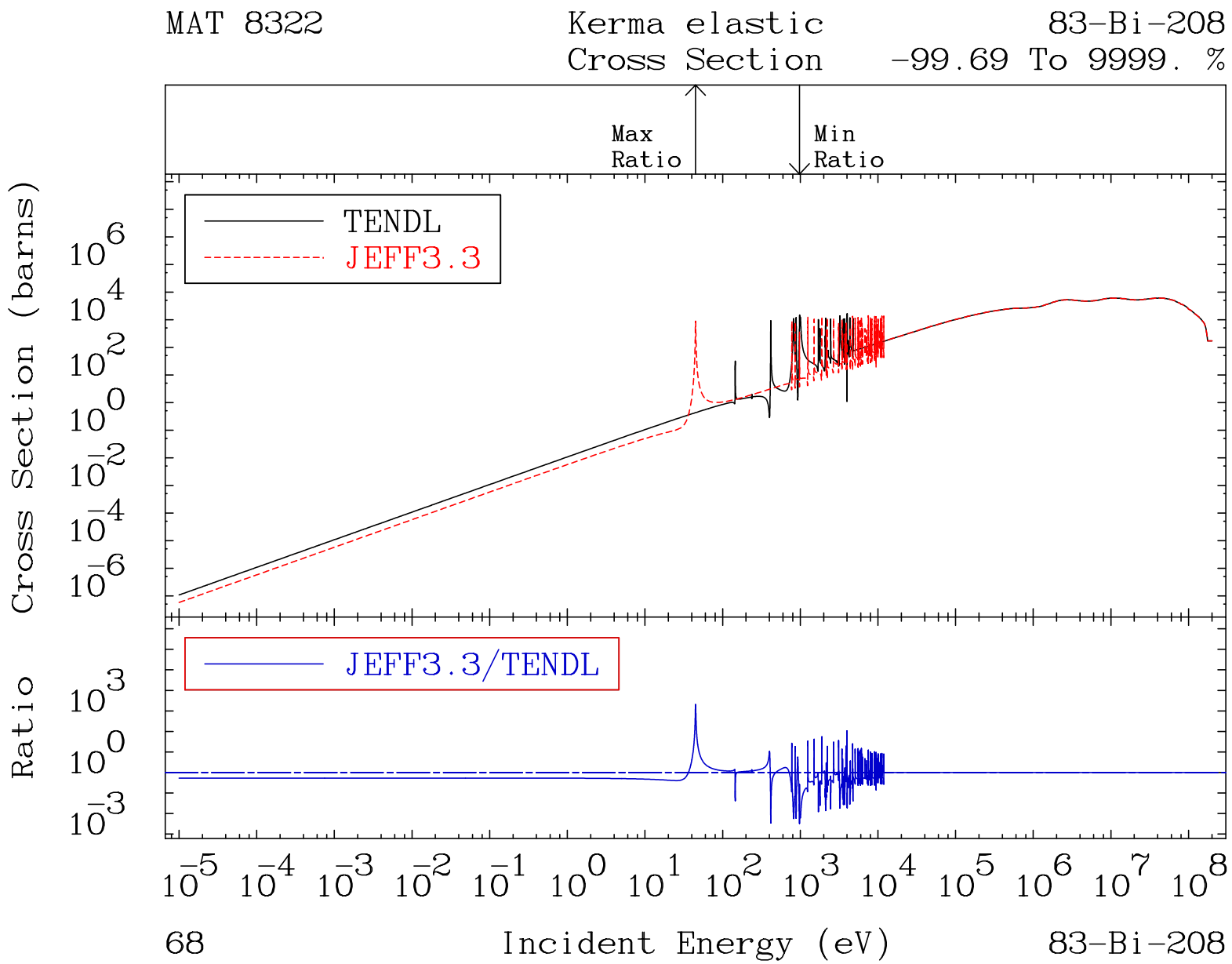

MAT 8322
Deuterium Production
83-Bi-208
Cross Section -19.39 To 472.5 %
Max Ratio
Min Ratio
TENDL Threshold 1.0956 MeV
JEFF3.3 Threshold 1.0956 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
6
3
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
63
Incident Energy (eV)
83-Bi-208

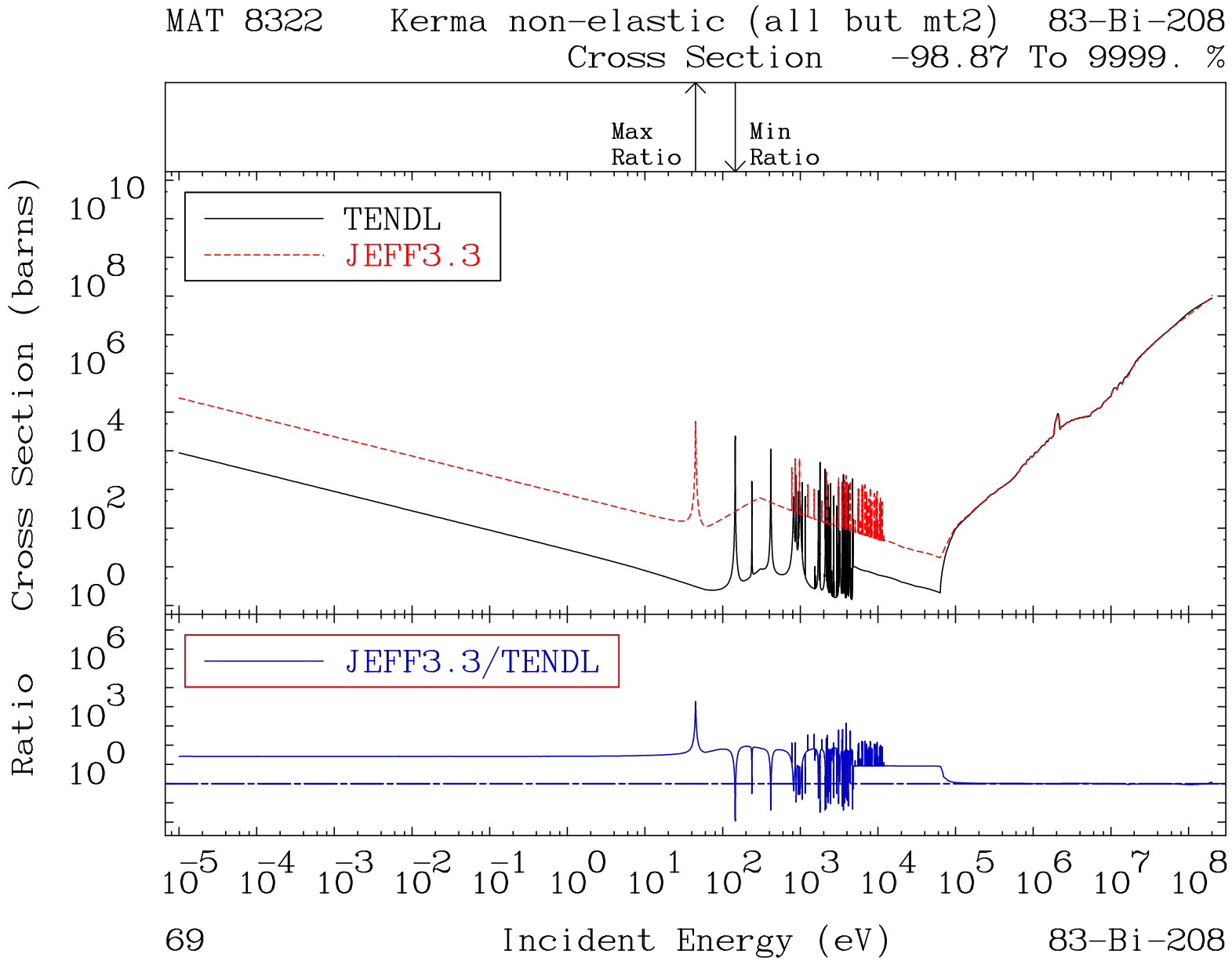

MAT 8322
Tritium Production
Cross Section
83-Bi-208
-21.23 To 47.59 %
Min
Ratio
TENDL Threshold 1.9727 MeV
JEFF3.3 Threshold 1.9727 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.6
1.2
0.8
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
64
Incident Energy (eV)
83-Bi-208

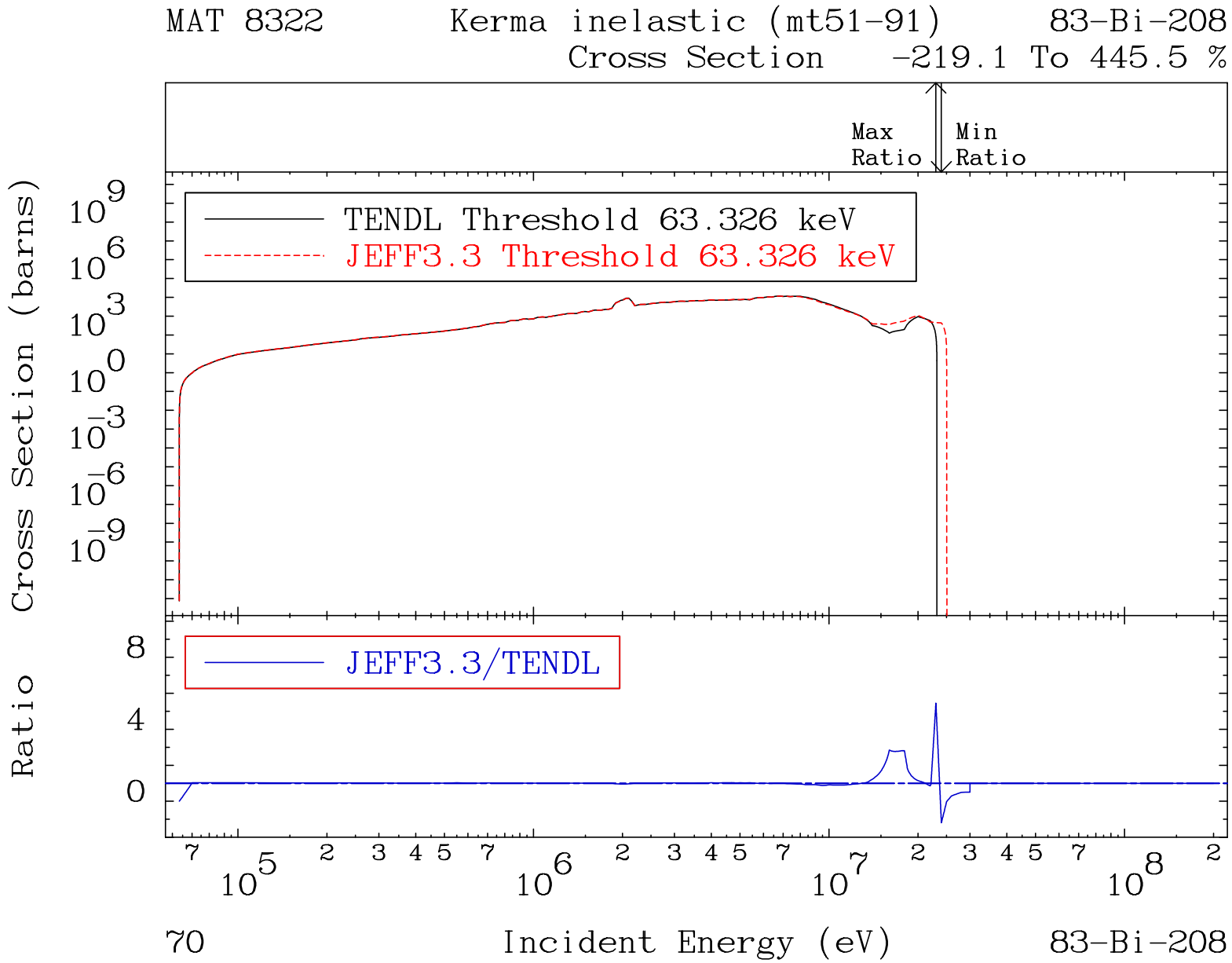

MAT 8322
He-3 Production
Cross Section
83-Bi-208
-16.42 To 19.08 %
Max
Ratio
Min
Ratio
TENDL Threshold 3.4936 MeV
JEFF3.3 Threshold 3.4936 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
300
200
100
0
1.2
1.0
0.8
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
65
Incident Energy (eV)
83-Bi-208

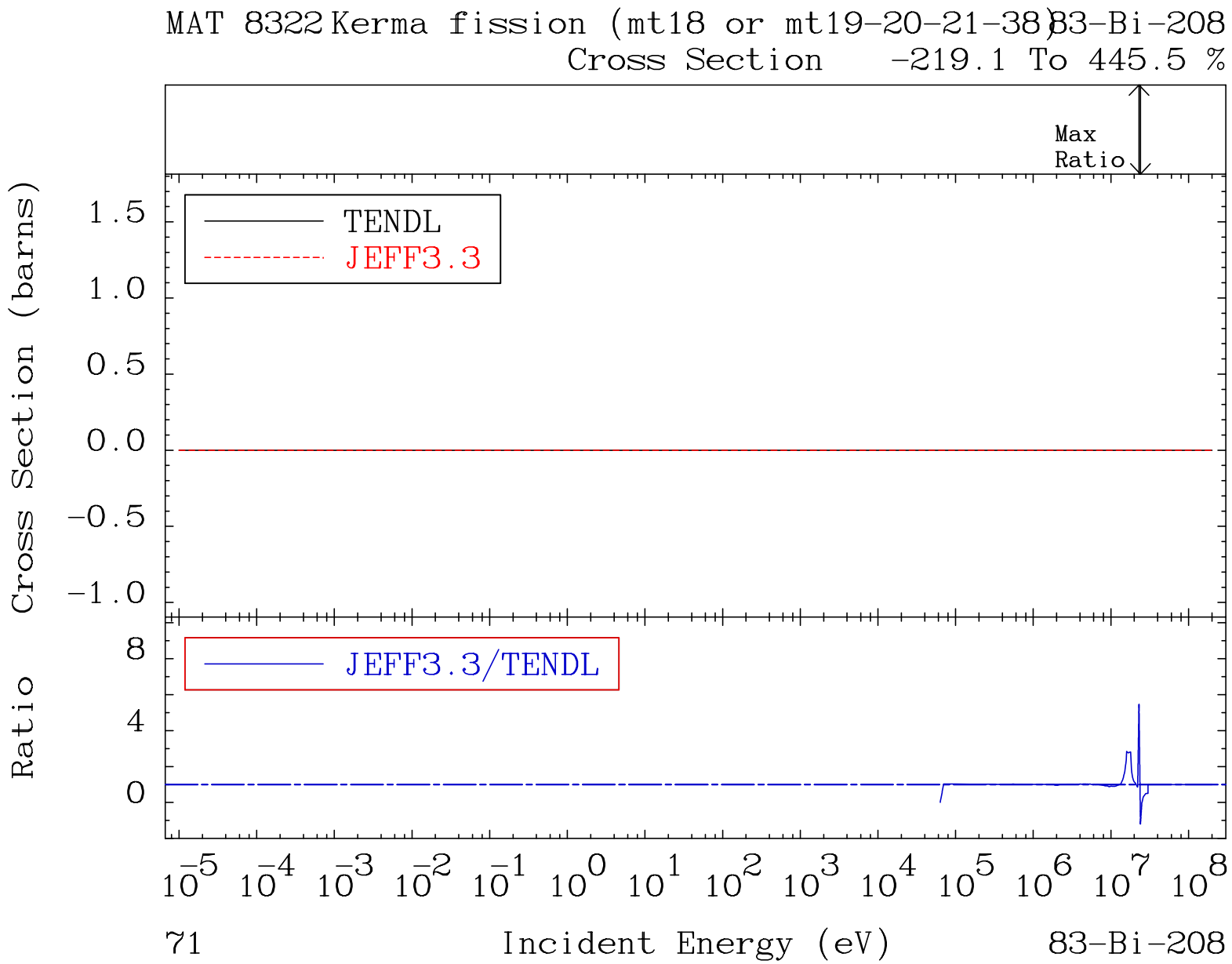

MAT 8322
He-4 Production
Cross Section
83-Bi-208
-79.22 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
66
83-Bi-208

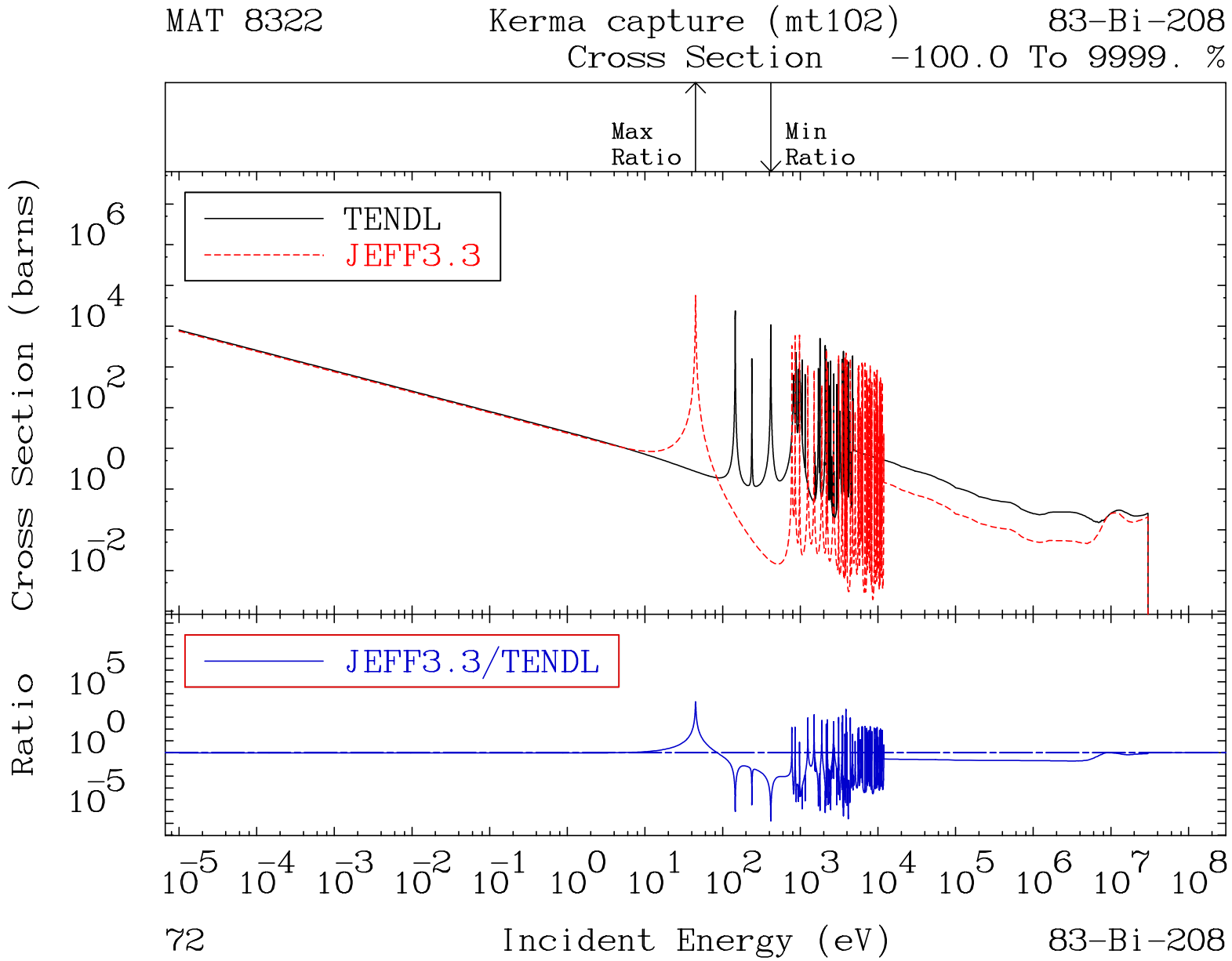

MAT 8322
Kerma total (eV-barns)
83-Bi-208
Cross Section -98.83 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
67
83-Bi-208

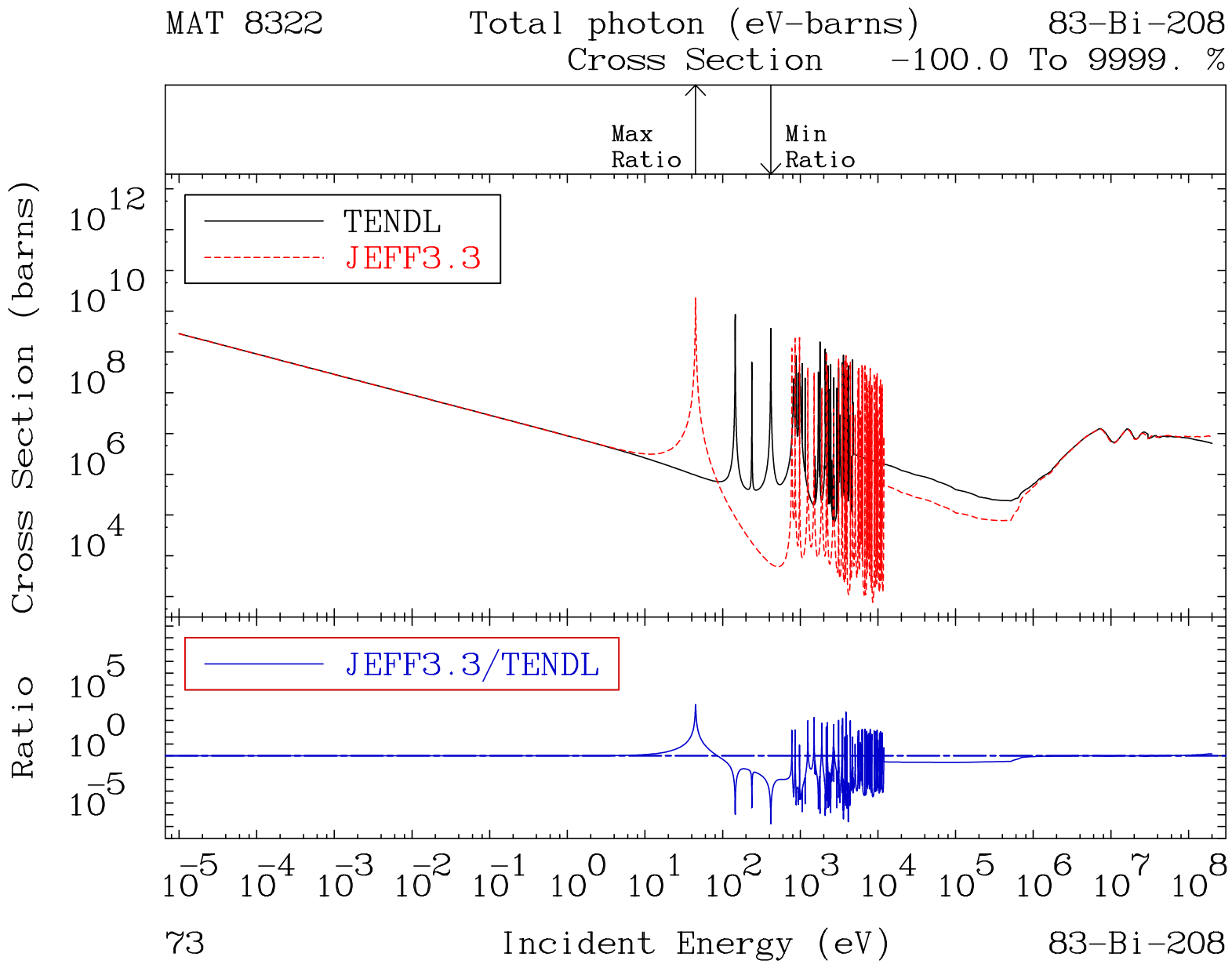

MAT 8322
Kerma elastic
Cross Section
83-Bi-208
-99.69 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
68
83-Bi-208

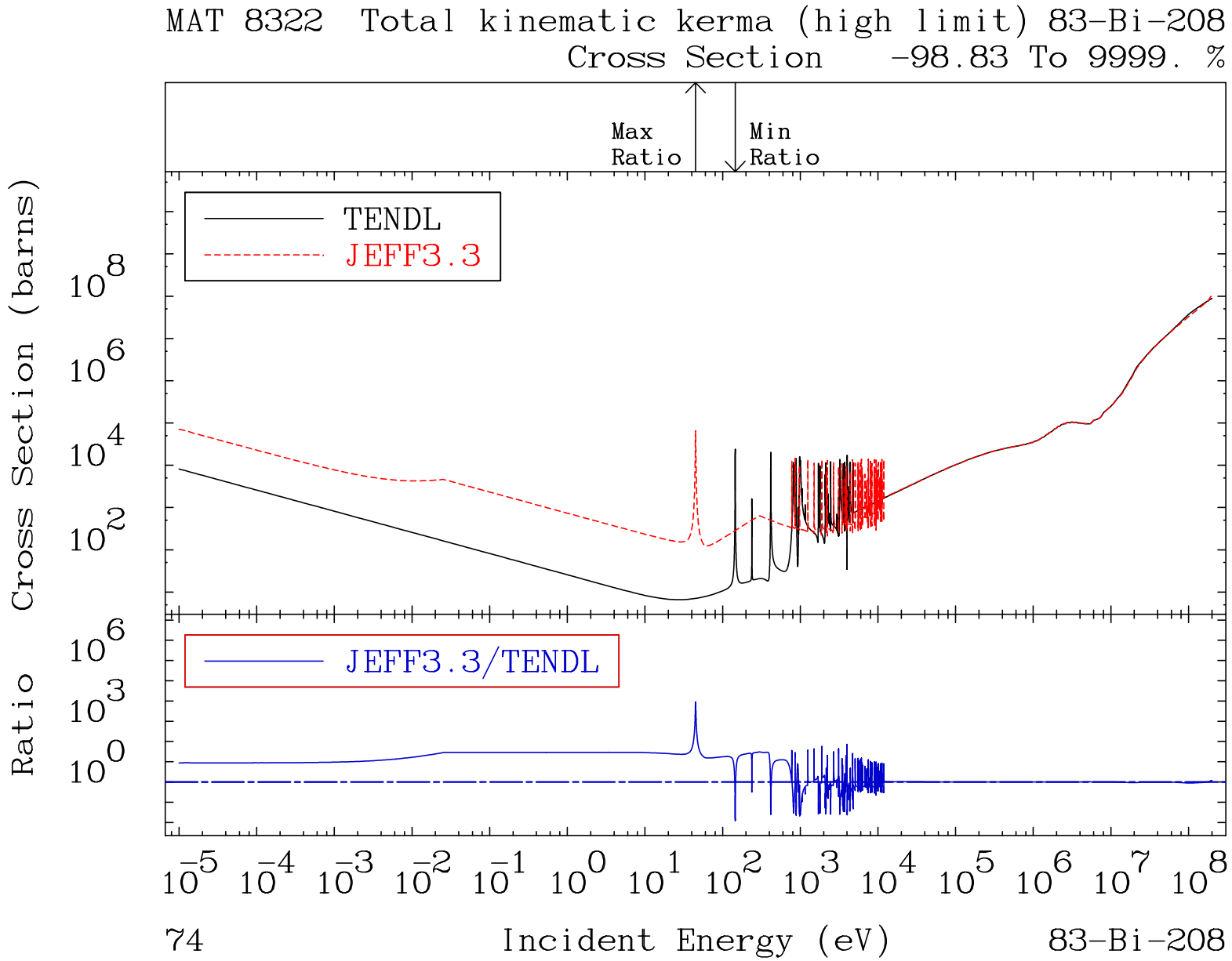

MAT 8322 Kerma non-elastic (all but mt2) 83-Bi-208
Cross Section -98.87 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
69
83-Bi-208

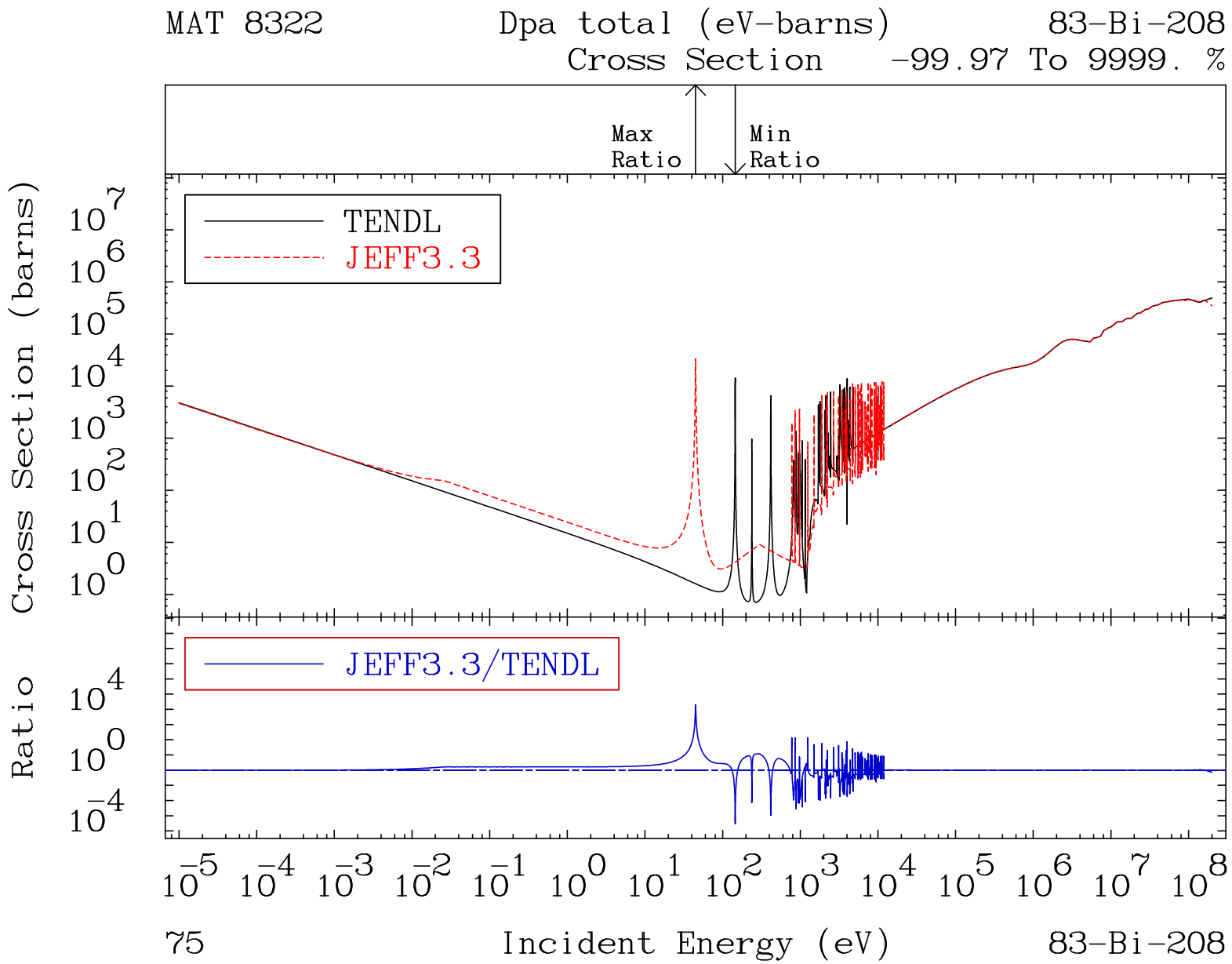

MAT 8322
Kerma inelastic (mt51-91)
83-Bi-208
Cross Section
-219.1 To 445.5 %
Max Ratio
Min Ratio
TENDL Threshold 63.326 keV
JEFF3.3 Threshold 63.326 keV
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
70
83-Bi-208

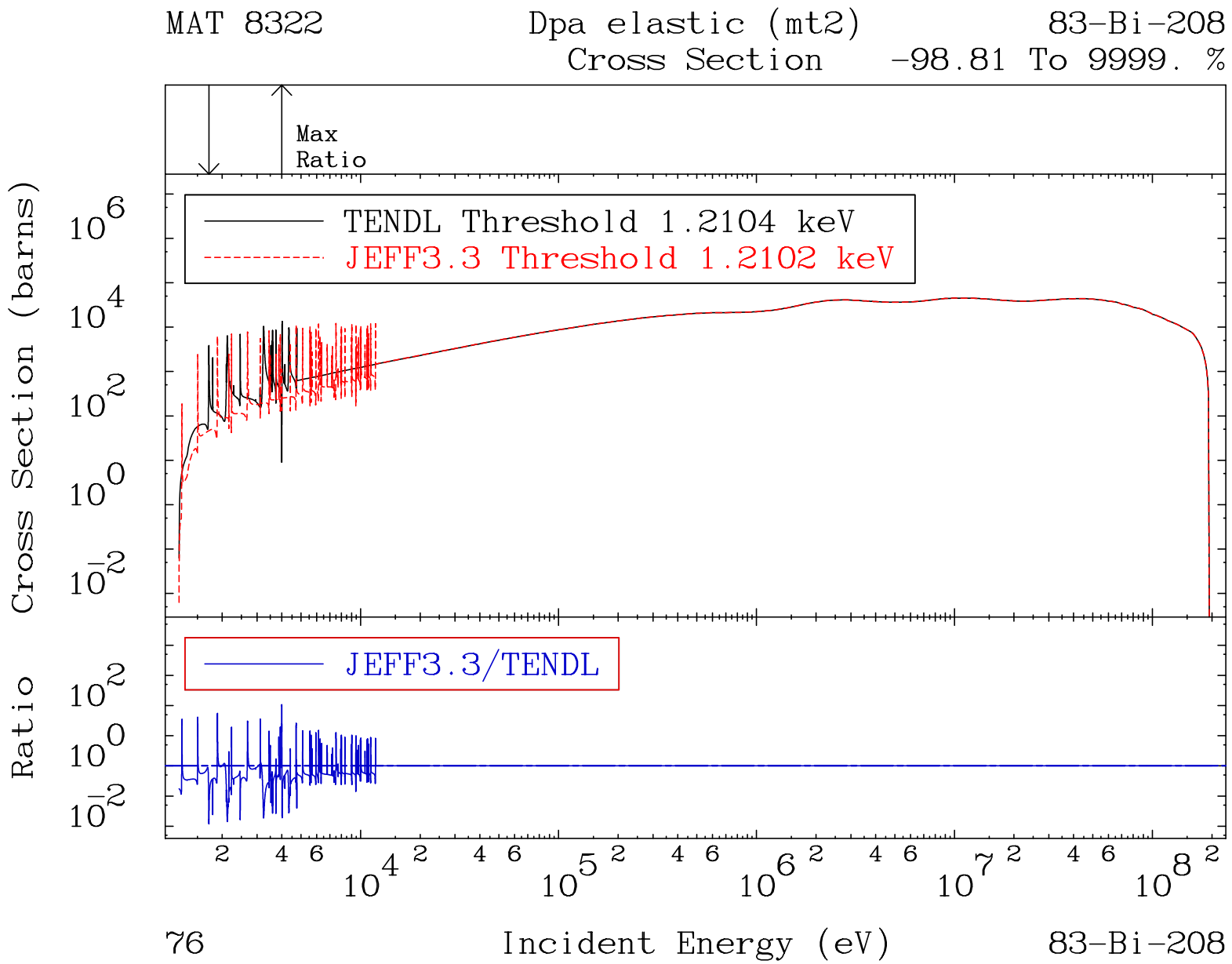

MAT 8322 Kerma fission (mt18 or mt19-20-21-38) 83-Bi-208
Cross Section -219.1 To 445.5 %
Max
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
8
4
0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
71
Incident Energy (eV)
83-Bi-208

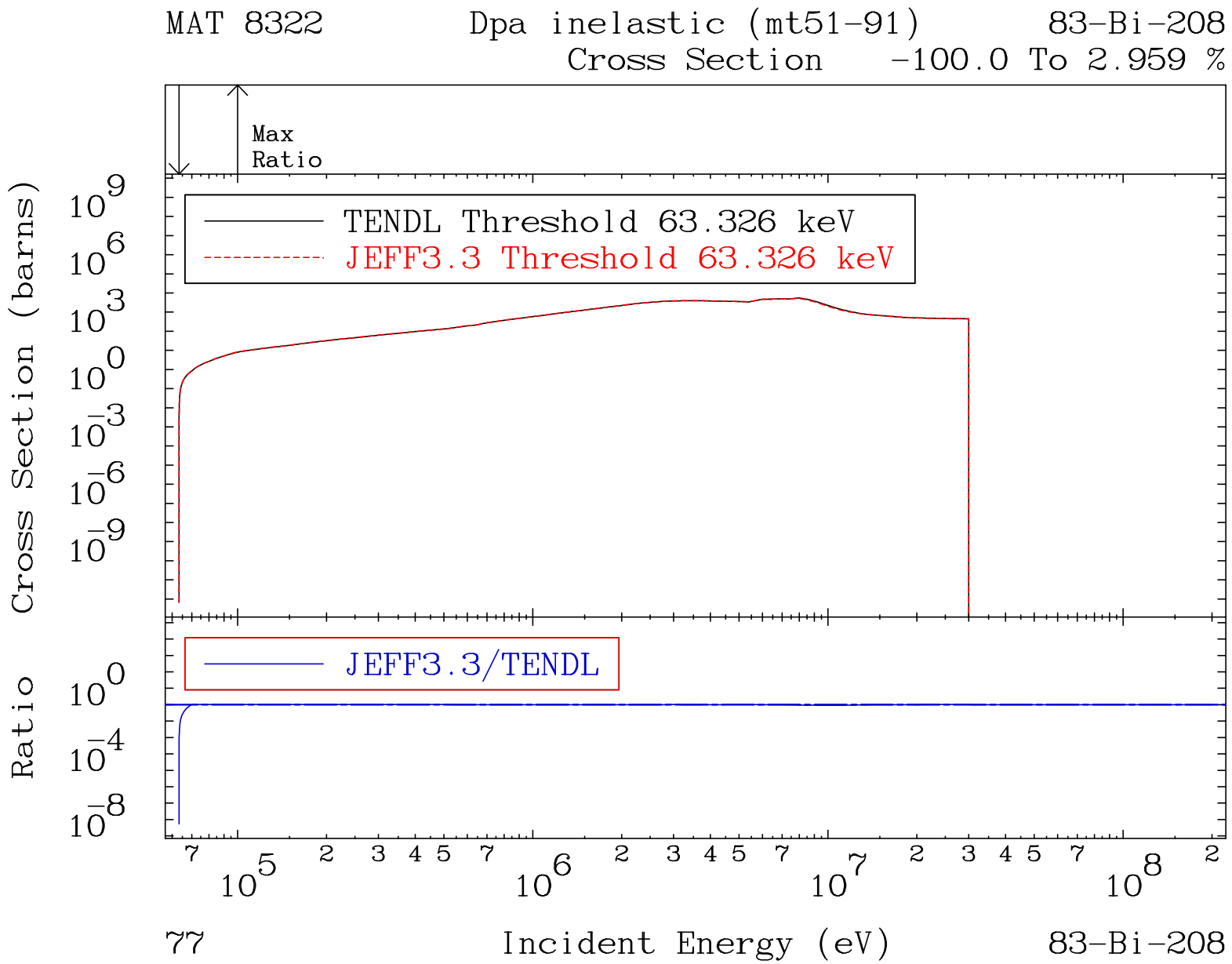

MAT 8322
Kerma capture (mt102)
83-Bi-208
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
72
83-Bi-208

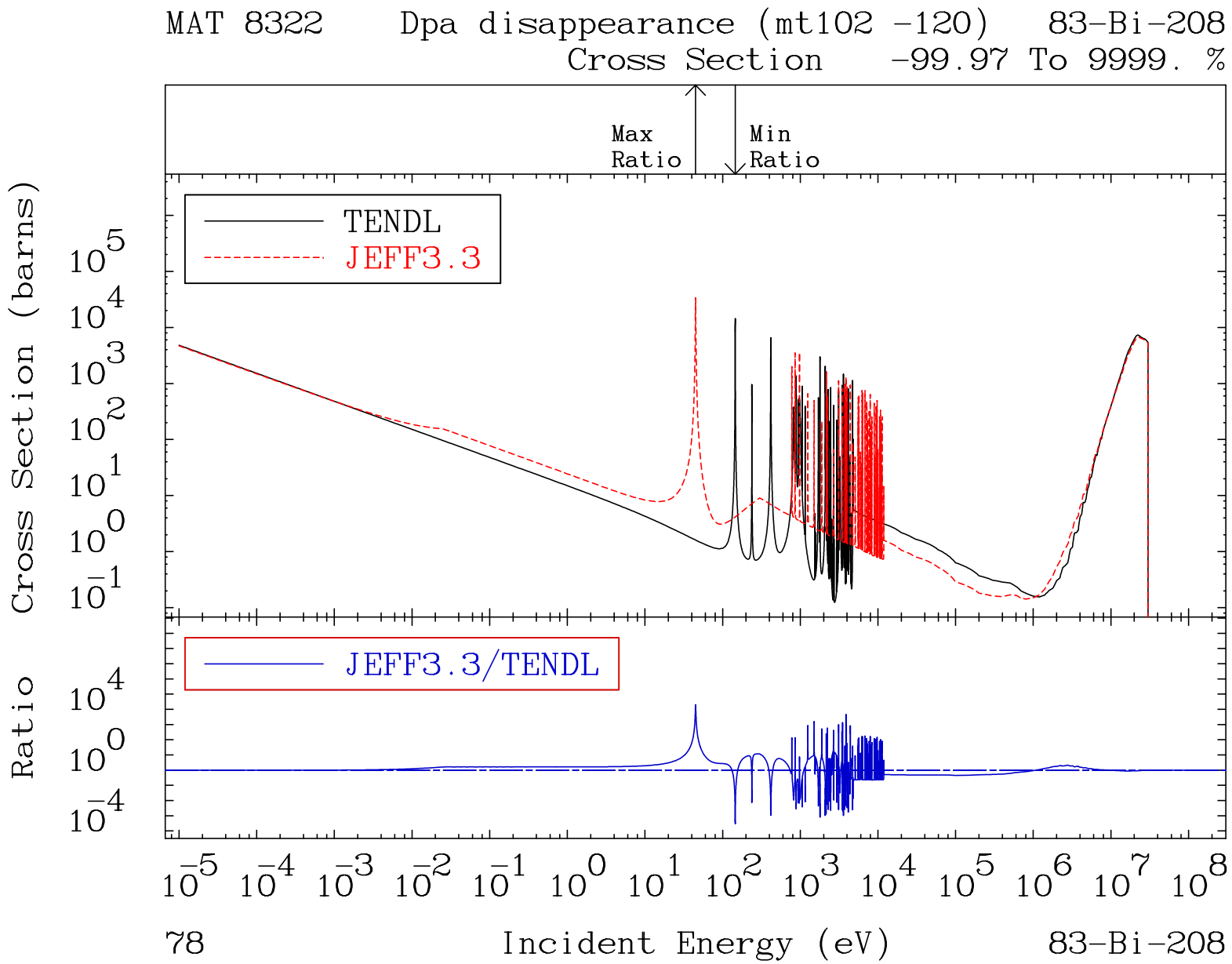

MAT 8322
Total photon (eV-barns)
83-Bi-208
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
73
83-Bi-208

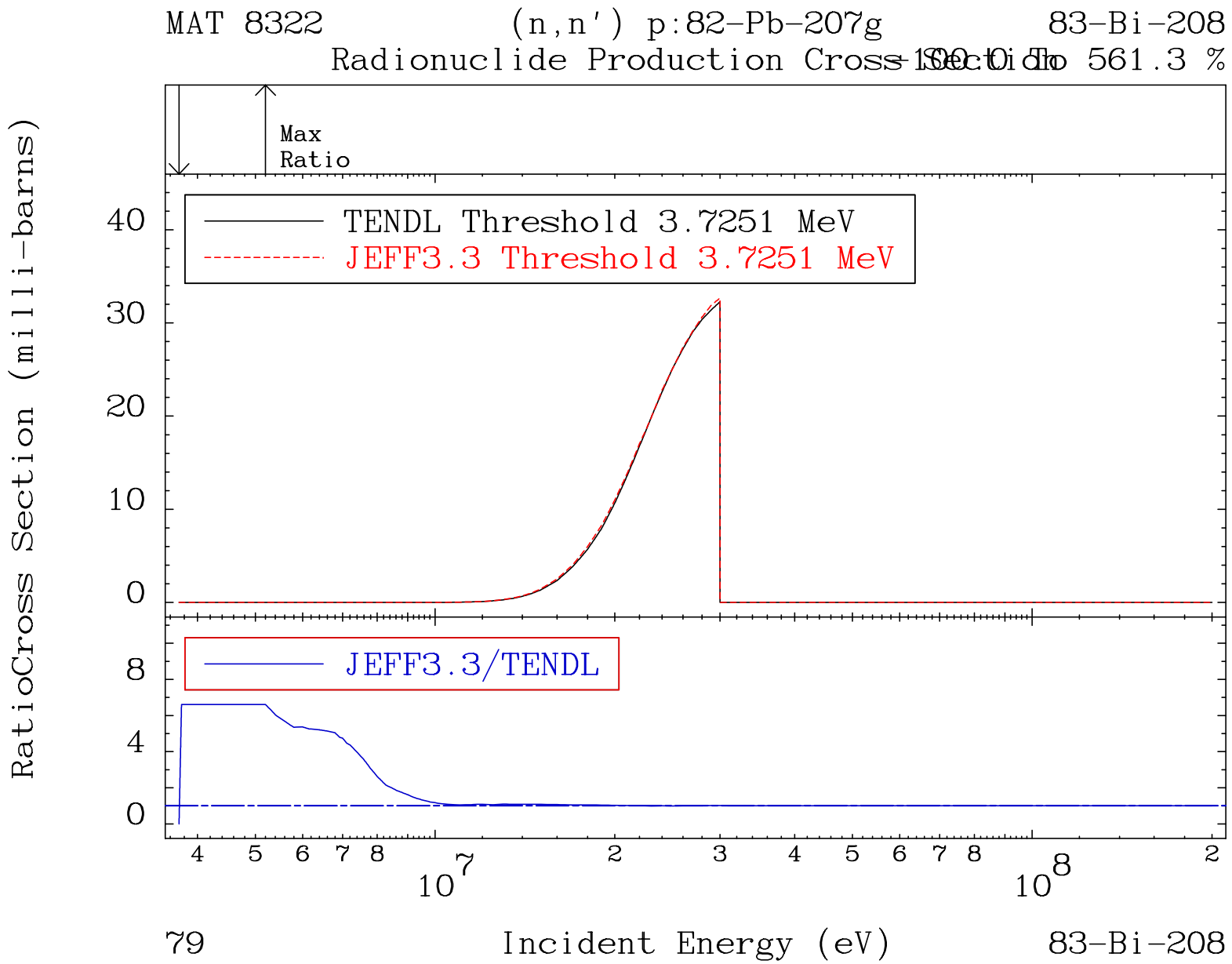

MAT 8322 Total kinematic kerma (high limit) 83-Bi-208
Cross Section -98.83 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
74
83-Bi-208

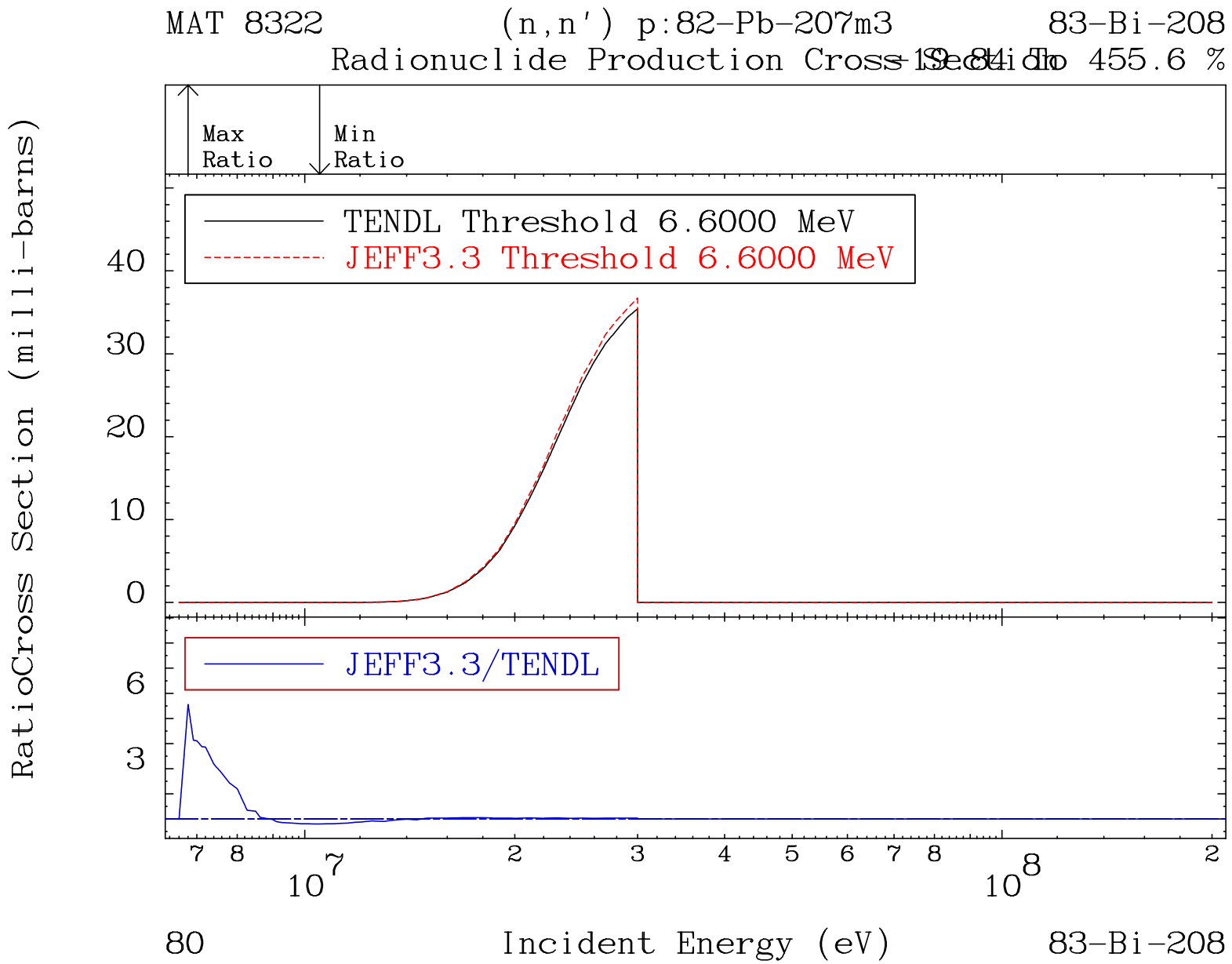

MAT 8322
Dpa total (eV-barns)
83-Bi-208
Cross Section -99.97 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
75
83-Bi-208

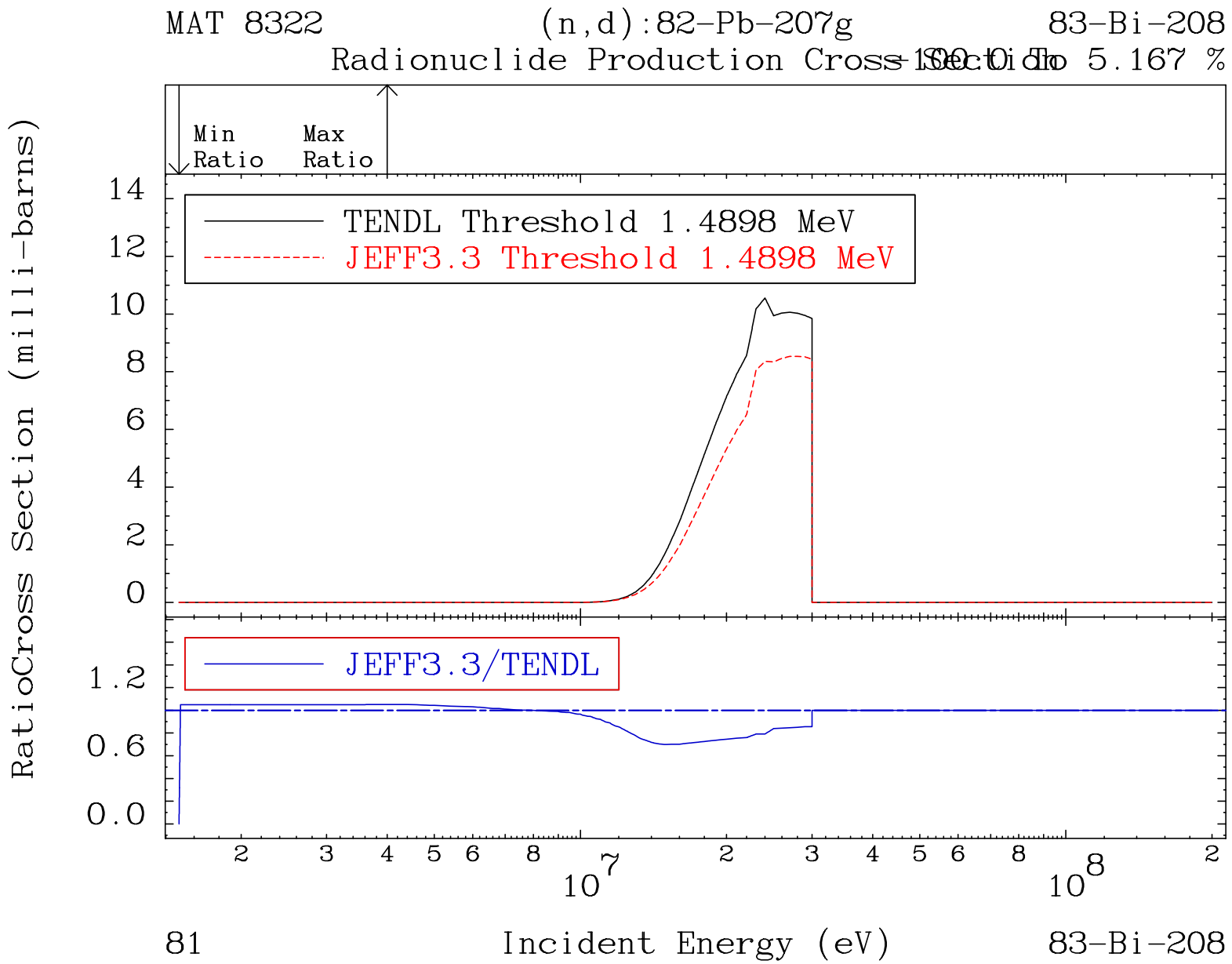

MAT 8322
Dpa elastic (mt2)
Cross Section
83-Bi-208
-98.81 To 9999. %
Max
Ratio
TENDL Threshold 1.2104 keV
JEFF3.3 Threshold 1.2102 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
76
83-Bi-208

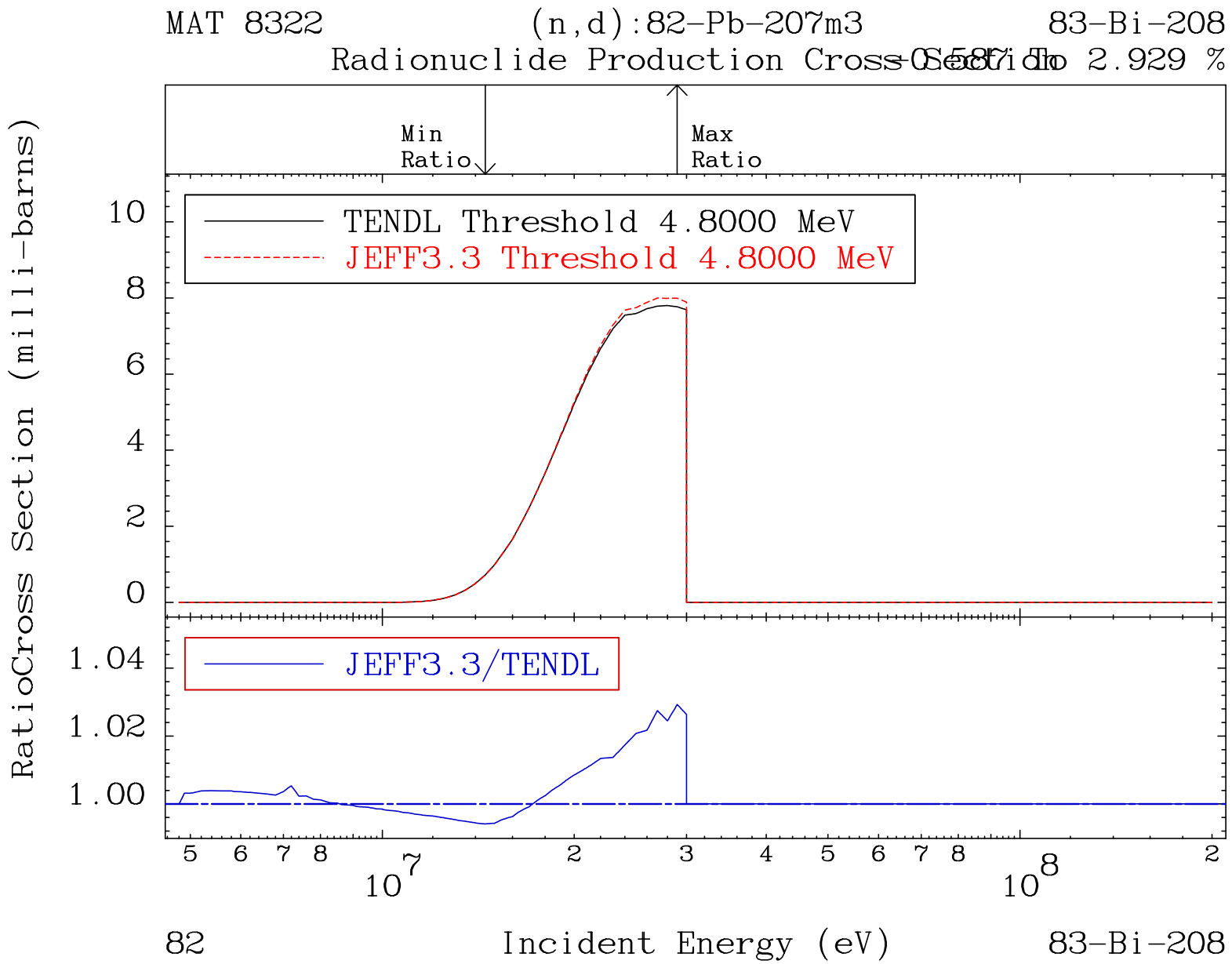

MAT 8322
Dpa inelastic (mt51-91)
83-Bi-208
Cross Section
-100.0 To 2.959 %
Max
Ratio
TENDL Threshold 63.326 keV
JEFF3.3 Threshold 63.326 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
77
83-Bi-208

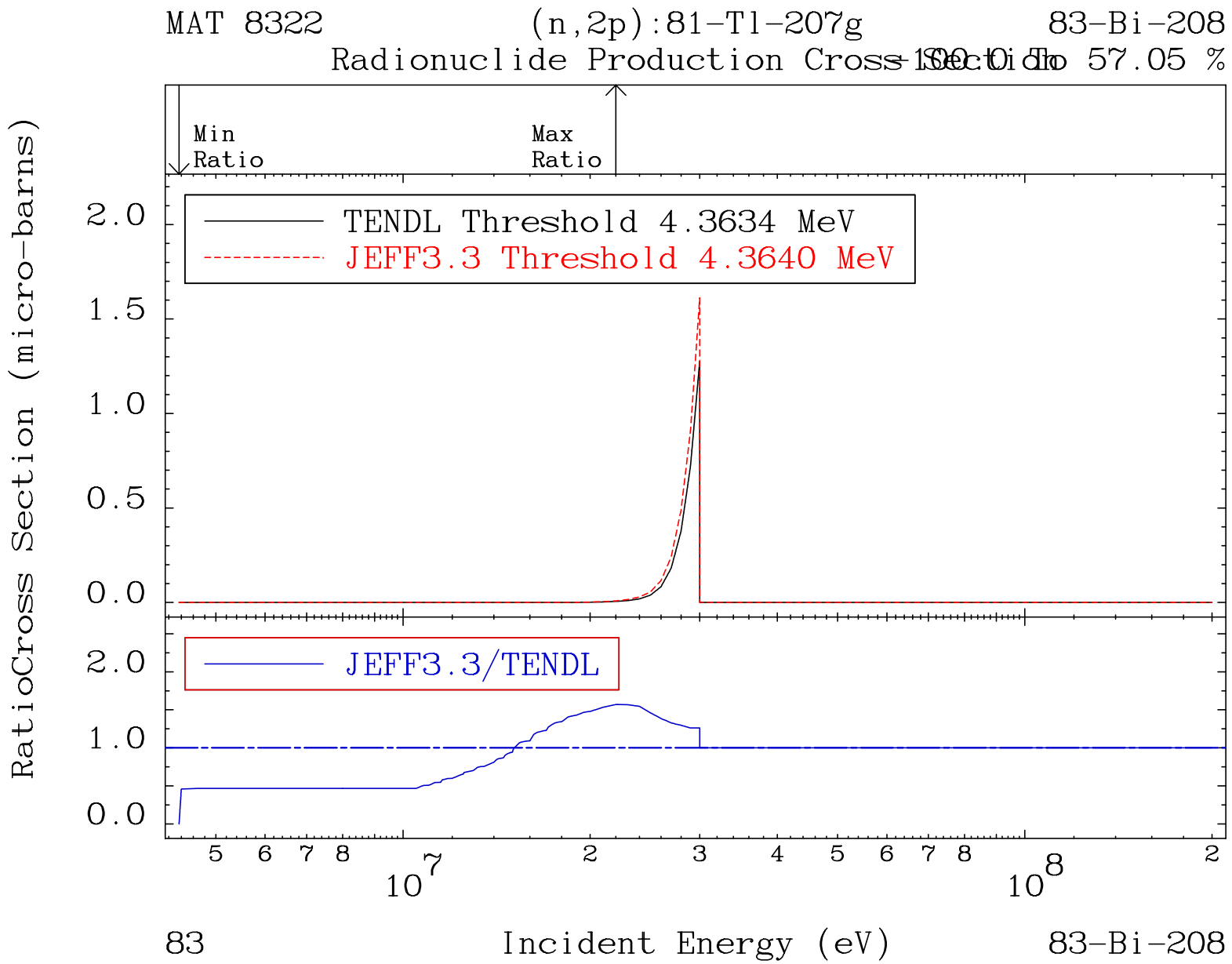

MAT 8322 Dpa disappearance (mt102 -120) 83-Bi-208
Cross Section -99.97 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
78
83-Bi-208

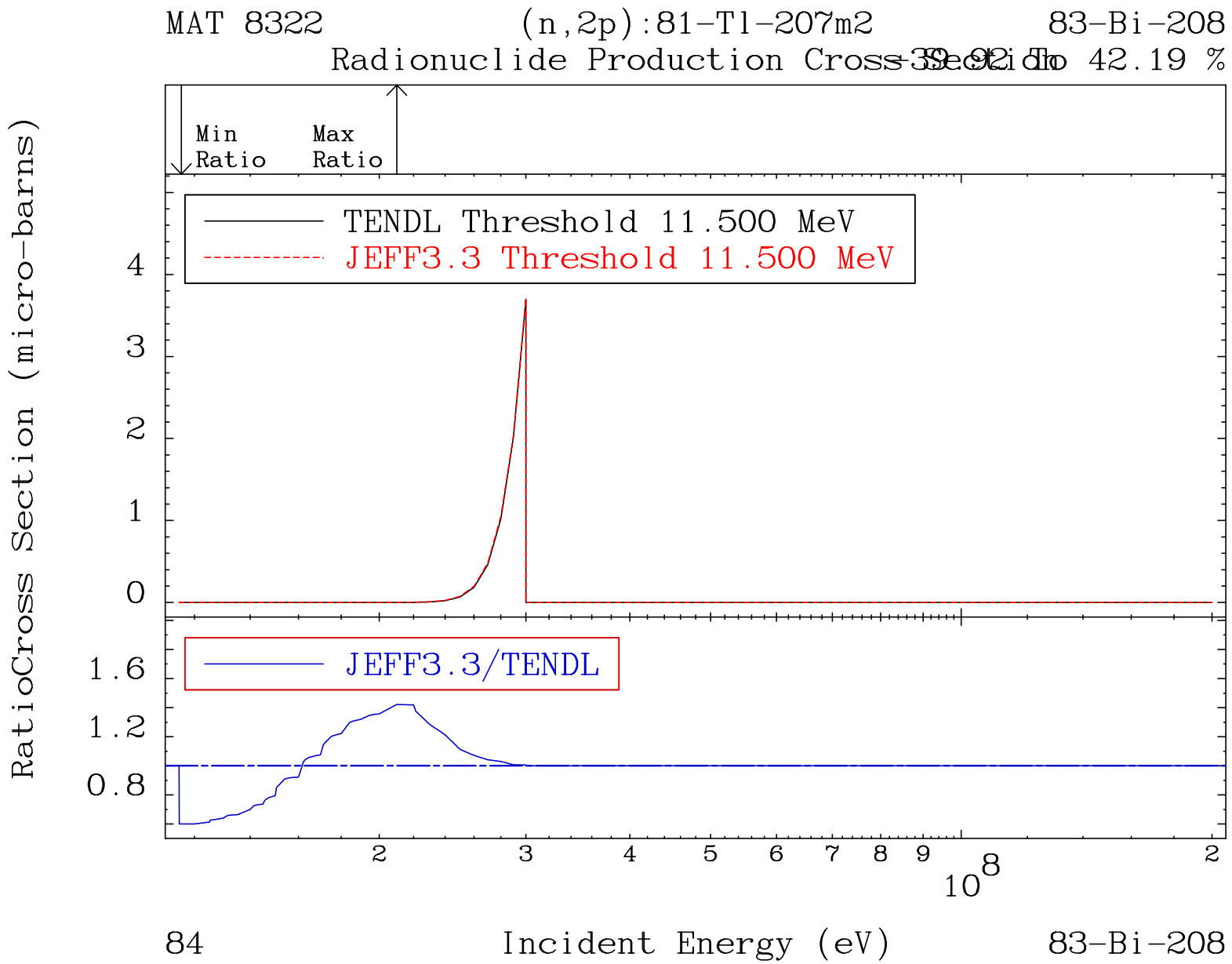

MAT 8322
(n,n') p:82-Pb-207g
83-Bi-208
Radionuclide Production Cross Section To 561.3 %
Max
Ratio
TENDL Threshold 3.7251 MeV
JEFF3.3 Threshold 3.7251 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
8
4
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
79
Incident Energy (eV)
83-Bi-208


MAT 8322
(n,n') p:82-Pb-207m3
83-Bi-208
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 6.6000 MeV
JEFF3.3 Threshold 6.6000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
80
83-Bi-208


MAT 8322
(n,d):82-Pb-207g
83-Bi-208
Radionuclide Production Cross Section To 5.167 %
Min Ratio
Max Ratio
TENDL Threshold 1.4898 MeV
JEFF3.3 Threshold 1.4898 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
81
83-Bi-208


MAT 8322
(n,d):82-Pb-207m3
83-Bi-208
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 4.8000 MeV
JEFF3.3 Threshold 4.8000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
82
83-Bi-208


MAT 8322
(n,2p):81-Tl-207g
83-Bi-208
Radionuclide Production Cross Section To 57.05 %
Min Ratio
Max Ratio
TENDL Threshold 4.3634 MeV
JEFF3.3 Threshold 4.3640 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
2.0
1.5
1.0
0.5
0.0
5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
83
Incident Energy (eV)
83-Bi-208


MAT 8322
(n,2p):81-Tl-207m2
83-Bi-208
Radionuclide Production Cross Section To 42.19 %
Min Ratio
Max Ratio
TENDL Threshold 11.500 MeV
JEFF3.3 Threshold 11.500 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
84
83-Bi-208