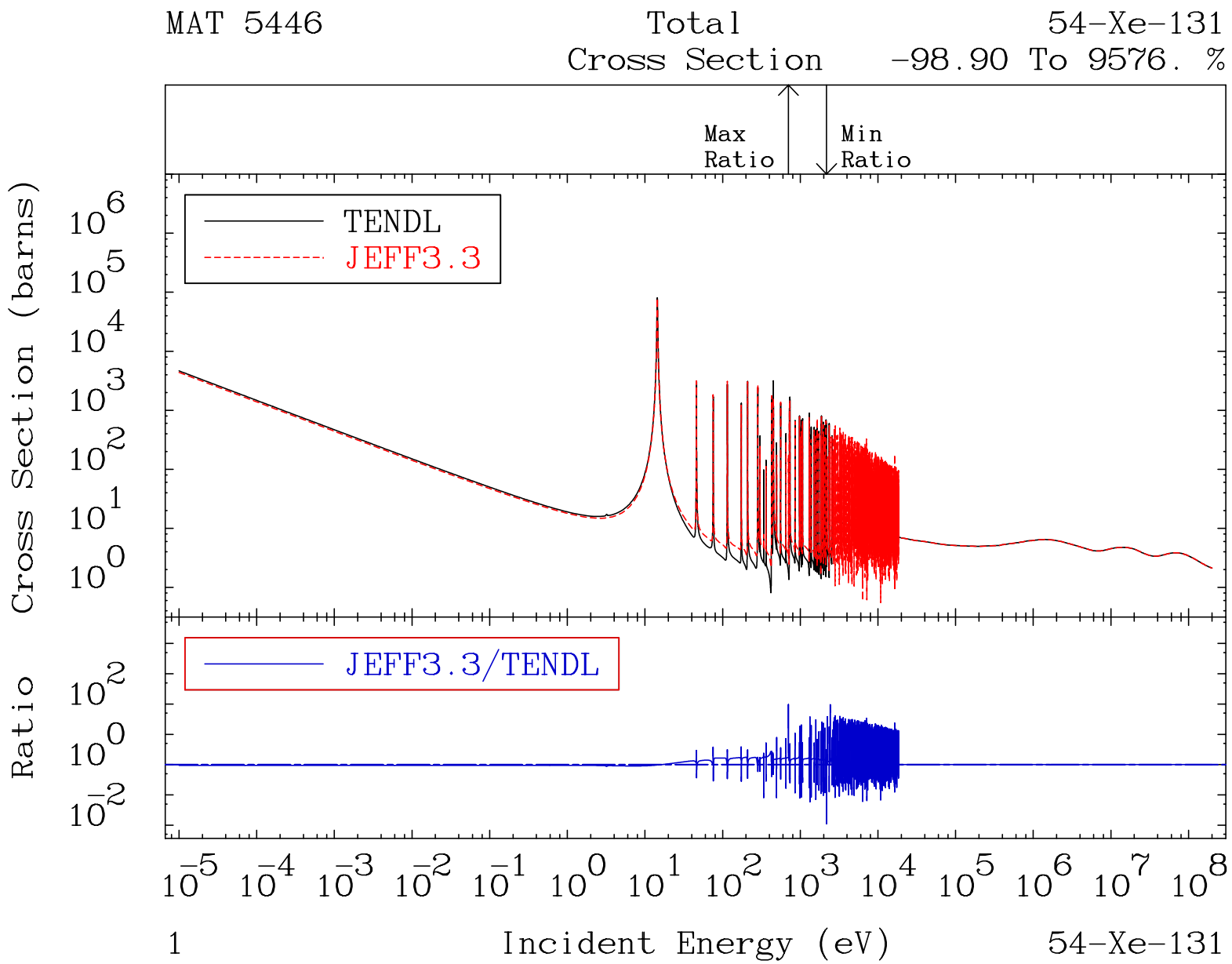
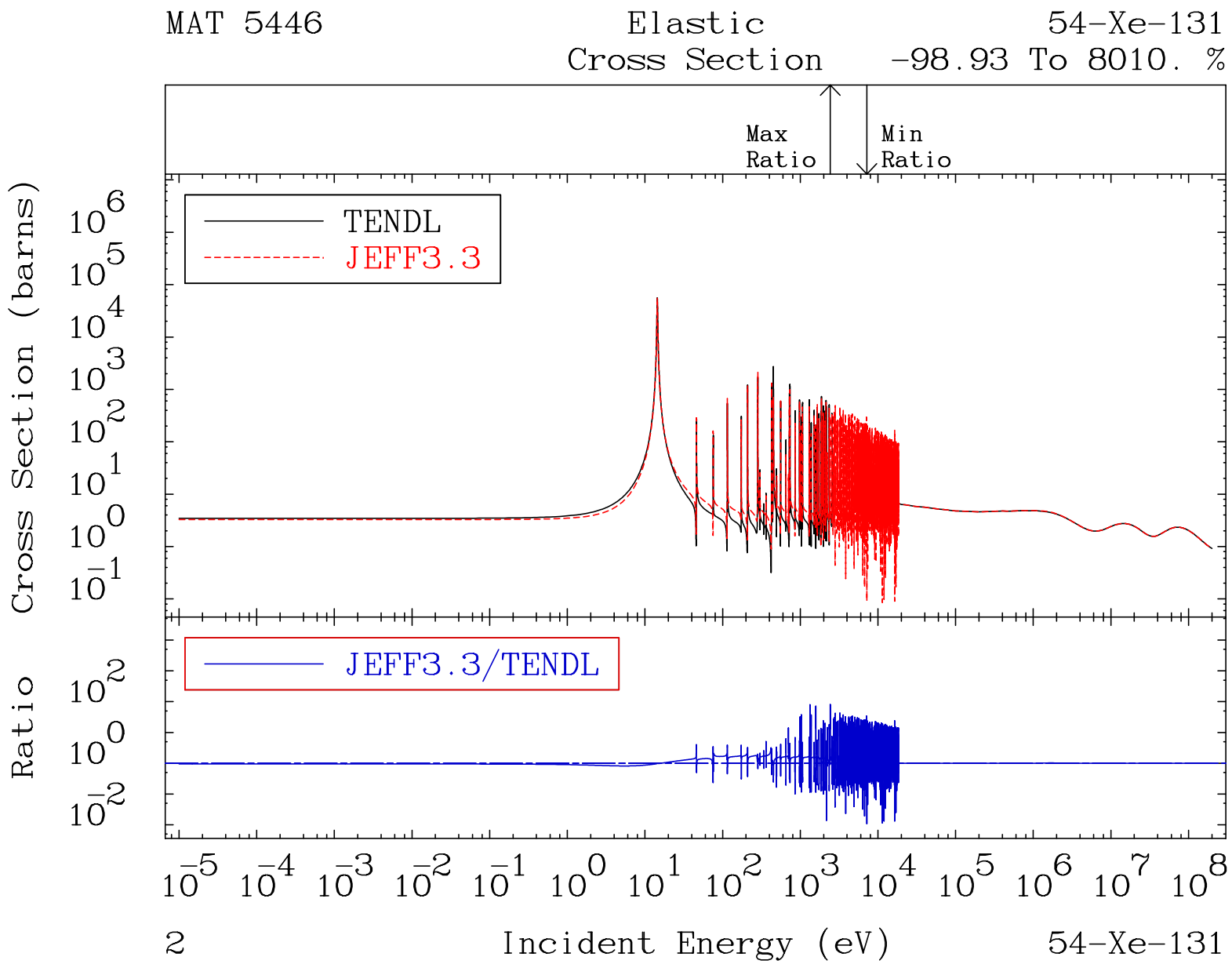
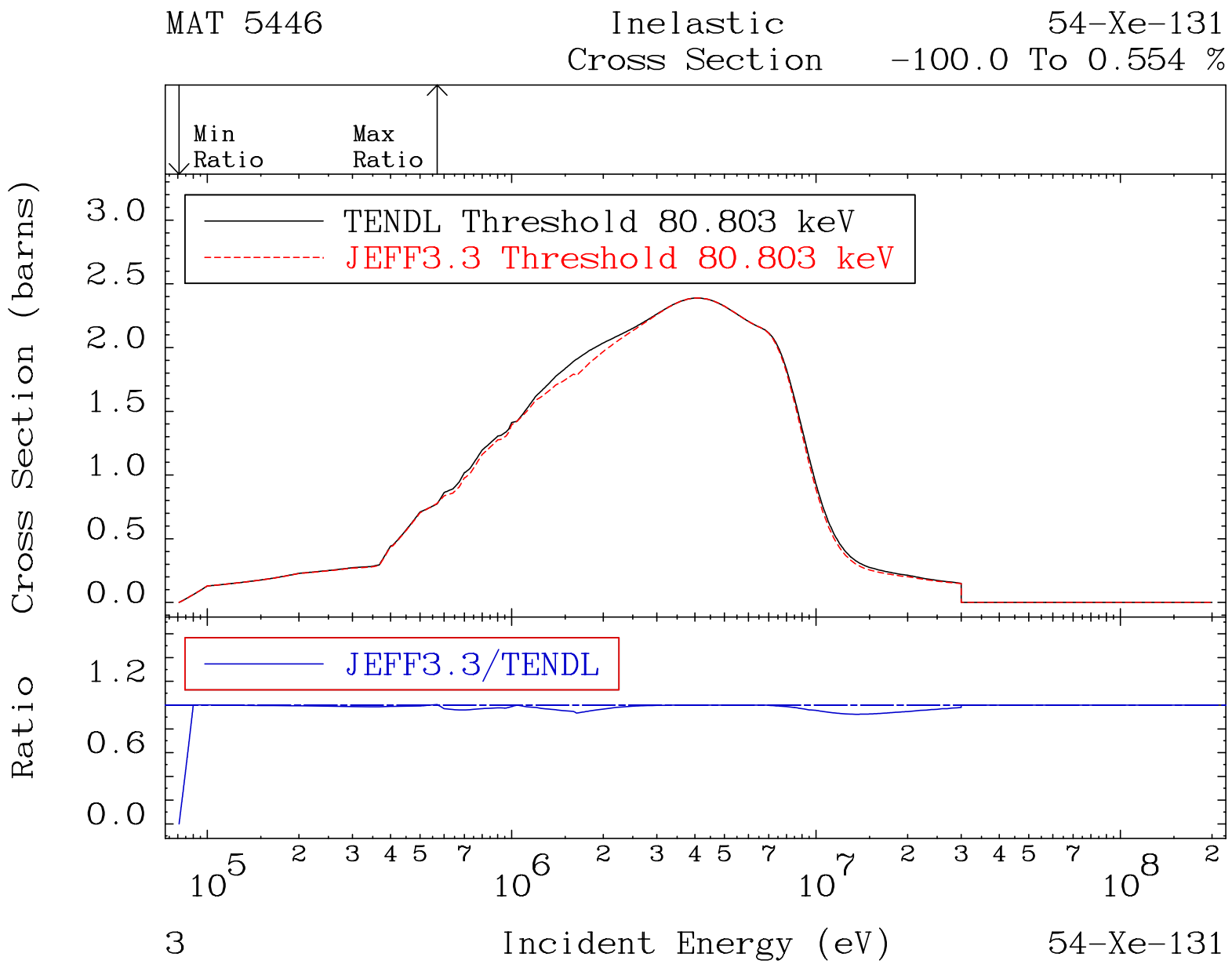
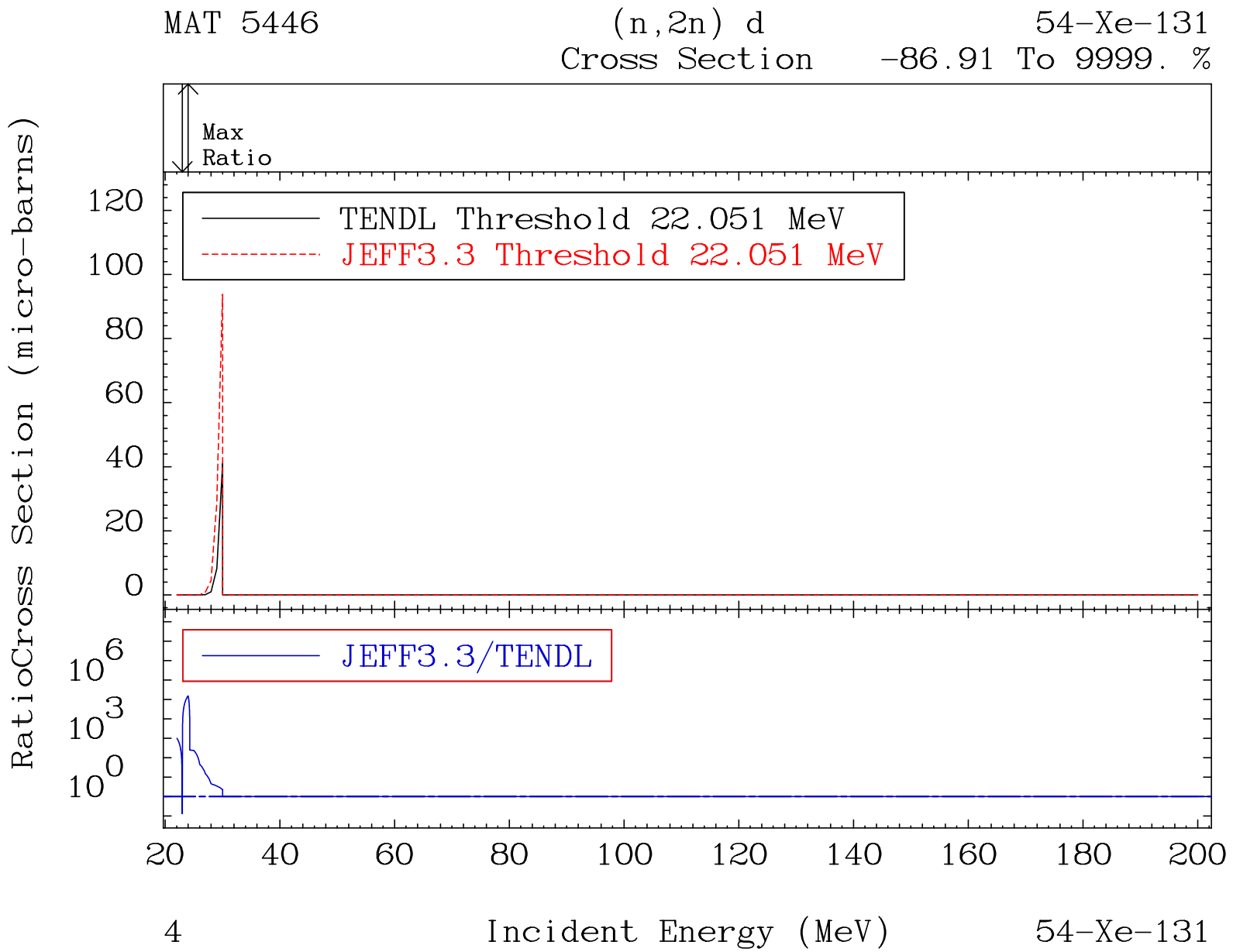
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

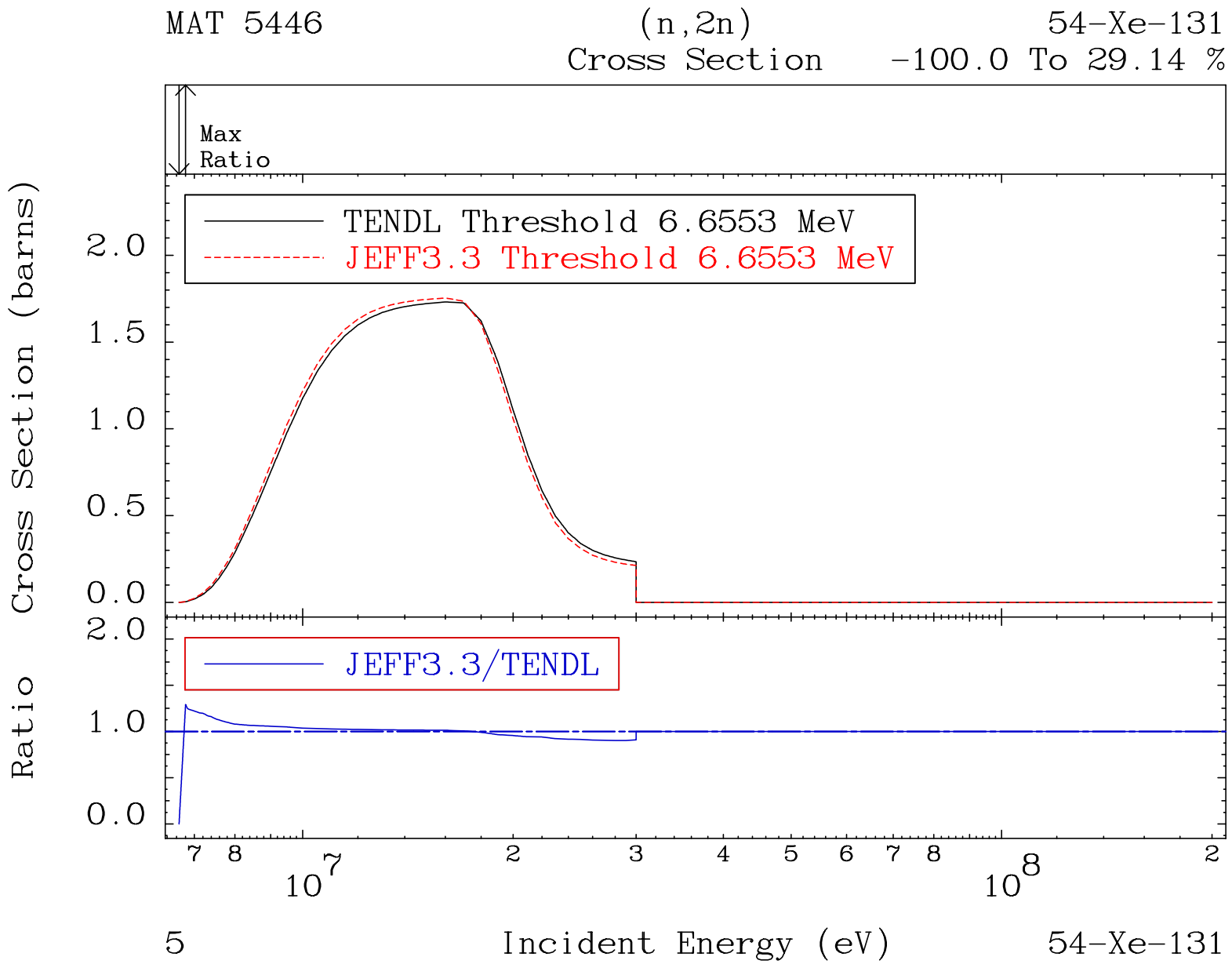
Press Mouse Button to Start

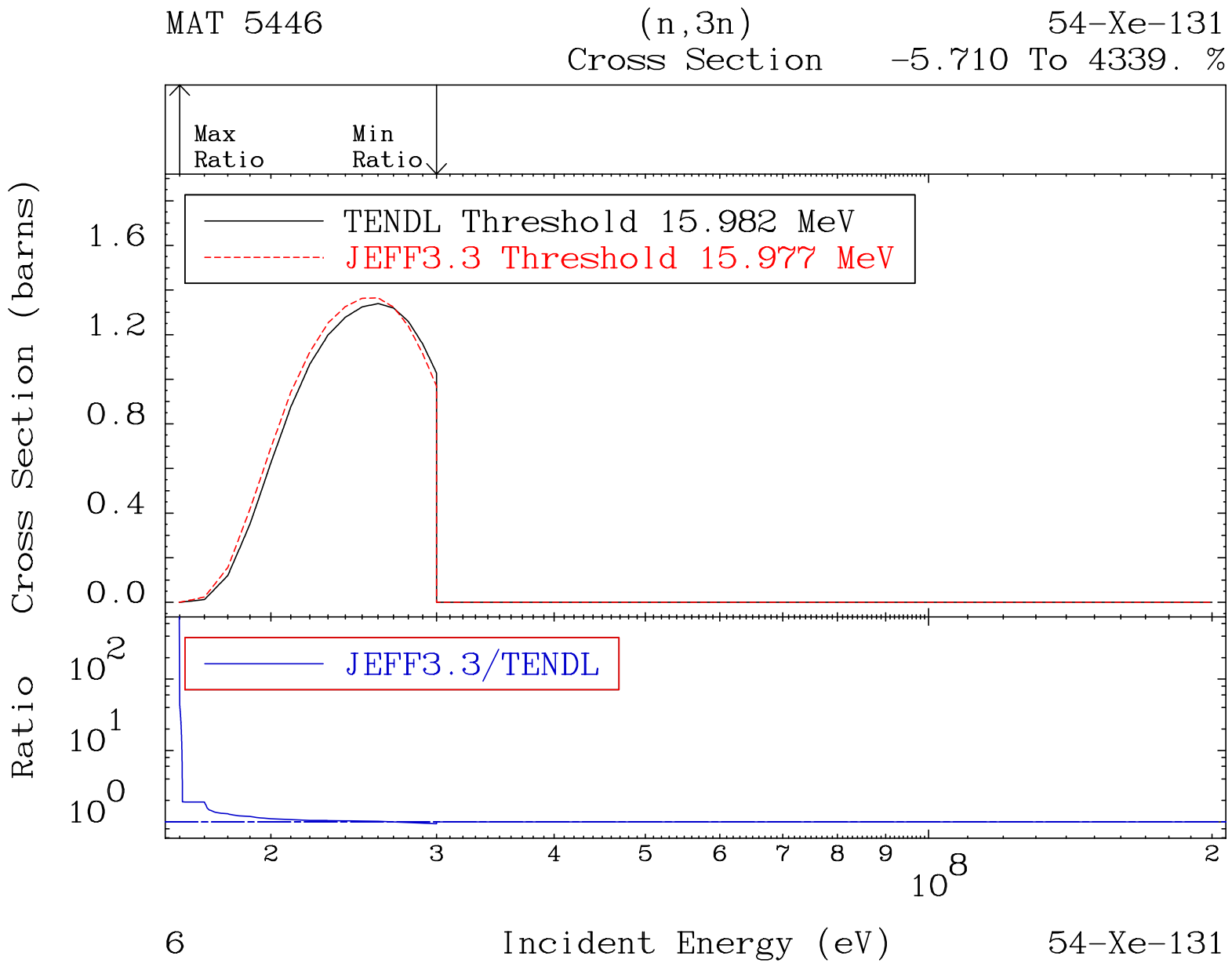

MAT 5446
Total
Cross Section
54-Xe-131
-98.90 To 9576. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
54-Xe-131

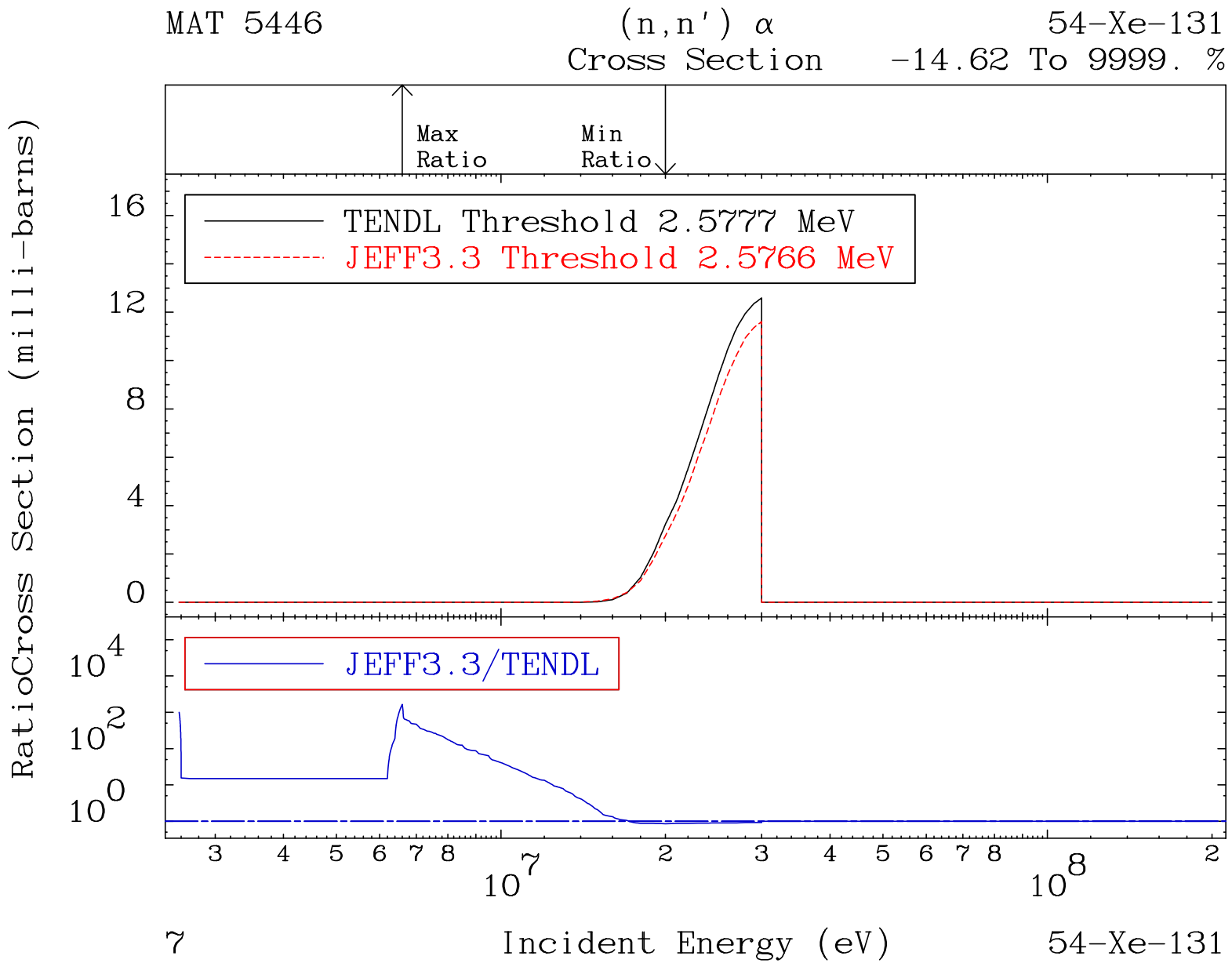

MAT 5446
Elastic
Cross Section
54-Xe-131
-98.93 To 8010. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
54-Xe-131

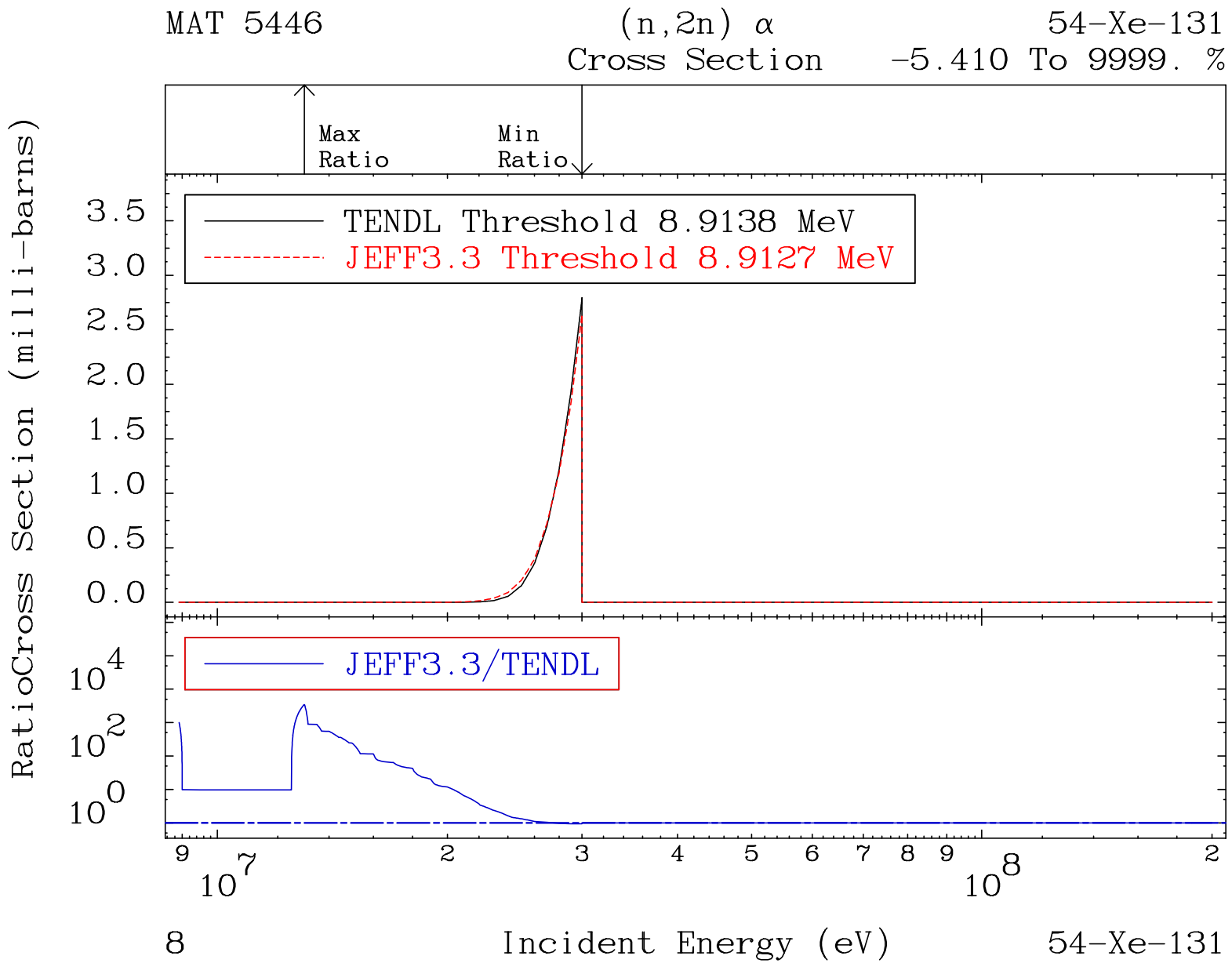

MAT 5446
Inelastic
Cross Section
54-Xe-131
-100.0 To 0.554 %
Min Ratio
Max Ratio
TENDL Threshold 80.803 keV
JEFF3.3 Threshold 80.803 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
3
54-Xe-131

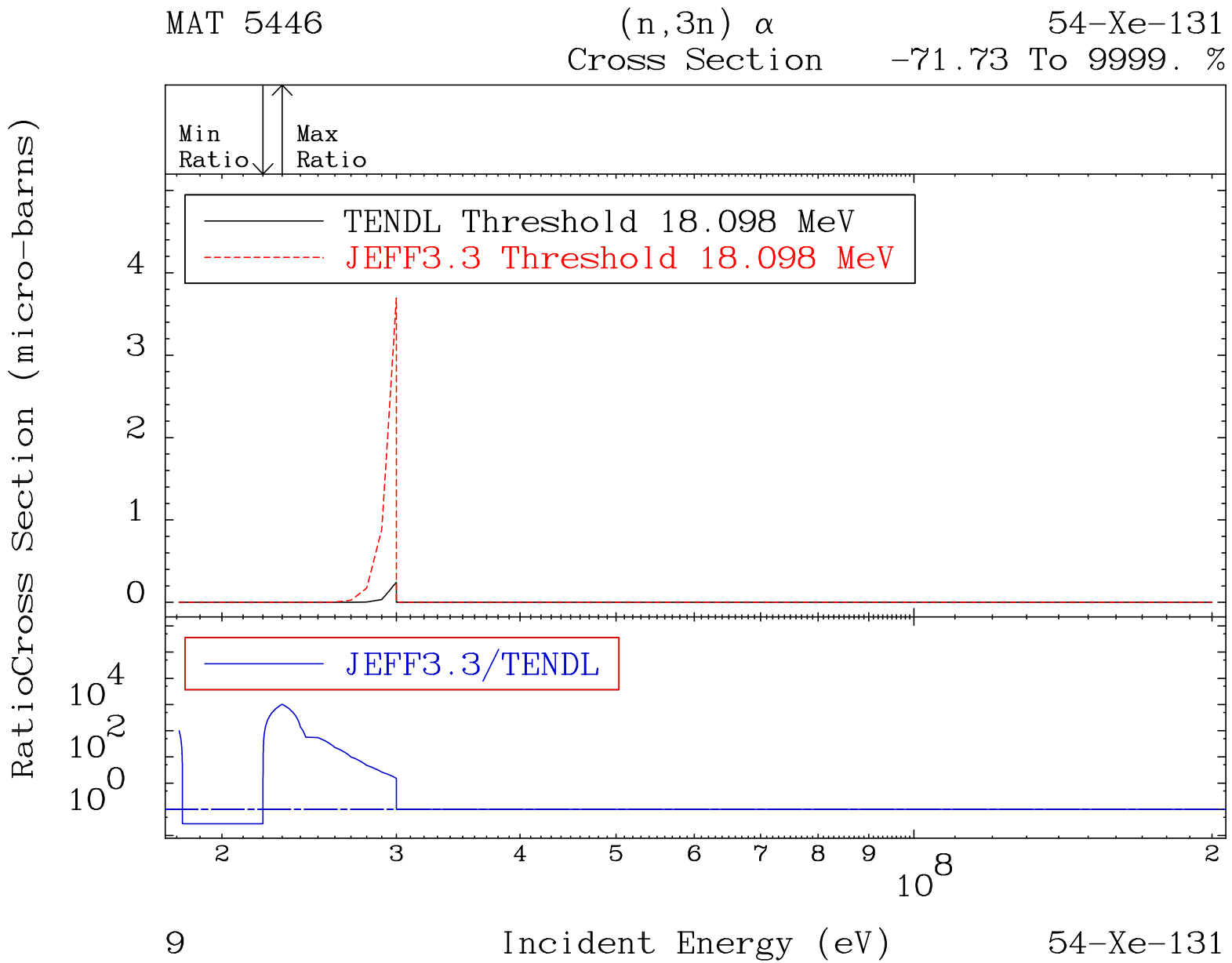

MAT 5446
(n,2n) d
54-Xe-131
Cross Section
-86.91 To 9999. %
Max
Ratio
TENDL Threshold 22.051 MeV
JEFF3.3 Threshold 22.051 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
120
100
80
60
40
20
0
10^6
10^3
10^0
20
40
60
80
100
120
140
160
180
200
Incident Energy (MeV)
4
54-Xe-131

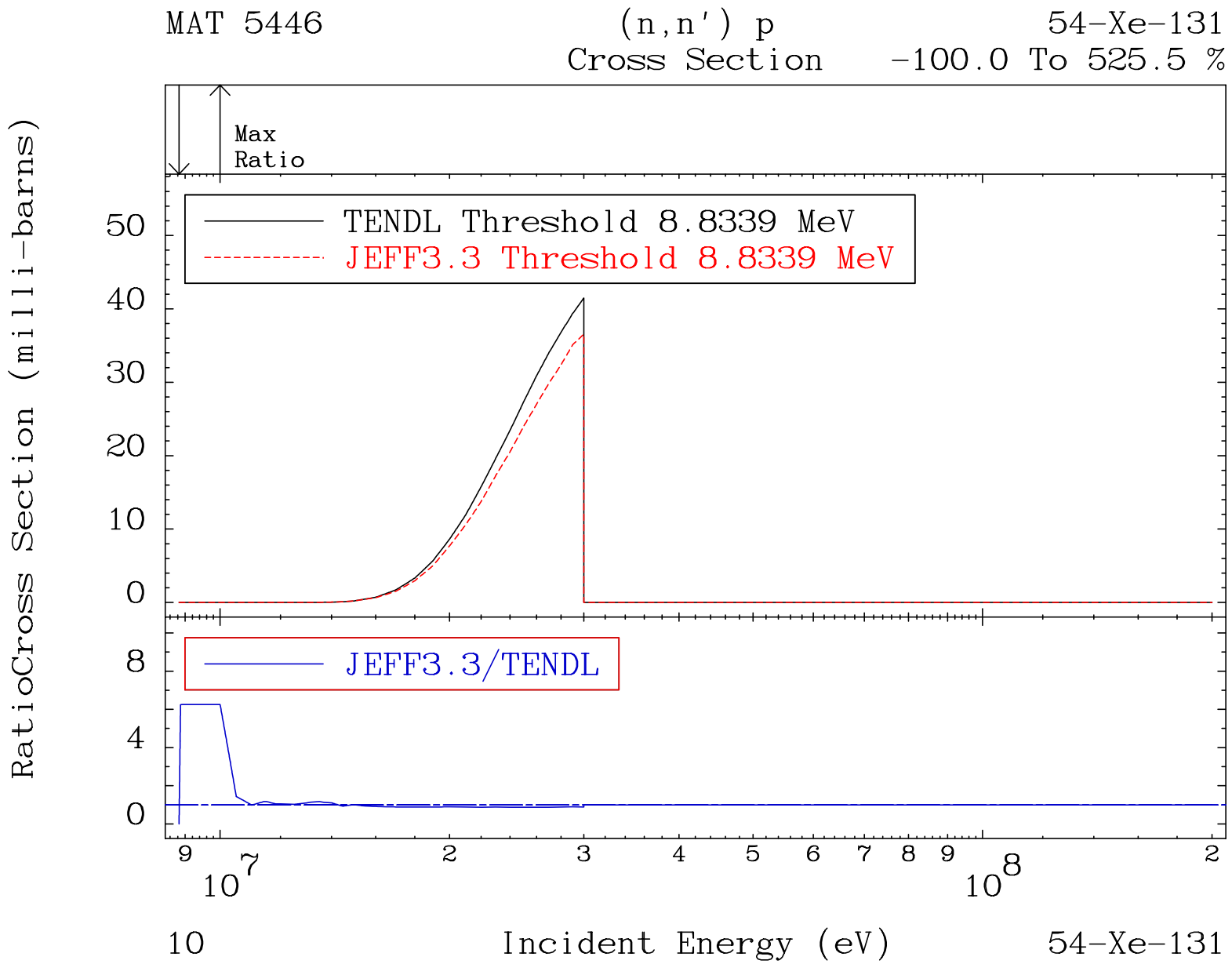

MAT 5446
(n,2n)
Cross Section
54-Xe-131
-100.0 To 29.14 %
Max
Ratio
TENDL Threshold 6.6553 MeV
JEFF3.3 Threshold 6.6553 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
5
54-Xe-131

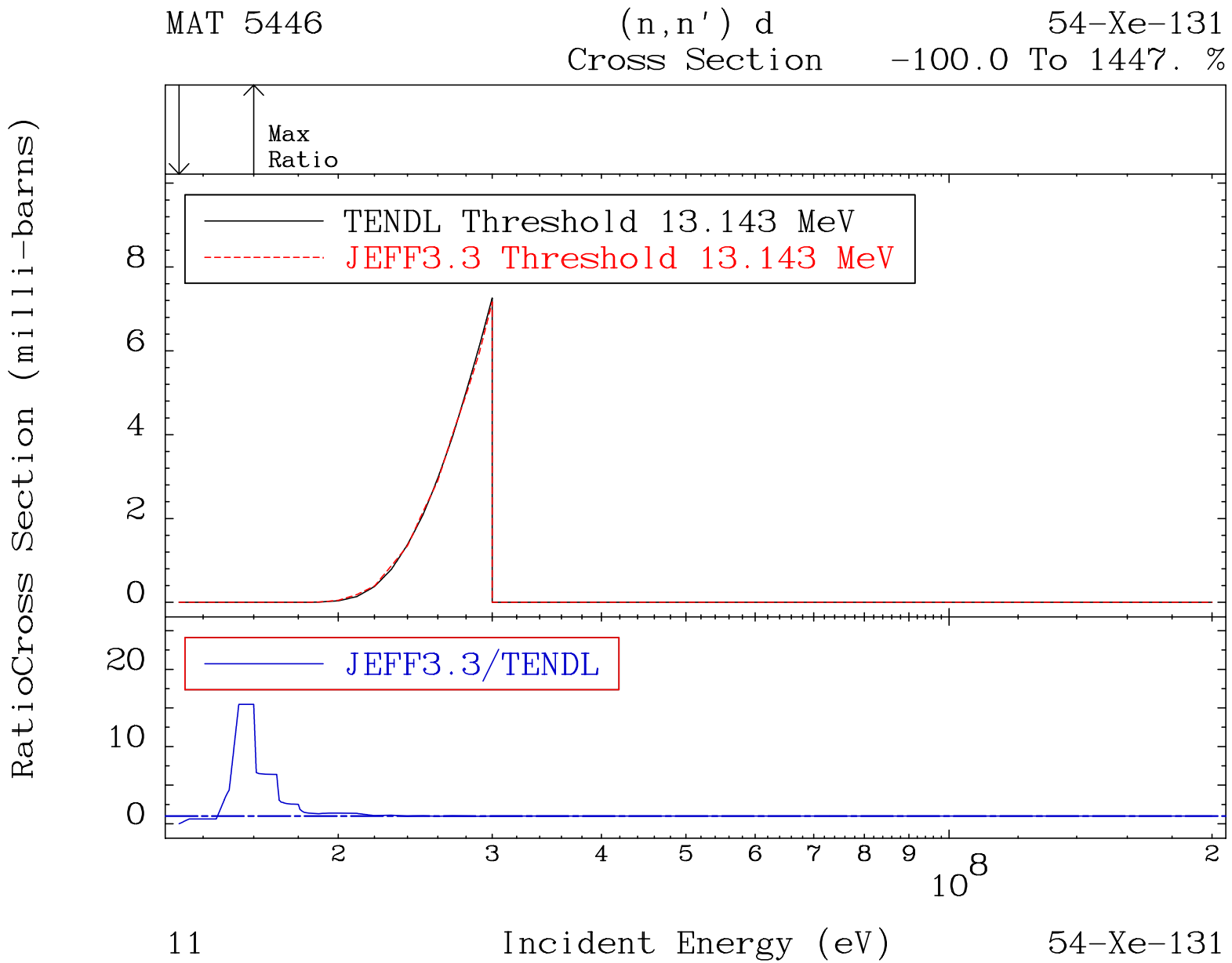

MAT 5446
(n,3n)
54-Xe-131
Cross Section
-5.710 To 4339. %
Max Ratio
Min Ratio
TENDL Threshold 15.982 MeV
JEFF3.3 Threshold 15.977 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
54-Xe-131

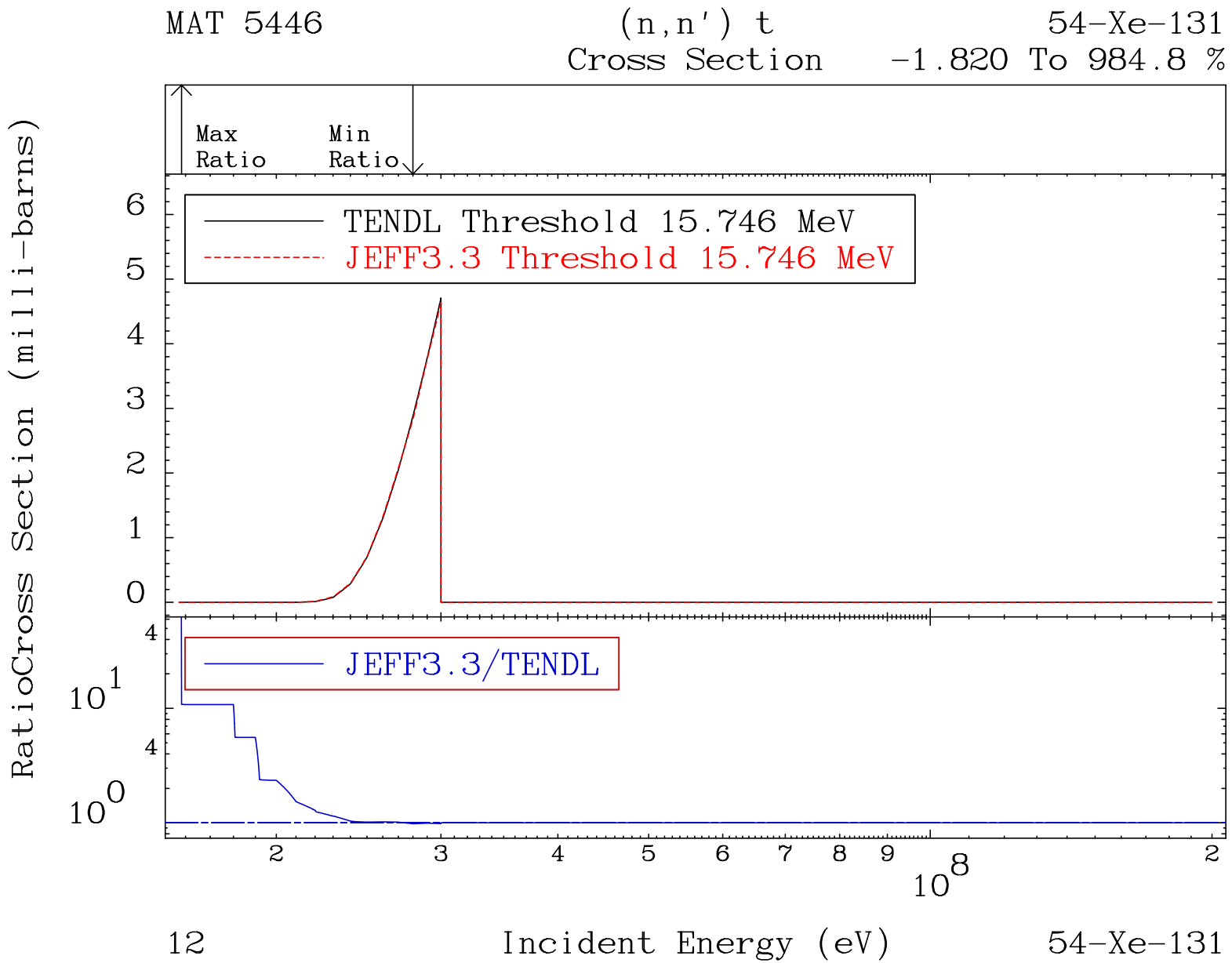

MAT 5446
(n,n') α
54-Xe-131
Cross Section
-14.62 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 2.5777 MeV
JEFF3.3 Threshold 2.5766 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
54-Xe-131

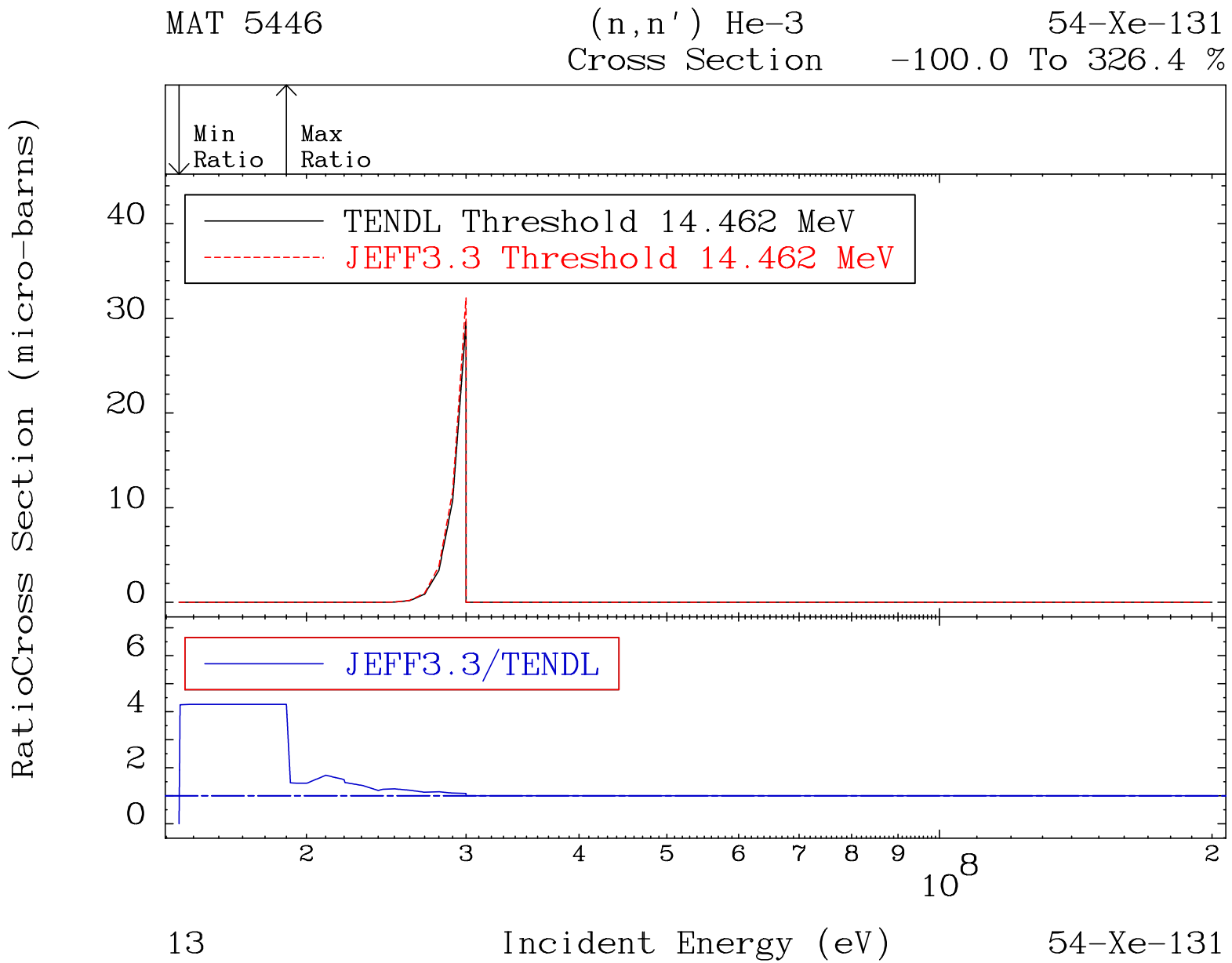

MAT 5446
(n,2n) α
54-Xe-131
Cross Section
-5.410 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 8.9138 MeV
JEFF3.3 Threshold 8.9127 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10^4
10^2
10^0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
54-Xe-131

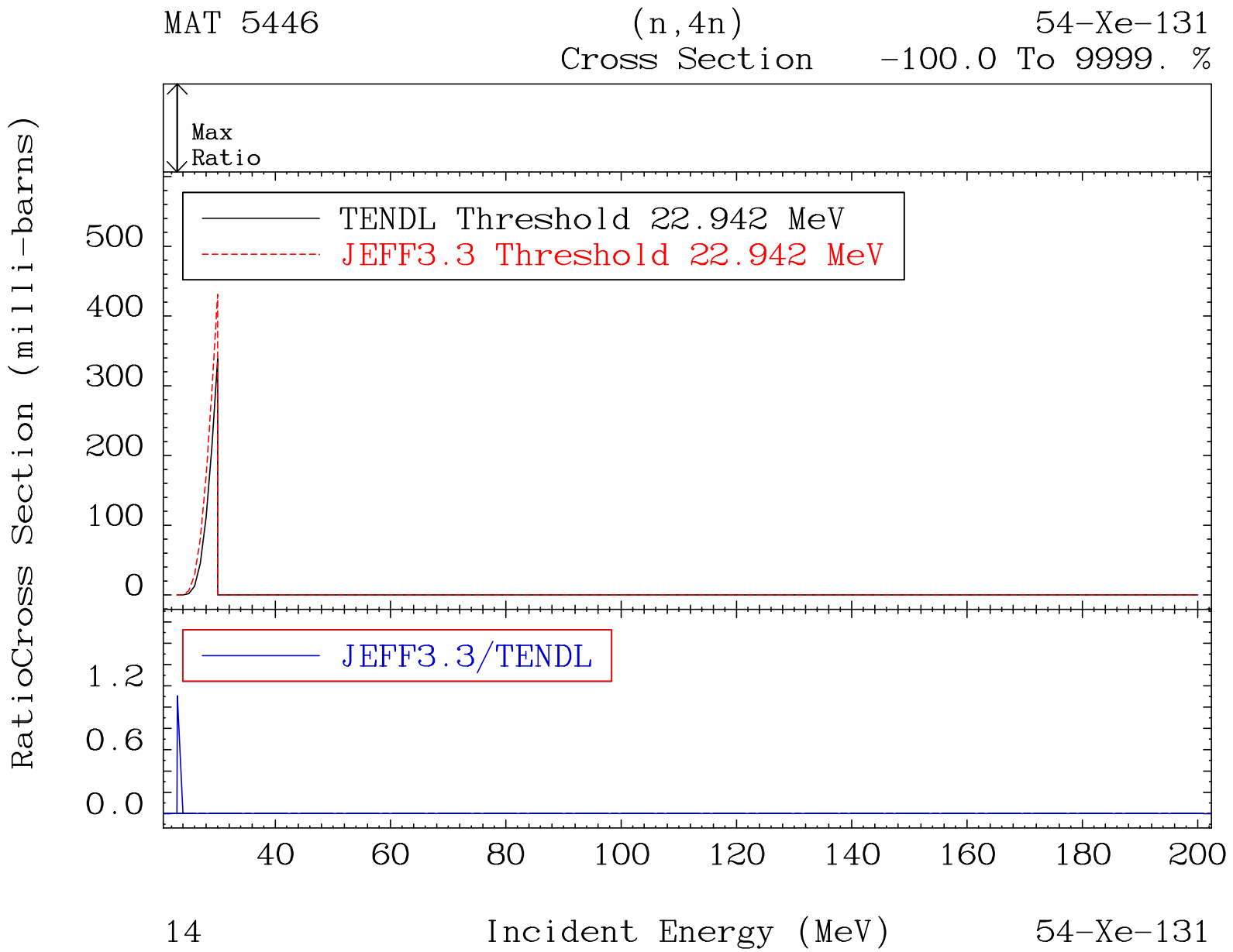

MAT 5446
(n,3n) α
54-Xe-131
Cross Section
-71.73 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 18.098 MeV
JEFF3.3 Threshold 18.098 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
9
54-Xe-131

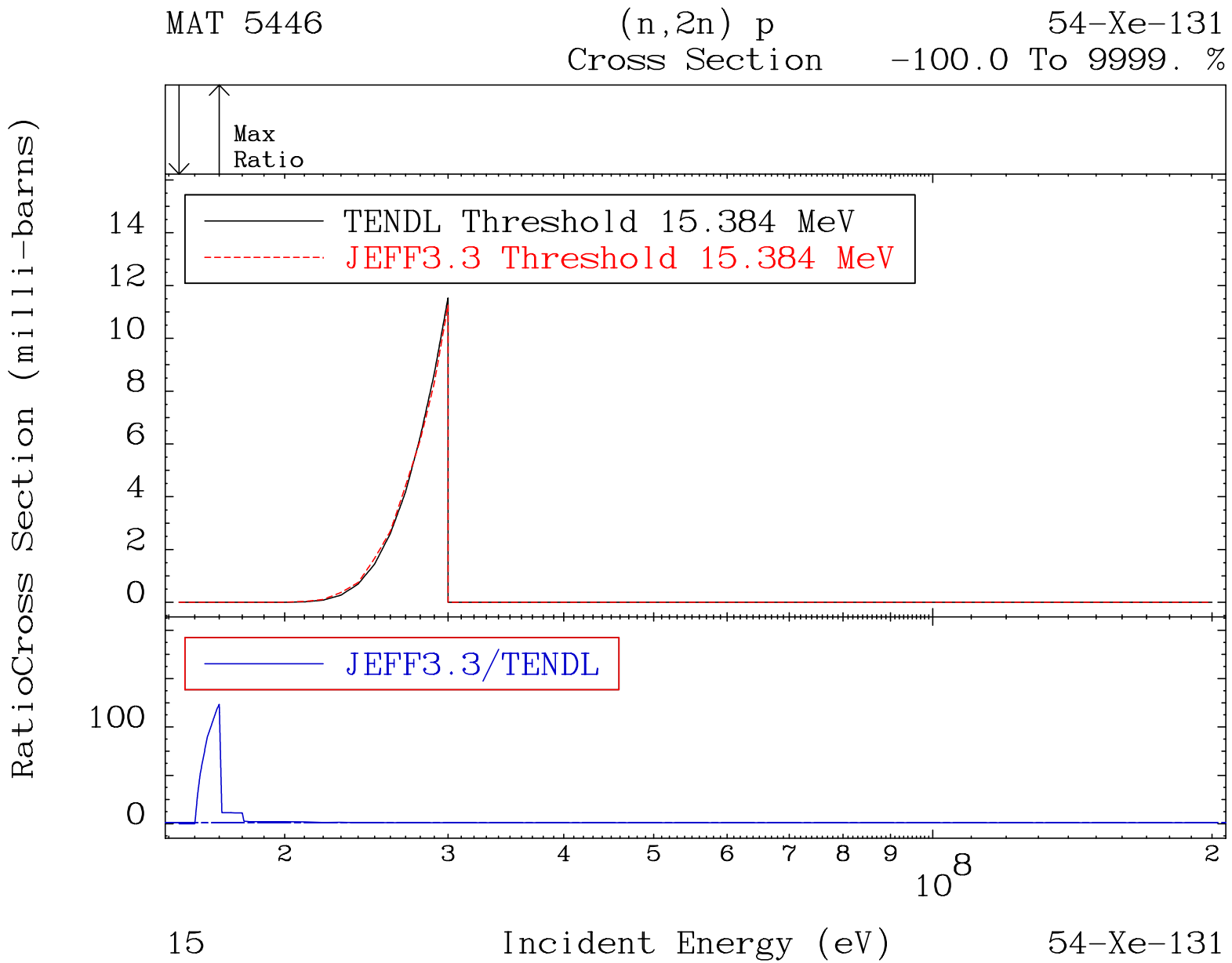

MAT 5446
(n,n') p
Cross Section
54-Xe-131
-100.0 To 525.5 %
Max
Ratio
TENDL Threshold 8.8339 MeV
JEFF3.3 Threshold 8.8339 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
8
4
0
9
2
3
4
5
6
7
8
9
2
10^7
10^8
10
Incident Energy (eV)
54-Xe-131

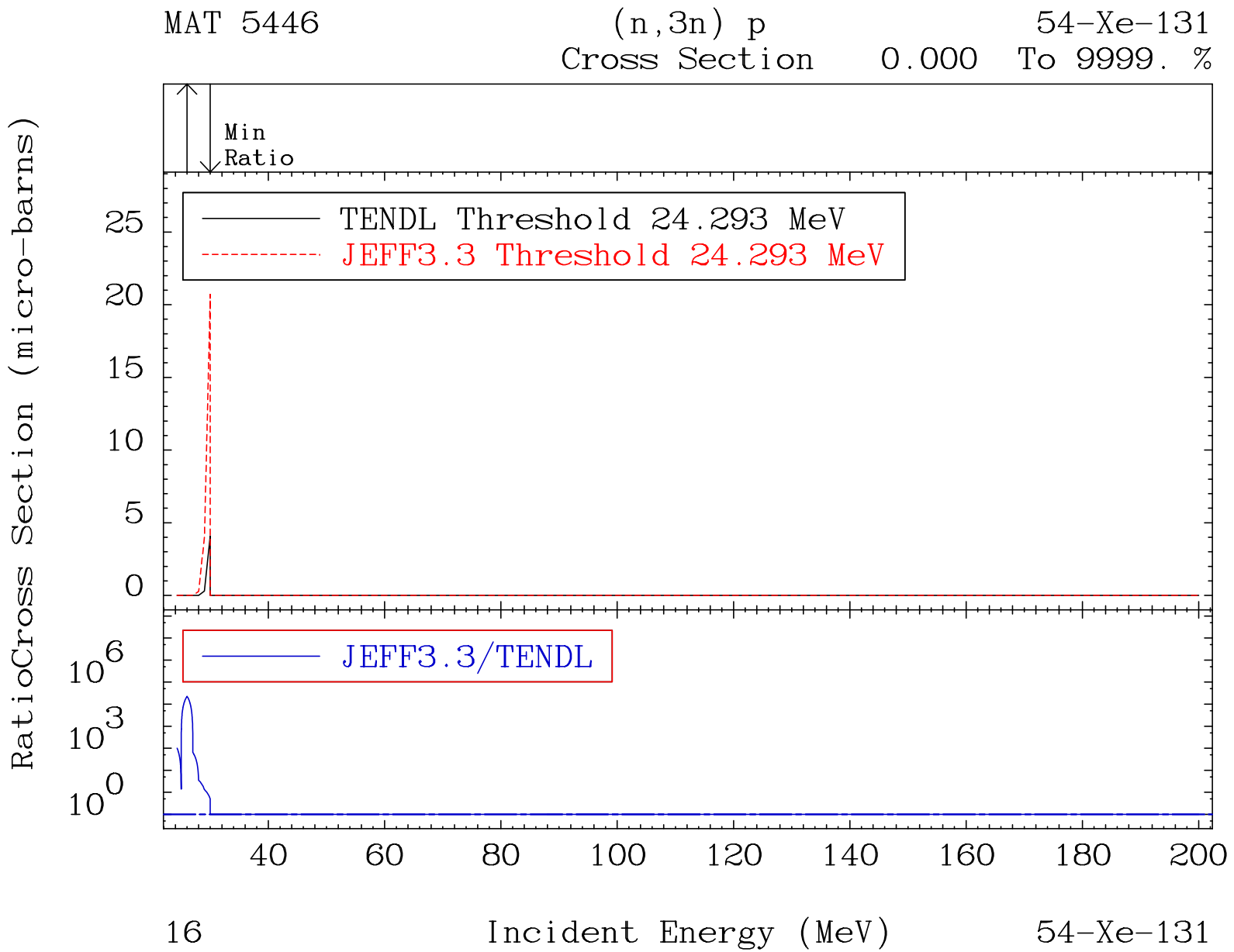

MAT 5446
(n,n') d
Cross Section
54-Xe-131
-100.0 To 1447. %
Max
Ratio
TENDL Threshold 13.143 MeV
JEFF3.3 Threshold 13.143 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
8
6
4
2
0
20
10
0
2
3
4
5
6
7
8
9
10^8
2
11
Incident Energy (eV)
54-Xe-131

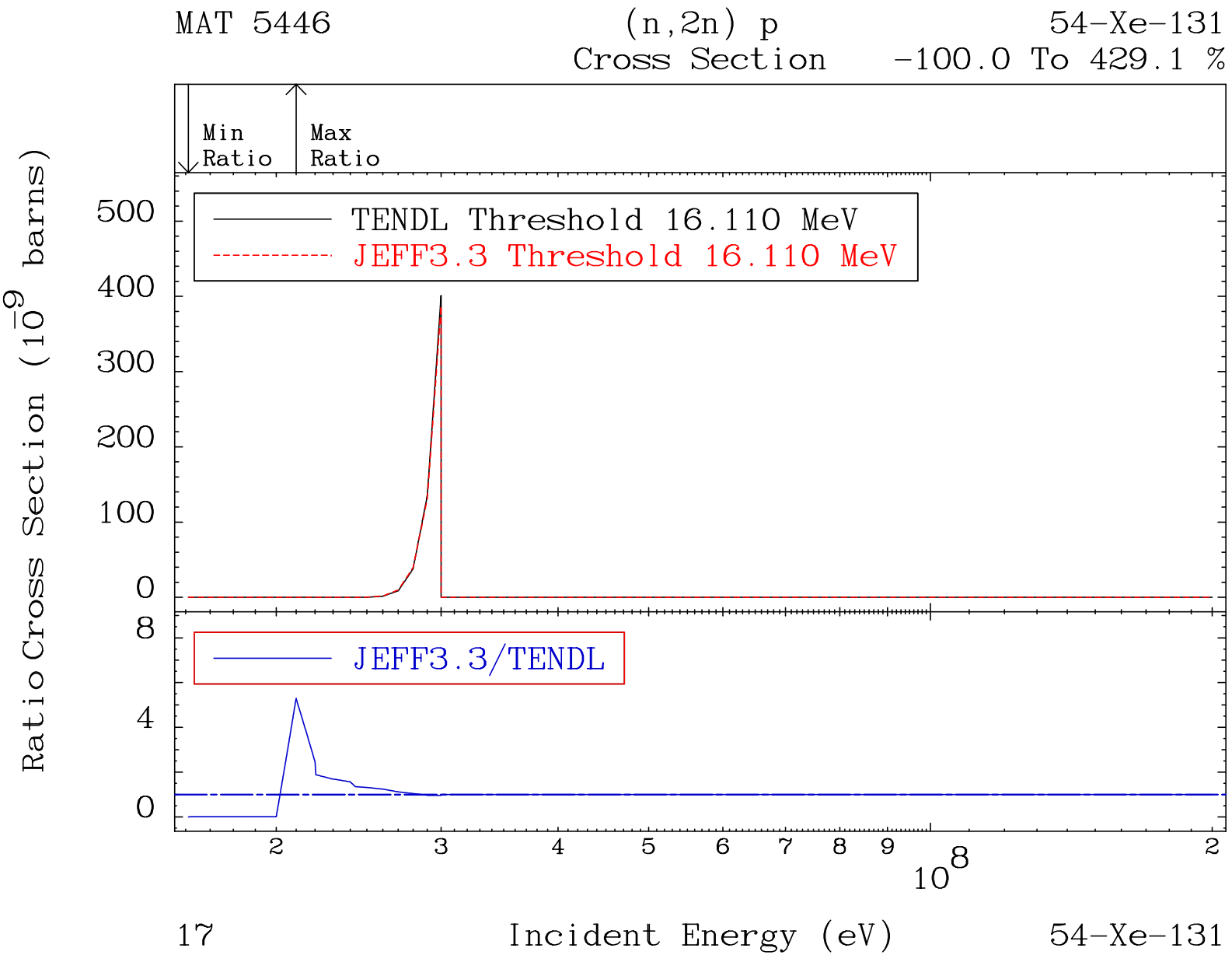

MAT 5446
(n,n') t
Cross Section
54-Xe-131
-1.820 To 984.8 %
Max Ratio
Min Ratio
TENDL Threshold 15.746 MeV
JEFF3.3 Threshold 15.746 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
12
54-Xe-131

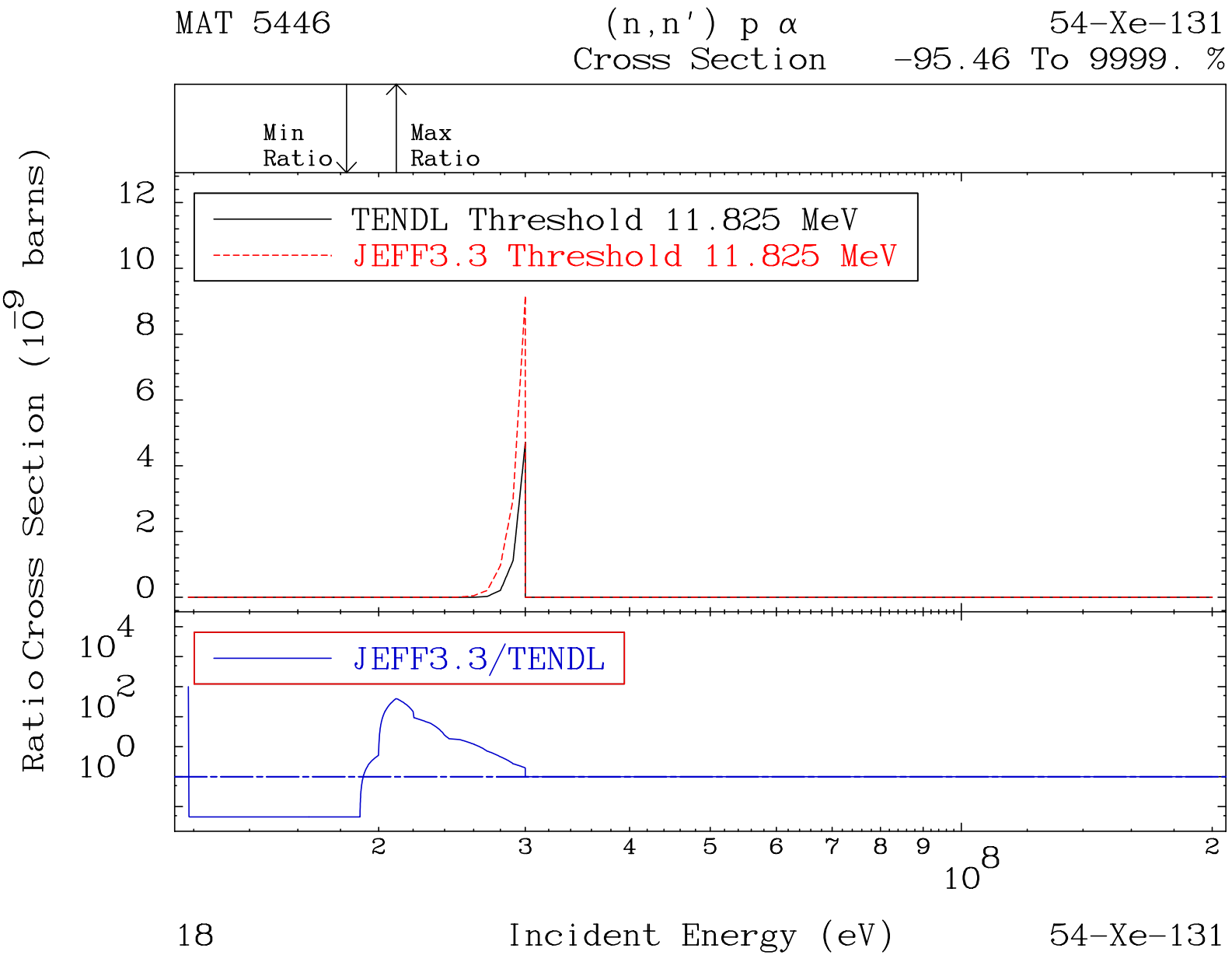

MAT 5446
(n,n') He-3
Cross Section
54-Xe-131
-100.0 To 326.4 %
Min Ratio
Max Ratio
TENDL Threshold 14.462 MeV
JEFF3.3 Threshold 14.462 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
40
30
20
10
0
6
4
2
0
2
3
4
5
6
7
8
9
10^8
2
13
Incident Energy (eV)
54-Xe-131

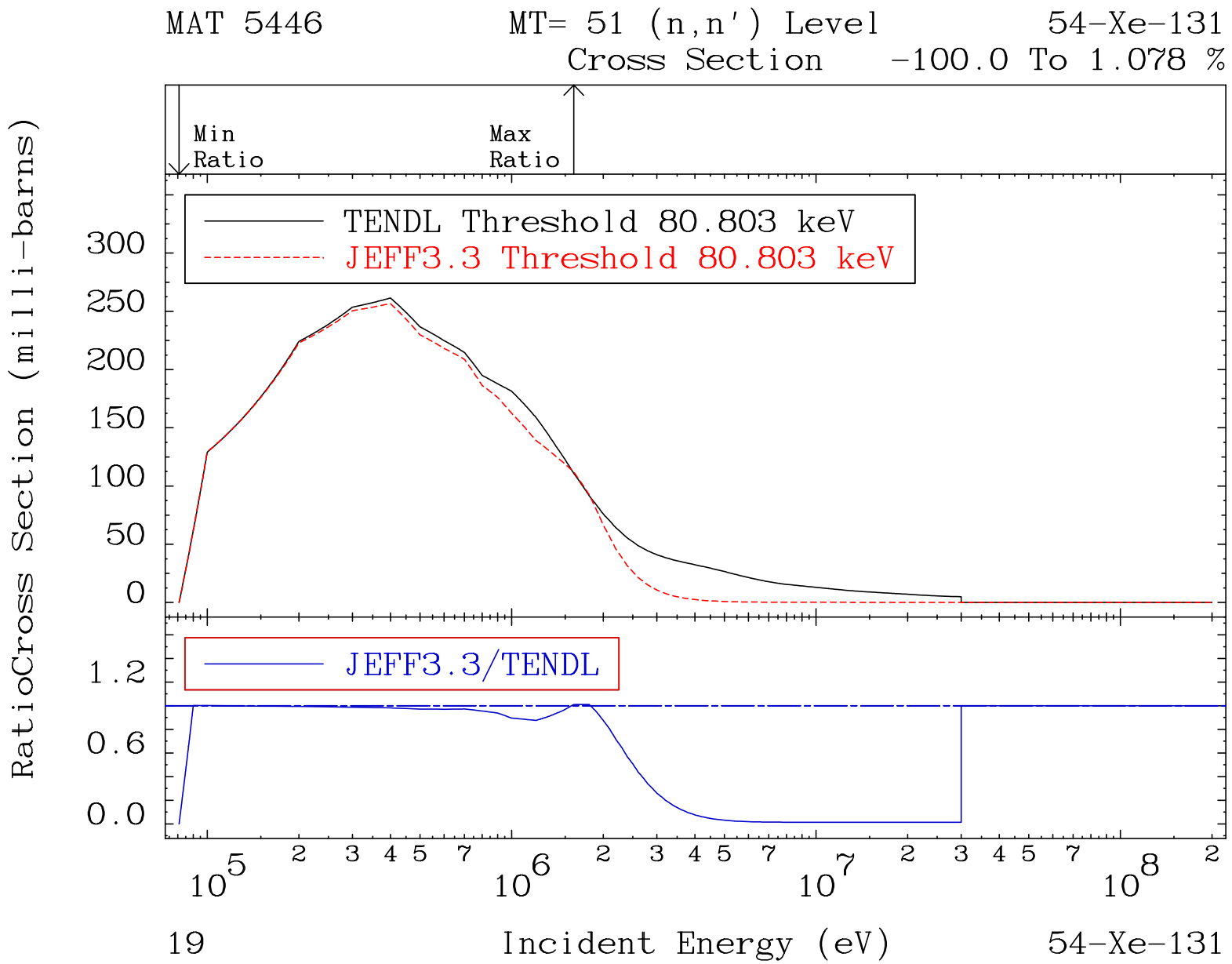

MAT 5446
(n,4n)
54-Xe-131
Cross Section
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 22.942 MeV
JEFF3.3 Threshold 22.942 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
1.2
0.6
0.0
40
60
80
100
120
140
160
180
200
14
Incident Energy (MeV)
54-Xe-131

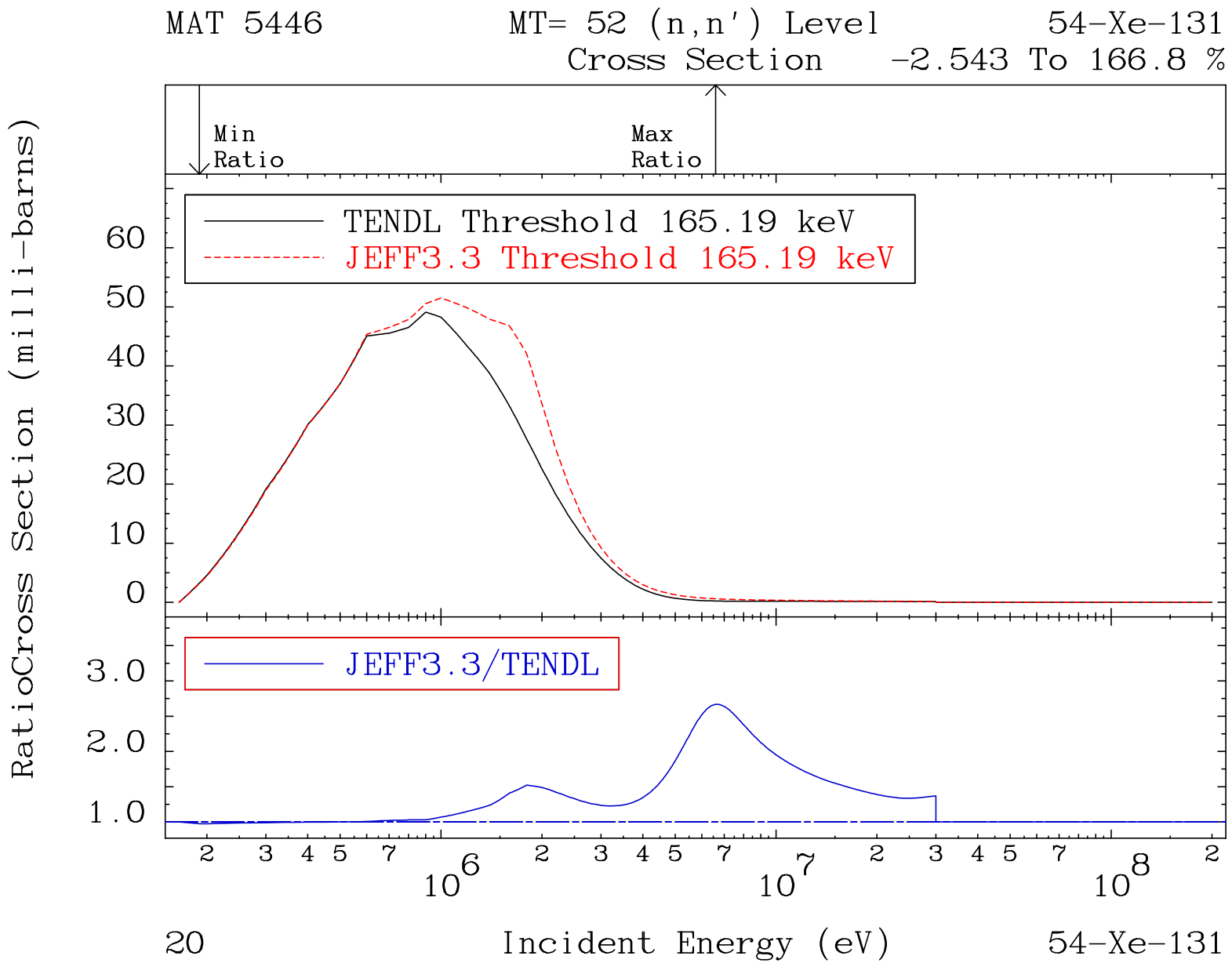

MAT 5446
(n,2n) p
Cross Section
54-Xe-131
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 15.384 MeV
JEFF3.3 Threshold 15.384 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
14
12
10
8
6
4
2
0
100
0
2
3
4
5
6
7
8
9
10^8
2
15
Incident Energy (eV)
54-Xe-131

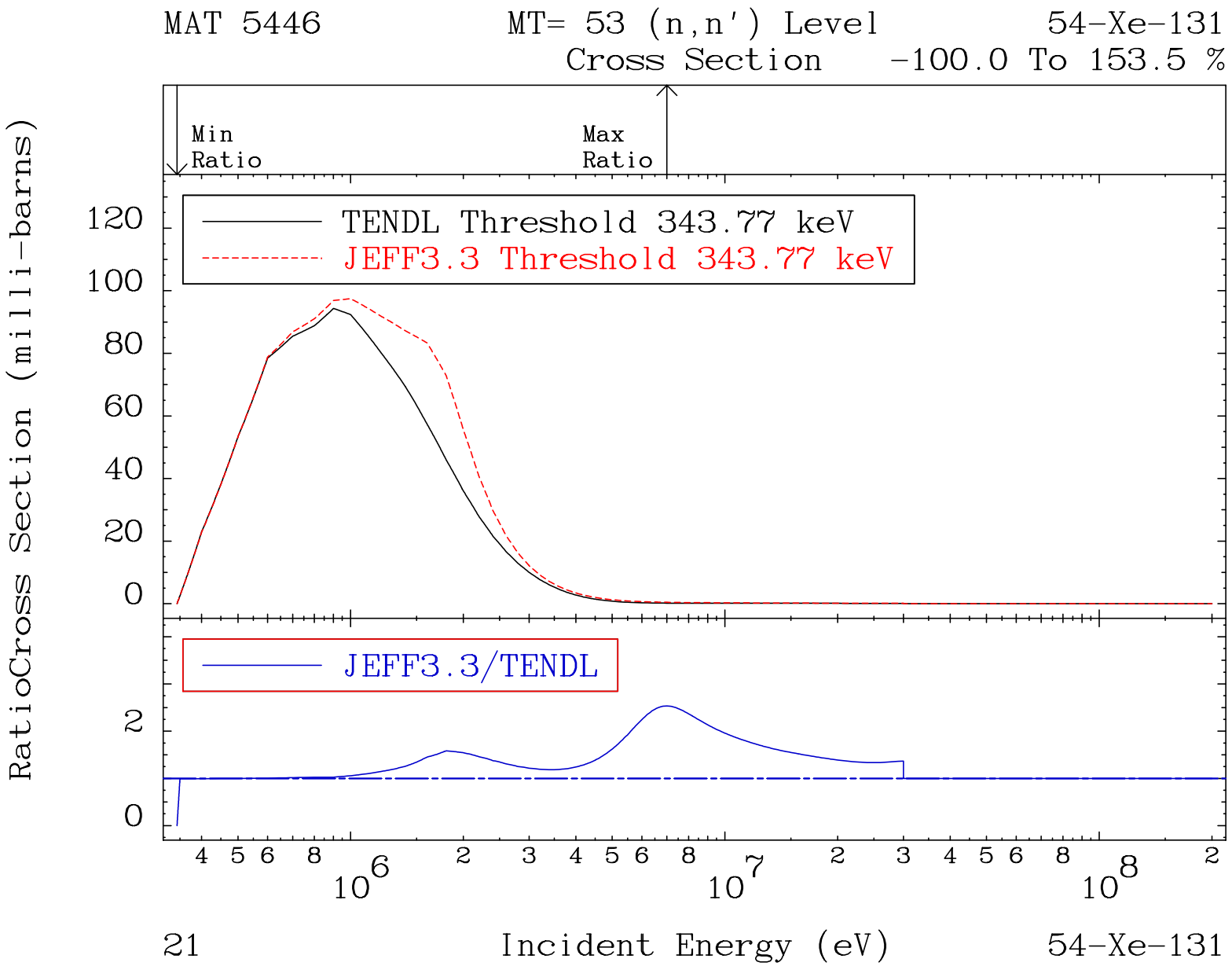

MAT 5446
(n,3n) p
54-Xe-131
Cross Section 0.000 To 9999. %
Min
Ratio
TENDL Threshold 24.293 MeV
JEFF3.3 Threshold 24.293 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
25
20
15
10
5
0
10^6
10^3
10^0
40
60
80
100
120
140
160
180
200
16
Incident Energy (MeV)
54-Xe-131

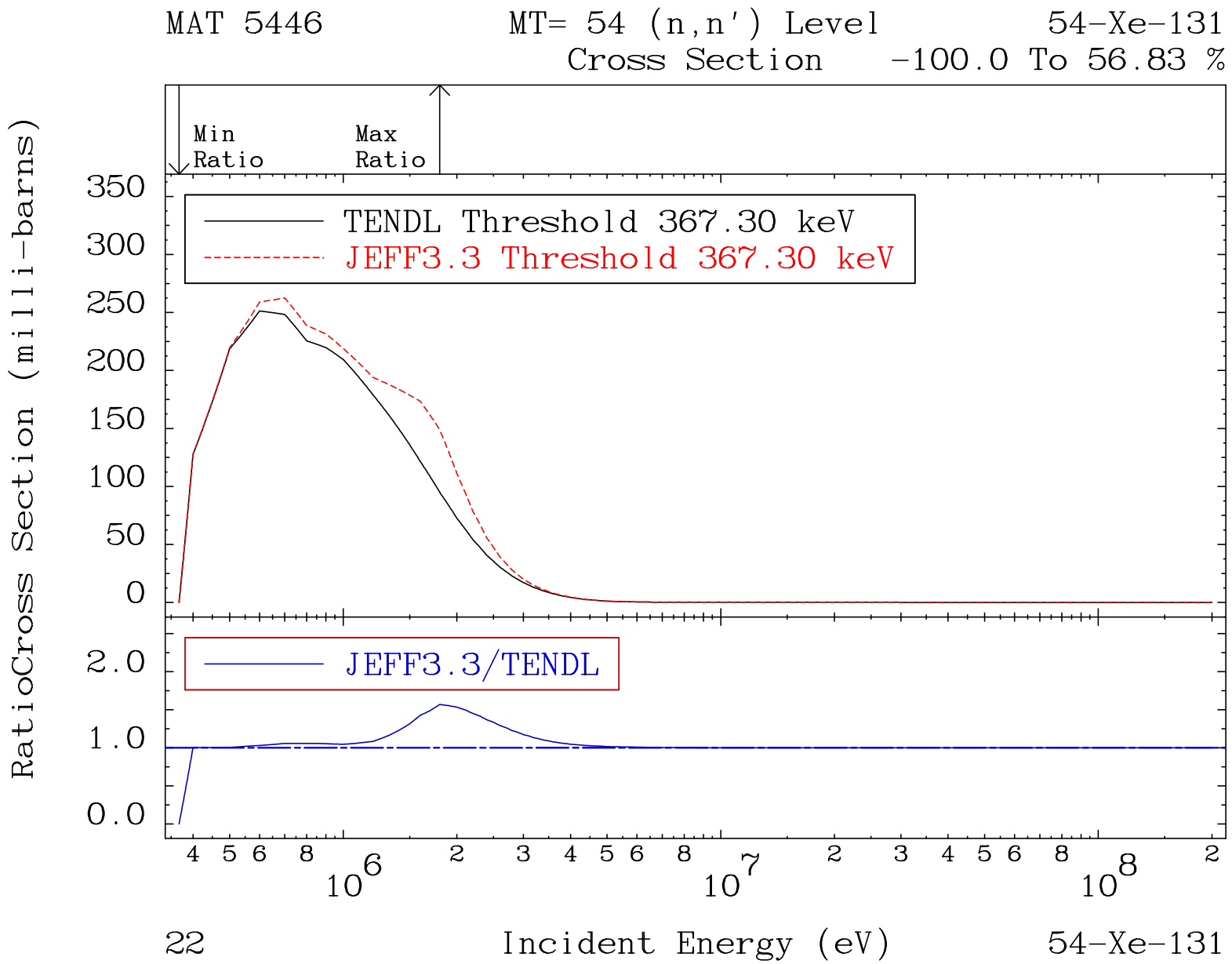

MAT 5446
(n,2n) p
54-Xe-131
Cross Section
-100.0 To 429.1 %
Min Ratio
Max Ratio
TENDL Threshold 16.110 MeV
JEFF3.3 Threshold 16.110 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
500
400
300
200
100
0
8
4
0
2
3
4
5
6
7
8
9
2
10^8
17
Incident Energy (eV)
54-Xe-131

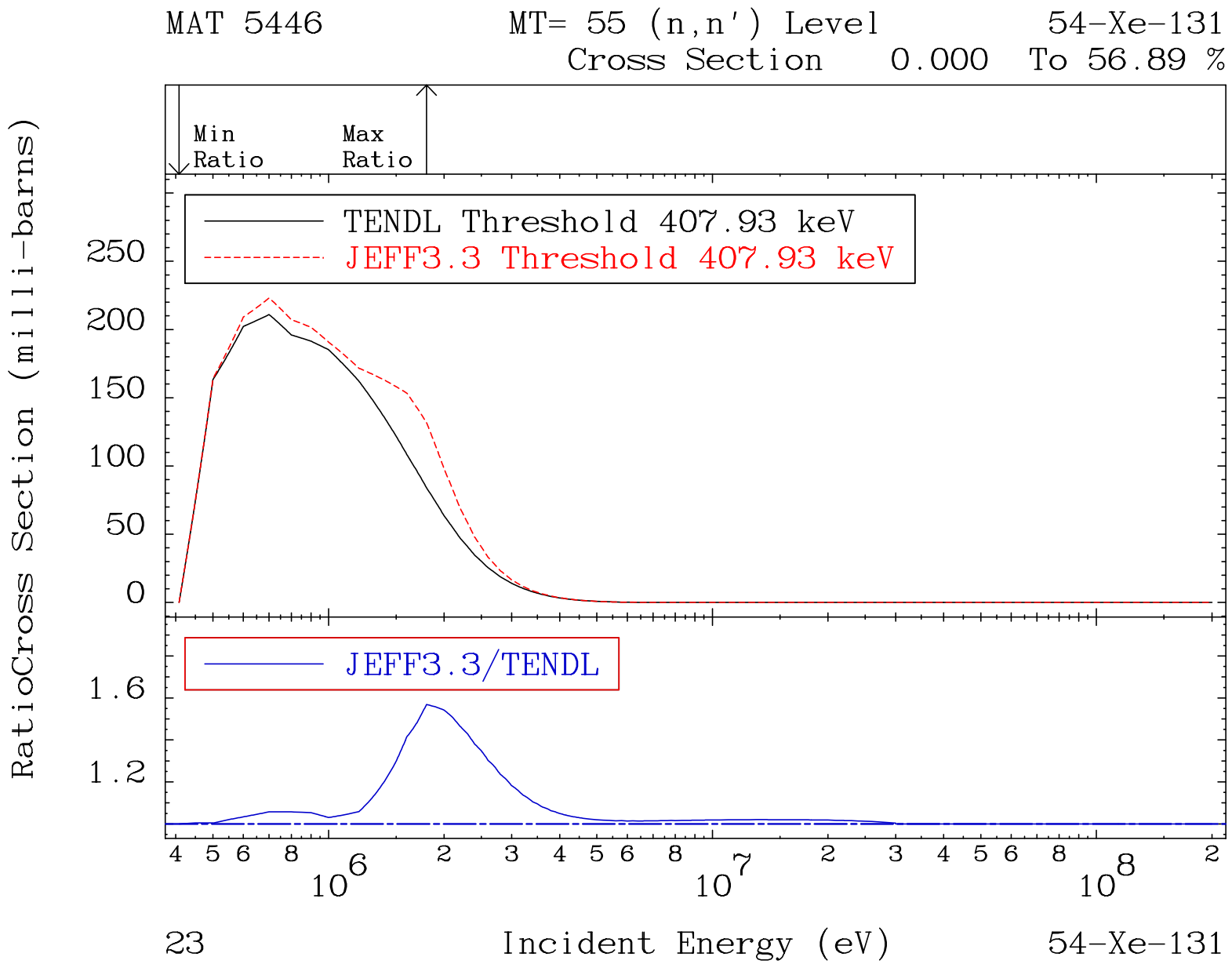

MAT 5446
(n,n') p α
54-Xe-131
Cross Section
-95.46 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 11.825 MeV
JEFF3.3 Threshold 11.825 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
12
10
8
6
4
2
0
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
18
Incident Energy (eV)
54-Xe-131

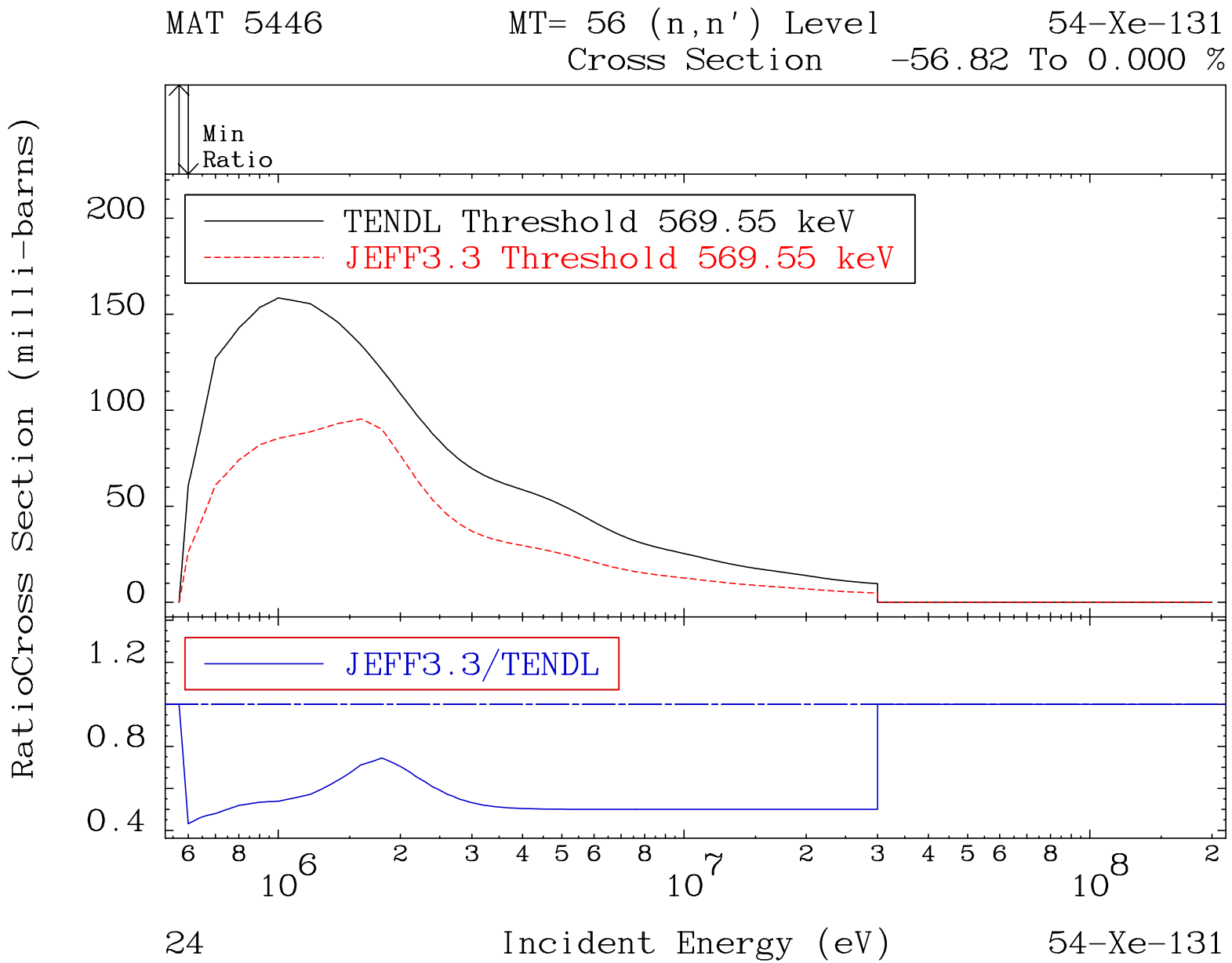

MAT 5446
MT= 51 (n,n') Level
54-Xe-131
Cross Section -100.0 To 1.078 %
Min Ratio
Max Ratio
TENDL Threshold 80.803 keV
JEFF3.3 Threshold 80.803 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
1.2
0.6
0.0
10^5
10^6
10^7
10^8
19
Incident Energy (eV)
54-Xe-131

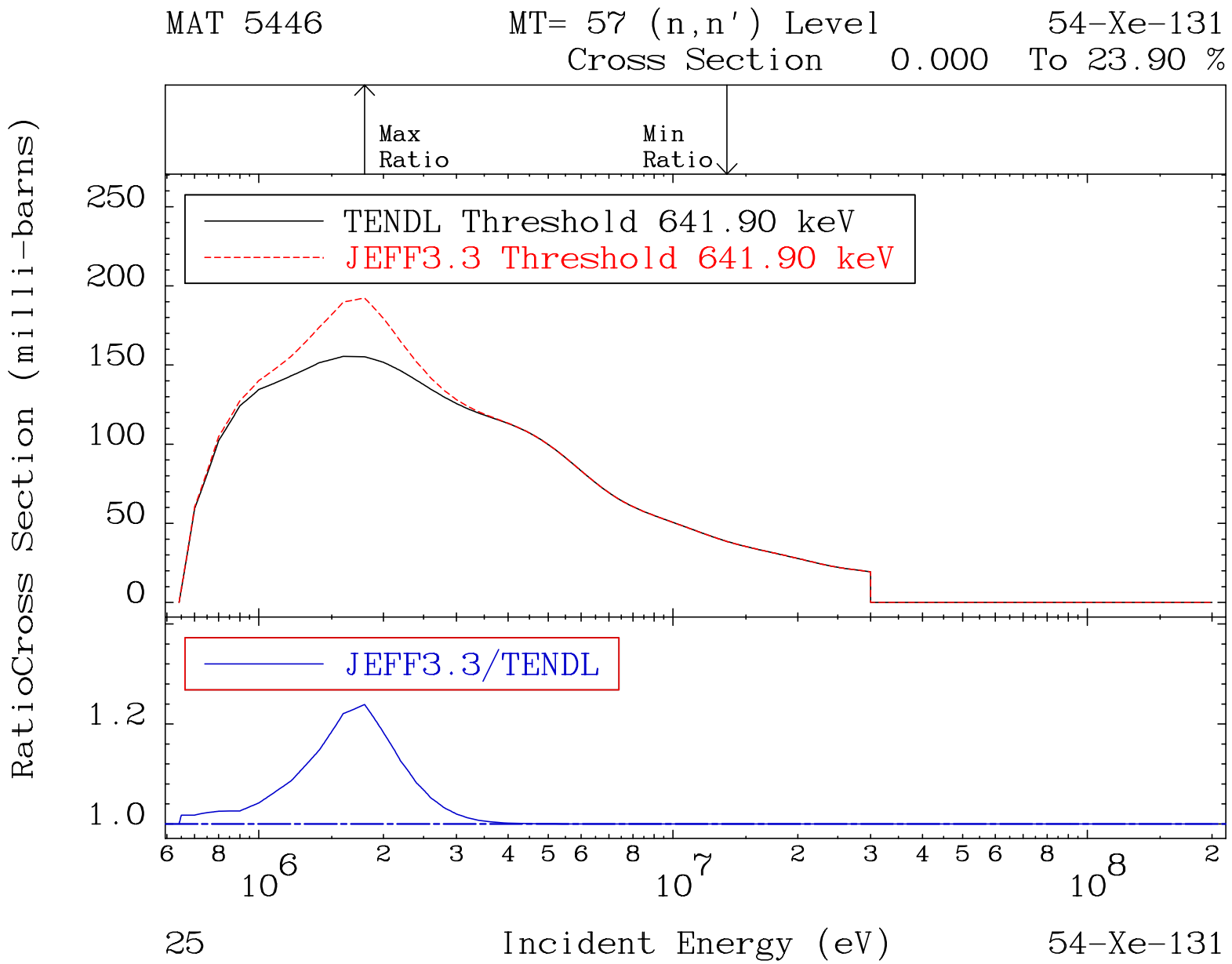

MAT 5446
MT= 52 (n,n') Level
54-Xe-131
Cross Section -2.543 To 166.8 %
Min Ratio
Max Ratio
TENDL Threshold 165.19 keV
JEFF3.3 Threshold 165.19 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
3.0
2.0
1.0
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
20
Incident Energy (eV)
54-Xe-131

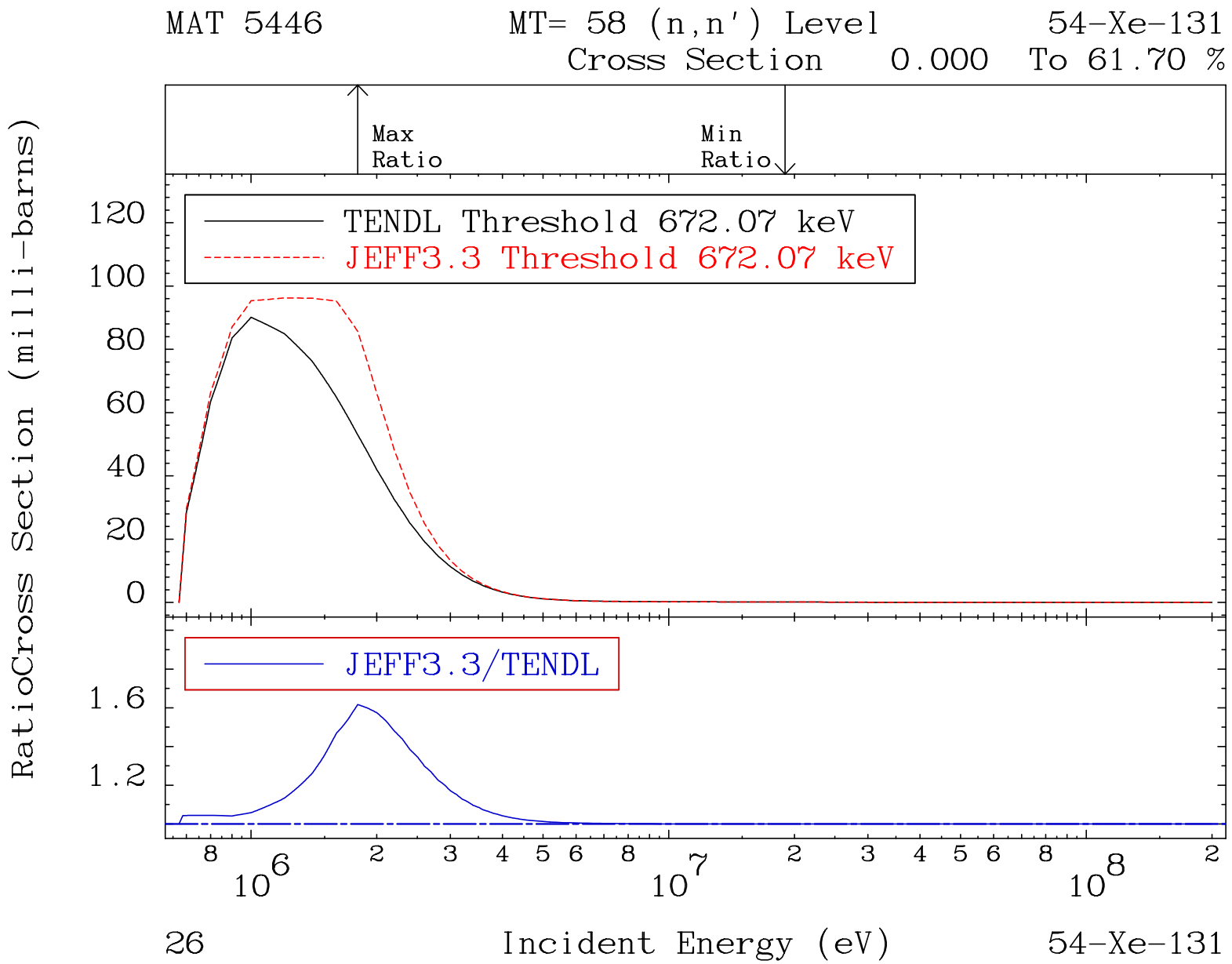

MAT 5446
MT= 53 (n,n') Level
54-Xe-131
Cross Section
-100.0 To 153.5 %
Min Ratio
Max Ratio
TENDL Threshold 343.77 keV
JEFF3.3 Threshold 343.77 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
2
0
4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
21
Incident Energy (eV)
54-Xe-131

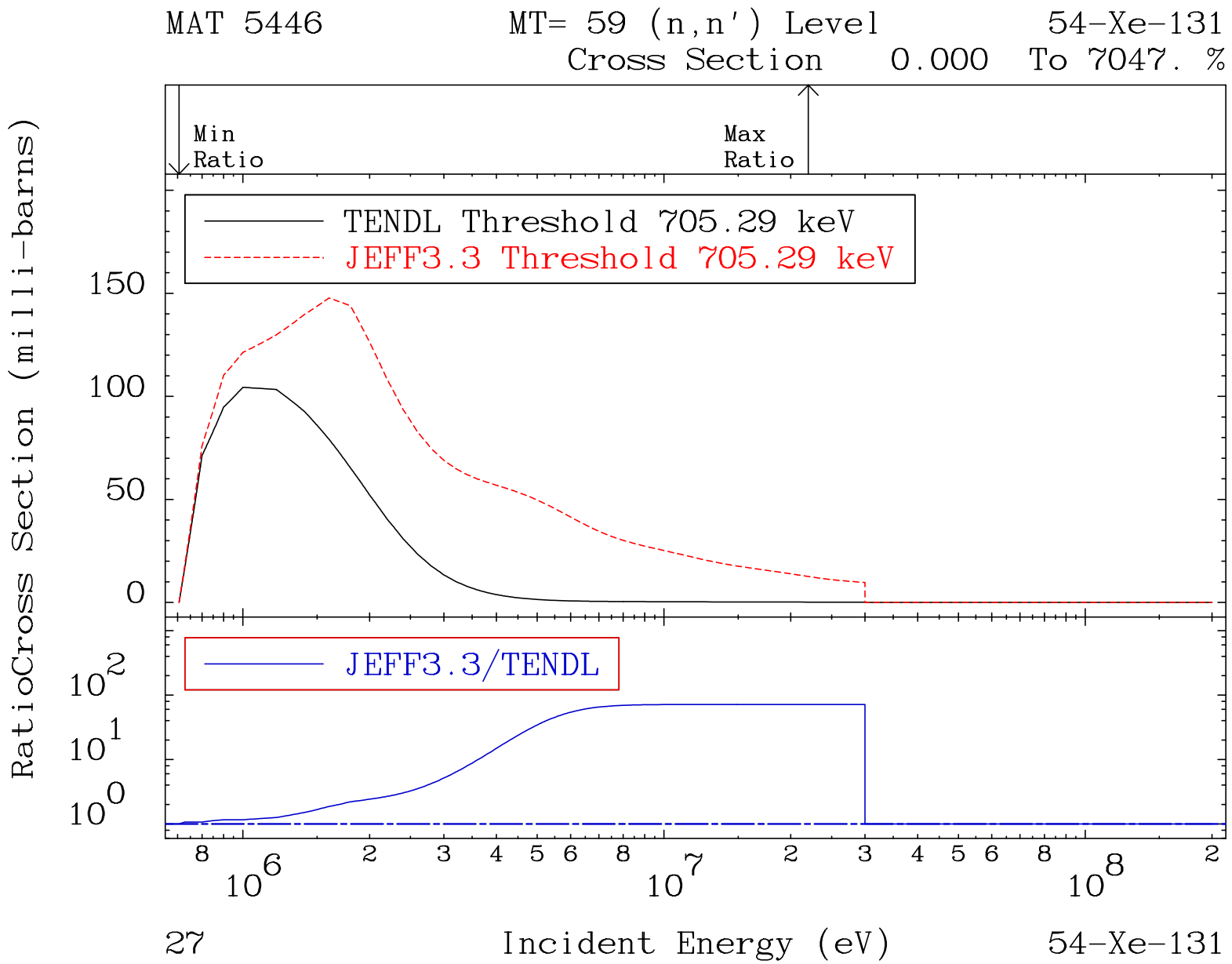

MAT 5446
MT= 54 (n,n') Level
54-Xe-131
Cross Section
-100.0 To 56.83 %
Min Ratio
Max Ratio
TENDL Threshold 367.30 keV
JEFF3.3 Threshold 367.30 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
2.0
1.0
0.0
4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
22
Incident Energy (eV)
54-Xe-131

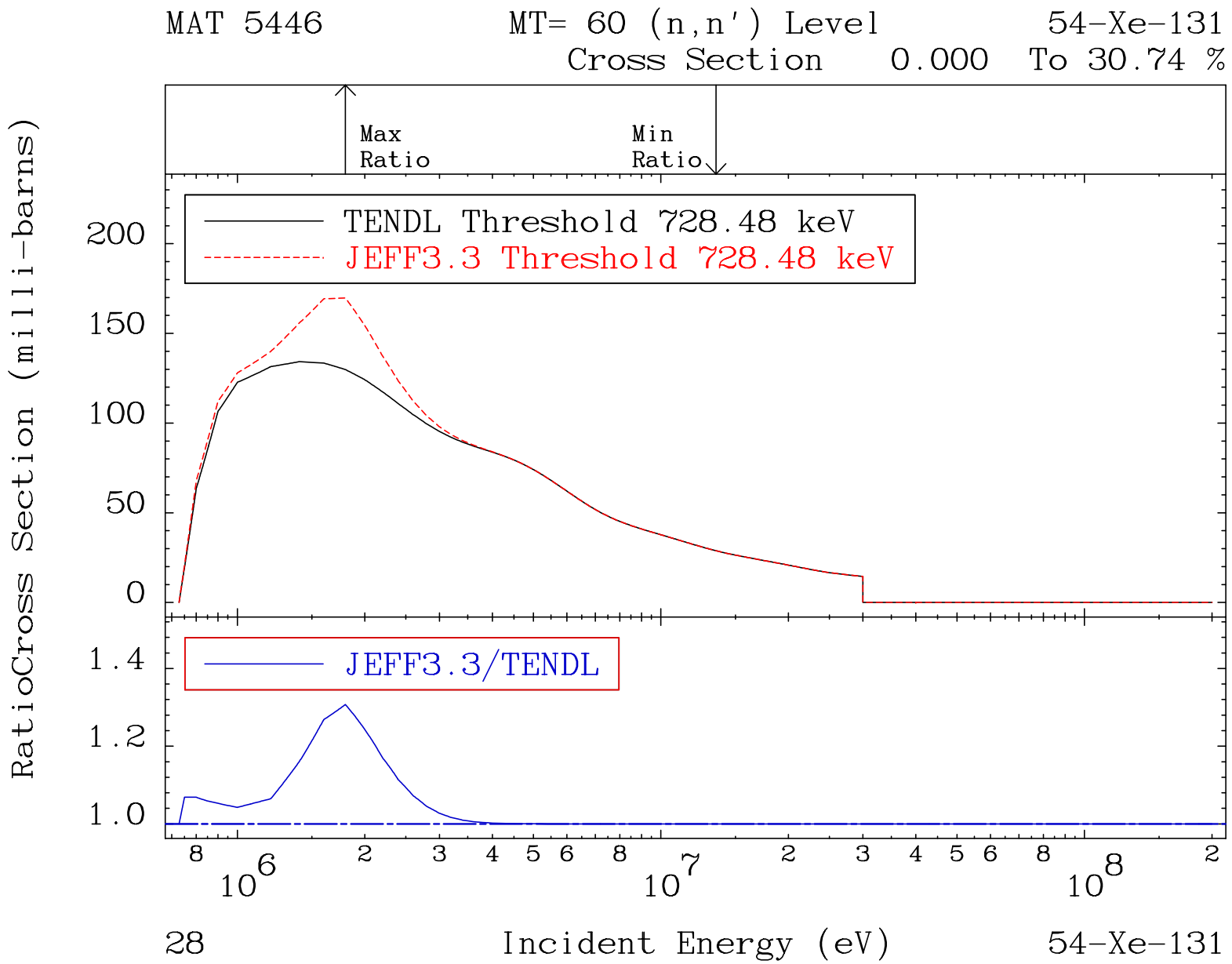

MAT 5446
MT= 55 (n,n') Level
54-Xe-131
Cross Section 0.000 To 56.89 %
Min Ratio
Max Ratio
TENDL Threshold 407.93 keV
JEFF3.3 Threshold 407.93 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.6
1.2
4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
23
Incident Energy (eV)
54-Xe-131

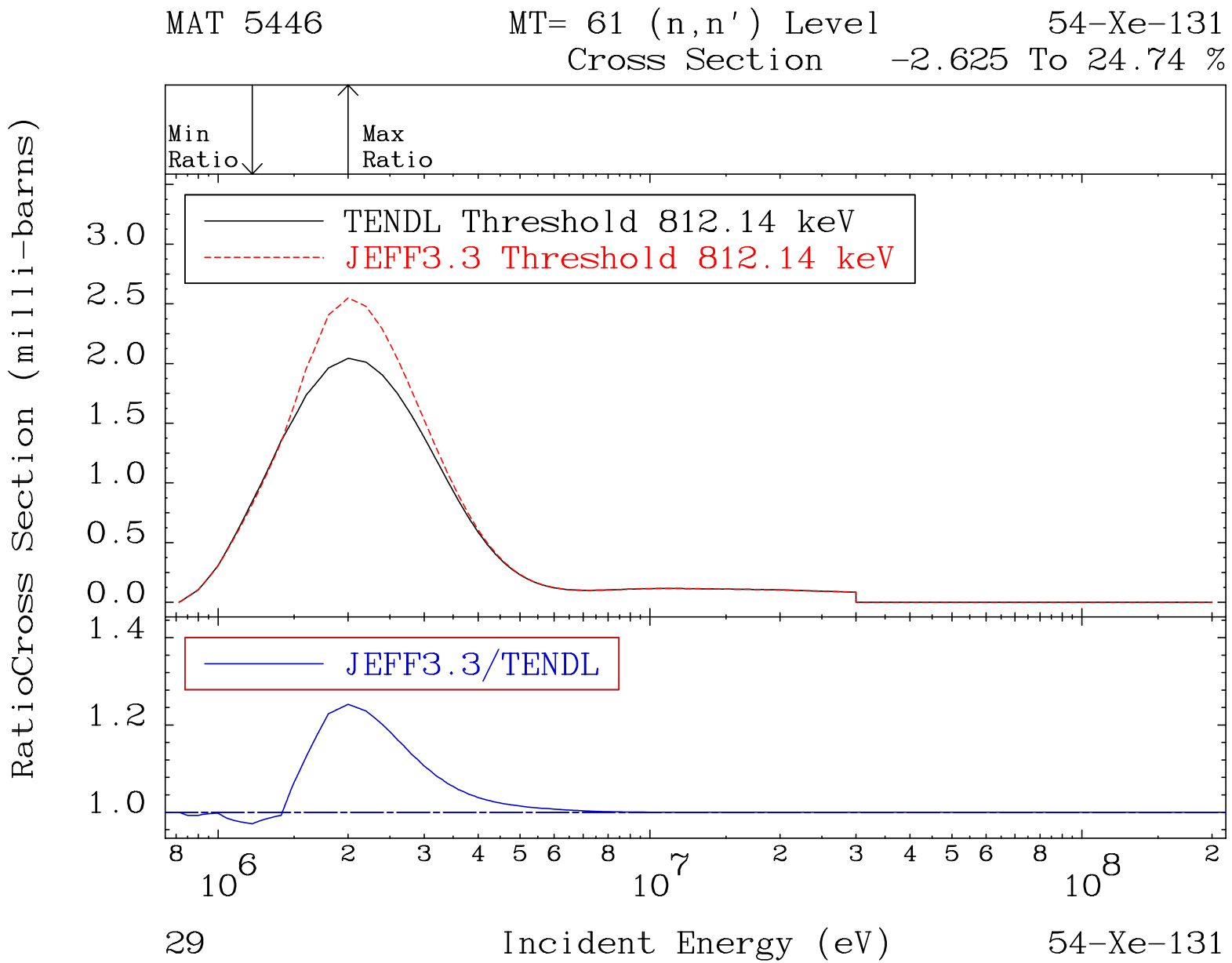

MAT 5446
MT= 56 (n,n') Level
54-Xe-131
Cross Section -56.82 To 0.000 %
Min
Ratio
TENDL Threshold 569.55 keV
JEFF3.3 Threshold 569.55 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.2
0.8
0.4
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
24
Incident Energy (eV)
54-Xe-131

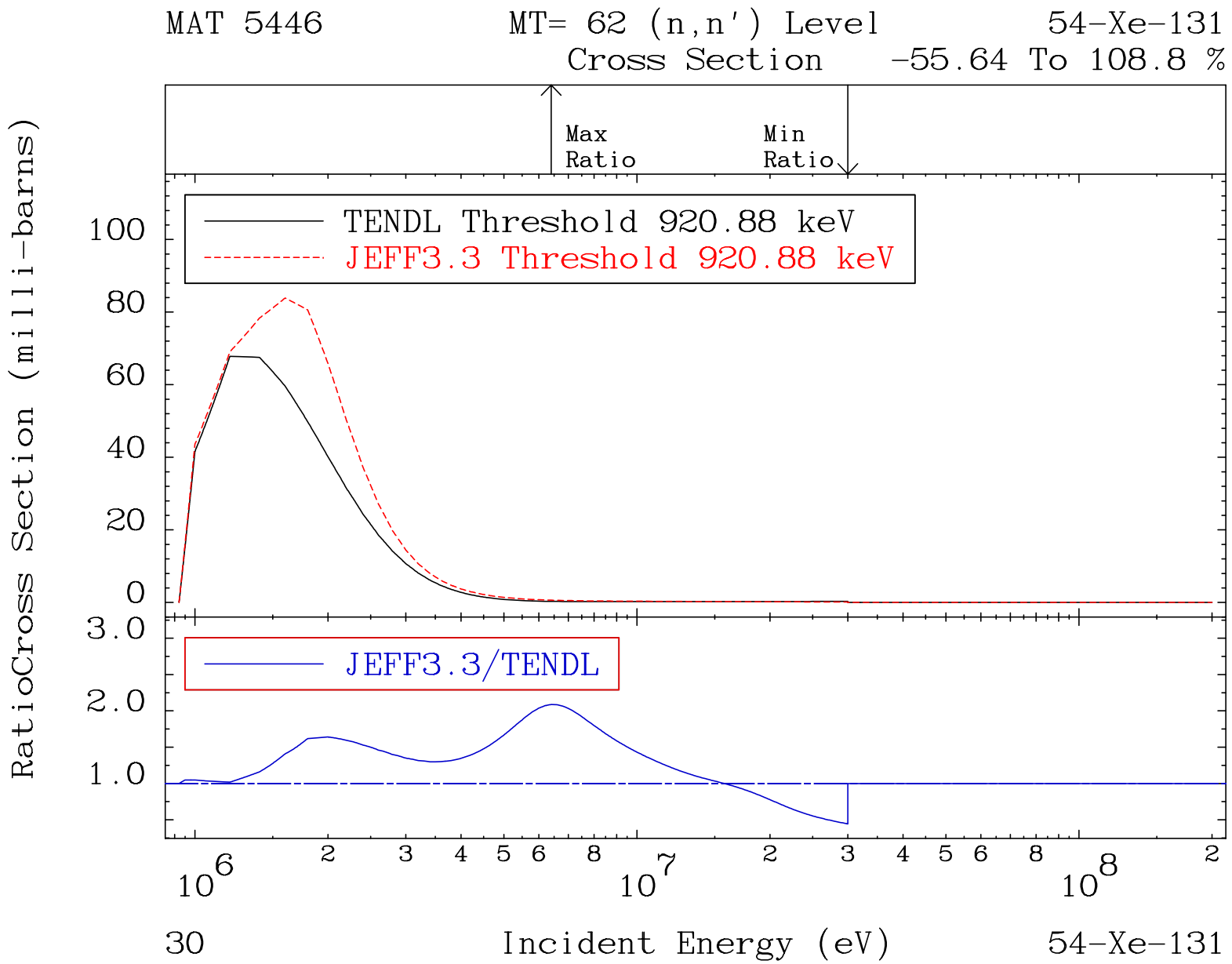

MAT 5446
MT= 57 (n,n') Level
54-Xe-131
Cross Section 0.000 To 23.90 %
Max Ratio
Min Ratio
TENDL Threshold 641.90 keV
JEFF3.3 Threshold 641.90 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.2
1.0
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
25
Incident Energy (eV)
54-Xe-131

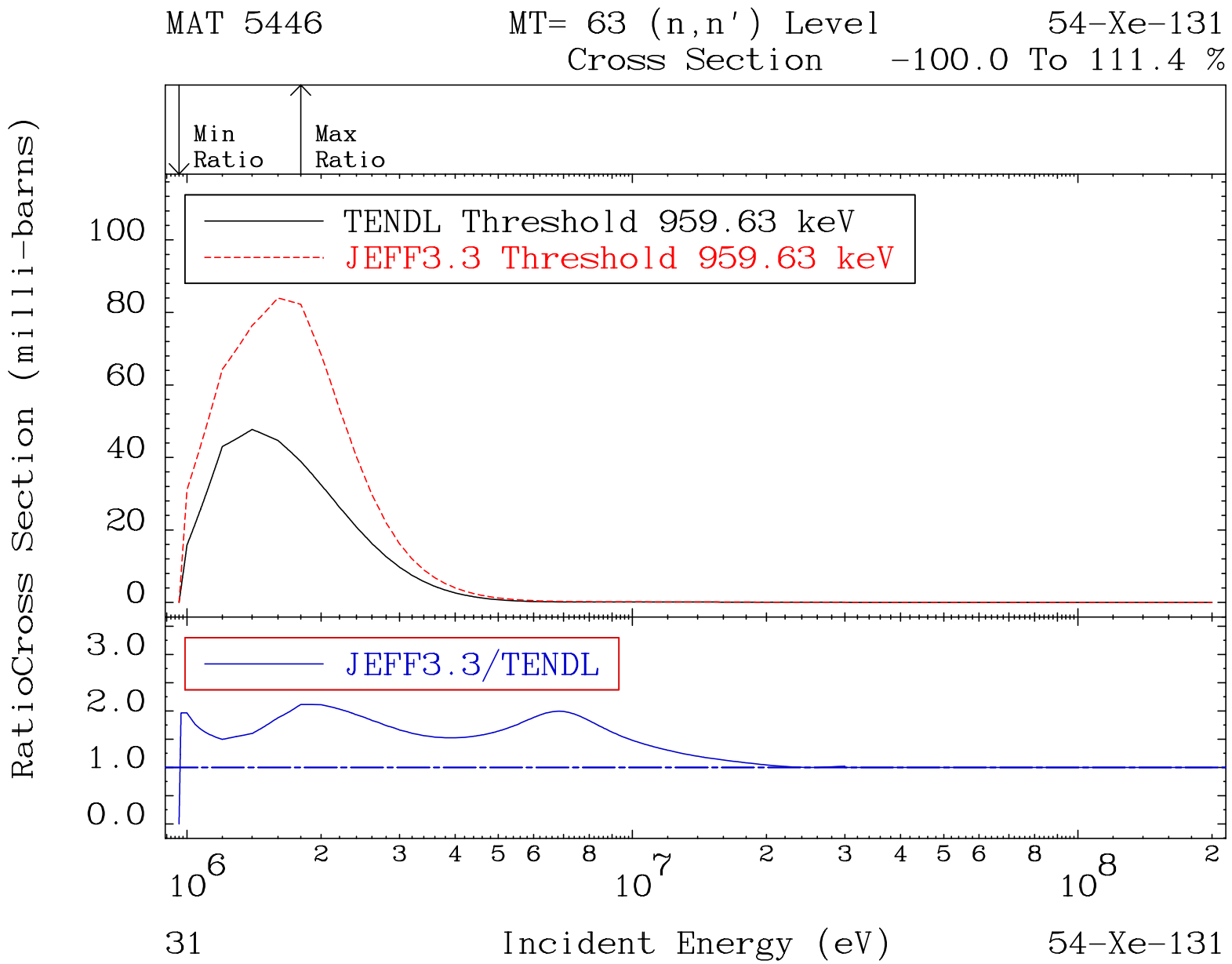

MAT 5446
MT= 58 (n,n') Level
54-Xe-131
Cross Section 0.000 To 61.70 %
Max Ratio
Min Ratio
TENDL Threshold 672.07 keV
JEFF3.3 Threshold 672.07 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
1.6
1.2
8
2
3
4
5
6
8
2
3
4
5
6
8
2
10^6
10^7
10^8
26
Incident Energy (eV)
54-Xe-131

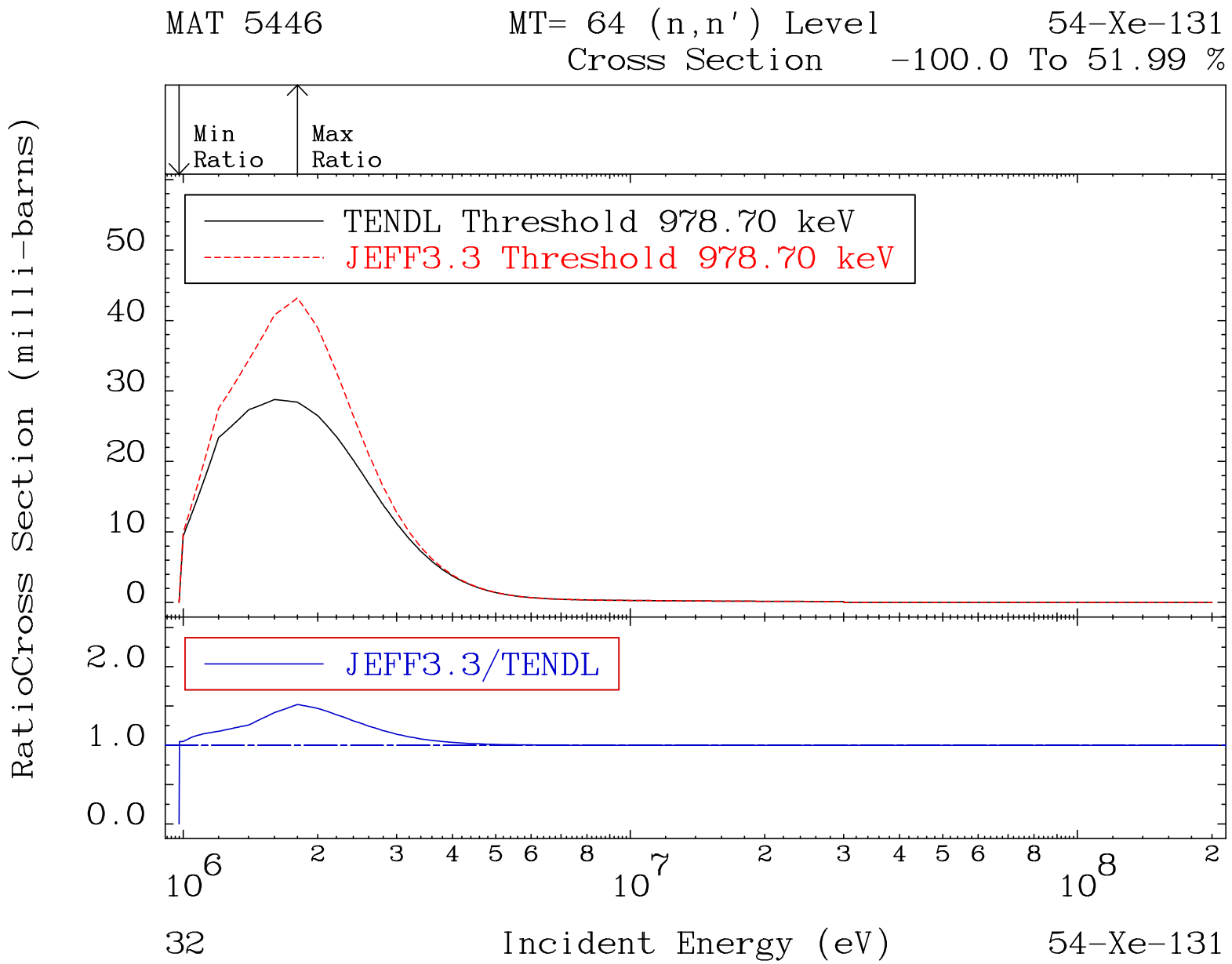

MAT 5446
MT= 59 (n,n') Level
54-Xe-131
Cross Section 0.000 To 7047. %
Min Ratio
Max Ratio
TENDL Threshold 705.29 keV
JEFF3.3 Threshold 705.29 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
150
100
50
0
10^2
10^1
10^0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
27
Incident Energy (eV)
54-Xe-131

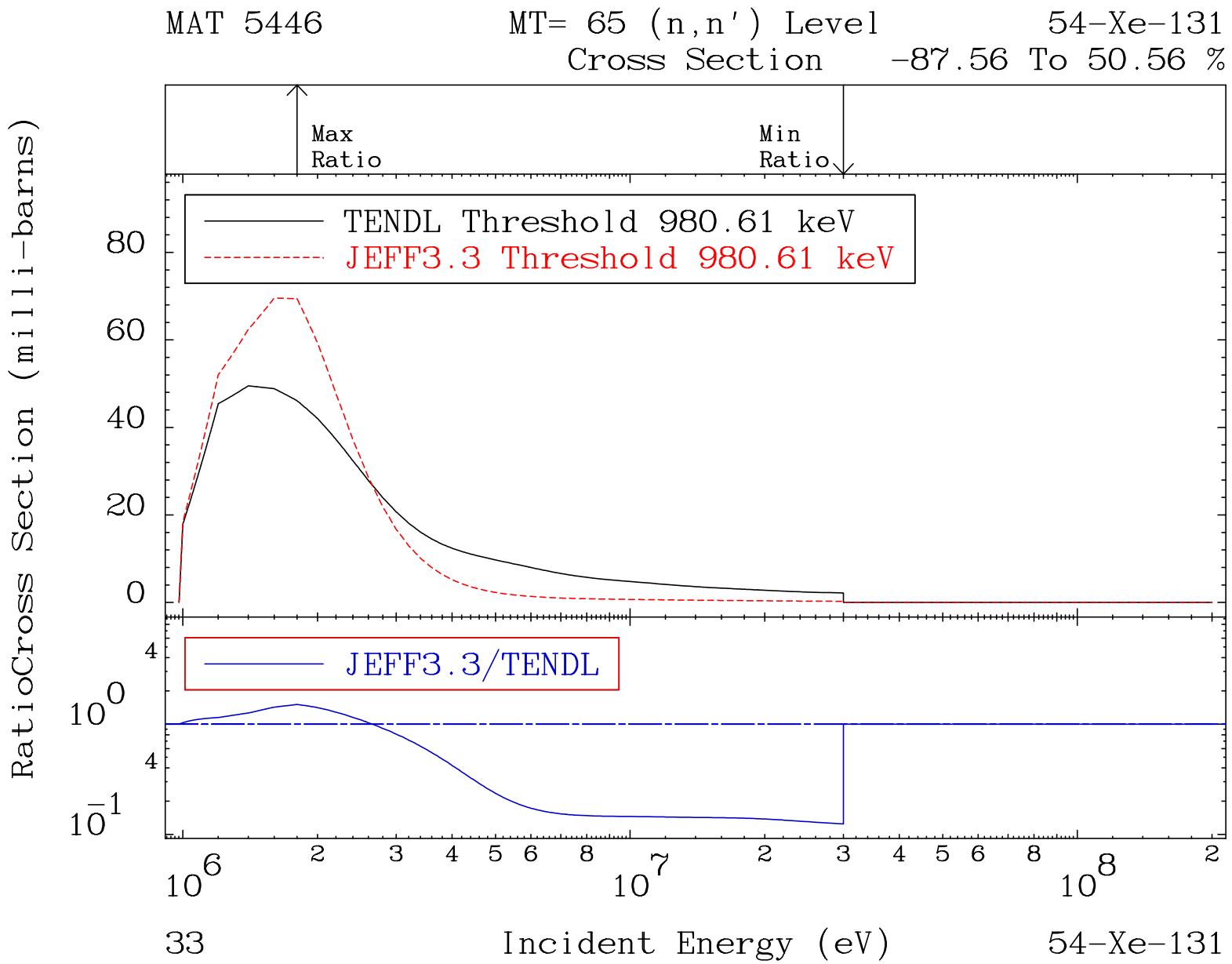

MAT 5446
MT= 60 (n,n') Level
54-Xe-131
Cross Section 0.000 To 30.74 %
Max Ratio
Min Ratio
TENDL Threshold 728.48 keV
JEFF3.3 Threshold 728.48 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.4
1.2
1.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
28
Incident Energy (eV)
54-Xe-131

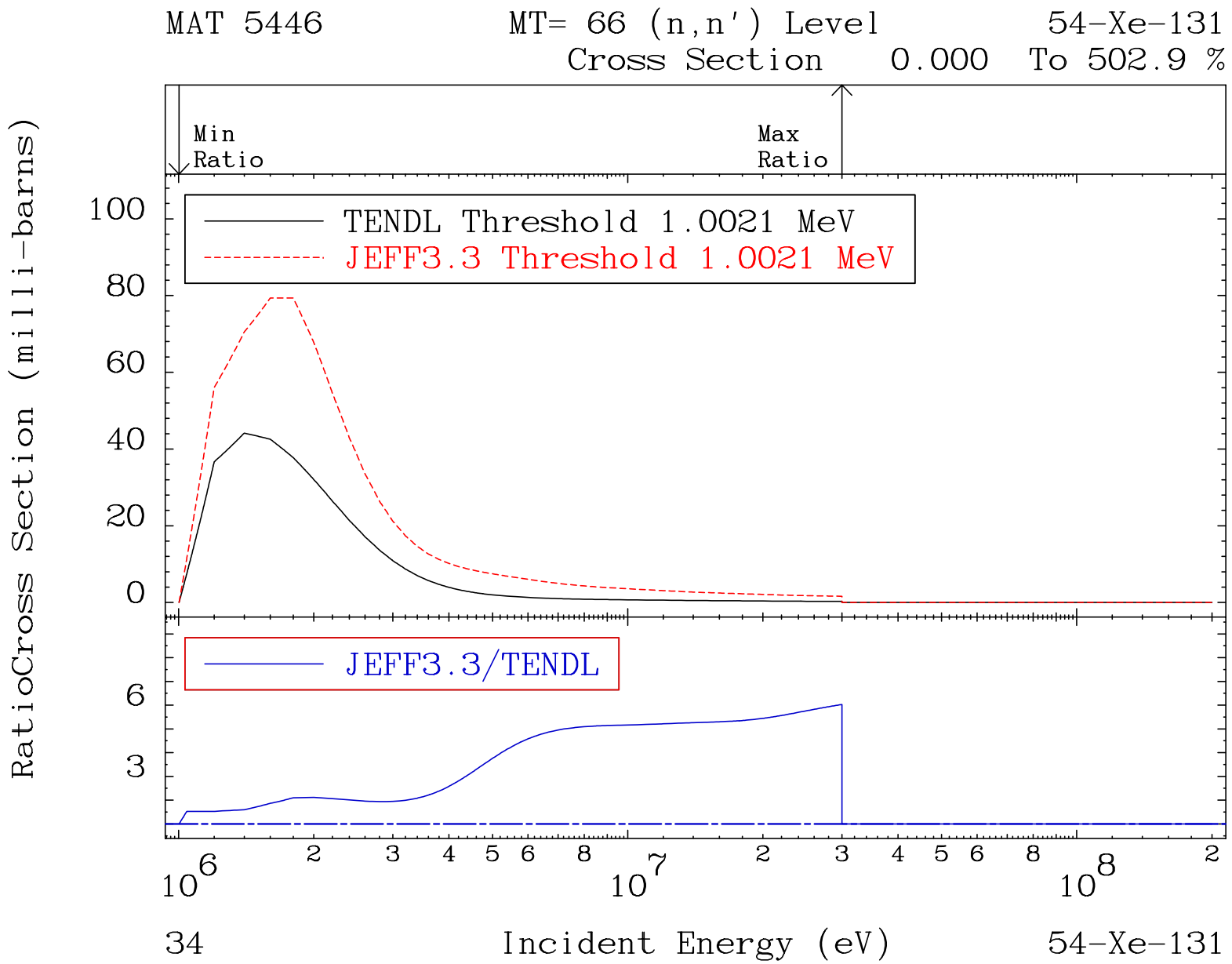

MAT 5446
MT= 61 (n,n') Level
54-Xe-131
Cross Section
-2.625 To 24.74 %
Min Ratio
Max Ratio
TENDL Threshold 812.14 keV
JEFF3.3 Threshold 812.14 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.4
1.2
1.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
29
Incident Energy (eV)
54-Xe-131

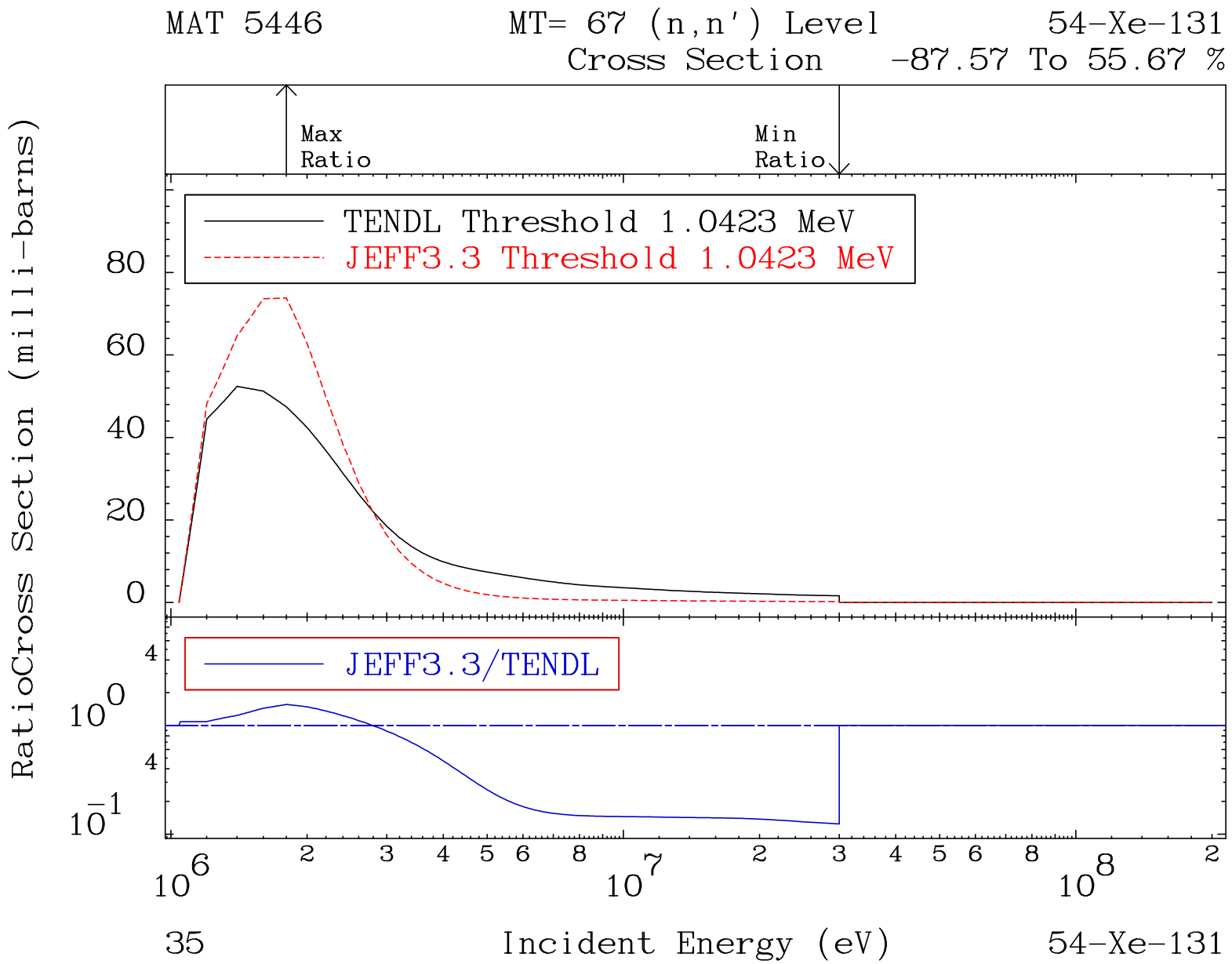

MAT 5446
MT= 62 (n,n') Level
54-Xe-131
Cross Section
-55.64 To 108.8 %
Max Ratio
Min Ratio
TENDL Threshold 920.88 keV
JEFF3.3 Threshold 920.88 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
3.0
2.0
1.0
10^6
10^7
10^8
Incident Energy (eV)
30
54-Xe-131

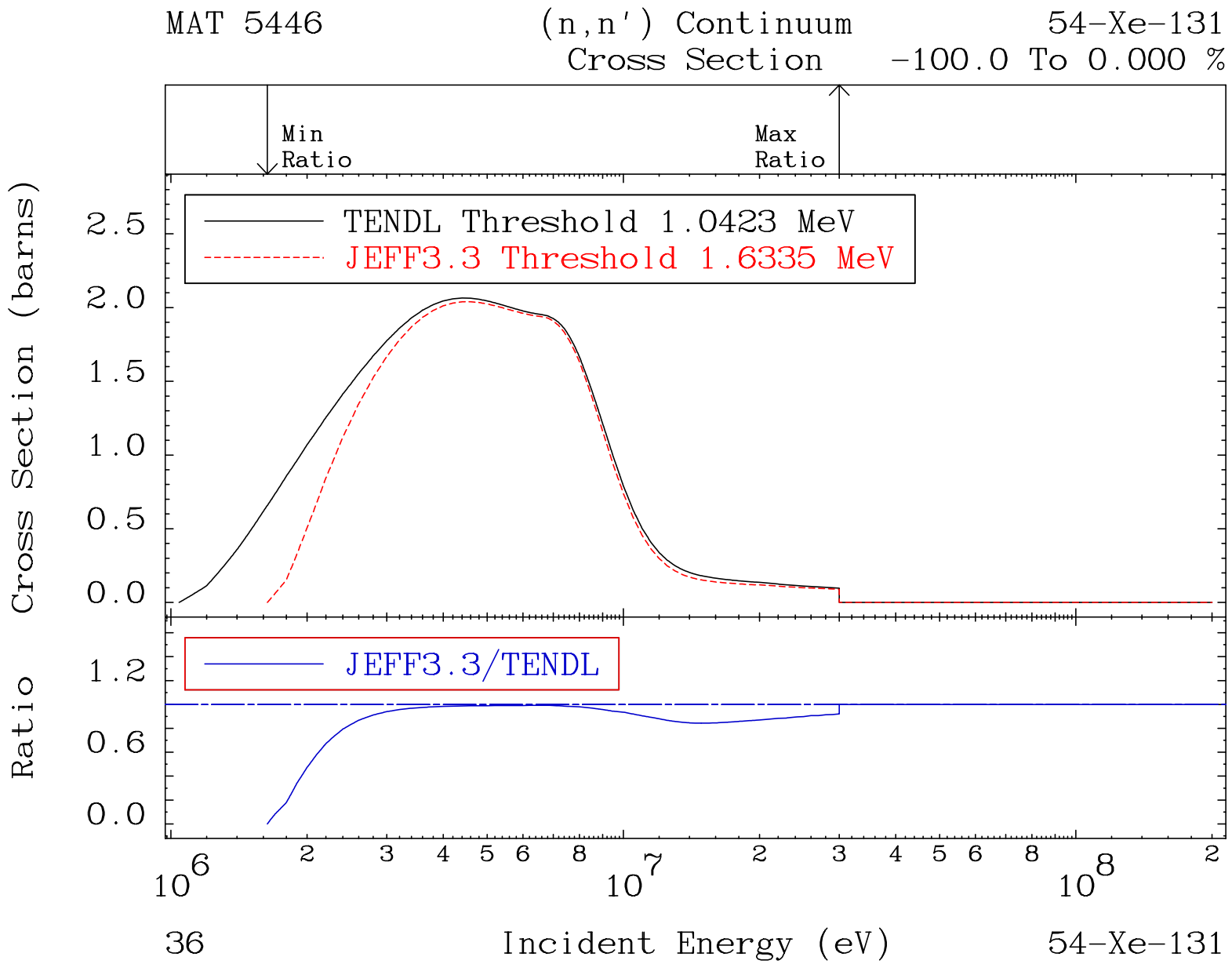

MAT 5446
MT= 63 (n,n') Level
54-Xe-131
Cross Section -100.0 To 111.4 %
Min Ratio
Max Ratio
TENDL Threshold 959.63 keV
JEFF3.3 Threshold 959.63 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
3.0
2.0
1.0
0.0
10^6
10^7
10^8
Incident Energy (eV)
31
54-Xe-131

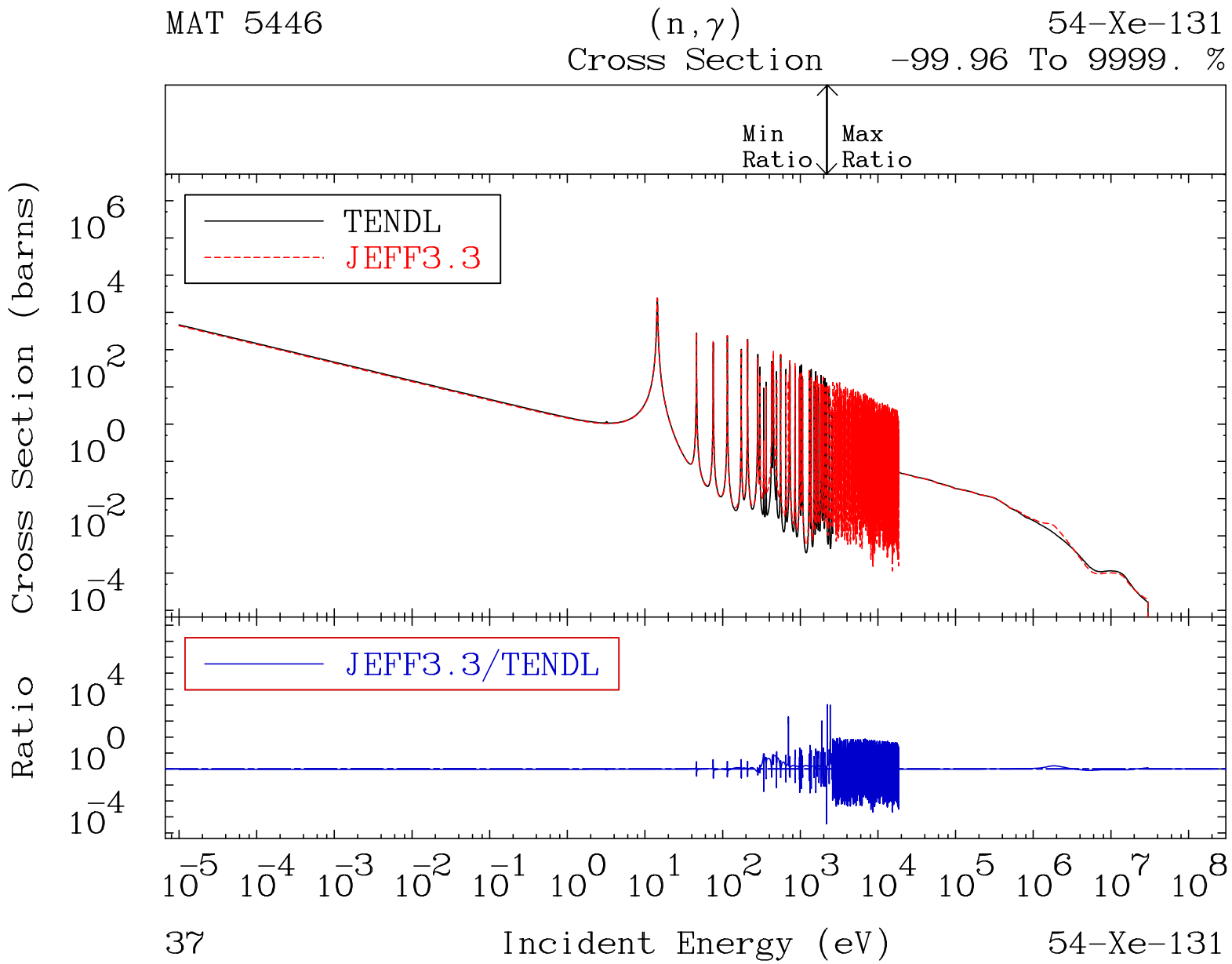

MAT 5446
MT= 64 (n,n') Level
54-Xe-131
Cross Section -100.0 To 51.99 %
Min Ratio
Max Ratio
TENDL Threshold 978.70 keV
JEFF3.3 Threshold 978.70 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
2.0
1.0
0.0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
32
Incident Energy (eV)
54-Xe-131

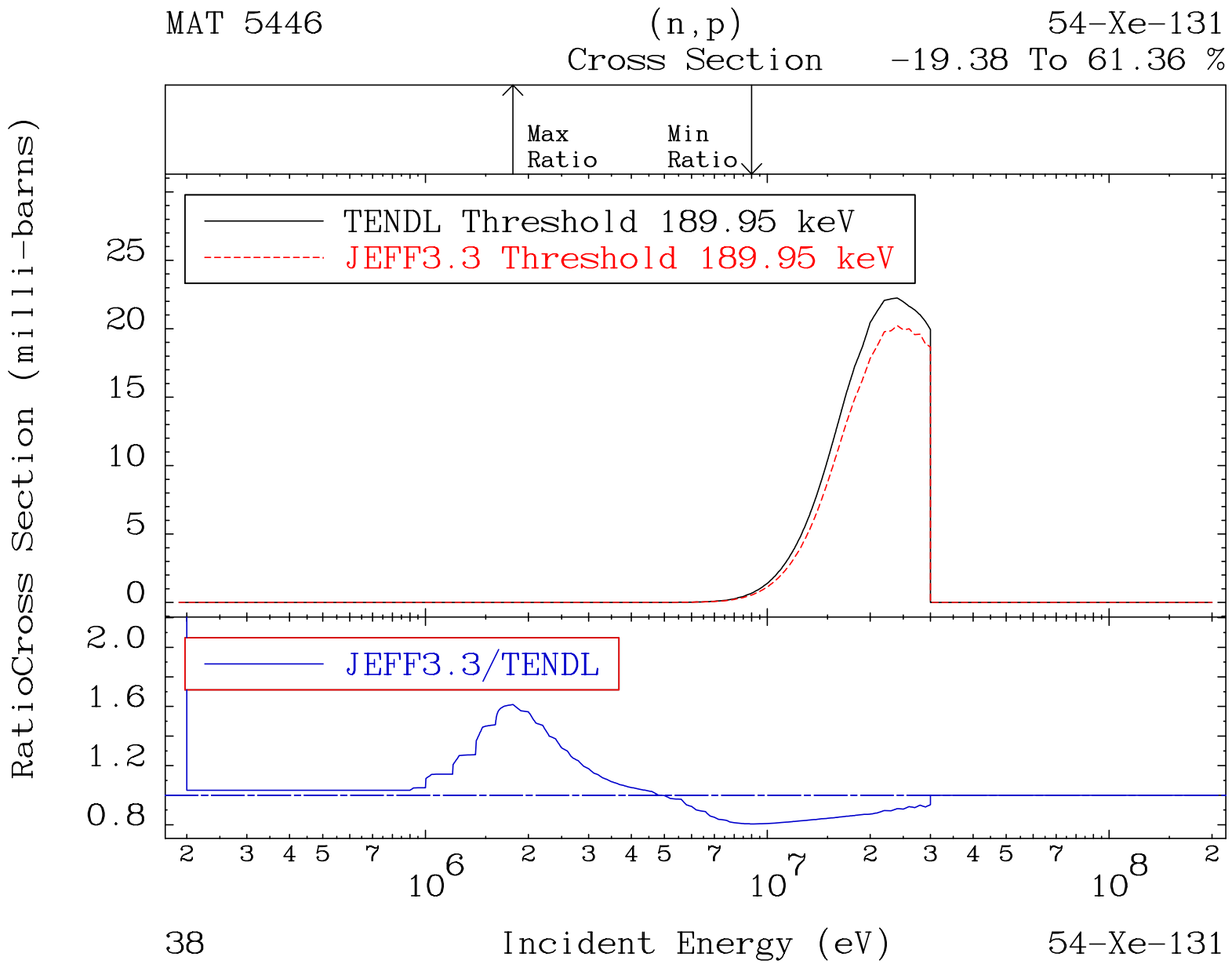

MAT 5446
MT= 65 (n,n') Level
54-Xe-131
Cross Section
-87.56 To 50.56 %
Max Ratio
Min Ratio
TENDL Threshold 980.61 keV
JEFF3.3 Threshold 980.61 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
33
54-Xe-131

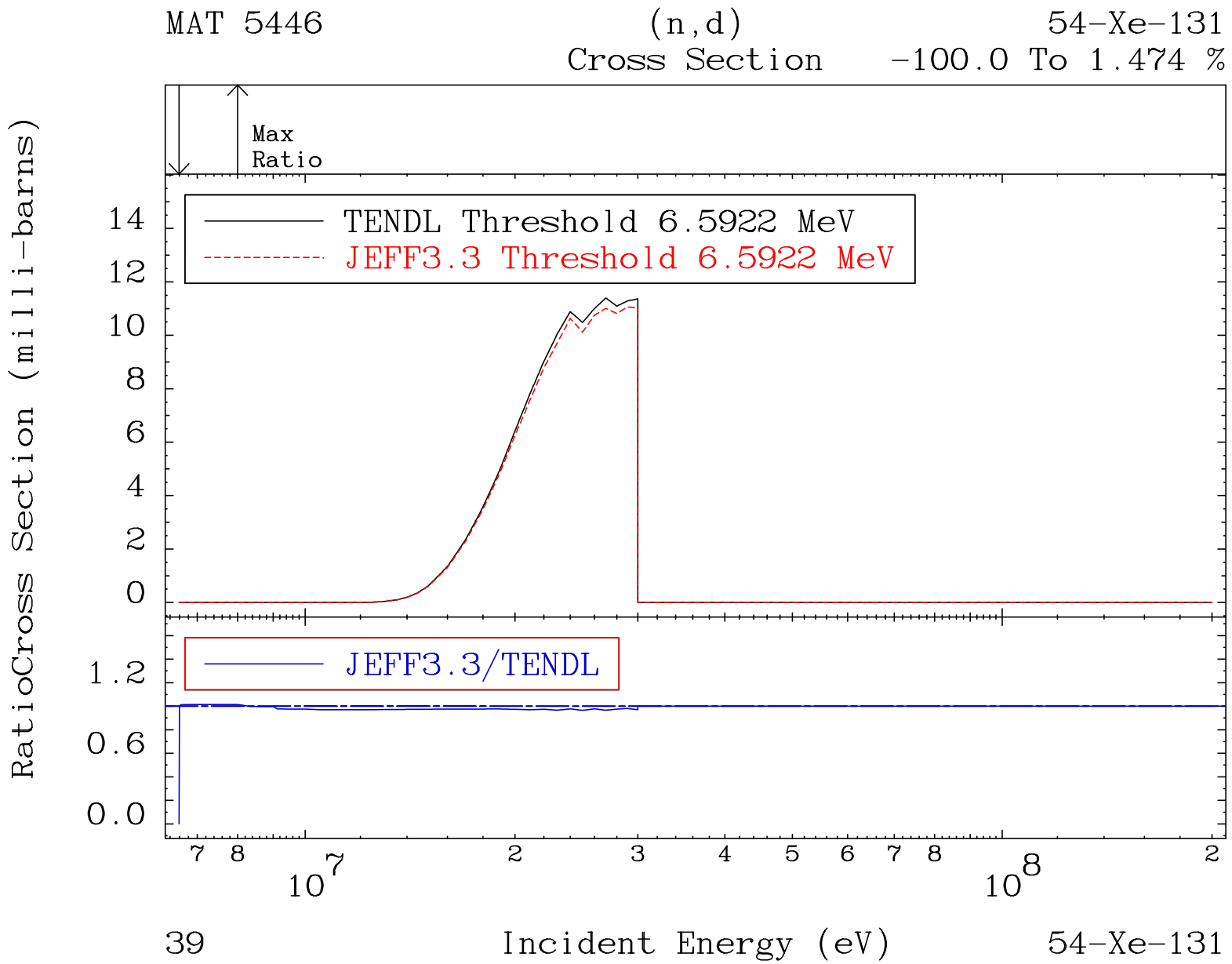

MAT 5446
MT= 66 (n,n') Level
54-Xe-131
Cross Section 0.000 To 502.9 %
Min Ratio
Max Ratio
TENDL Threshold 1.0021 MeV
JEFF3.3 Threshold 1.0021 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
6
3
10^6
10^7
10^8
2 3 4 5 6 8
Incident Energy (eV)
34
54-Xe-131

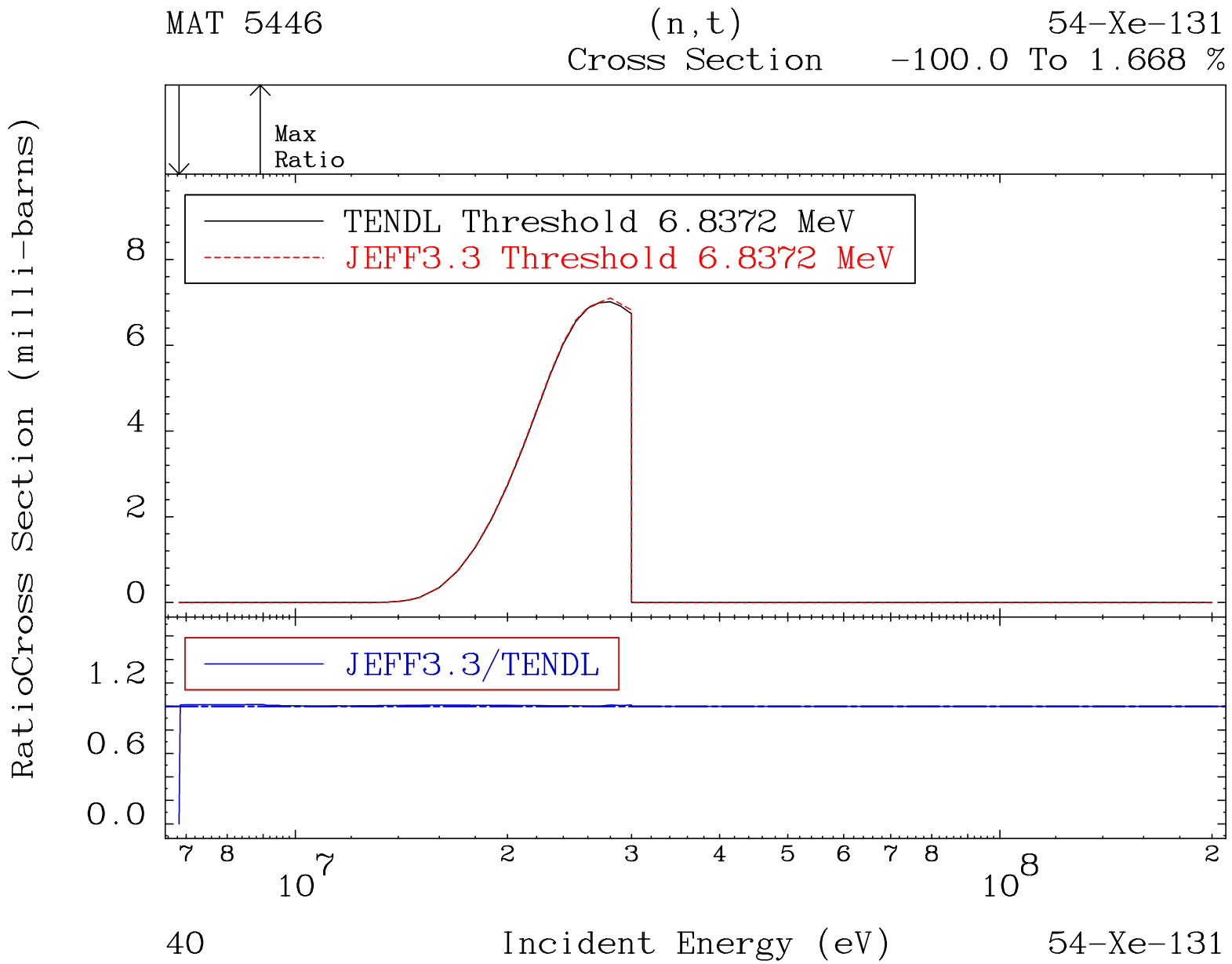

MAT 5446
MT= 67 (n,n') Level
54-Xe-131
Cross Section -87.57 To 55.67 %
Max Ratio
Min Ratio
TENDL Threshold 1.0423 MeV
JEFF3.3 Threshold 1.0423 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
4
10^{0}
4
10^{-1}
10^{6}
2
3
4
5
6
8
10^{7}
2
3
4
5
6
8
10^{8}
2
35
Incident Energy (eV)
54-Xe-131

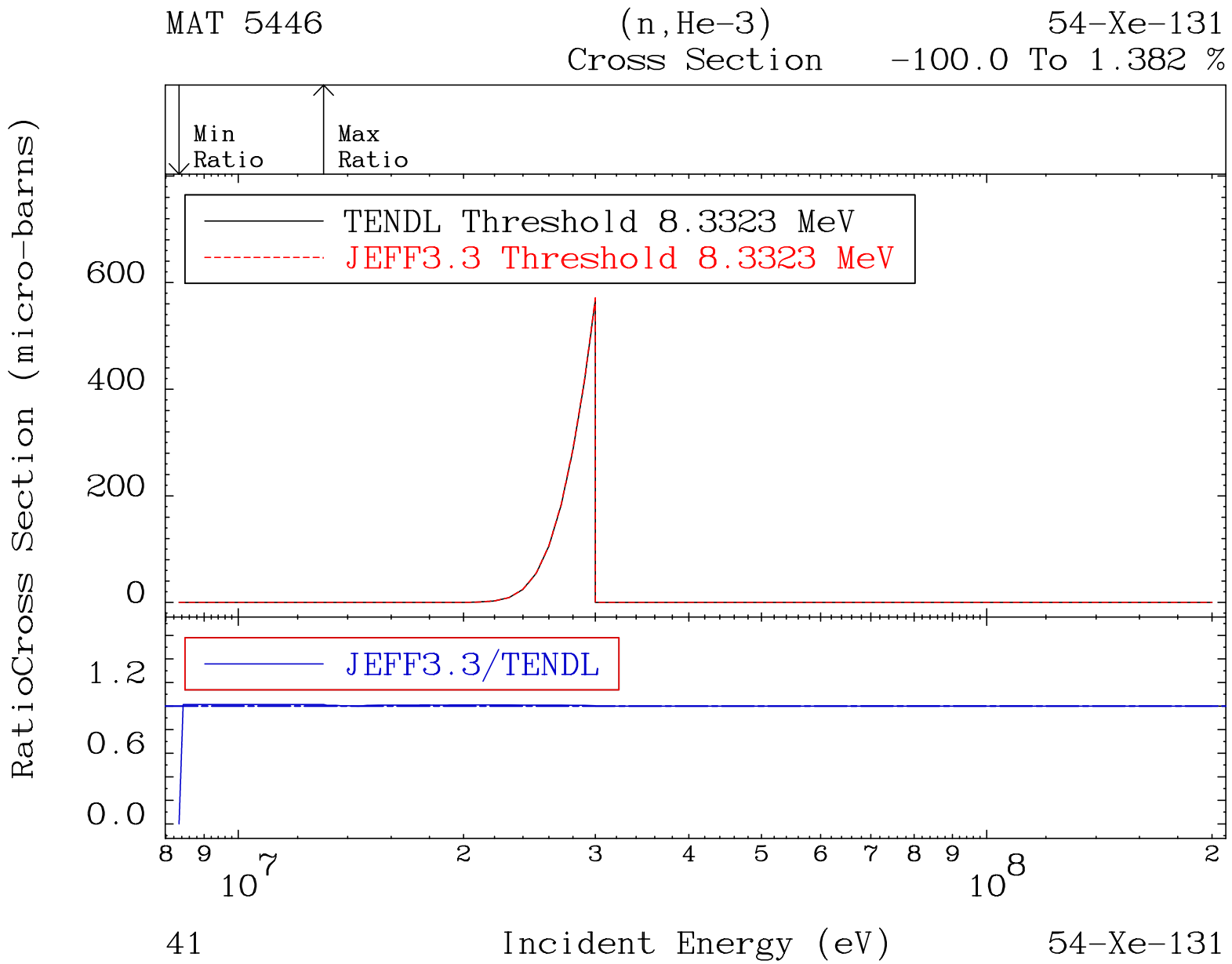

MAT 5446
(n,n') Continuum
Cross Section
54-Xe-131
-100.0 To 0.000 %
Min
Ratio
Max
Ratio
TENDL Threshold 1.0423 MeV
JEFF3.3 Threshold 1.6335 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
1.2
0.6
0.0
10^6
10^7
10^8
Incident Energy (eV)
36
54-Xe-131

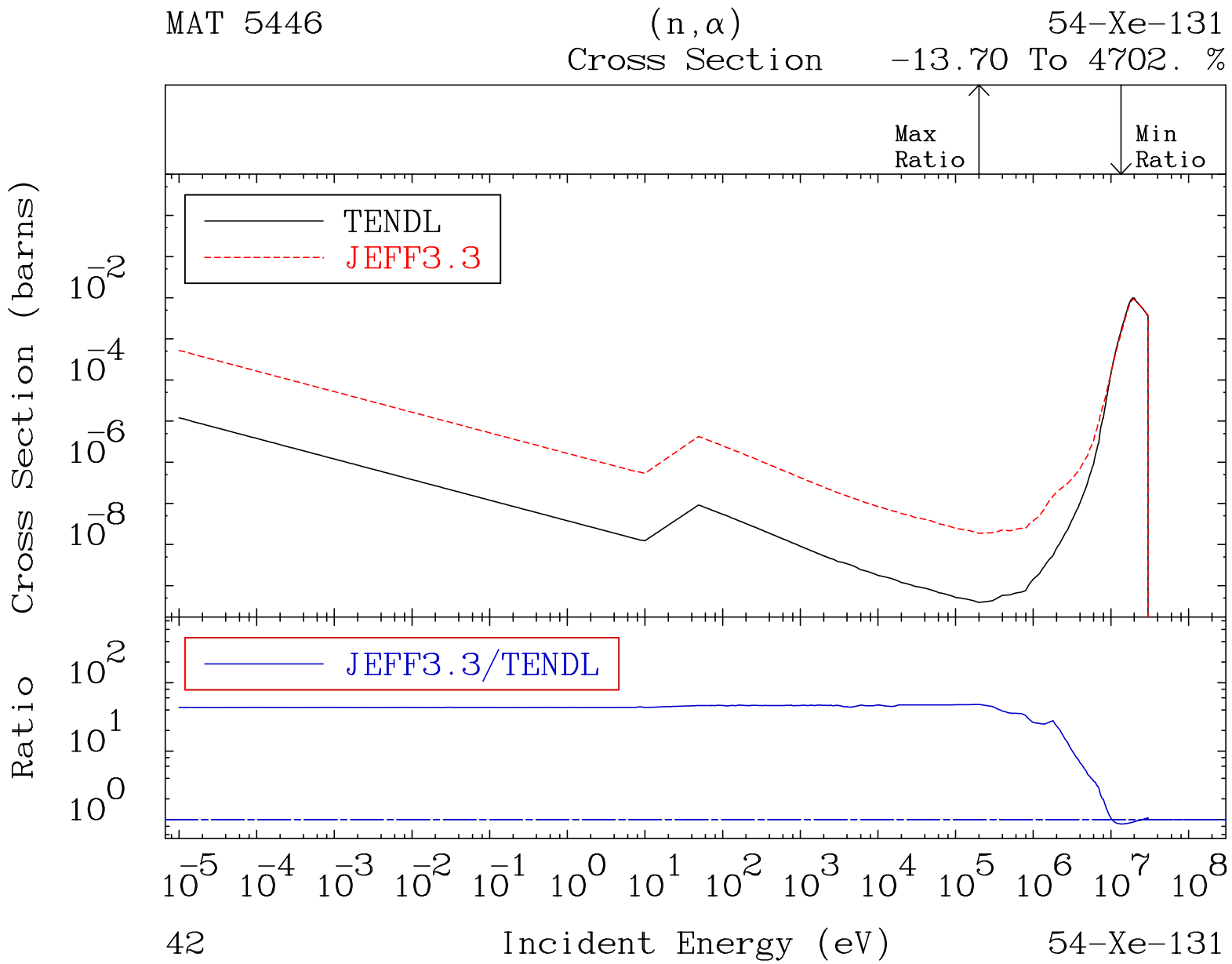

MAT 5446
(n,γ)
Cross Section
54-Xe-131
-99.96 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
37
54-Xe-131

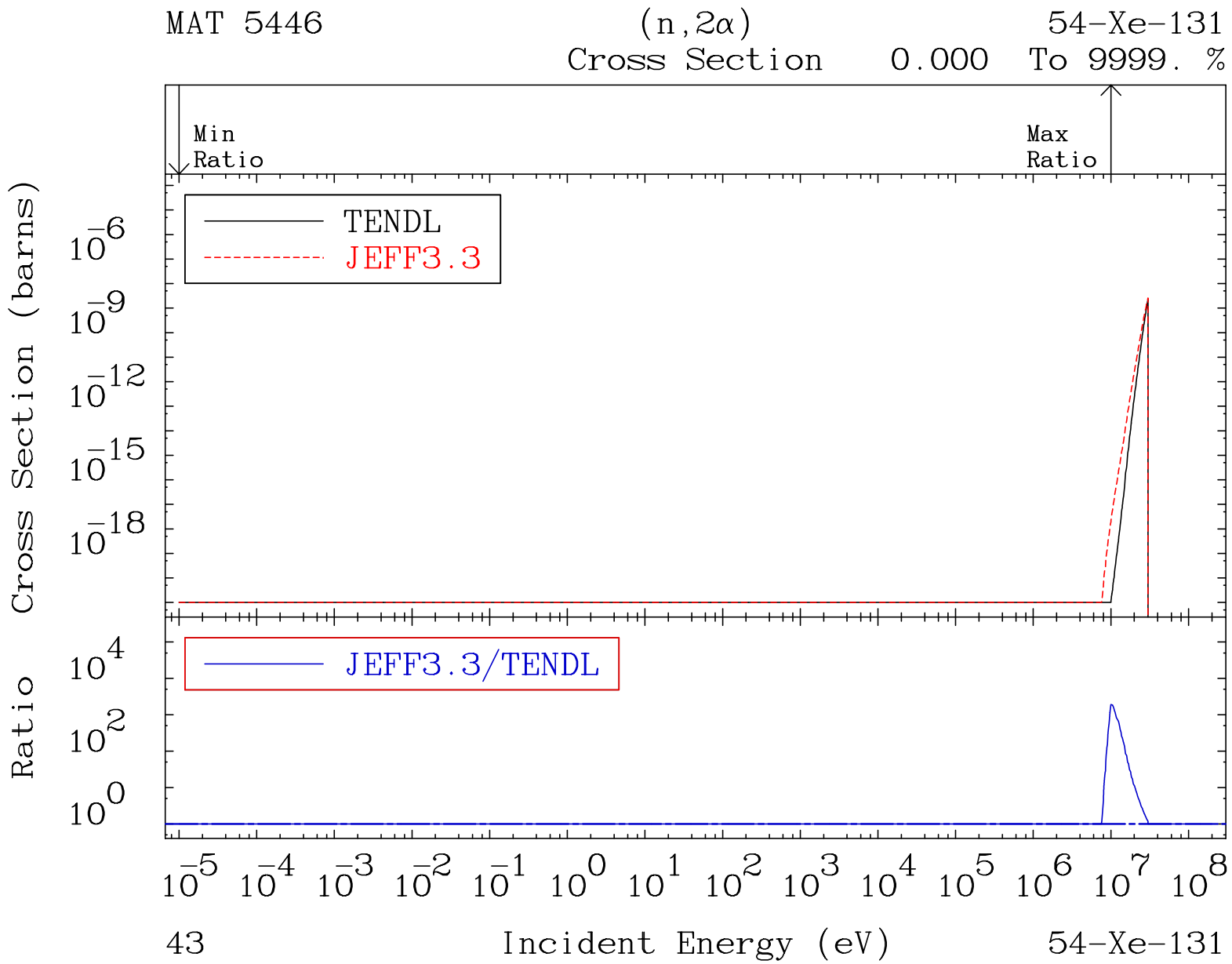

MAT 5446
(n,p)
54-Xe-131
Cross Section
-19.38 To 61.36 %
Max Ratio
Min Ratio
TENDL Threshold 189.95 keV
JEFF3.3 Threshold 189.95 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
2.0
1.6
1.2
0.8
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
38
Incident Energy (eV)
54-Xe-131

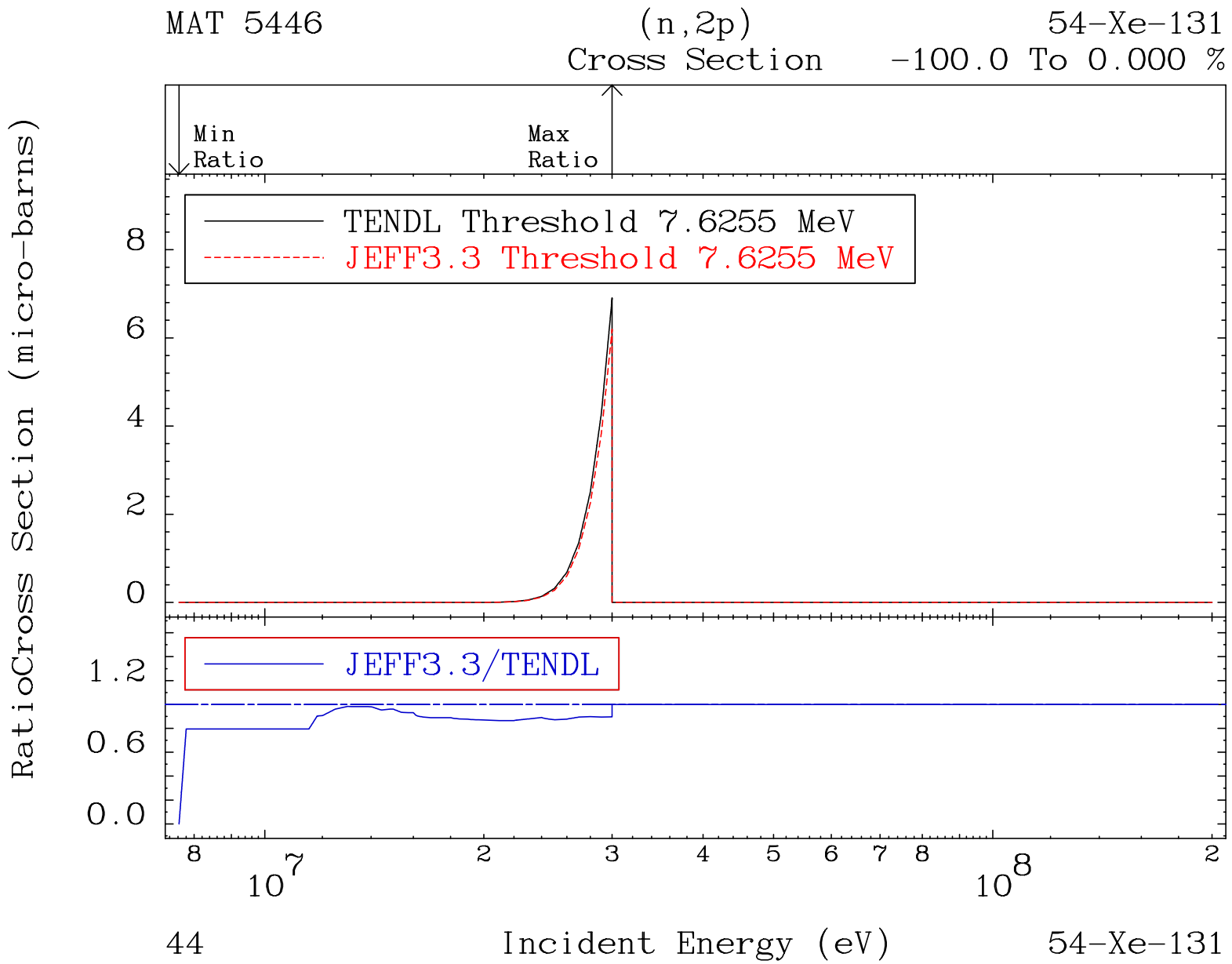

MAT 5446
(n,d)
54-Xe-131
Cross Section
-100.0 To 1.474 %
Max
Ratio
TENDL Threshold 6.5922 MeV
JEFF3.3 Threshold 6.5922 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
14
12
10
8
6
4
2
0
1.2
0.6
0.0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
39
Incident Energy (eV)
54-Xe-131

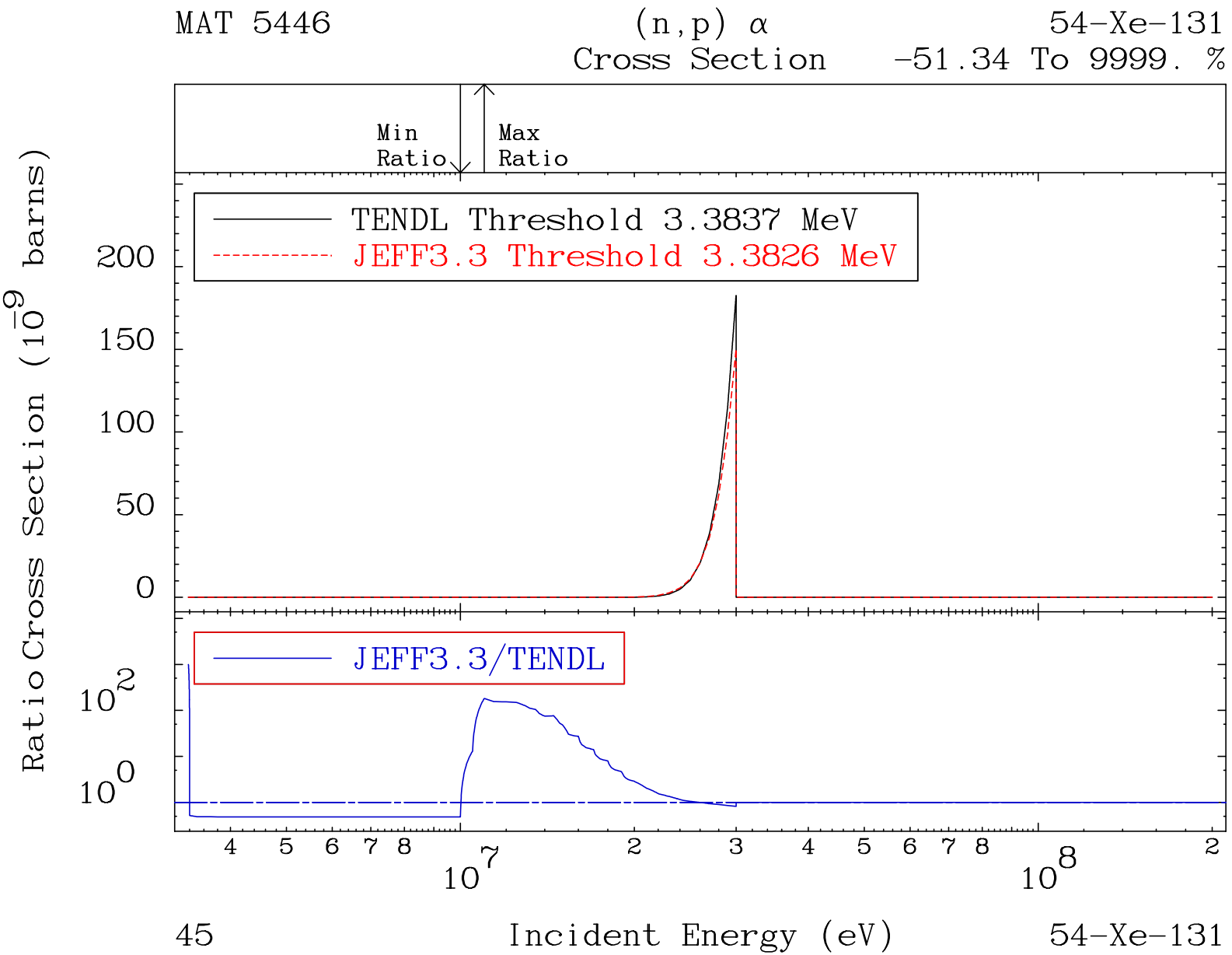

MAT 5446
(n,t)
54-Xe-131
Cross Section
-100.0 To 1.668 %
Max
Ratio
TENDL Threshold 6.8372 MeV
JEFF3.3 Threshold 6.8372 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
8
6
4
2
0
1.2
0.6
0.0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
40
Incident Energy (eV)
54-Xe-131

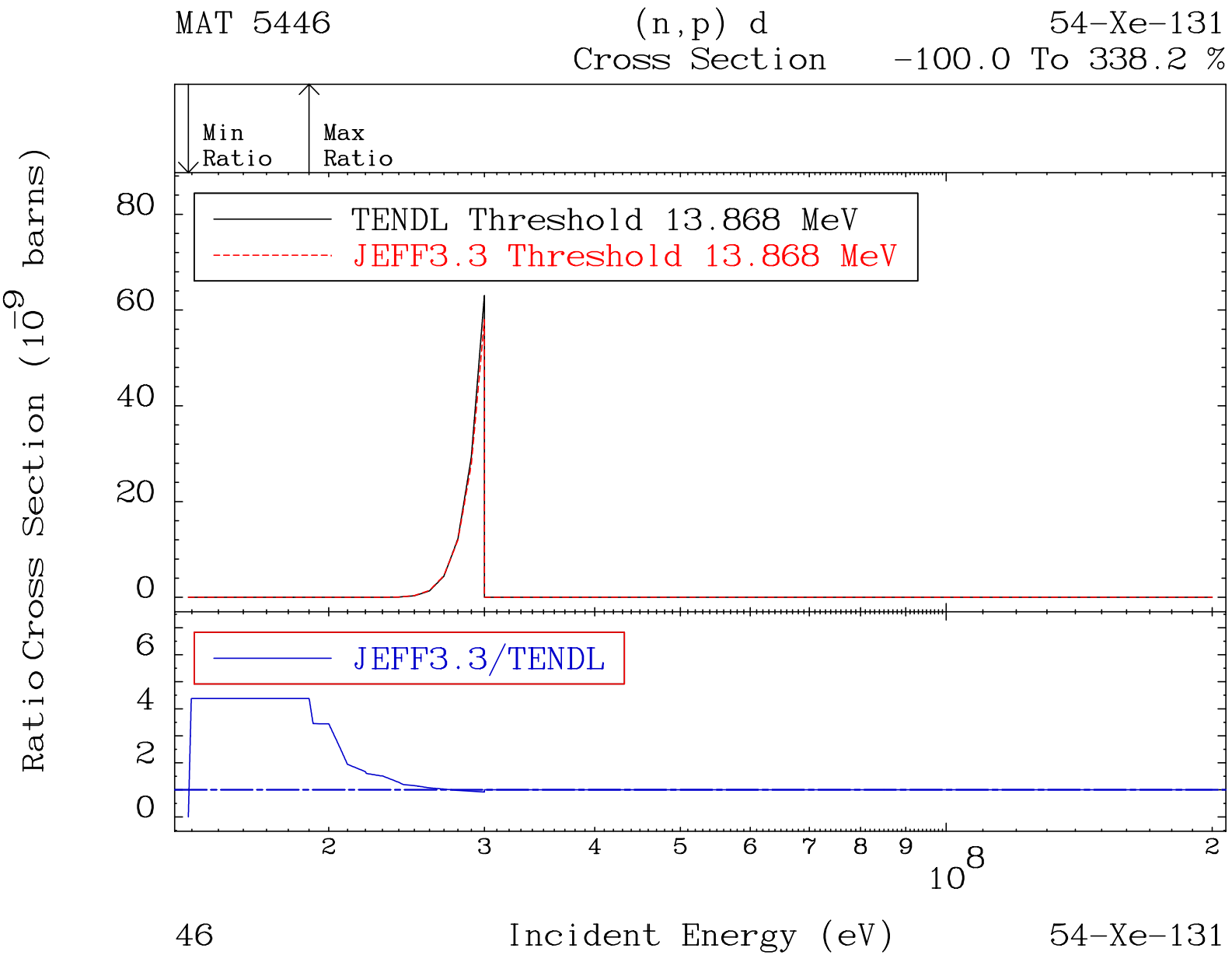

MAT 5446
(n,He-3)
54-Xe-131
Cross Section
-100.0 To 1.382 %
Min Ratio
Max Ratio
TENDL Threshold 8.3323 MeV
JEFF3.3 Threshold 8.3323 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
400
200
0
1.2
0.6
0.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
41
Incident Energy (eV)
54-Xe-131

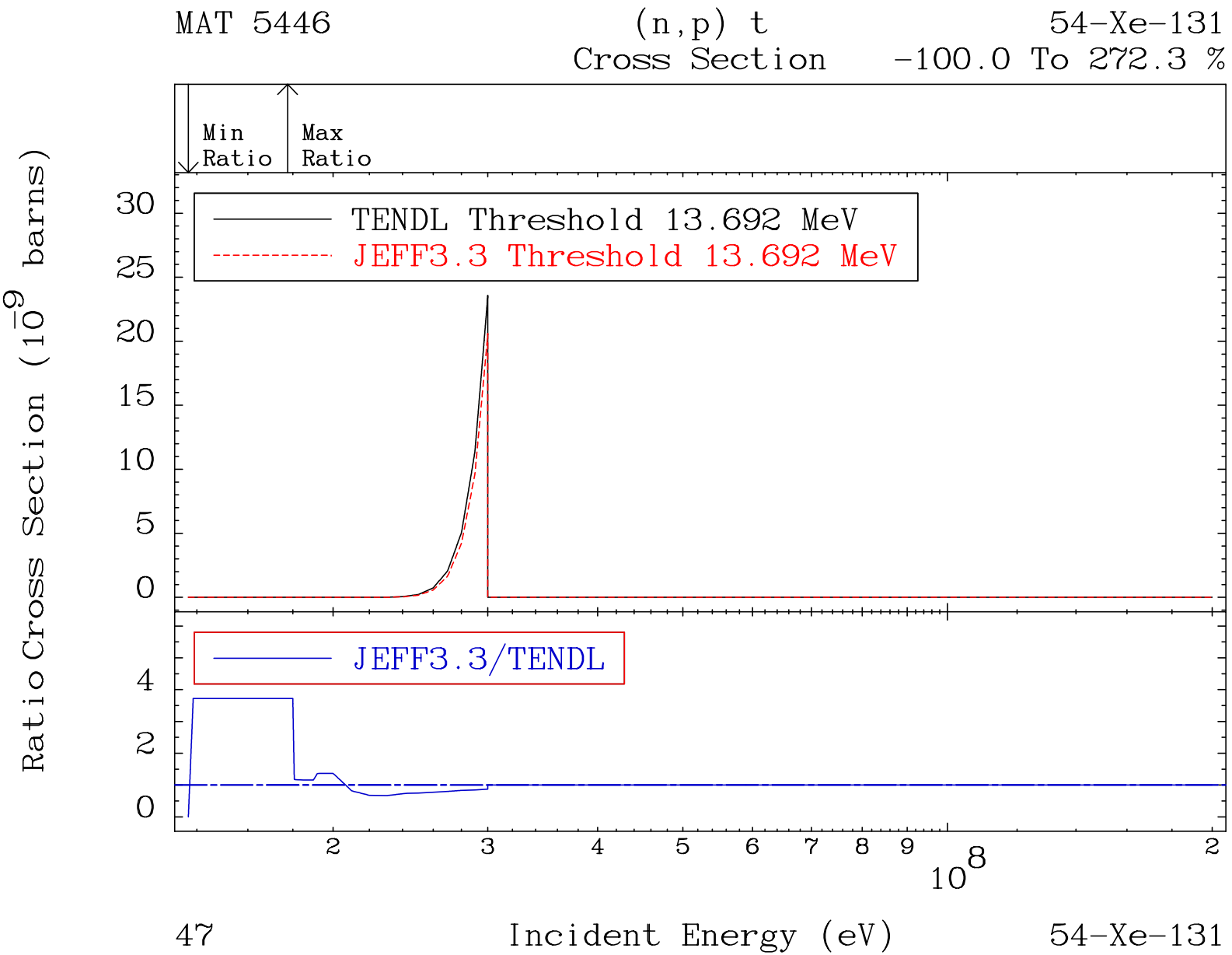

MAT 5446
(n,α)
Cross Section
54-Xe-131
-13.70 To 4702. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
54-Xe-131

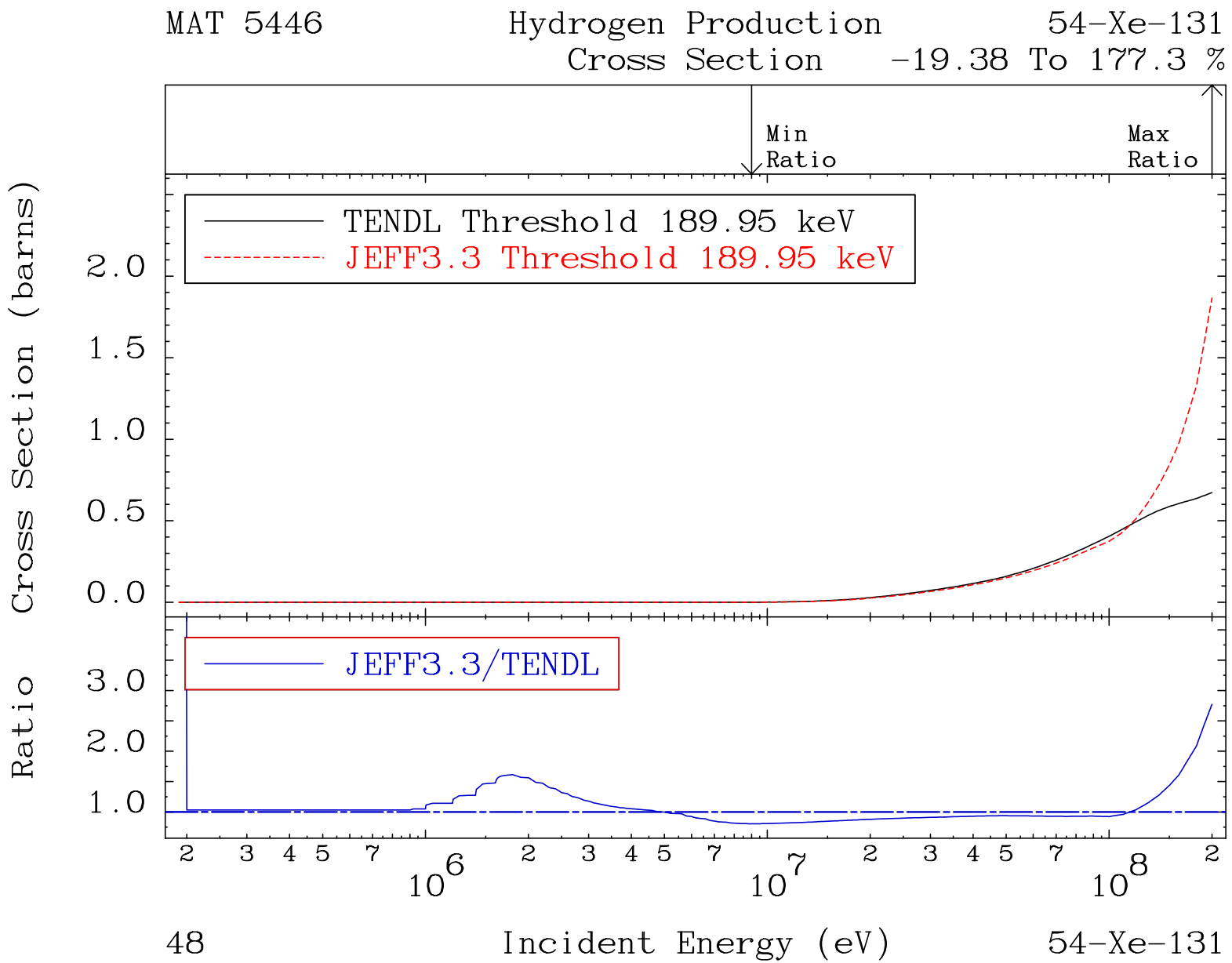

MAT 5446
(n,2α)
54-Xe-131
Cross Section 0.000 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
54-Xe-131

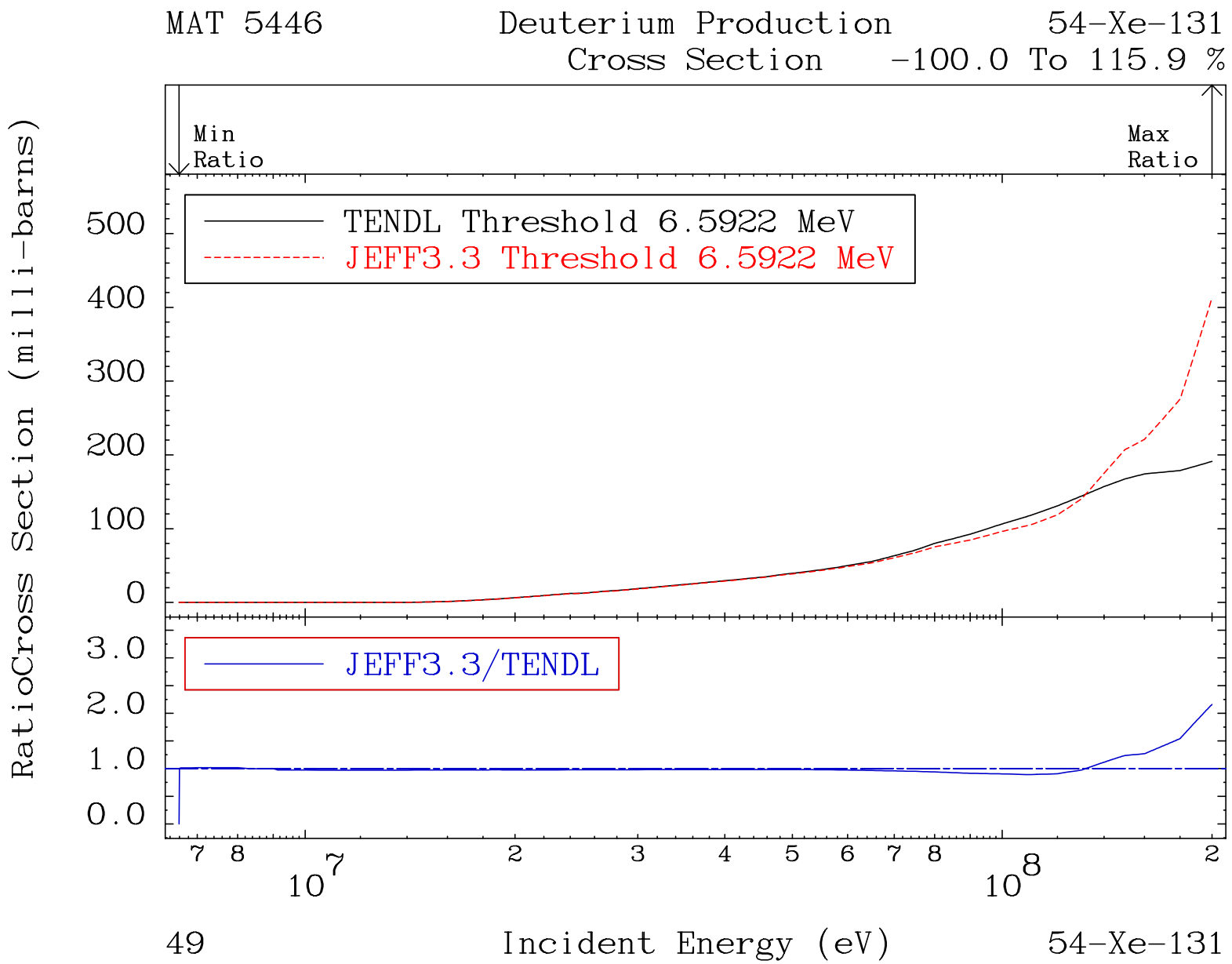

MAT 5446
(n,2p)
54-Xe-131
Cross Section
-100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 7.6255 MeV
JEFF3.3 Threshold 7.6255 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
8
6
4
2
0
1.2
0.6
0.0
8
2
3
4
5
6
7
8
2
10^7
10^8
44
Incident Energy (eV)
54-Xe-131

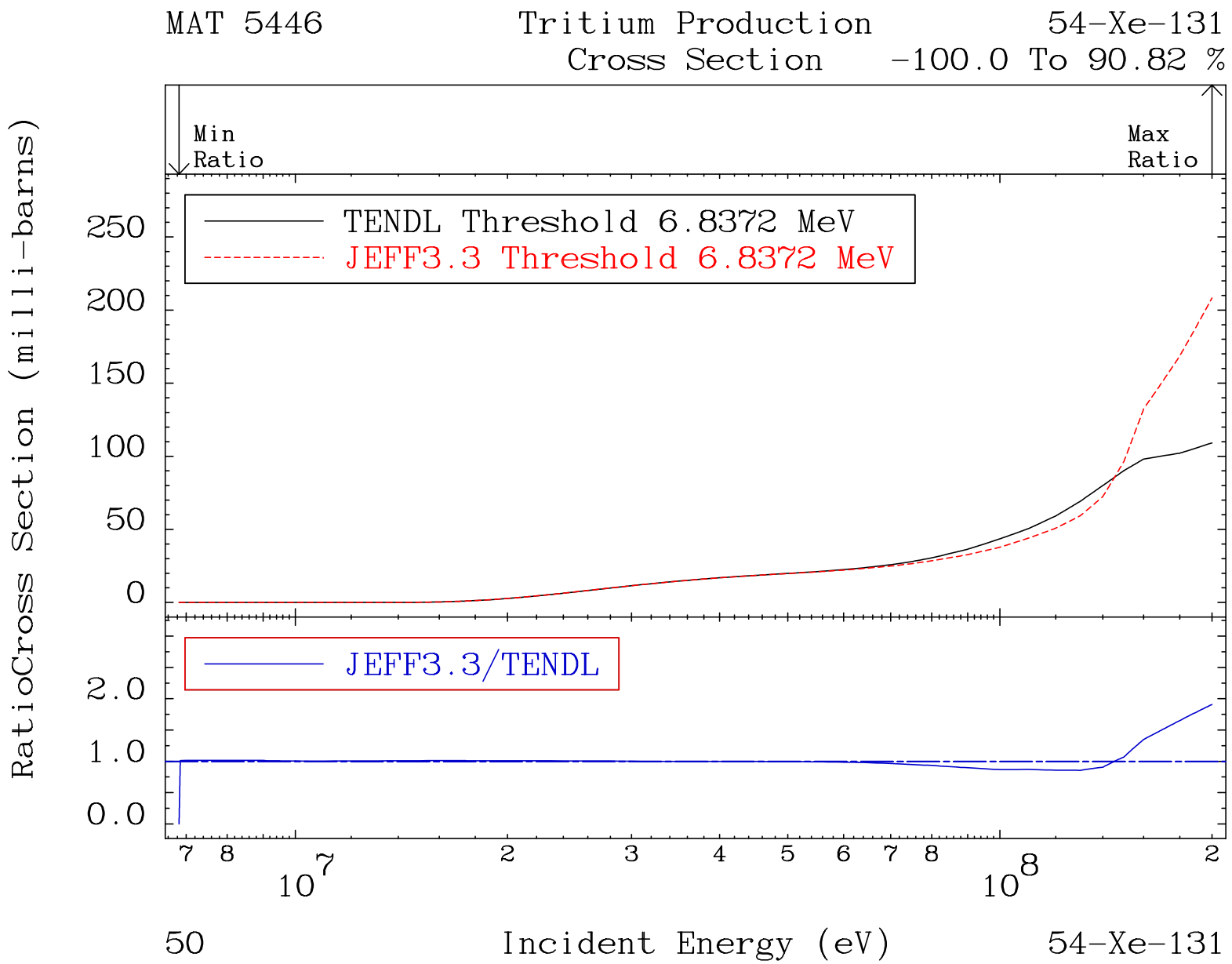

MAT 5446
(n,p) α
54-Xe-131
Cross Section
-51.34 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 3.3837 MeV
JEFF3.3 Threshold 3.3826 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
200
150
100
50
0
10^2
10^0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
45
Incident Energy (eV)
54-Xe-131

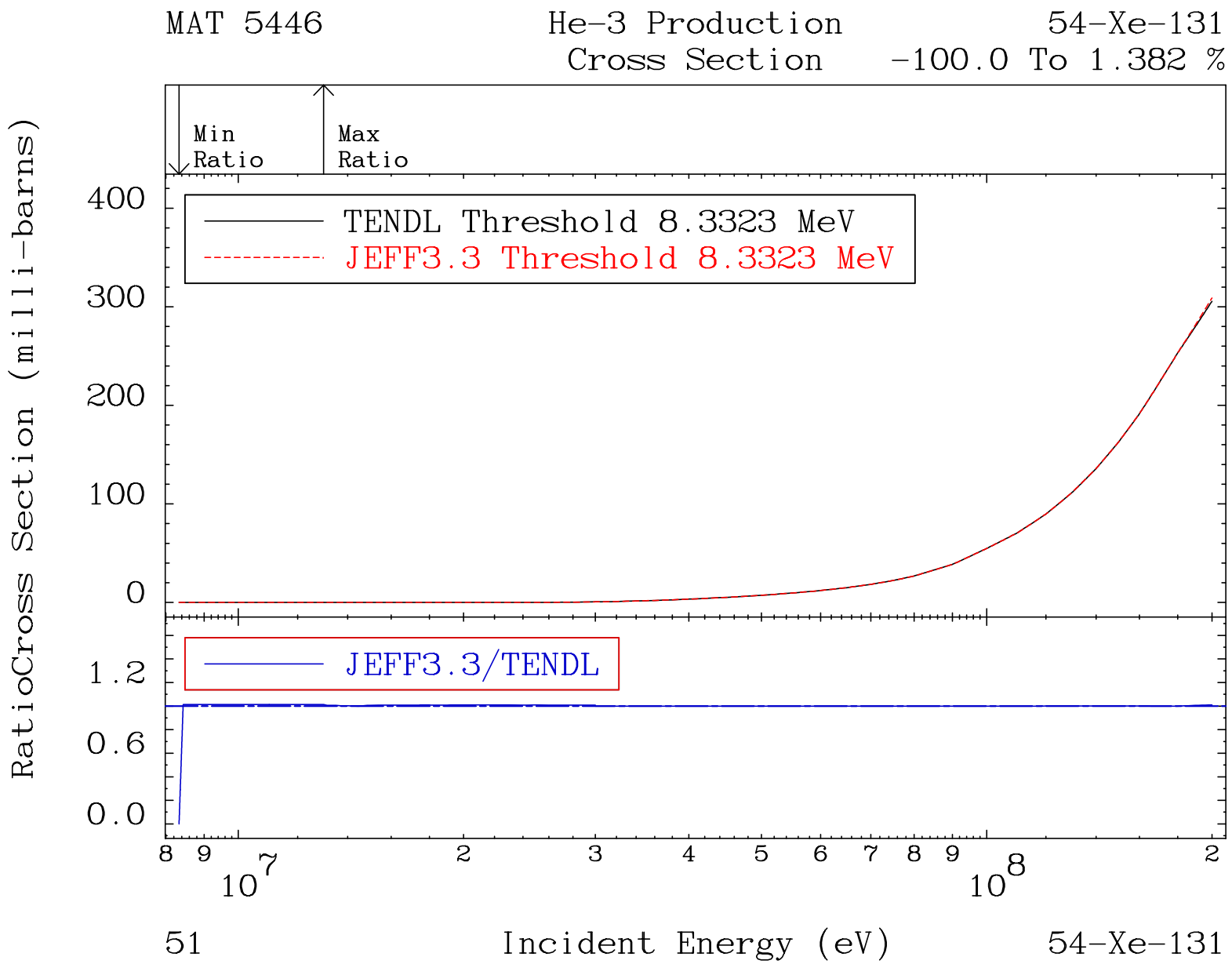

MAT 5446
(n,p) d
Cross Section
54-Xe-131
-100.0 To 338.2 %
Min Ratio
Max Ratio
TENDL Threshold 13.868 MeV
JEFF3.3 Threshold 13.868 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
80
60
40
20
0
6
4
2
0
2
3
4
5
6
7
8
9
10^8
2
46
Incident Energy (eV)
54-Xe-131

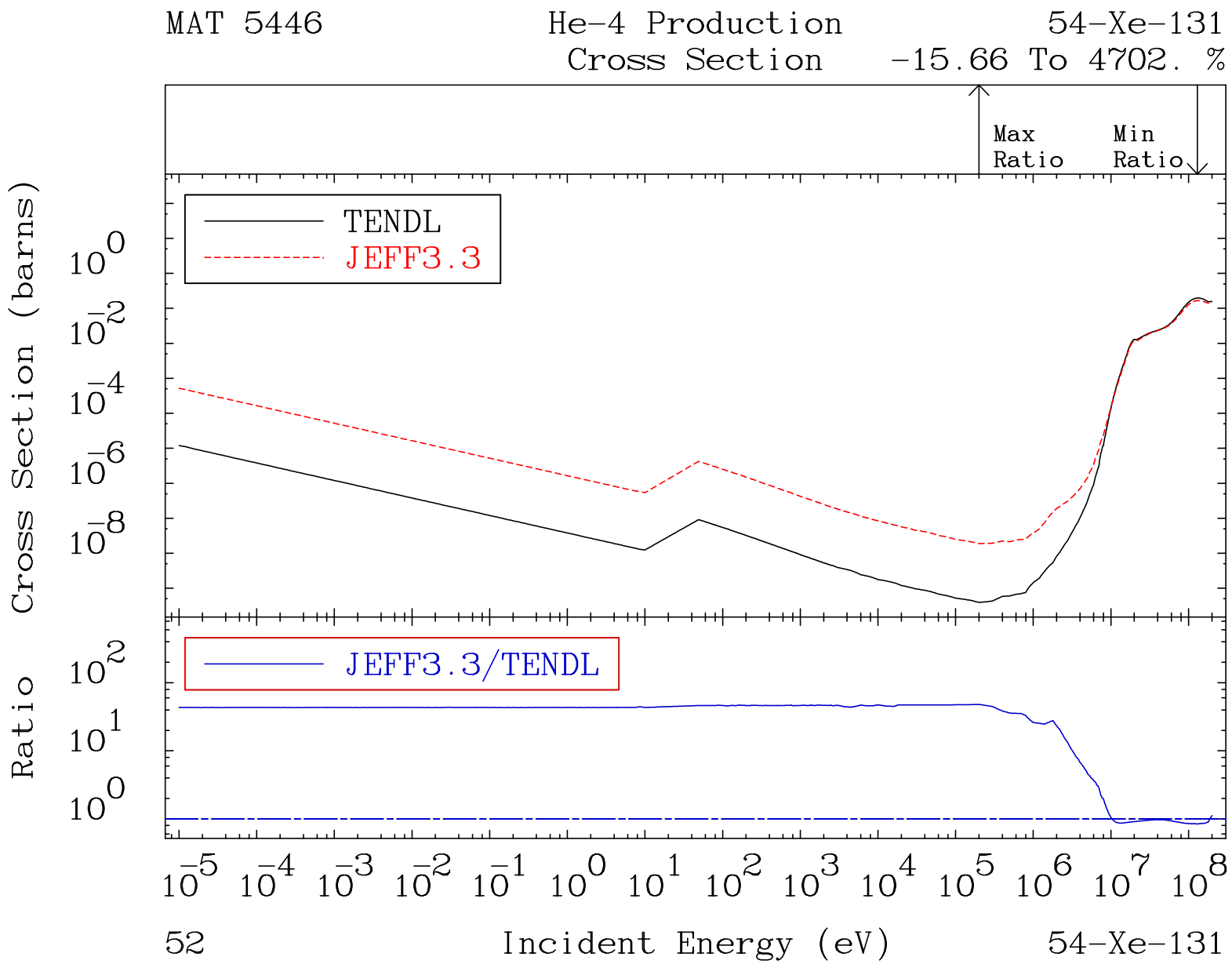

MAT 5446
(n,p) t
Cross Section
54-Xe-131
-100.0 To 272.3 %
Min Ratio
Max Ratio
TENDL Threshold 13.692 MeV
JEFF3.3 Threshold 13.692 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
30
25
20
15
10
5
0
4
2
0
2
3
4
5
6
7
8
9
10^8
2
47
Incident Energy (eV)
54-Xe-131

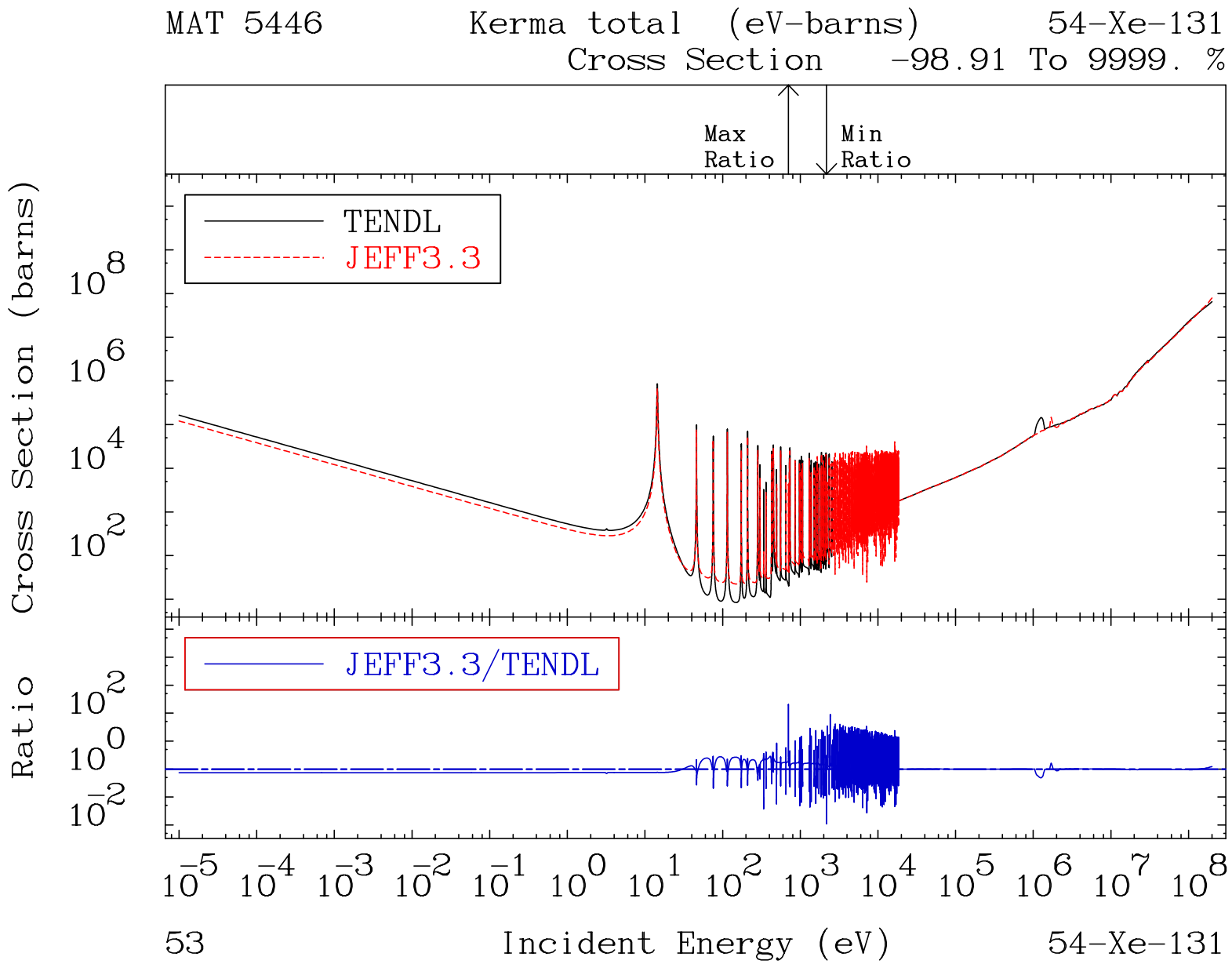

MAT 5446
Hydrogen Production
54-Xe-131
Cross Section -19.38 To 177.3 %
Min Ratio
Max Ratio
TENDL Threshold 189.95 keV
JEFF3.3 Threshold 189.95 keV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
3.0
2.0
1.0
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
48
Incident Energy (eV)
54-Xe-131

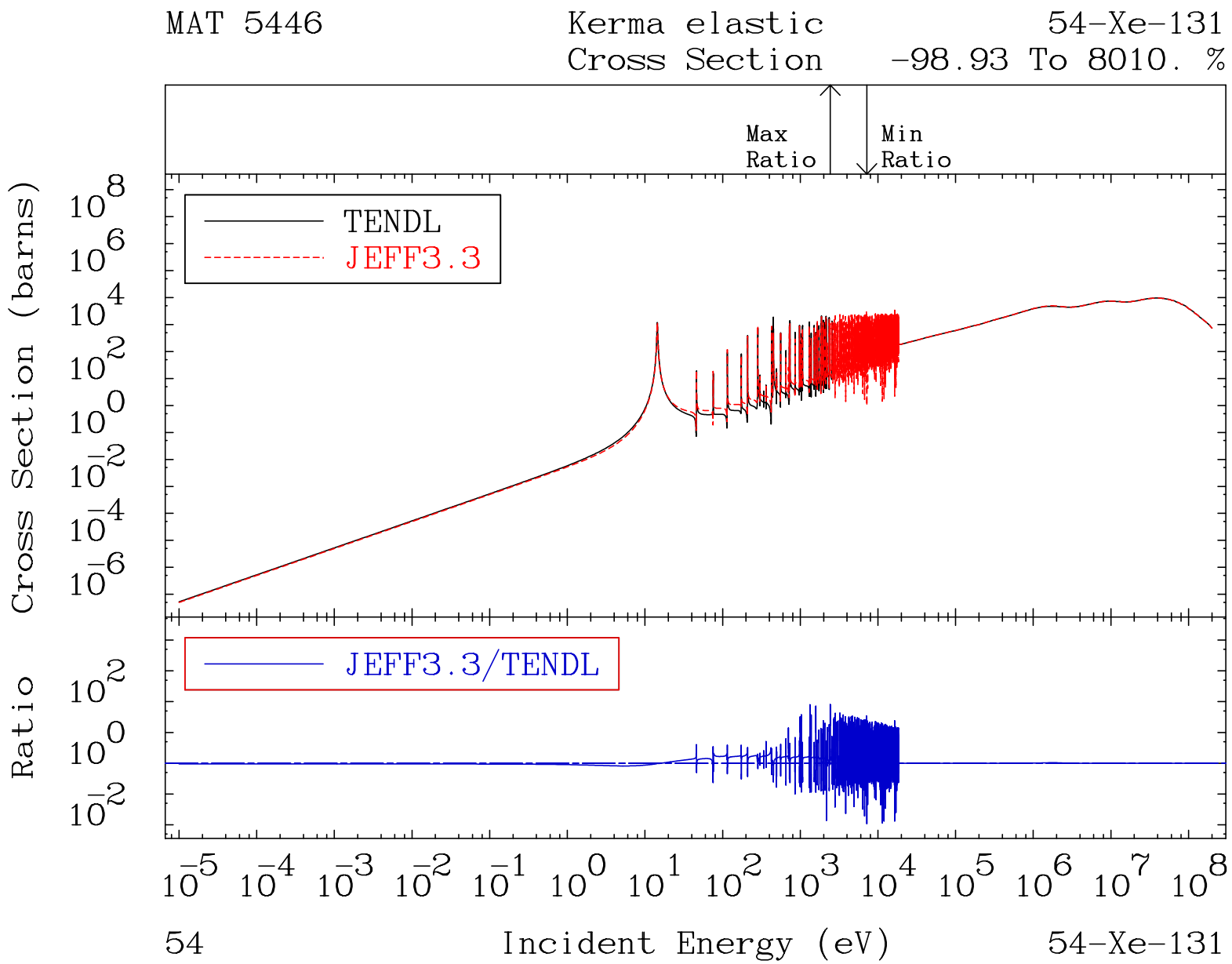

MAT 5446
Deuterium Production
54-Xe-131
Cross Section -100.0 To 115.9 %
Min Ratio
Max Ratio
TENDL Threshold 6.5922 MeV
JEFF3.3 Threshold 6.5922 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
3.0
2.0
1.0
0.0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
49
Incident Energy (eV)
54-Xe-131

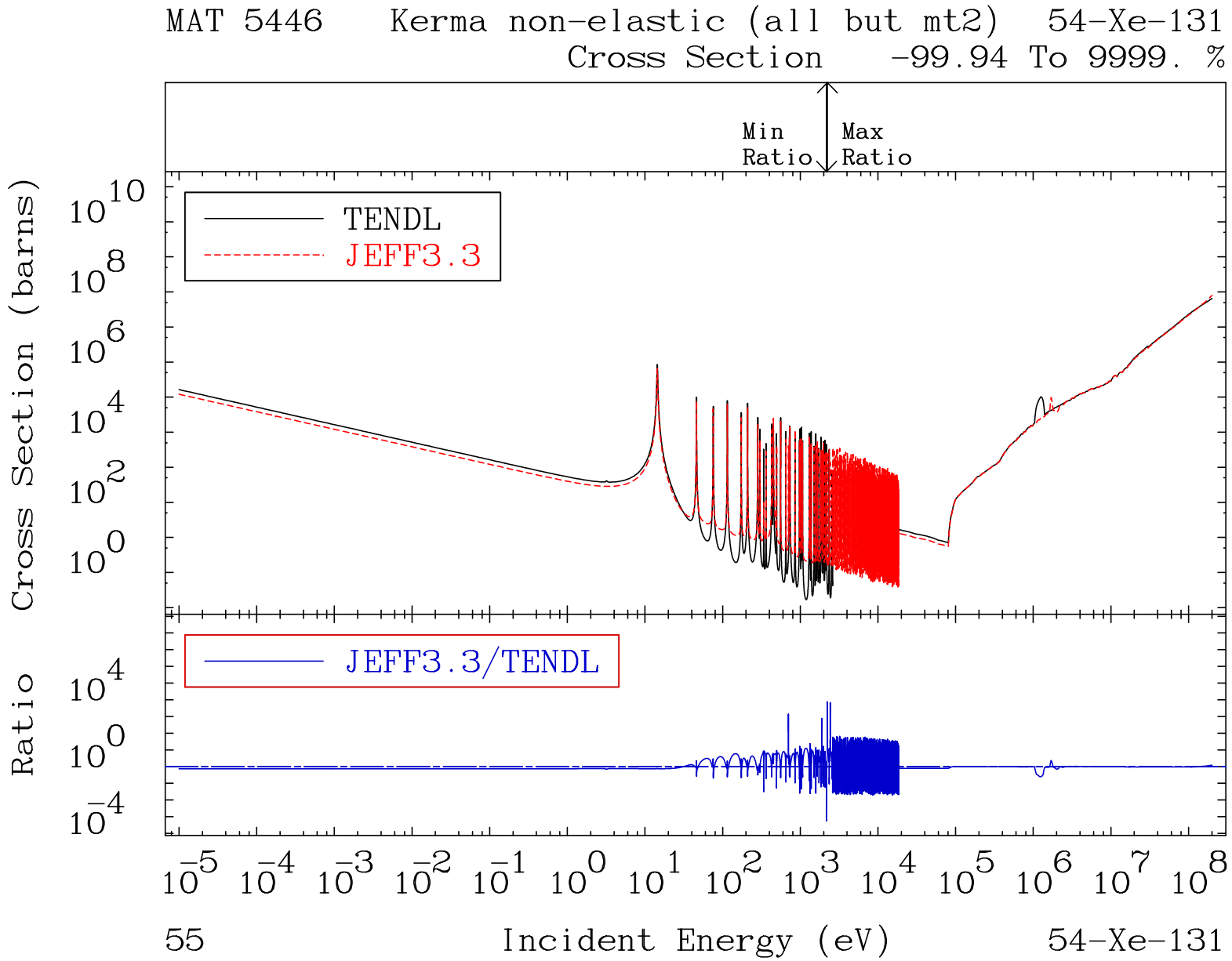

MAT 5446
Tritium Production
54-Xe-131
Cross Section
-100.0 To 90.82 %
Min Ratio
Max Ratio
TENDL Threshold 6.8372 MeV
JEFF3.3 Threshold 6.8372 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
2.0
1.0
0.0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
50
Incident Energy (eV)
54-Xe-131

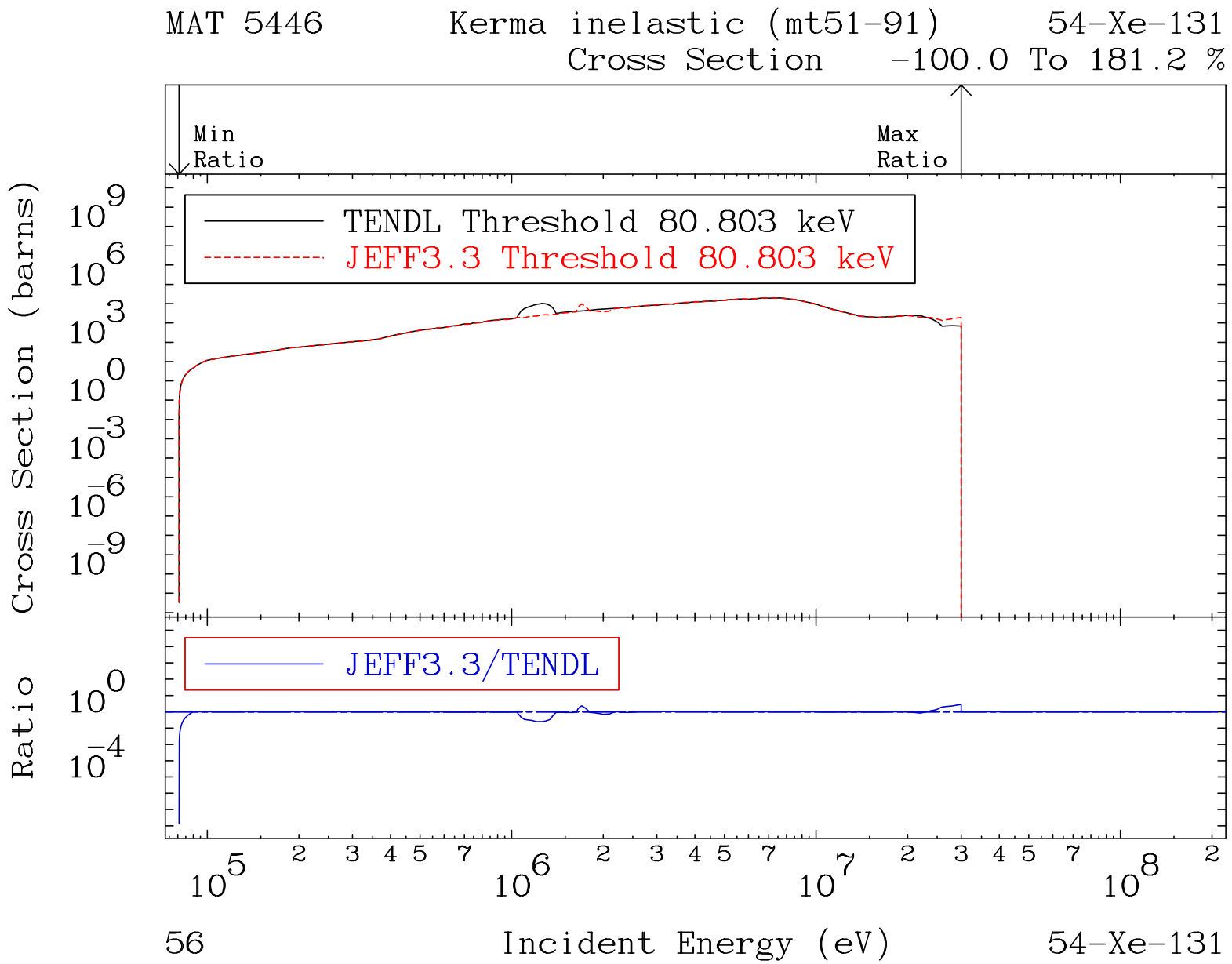

MAT 5446
He-3 Production
54-Xe-131
Cross Section
-100.0 To 1.382 %
Min Ratio
Max Ratio
TENDL Threshold 8.3323 MeV
JEFF3.3 Threshold 8.3323 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
1.2
0.6
0.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
51
Incident Energy (eV)
54-Xe-131

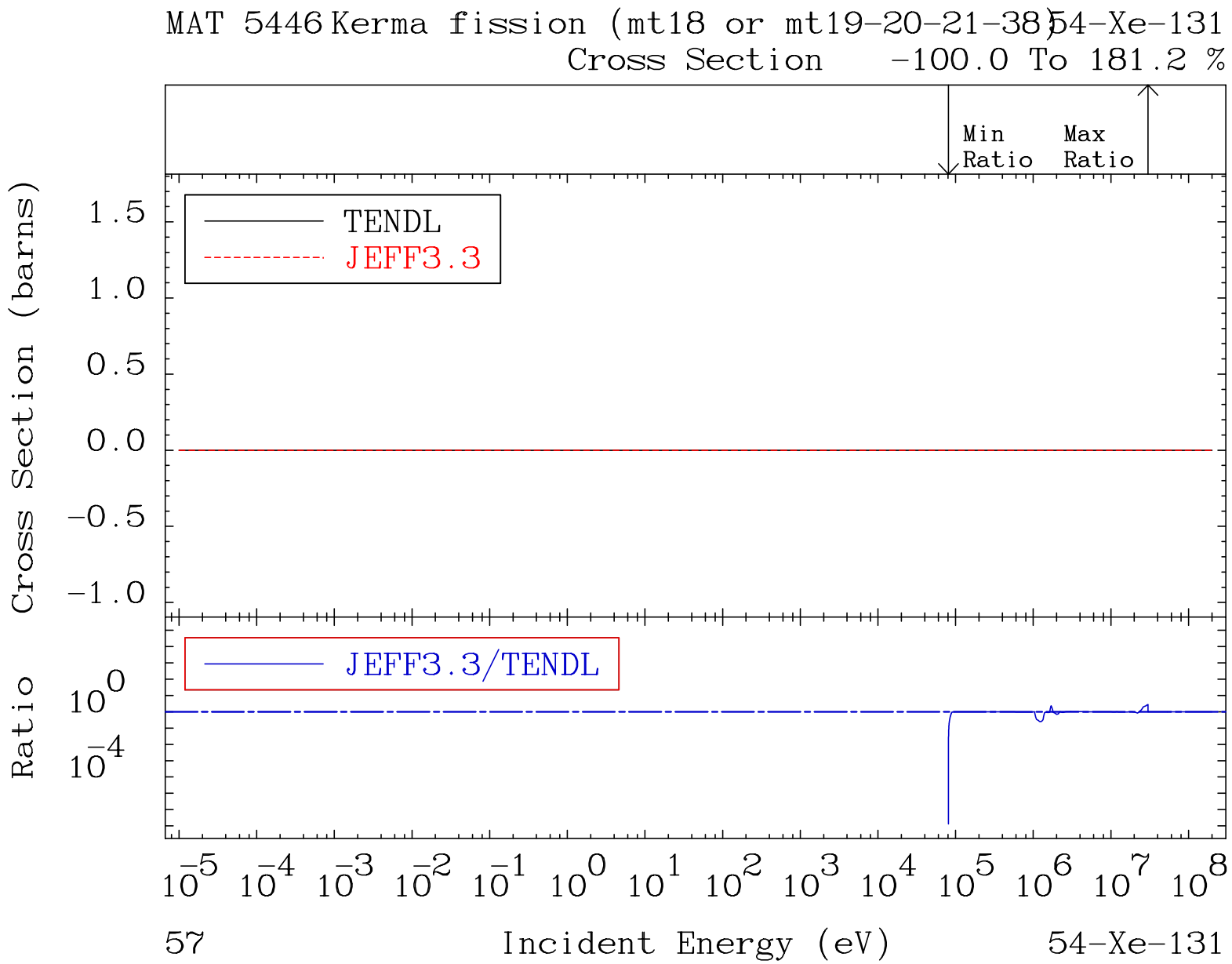

MAT 5446
He-4 Production
Cross Section
54-Xe-131
-15.66 To 4702. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
52
54-Xe-131

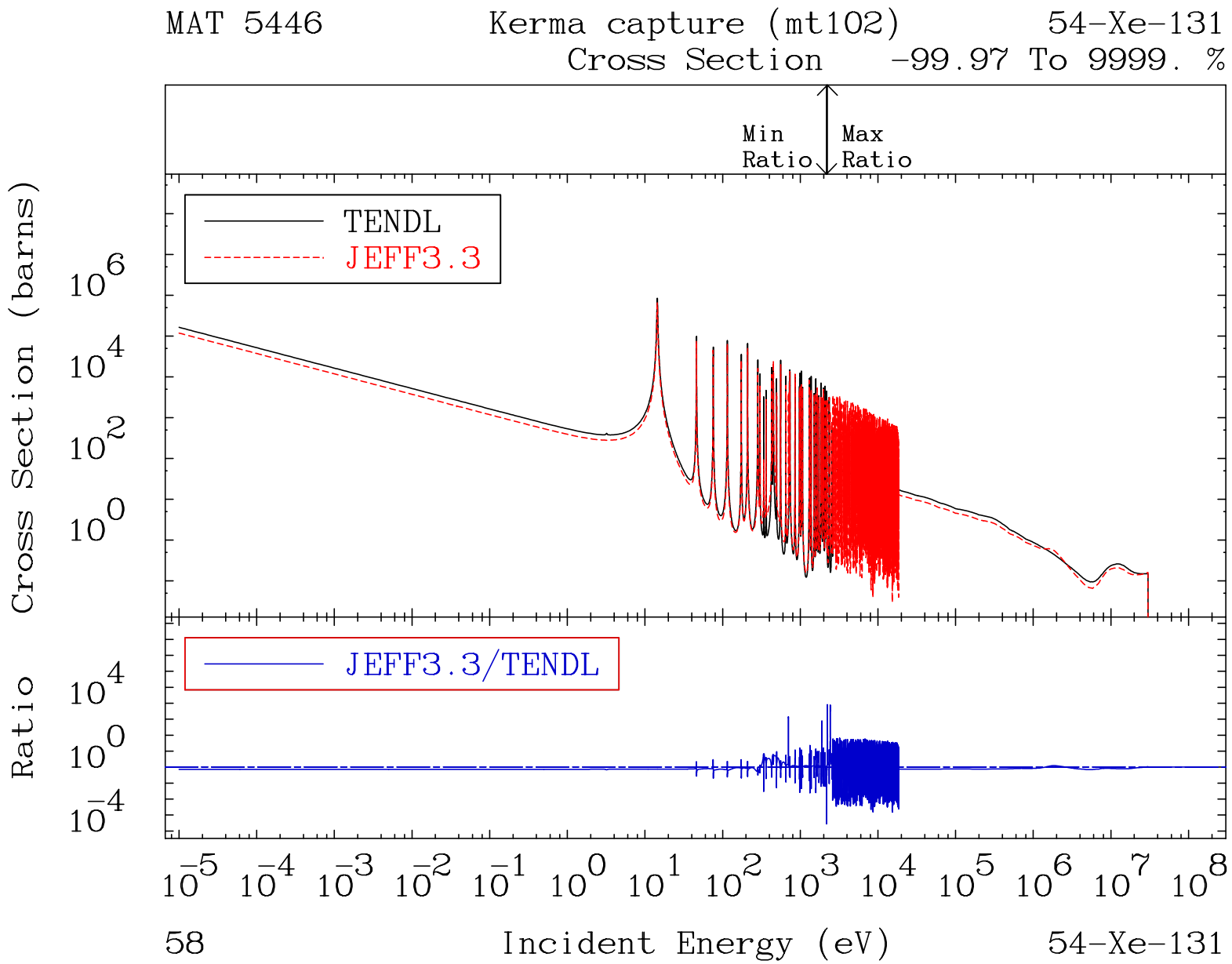

MAT 5446
Kerma total (eV-barns)
54-Xe-131
Cross Section -98.91 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
53
54-Xe-131

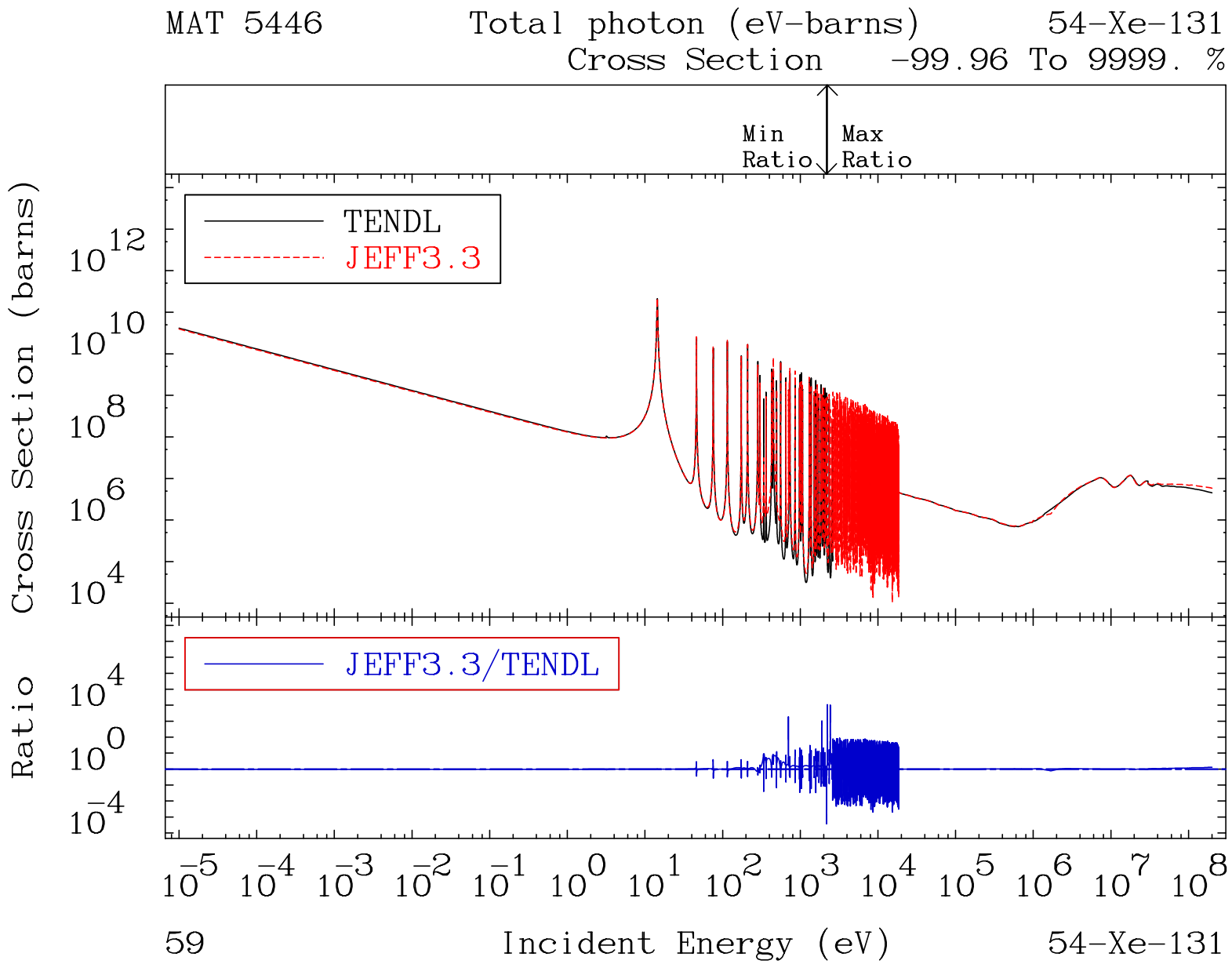

MAT 5446
Kerma elastic
Cross Section
54-Xe-131
-98.93 To 8010. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
54
54-Xe-131

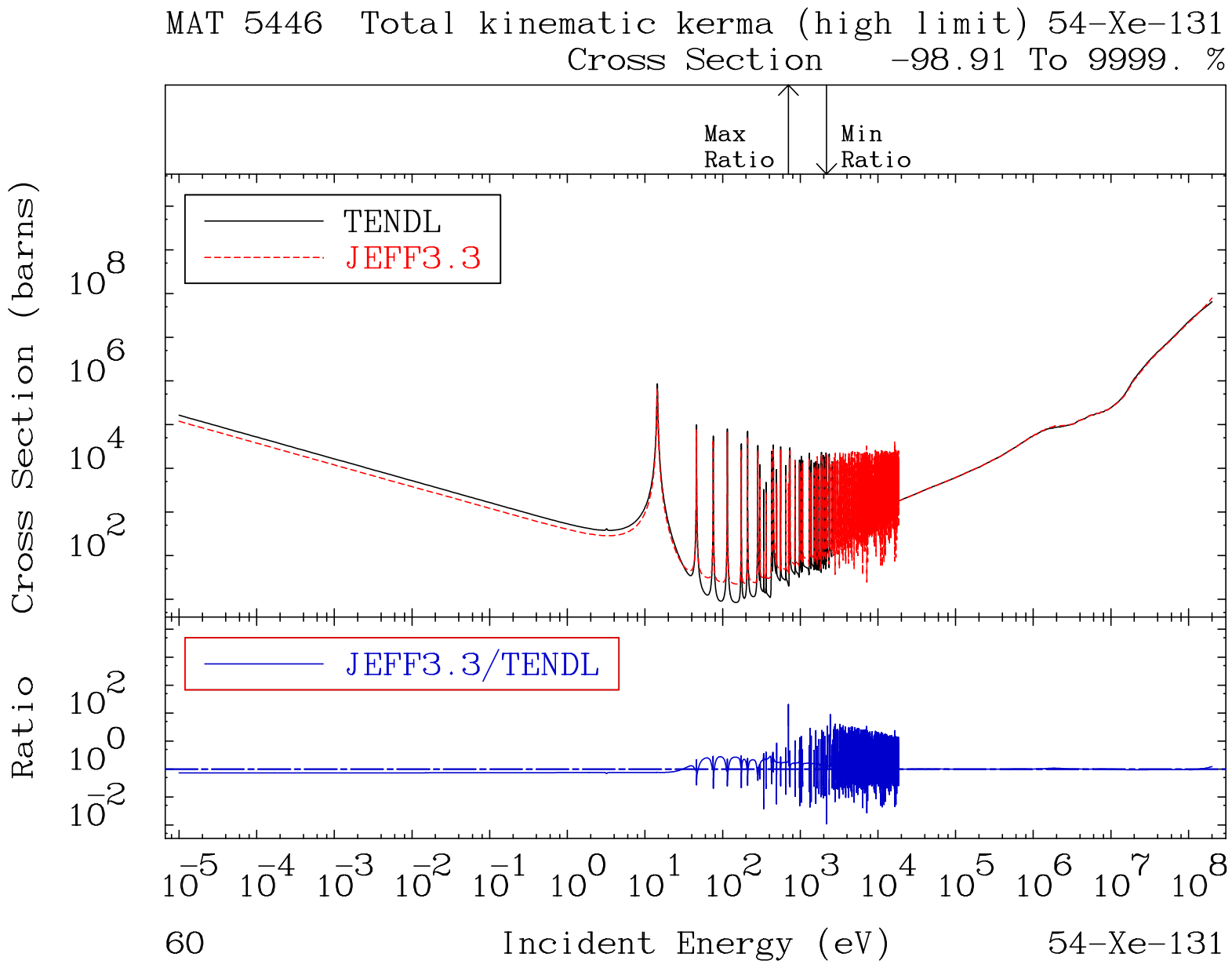

MAT 5446 Kerma non-elastic (all but mt2) 54-Xe-131
Cross Section -99.94 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
55
54-Xe-131

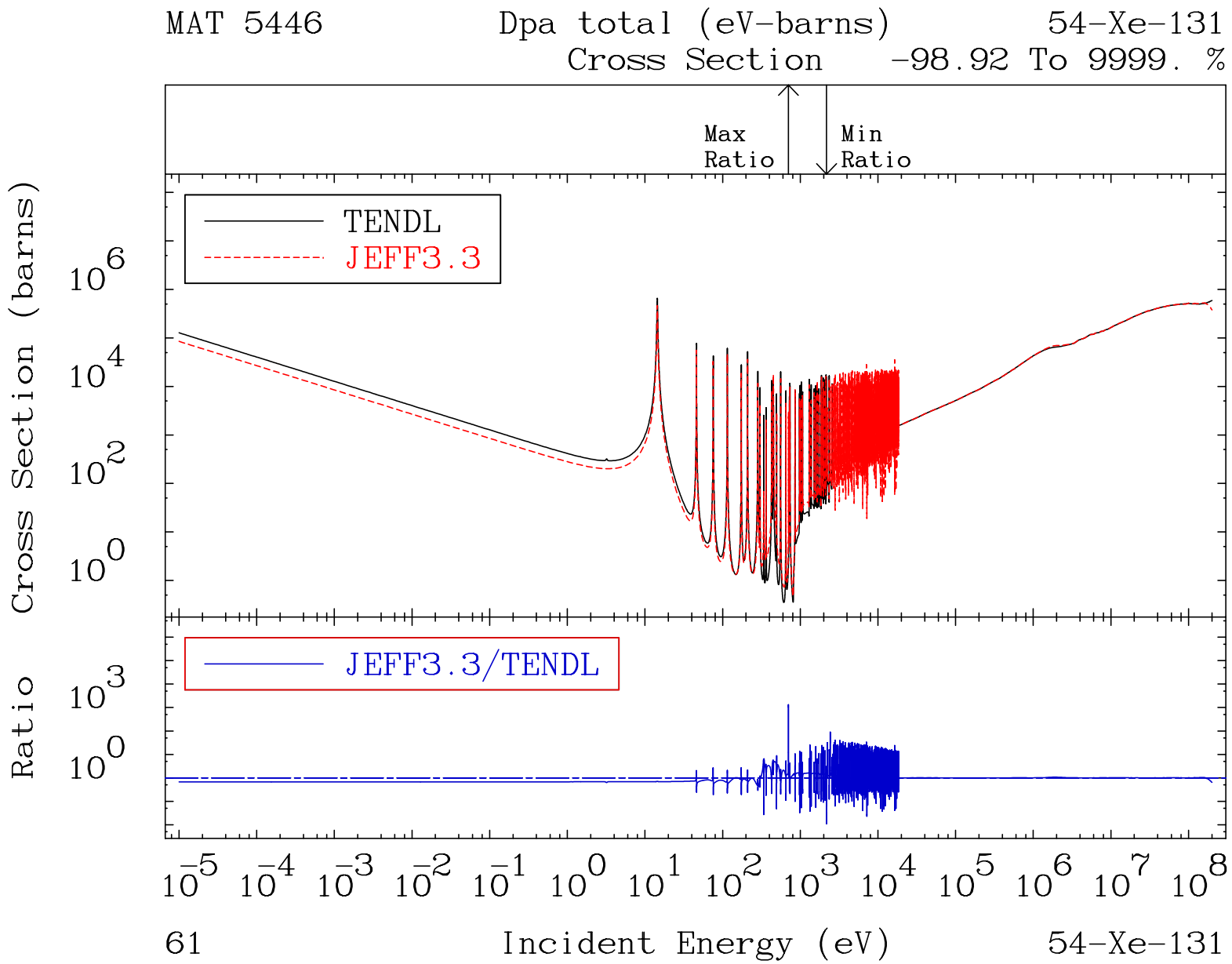

MAT 5446
Kerma inelastic (mt51-91)
54-Xe-131
Cross Section -100.0 To 181.2 %
Min Ratio
Max Ratio
TENDL Threshold 80.803 keV
JEFF3.3 Threshold 80.803 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
54-Xe-131

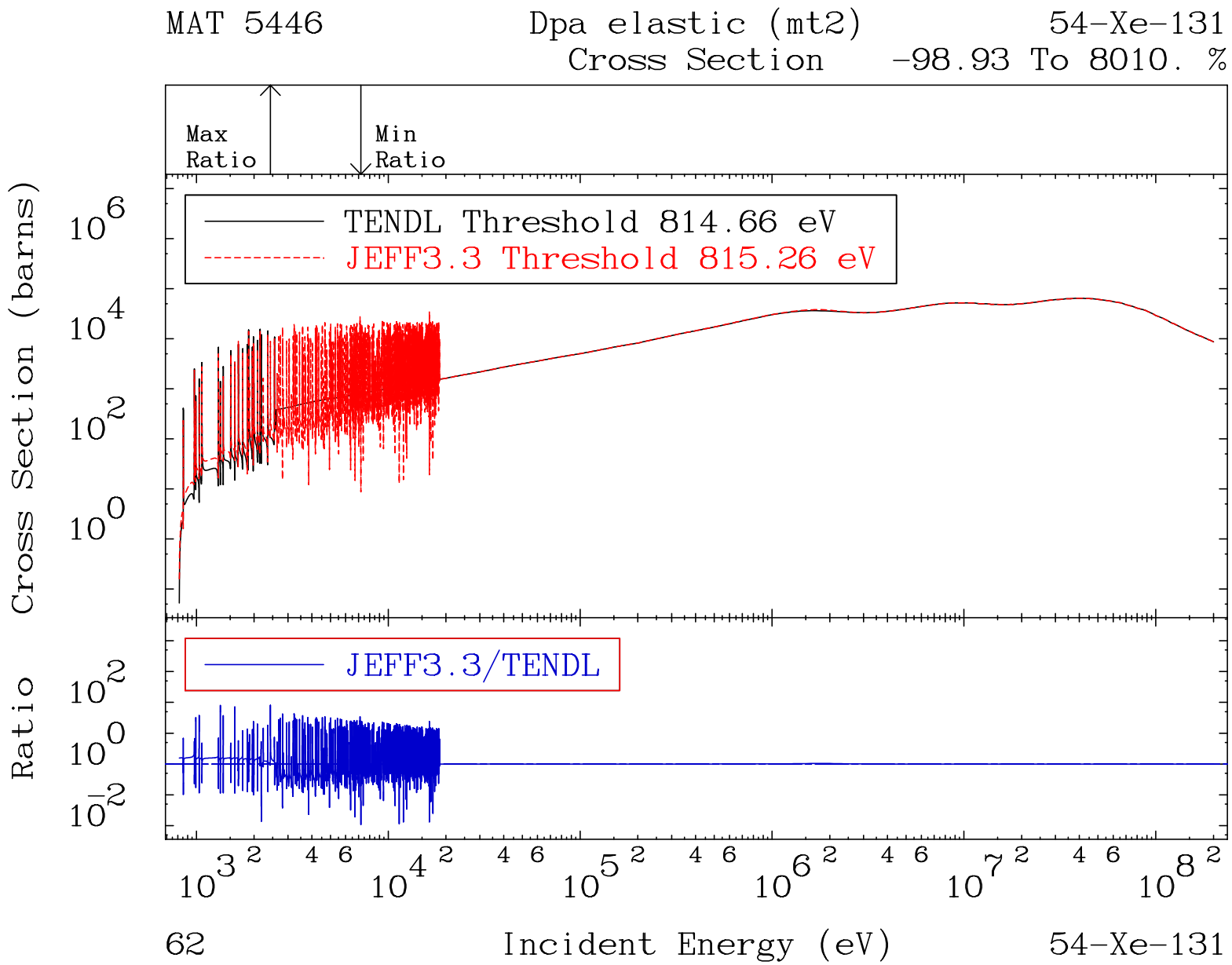

MAT 5446 Kerma fission (mt18 or mt19-20-21-38) 54-Xe-131
Cross Section -100.0 To 181.2 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{0}
10^{-4}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
57
Incident Energy (eV)
54-Xe-131

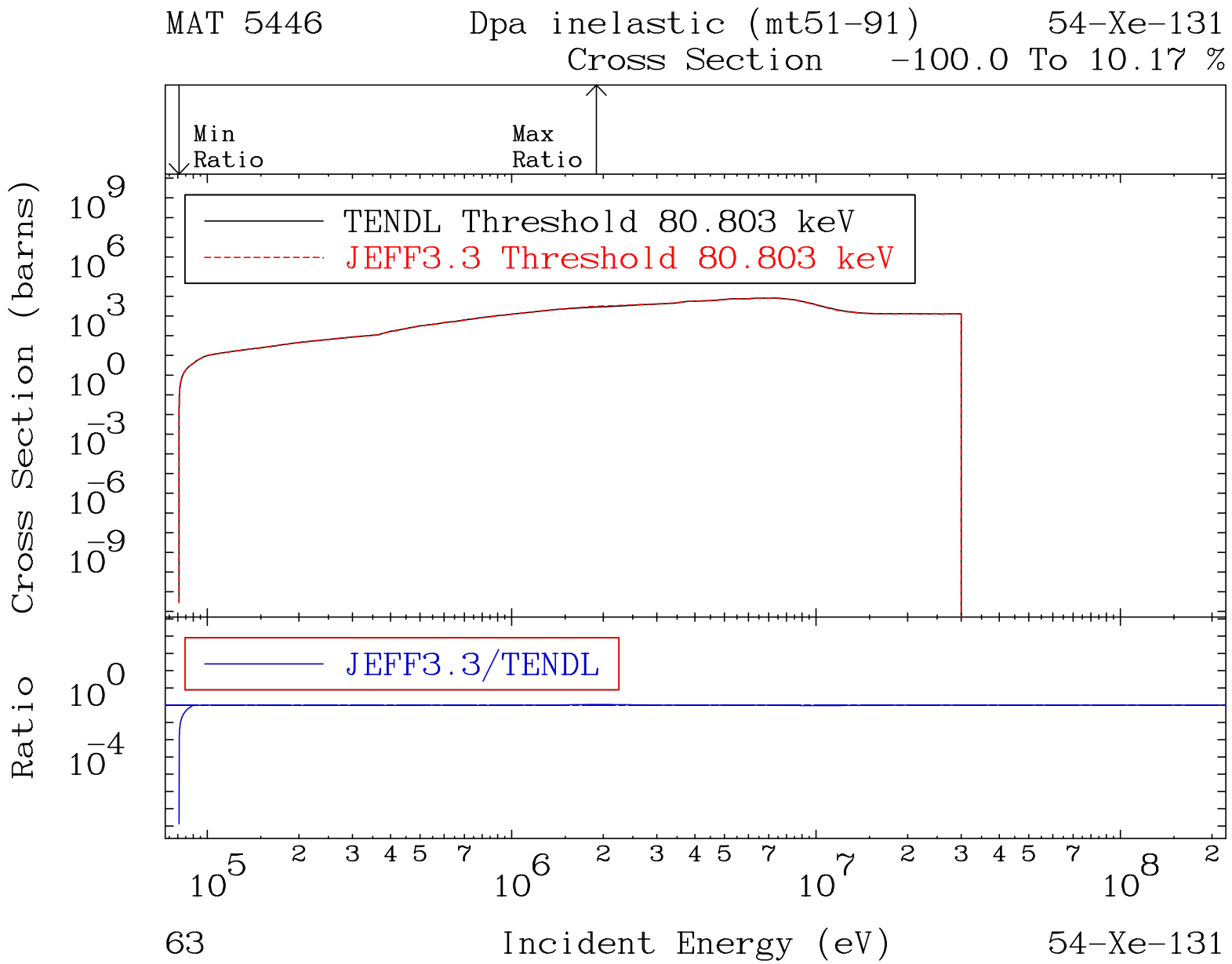

MAT 5446
Kerma capture (mt102)
54-Xe-131
Cross Section -99.97 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
58
54-Xe-131

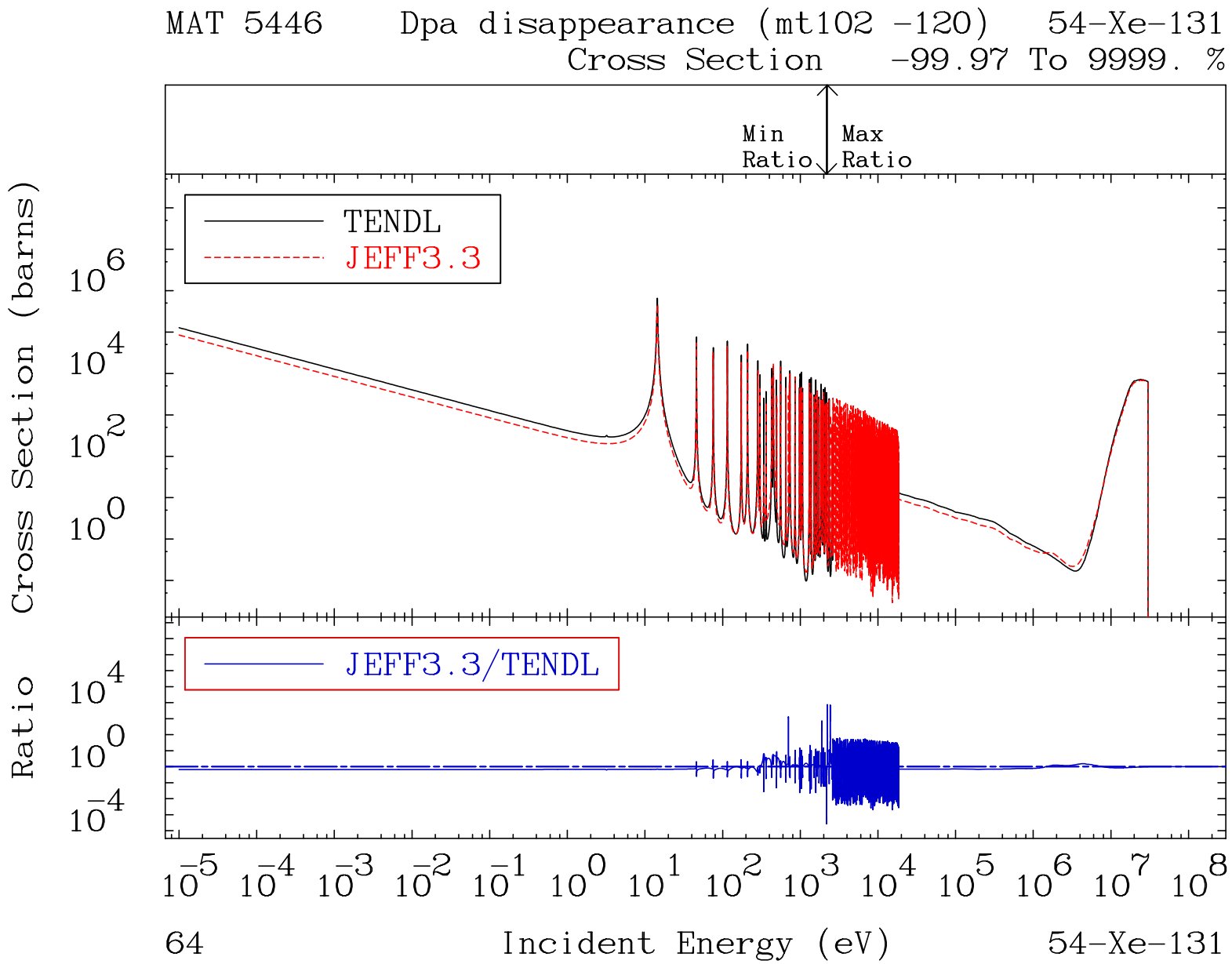

MAT 5446
Total photon (eV-barns)
54-Xe-131
Cross Section -99.96 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
59
54-Xe-131

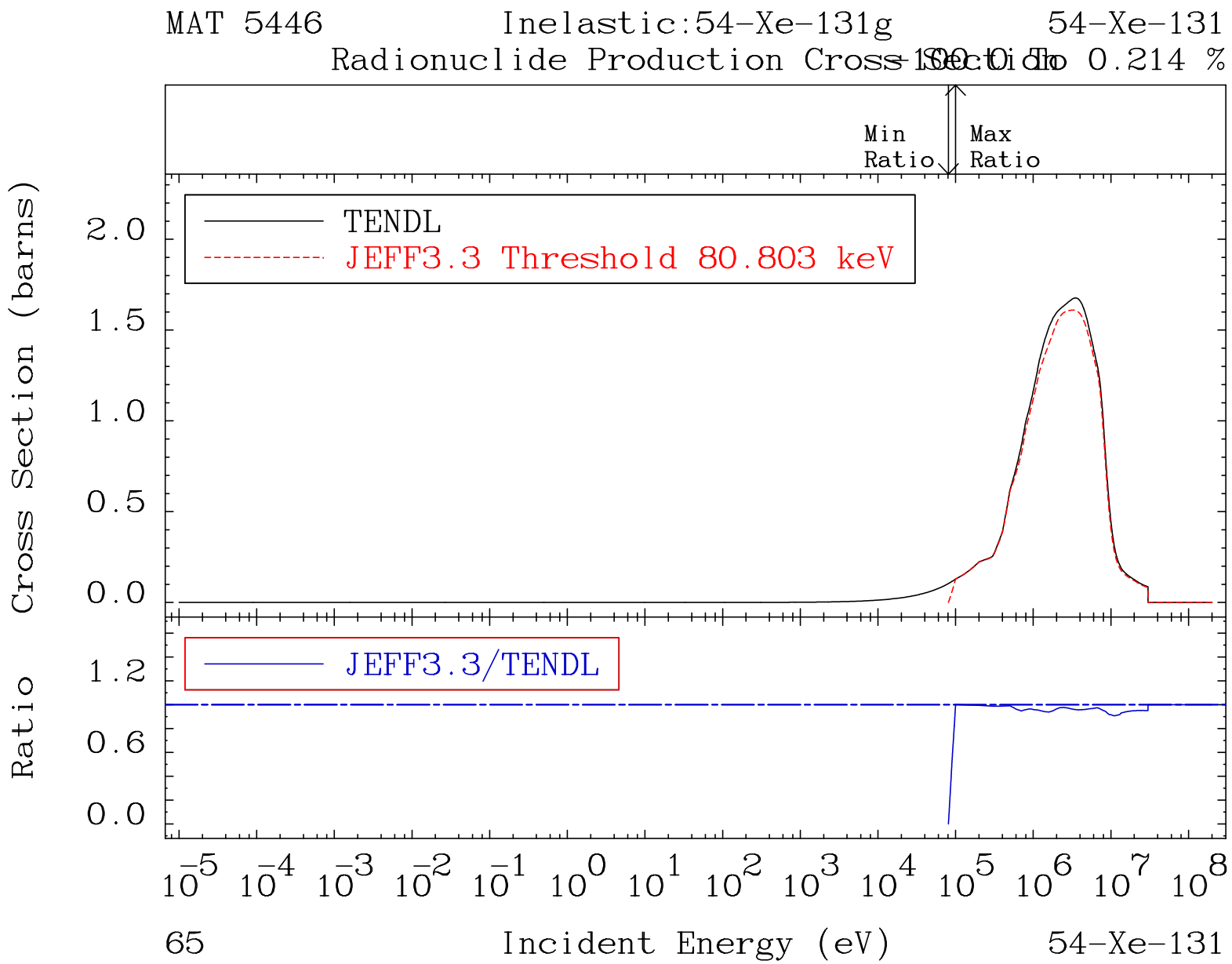

MAT 5446 Total kinematic kerma (high limit) 54-Xe-131
Cross Section -98.91 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
60
54-Xe-131

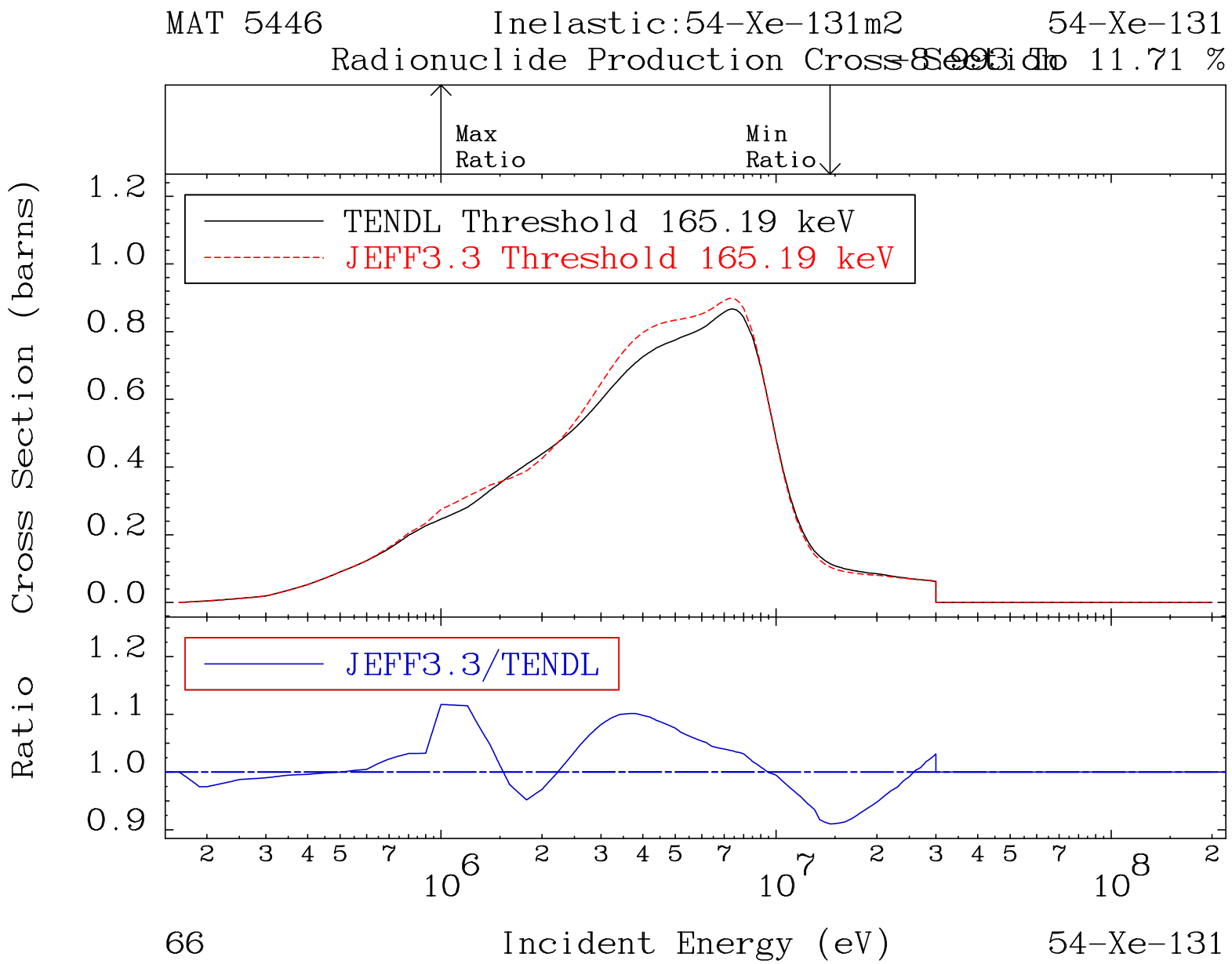

MAT 5446
Dpa total (eV-barns)
54-Xe-131
Cross Section -98.92 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
61
54-Xe-131

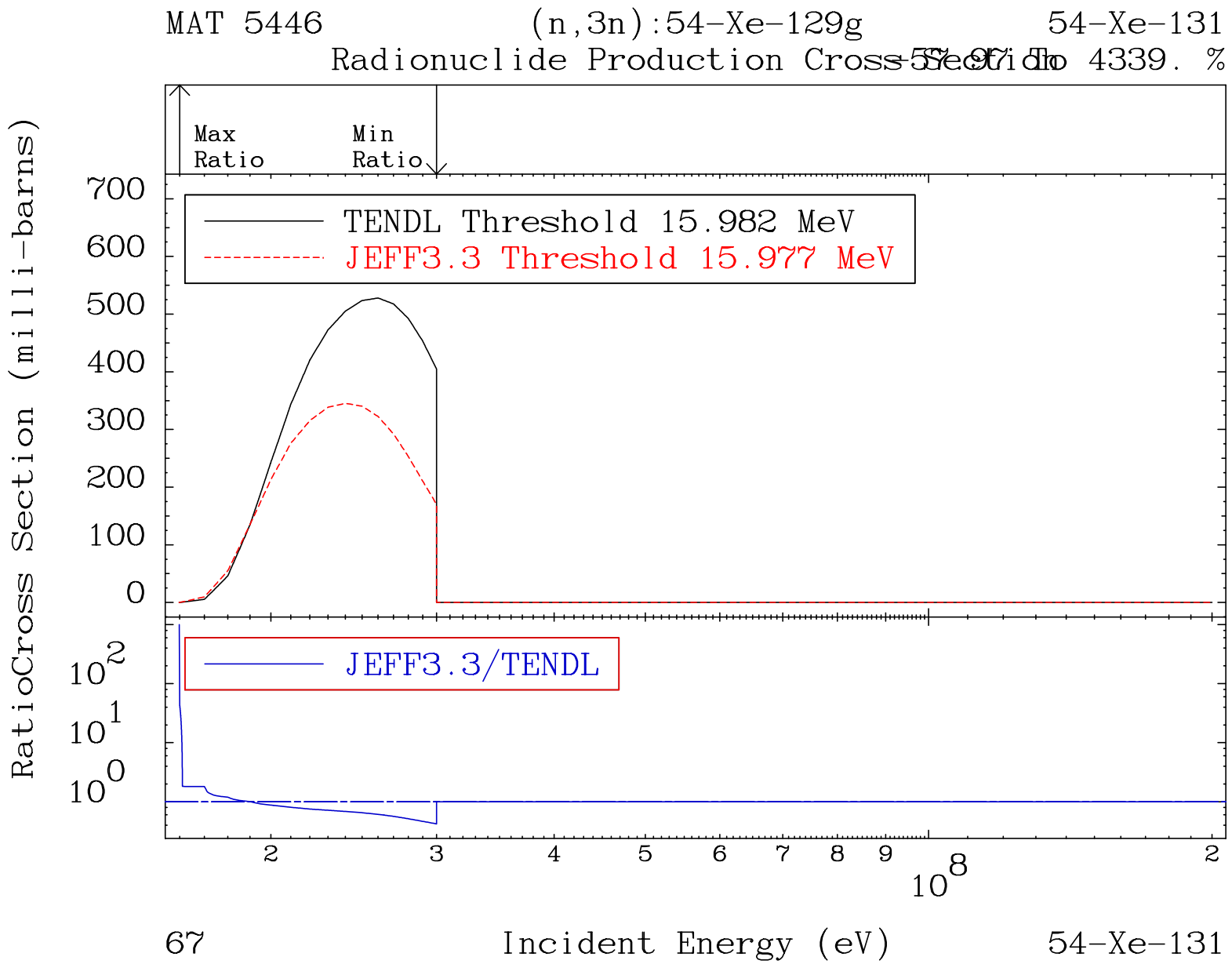

MAT 5446
Dpa elastic (mt2)
Cross Section
54-Xe-131
-98.93 To 8010. %
Max Ratio
Min Ratio
TENDL Threshold 814.66 eV
JEFF3.3 Threshold 815.26 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
62
54-Xe-131

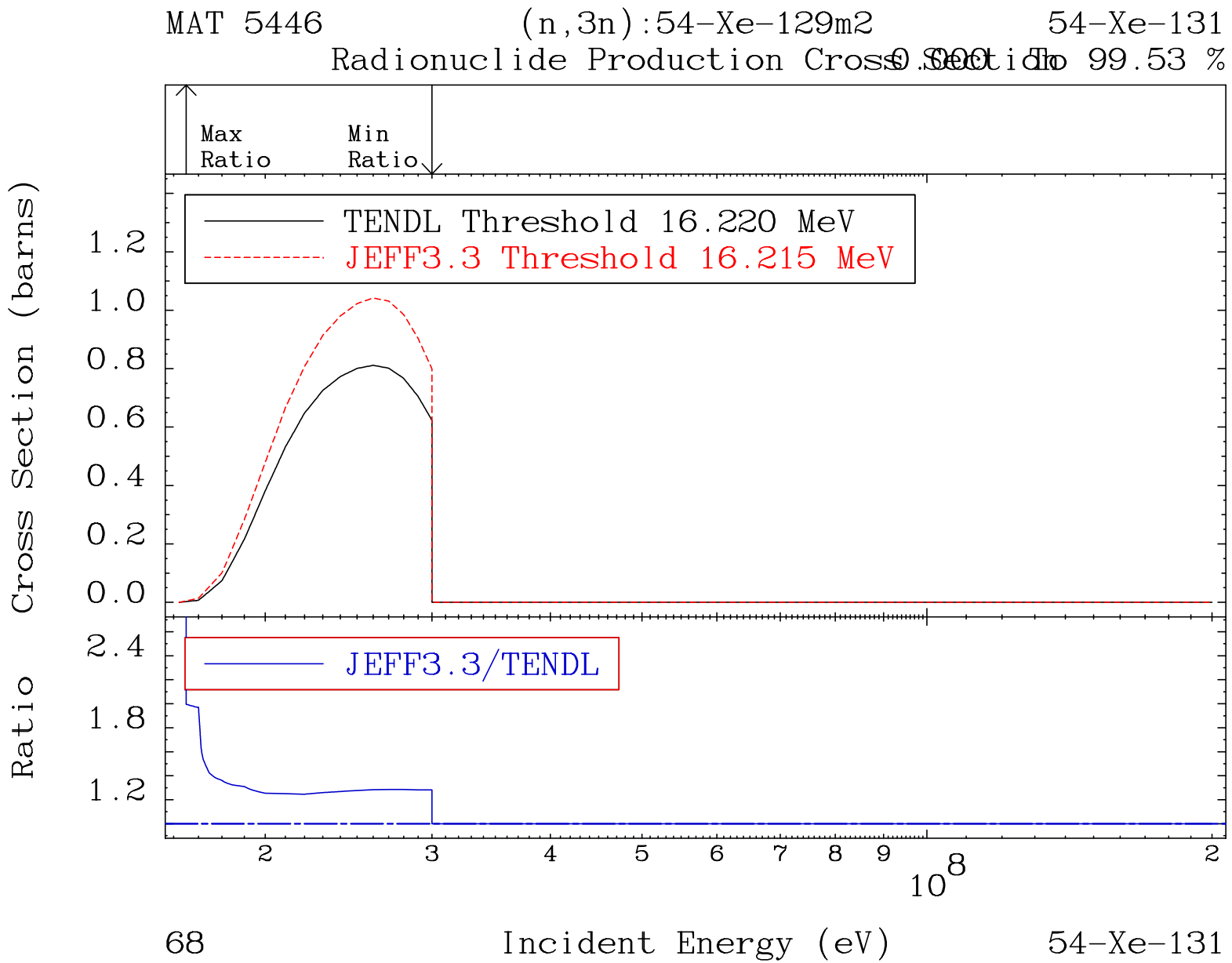

MAT 5446
Dpa inelastic (mt51-91)
54-Xe-131
Cross Section -100.0 To 10.17 %
Min Ratio
Max Ratio
TENDL Threshold 80.803 keV
JEFF3.3 Threshold 80.803 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
63
54-Xe-131

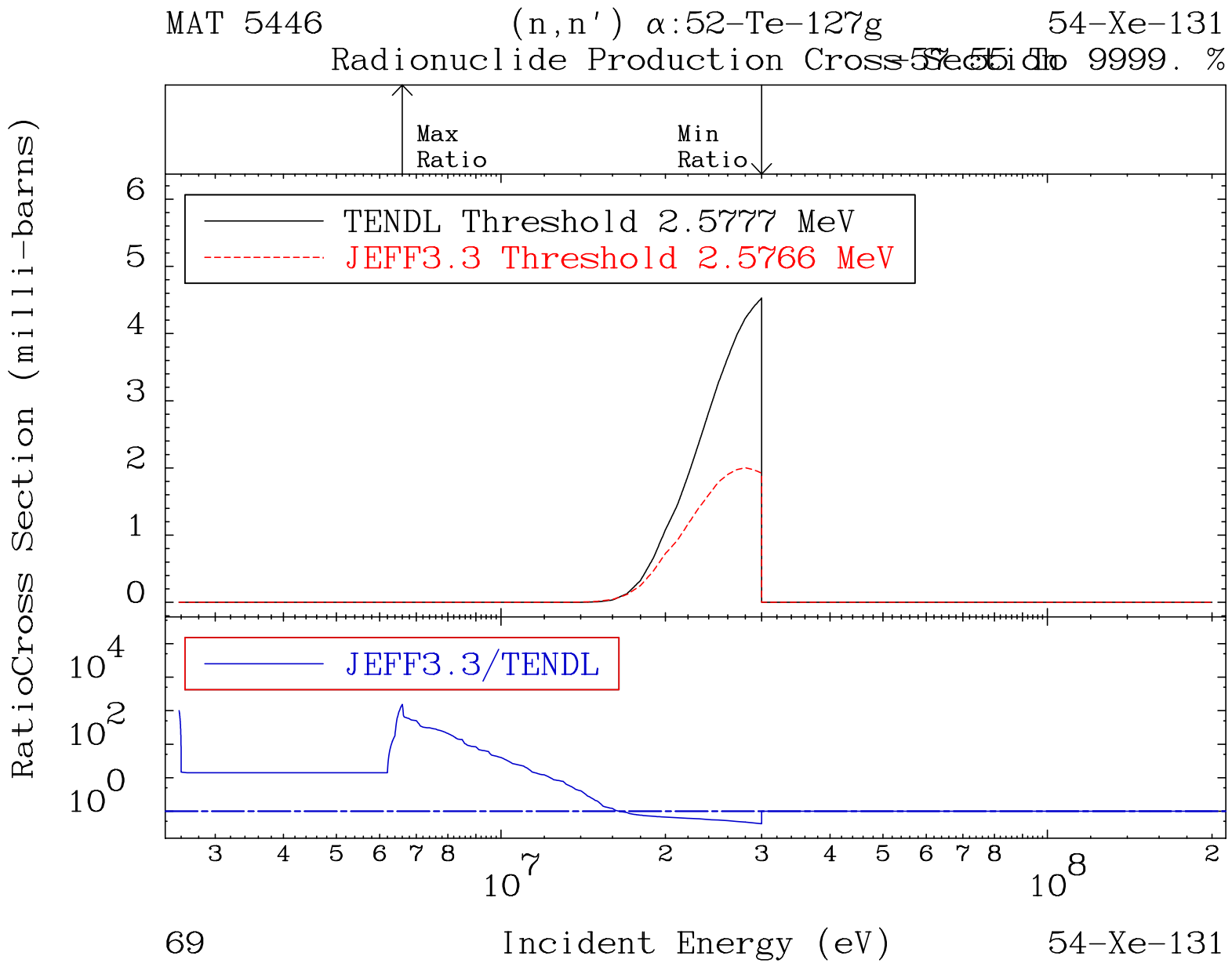

MAT 5446 Dpa disappearance (mt102 -120) 54-Xe-131
Cross Section -99.97 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
64
54-Xe-131

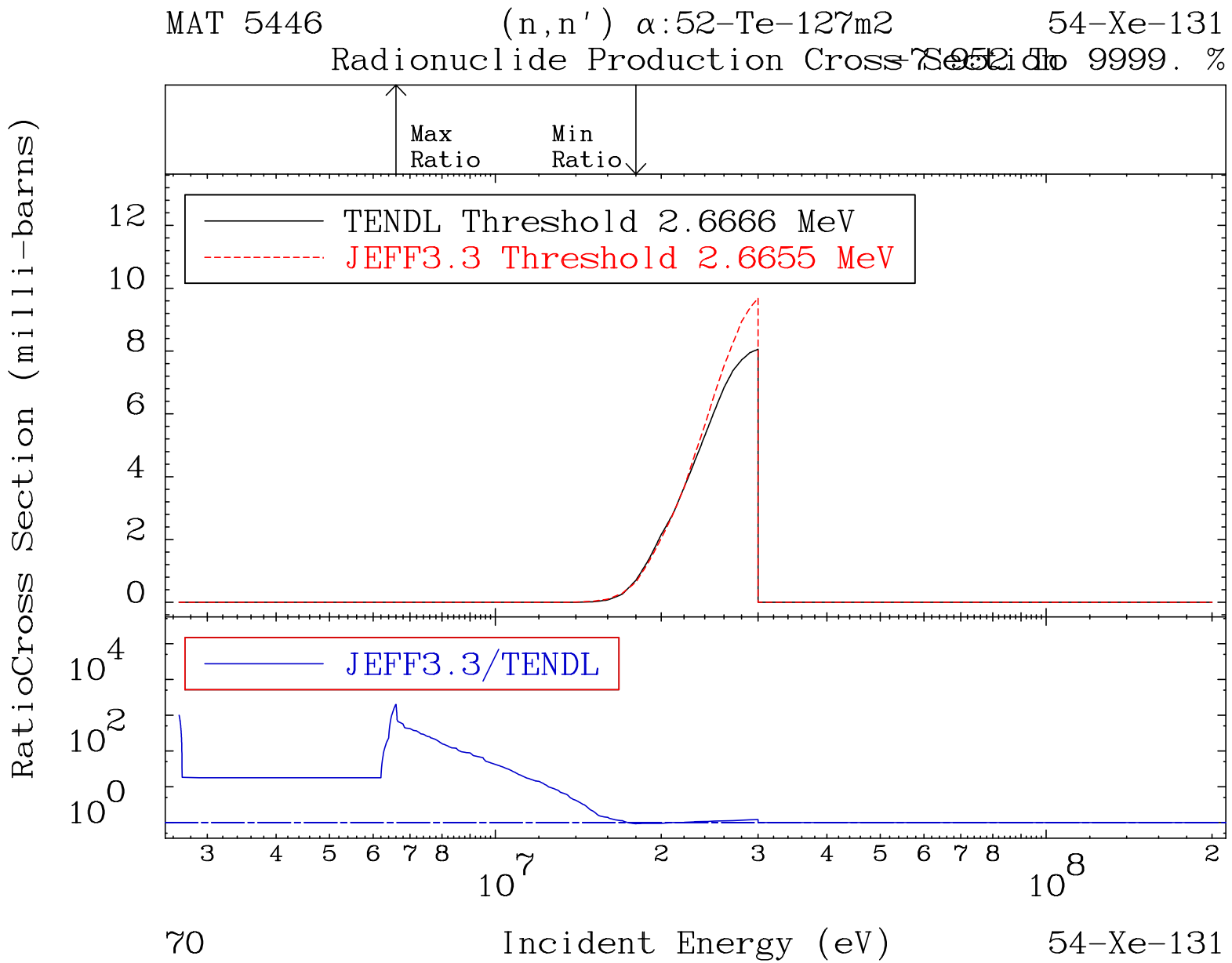

MAT 5446
Inelastic:54-Xe-131g
54-Xe-131
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL
JEFF3.3 Threshold 80.803 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
1.2
0.6
0.0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
65
Incident Energy (eV)
54-Xe-131

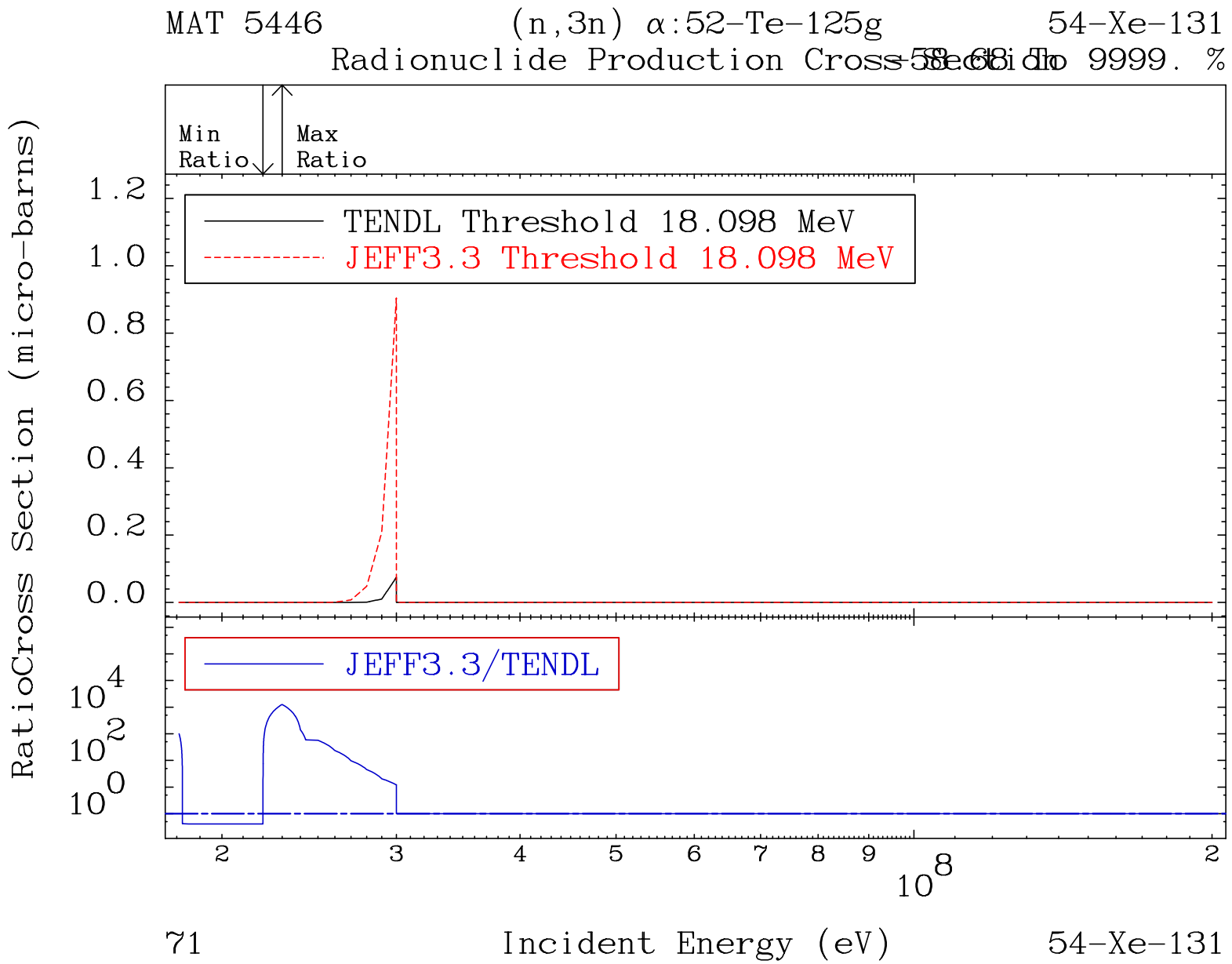

MAT 5446
Inelastic:54-Xe-131m2
54-Xe-131
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 165.19 keV
JEFF3.3 Threshold 165.19 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
66
54-Xe-131

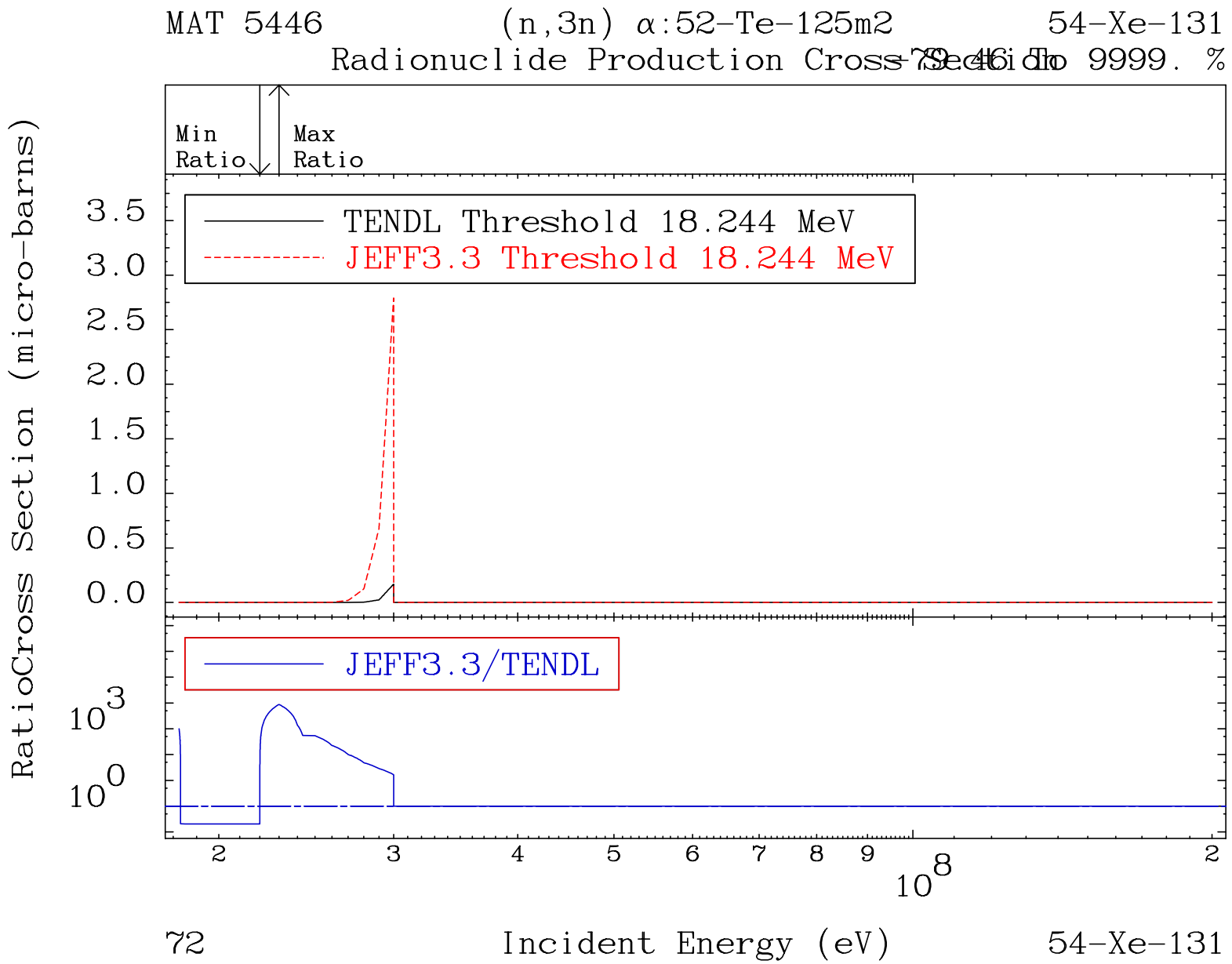

MAT 5446
(n,3n):54-Xe-129g
54-Xe-131
Radionuclide Production Cross Section
-5.97% To 4339. %
Max Ratio
Min Ratio
TENDL Threshold 15.982 MeV
JEFF3.3 Threshold 15.977 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
67
Incident Energy (eV)
54-Xe-131

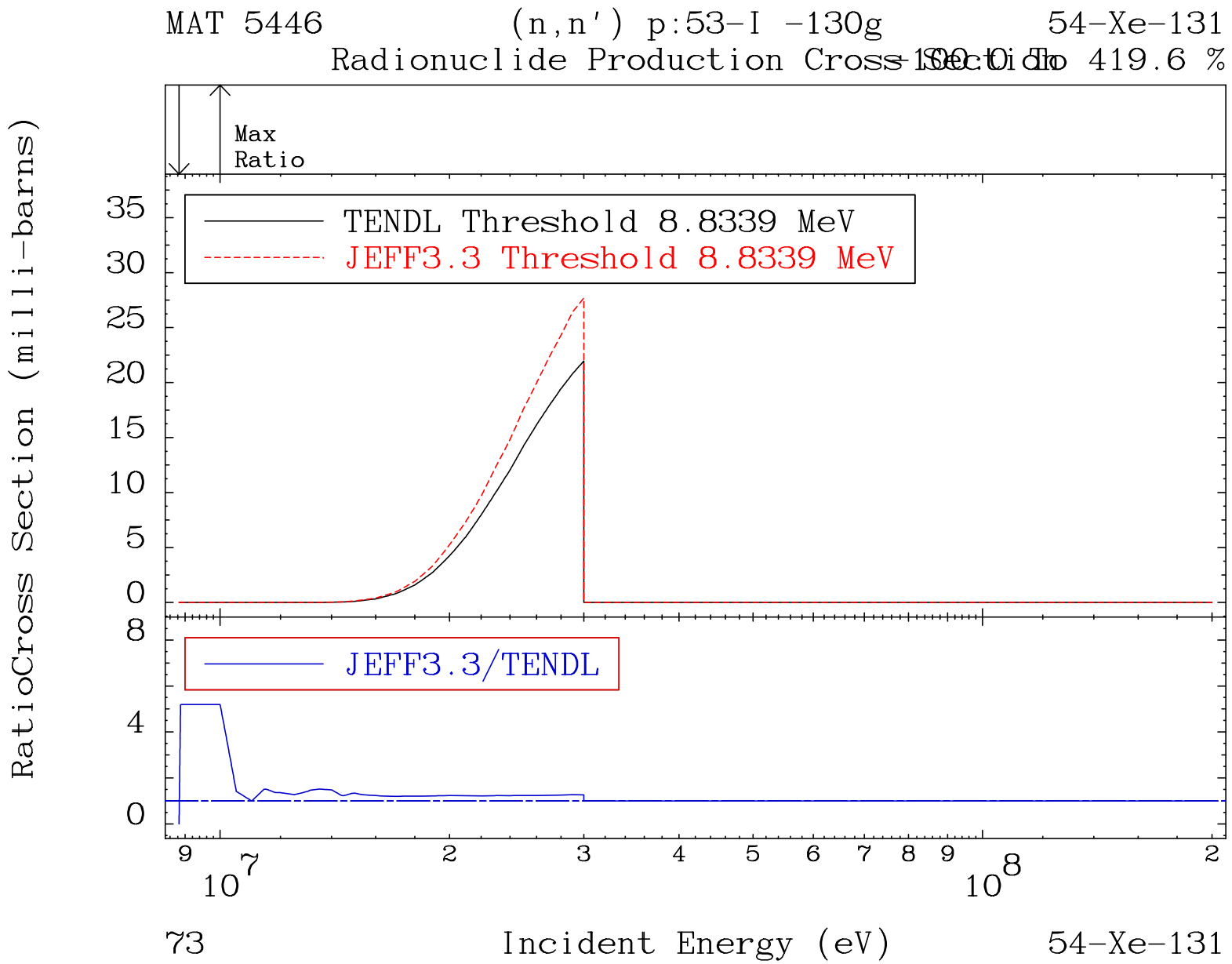

MAT 5446
(n,3n):54-Xe-129m2
54-Xe-131
Radionuclide Production Cross Section
0.000 To 99.53 %
Max Ratio
Min Ratio
TENDL Threshold 16.220 MeV
JEFF3.3 Threshold 16.215 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2.4
1.8
1.2
2
3
4
5
6
7
8
9
10^8
2
68
Incident Energy (eV)
54-Xe-131

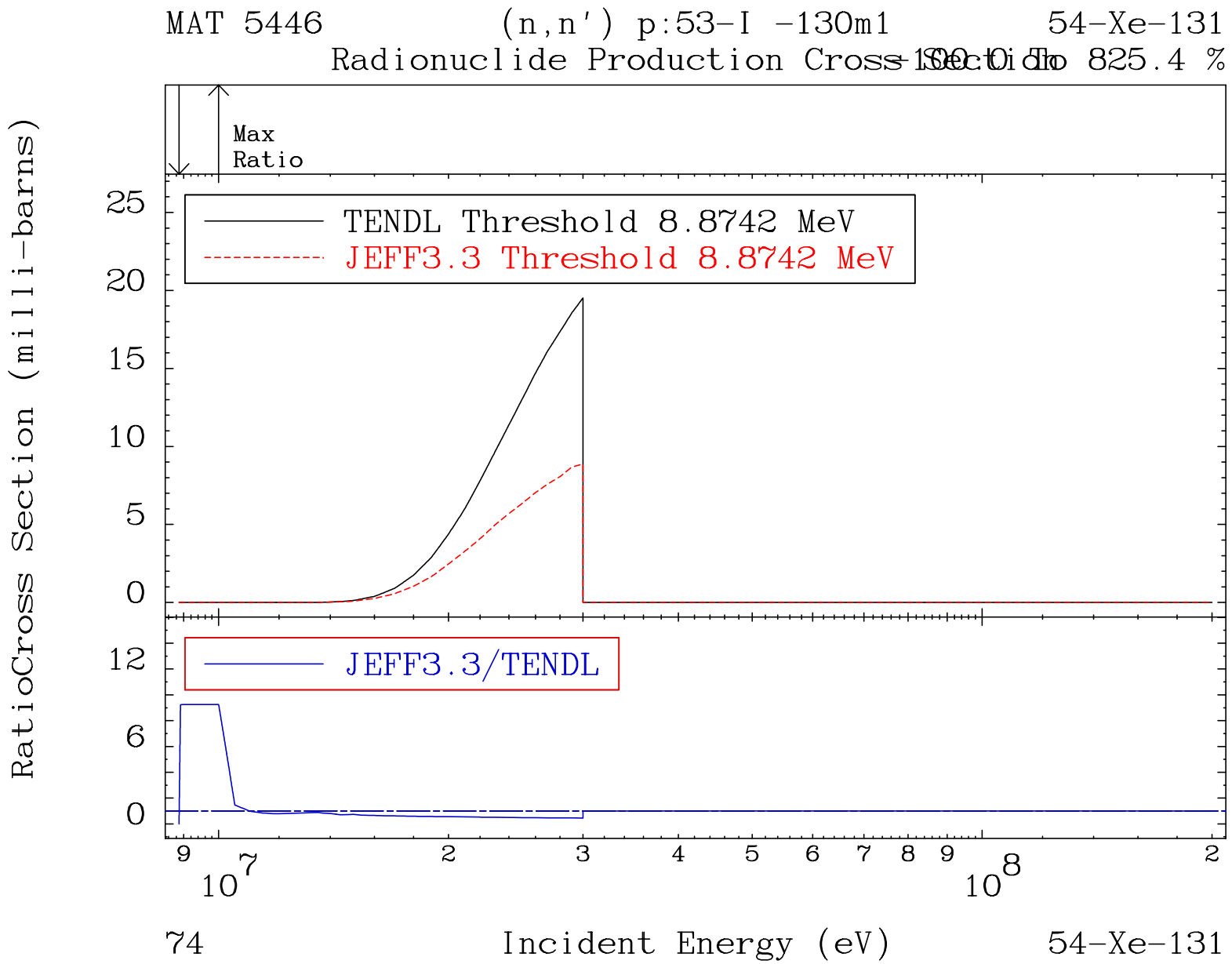

MAT 5446
(n,n') α:52-Te-127g
54-Xe-131
Radionuclide Production Cross-Section
Max Ratio
Min Ratio
TENDL Threshold 2.5777 MeV
JEFF3.3 Threshold 2.5766 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
69
54-Xe-131

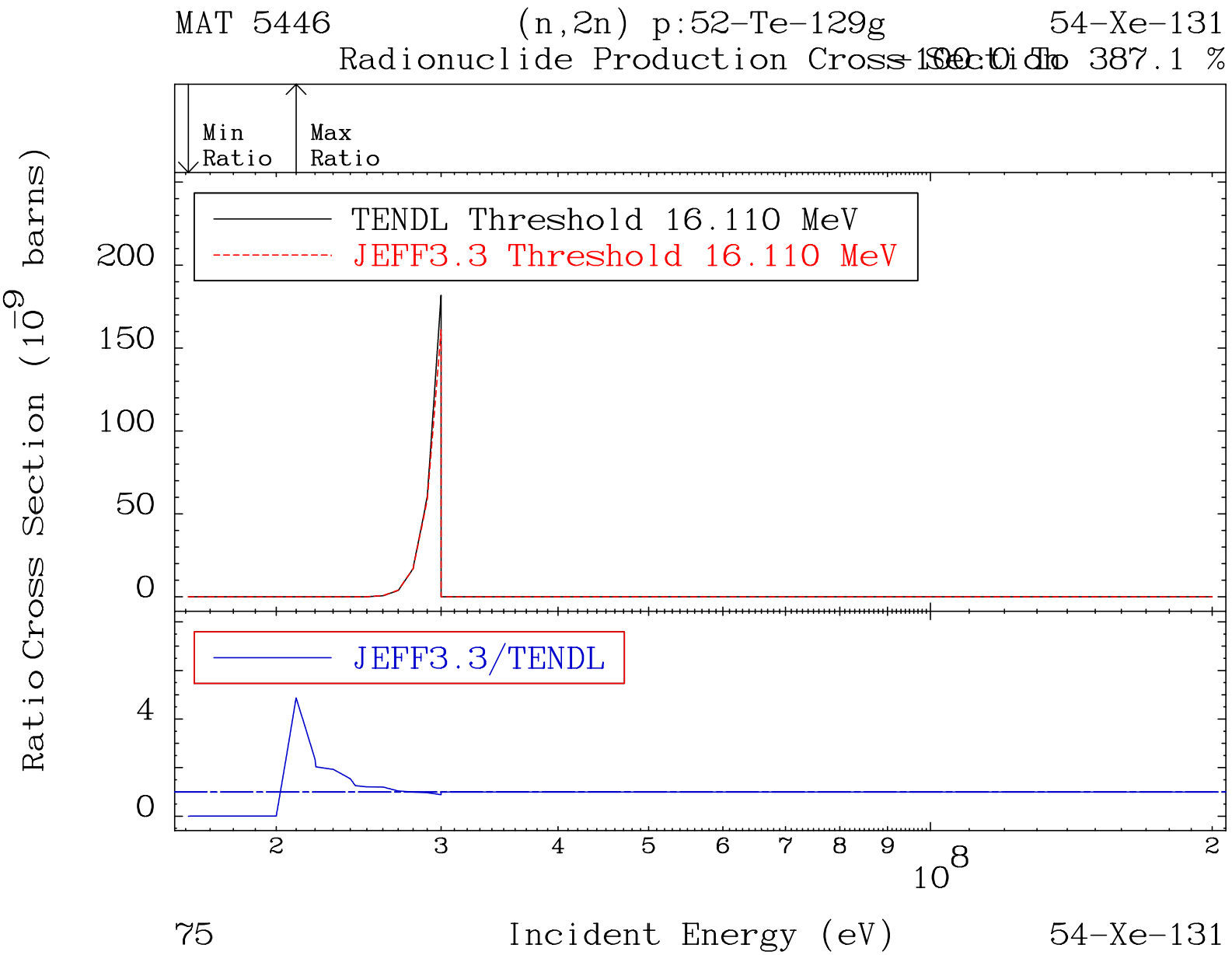

MAT 5446
(n,n') α:52-Te-127m2
54-Xe-131
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 2.6666 MeV
JEFF3.3 Threshold 2.6655 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
70
54-Xe-131

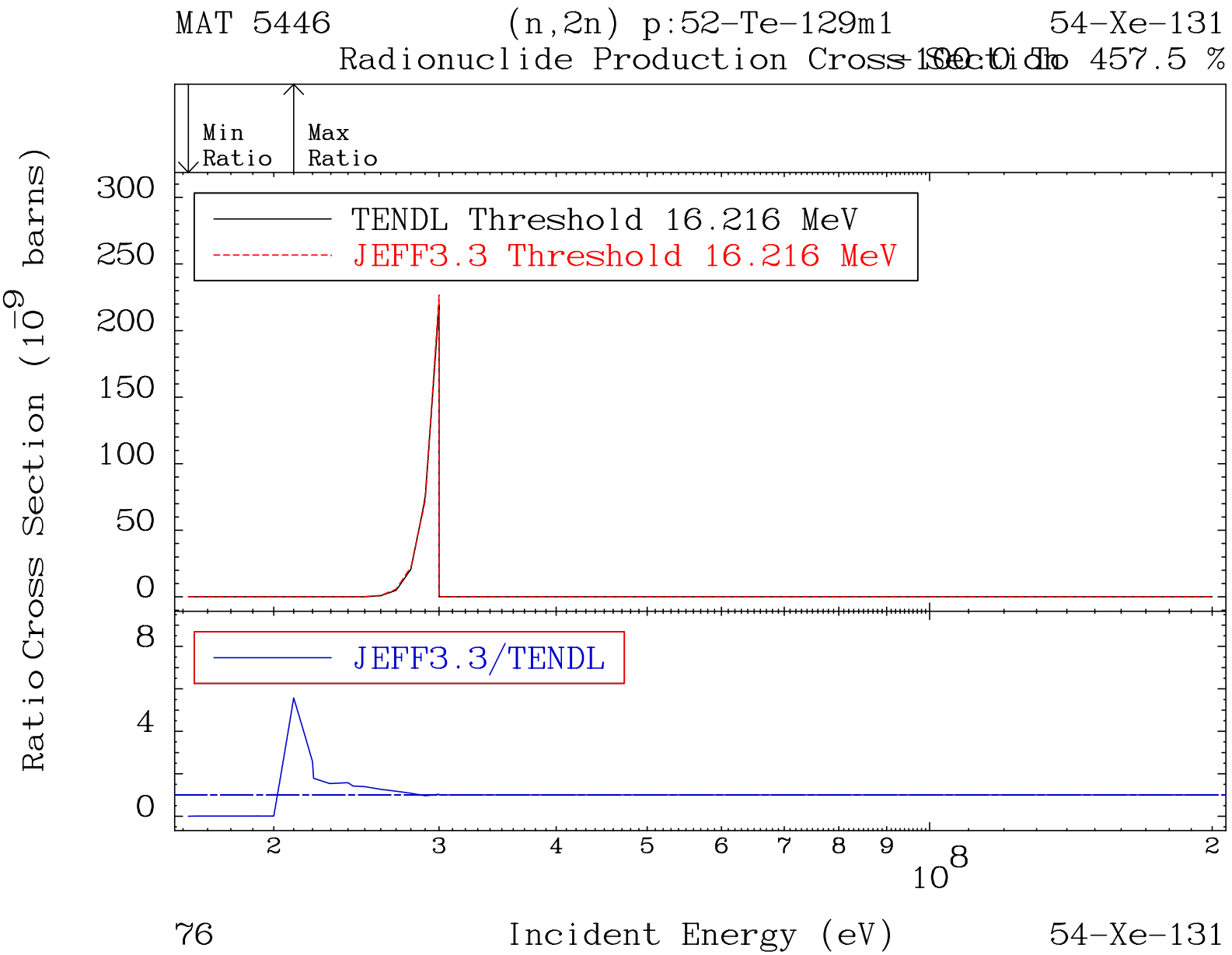

MAT 5446
(n,3n) α:52-Te-125g
54-Xe-131
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 18.098 MeV
JEFF3.3 Threshold 18.098 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
71
Incident Energy (eV)
54-Xe-131

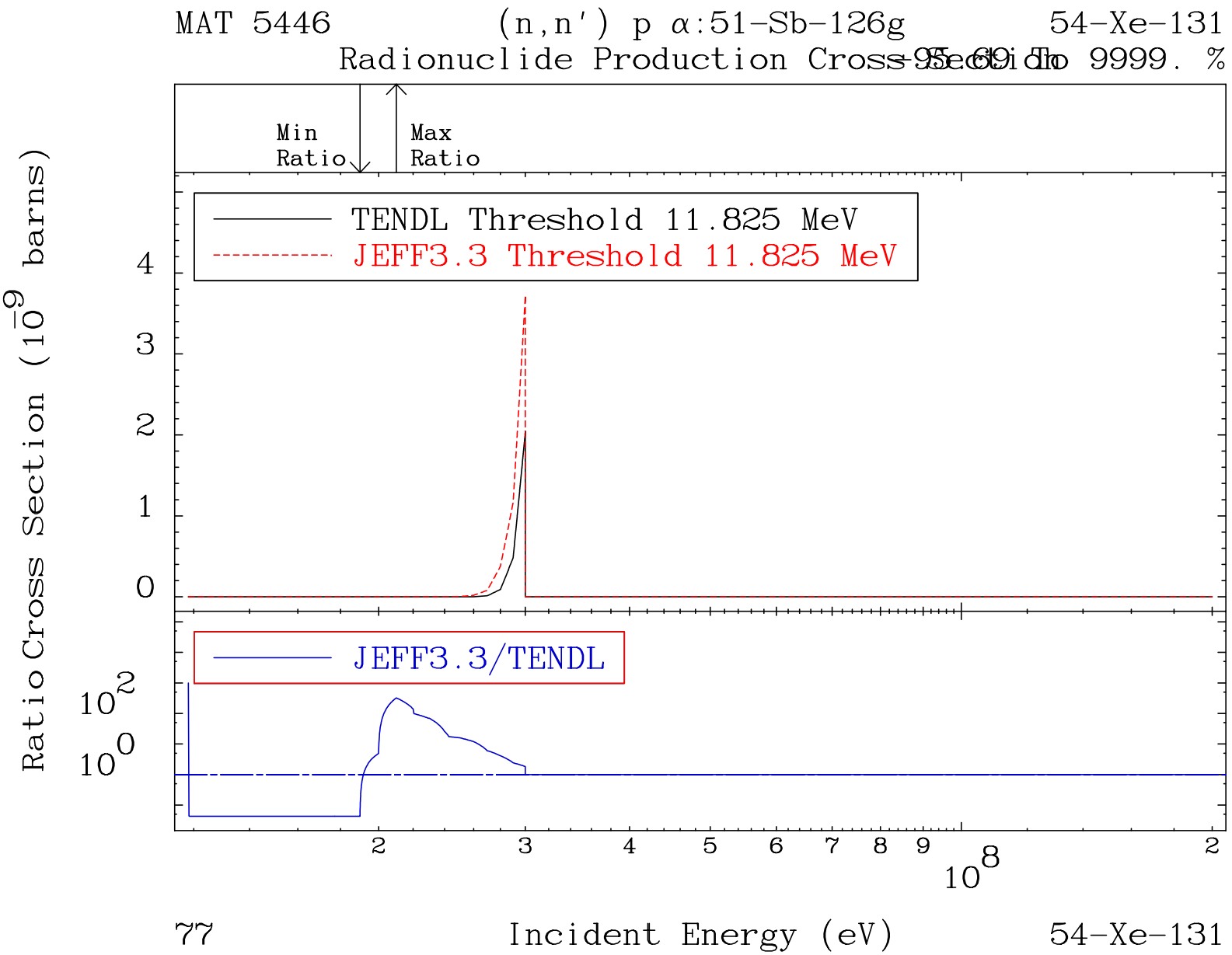

MAT 5446
(n,3n) α:52-Te-125m2
54-Xe-131
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 18.244 MeV
JEFF3.3 Threshold 18.244 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10^3
10^0
2
3
4
5
6
7
8
9
10^8
2
72
Incident Energy (eV)
54-Xe-131

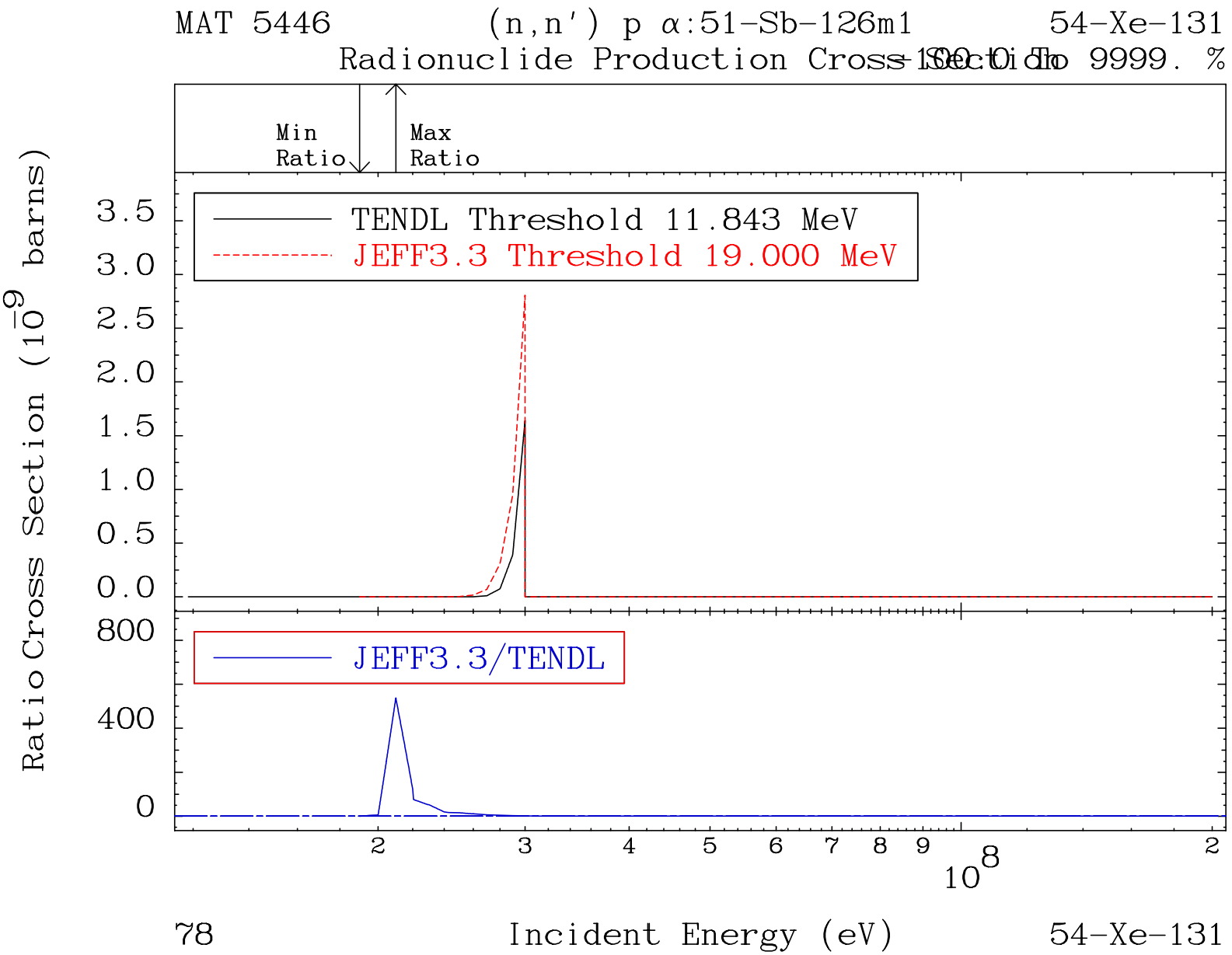

MAT 5446
(n,n') p:53-I -130g
54-Xe-131
Radionuclide Production Cross Section To 419.6 %
Max
Ratio
TENDL Threshold 8.8339 MeV
JEFF3.3 Threshold 8.8339 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
35
30
25
20
15
10
5
0
8
4
0
9
2
3
4
5
6
7
8
9
2
10^7
10^8
73
Incident Energy (eV)
54-Xe-131

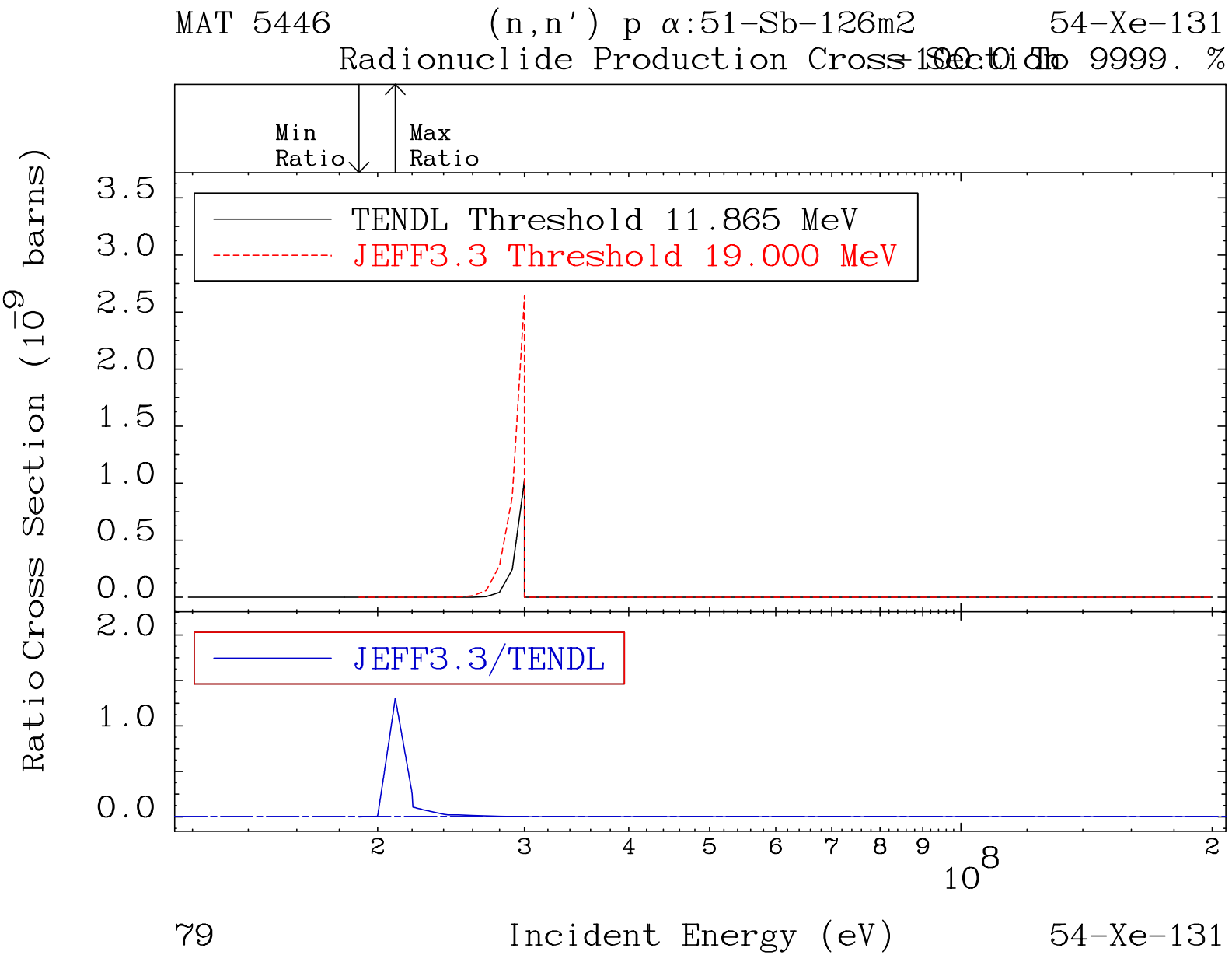

MAT 5446
(n,n') p:53-I -130m1
54-Xe-131
Radionuclide Production Cross Section To 825.4 %
Max
Ratio
TENDL Threshold 8.8742 MeV
JEFF3.3 Threshold 8.8742 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
12
6
0
9
7
10
2
3
4
5
6
7
8
9
8
10
2
74
Incident Energy (eV)
54-Xe-131

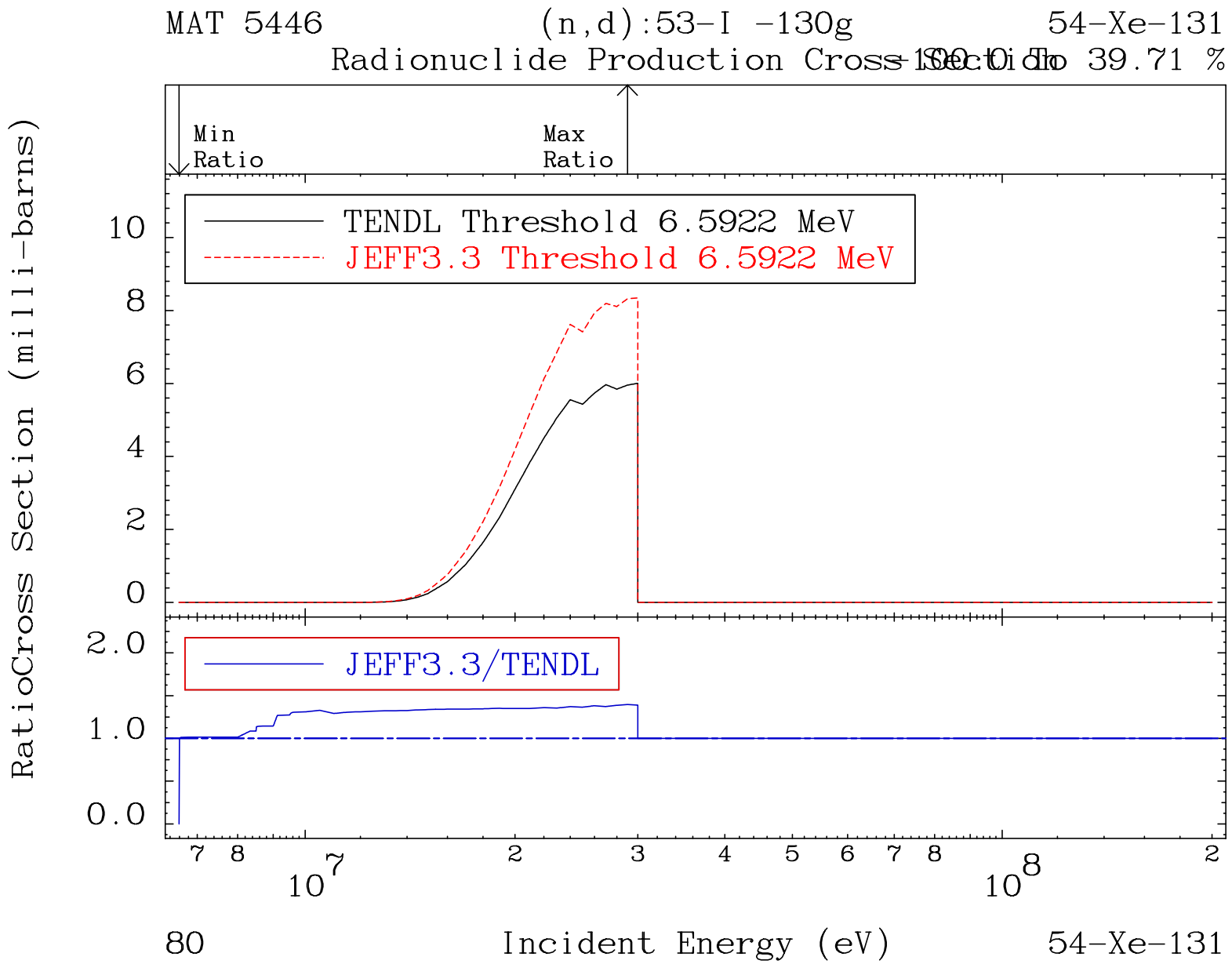

MAT 5446
(n,2n) p:52-Te-129g
54-Xe-131
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 16.110 MeV
JEFF3.3 Threshold 16.110 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
200
150
100
50
0
4
0
2
3
4
5
6
7
8
9
10^8
2
75
Incident Energy (eV)
54-Xe-131

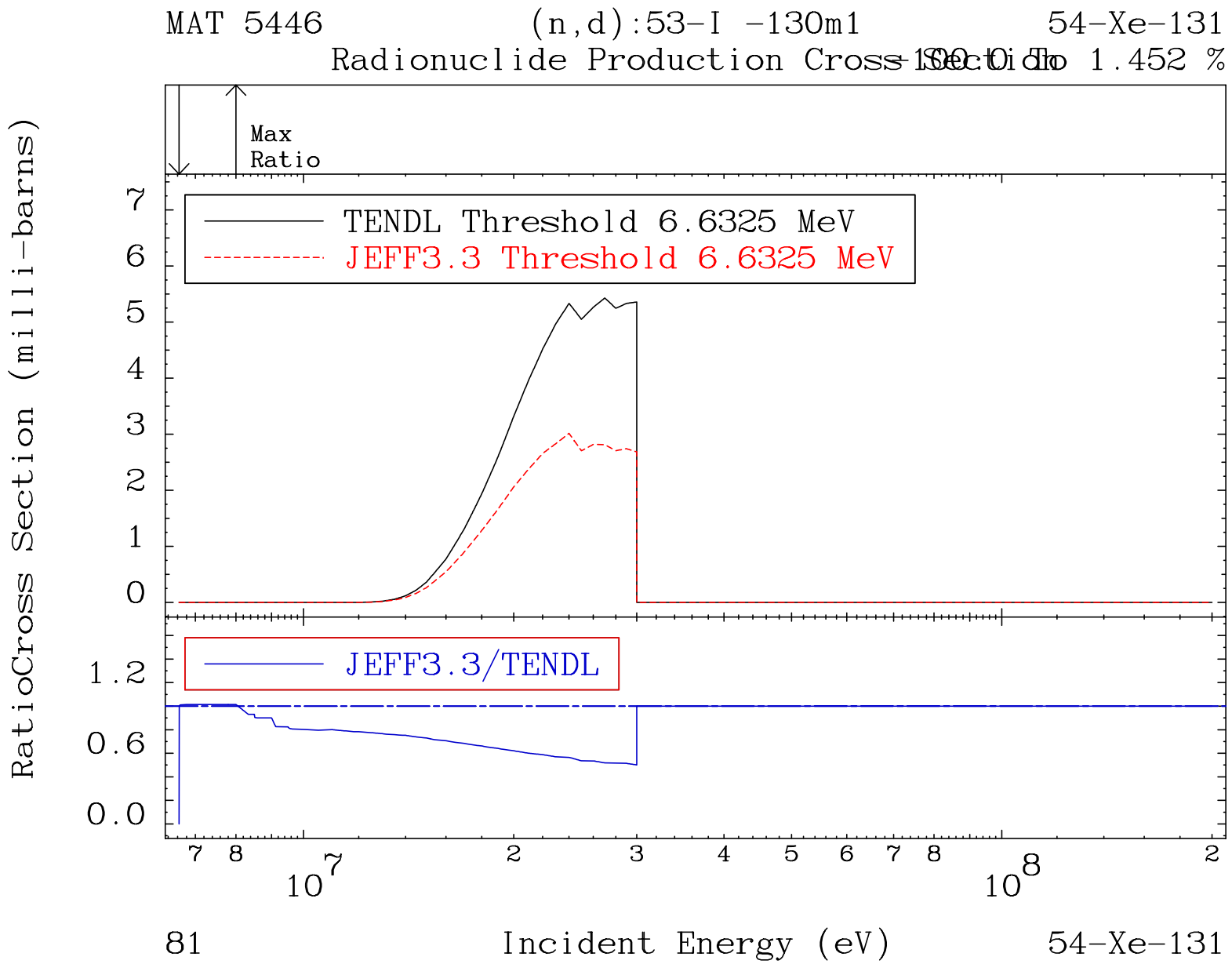

MAT 5446
(n,2n) p:52-Te-129m1
54-Xe-131
Radionuclide Production Cross Section To 457.5 %
Min Ratio
Max Ratio
TENDL Threshold 16.216 MeV
JEFF3.3 Threshold 16.216 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
300
250
200
150
100
50
0
8
4
0
2
3
4
5
6
7
8
9
10^8
2
76
Incident Energy (eV)
54-Xe-131

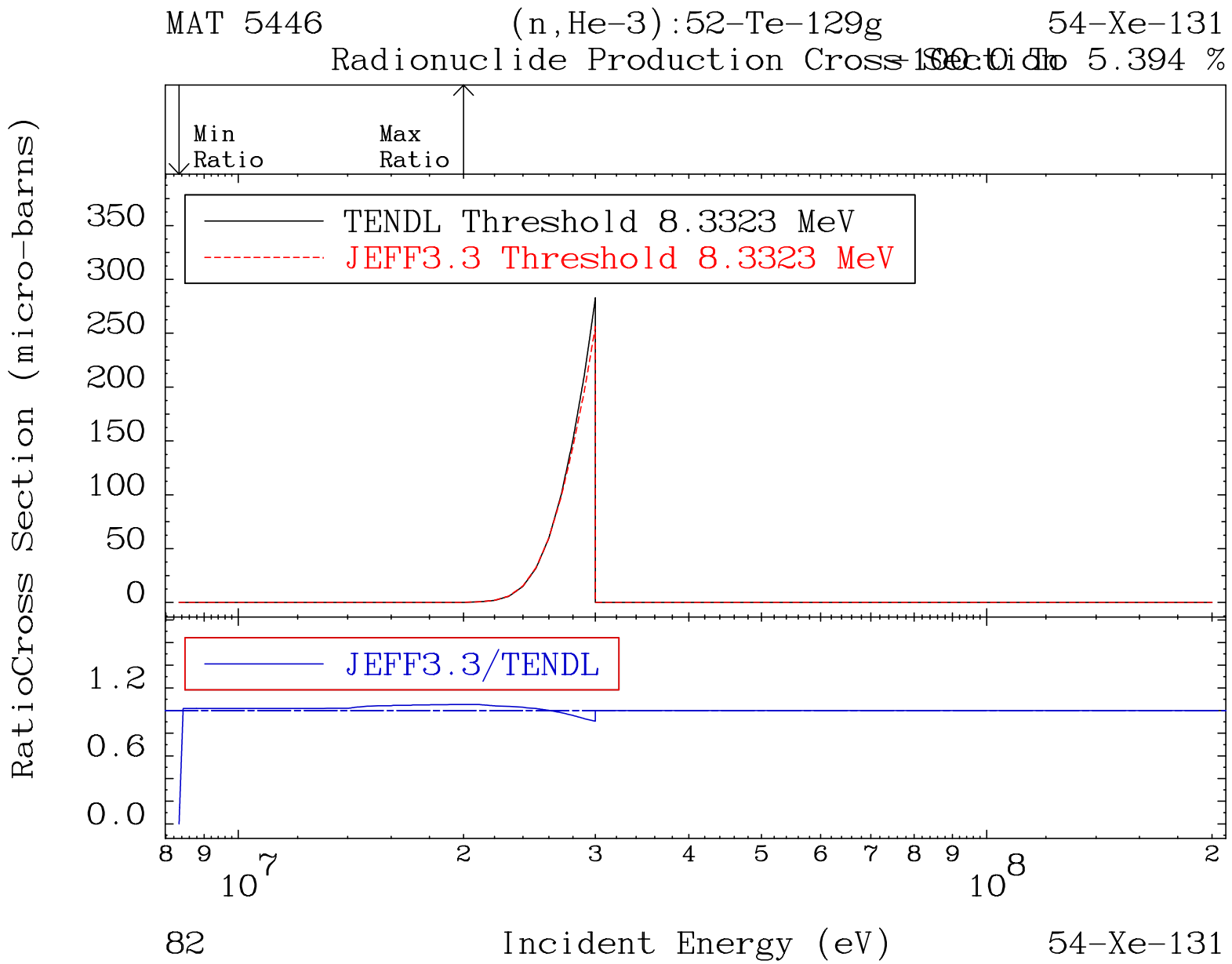

MAT 5446
(n,n') p α:51-Sb-126g
54-Xe-131
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 11.825 MeV
JEFF3.3 Threshold 11.825 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
Incident Energy (eV)
77
54-Xe-131

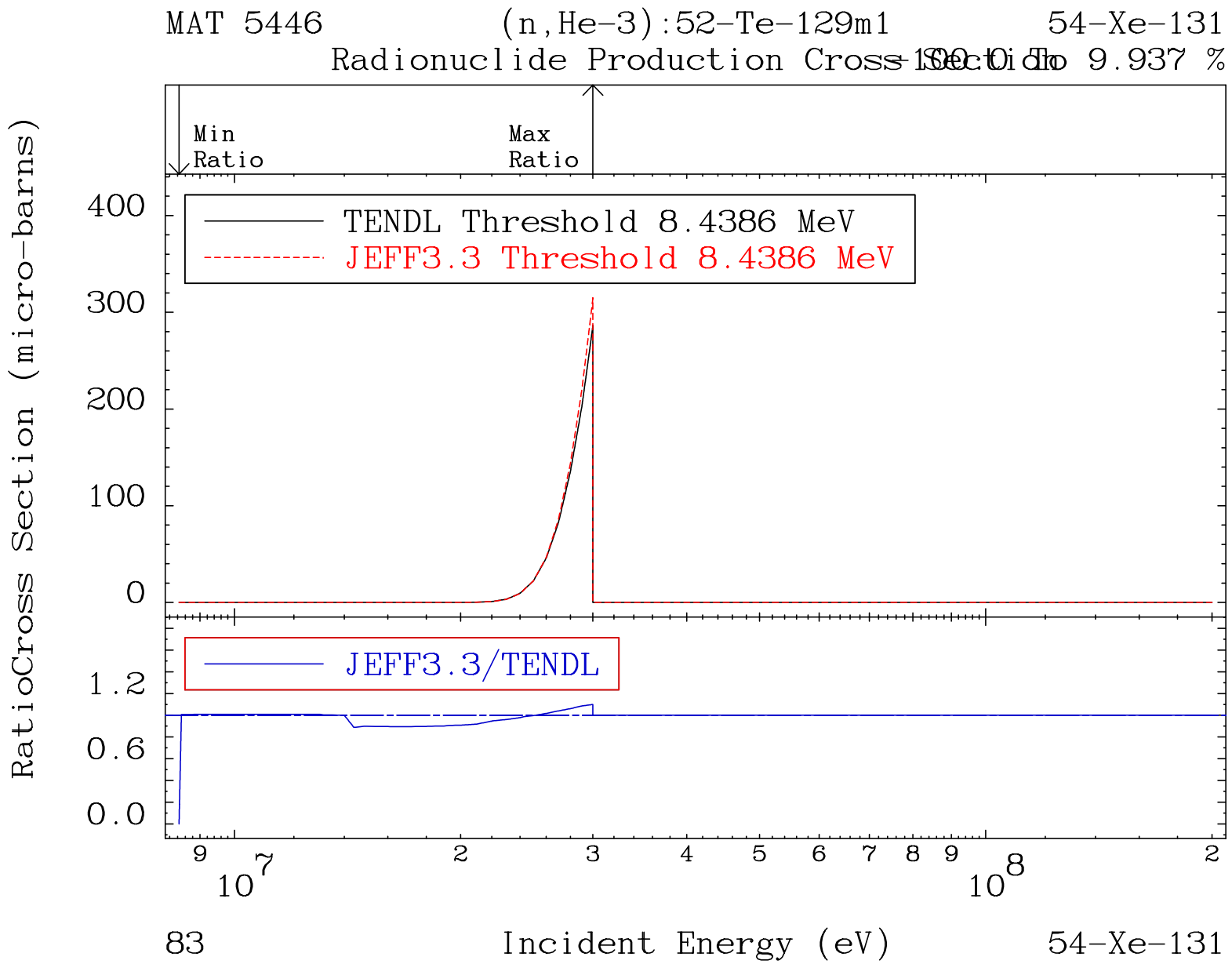

MAT 5446
(n,n') p α:51-Sb-126m1
54-Xe-131
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 11.843 MeV
JEFF3.3 Threshold 19.000 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
800
400
0
2
3
4
5
6
7
8
9
10^8
2
78
Incident Energy (eV)
54-Xe-131

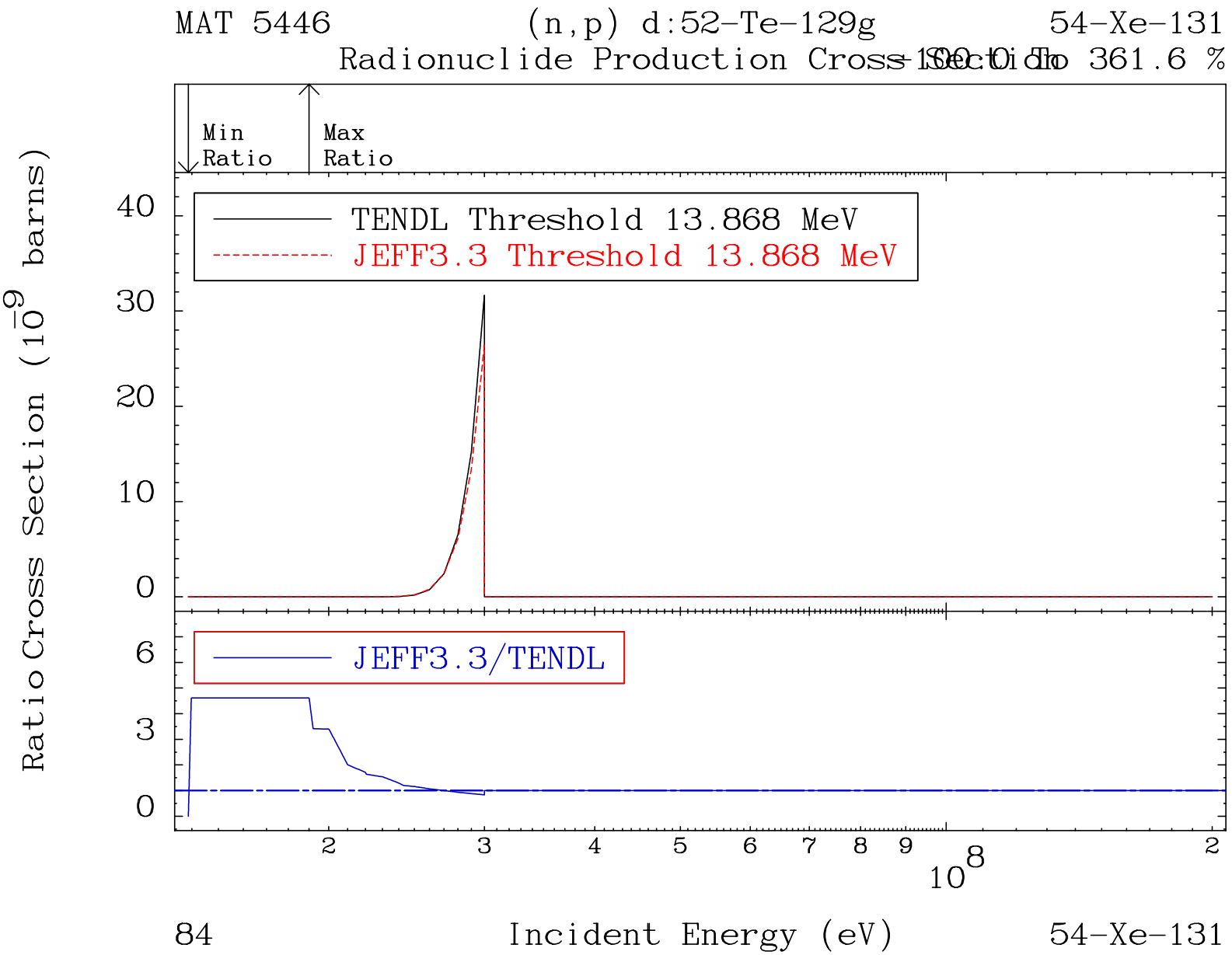

MAT 5446
(n,n') p α:51-Sb-126m2
54-Xe-131
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 11.865 MeV
JEFF3.3 Threshold 19.000 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
2
10^8
79
Incident Energy (eV)
54-Xe-131

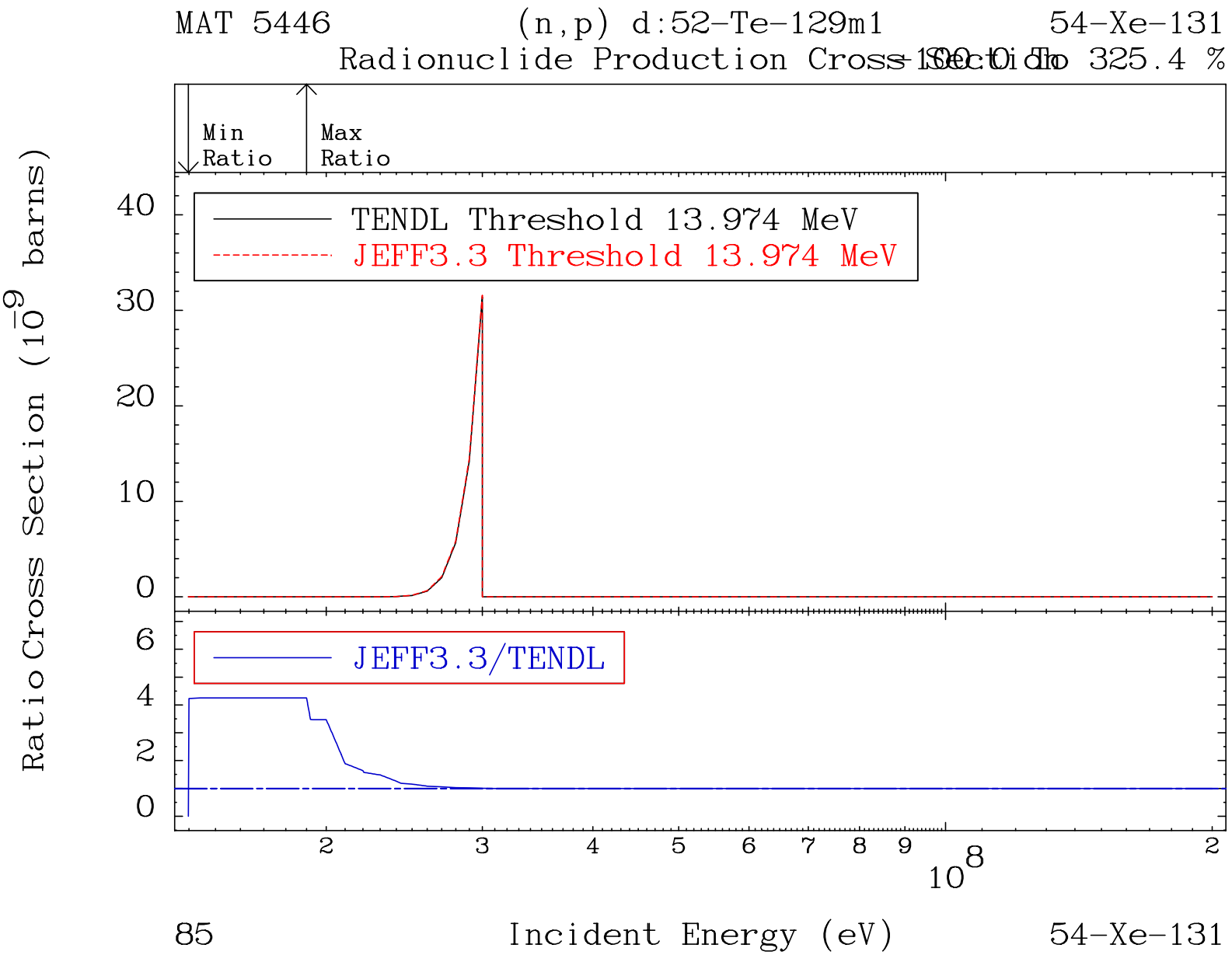

MAT 5446
(n,d):53-I -130g
54-Xe-131
Radionuclide Production Cross Section To 39.71 %
Min Ratio
Max Ratio
TENDL Threshold 6.5922 MeV
JEFF3.3 Threshold 6.5922 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
80
54-Xe-131


MAT 5446
(n,d):53-I -130m1
54-Xe-131
Radionuclide Production Cross Section To 1.452 %
Max
Ratio
TENDL Threshold 6.6325 MeV
JEFF3.3 Threshold 6.6325 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
81
54-Xe-131


MAT 5446
(n,He-3):52-Te-129g
54-Xe-131
Radionuclide Production Cross Section To 5.394 %
Min Ratio
Max Ratio
TENDL Threshold 8.3323 MeV
JEFF3.3 Threshold 8.3323 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
350
300
250
200
150
100
50
0
1.2
0.6
0.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
82
Incident Energy (eV)
54-Xe-131


MAT 5446
(n,He-3):52-Te-129m1
54-Xe-131
Radionuclide Production Cross Section To 9.937 %
Min Ratio
Max Ratio
TENDL Threshold 8.4386 MeV
JEFF3.3 Threshold 8.4386 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
400
300
200
100
0
1.2
0.6
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
83
Incident Energy (eV)
54-Xe-131


MAT 5446
(n,p) d:52-Te-129g
54-Xe-131
Radionuclide Production Cross Section To 361.6 %
Min Ratio
Max Ratio
TENDL Threshold 13.868 MeV
JEFF3.3 Threshold 13.868 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
40
30
20
10
0
6
3
0
2
3
4
5
6
7
8
9
10^8
2
84
Incident Energy (eV)
54-Xe-131


MAT 5446
(n,p) d:52-Te-129m1
54-Xe-131
Radionuclide Production Cross Section To 325.4 %
Min Ratio
Max Ratio
TENDL Threshold 13.974 MeV
JEFF3.3 Threshold 13.974 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
Incident Energy (eV)
85
54-Xe-131