Program Complot
(Version 2021-1)
by
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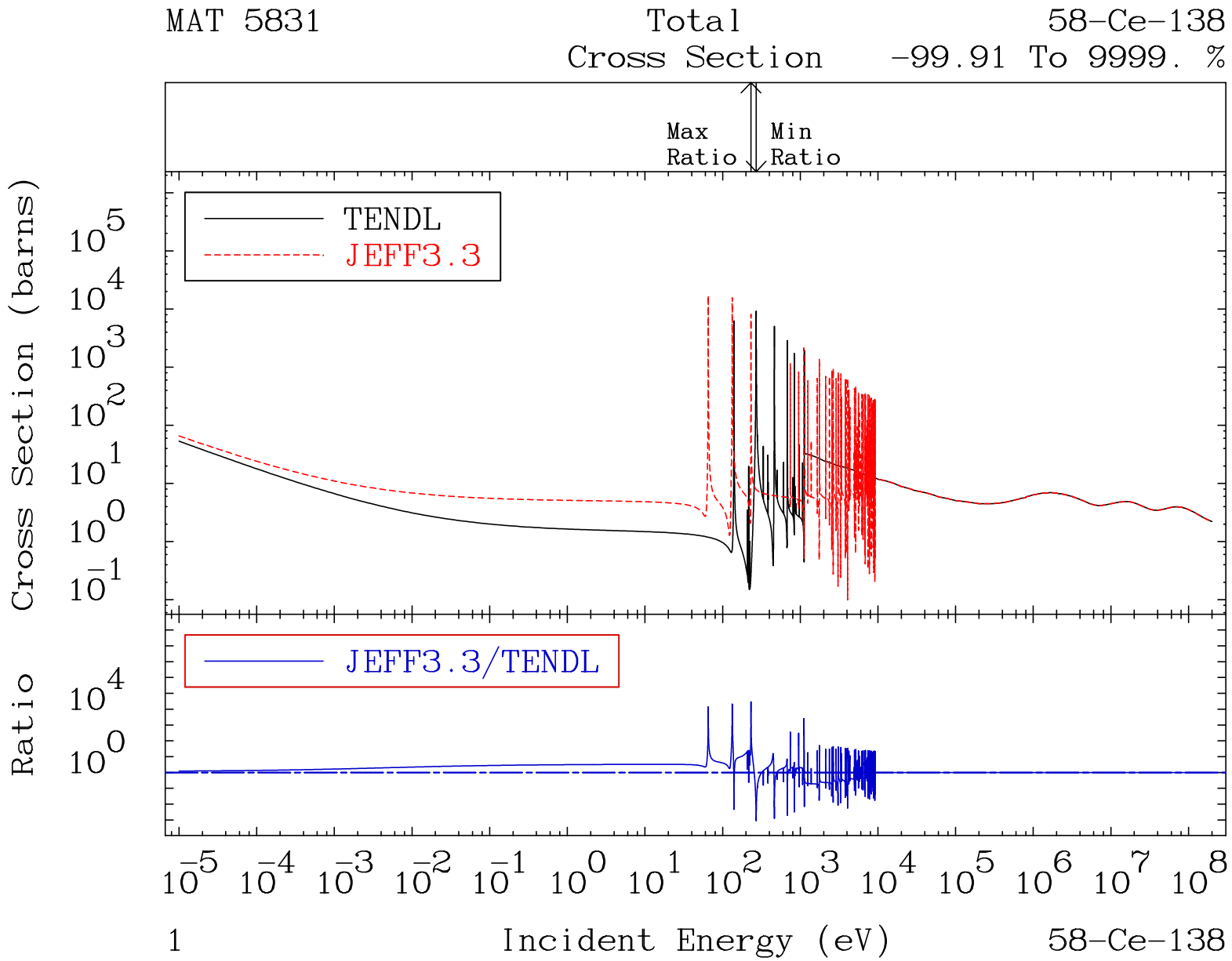
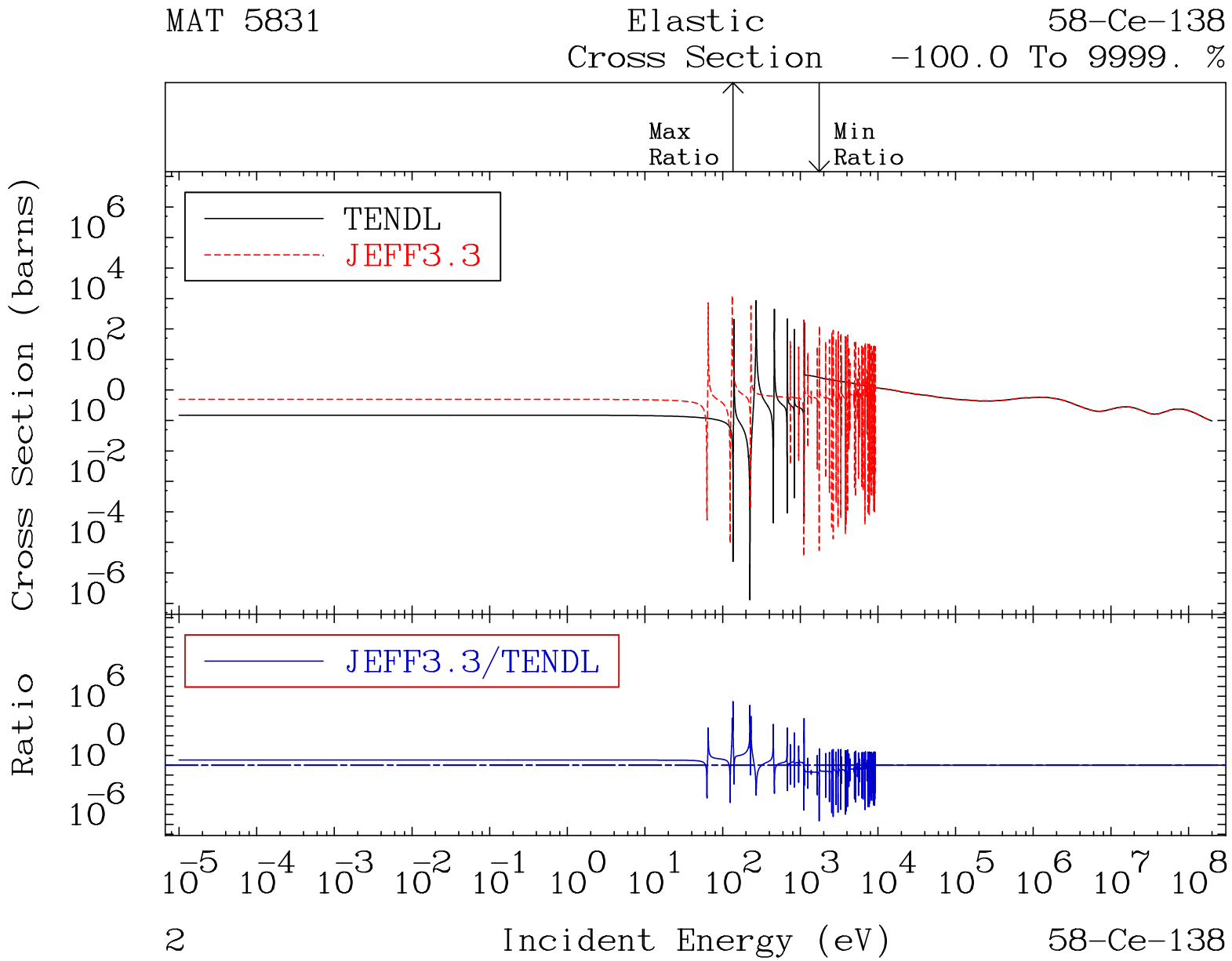
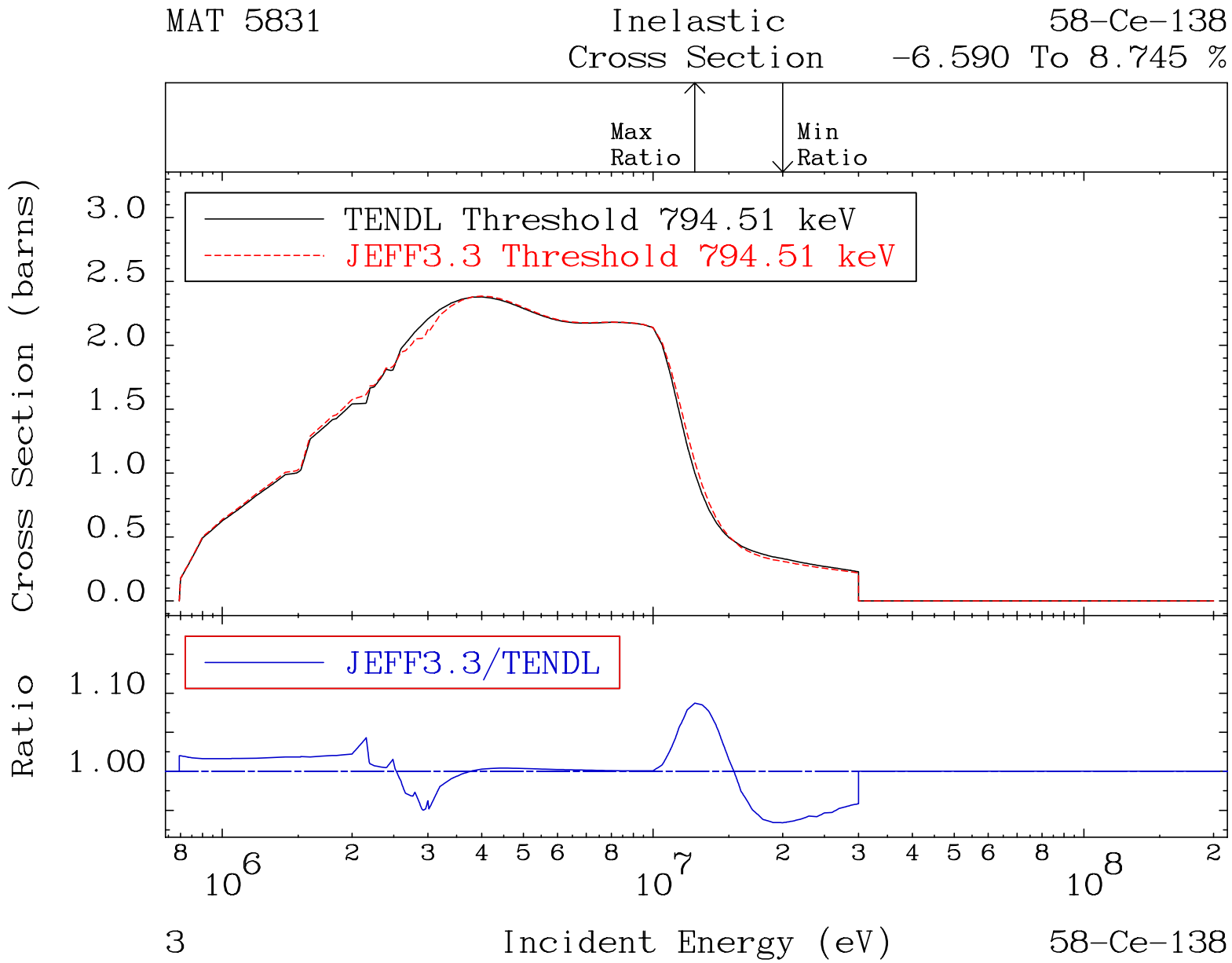
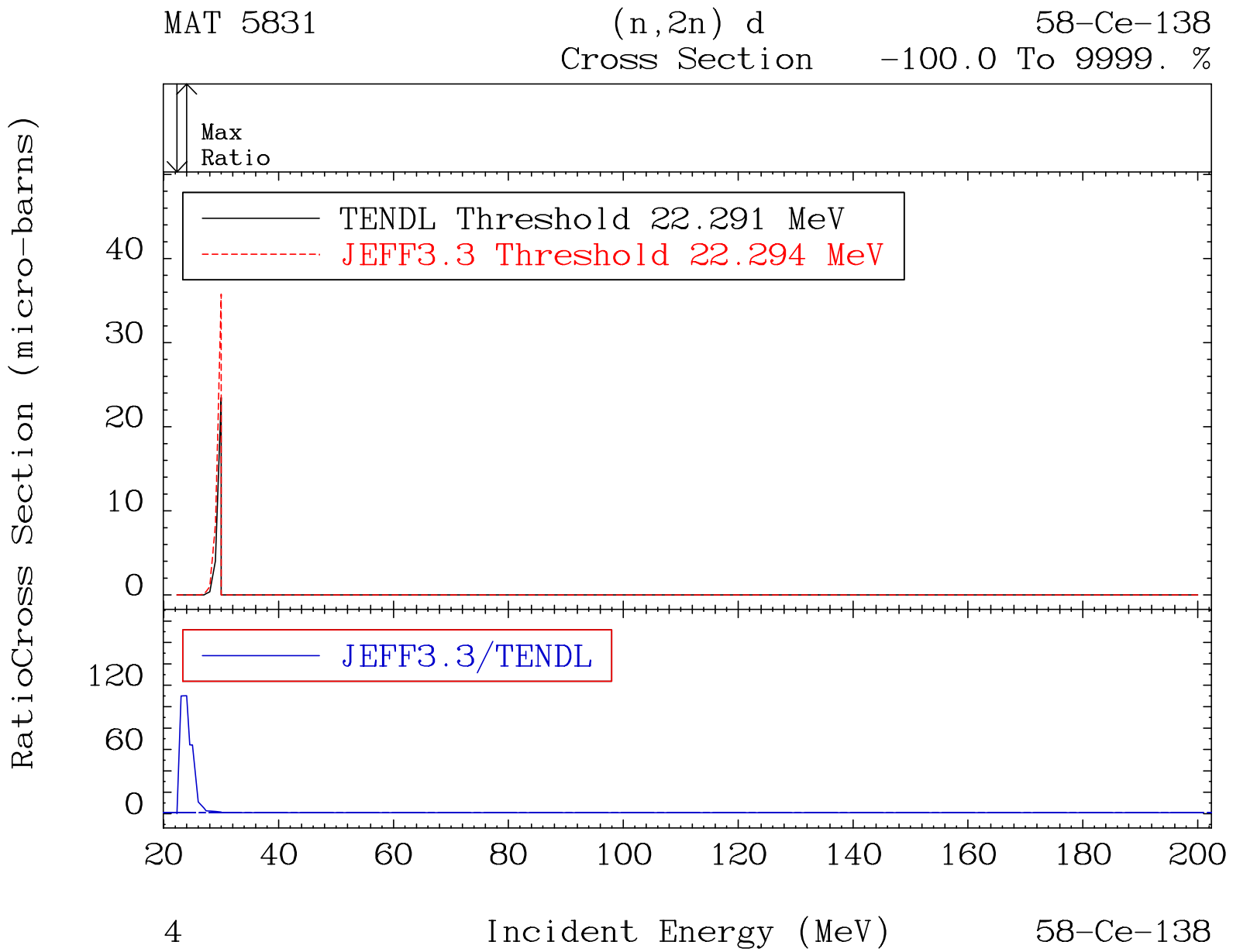
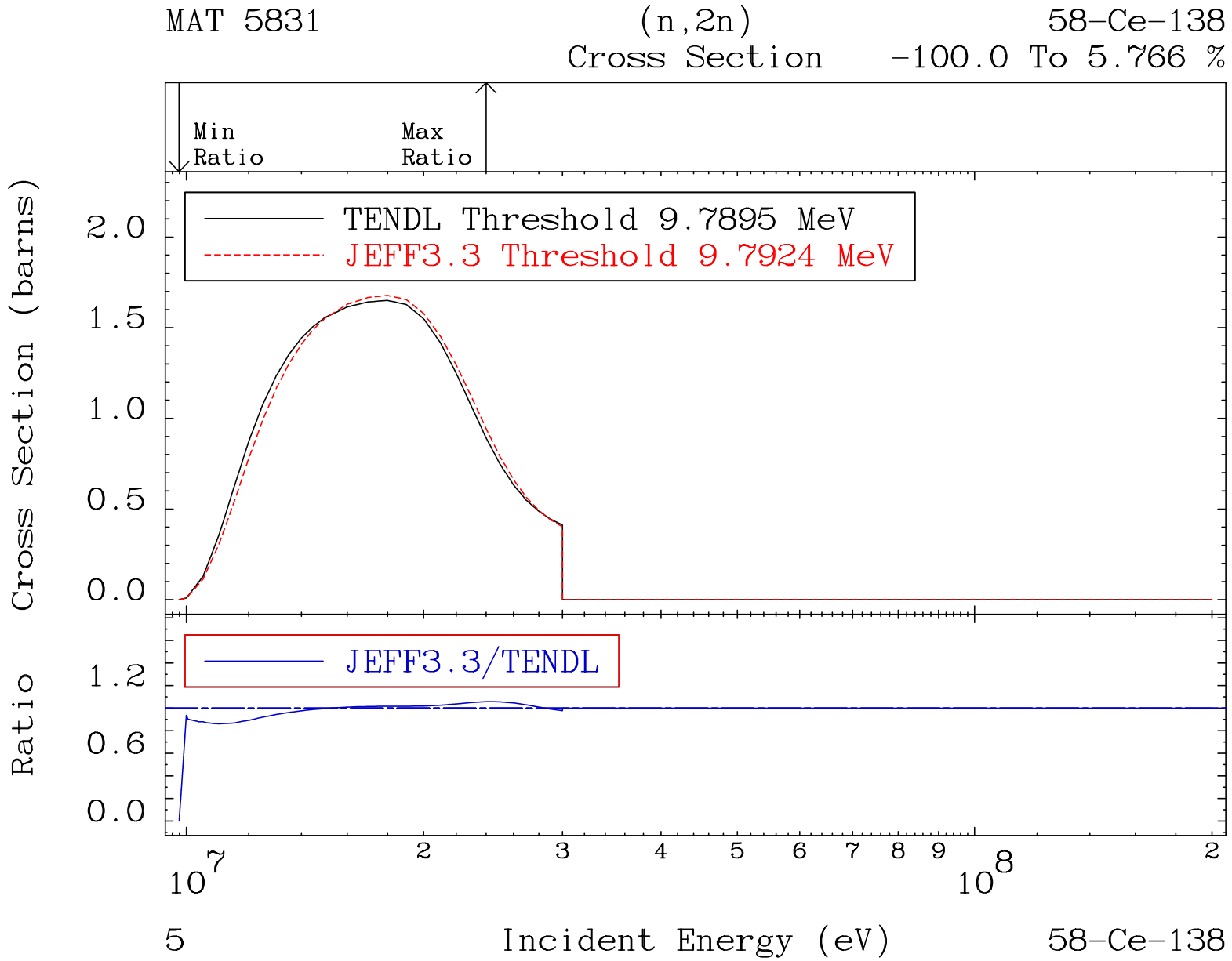
Press Mouse Button to Start

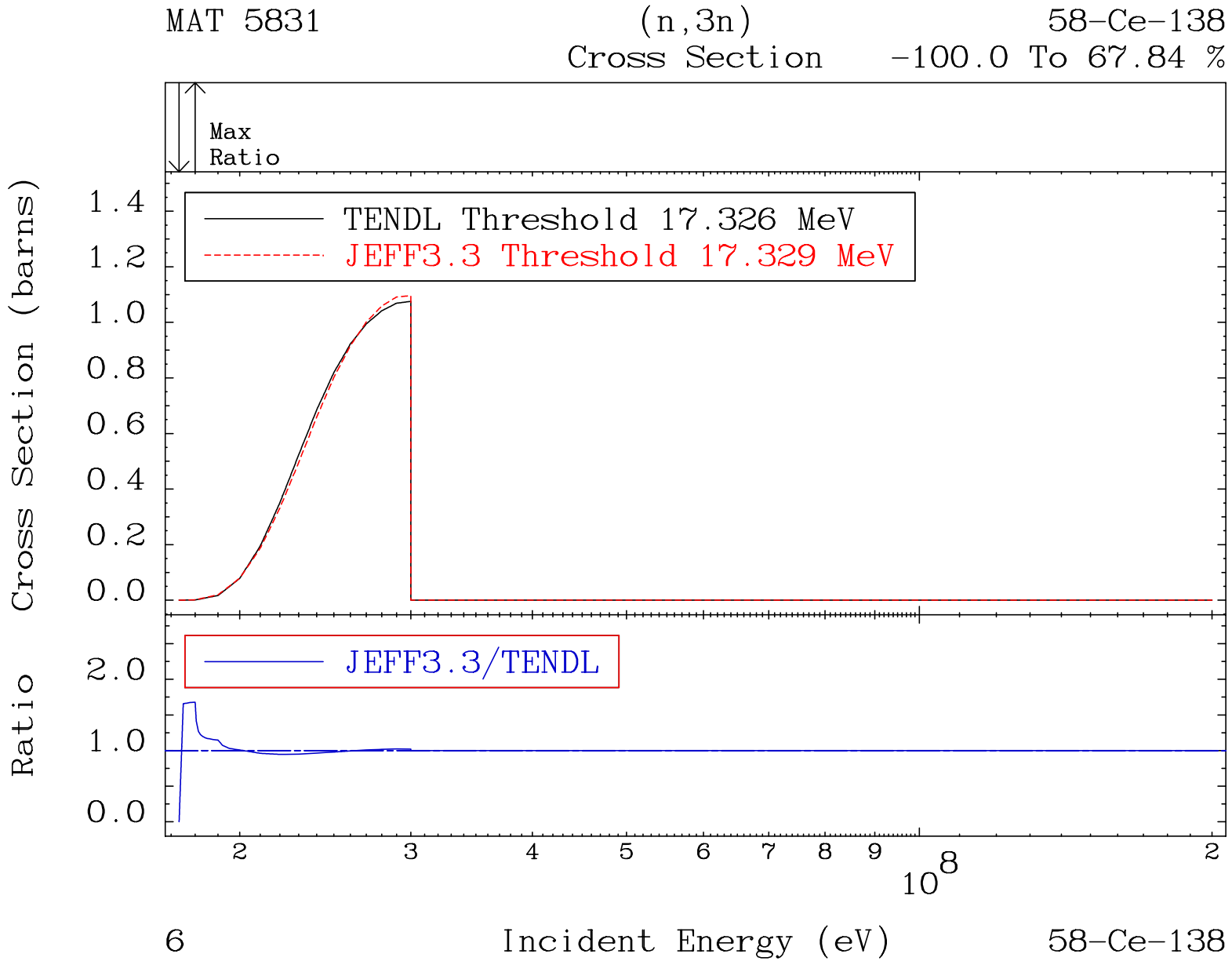

MAT 5831
Total
Cross Section
58-Ce-138
-99.91 To 9999. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
58-Ce-138

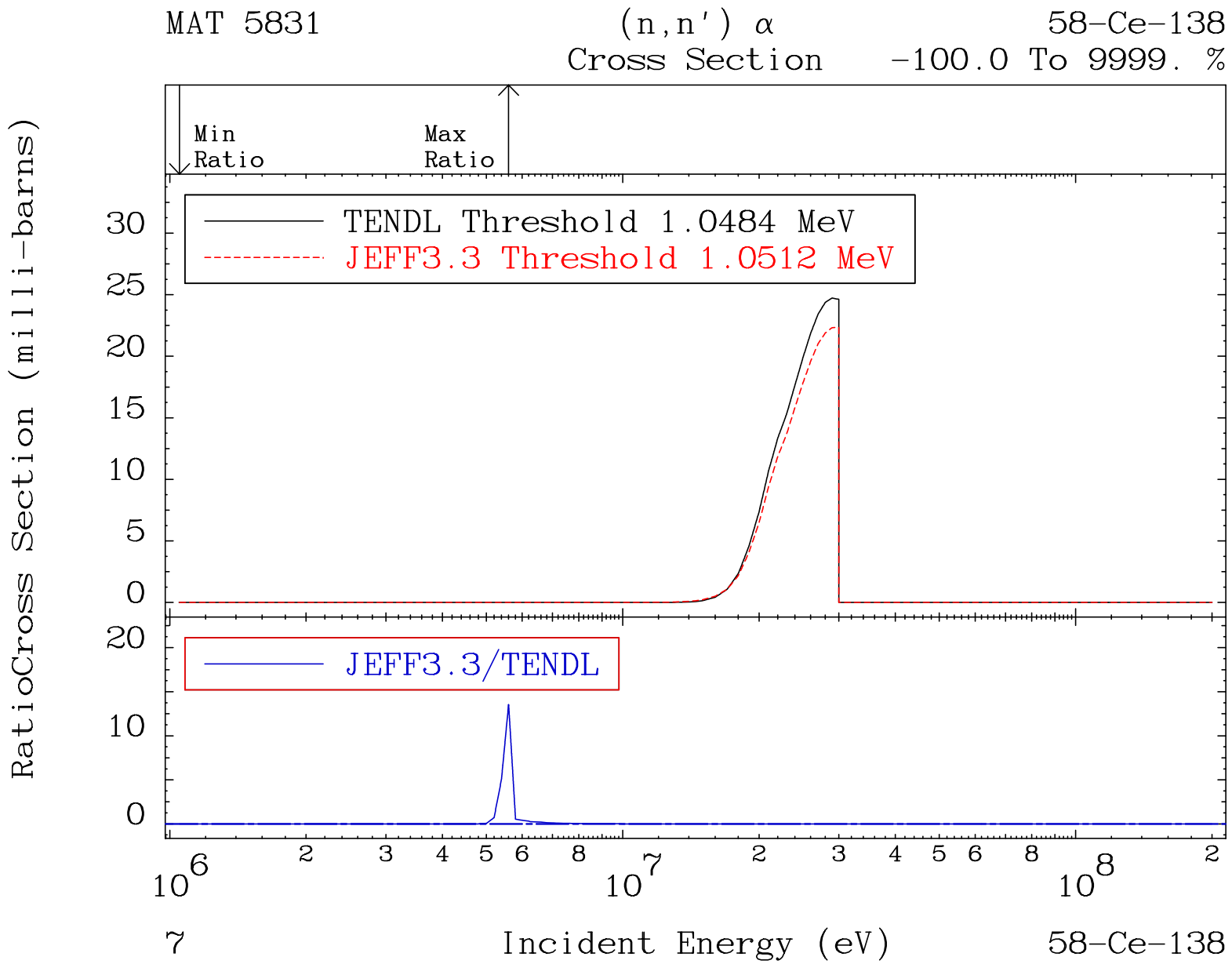

MAT 5831
Elastic
Cross Section
58-Ce-138
-100.0 To 9999. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
58-Ce-138

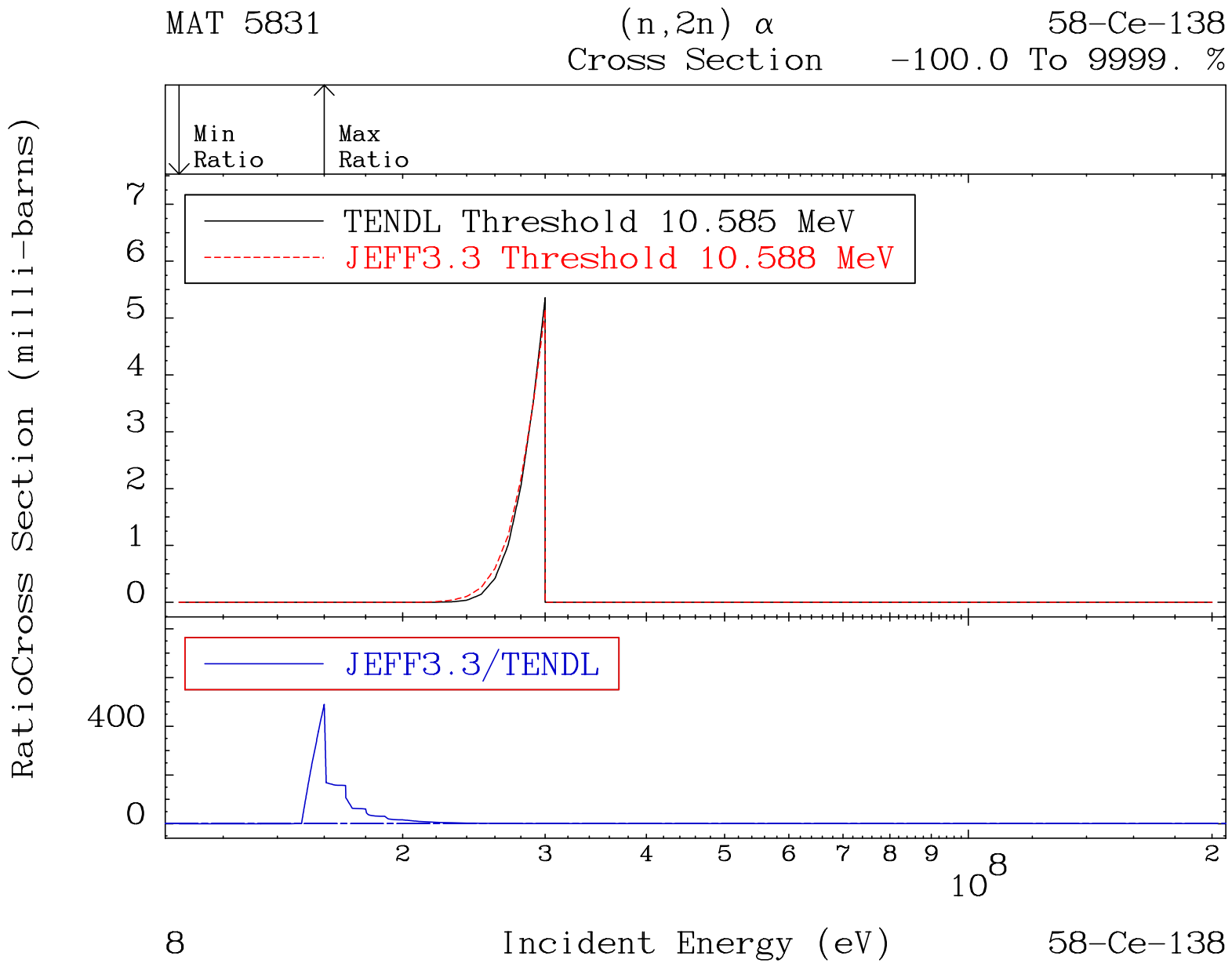

MAT 5831
Inelastic
Cross Section
58-Ce-138
-6.590 To 8.745 %
Max
Ratio
Min
Ratio
TENDL Threshold 794.51 keV
JEFF3.3 Threshold 794.51 keV
Cross Section (barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
1.10
1.00
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
3
Incident Energy (eV)
58-Ce-138

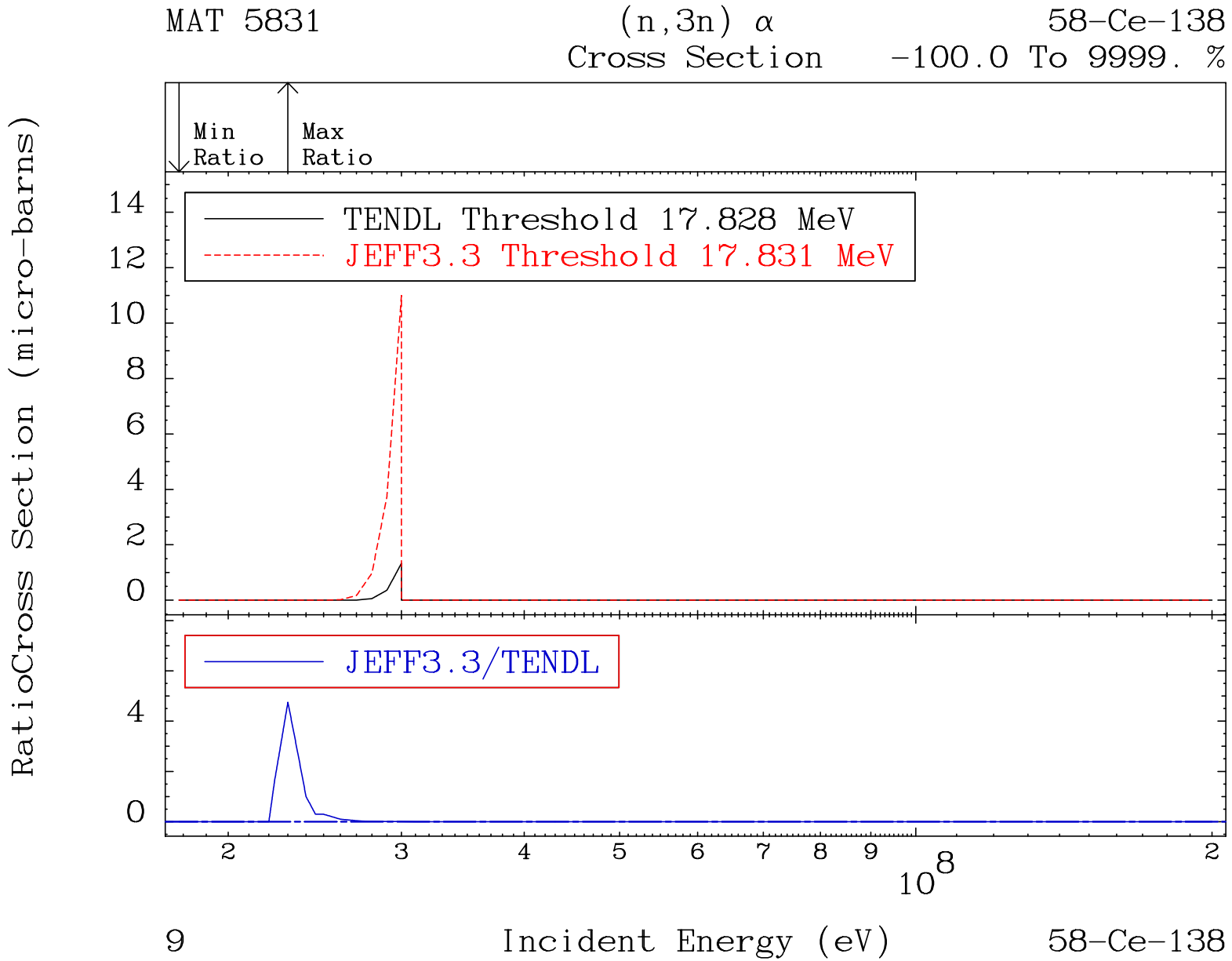

MAT 5831
(n,2n) d
Cross Section
58-Ce-138
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 22.291 MeV
JEFF3.3 Threshold 22.294 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
40
30
20
10
0
120
60
0
20
40
60
80
100
120
140
160
180
200
4
Incident Energy (MeV)
58-Ce-138

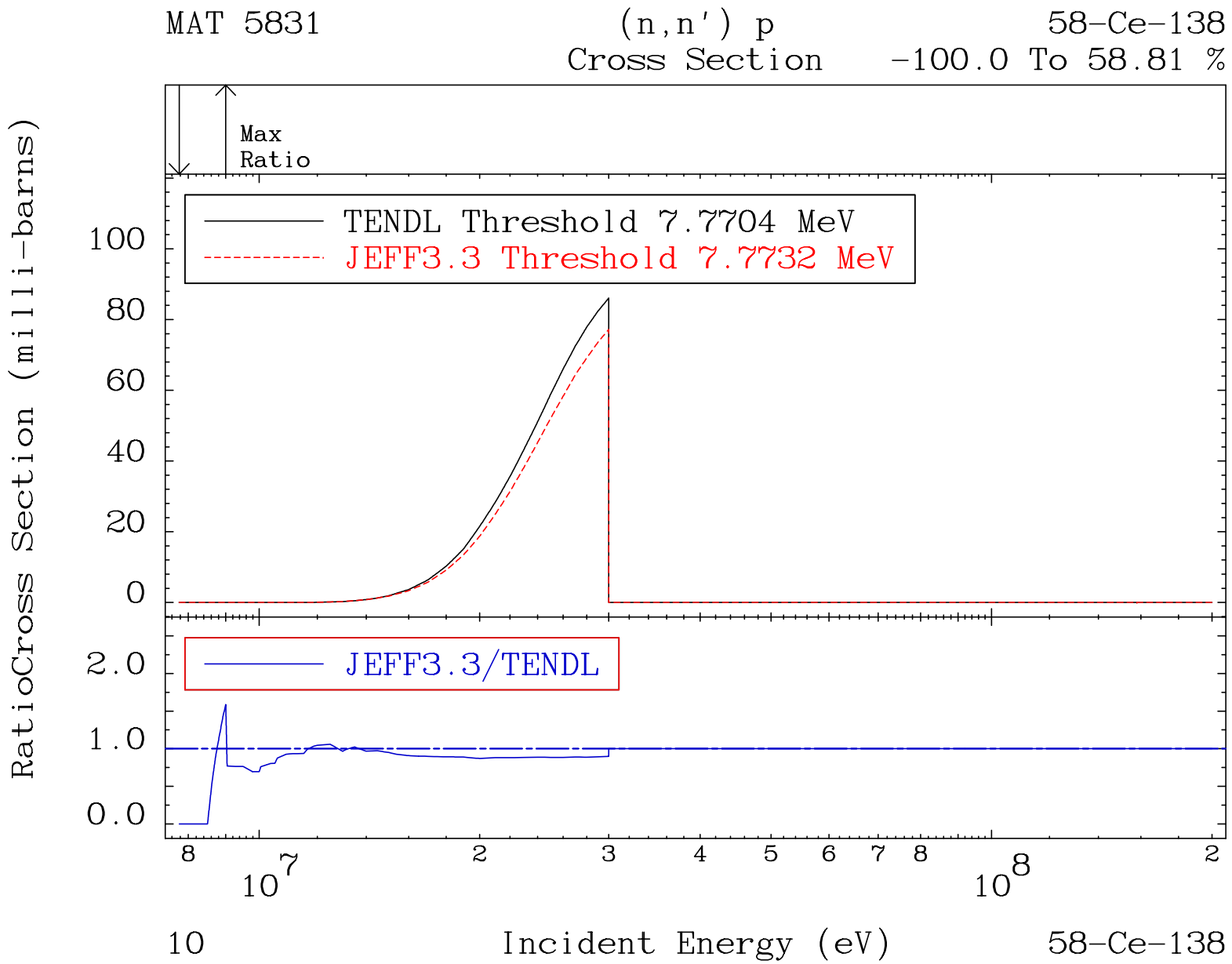

MAT 5831
(n,2n)
Cross Section
58-Ce-138
-100.0 To 5.766 %
Min Ratio
Max Ratio
TENDL Threshold 9.7895 MeV
JEFF3.3 Threshold 9.7924 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
58-Ce-138

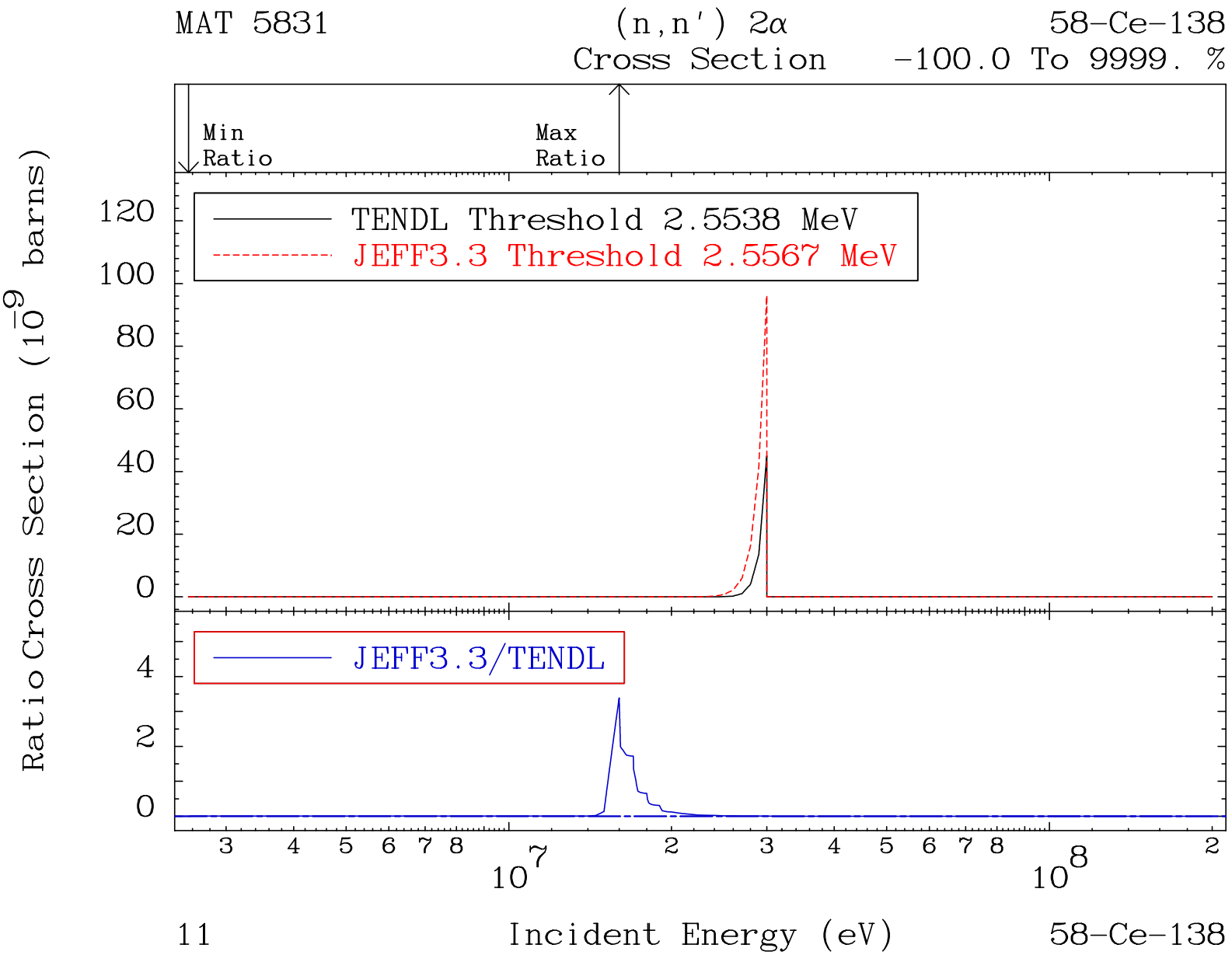

MAT 5831
(n,3n)
Cross Section
58-Ce-138
-100.0 To 67.84 %
Max
Ratio
TENDL Threshold 17.326 MeV
JEFF3.3 Threshold 17.329 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
Incident Energy (eV)
6
58-Ce-138

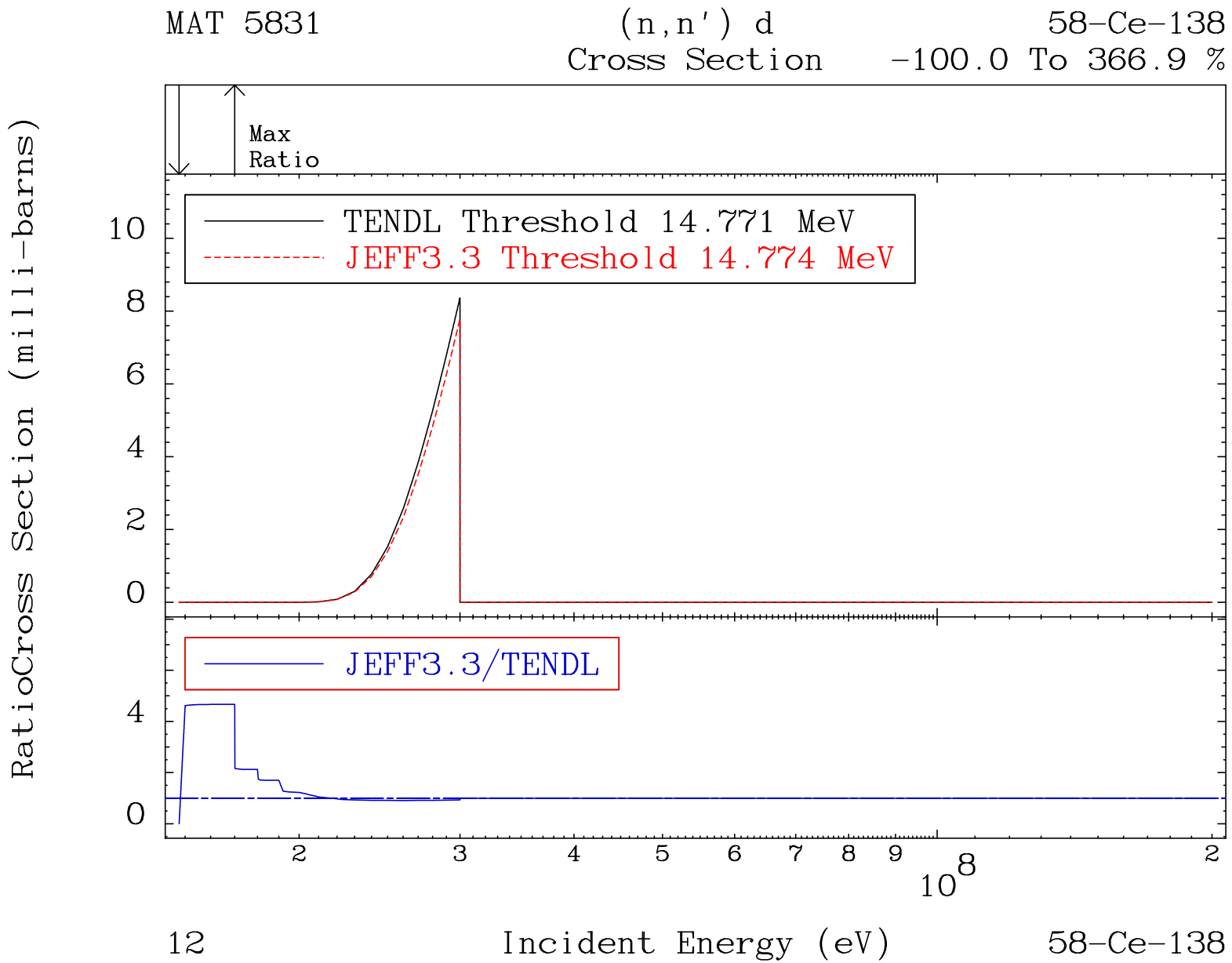

MAT 5831
(n,n') α
Cross Section
58-Ce-138
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.0484 MeV
JEFF3.3 Threshold 1.0512 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
58-Ce-138

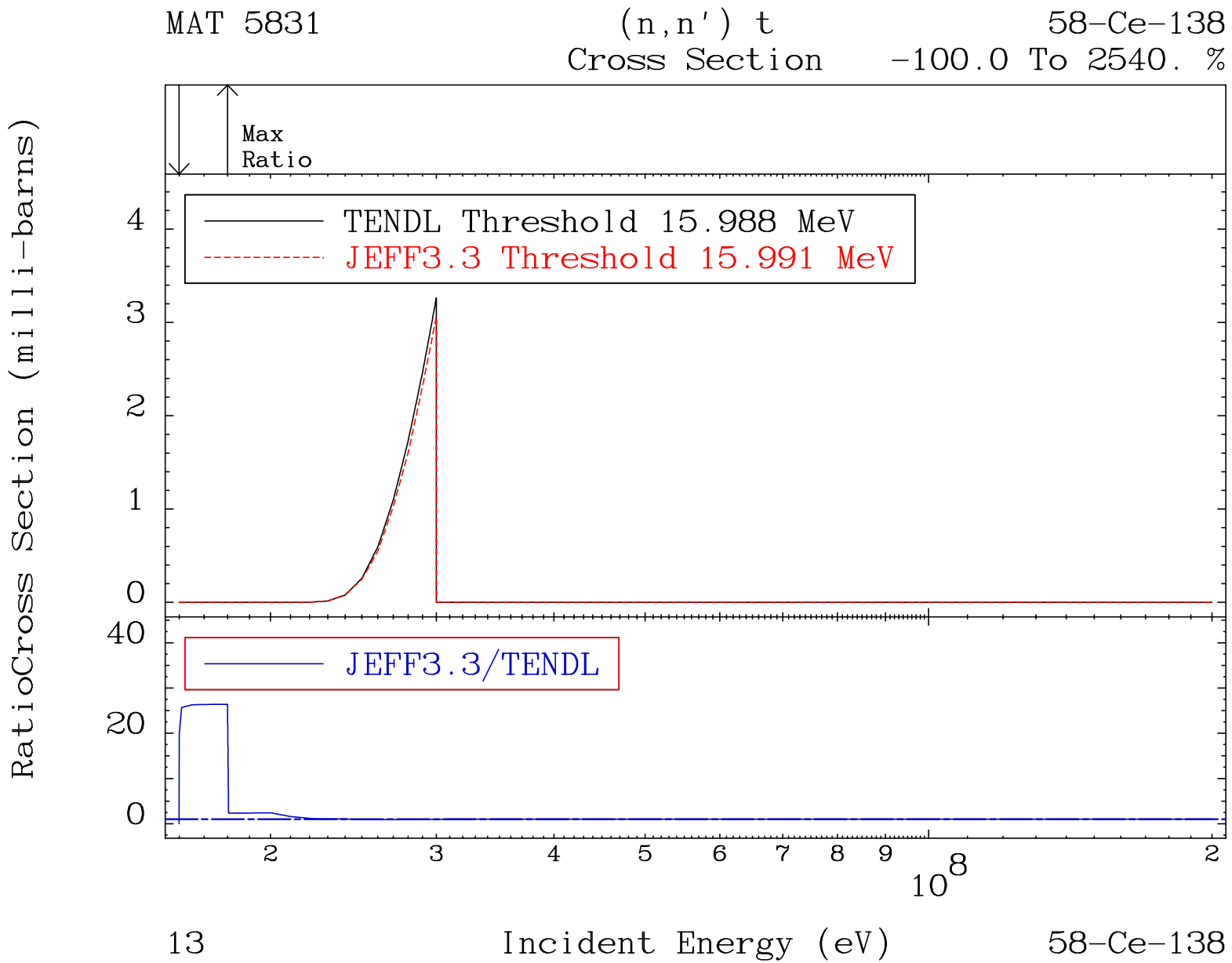

MAT 5831
(n,2n) α
58-Ce-138
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.585 MeV
JEFF3.3 Threshold 10.588 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
7
6
5
4
3
2
1
0
400
0
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
58-Ce-138

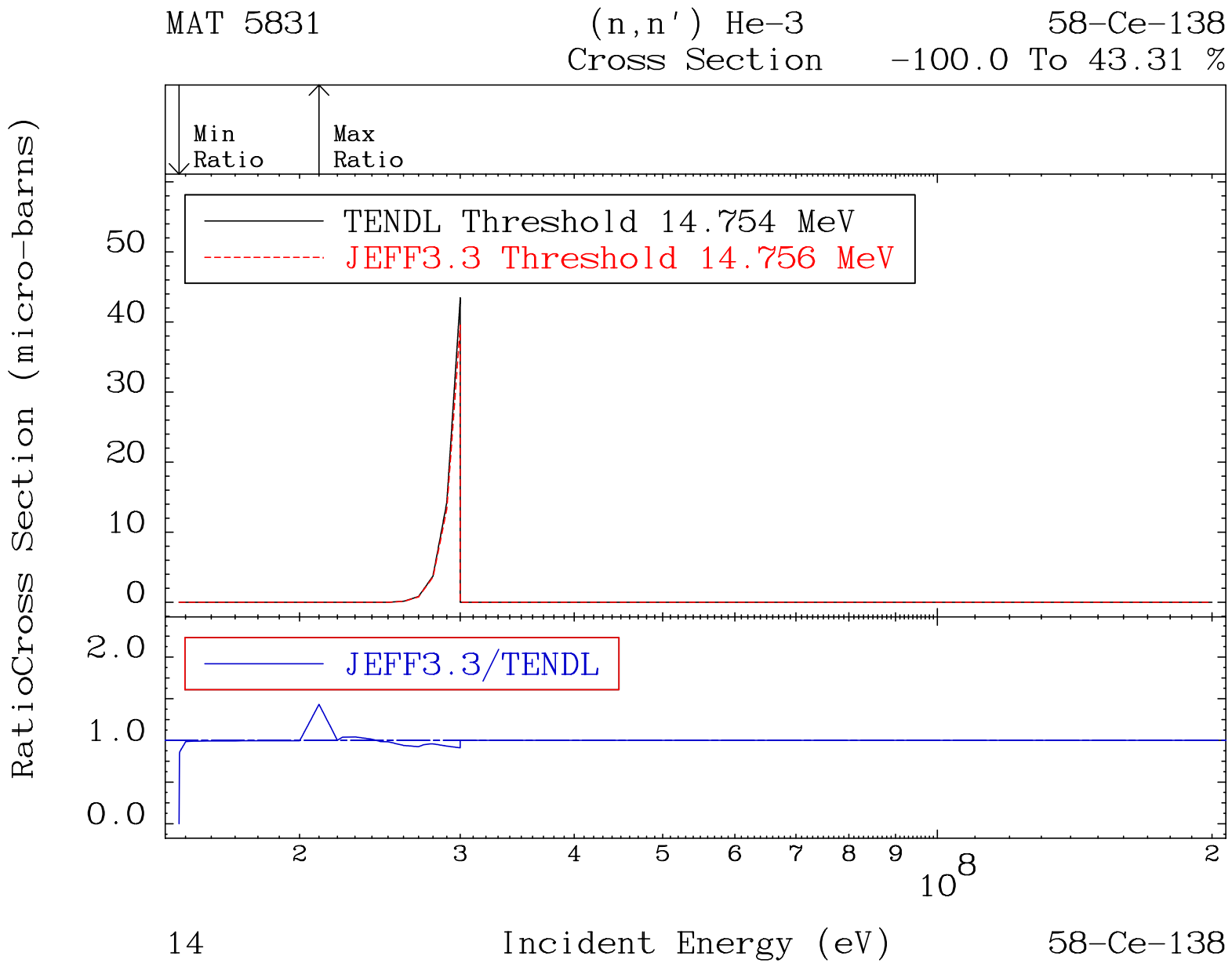

MAT 5831
(n,3n) α
58-Ce-138
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 17.828 MeV
JEFF3.3 Threshold 17.831 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
14
12
10
8
6
4
2
0
4
0
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
58-Ce-138

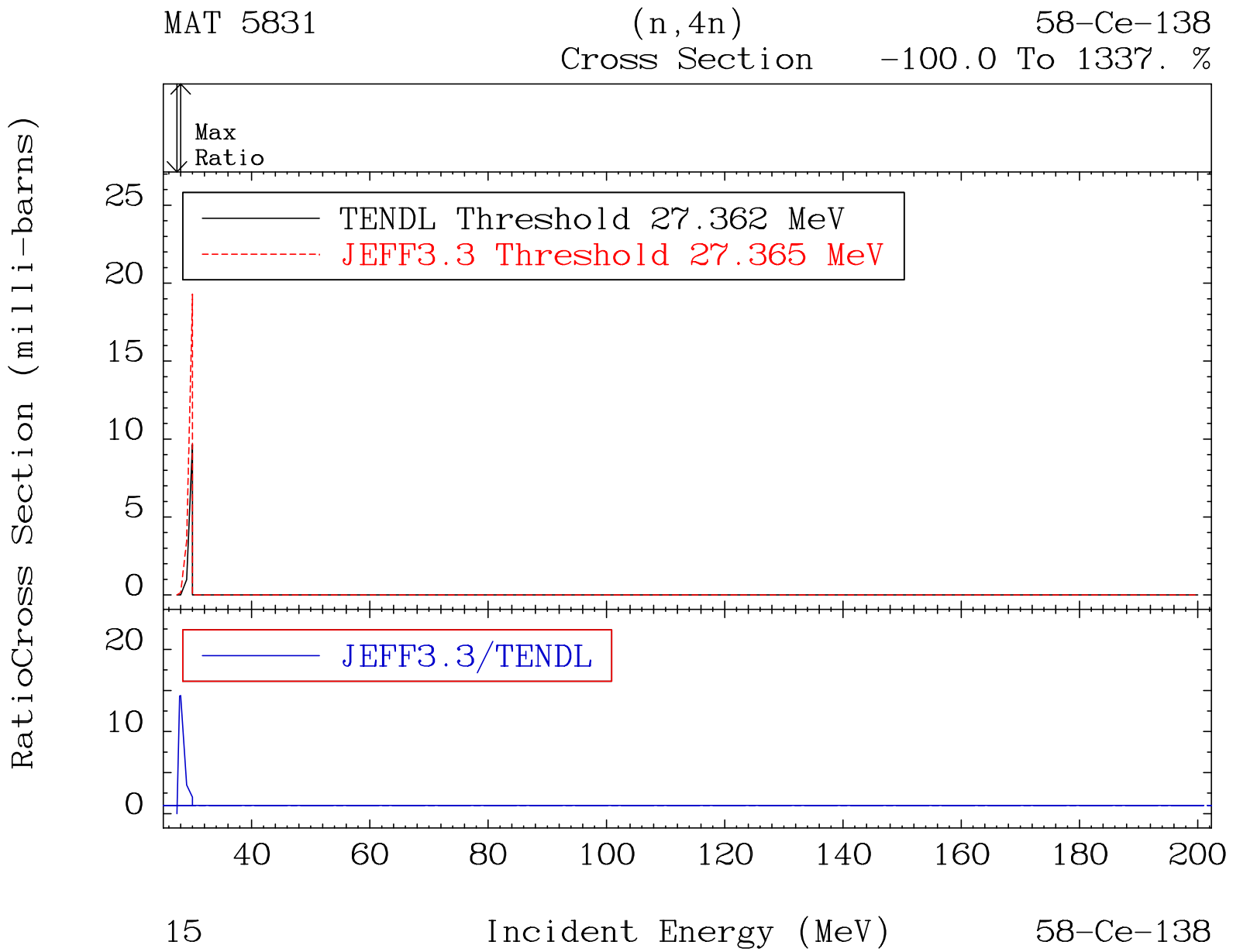

MAT 5831
(n,n') p
Cross Section
58-Ce-138
-100.0 To 58.81 %
Max
Ratio
TENDL Threshold 7.7704 MeV
JEFF3.3 Threshold 7.7732 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
2.0
1.0
0.0
8
10^7
2
3
4
5
6
7
8
10^8
2
10
Incident Energy (eV)
58-Ce-138

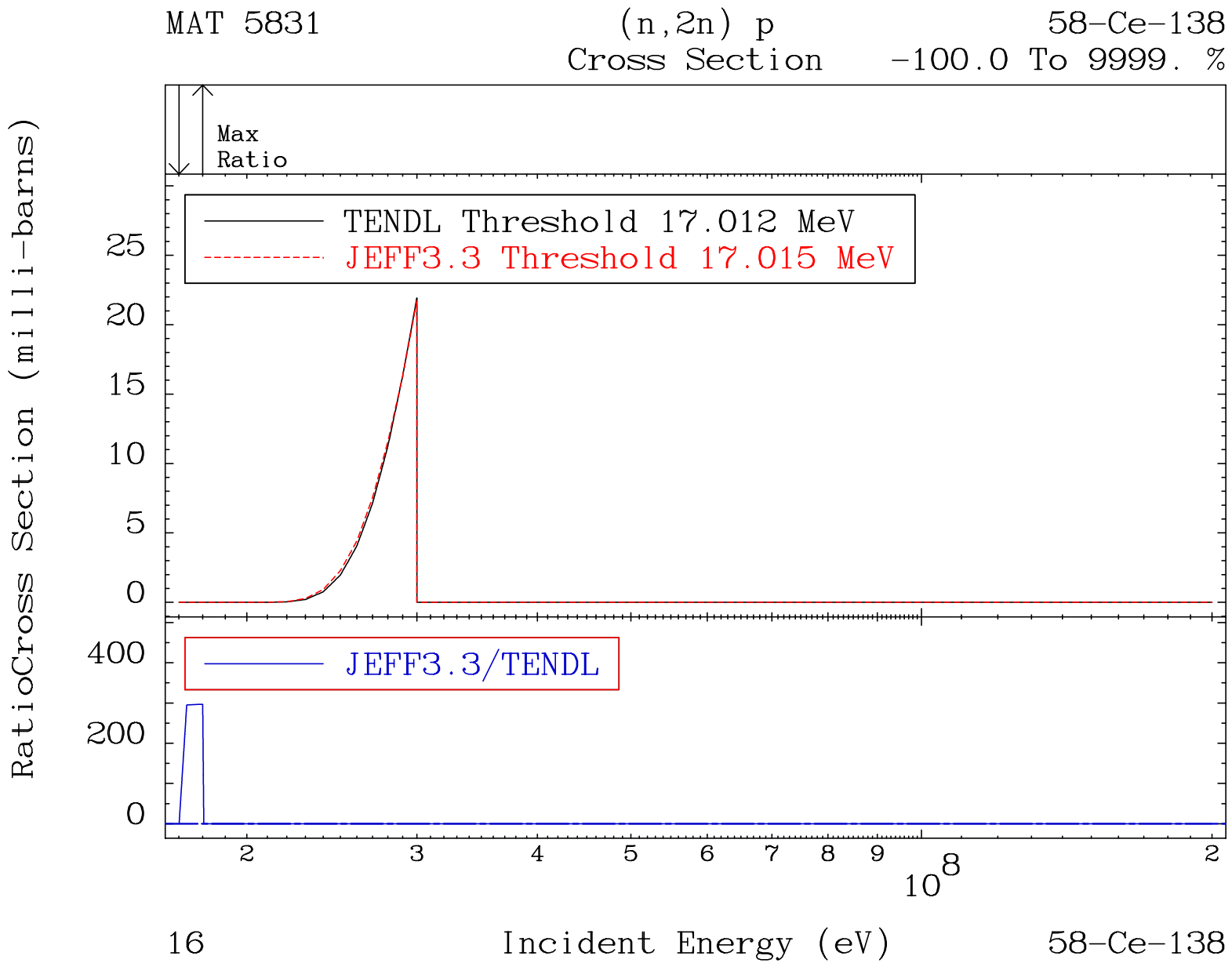

MAT 5831
(n,n') 2α
Cross Section
58-Ce-138
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.5538 MeV
JEFF3.3 Threshold 2.5567 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
120
100
80
60
40
20
0
4
2
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
11
Incident Energy (eV)
58-Ce-138

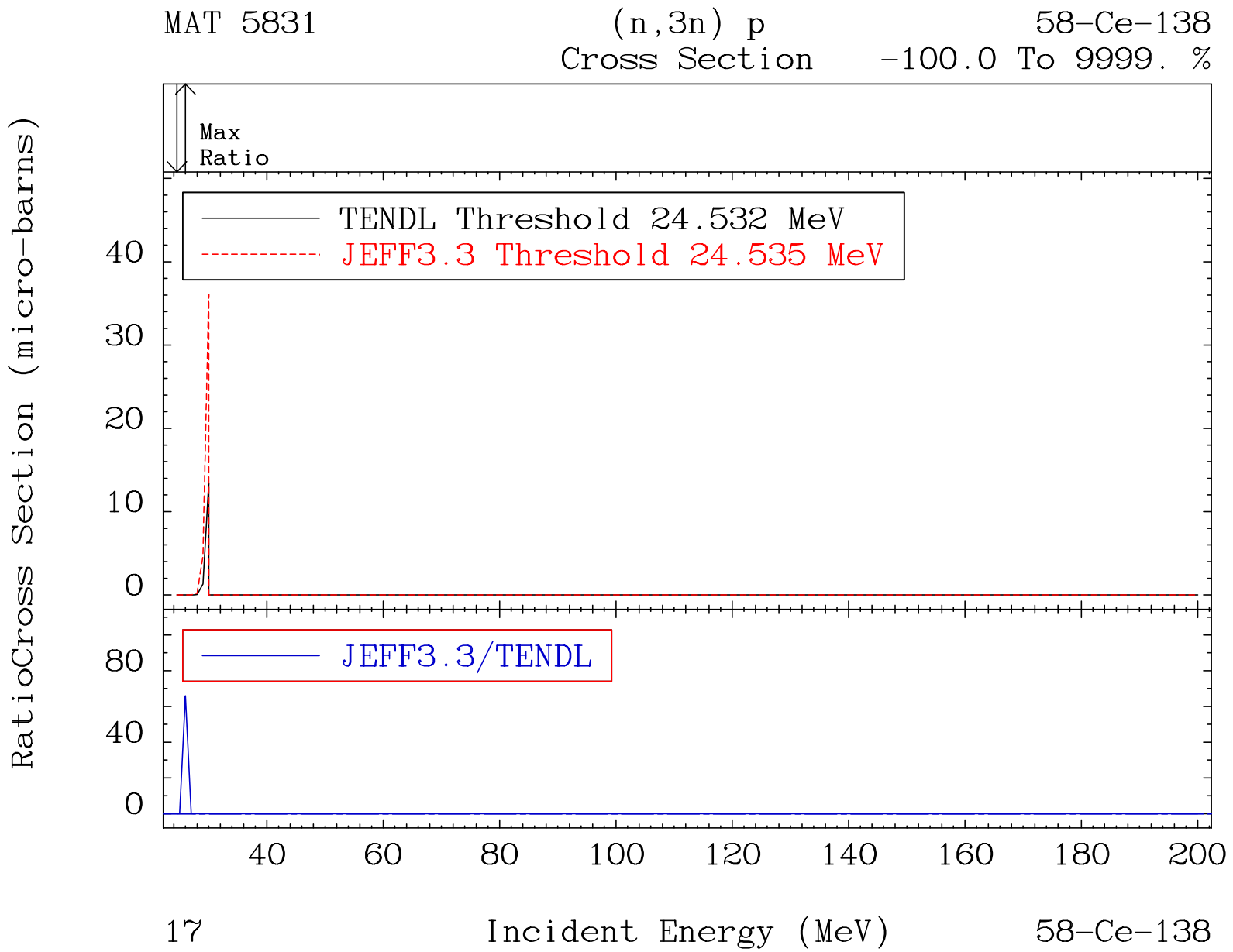

MAT 5831
(n,n') d
Cross Section
58-Ce-138
-100.0 To 366.9 %
Max
Ratio
TENDL Threshold 14.771 MeV
JEFF3.3 Threshold 14.774 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
10
8
6
4
2
0
4
0
2
3
4
5
6
7
8
9
10^8
2
12
Incident Energy (eV)
58-Ce-138

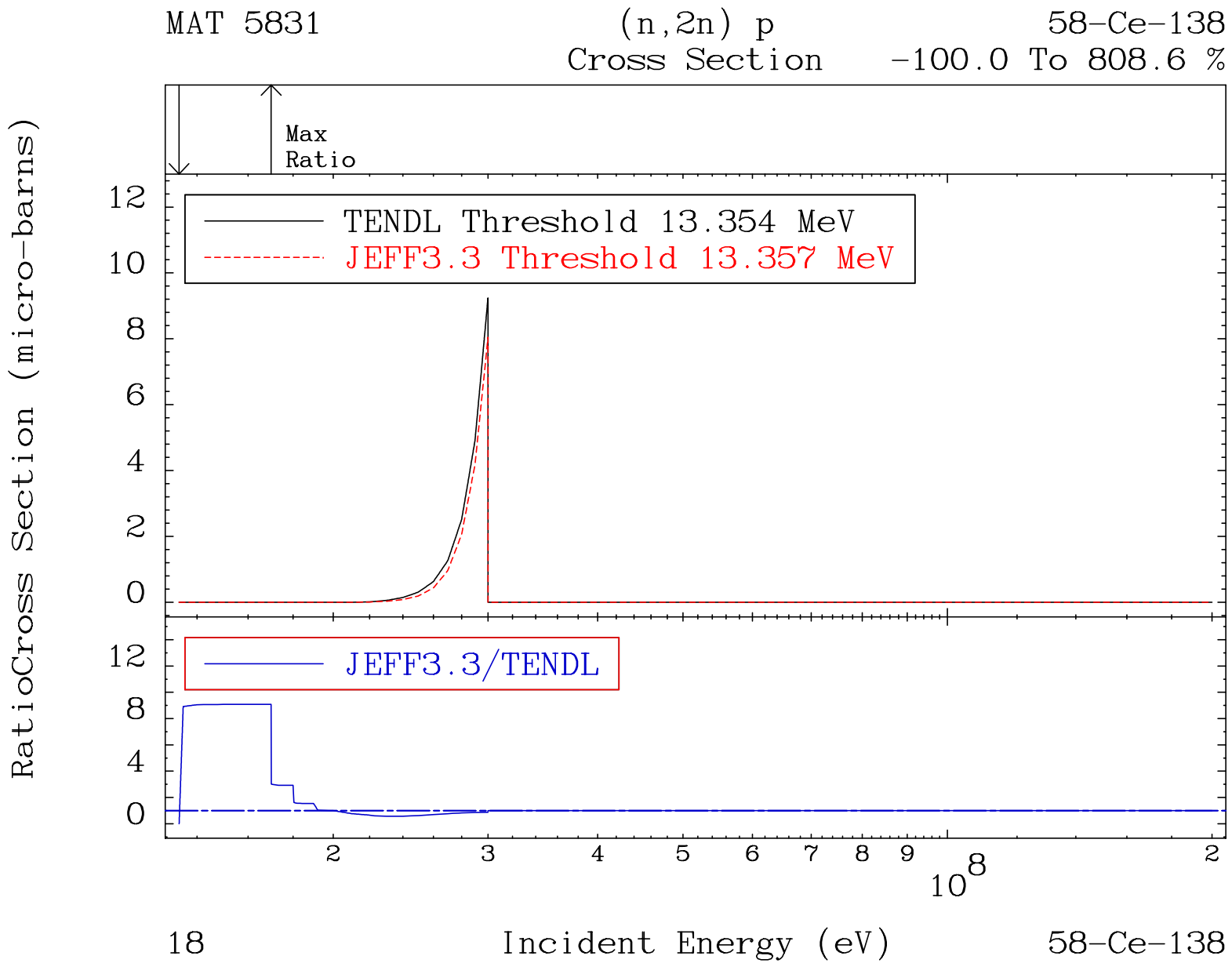

MAT 5831
(n,n') t
Cross Section
58-Ce-138
-100.0 To 2540. %
Max
Ratio
TENDL Threshold 15.988 MeV
JEFF3.3 Threshold 15.991 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
4
3
2
1
0
40
20
0
2
3
4
5
6
7
8
9
10^8
2
13
Incident Energy (eV)
58-Ce-138

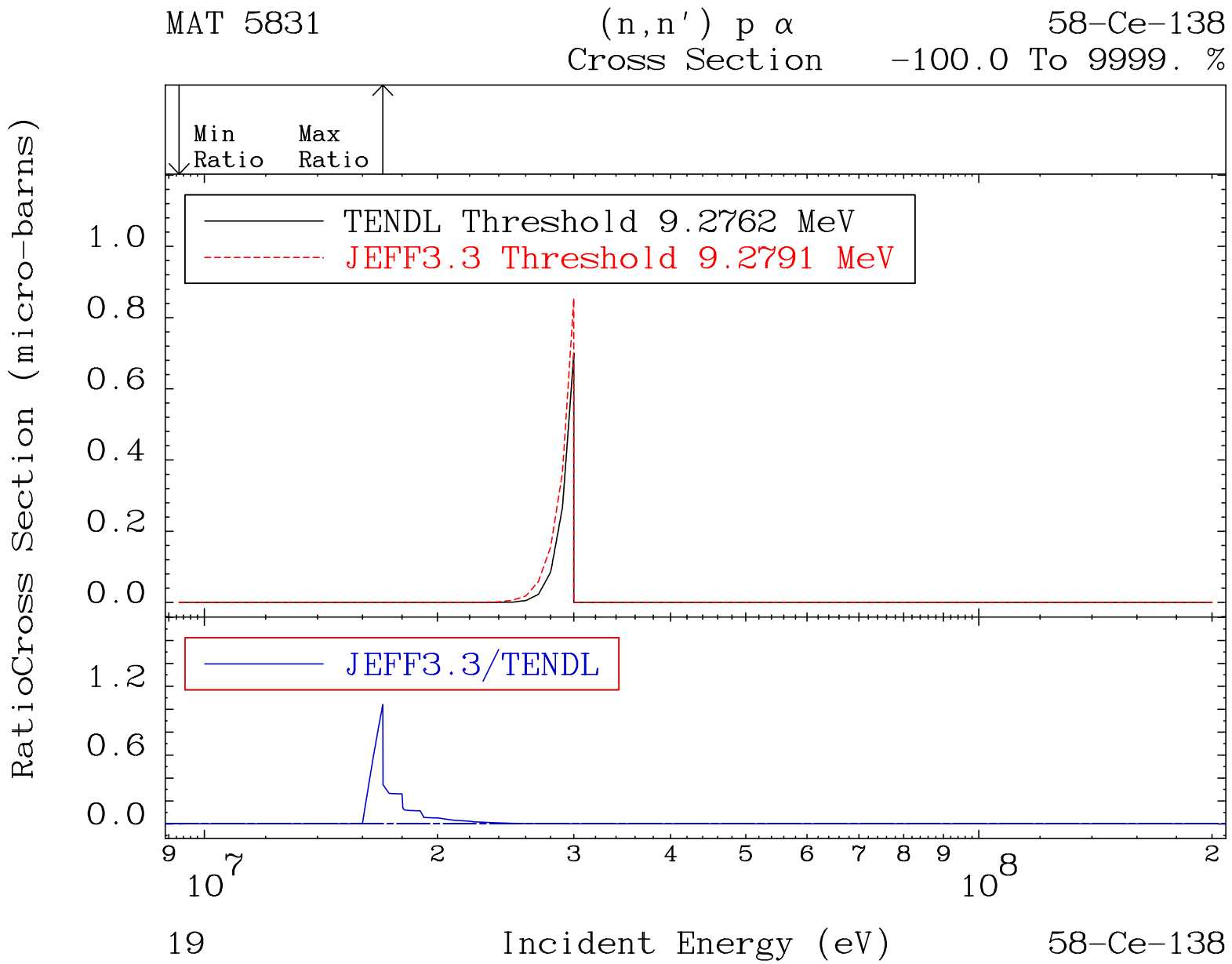

MAT 5831
(n,n') He-3
Cross Section
58-Ce-138
-100.0 To 43.31 %
Min Ratio
Max Ratio
TENDL Threshold 14.754 MeV
JEFF3.3 Threshold 14.756 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
50
40
30
20
10
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
58-Ce-138

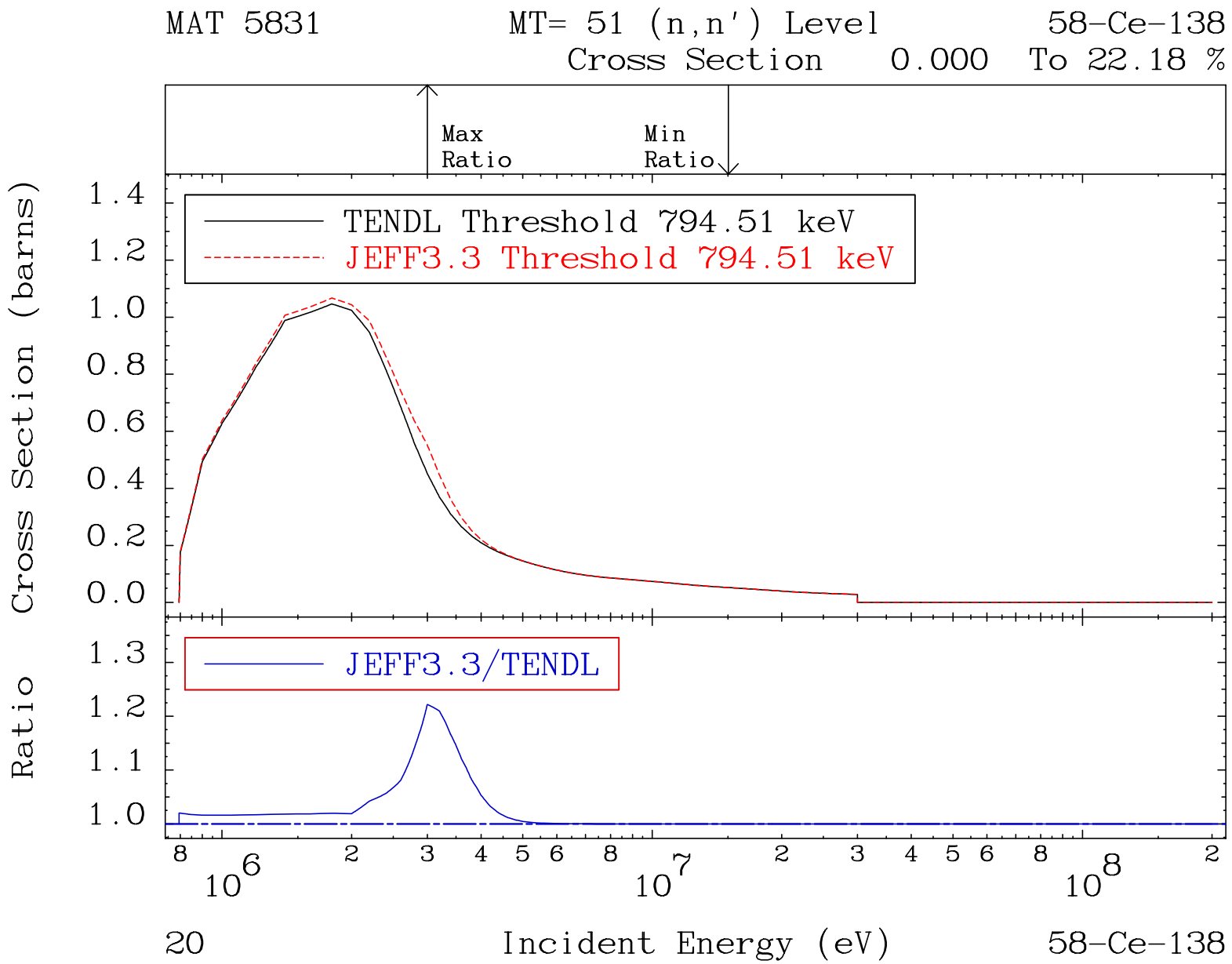

MAT 5831
(n,4n)
58-Ce-138
Cross Section
-100.0 To 1337. %
Max
Ratio
TENDL Threshold 27.362 MeV
JEFF3.3 Threshold 27.365 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
20
10
0
40
60
80
100
120
140
160
180
200
15
Incident Energy (MeV)
58-Ce-138

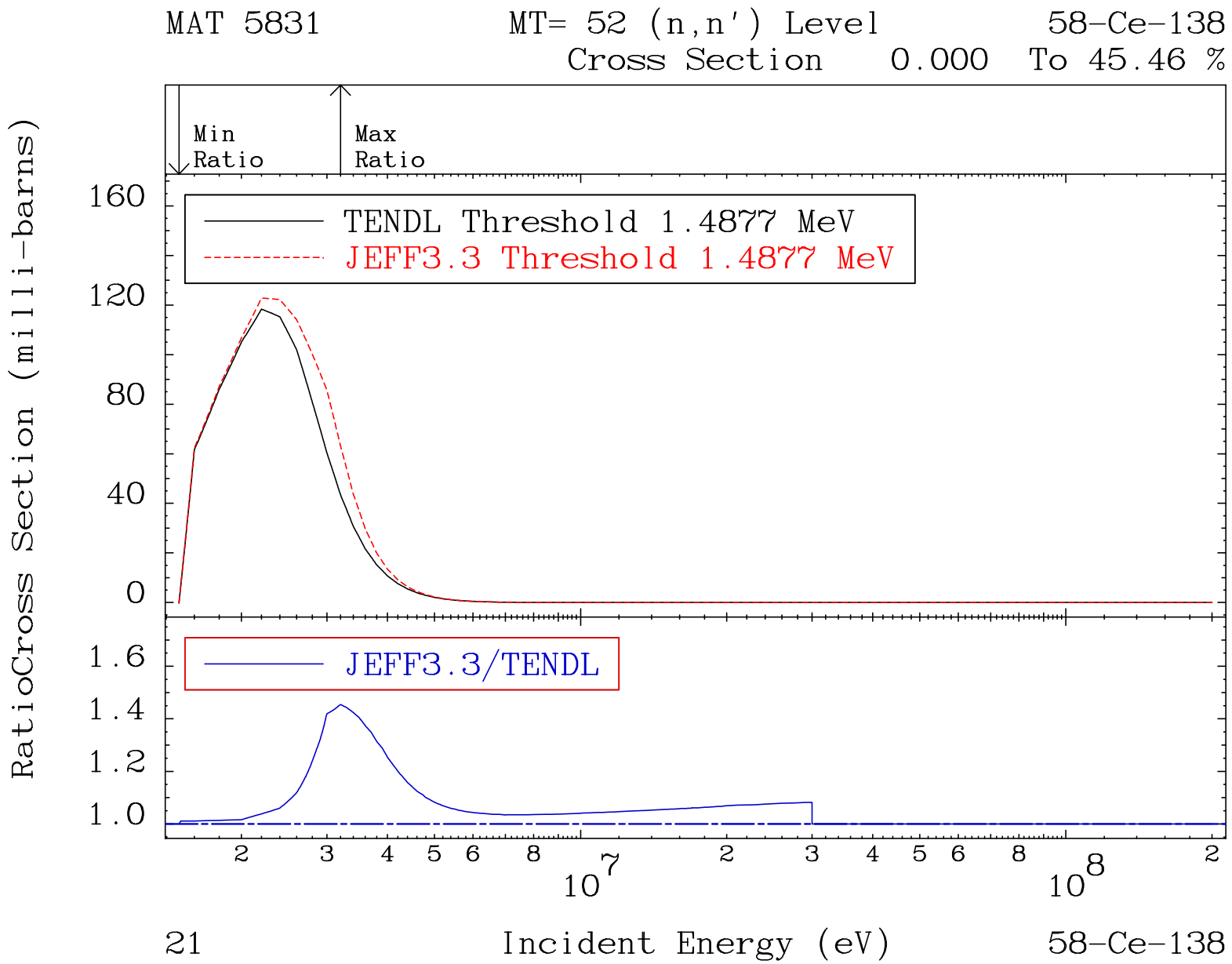

MAT 5831
(n,2n) p
Cross Section
58-Ce-138
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 17.012 MeV
JEFF3.3 Threshold 17.015 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
400
200
0
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
58-Ce-138

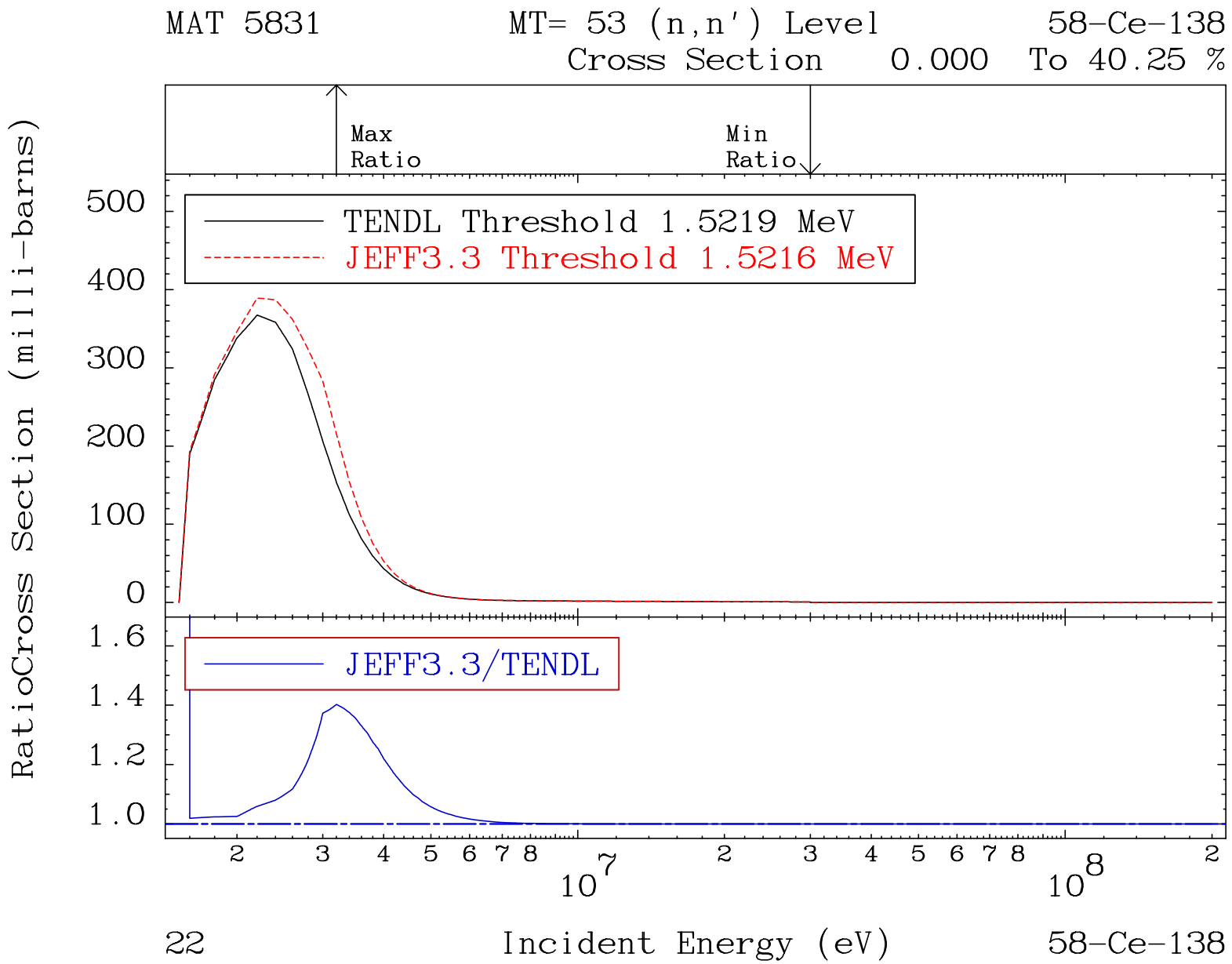

MAT 5831
(n,3n) p
Cross Section
58-Ce-138
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 24.532 MeV
JEFF3.3 Threshold 24.535 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (MeV)
17
58-Ce-138

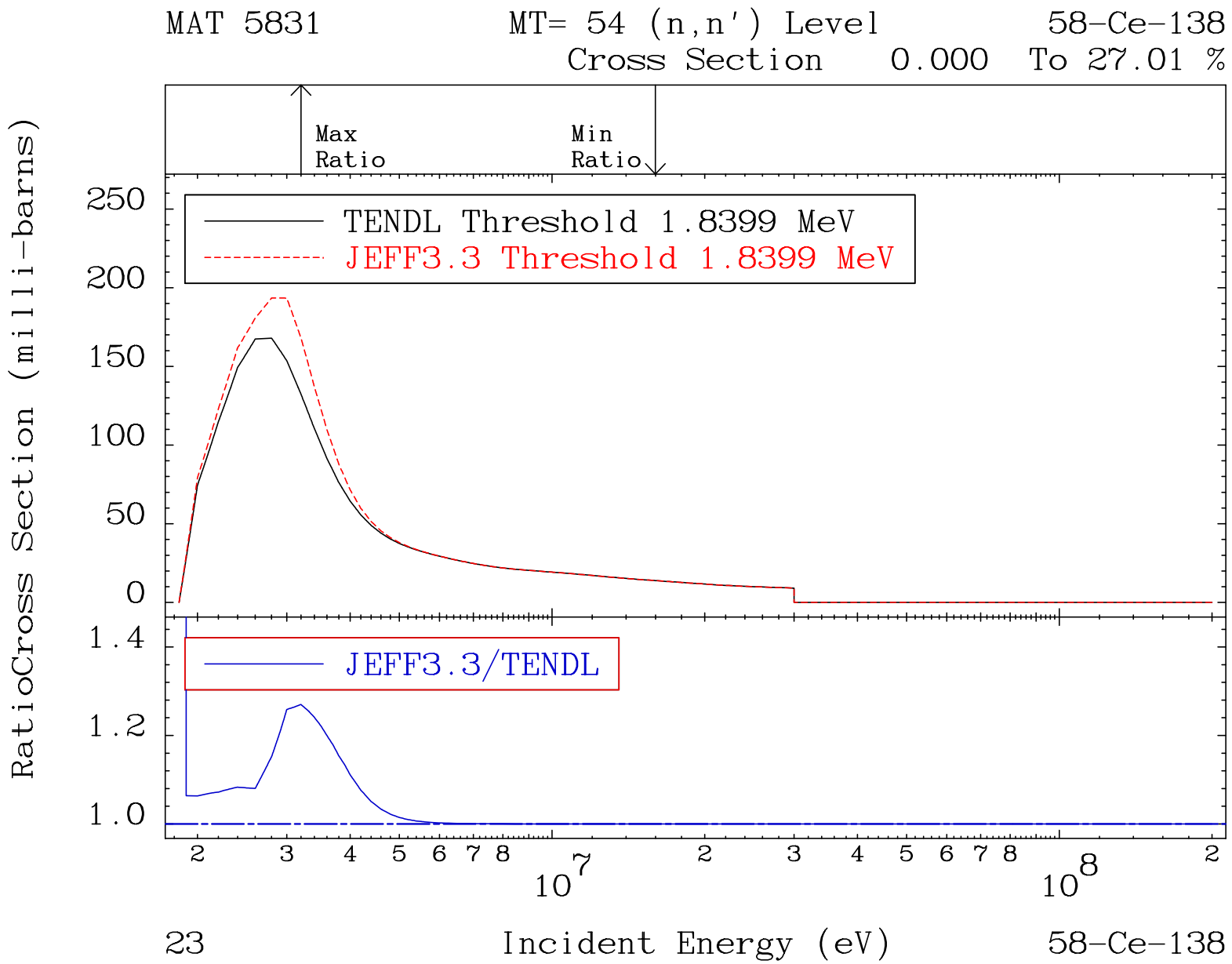

MAT 5831
(n,2n) p
Cross Section
58-Ce-138
-100.0 To 808.6 %
Max
Ratio
TENDL Threshold 13.354 MeV
JEFF3.3 Threshold 13.357 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
18
58-Ce-138

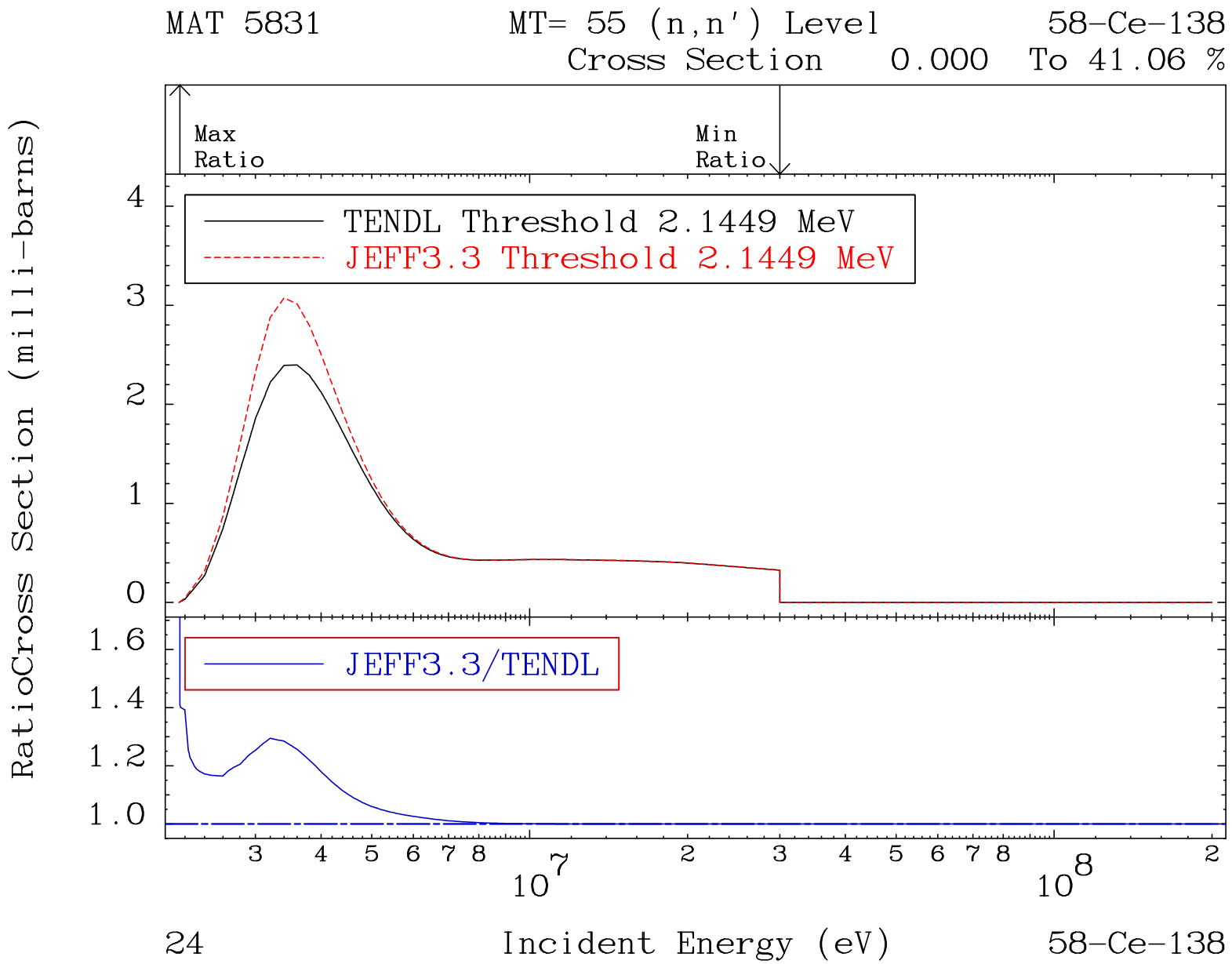

MAT 5831
(n,n') p α
58-Ce-138
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 9.2762 MeV
JEFF3.3 Threshold 9.2791 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
1.0
0.8
0.6
0.4
0.2
0.0
1.2
0.6
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
58-Ce-138

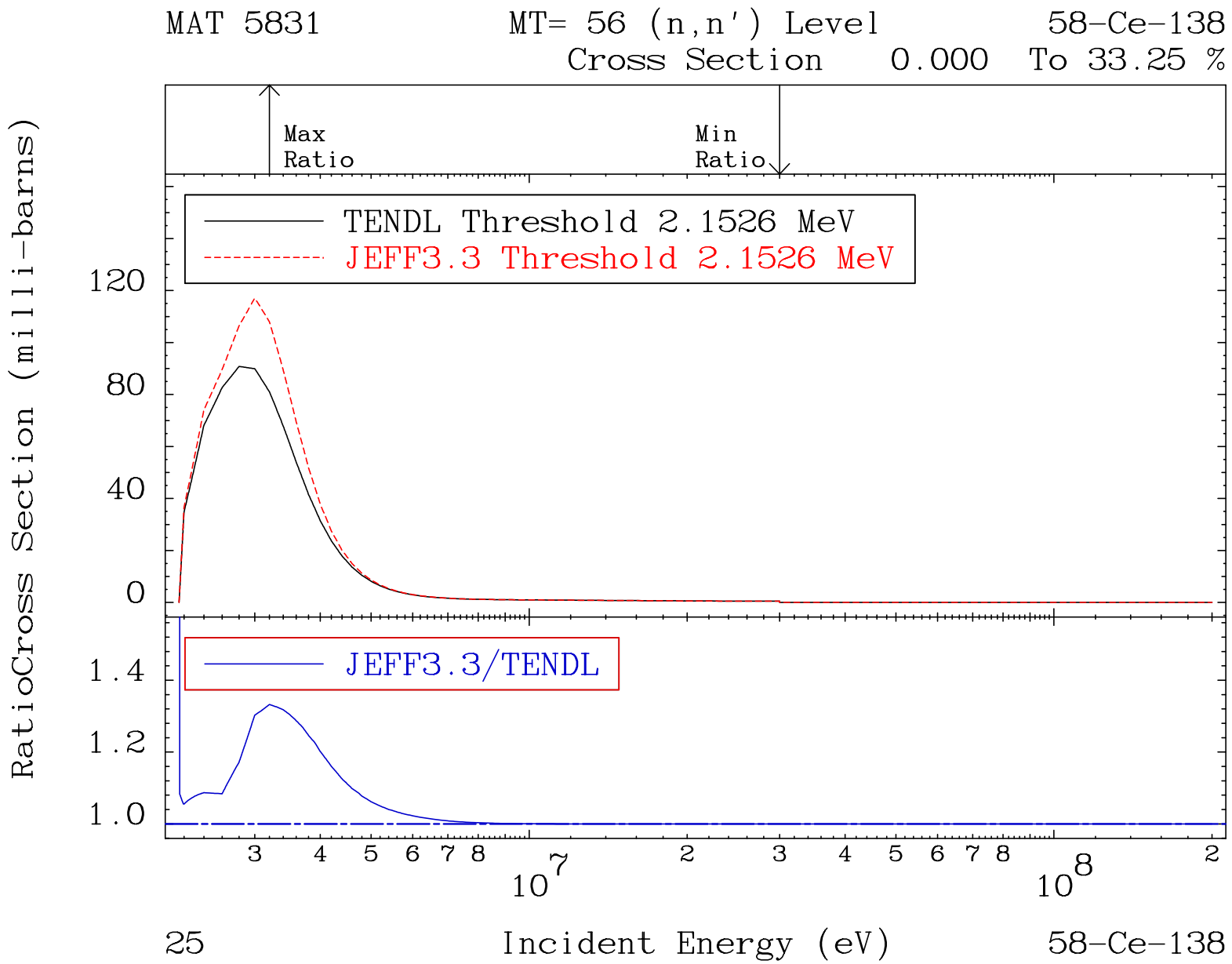

MAT 5831
MT= 51 (n,n') Level
58-Ce-138
Cross Section 0.000 To 22.18 %
Max Ratio
Min Ratio
TENDL Threshold 794.51 keV
JEFF3.3 Threshold 794.51 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
20
58-Ce-138

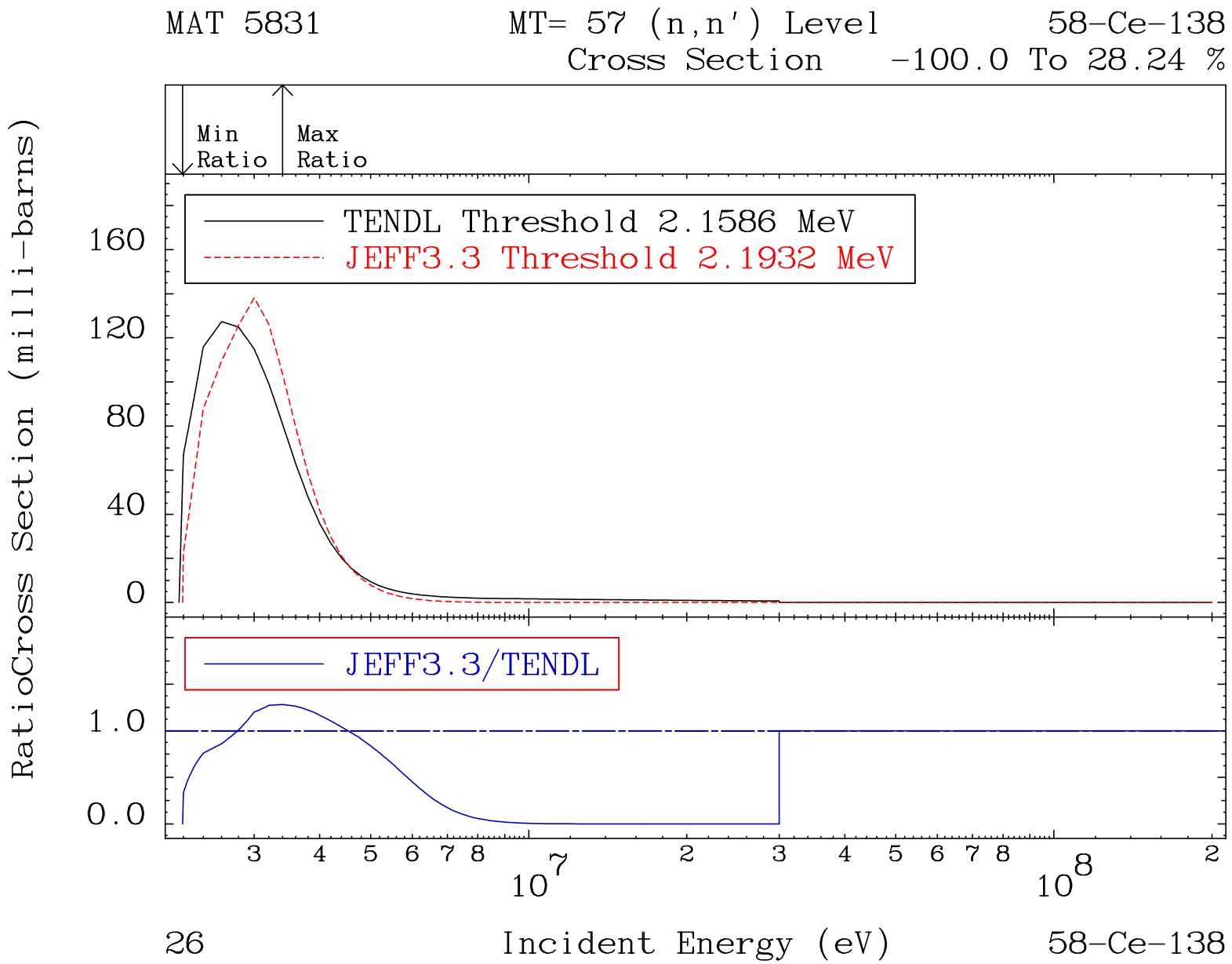

MAT 5831
MT= 52 (n,n') Level
58-Ce-138
Cross Section 0.000 To 45.46 %
Min Ratio
Max Ratio
TENDL Threshold 1.4877 MeV
JEFF3.3 Threshold 1.4877 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.6
1.4
1.2
1.0
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
21
Incident Energy (eV)
58-Ce-138

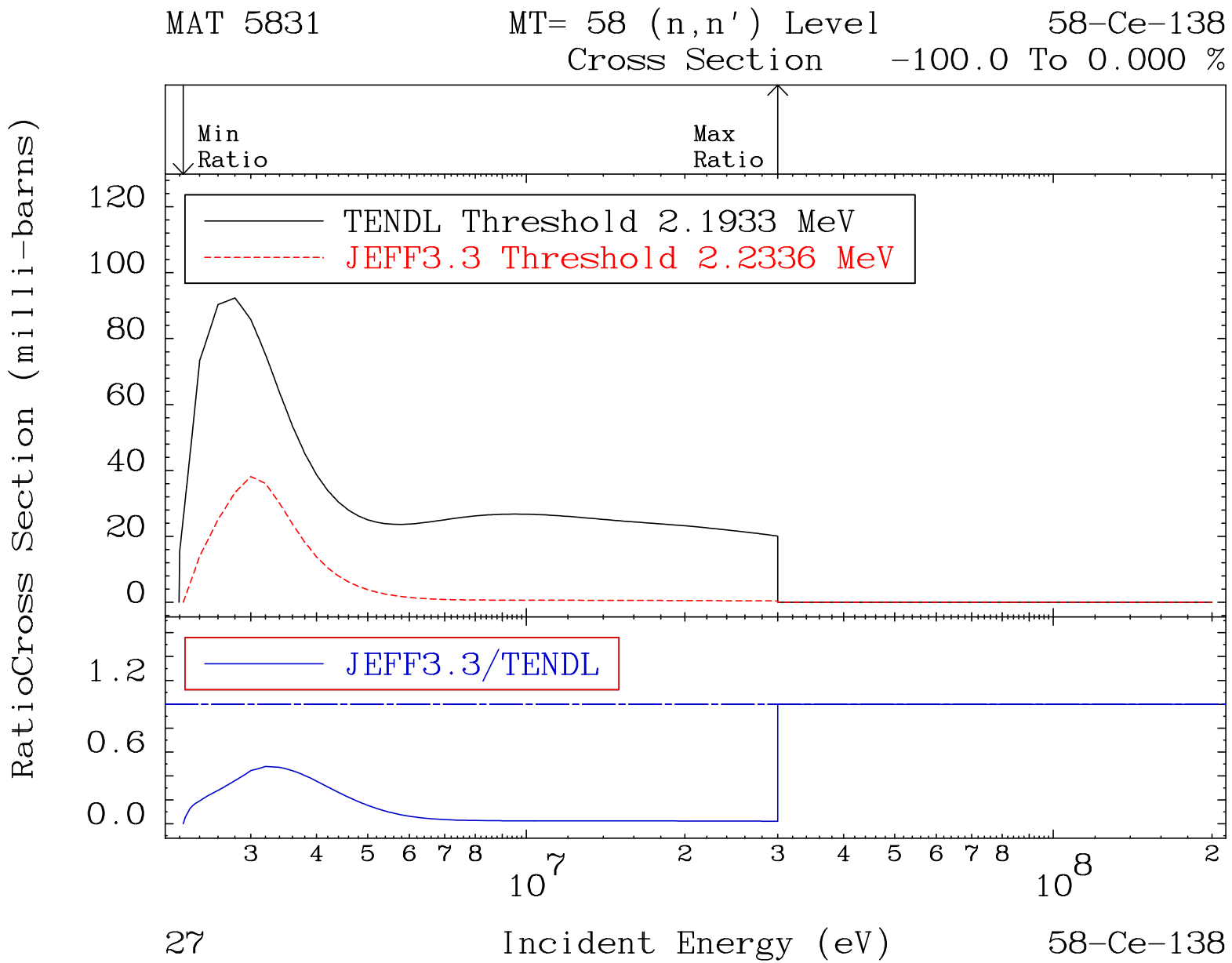

MAT 5831
MT= 53 (n,n') Level
58-Ce-138
Cross Section 0.000 To 40.25 %
Max Ratio
Min Ratio
TENDL Threshold 1.5219 MeV
JEFF3.3 Threshold 1.5216 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
1.6
1.4
1.2
1.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
58-Ce-138

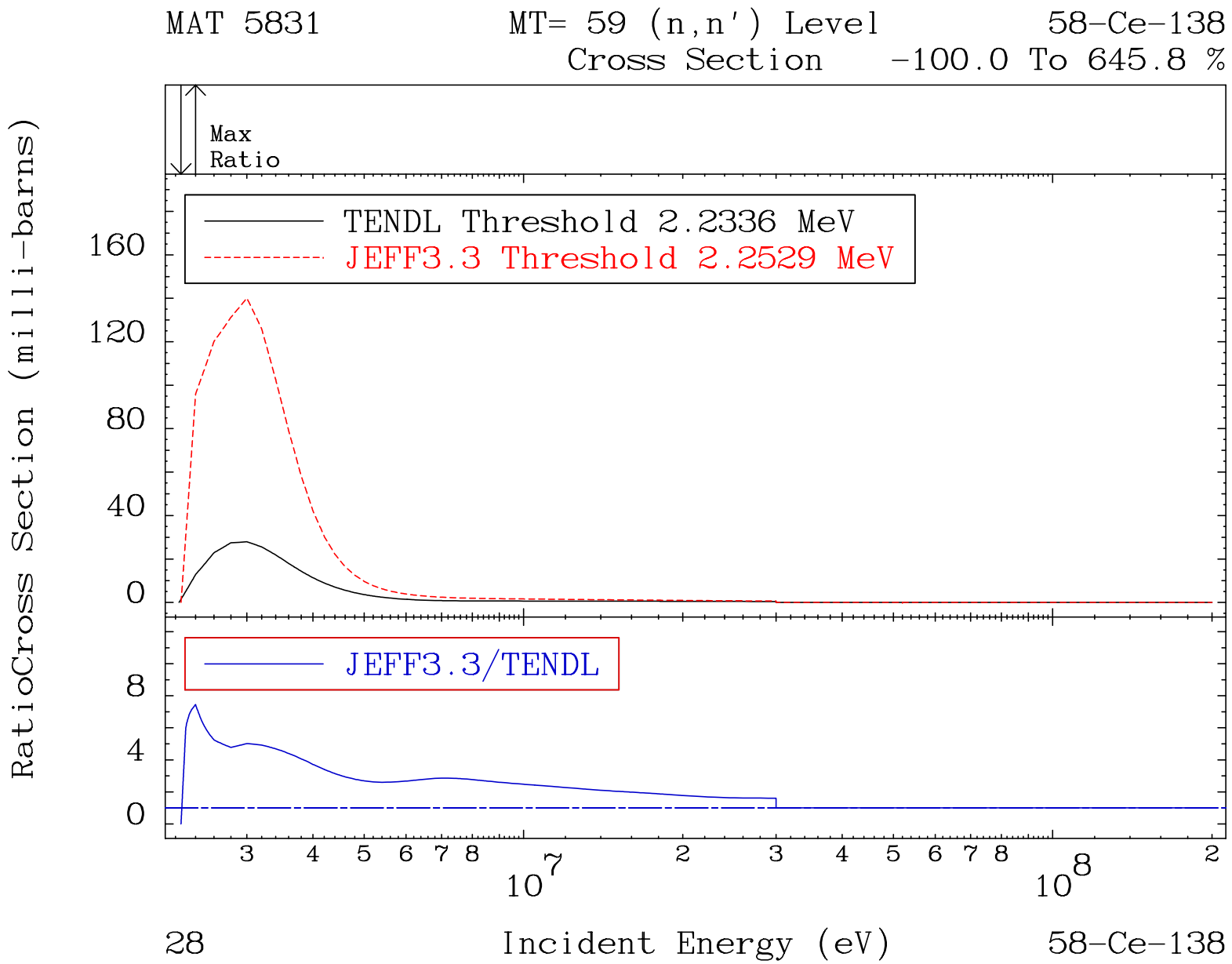

MAT 5831
MT= 54 (n,n') Level
58-Ce-138
Cross Section 0.000 To 27.01 %
Max Ratio
Min Ratio
TENDL Threshold 1.8399 MeV
JEFF3.3 Threshold 1.8399 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.4
1.2
1.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
58-Ce-138

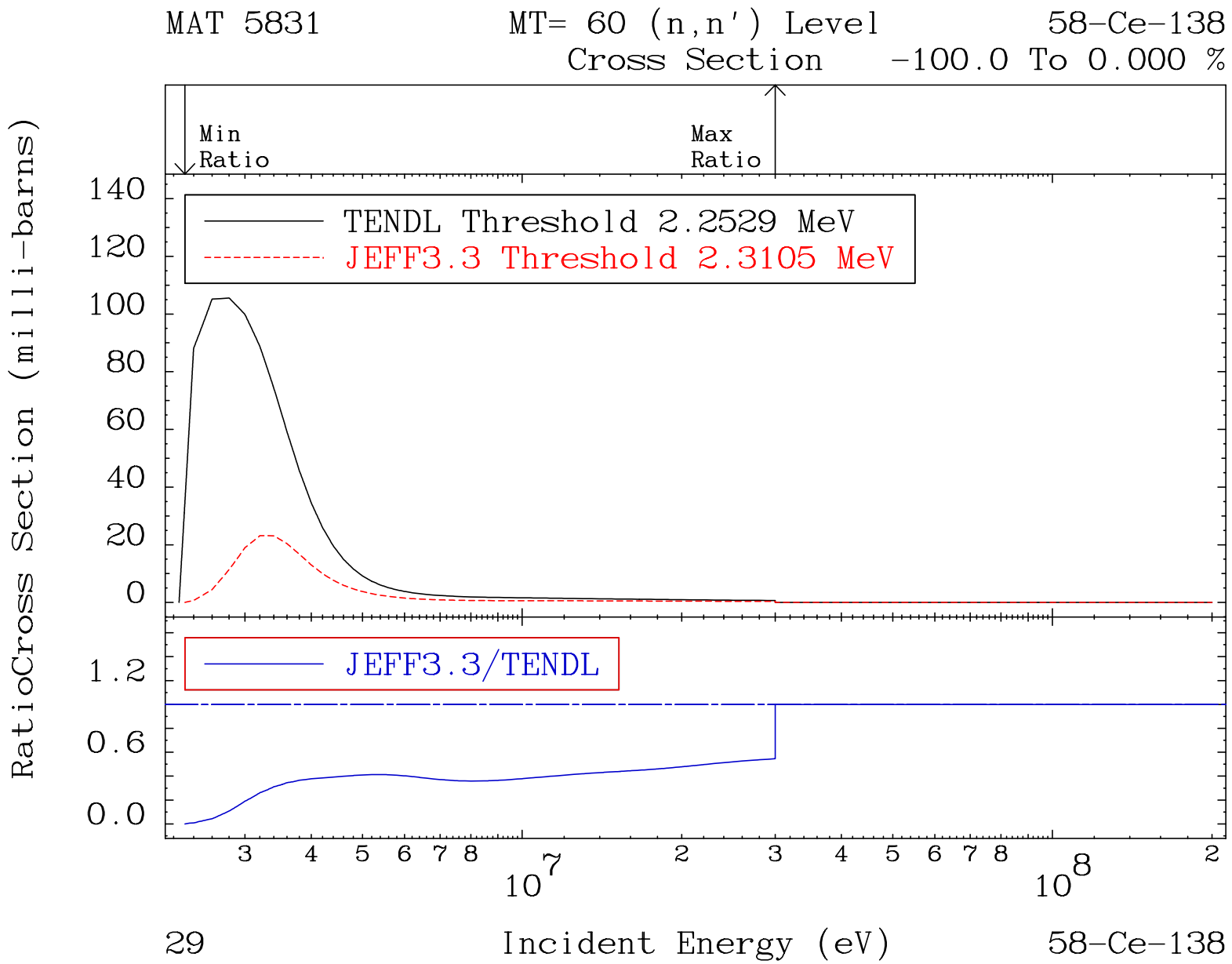

MAT 5831
MT= 55 (n,n') Level
58-Ce-138
Cross Section 0.000 To 41.06 %
Max Ratio
Min Ratio
TENDL Threshold 2.1449 MeV
JEFF3.3 Threshold 2.1449 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
24
58-Ce-138

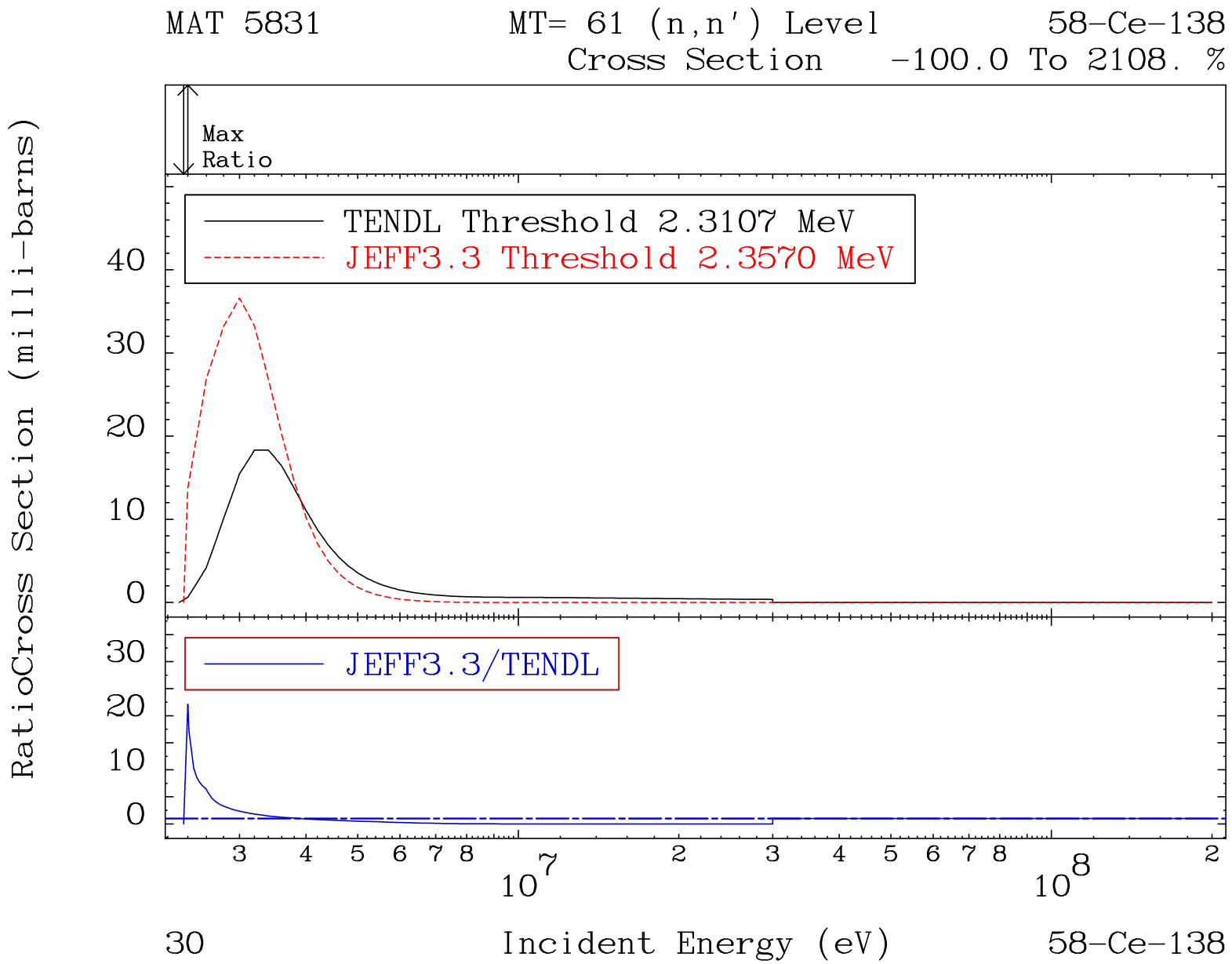

MAT 5831
MT= 56 (n,n') Level
58-Ce-138
Cross Section 0.000 To 33.25 %
Max Ratio
Min Ratio
TENDL Threshold 2.1526 MeV
JEFF3.3 Threshold 2.1526 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
80
40
0
1.4
1.2
1.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
25
Incident Energy (eV)
58-Ce-138

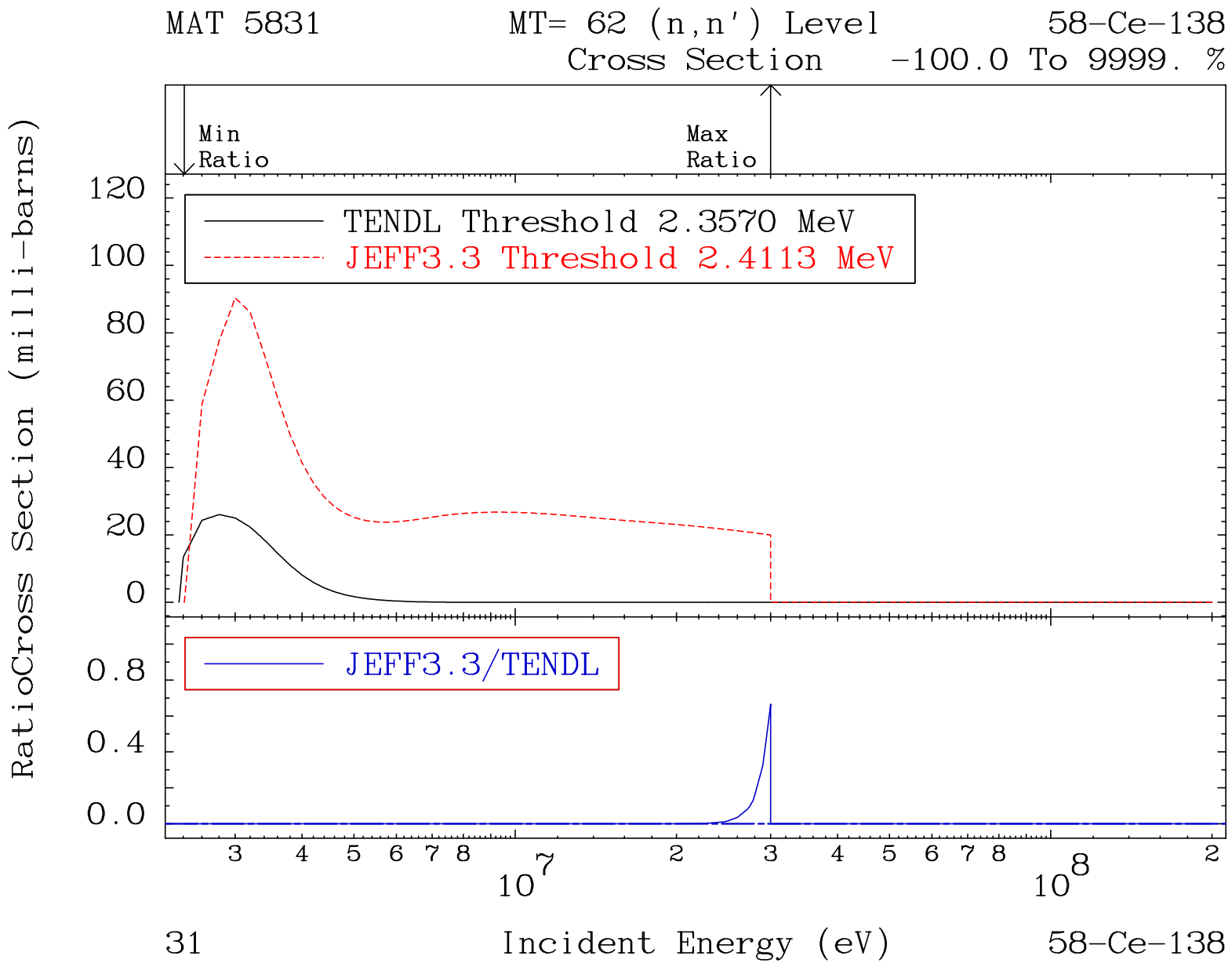

MAT 5831
MT= 57 (n,n') Level
58-Ce-138
Cross Section -100.0 To 28.24 %
Min Ratio
Max Ratio
TENDL Threshold 2.1586 MeV
JEFF3.3 Threshold 2.1932 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
26
Incident Energy (eV)
58-Ce-138

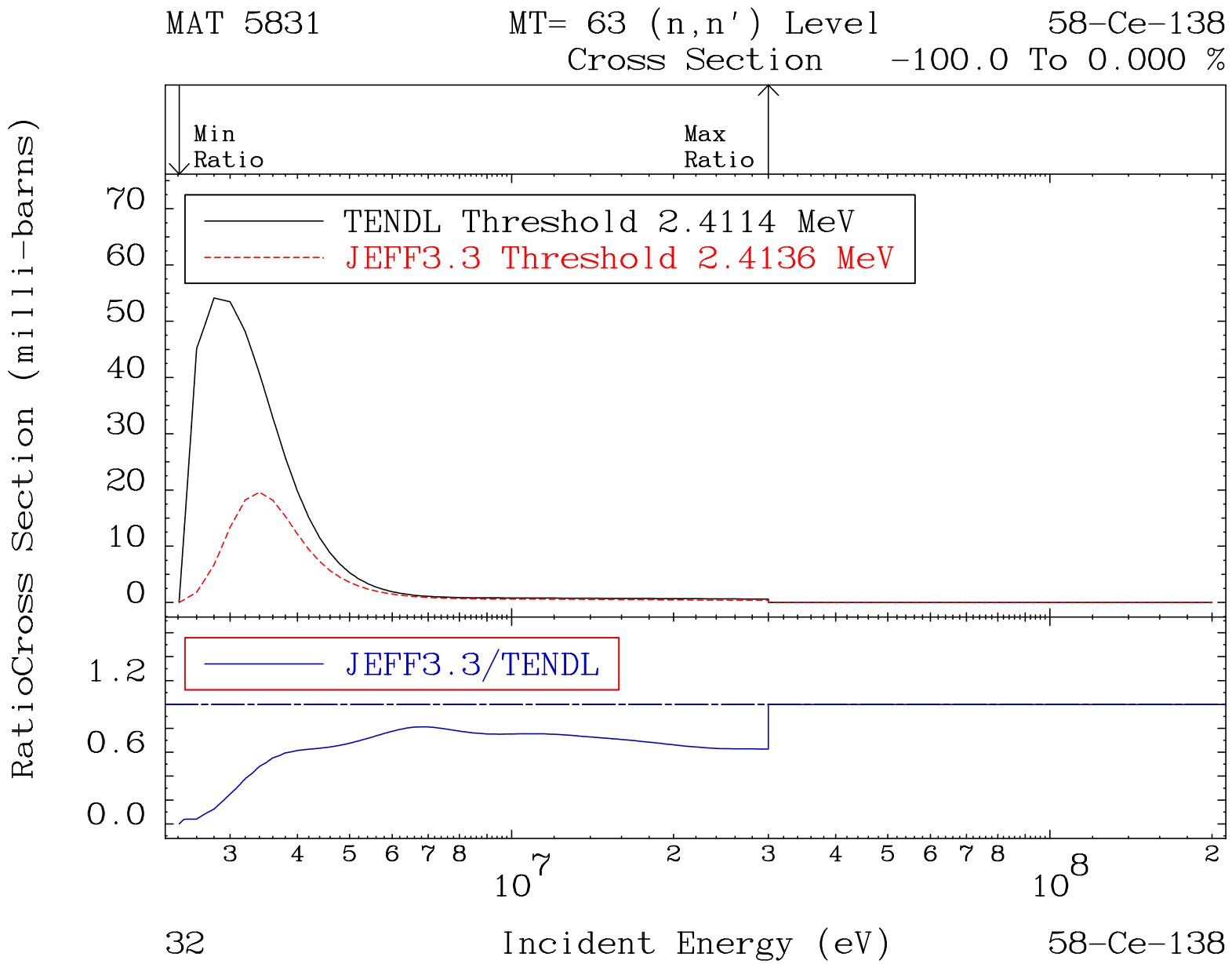

MAT 5831
MT= 58 (n,n') Level
58-Ce-138
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 2.1933 MeV
JEFF3.3 Threshold 2.2336 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
27
Incident Energy (eV)
58-Ce-138

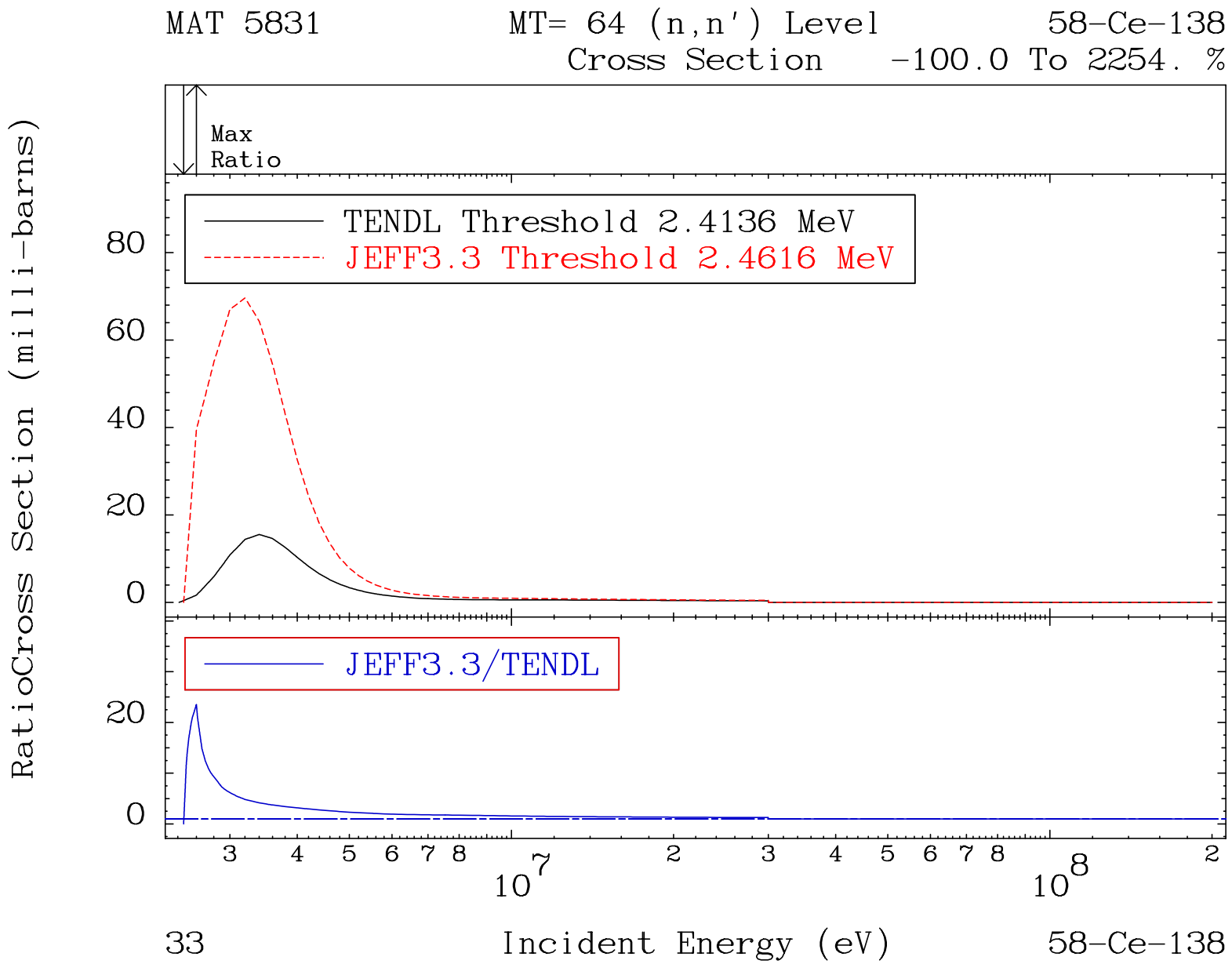

MAT 5831
MT= 59 (n,n') Level
58-Ce-138
Cross Section
-100.0 To 645.8 %
Max
Ratio
TENDL Threshold 2.2336 MeV
JEFF3.3 Threshold 2.2529 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
8
4
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
28
Incident Energy (eV)
58-Ce-138

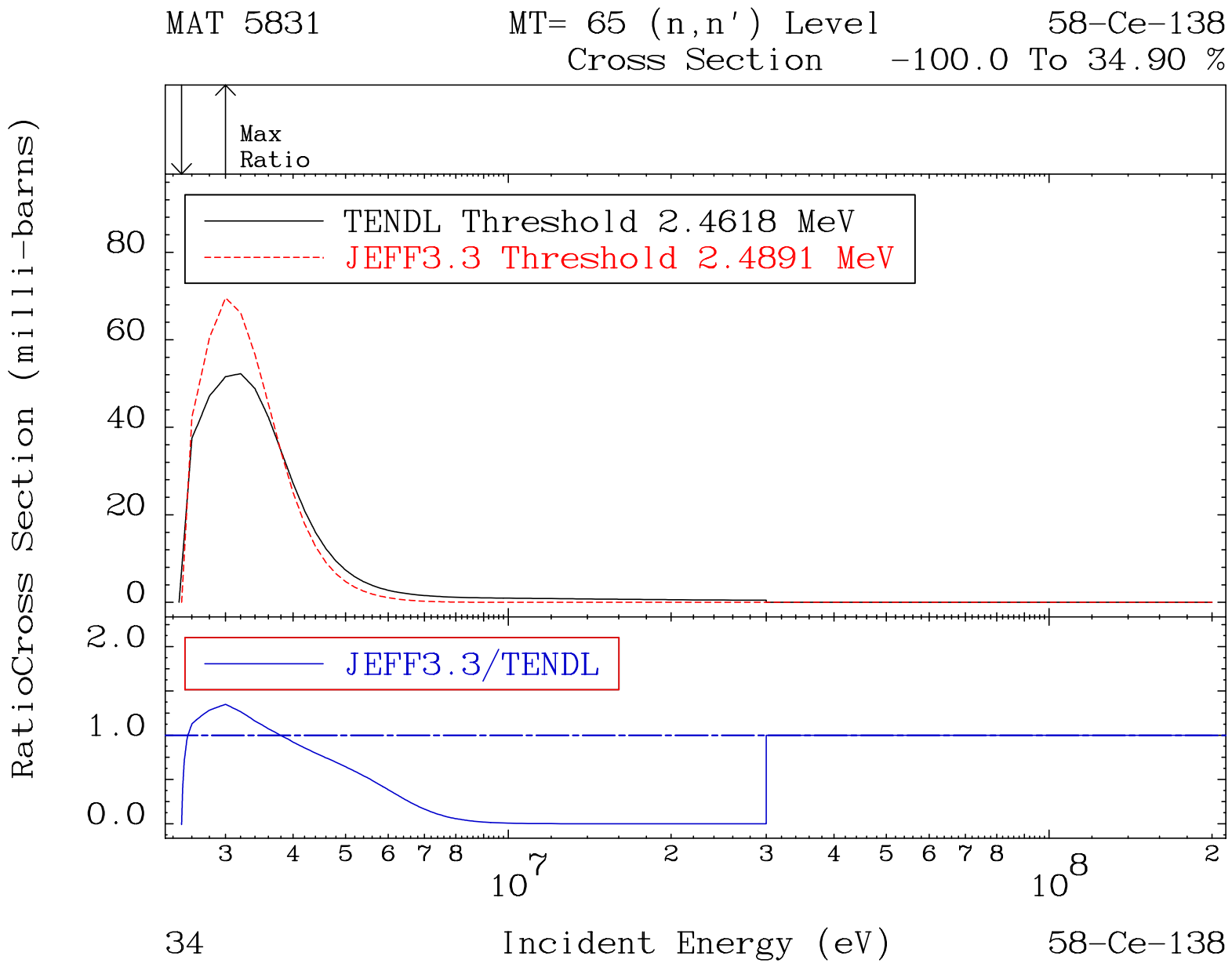

MAT 5831
MT= 60 (n,n') Level
58-Ce-138
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 2.2529 MeV
JEFF3.3 Threshold 2.3105 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
29
Incident Energy (eV)
58-Ce-138

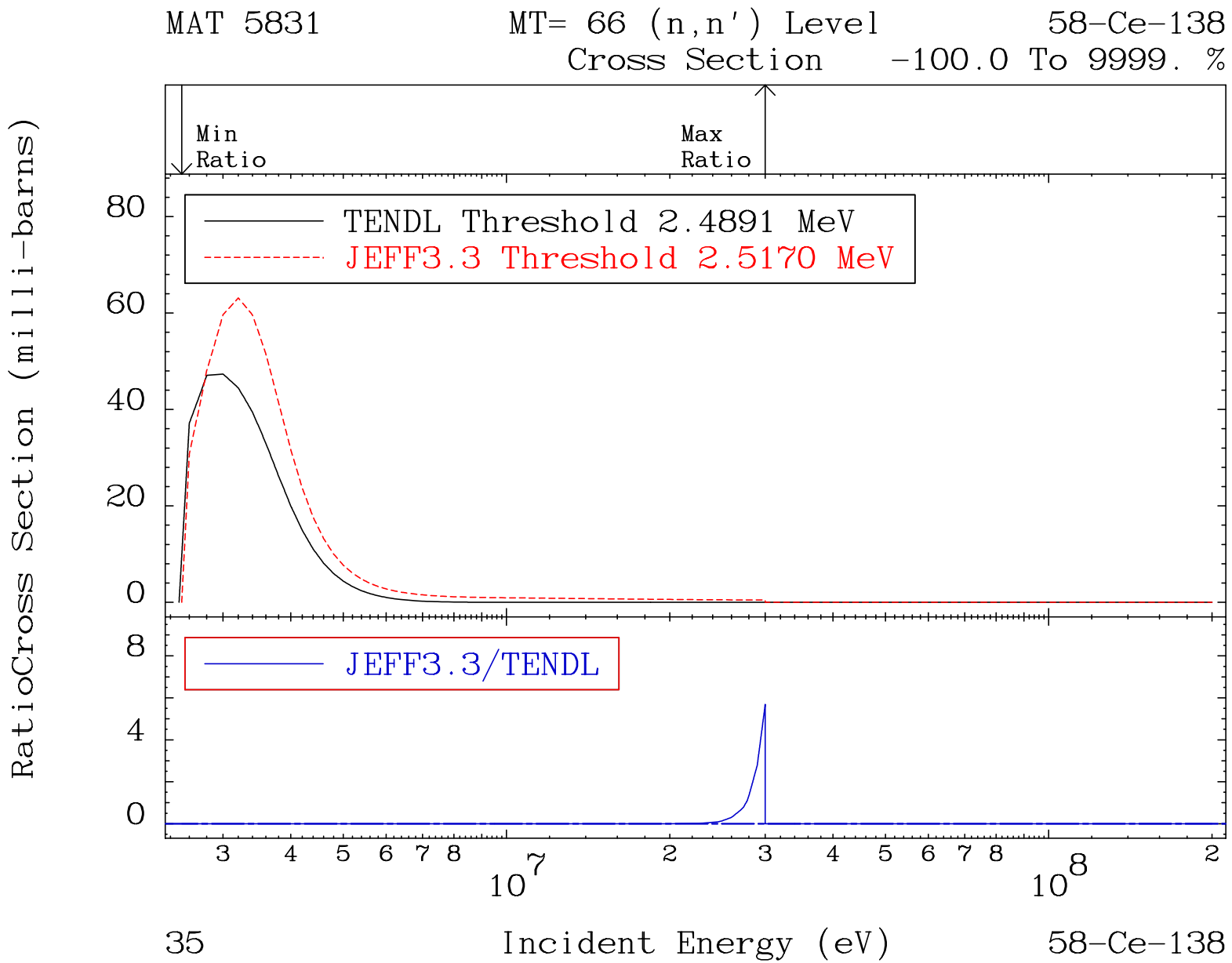

MAT 5831
MT= 61 (n,n') Level
58-Ce-138
Cross Section -100.0 To 2108. %
Max
Ratio
TENDL Threshold 2.3107 MeV
JEFF3.3 Threshold 2.3570 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
30
20
10
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
30
Incident Energy (eV)
58-Ce-138

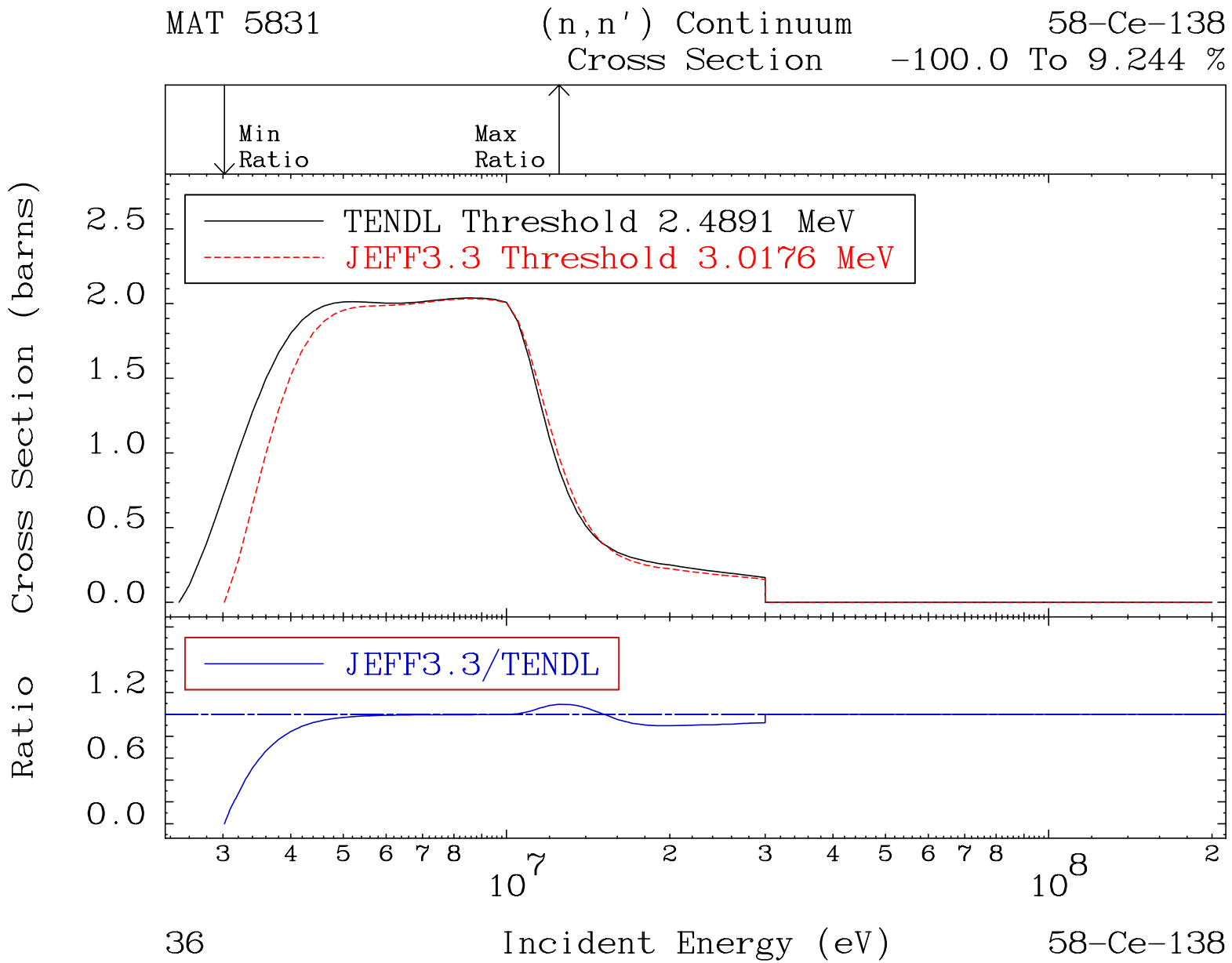

MAT 5831
MT= 62 (n,n') Level
58-Ce-138
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.3570 MeV
JEFF3.3 Threshold 2.4113 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
0.8
0.4
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
31
Incident Energy (eV)
58-Ce-138

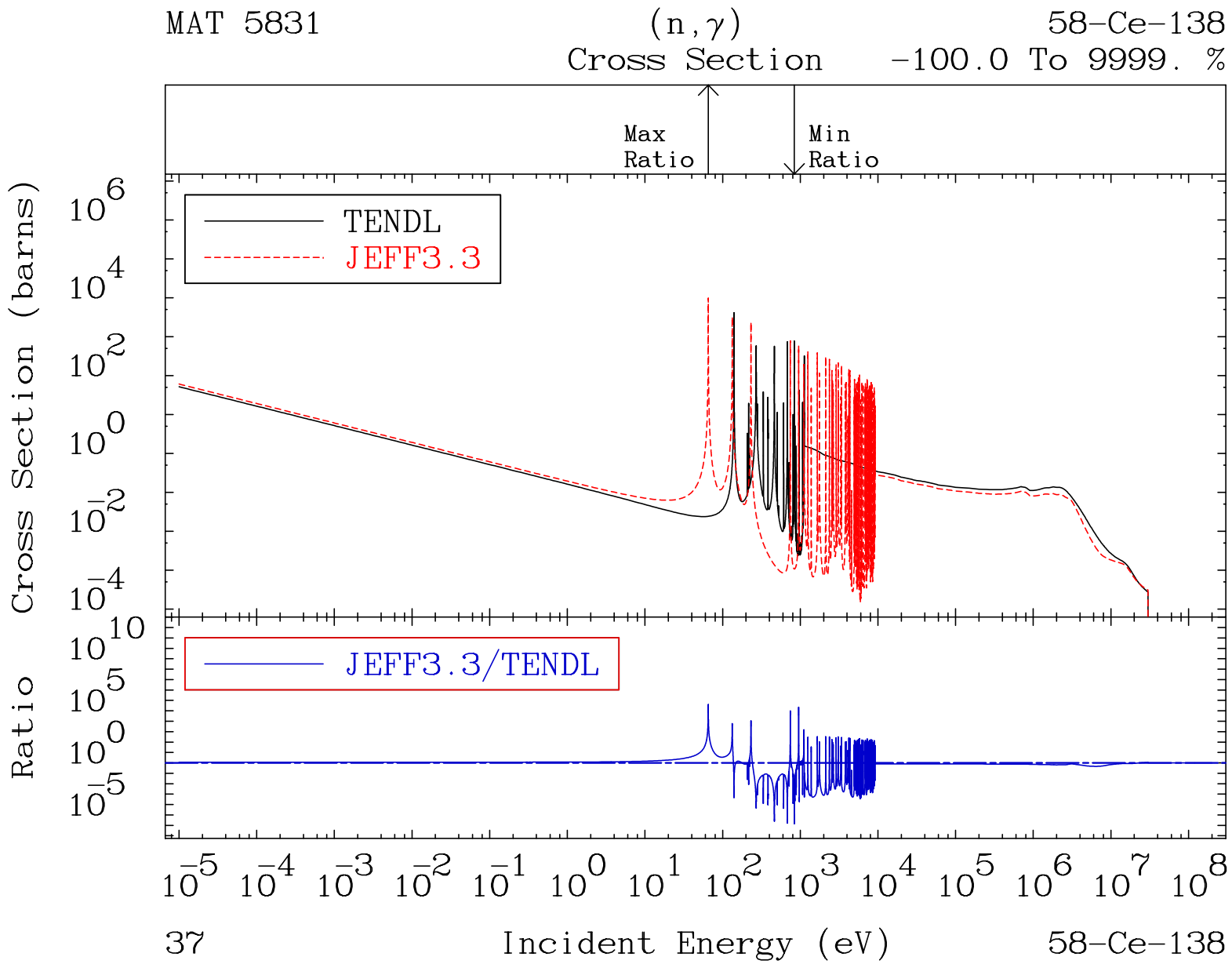

MAT 5831
MT= 63 (n,n') Level
58-Ce-138
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 2.4114 MeV
JEFF3.3 Threshold 2.4136 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
32
Incident Energy (eV)
58-Ce-138

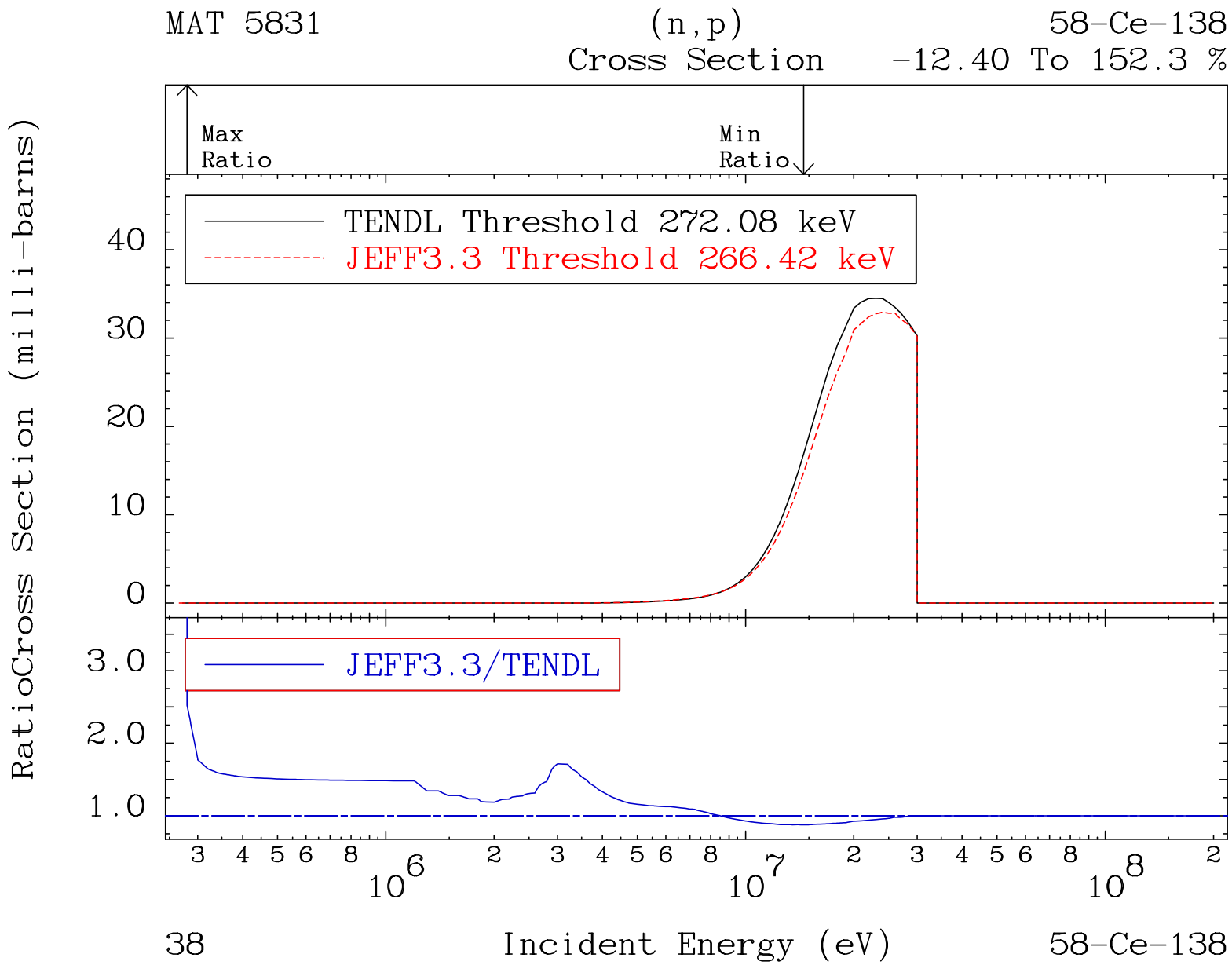

MAT 5831
MT= 64 (n,n') Level
58-Ce-138
Cross Section
-100.0 To 2254. %
Max
Ratio
TENDL Threshold 2.4136 MeV
JEFF3.3 Threshold 2.4616 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
20
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
33
Incident Energy (eV)
58-Ce-138

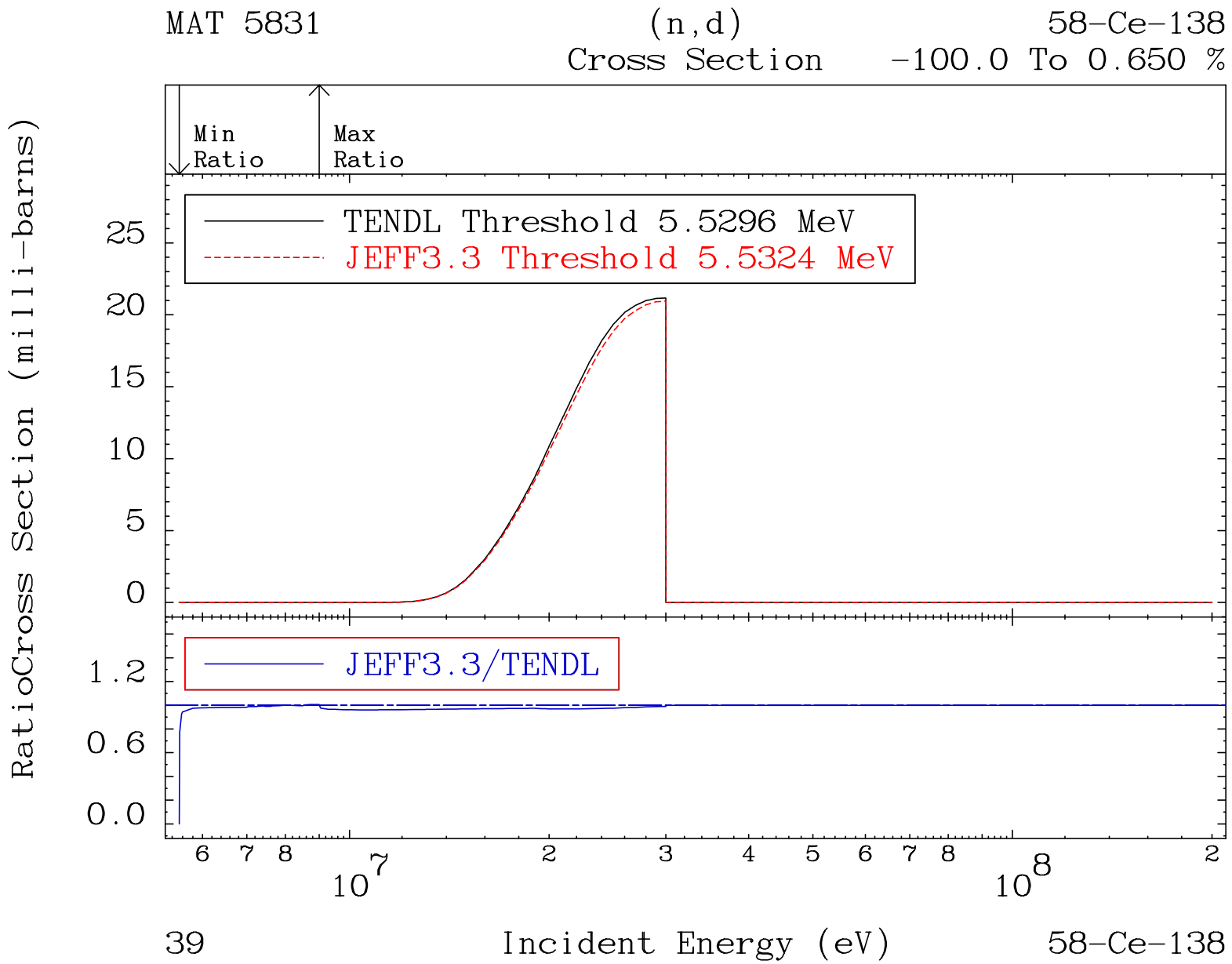

MAT 5831
MT= 65 (n,n') Level
58-Ce-138
Cross Section -100.0 To 34.90 %
Max
Ratio
TENDL Threshold 2.4618 MeV
JEFF3.3 Threshold 2.4891 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
2.0
1.0
0.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
34
Incident Energy (eV)
58-Ce-138

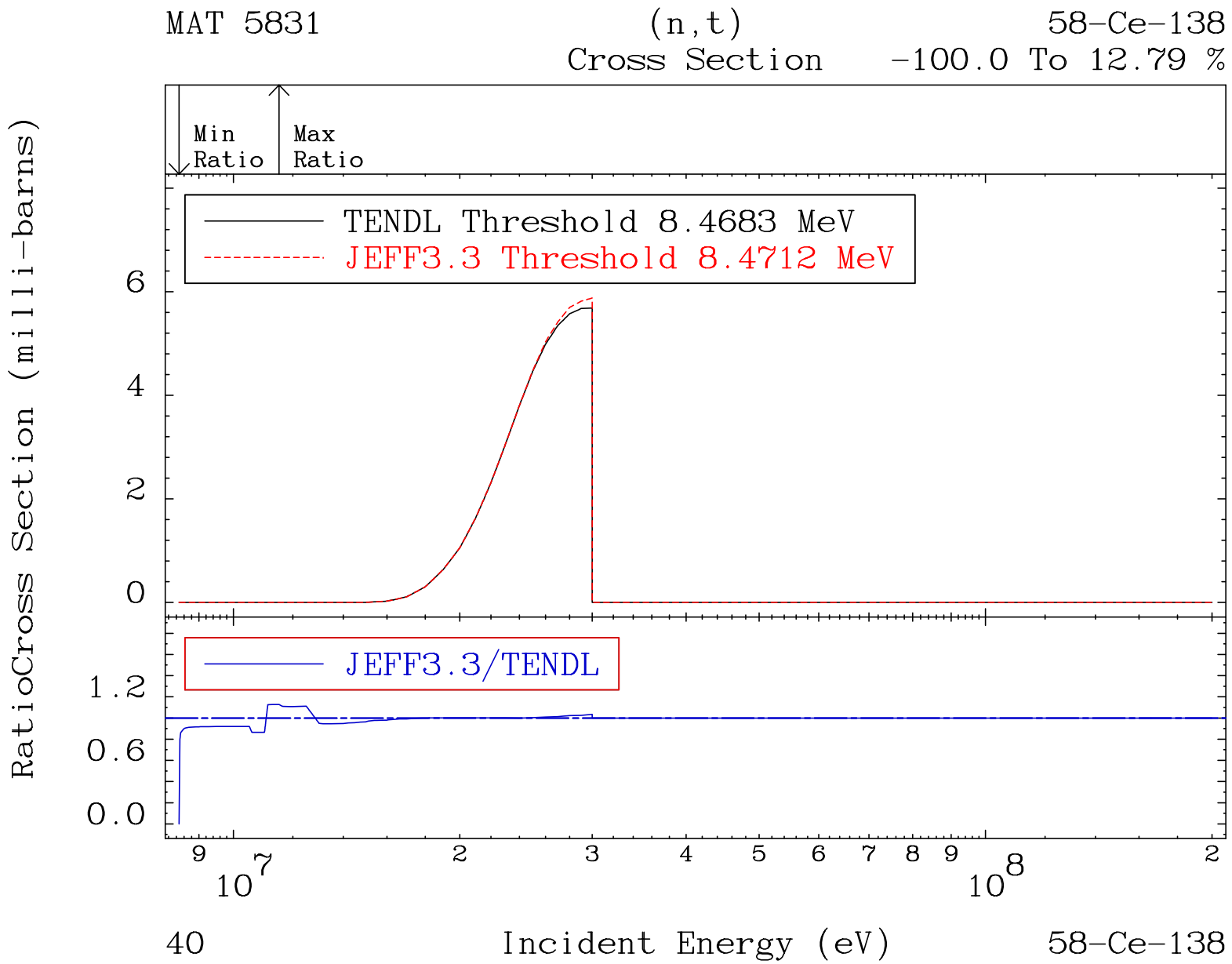

MAT 5831
MT= 66 (n,n') Level
58-Ce-138
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.4891 MeV
JEFF3.3 Threshold 2.5170 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
8
4
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
35
Incident Energy (eV)
58-Ce-138

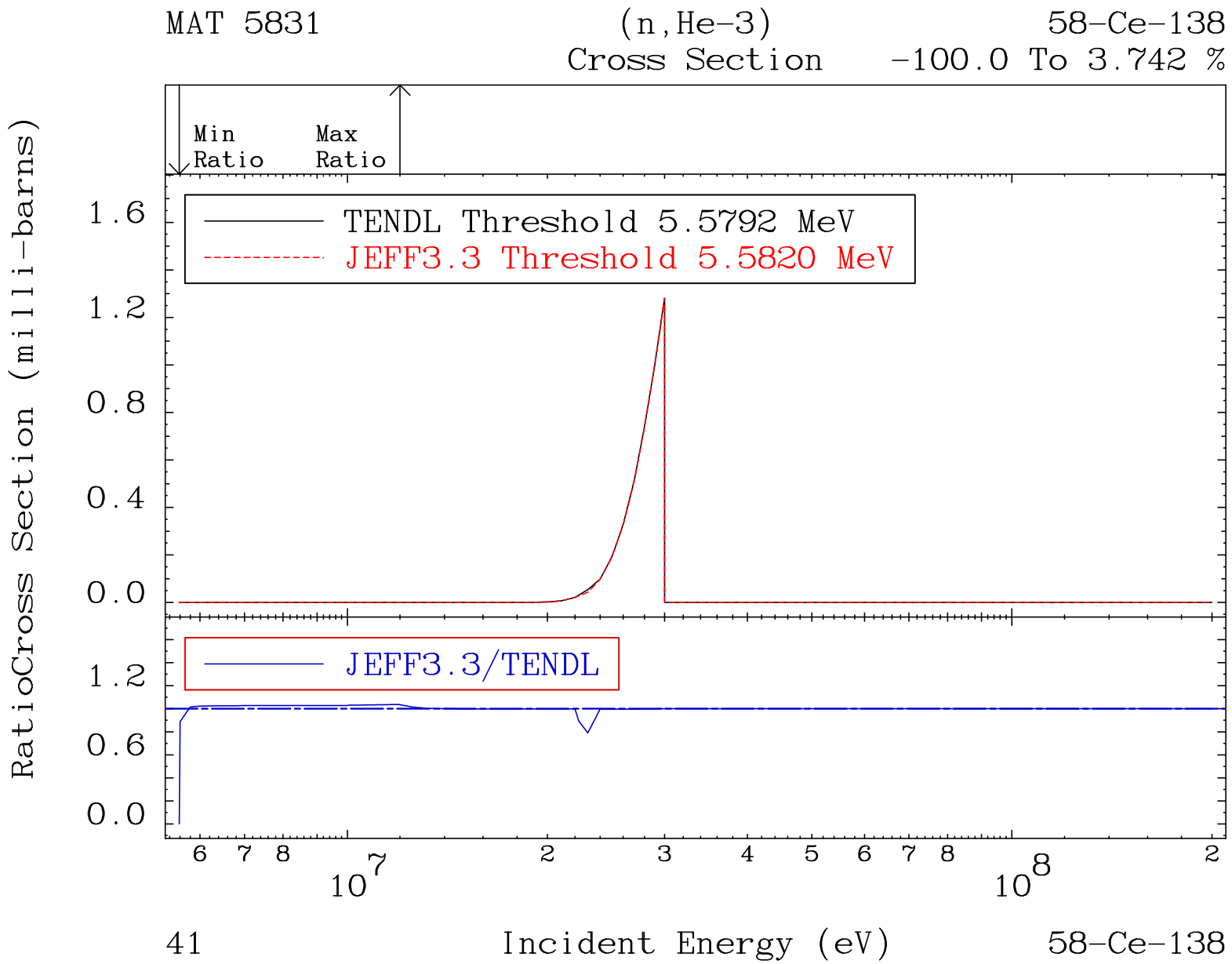

MAT 5831
(n,n') Continuum
Cross Section
58-Ce-138
-100.0 To 9.244 %
Min Ratio
Max Ratio
TENDL Threshold 2.4891 MeV
JEFF3.3 Threshold 3.0176 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
36
58-Ce-138

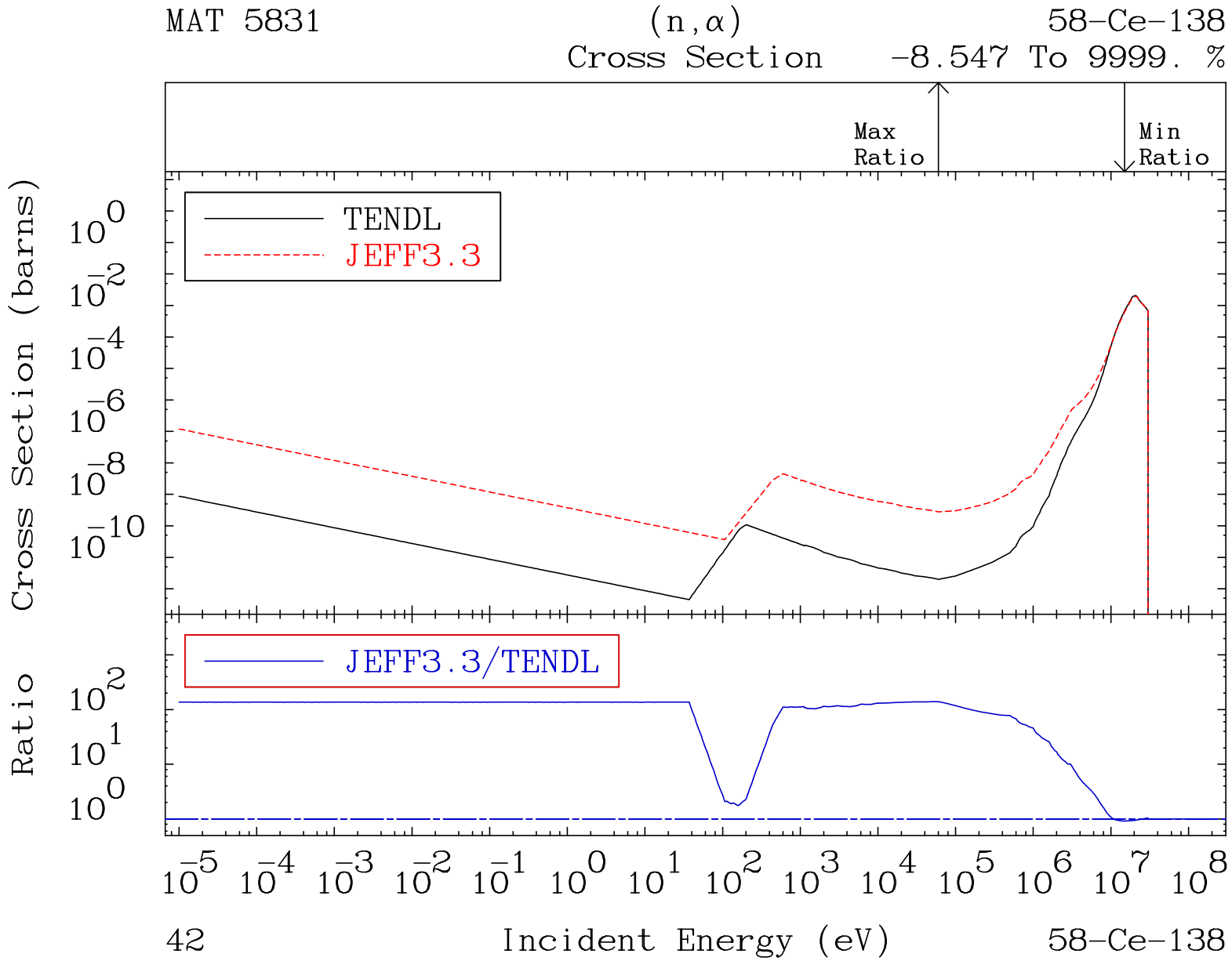

MAT 5831
(n,γ)
58-Ce-138
Cross Section
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
37
58-Ce-138

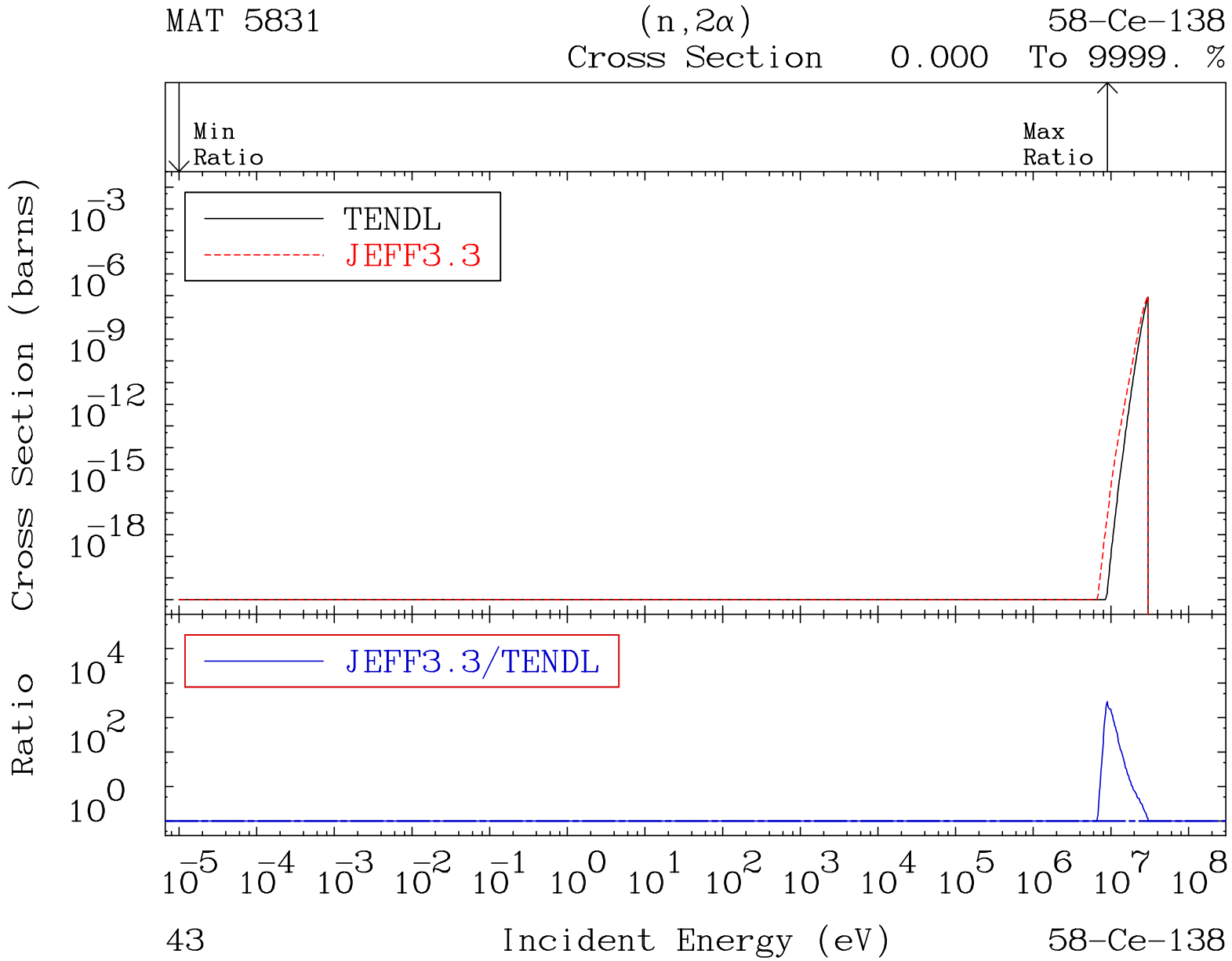

MAT 5831
(n,p)
Cross Section
58-Ce-138
-12.40 To 152.3 %
Max Ratio
Min Ratio
TENDL Threshold 272.08 keV
JEFF3.3 Threshold 266.42 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
3.0
2.0
1.0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
38
Incident Energy (eV)
58-Ce-138

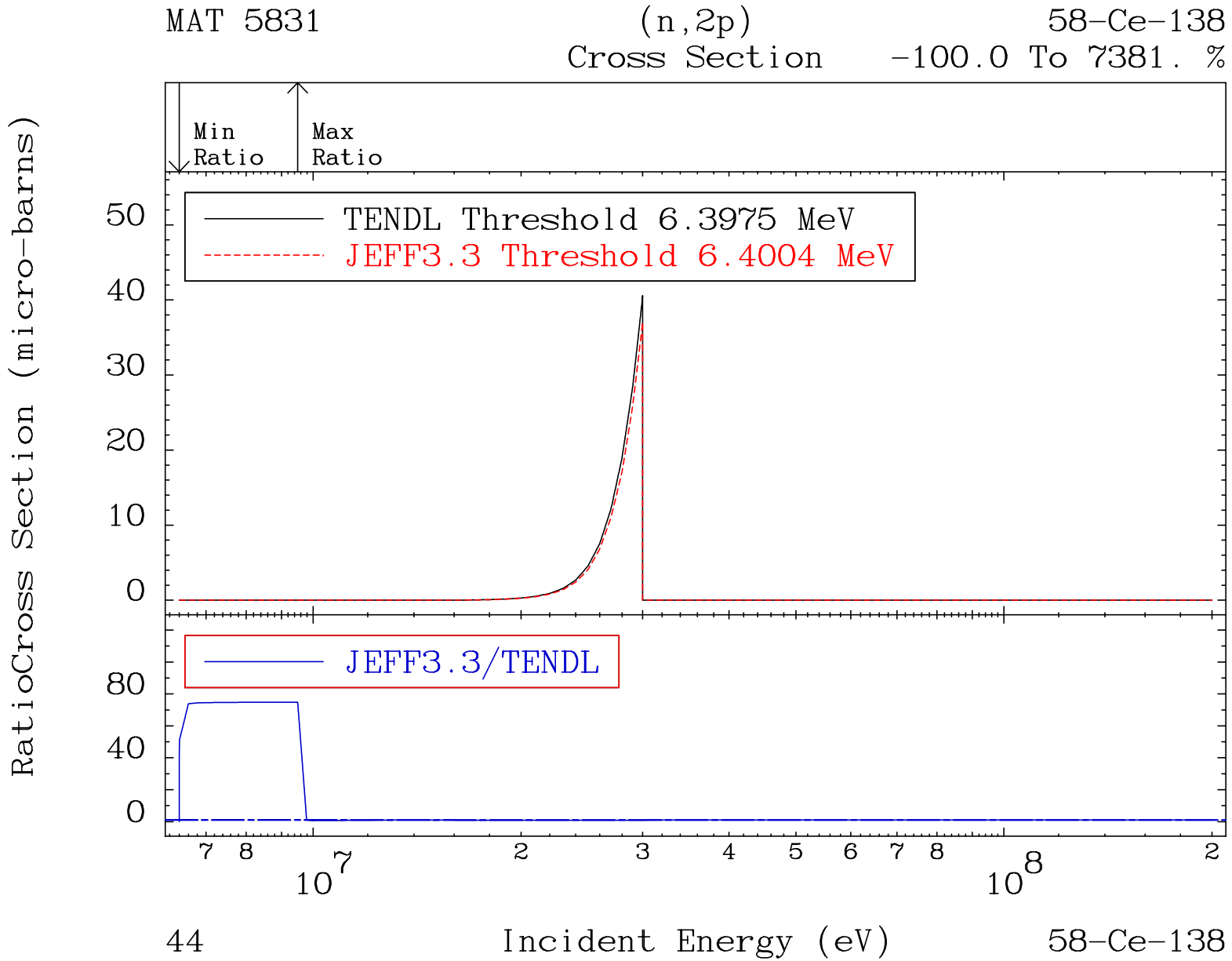

MAT 5831
(n,d)
Cross Section
58-Ce-138
-100.0 To 0.650 %
Min Ratio
Max Ratio
TENDL Threshold 5.5296 MeV
JEFF3.3 Threshold 5.5324 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
1.2
0.6
0.0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
39
Incident Energy (eV)
58-Ce-138

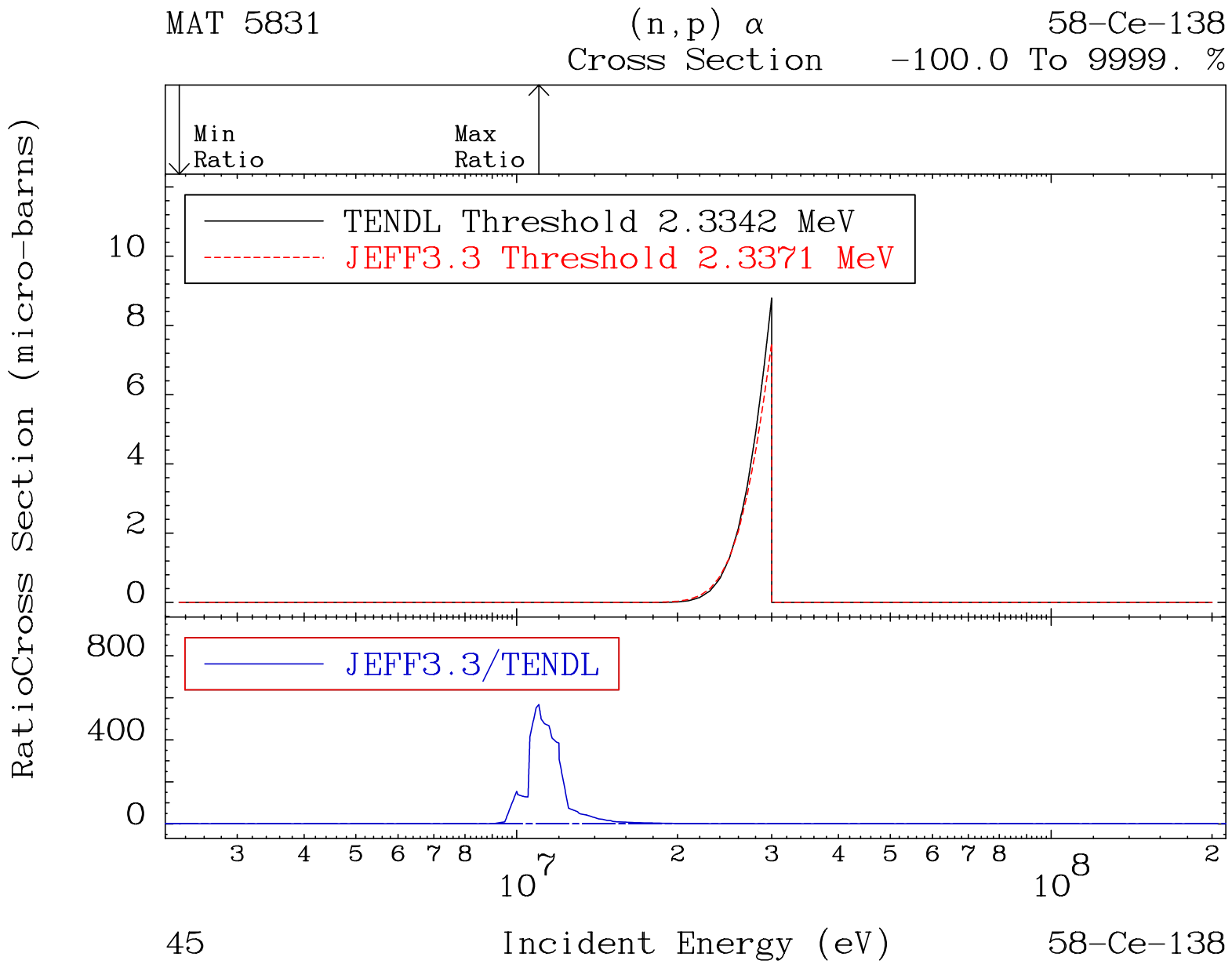

MAT 5831
(n,t)
Cross Section
58-Ce-138
-100.0 To 12.79 %
Min Ratio
Max Ratio
TENDL Threshold 8.4683 MeV
JEFF3.3 Threshold 8.4712 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
40
58-Ce-138

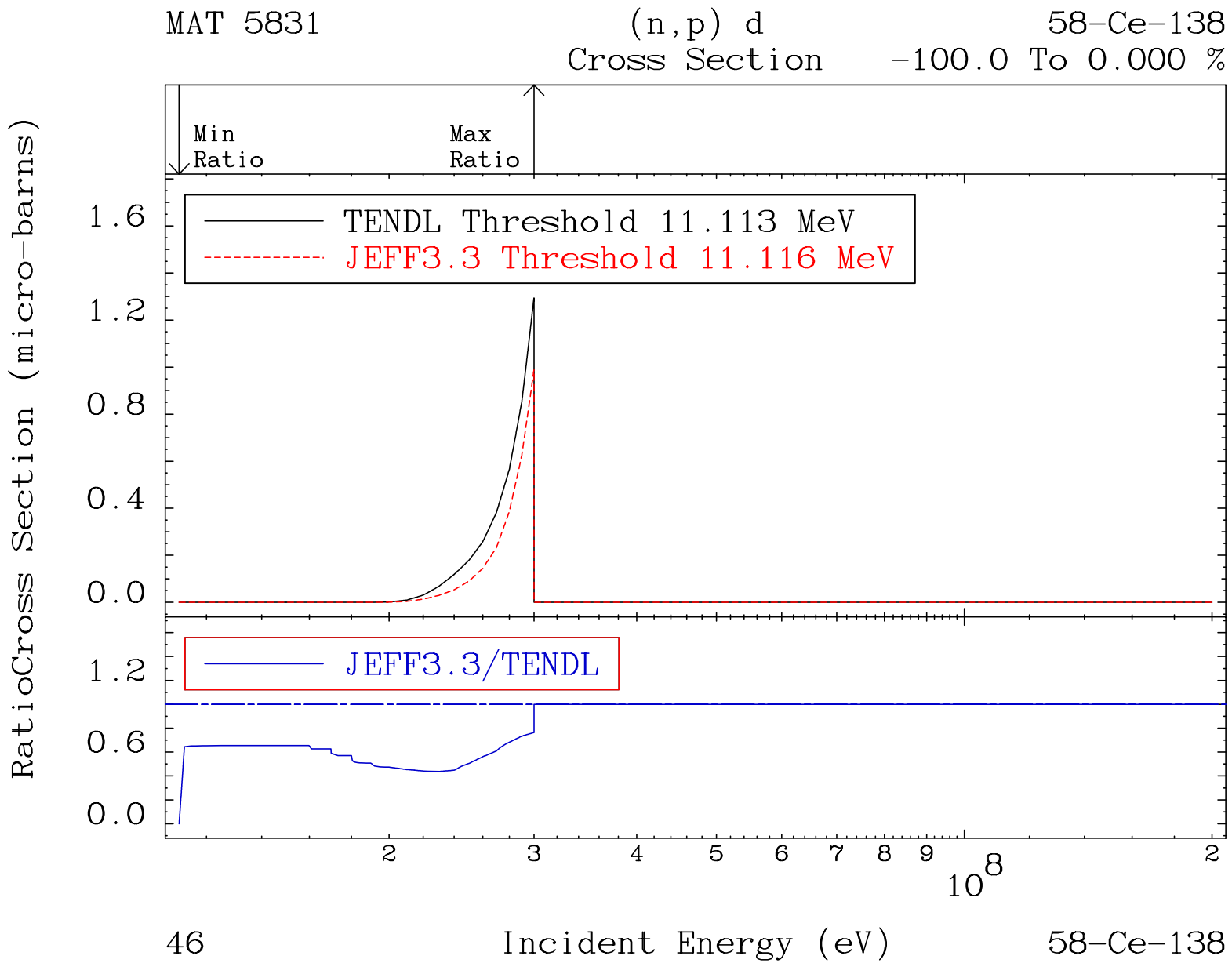

MAT 5831
(n,He-3)
Cross Section
58-Ce-138
-100.0 To 3.742 %
Min Ratio
Max Ratio
TENDL Threshold 5.5792 MeV
JEFF3.3 Threshold 5.5820 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
1.2
0.6
0.0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
41
Incident Energy (eV)
58-Ce-138

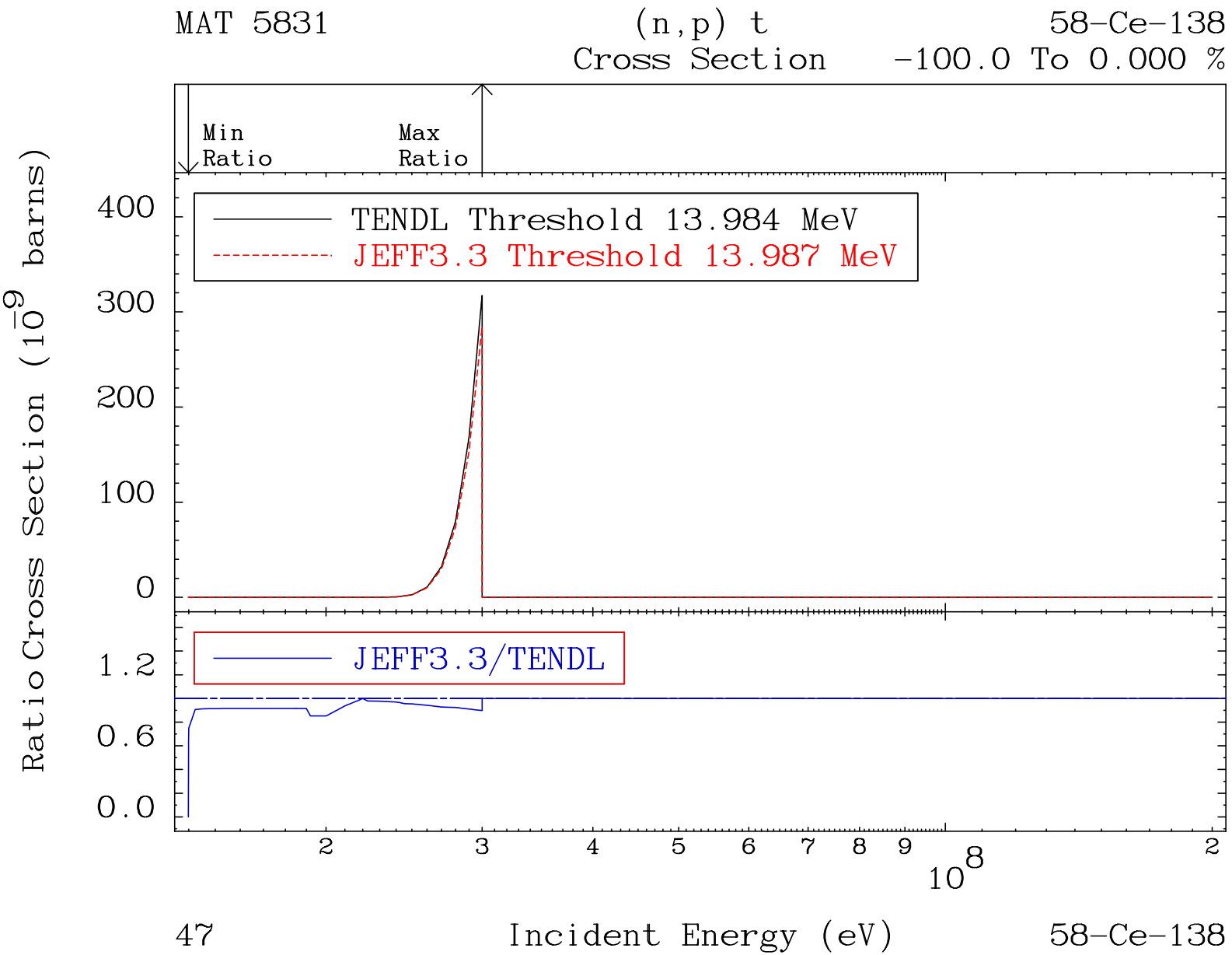

MAT 5831
(n,α)
Cross Section
58-Ce-138
-8.547 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
58-Ce-138

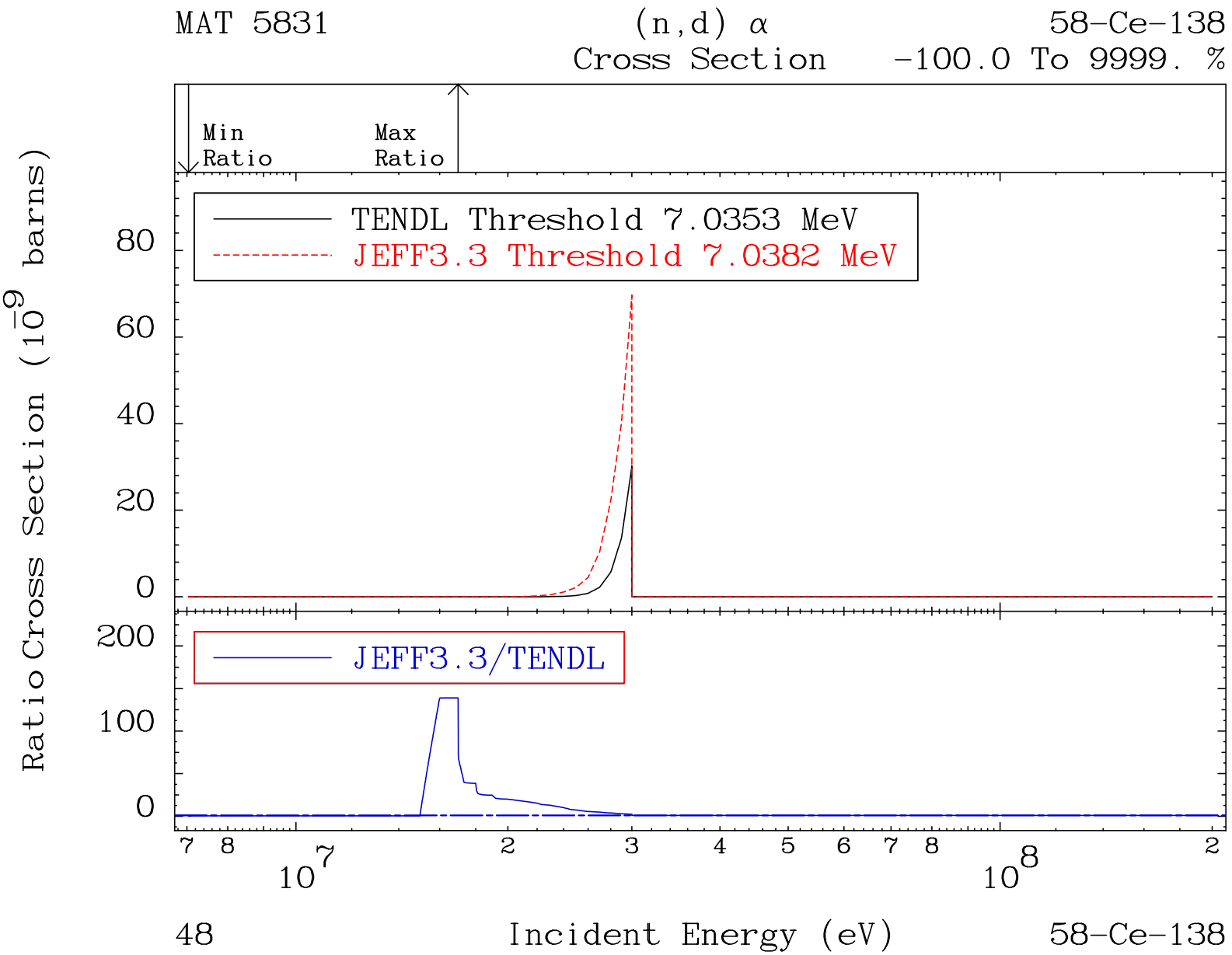

MAT 5831
(n,2α)
58-Ce-138
Cross Section 0.000 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
58-Ce-138

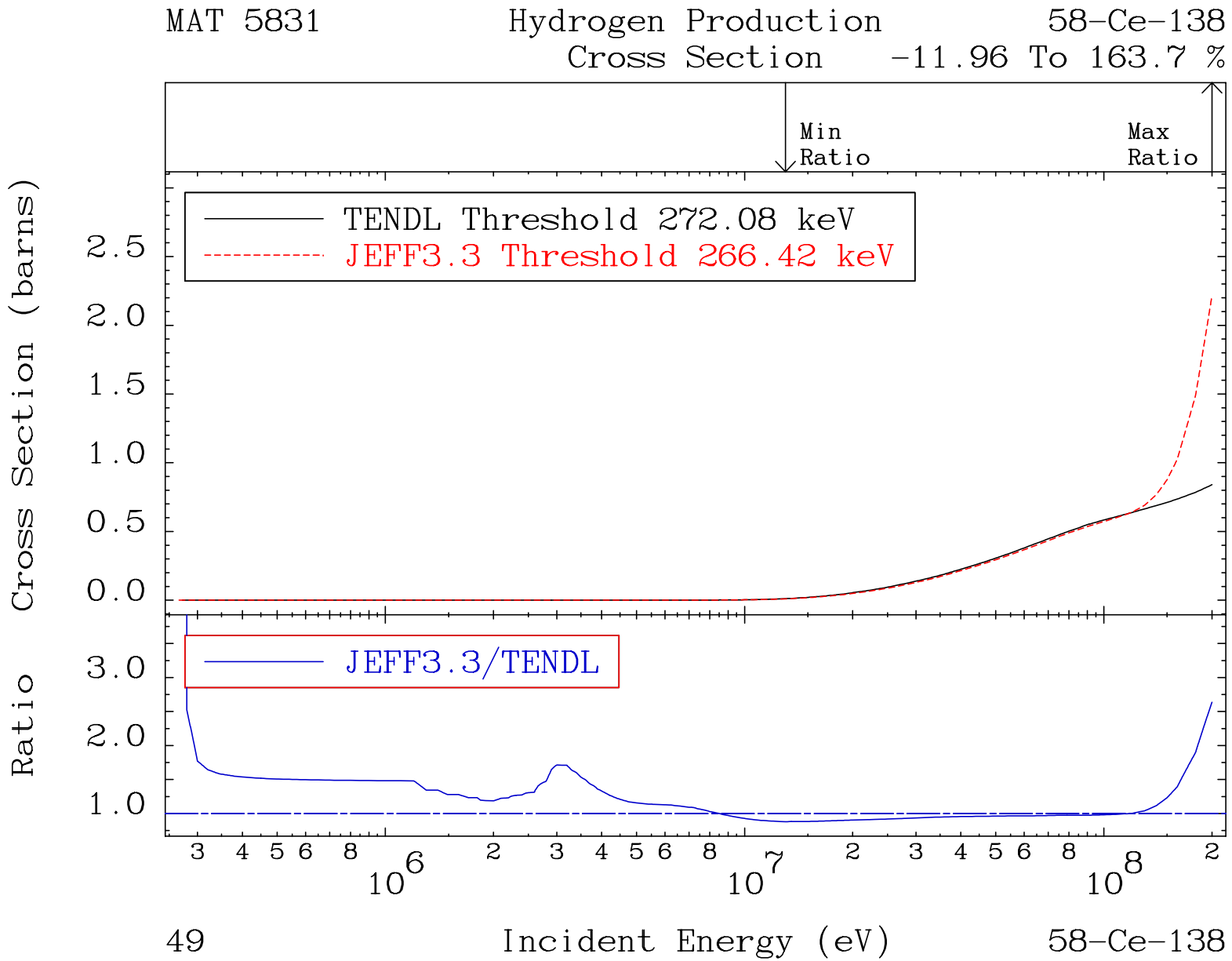

MAT 5831
(n,2p)
58-Ce-138
Cross Section
-100.0 To 7381. %
Min Ratio
Max Ratio
TENDL Threshold 6.3975 MeV
JEFF3.3 Threshold 6.4004 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
50
40
30
20
10
0
80
40
0
7 8
10^7
2 3 4 5 6 7 8
10^8
2
44
Incident Energy (eV)
58-Ce-138

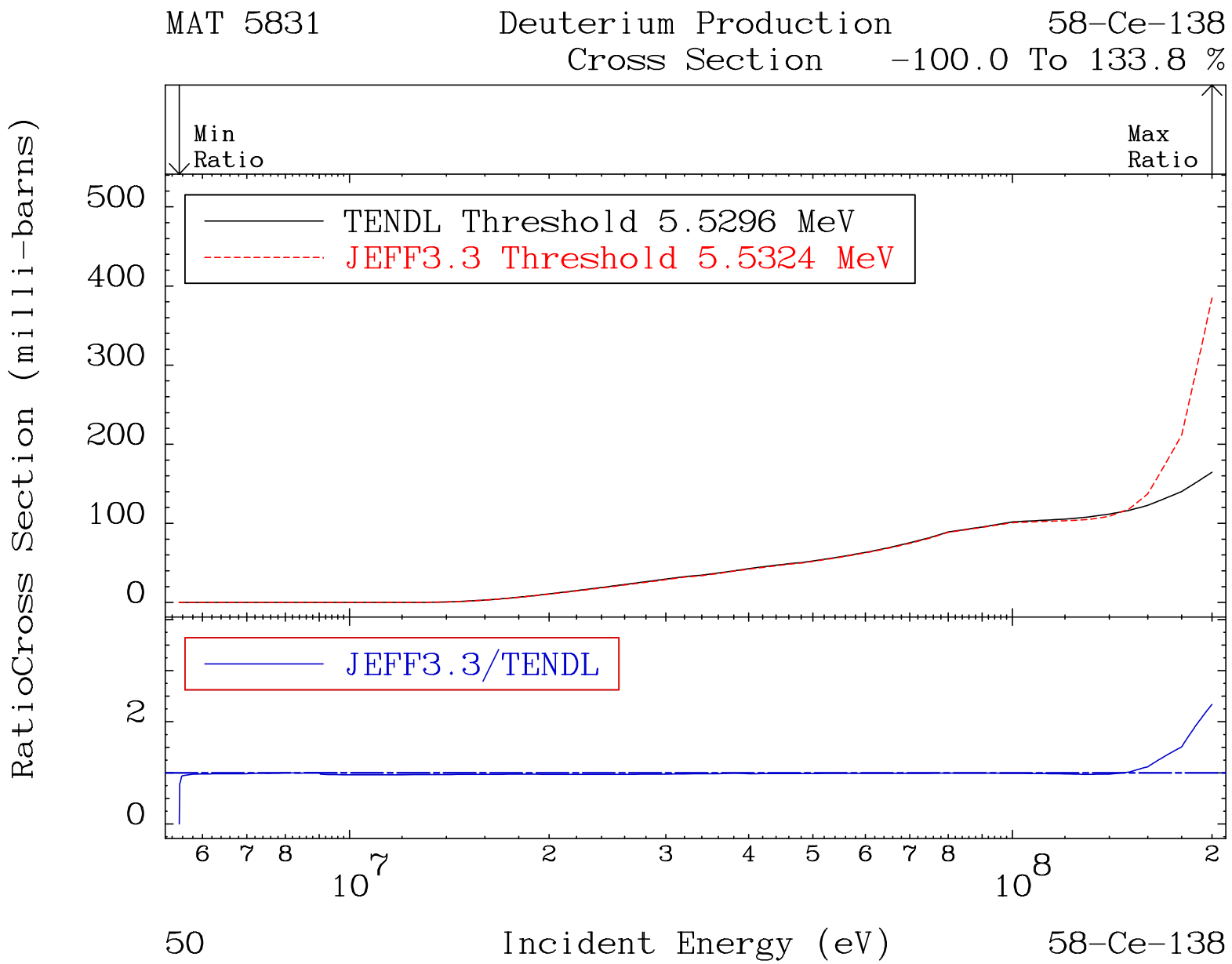

MAT 5831
(n,p) α
58-Ce-138
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.3342 MeV
JEFF3.3 Threshold 2.3371 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
10
8
6
4
2
0
800
400
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
45
Incident Energy (eV)
58-Ce-138

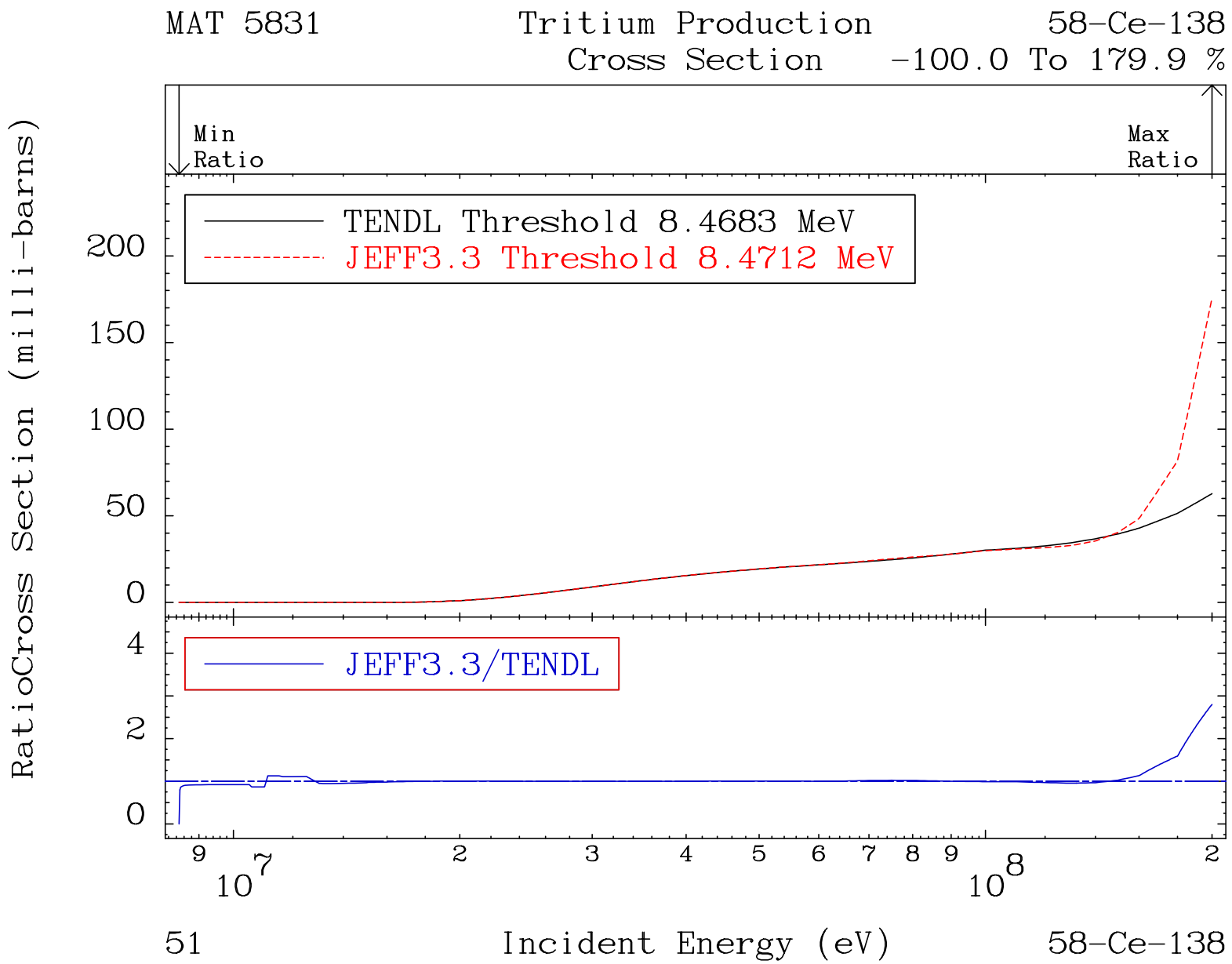

MAT 5831
(n,p) d
Cross Section
58-Ce-138
-100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 11.113 MeV
JEFF3.3 Threshold 11.116 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
1.6
1.2
0.8
0.4
0.0
1.2
0.6
0.0
2
3
4
5
6
7
8
9
10^8
2
46
Incident Energy (eV)
58-Ce-138

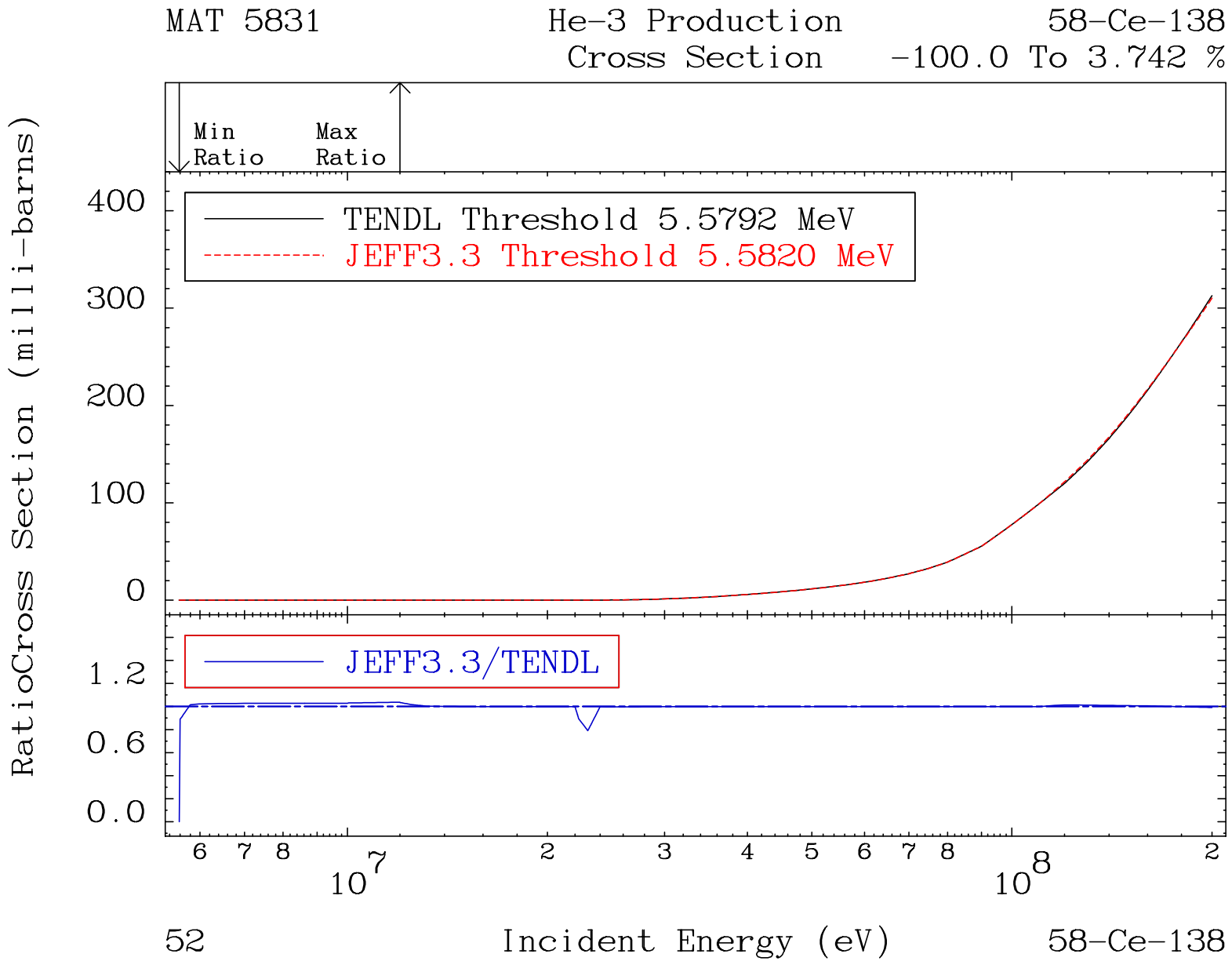

MAT 5831
(n,p) t
Cross Section
58-Ce-138
-100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 13.984 MeV
JEFF3.3 Threshold 13.987 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
400
300
200
100
0
1.2
0.6
0.0
2
3
4
5
6
7
8
9
10^8
2
47
Incident Energy (eV)
58-Ce-138

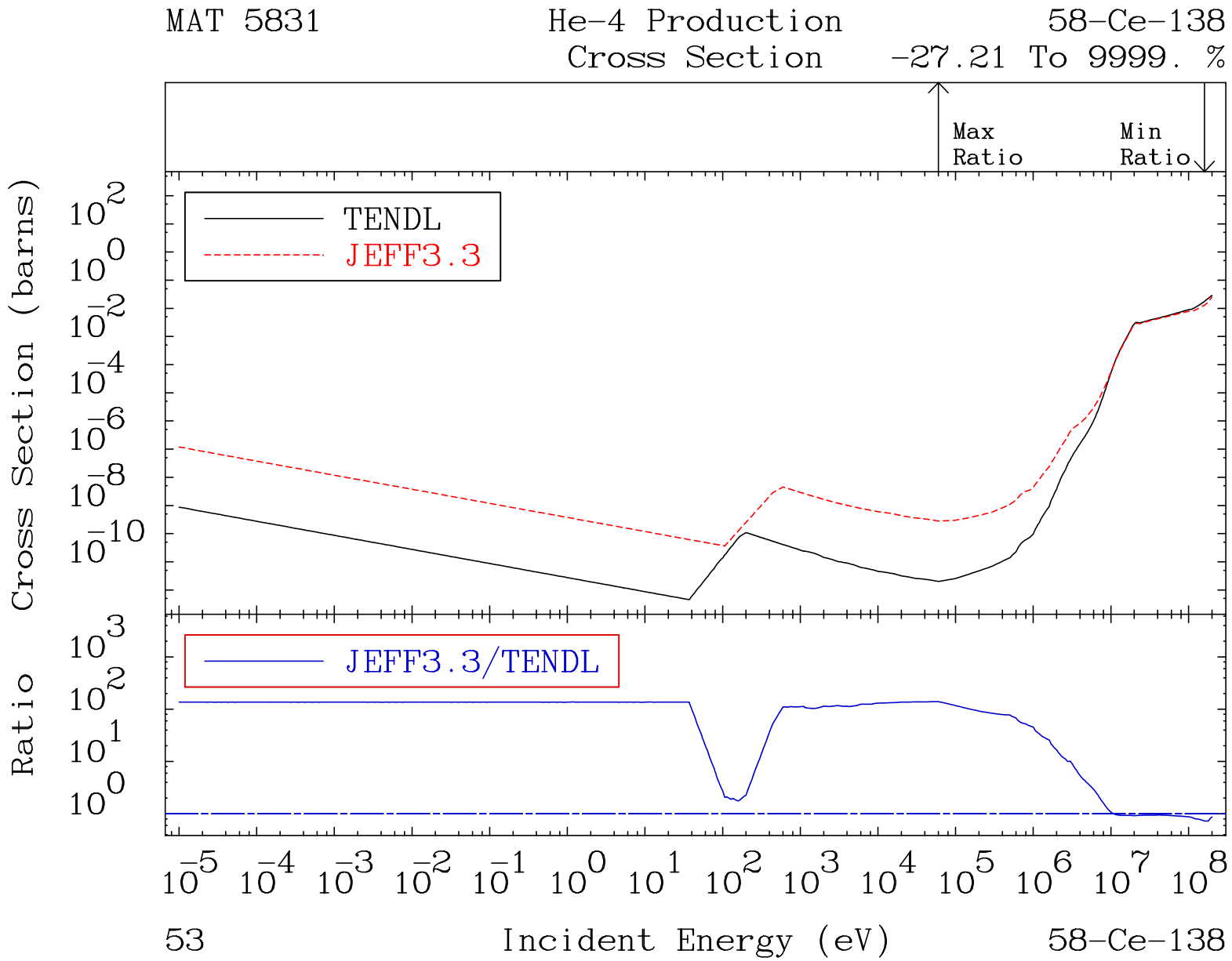

MAT 5831
(n,d) α
58-Ce-138
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 7.0353 MeV
JEFF3.3 Threshold 7.0382 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
80
60
40
20
0
200
100
0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
48
Incident Energy (eV)
58-Ce-138

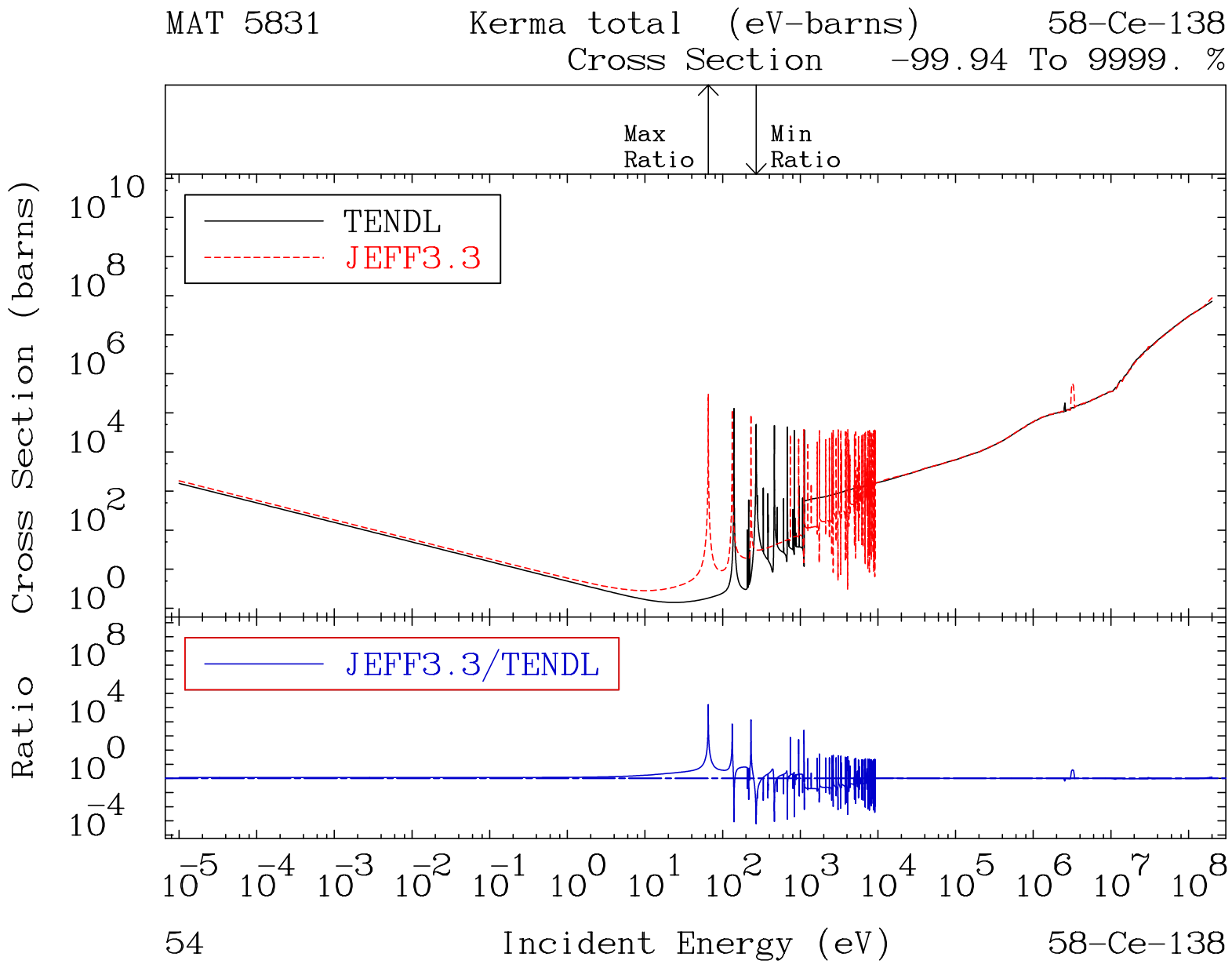

MAT 5831
Hydrogen Production
58-Ce-138
Cross Section
-11.96 To 163.7 %
Min Ratio
Max Ratio
TENDL Threshold 272.08 keV
JEFF3.3 Threshold 266.42 keV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
3.0
2.0
1.0
3 4 5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
49
Incident Energy (eV)
58-Ce-138

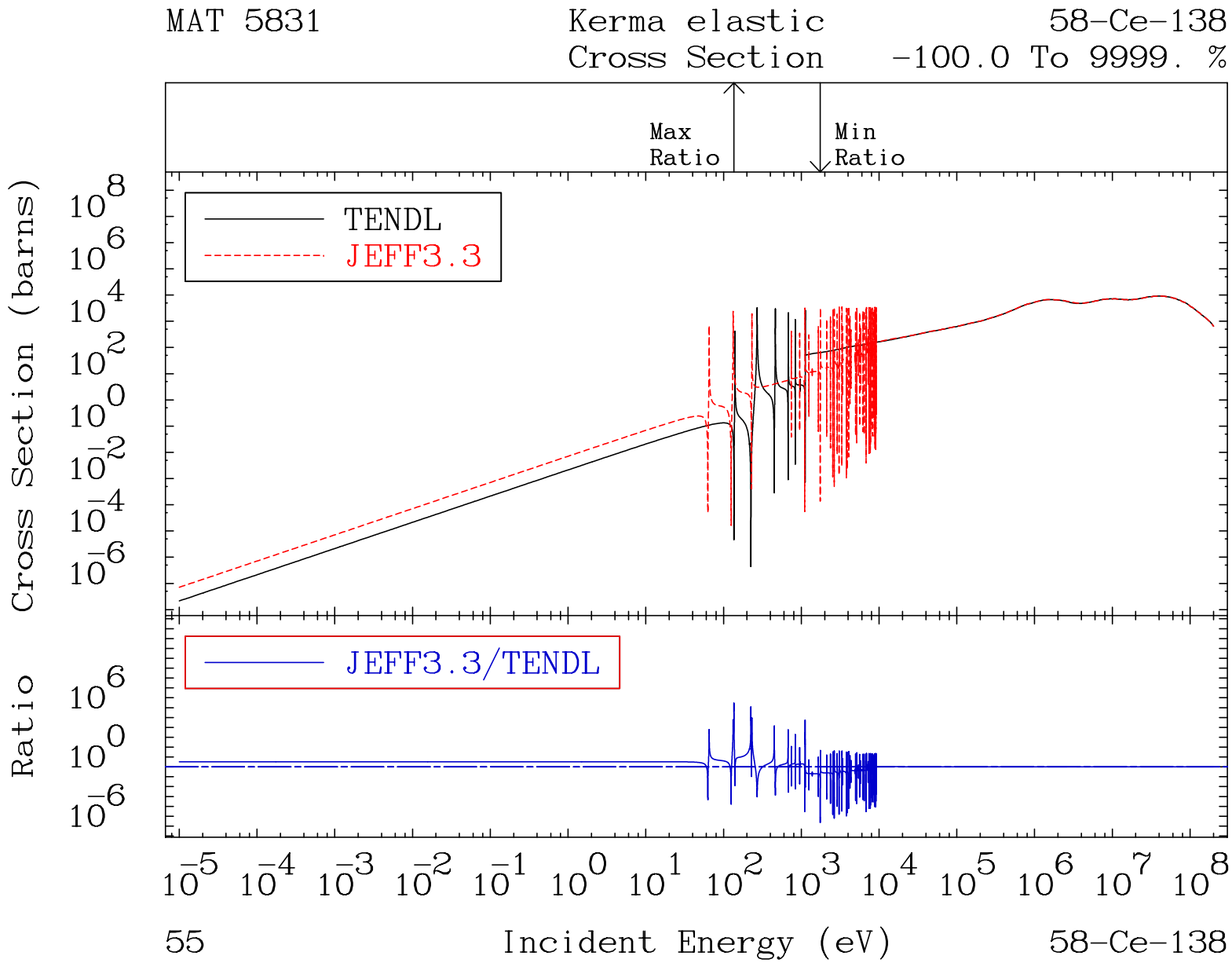

MAT 5831
Deuterium Production
58-Ce-138
Cross Section
-100.0 To 133.8 %
Min Ratio
Max Ratio
TENDL Threshold 5.5296 MeV
JEFF3.3 Threshold 5.5324 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
2
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
50
Incident Energy (eV)
58-Ce-138

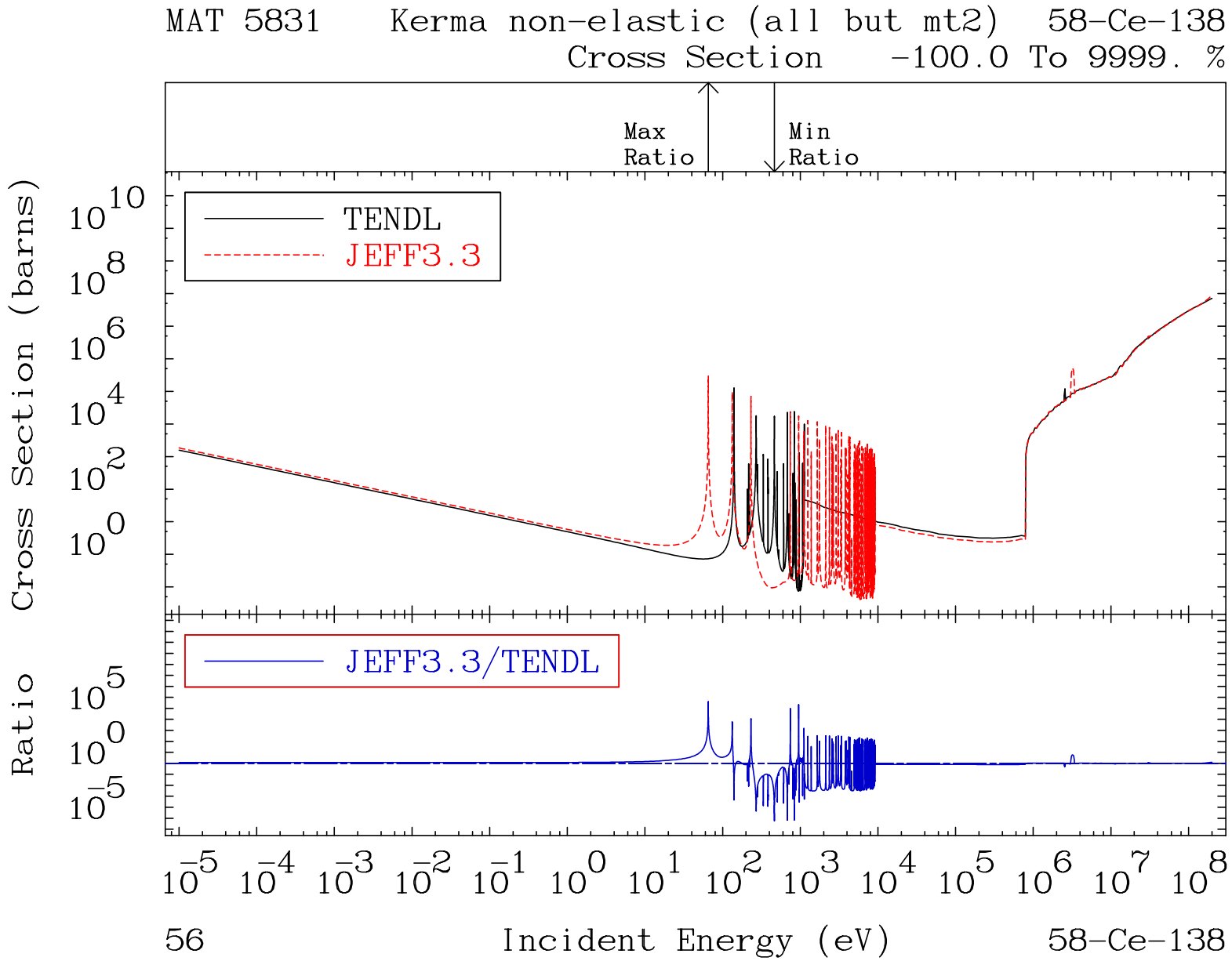

MAT 5831
Tritium Production
Cross Section
58-Ce-138
-100.0 To 179.9 %
Min Ratio
Max Ratio
TENDL Threshold 8.4683 MeV
JEFF3.3 Threshold 8.4712 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
4
2
0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
51
Incident Energy (eV)
58-Ce-138

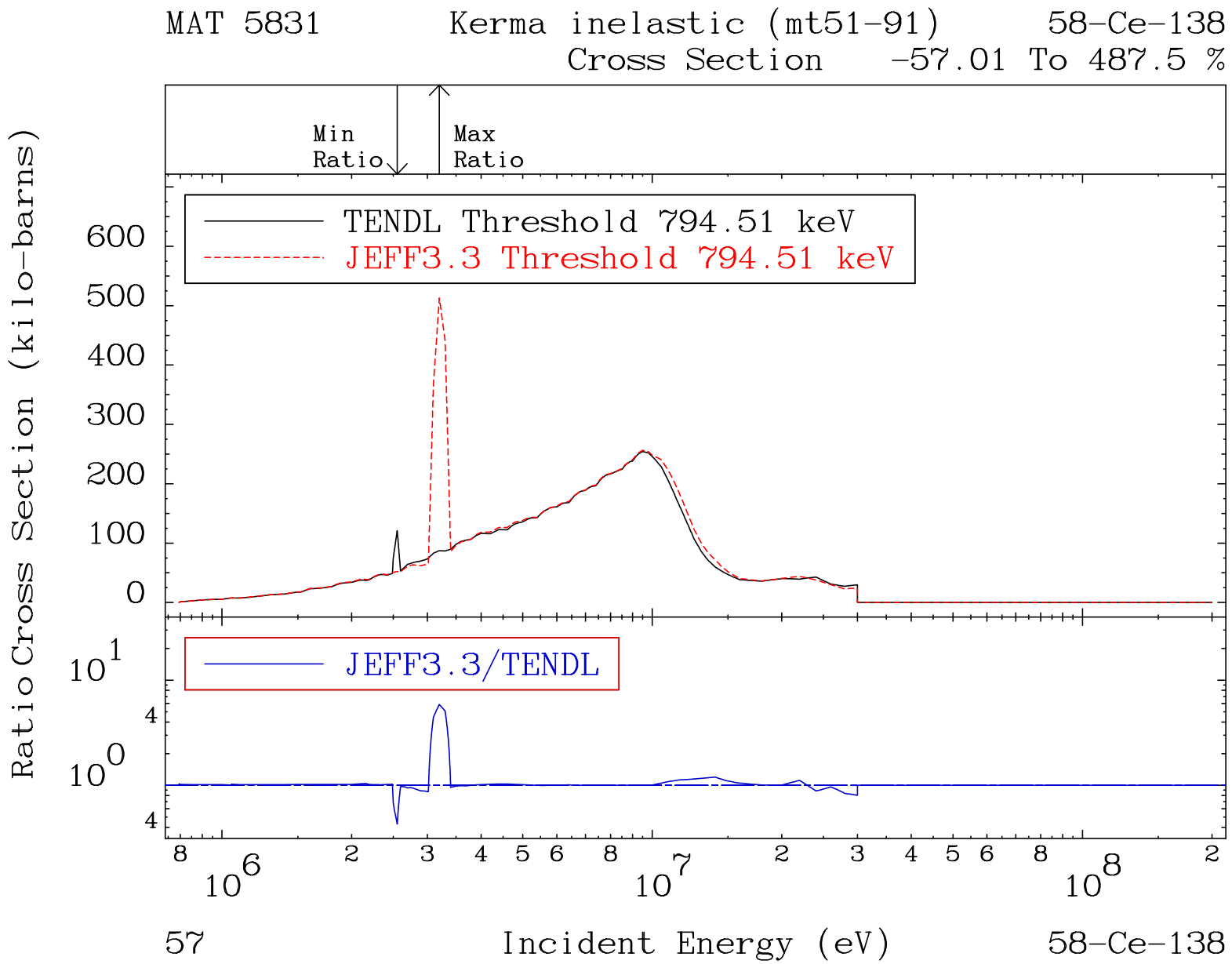

MAT 5831
He-3 Production
Cross Section
58-Ce-138
-100.0 To 3.742 %
Min Ratio
Max Ratio
TENDL Threshold 5.5792 MeV
JEFF3.3 Threshold 5.5820 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
1.2
0.6
0.0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
52
Incident Energy (eV)
58-Ce-138

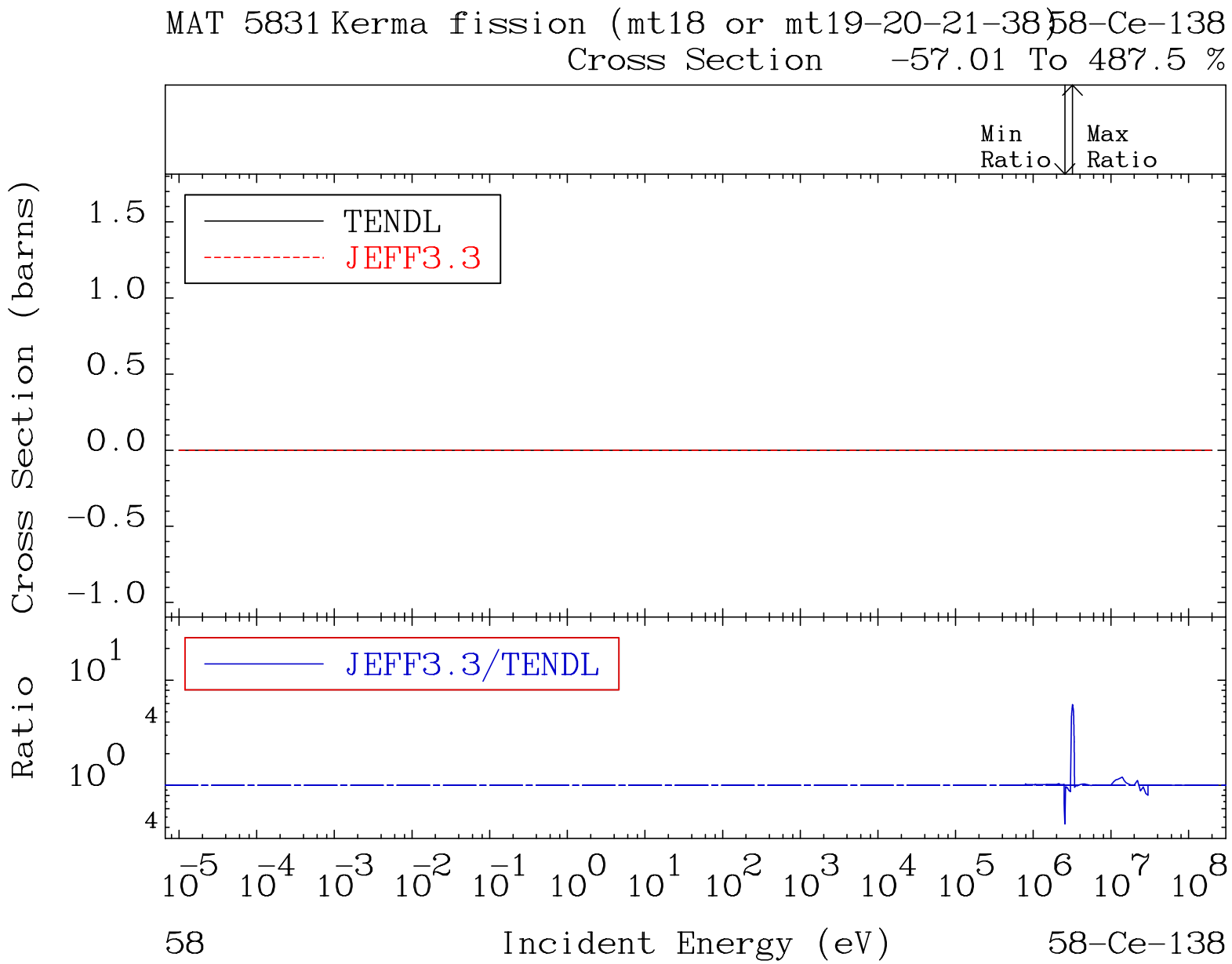

MAT 5831
He-4 Production
Cross Section
58-Ce-138
-27.21 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
53
58-Ce-138

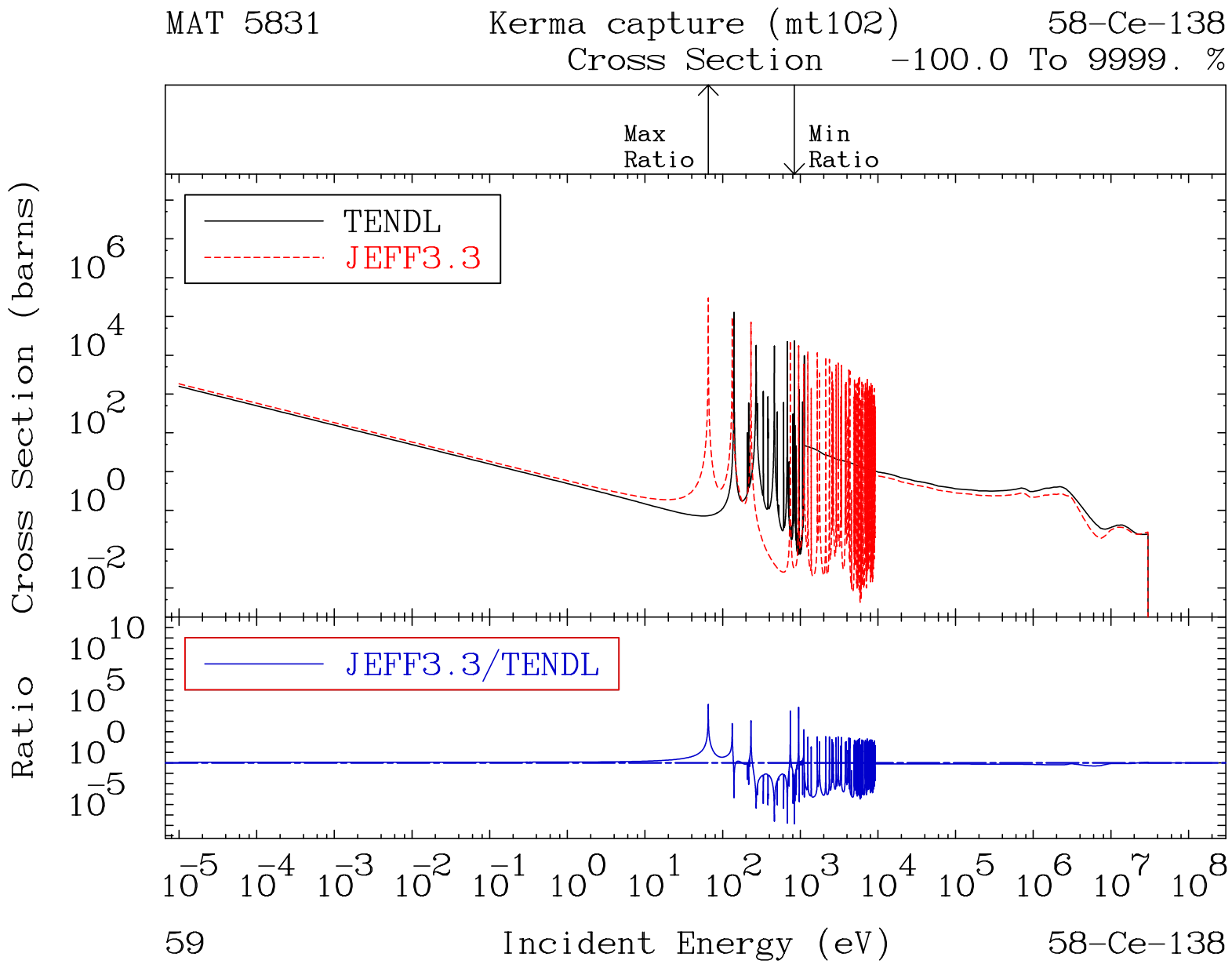

MAT 5831
Kerma total (eV-barns)
58-Ce-138
Cross Section -99.94 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
54
58-Ce-138

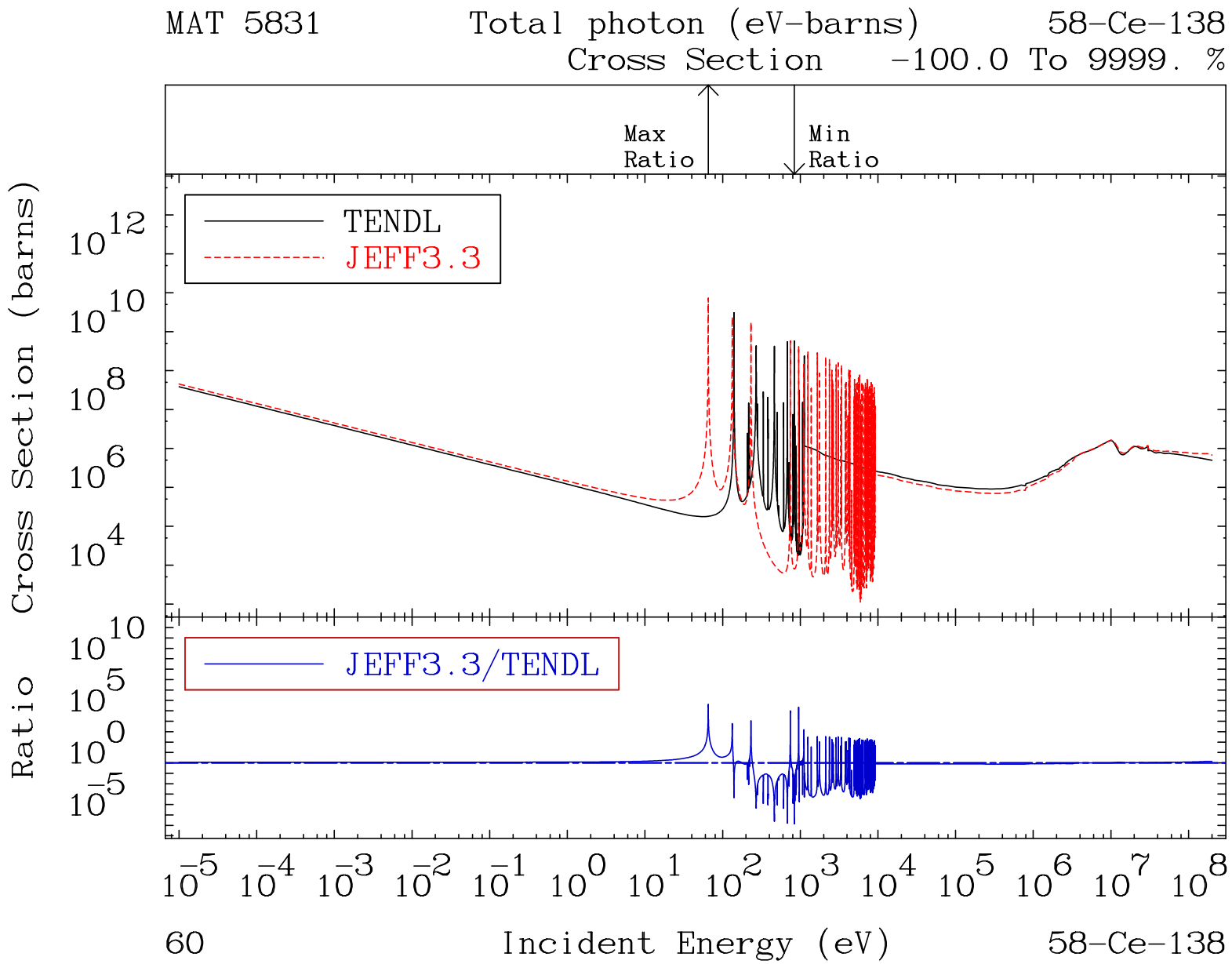

MAT 5831
Kerma elastic
Cross Section
58-Ce-138
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
55
58-Ce-138

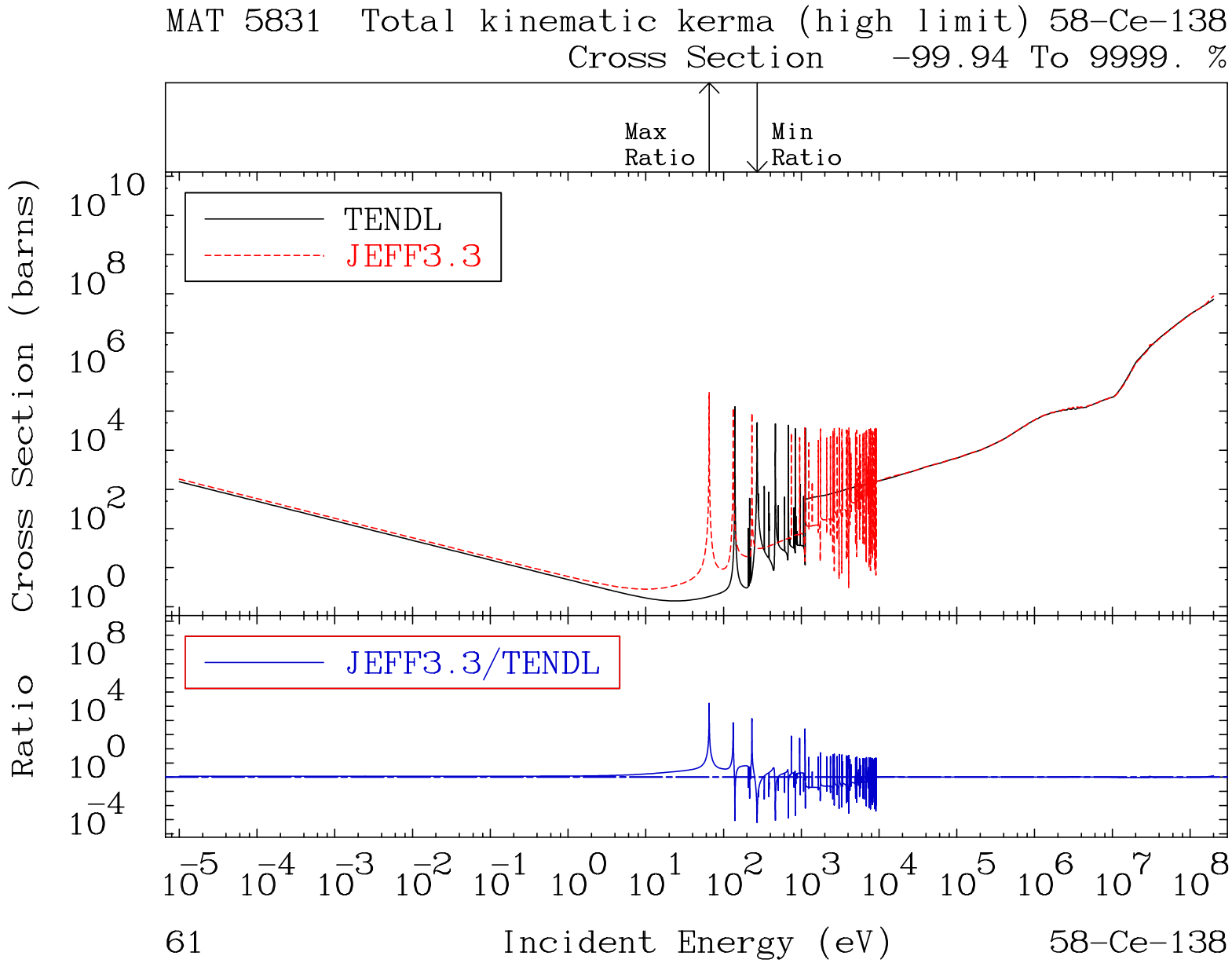

MAT 5831 Kerma non-elastic (all but mt2) 58-Ce-138
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
58-Ce-138

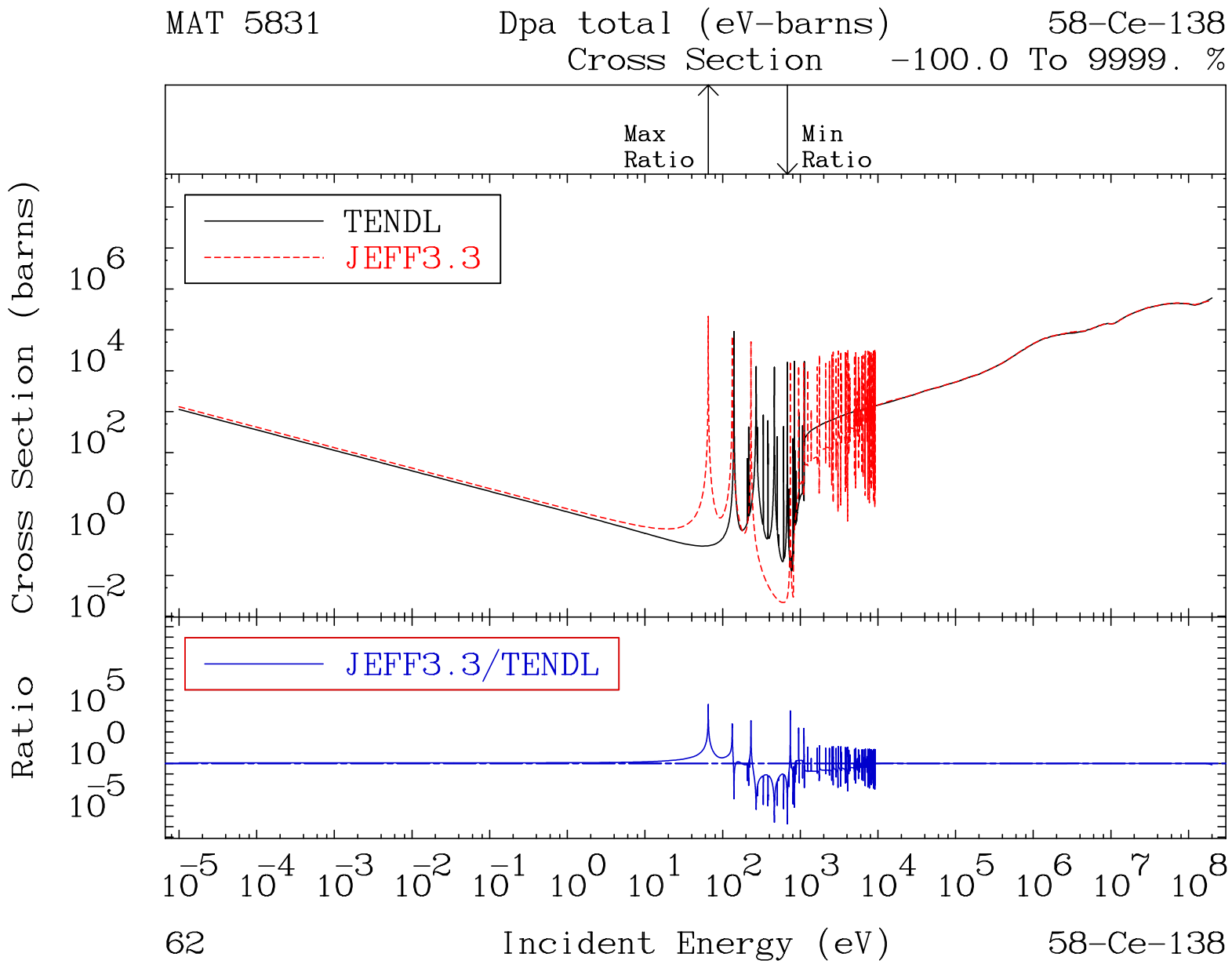

MAT 5831
Kerma inelastic (mt51-91)
58-Ce-138
Cross Section
-57.01 To 487.5 %
Min Ratio
Max Ratio
TENDL Threshold 794.51 keV
JEFF3.3 Threshold 794.51 keV
JEFF3.3/TENDL
Ratio Cross Section (kilo-barns)
600
500
400
300
200
100
0
10^1
10^0
4
4
8
2
3
4
5
6
8
10^6
10^7
10^8
57
Incident Energy (eV)
58-Ce-138

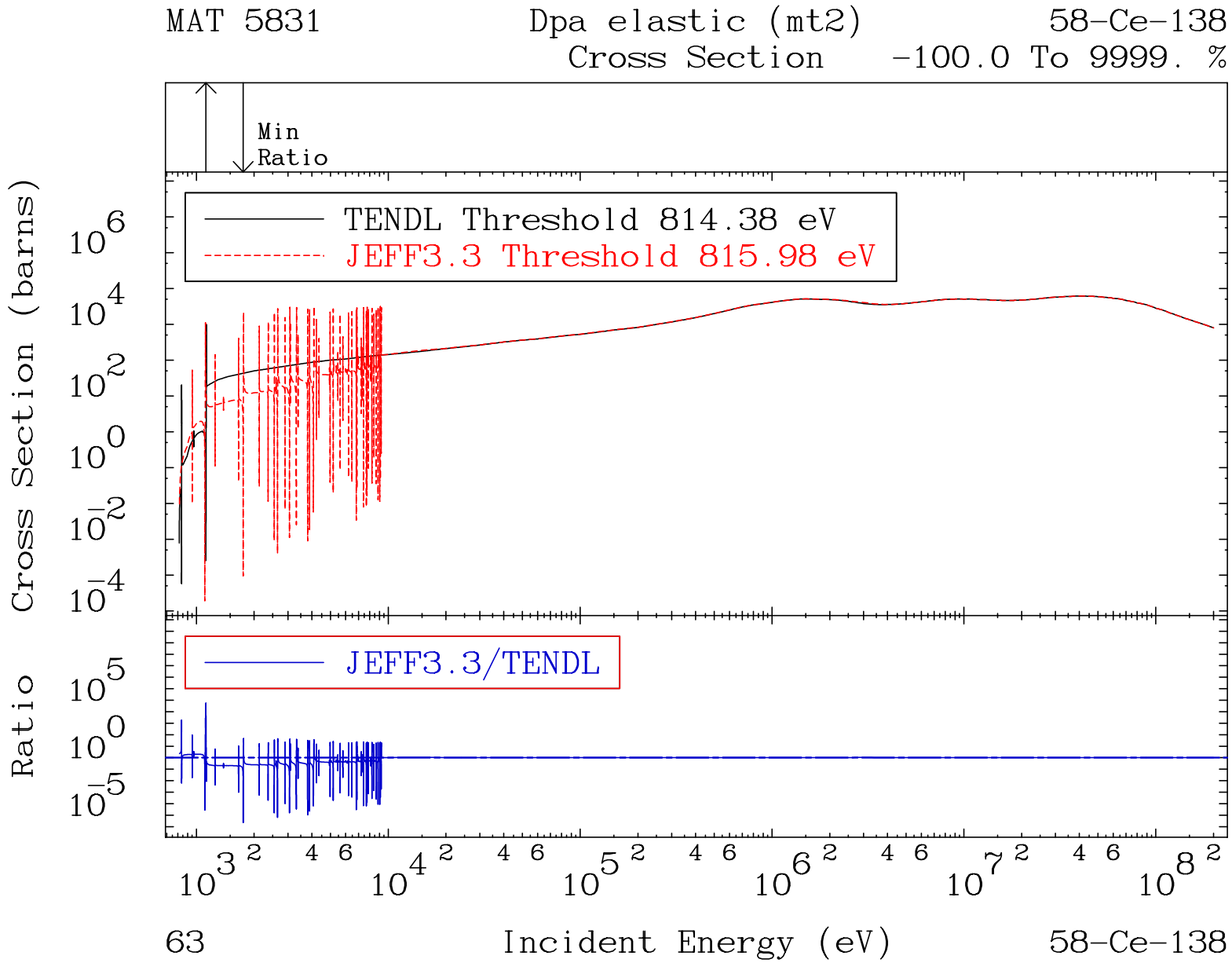

MAT 5831 Kerma fission (mt18 or mt19-20-21-38) 58-Ce-138
Cross Section -57.01 To 487.5 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{1}
10^{0}
4
4
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
58
Incident Energy (eV)
58-Ce-138

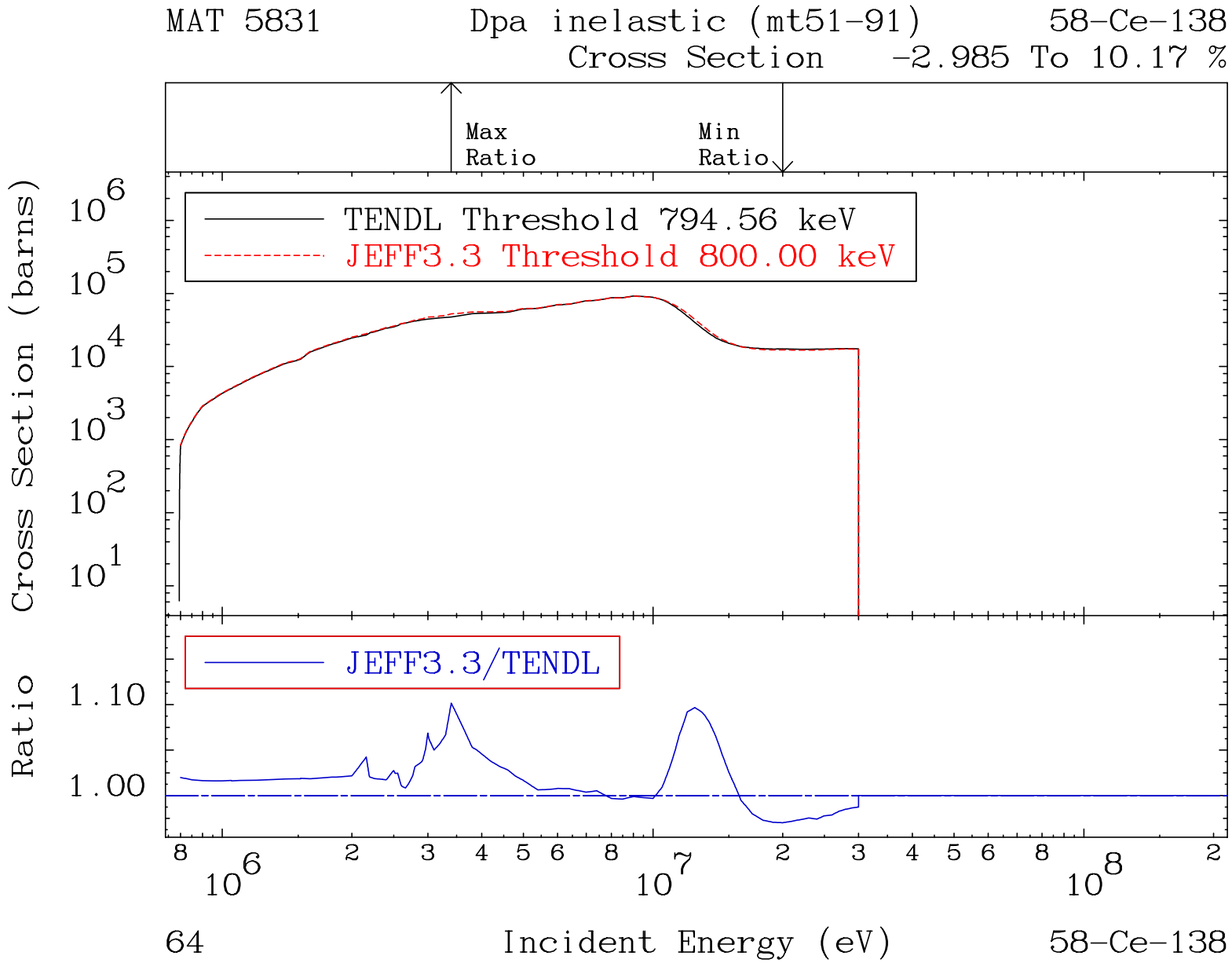

MAT 5831
Kerma capture (mt102)
58-Ce-138
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
59
58-Ce-138

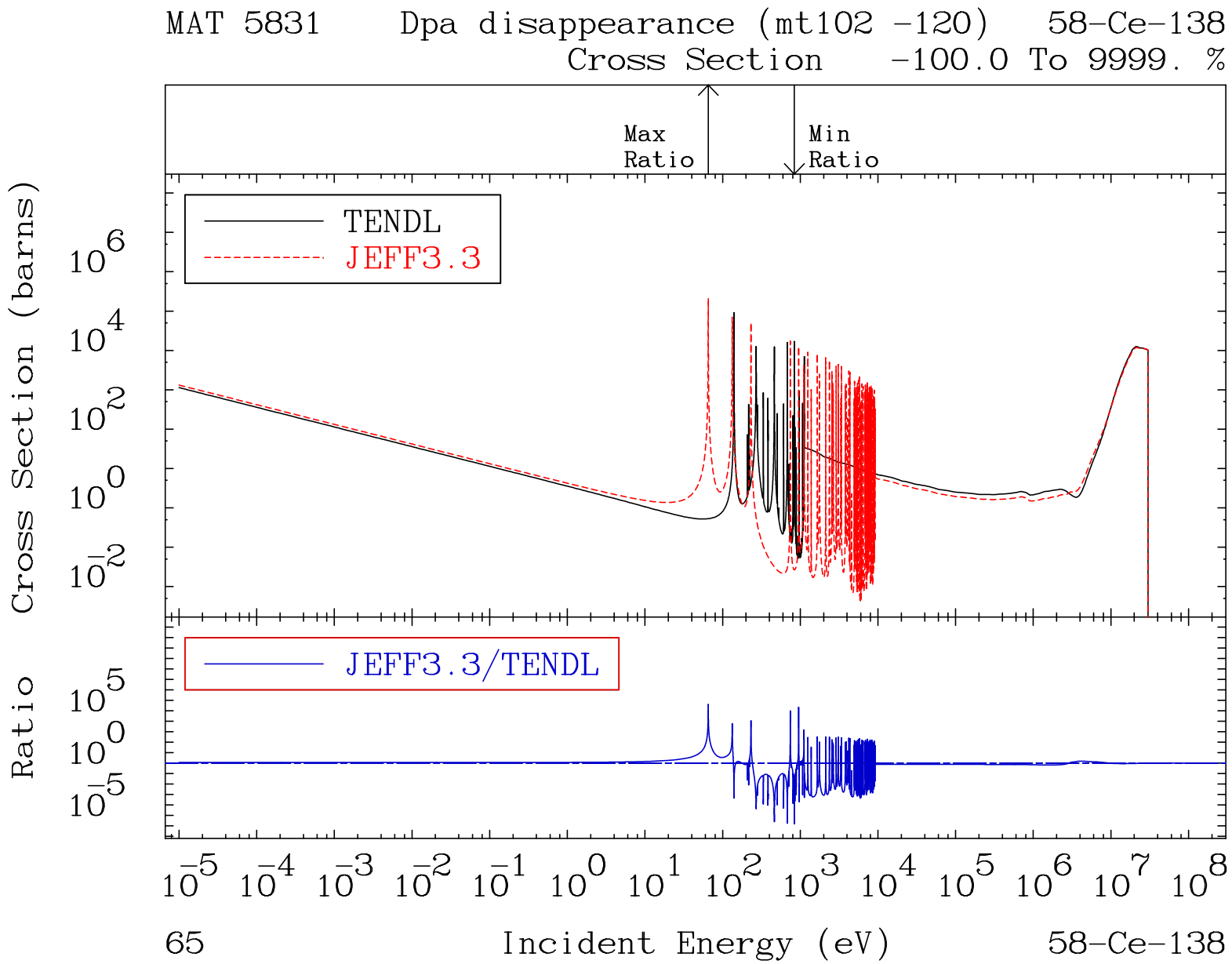

MAT 5831
Total photon (eV-barns)
58-Ce-138
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
60
58-Ce-138

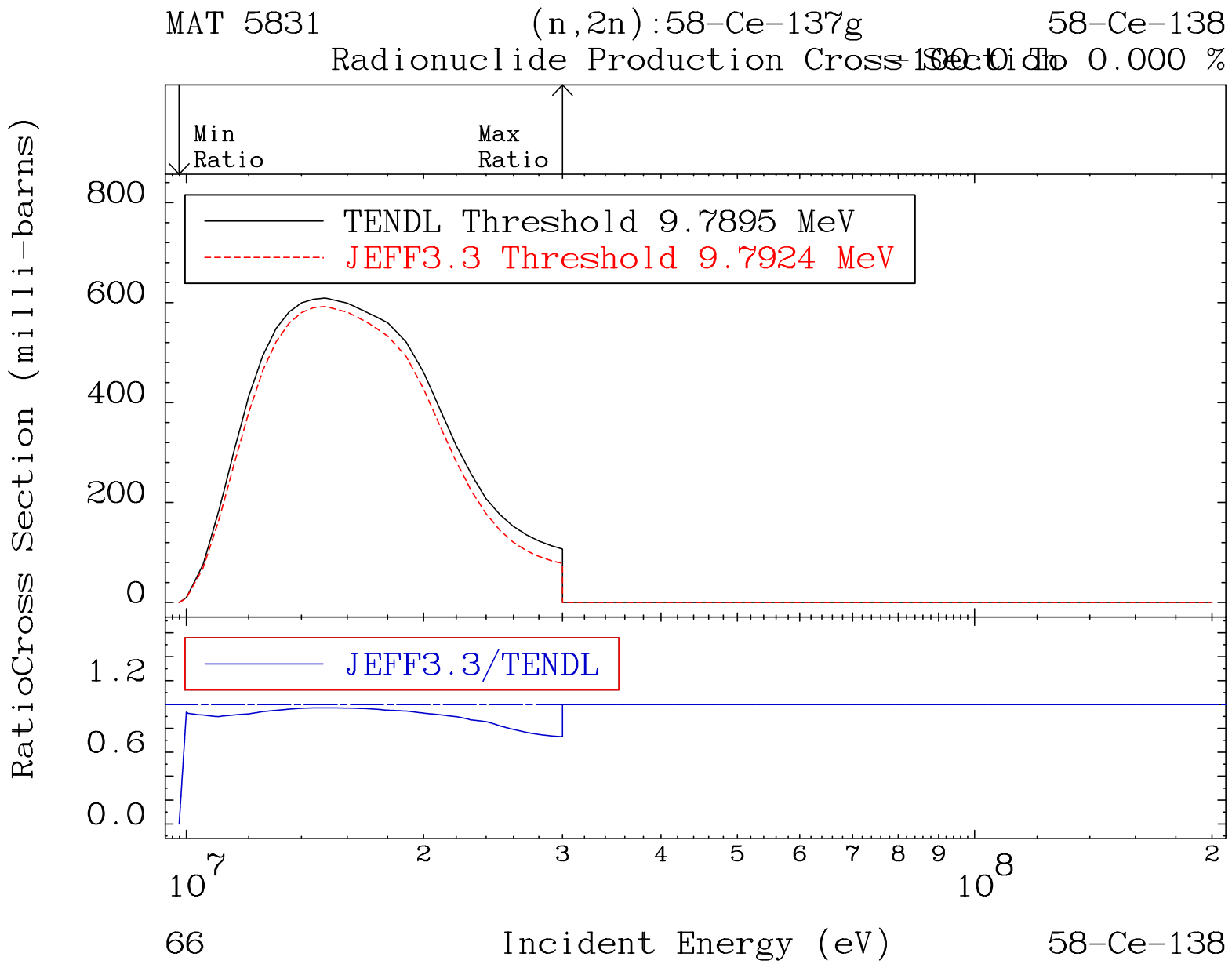

MAT 5831 Total kinematic kerma (high limit) 58-Ce-138
Cross Section -99.94 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
61
58-Ce-138

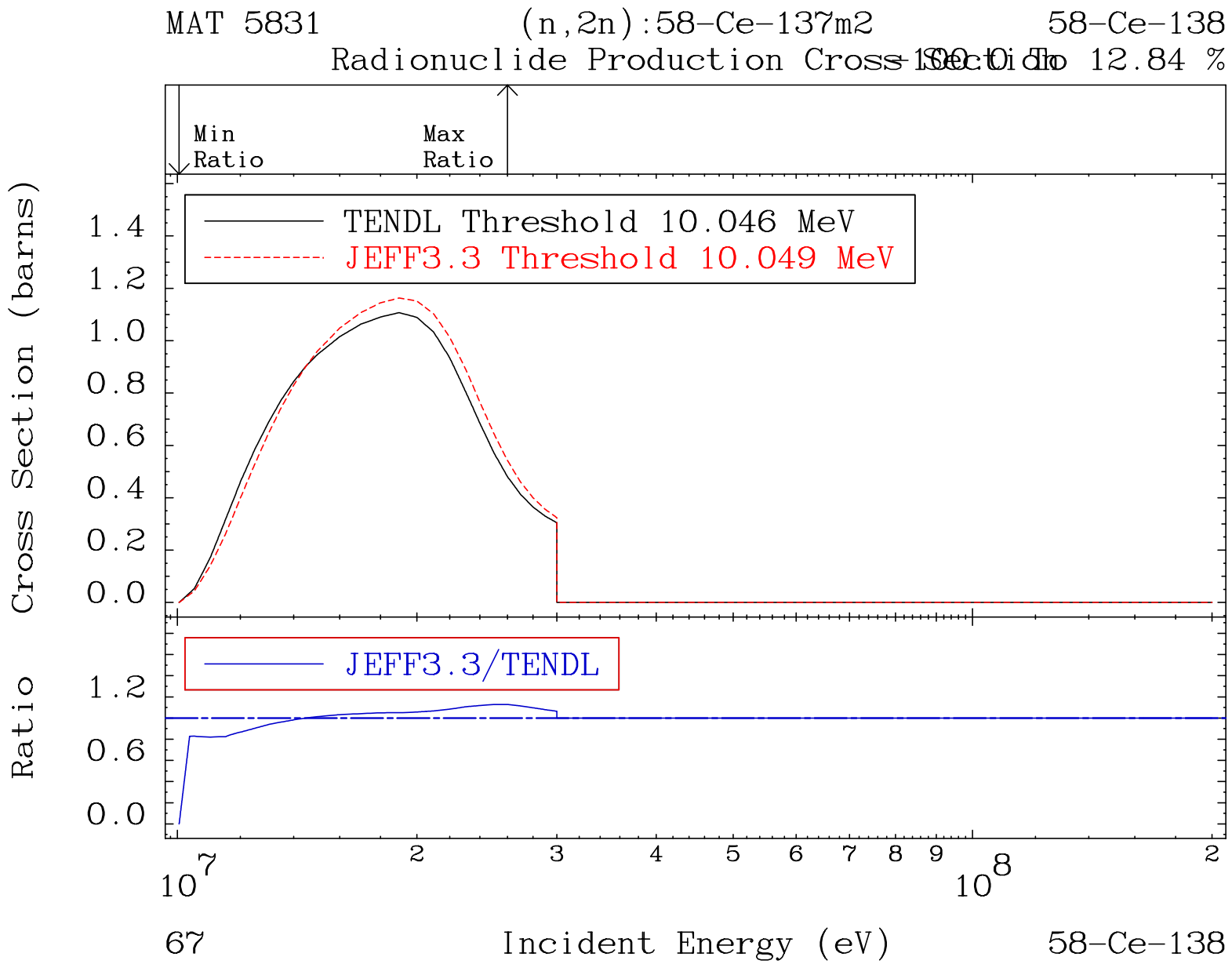

MAT 5831
Dpa total (eV-barns)
58-Ce-138
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
62
58-Ce-138

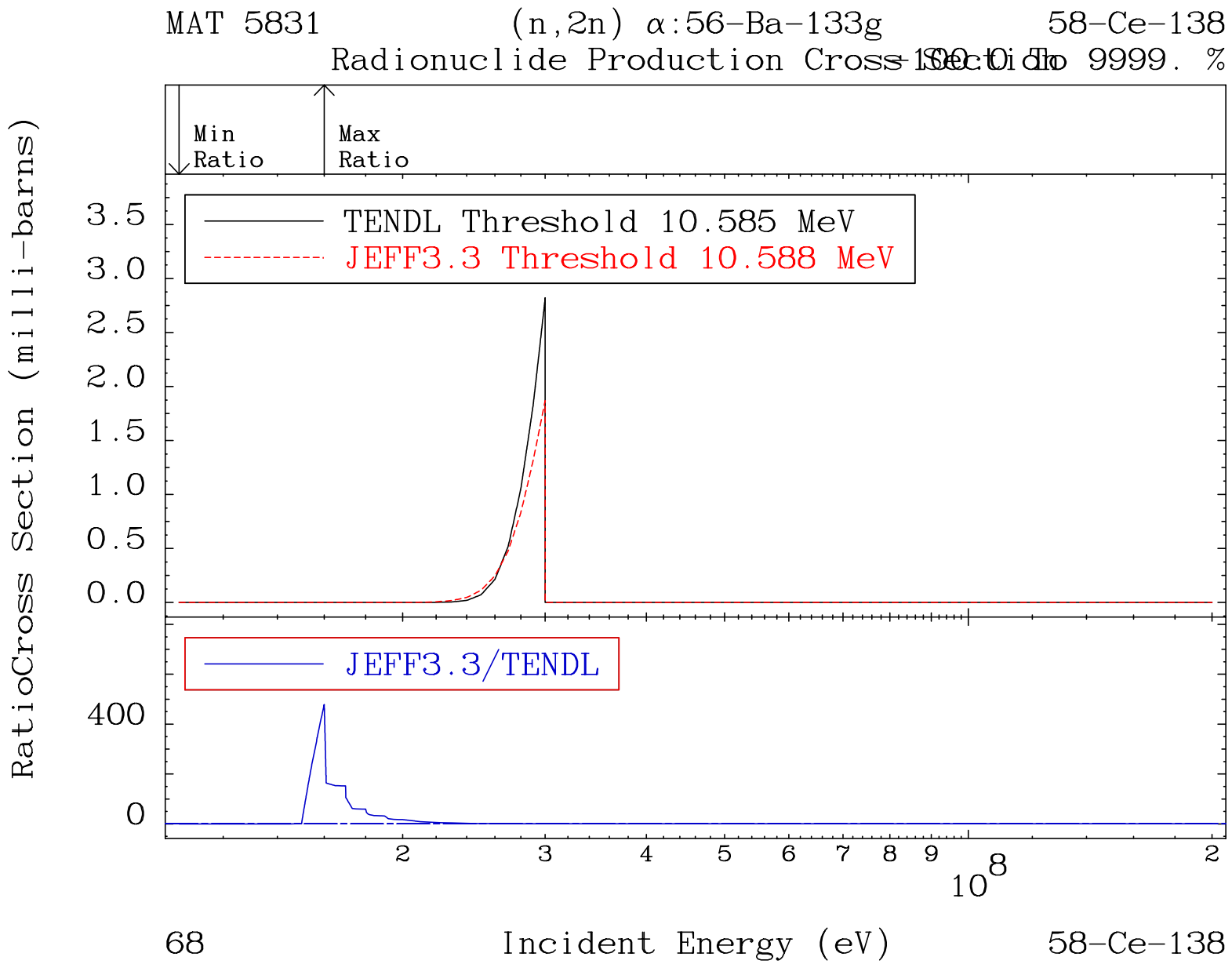

MAT 5831
Dpa elastic (mt2)
Cross Section
58-Ce-138
-100.0 To 9999. %
Min
Ratio
TENDL Threshold 814.38 eV
JEFF3.3 Threshold 815.98 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
63
58-Ce-138

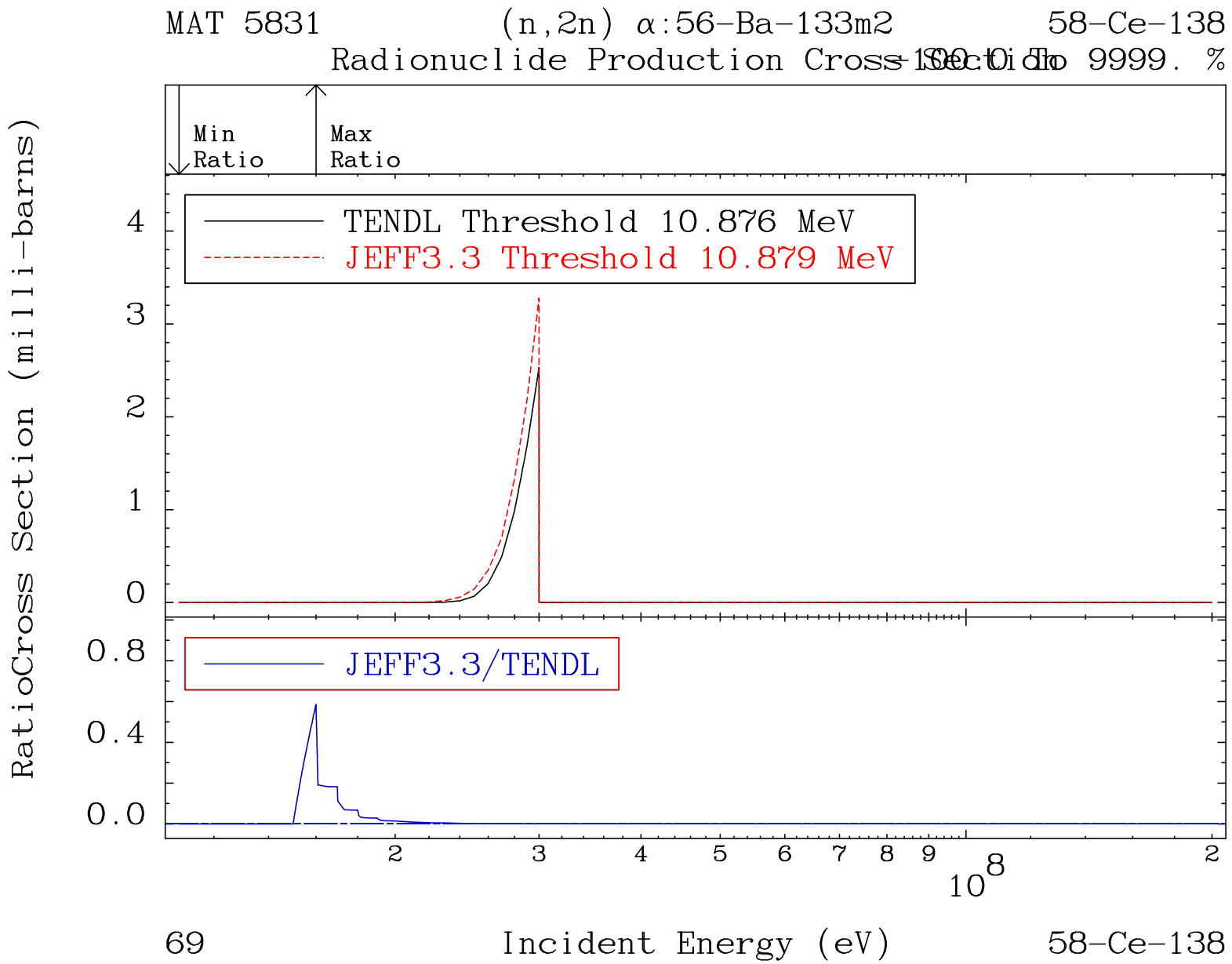

MAT 5831
Dpa inelastic (mt51-91)
58-Ce-138
Cross Section
-2.985 To 10.17 %
Max Ratio
Min Ratio
TENDL Threshold 794.56 keV
JEFF3.3 Threshold 800.00 keV
Cross Section (barns)
JEFF3.3/TENDL
Ratio
Incident Energy (eV)
64
58-Ce-138

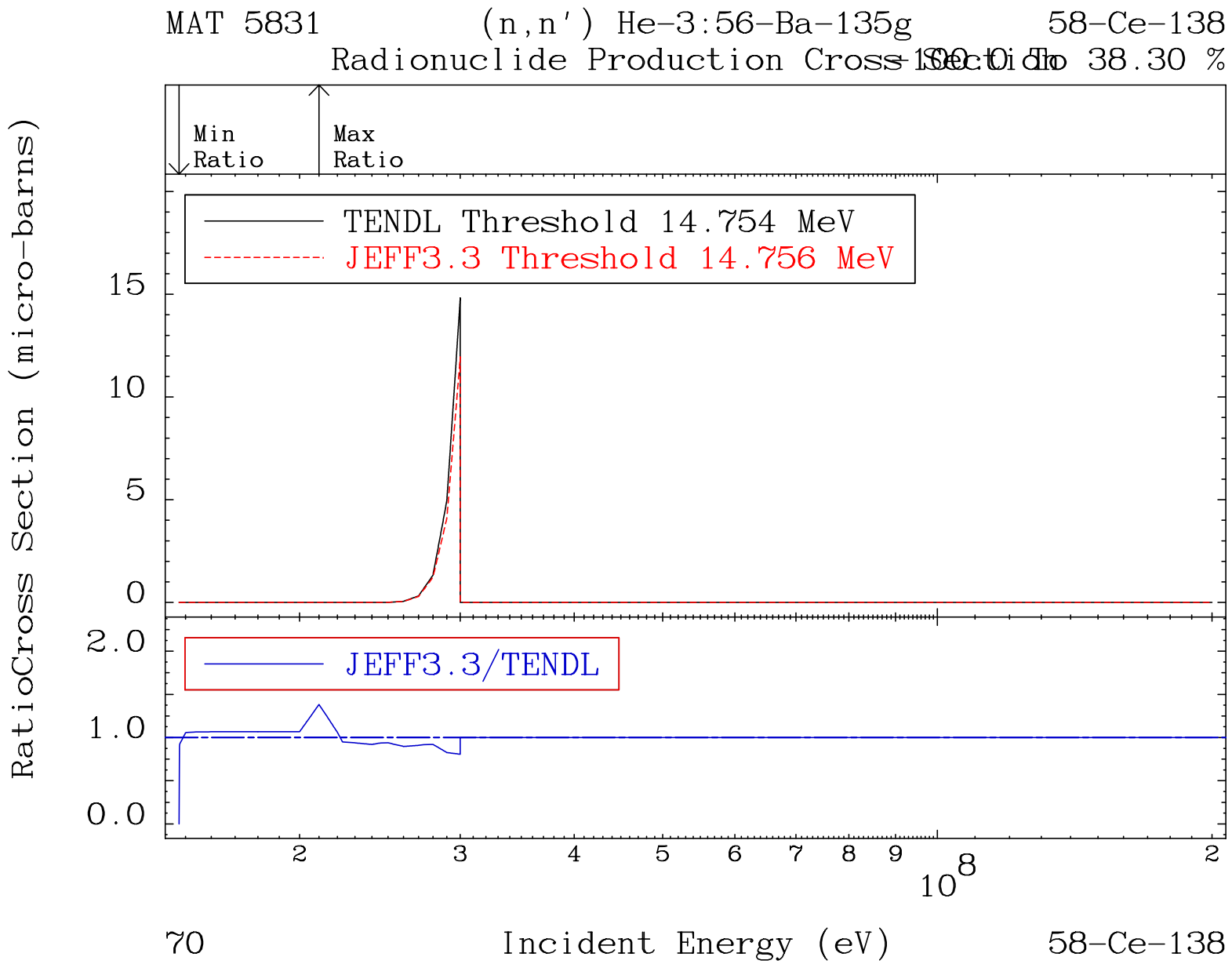

MAT 5831 Dpa disappearance (mt102 -120) 58-Ce-138
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
65
58-Ce-138

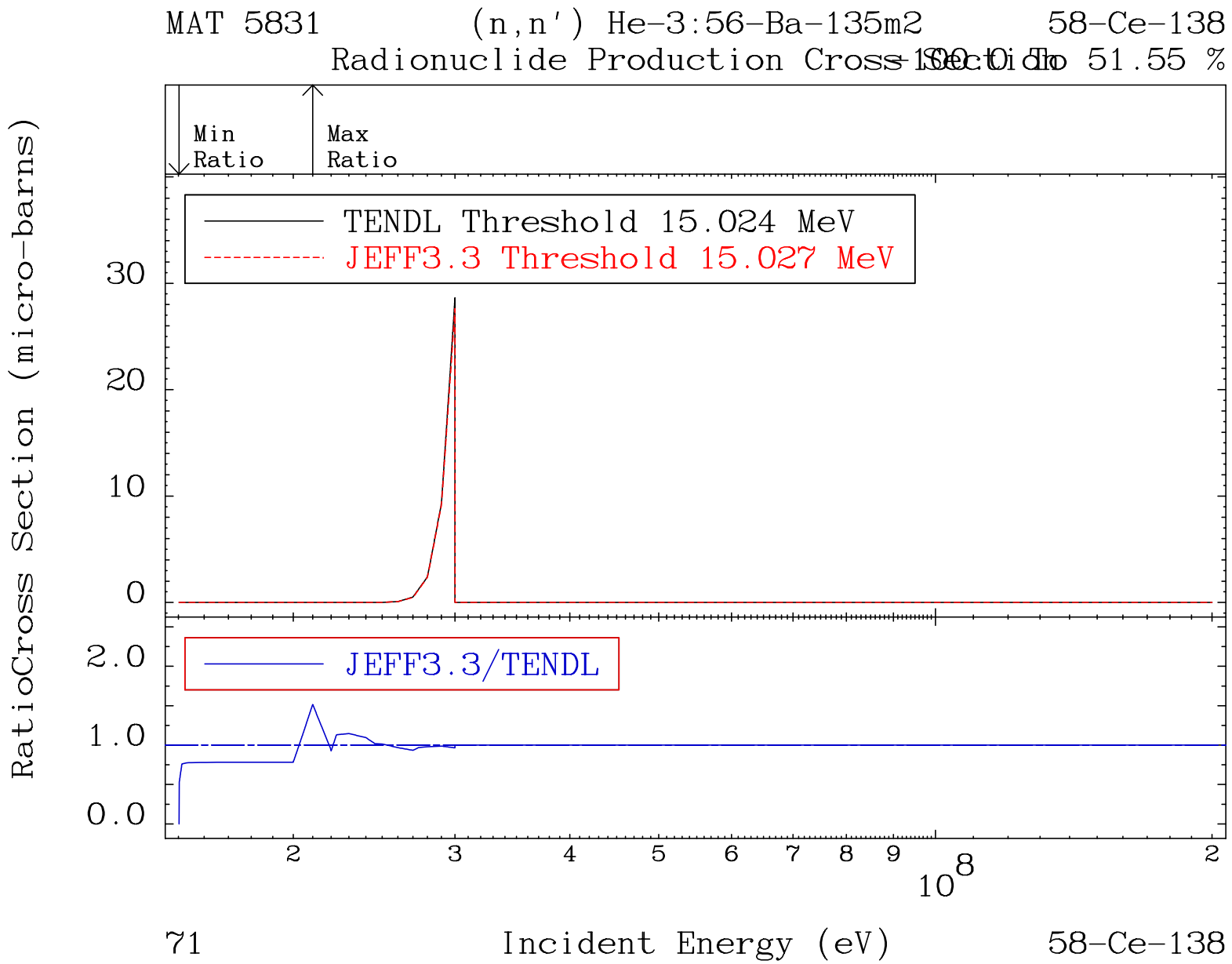

MAT 5831
(n,2n):58-Ce-137g
58-Ce-138
Radionuclide Production Cross Section
Uncertainty 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 9.7895 MeV
JEFF3.3 Threshold 9.7924 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
1.2
0.6
0.0
10^7
2
3
4
5
6
7
8
9
10^8
2
66
Incident Energy (eV)
58-Ce-138

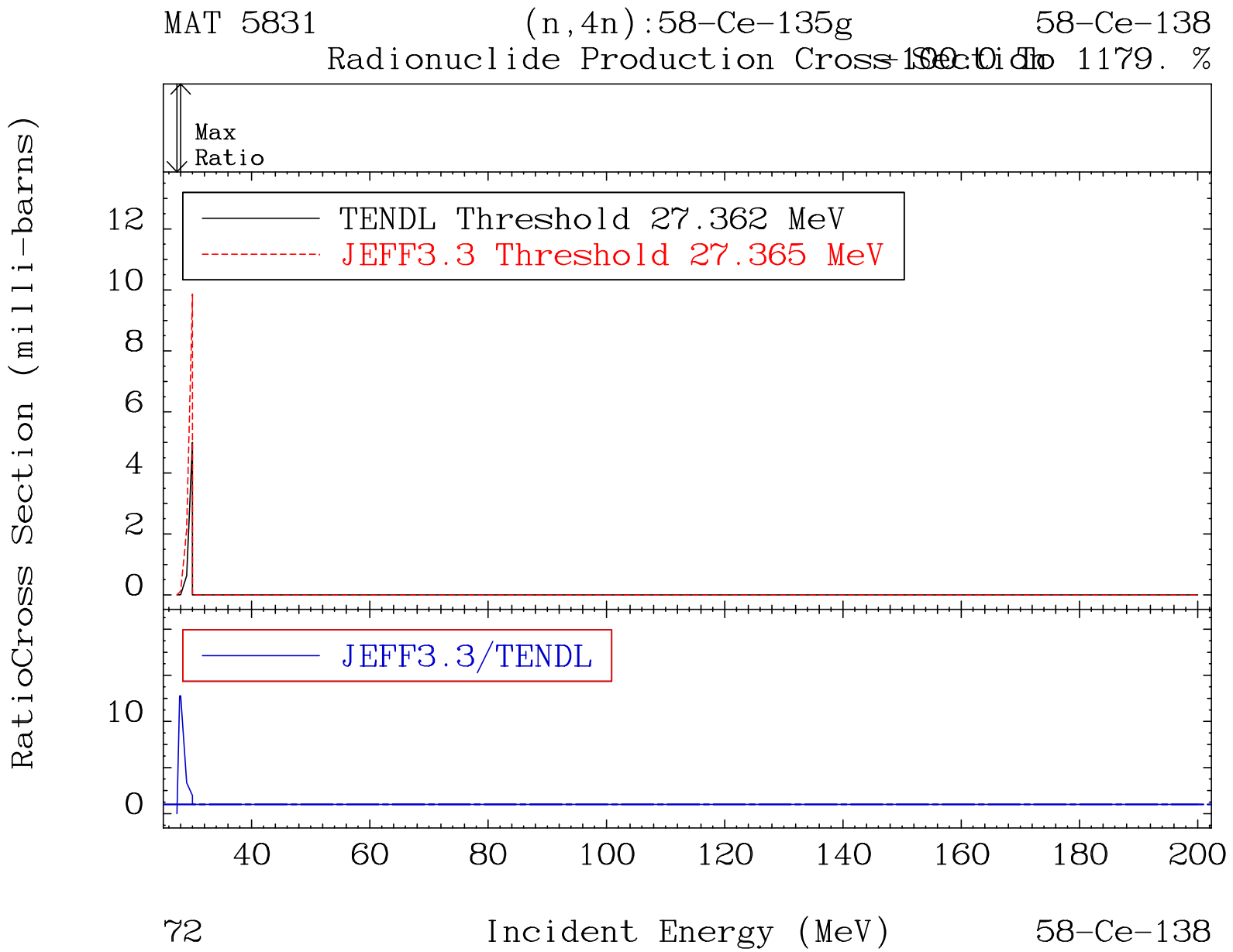

MAT 5831
(n,2n):58-Ce-137m2
58-Ce-138
Radionuclide Production Cross Section To 12.84 %
Min Ratio
Max Ratio
TENDL Threshold 10.046 MeV
JEFF3.3 Threshold 10.049 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
JEFF3.3/TENDL
Ratio
1.2
0.6
0.0
10^7
2
3
4
5
6
7
8
9
10^8
2
67
Incident Energy (eV)
58-Ce-138

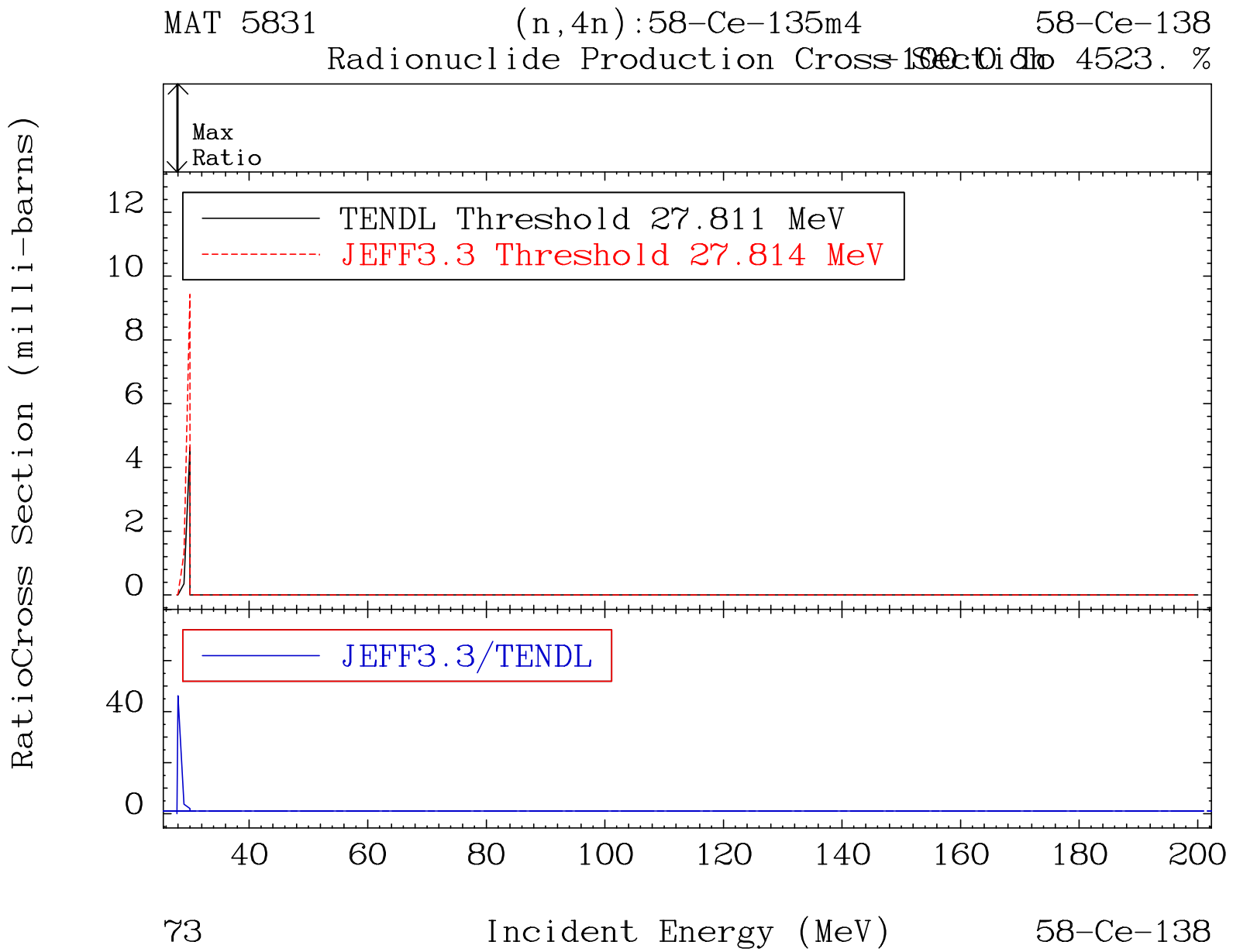

MAT 5831
(n,2n) α:56-Ba-133g
58-Ce-138
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.585 MeV
JEFF3.3 Threshold 10.588 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
400
0
2
3
4
5
6
7
8
9
10^8
2
68
Incident Energy (eV)
58-Ce-138

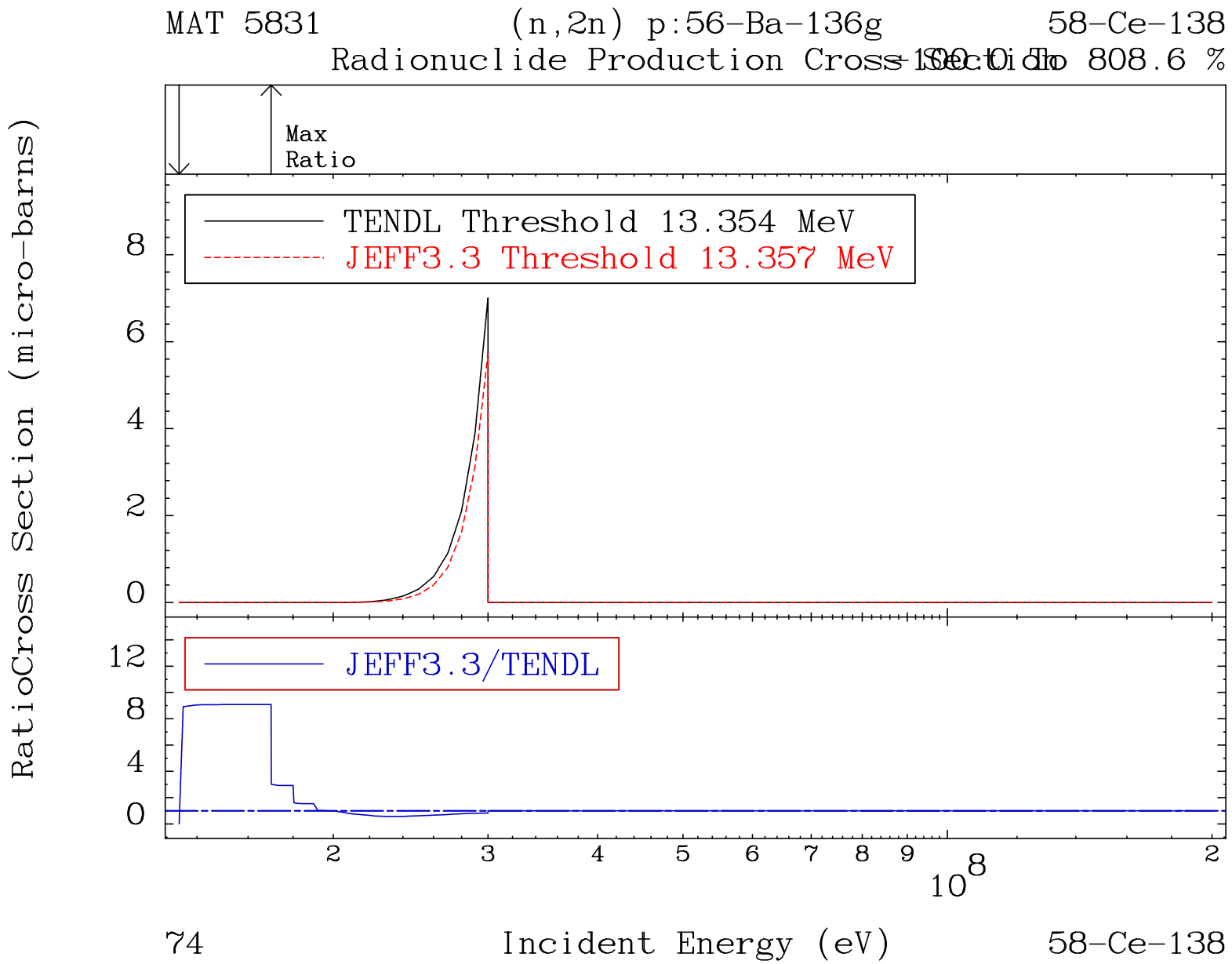

MAT 5831
(n,2n) α:56-Ba-133m2
58-Ce-138
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.876 MeV
JEFF3.3 Threshold 10.879 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
4
3
2
1
0
0.8
0.4
0.0
2
3
4
5
6
7
8
9
10^8
2
69
Incident Energy (eV)
58-Ce-138

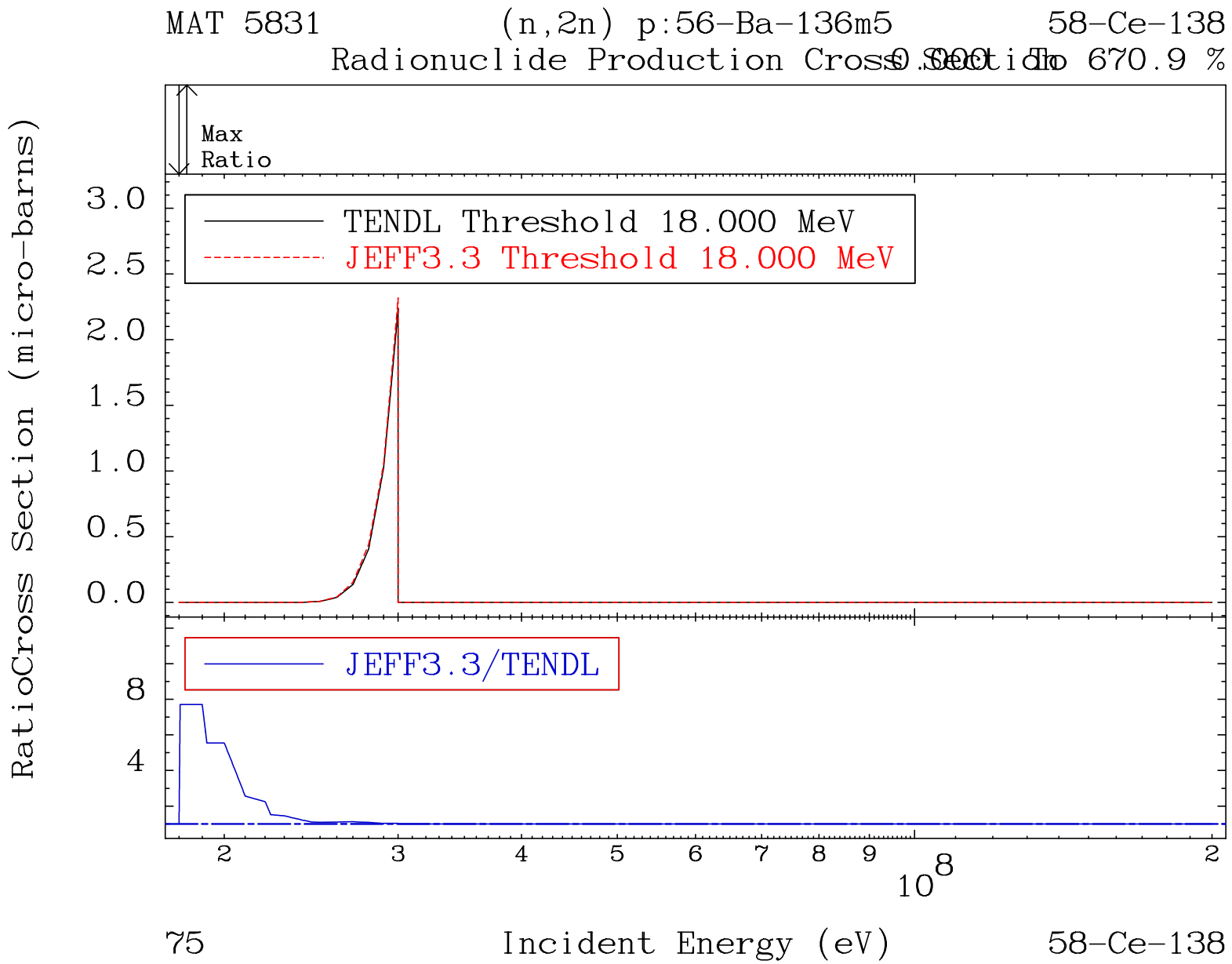

MAT 5831
(n,n') He-3:56-Ba-135g
58-Ce-138
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 14.754 MeV
JEFF3.3 Threshold 14.756 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
70
58-Ce-138

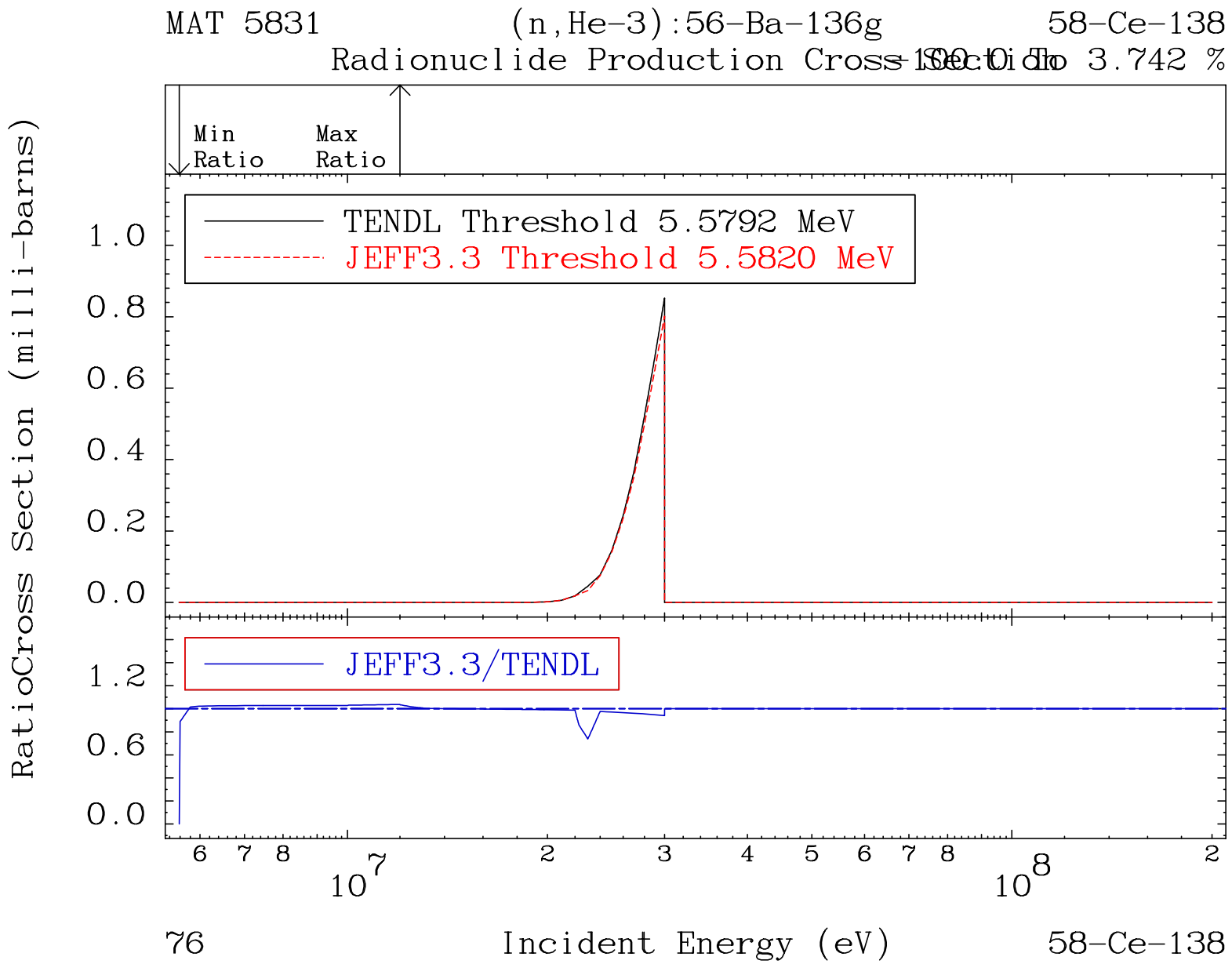

MAT 5831
(n,n') He-3:56-Ba-135m2
58-Ce-138
Radionuclide Production Cross Section To 51.55 %
Min Ratio
Max Ratio
TENDL Threshold 15.024 MeV
JEFF3.3 Threshold 15.027 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
30
20
10
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
71
Incident Energy (eV)
58-Ce-138

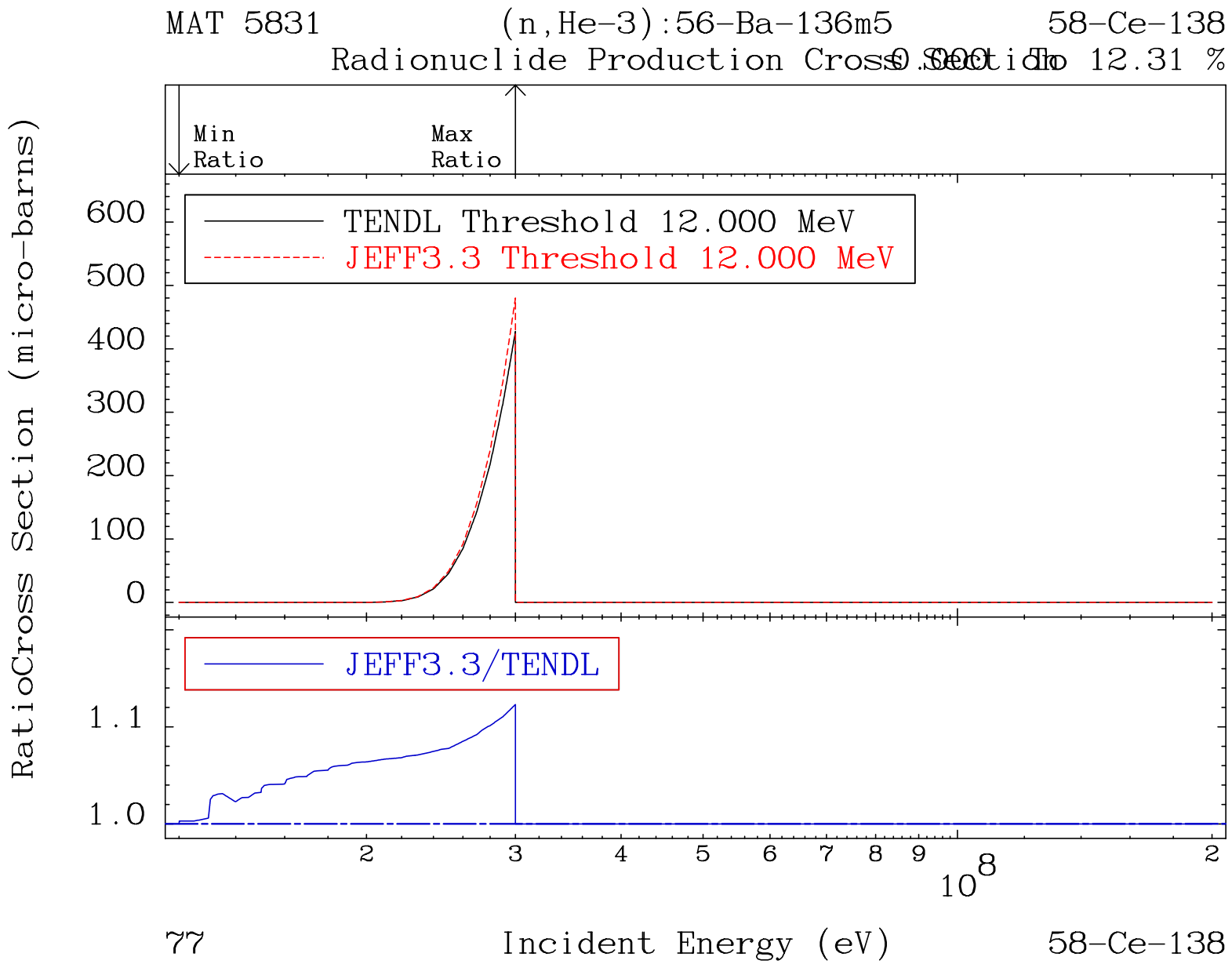

MAT 5831
(n,4n):58-Ce-135g
58-Ce-138
Radionuclide Production Cross Section
Max
Ratio
TENDL Threshold 27.362 MeV
JEFF3.3 Threshold 27.365 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (MeV)
72
58-Ce-138

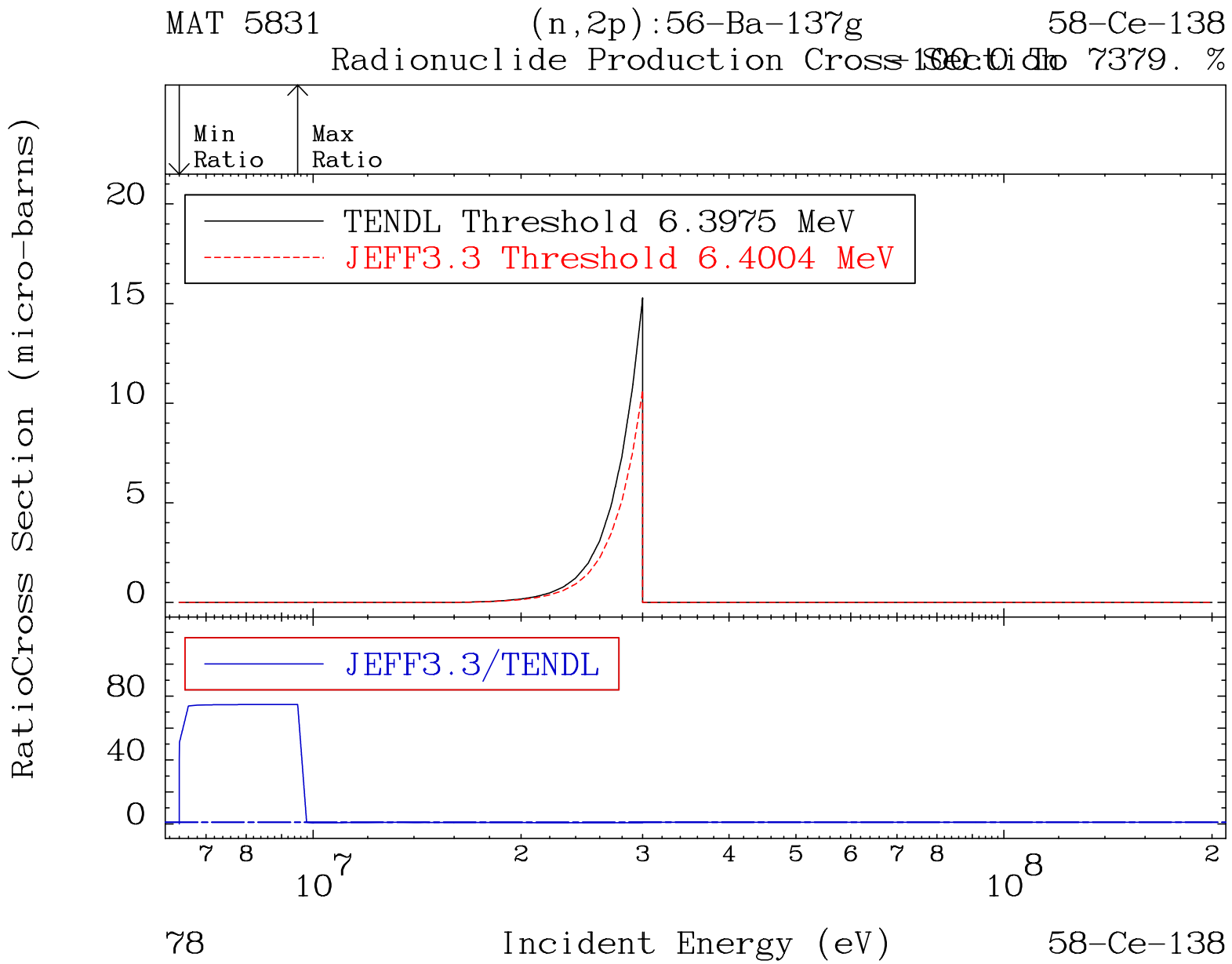

MAT 5831
(n,4n):58-Ce-135m4
58-Ce-138
Radionuclide Production Cross Section To 4523. %
Max
Ratio
TENDL Threshold 27.811 MeV
JEFF3.3 Threshold 27.814 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
12
10
8
6
4
2
0
40
0
40
60
80
100
120
140
160
180
200
73
Incident Energy (MeV)
58-Ce-138

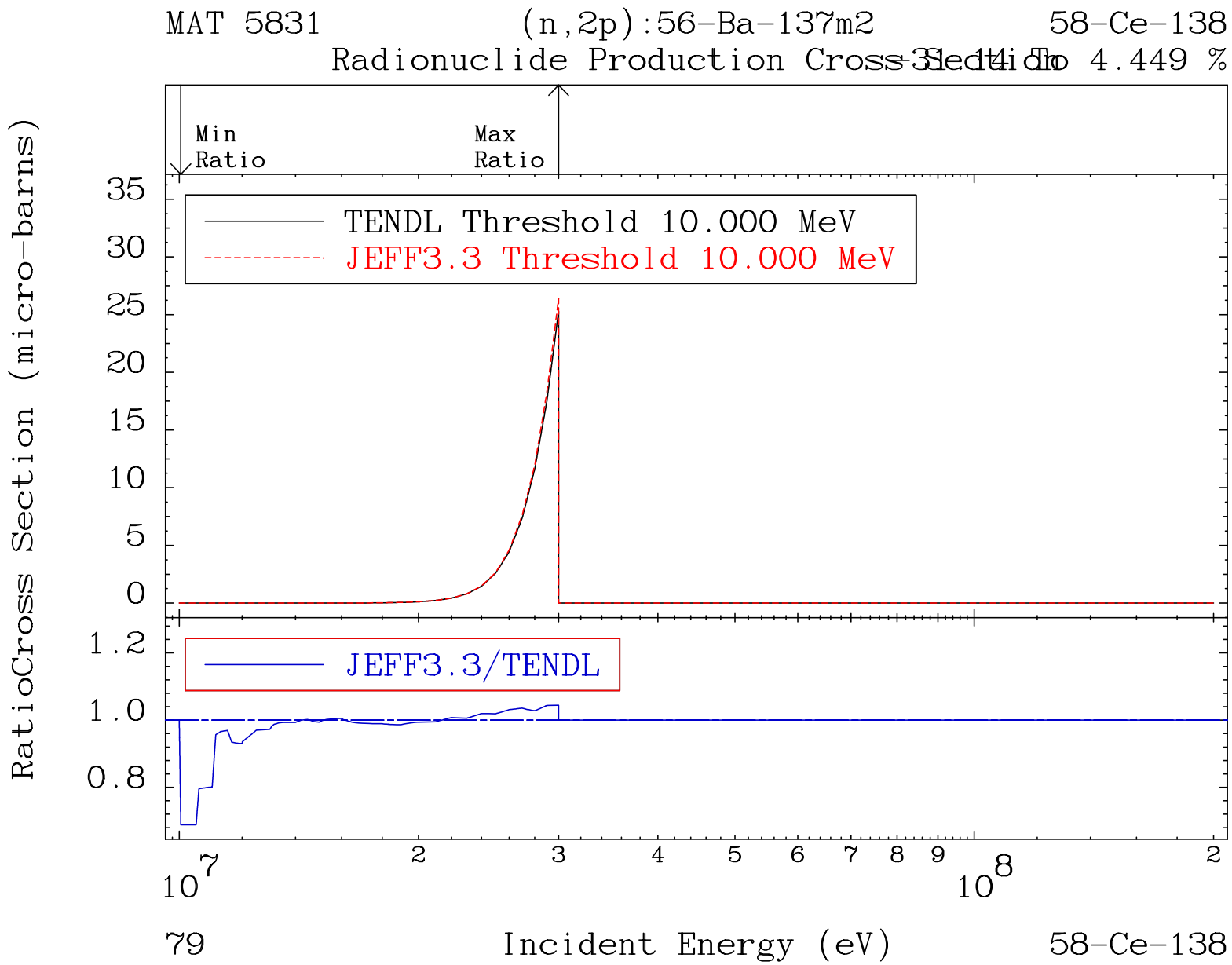

MAT 5831
(n,2n) p:56-Ba-136g
58-Ce-138
Radionuclide Production Cross Section To 808.6 %
Max
Ratio
TENDL Threshold 13.354 MeV
JEFF3.3 Threshold 13.357 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
74
58-Ce-138

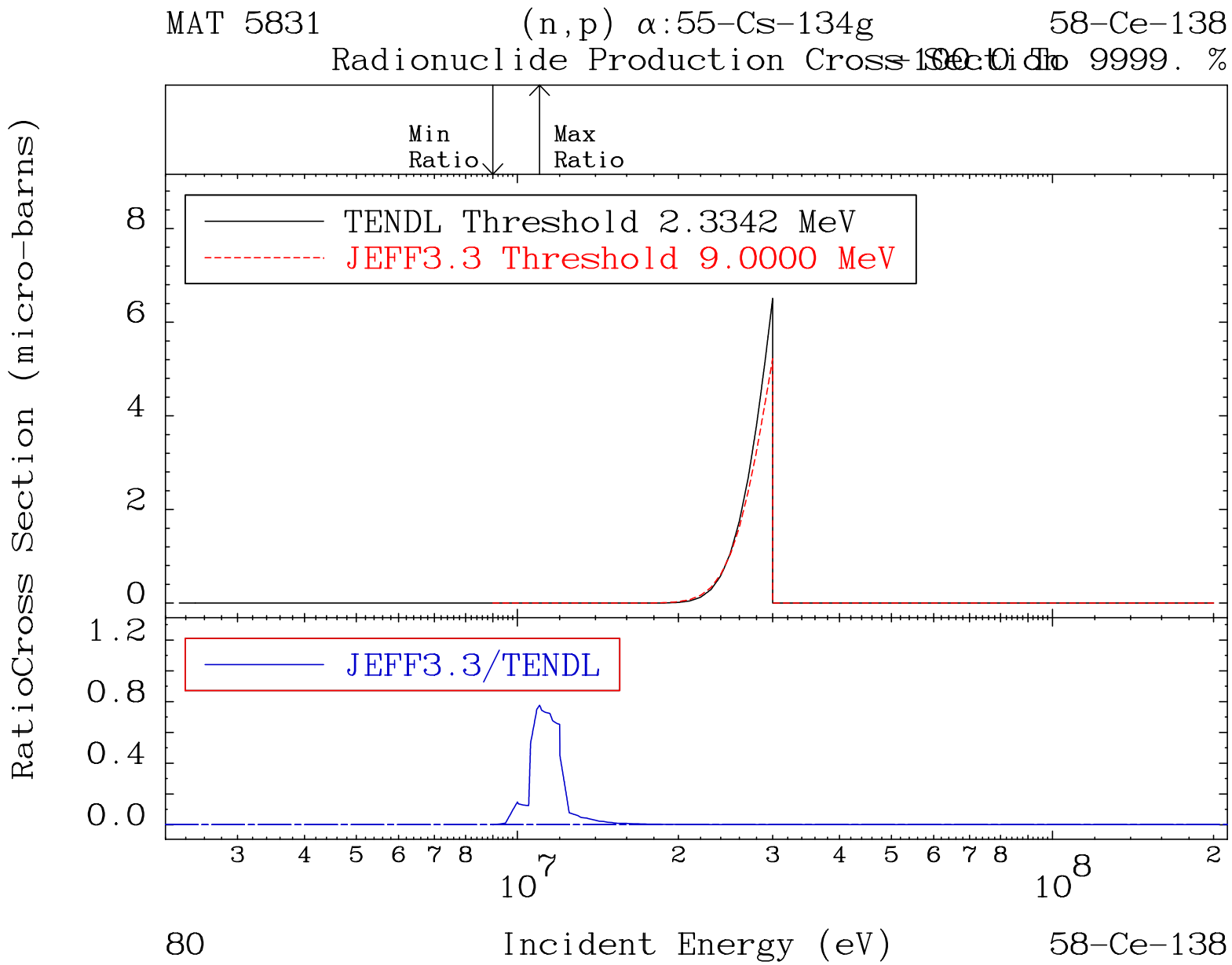

MAT 5831
(n,2n) p:56-Ba-136m5
58-Ce-138
Radionuclide Production Cross Section
0.000 To 670.9 %
Max
Ratio
TENDL Threshold 18.000 MeV
JEFF3.3 Threshold 18.000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
8
4
2
3
4
5
6
7
8
9
2
10^8
75
Incident Energy (eV)
58-Ce-138

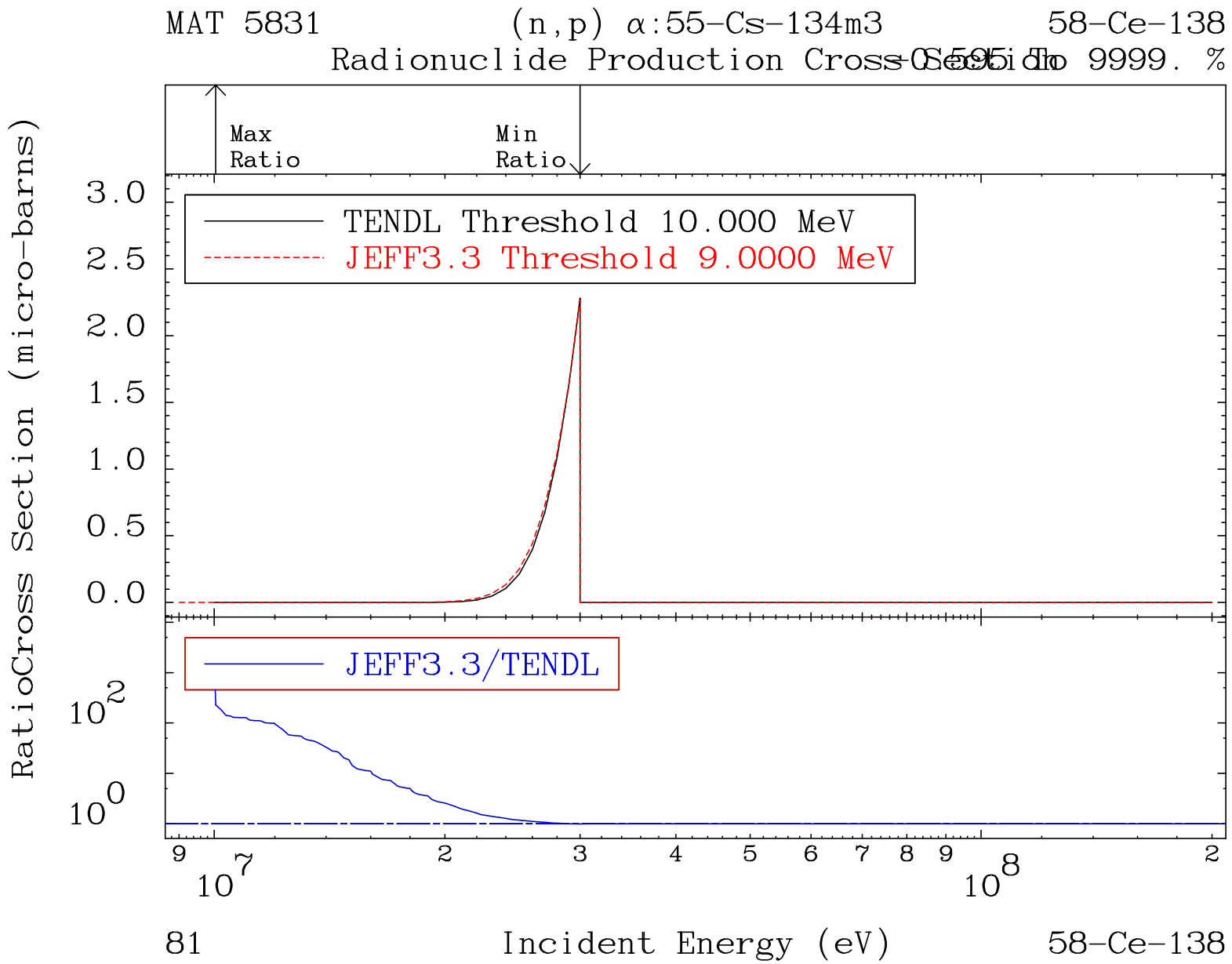

MAT 5831
(n,He-3):56-Ba-136g
58-Ce-138
Radionuclide Production Cross Section To 3.742 %
Min Ratio
Max Ratio
TENDL Threshold 5.5792 MeV
JEFF3.3 Threshold 5.5820 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
1.2
0.6
0.0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
76
Incident Energy (eV)
58-Ce-138

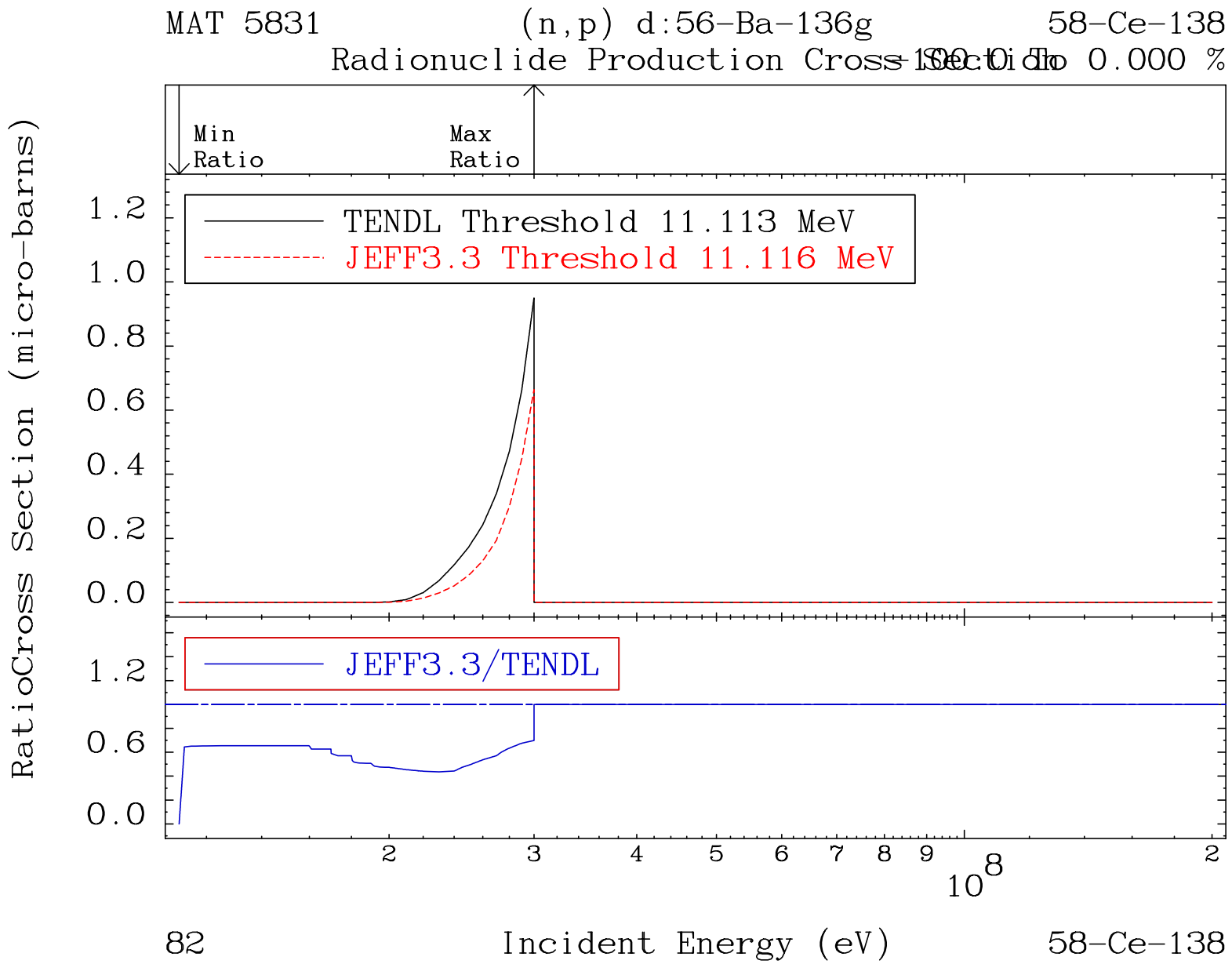

MAT 5831
(n,He-3):56-Ba-136m5
58-Ce-138
Radionuclide Production Cross Section
0.000 To 12.31 %
Min Ratio
Max Ratio
TENDL Threshold 12.000 MeV
JEFF3.3 Threshold 12.000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
500
400
300
200
100
0
1.1
1.0
2
3
4
5
6
7
8
9
10^8
2
77
Incident Energy (eV)
58-Ce-138

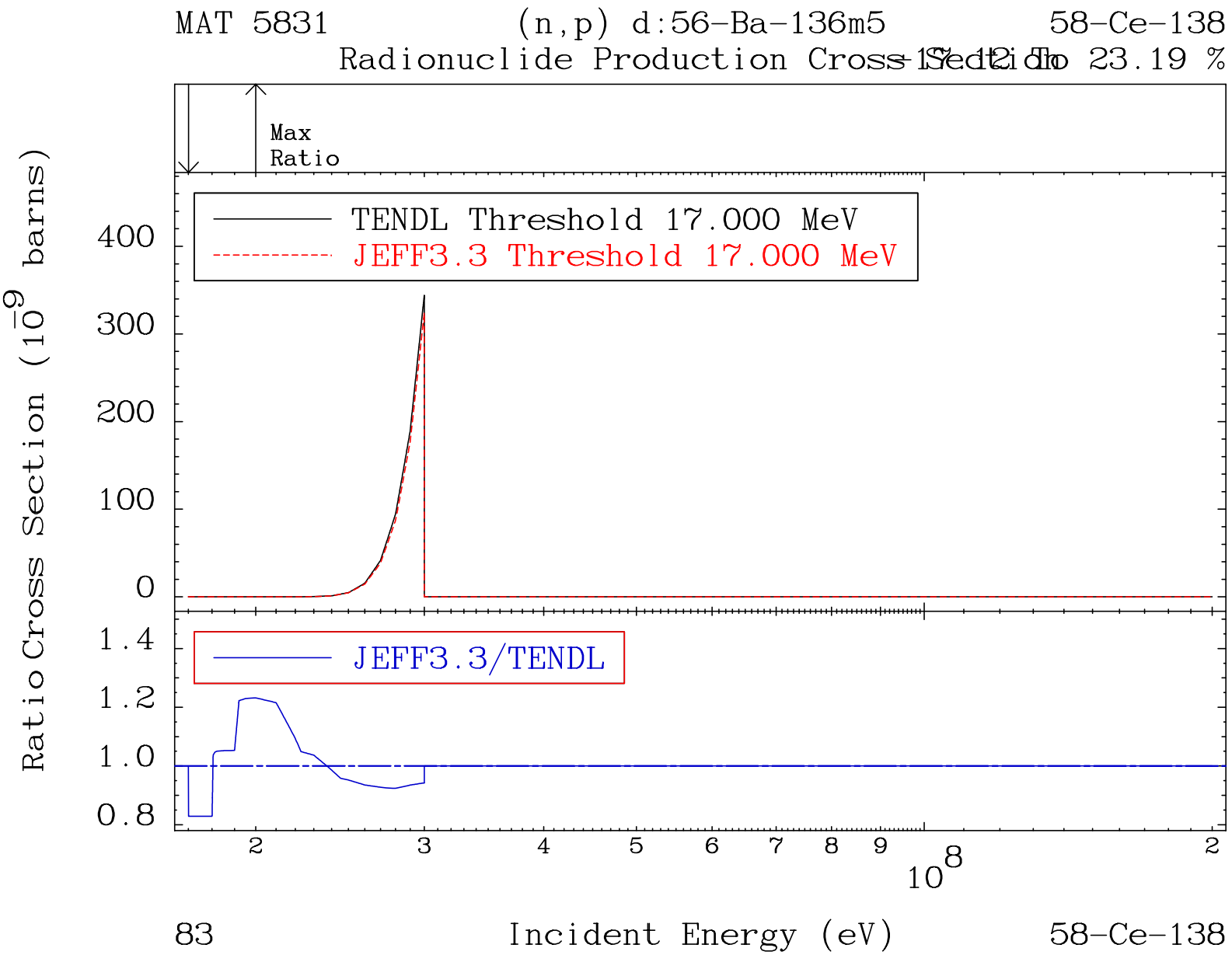

MAT 5831
(n,2p):56-Ba-137g
58-Ce-138
Radionuclide Production Cross Section To 7379. %
Min Ratio
Max Ratio
TENDL Threshold 6.3975 MeV
JEFF3.3 Threshold 6.4004 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
20
15
10
5
0
80
40
0
7 8
10^7
2 3 4 5 6 7 8
10^8
2
78
Incident Energy (eV)
58-Ce-138

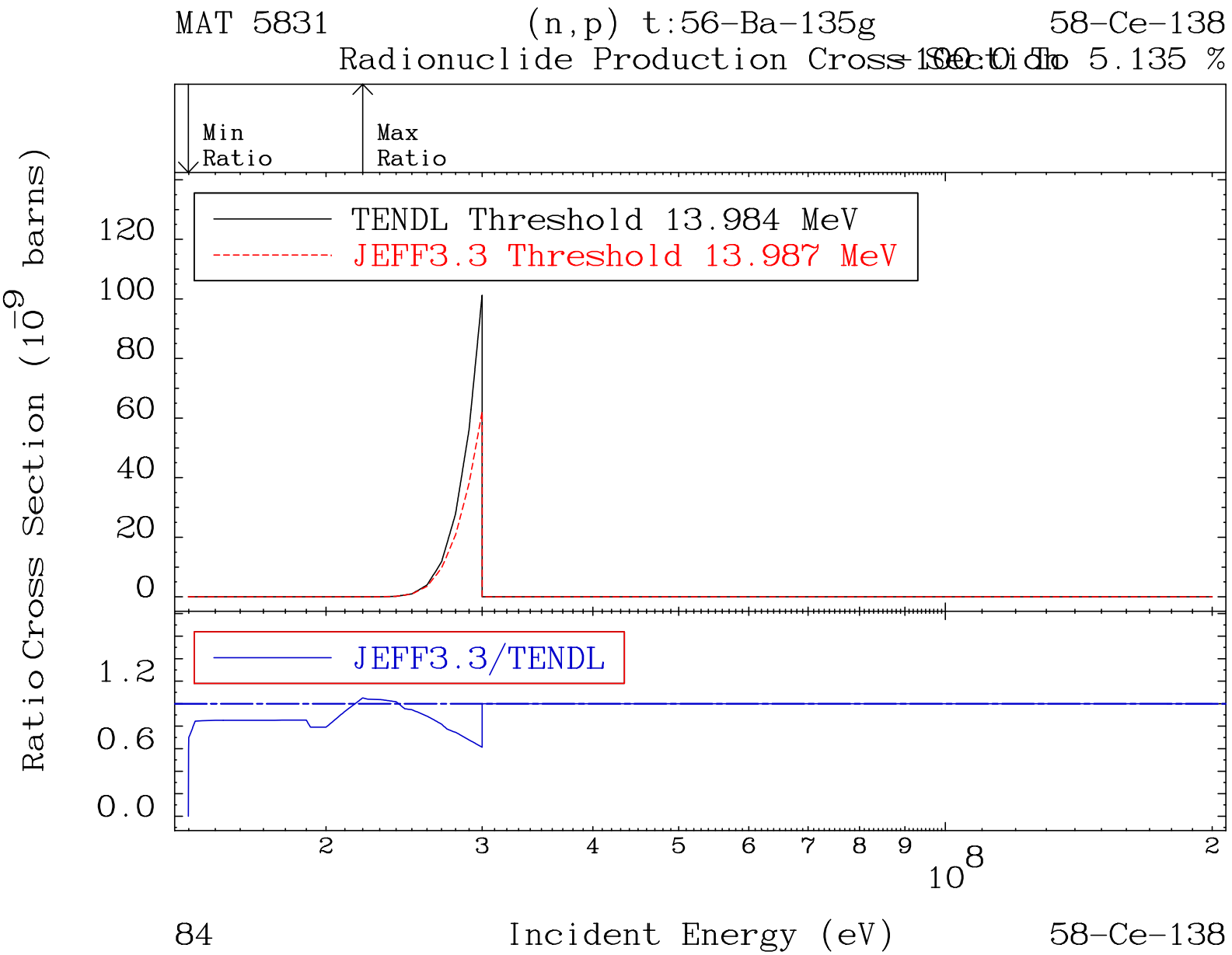

MAT 5831
(n,2p):56-Ba-137m2
58-Ce-138
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 10.000 MeV
JEFF3.3 Threshold 10.000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
79
58-Ce-138

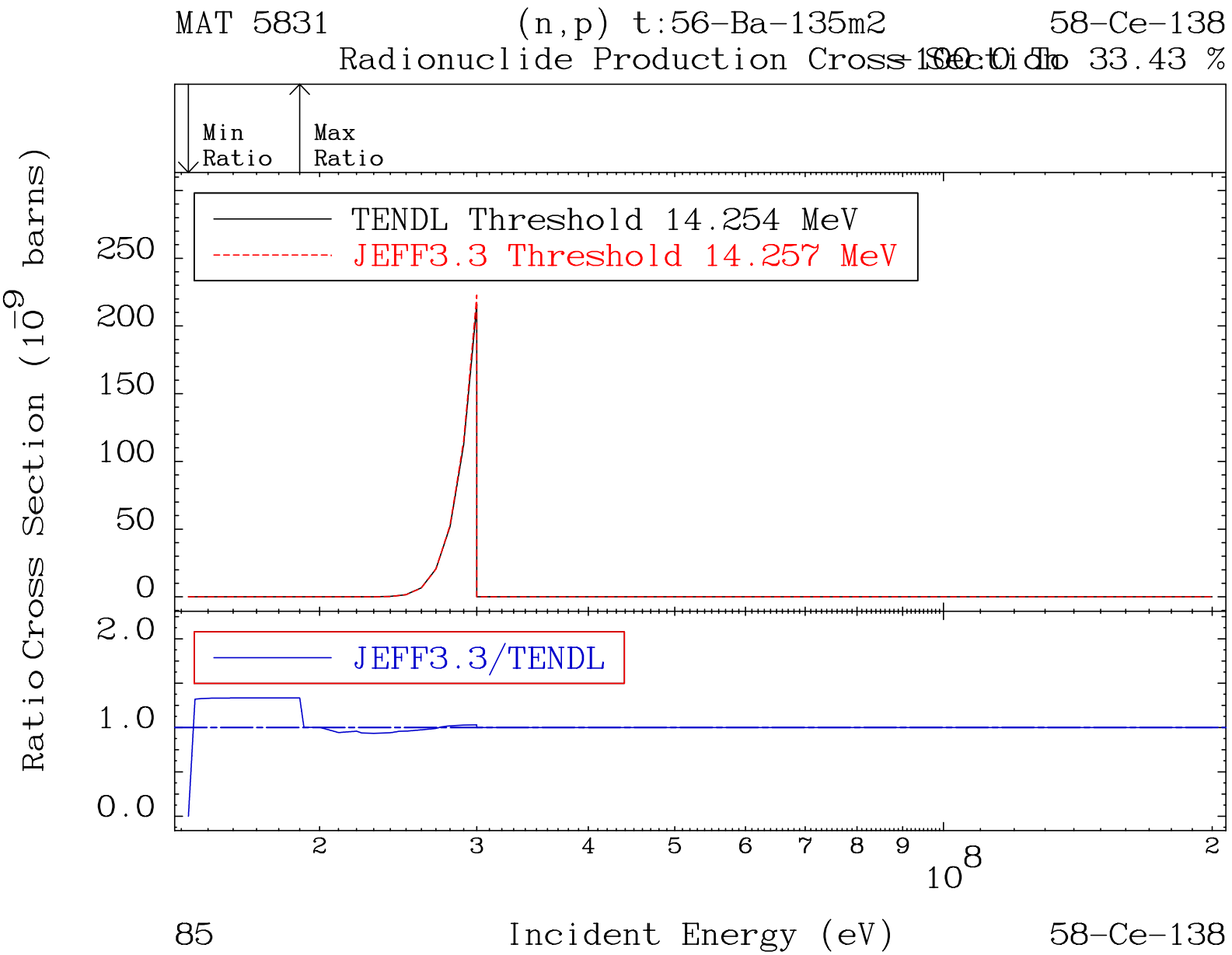

MAT 5831
(n,p) α:55-Cs-134g
58-Ce-138
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.3342 MeV
JEFF3.3 Threshold 9.0000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
80
58-Ce-138


MAT 5831
(n,p) α:55-Cs-134m3
58-Ce-138
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 10.000 MeV
JEFF3.3 Threshold 9.0000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
81
58-Ce-138


MAT 5831
(n,p) d:56-Ba-136g
58-Ce-138
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 11.113 MeV
JEFF3.3 Threshold 11.116 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
82
58-Ce-138


MAT 5831
(n,p) d:56-Ba-136m5
58-Ce-138
Radionuclide Production Cross Section
Max
Ratio
TENDL Threshold 17.000 MeV
JEFF3.3 Threshold 17.000 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
400
300
200
100
0
1.4
1.2
1.0
0.8
2
3
4
5
6
7
8
9
10^8
2
83
Incident Energy (eV)
58-Ce-138


MAT 5831
(n,p) t:56-Ba-135g
58-Ce-138
Radionuclide Production Cross Section To 5.135 %
Min Ratio
Max Ratio
TENDL Threshold 13.984 MeV
JEFF3.3 Threshold 13.987 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
120
100
80
60
40
20
0
1.2
0.6
0.0
2
3
4
5
6
7
8
9
10^8
2
84
Incident Energy (eV)
58-Ce-138


MAT 5831
(n,p) t:56-Ba-135m2
58-Ce-138
Radionuclide Production Cross Section To 33.43 %
Min Ratio
Max Ratio
TENDL Threshold 14.254 MeV
JEFF3.3 Threshold 14.257 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^-9 barns)
250
200
150
100
50
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
85
Incident Energy (eV)
58-Ce-138