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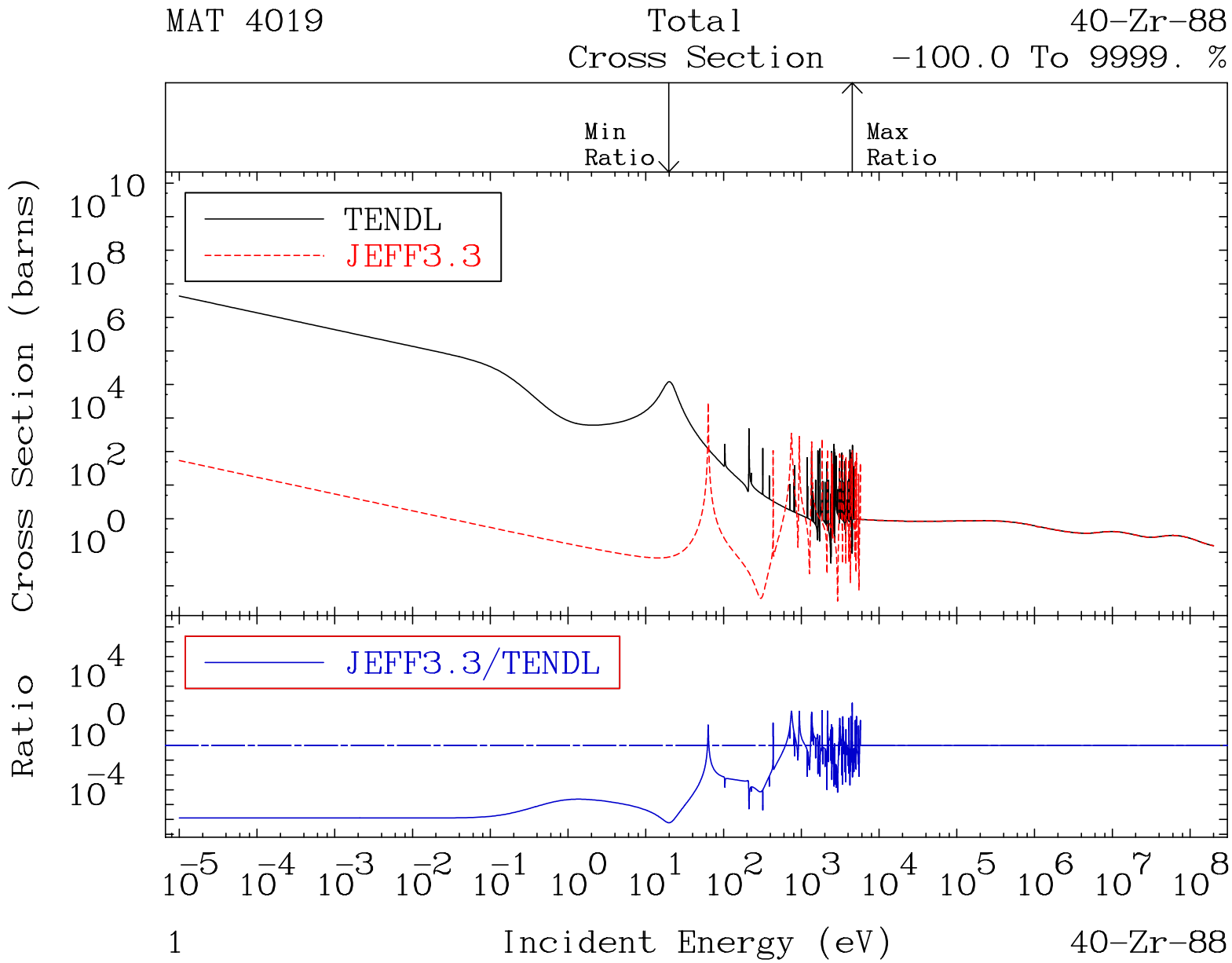
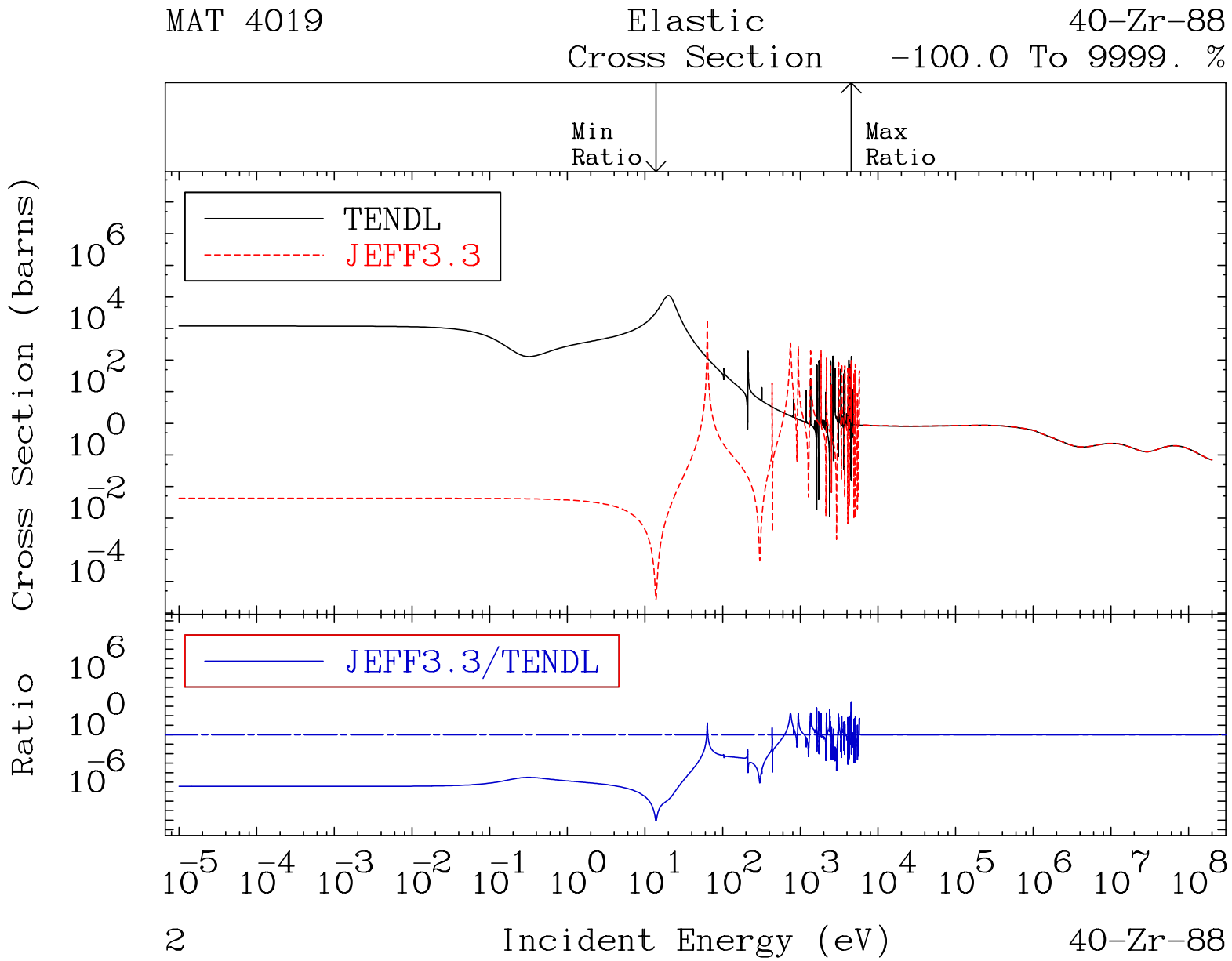
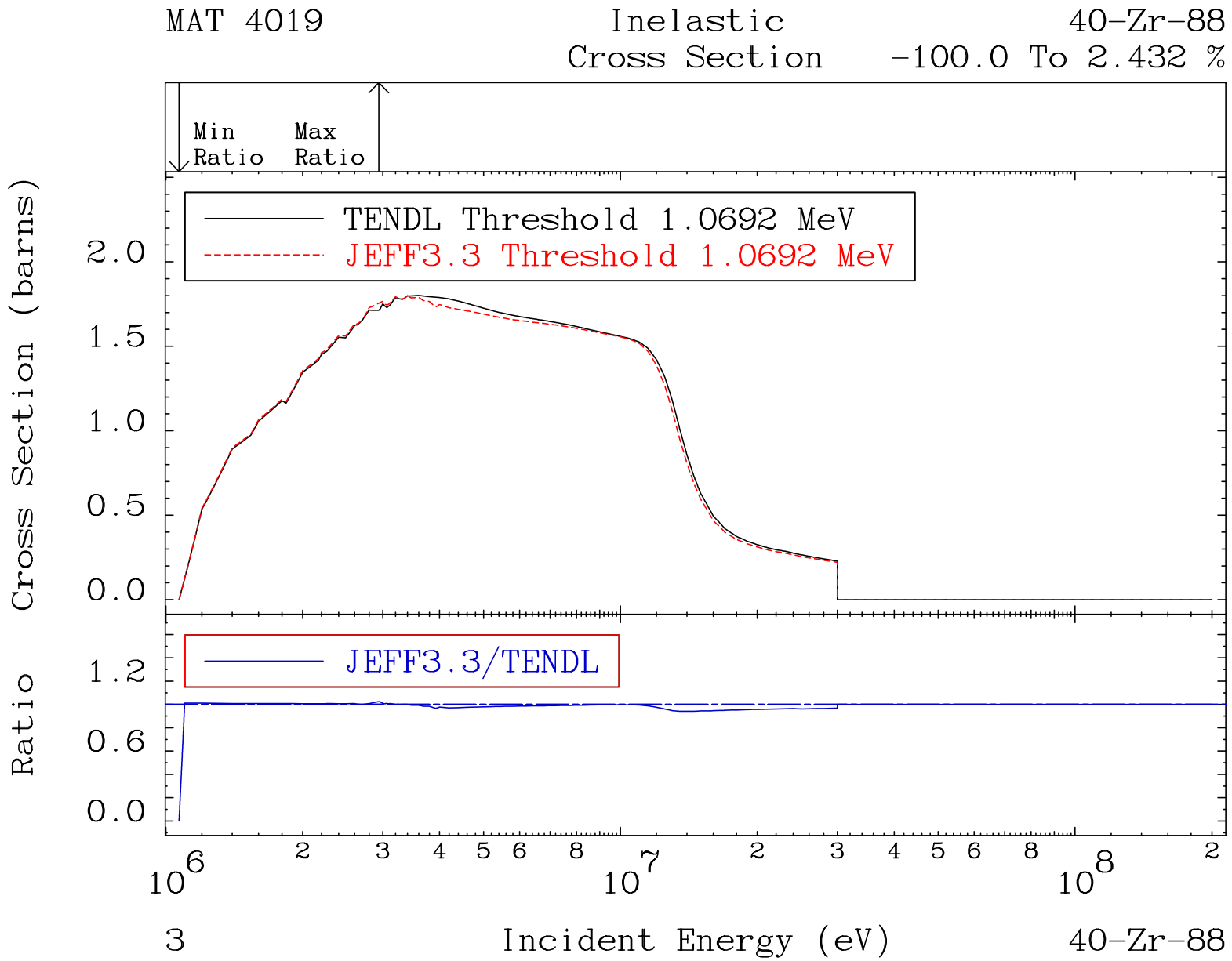
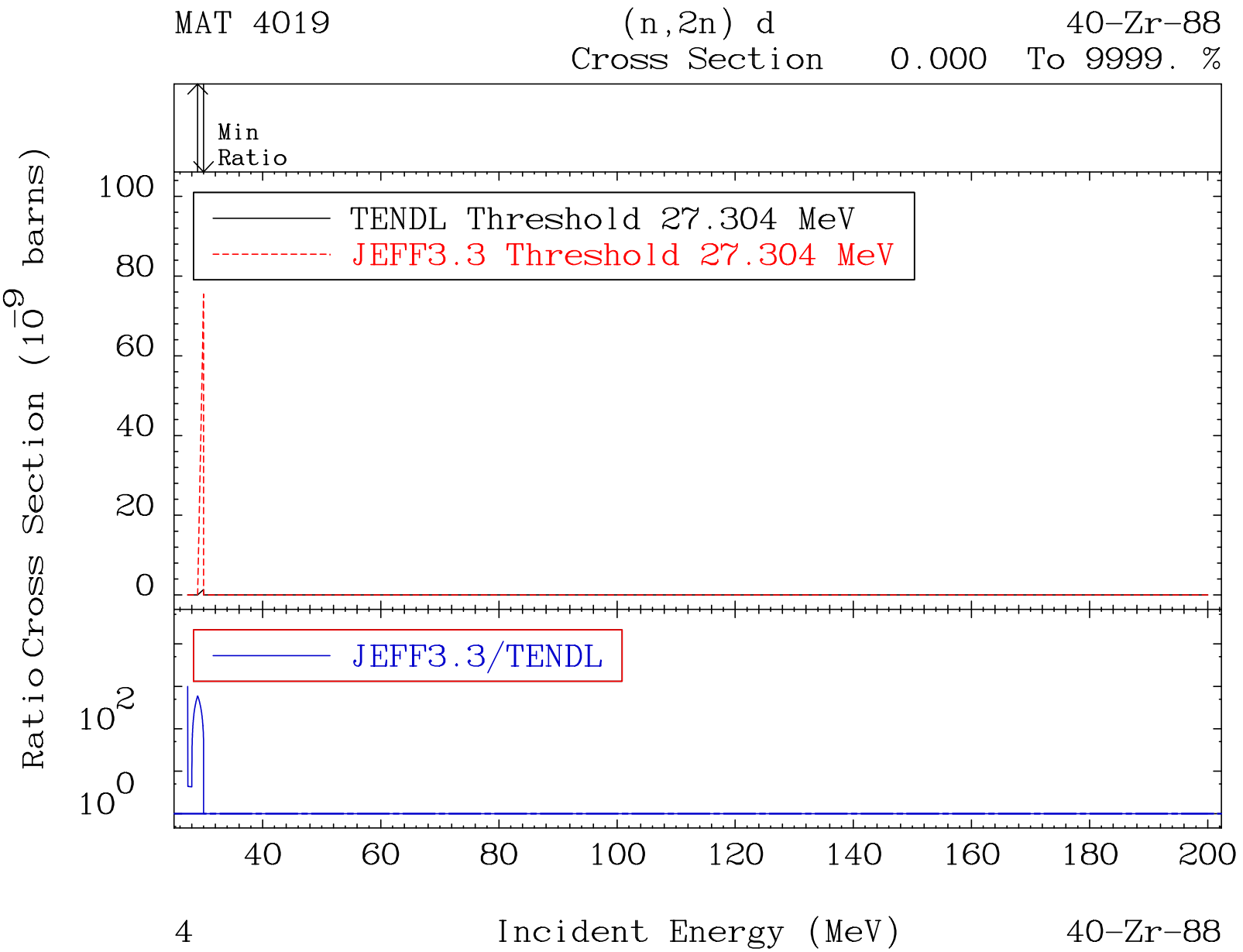
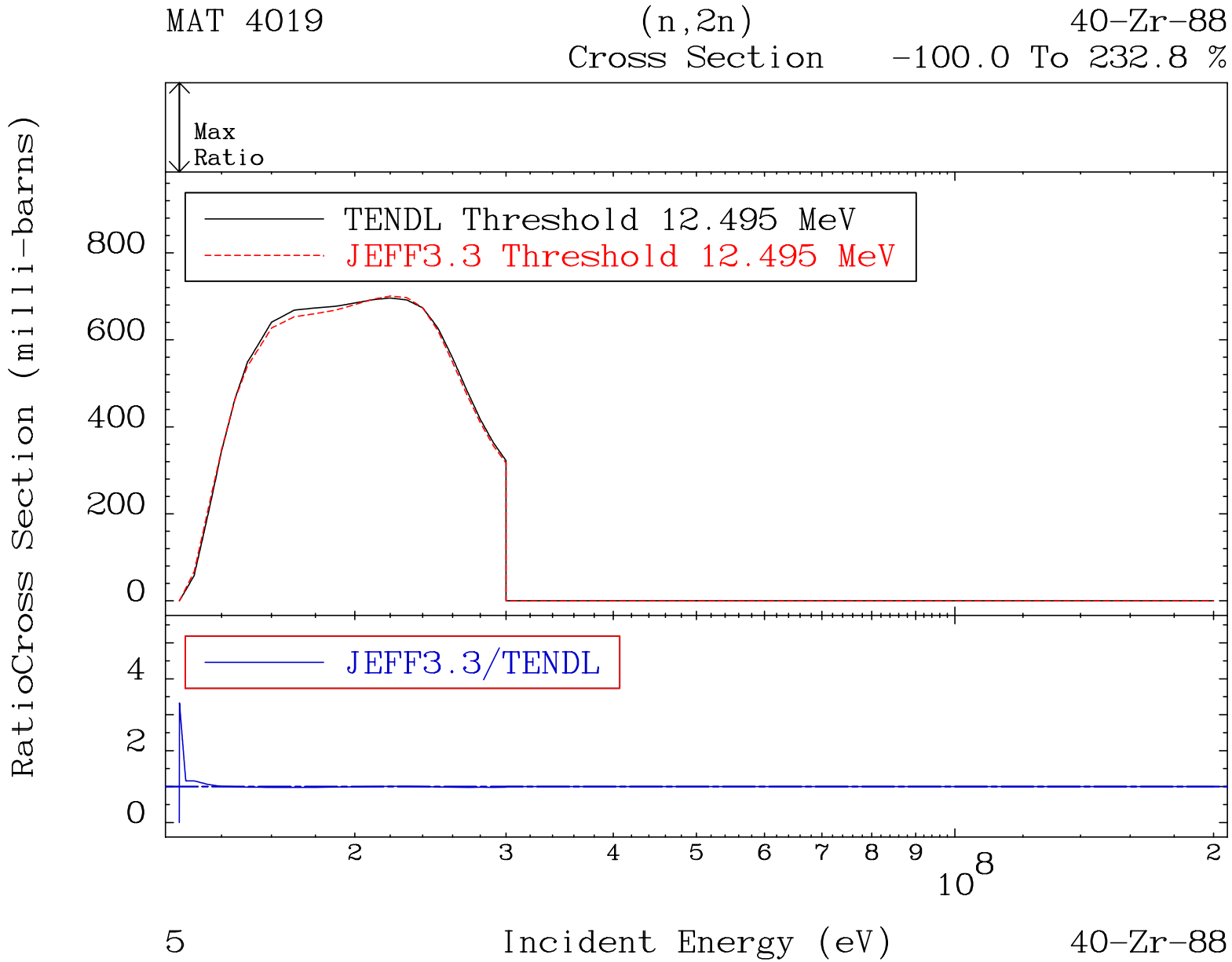
Press Mouse Button to Start

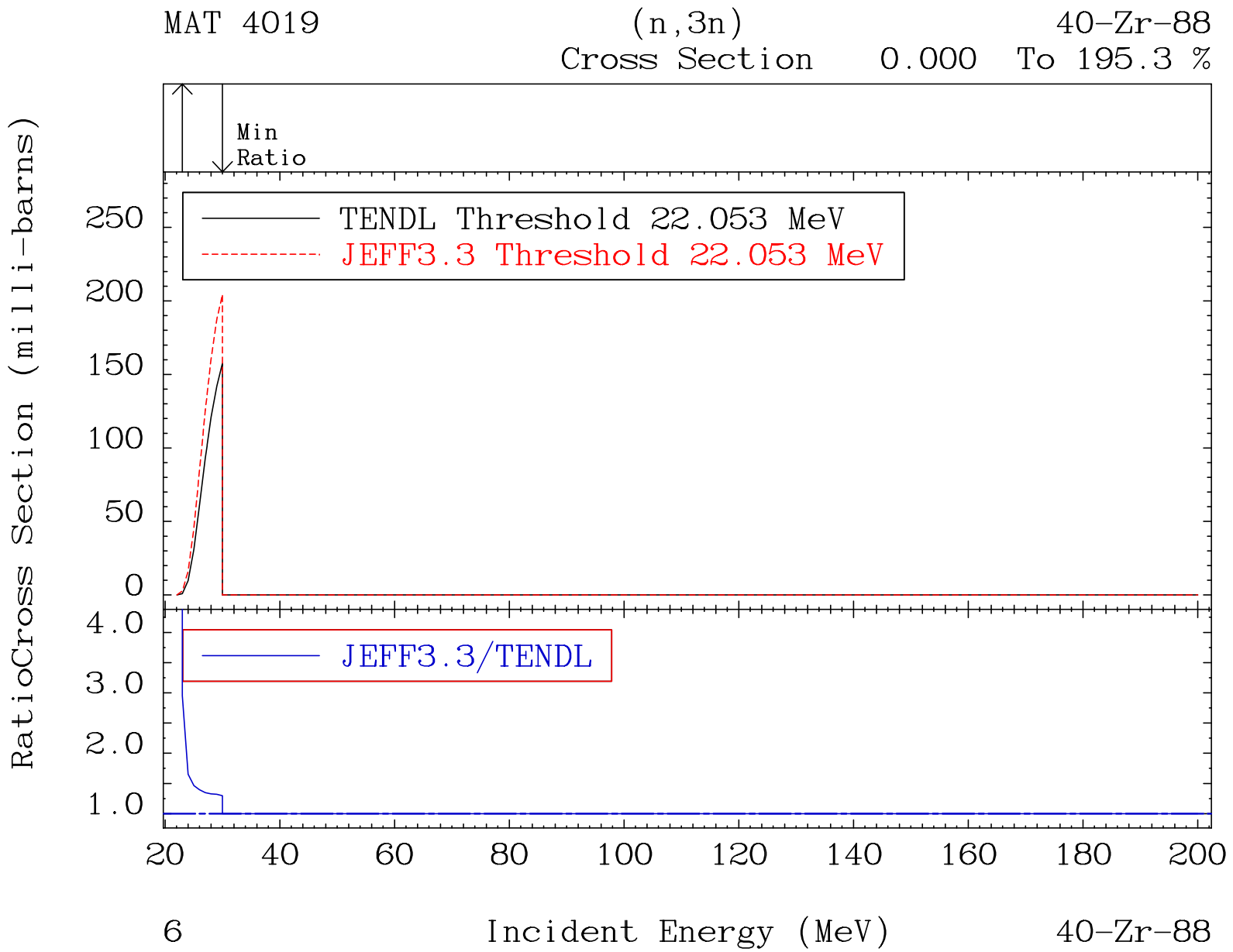

MAT 4019
Total
Cross Section
40-Zr-88
-100.0 To 9999. %
Min
Ratio
Max
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
40-Zr-88

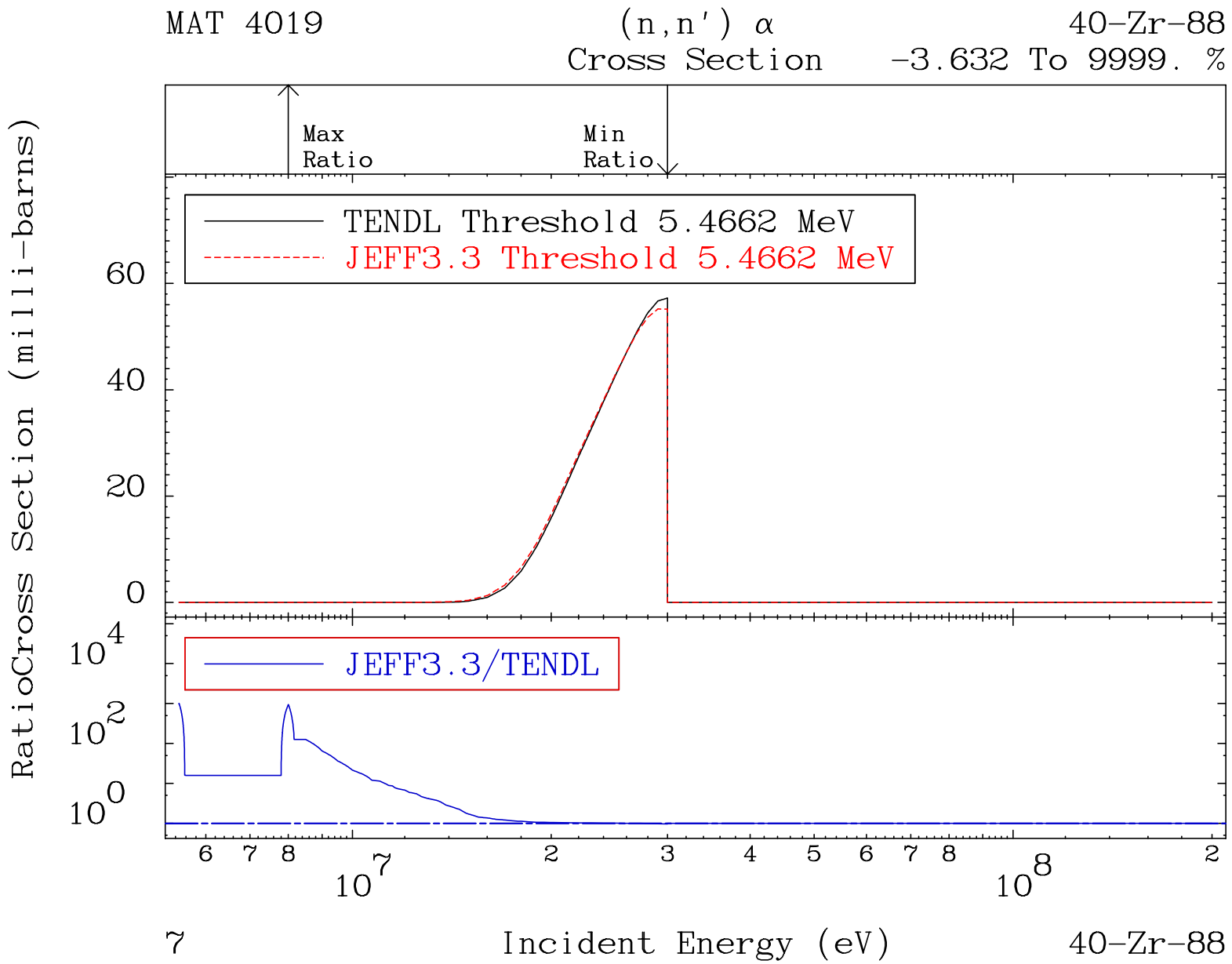

MAT 4019
Elastic
Cross Section
40-Zr-88
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
40-Zr-88

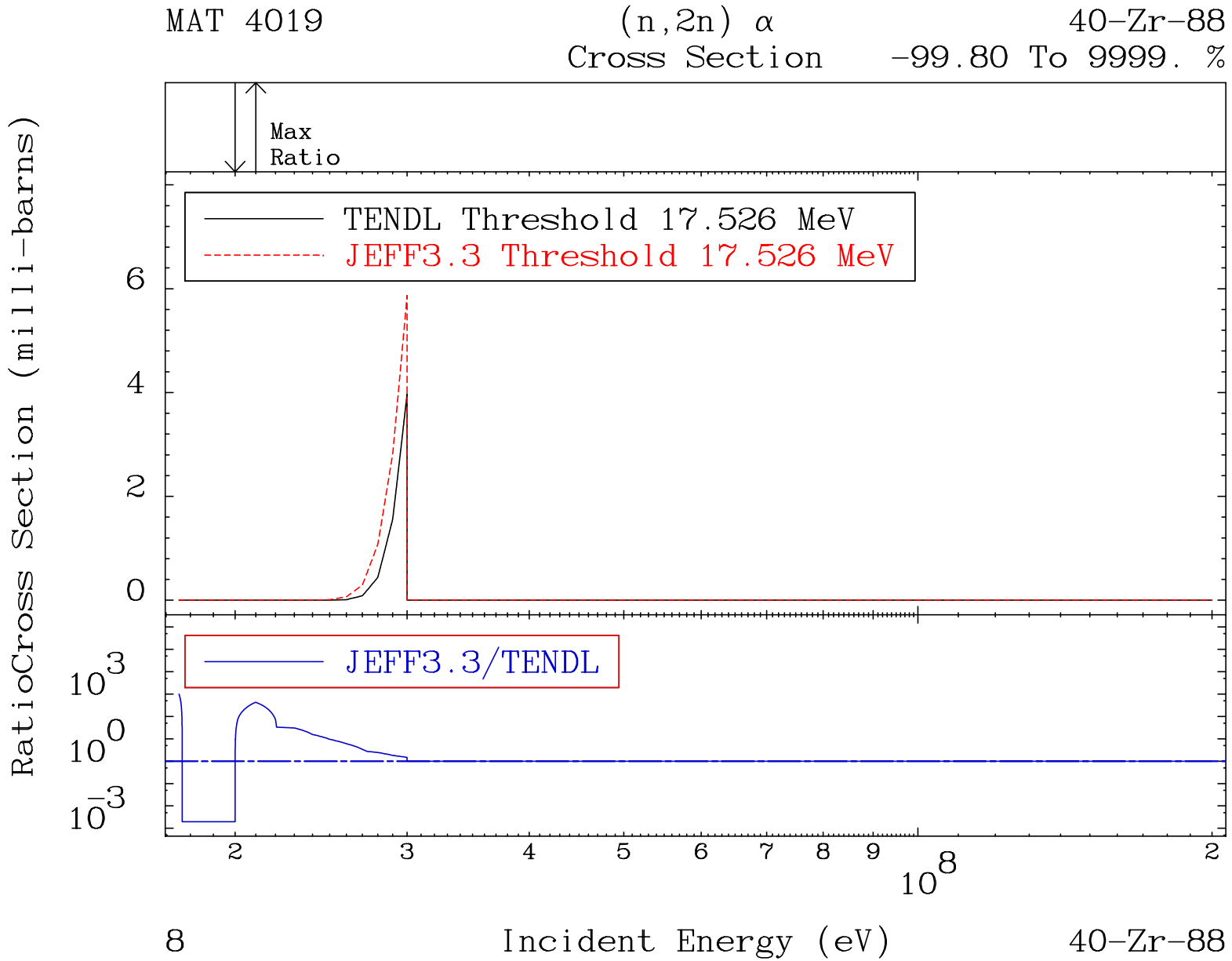

MAT 4019
Inelastic
Cross Section
40-Zr-88
-100.0 To 2.432 %
Min Ratio
Max Ratio
TENDL Threshold 1.0692 MeV
JEFF3.3 Threshold 1.0692 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
1.2
0.6
0.0
10^6
2 3 4 5 6 8
10^7
2 3 4 5 6 8
10^8
2
Incident Energy (eV)
3
40-Zr-88

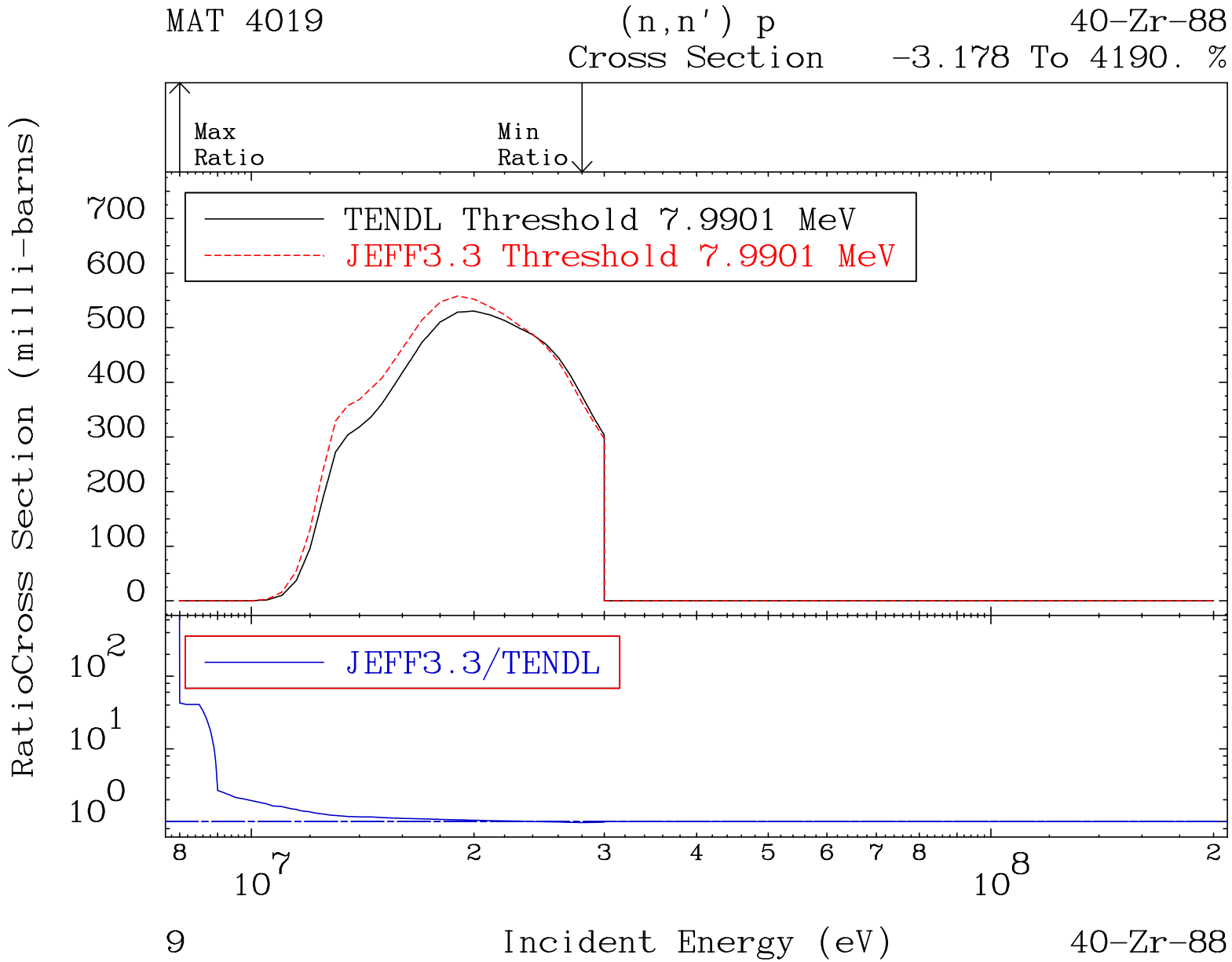

MAT 4019
(n,2n) d
40-Zr-88
Cross Section 0.000 To 9999. %
Min
Ratio
TENDL Threshold 27.304 MeV
JEFF3.3 Threshold 27.304 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
100
80
60
40
20
0
10^{2}
10^{0}
40
60
80
100
120
140
160
180
200
4
Incident Energy (MeV)
40-Zr-88

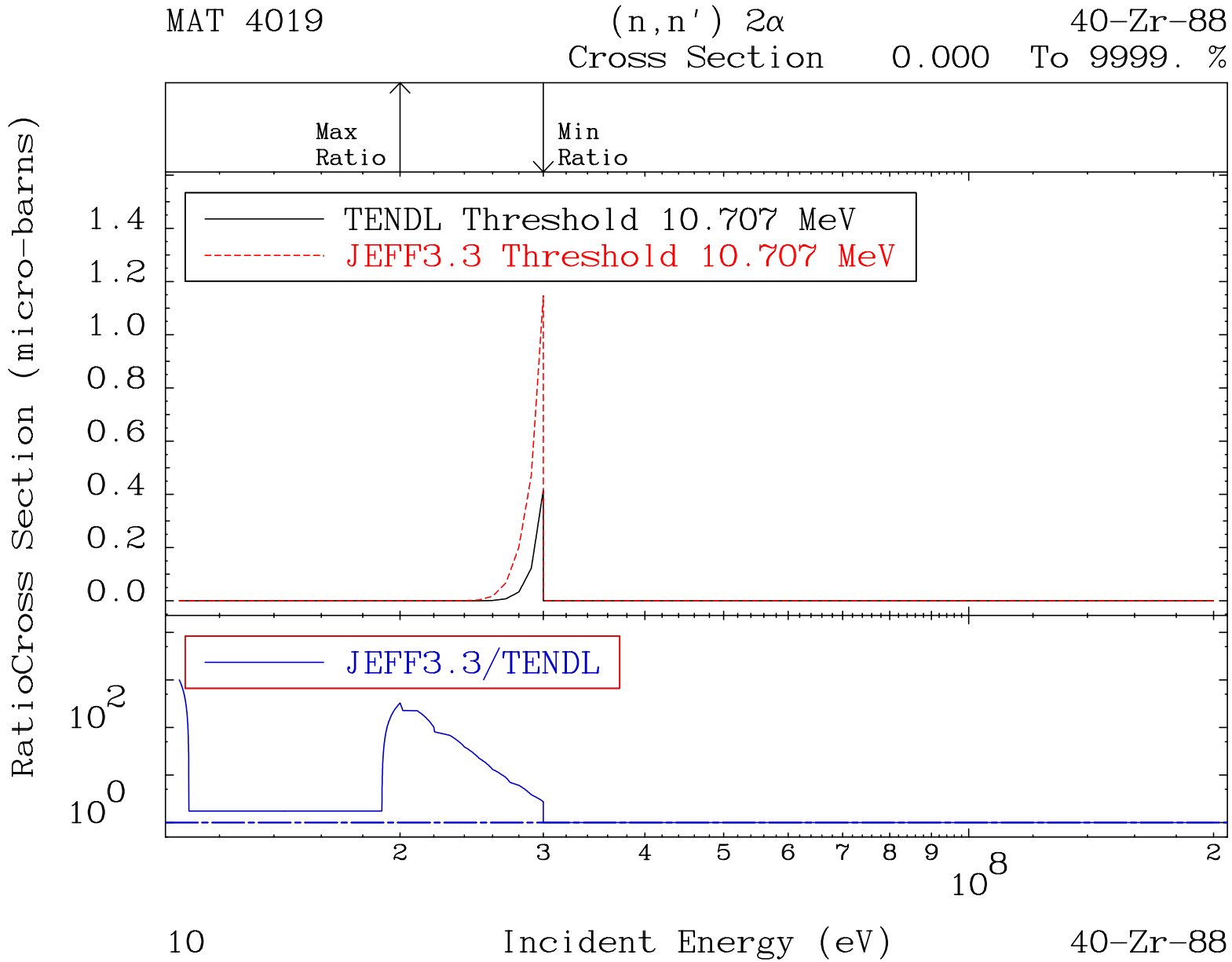

MAT 4019
(n,2n)
Cross Section
40-Zr-88
-100.0 To 232.8 %
Max
Ratio
TENDL Threshold 12.495 MeV
JEFF3.3 Threshold 12.495 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
4
2
0
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
40-Zr-88

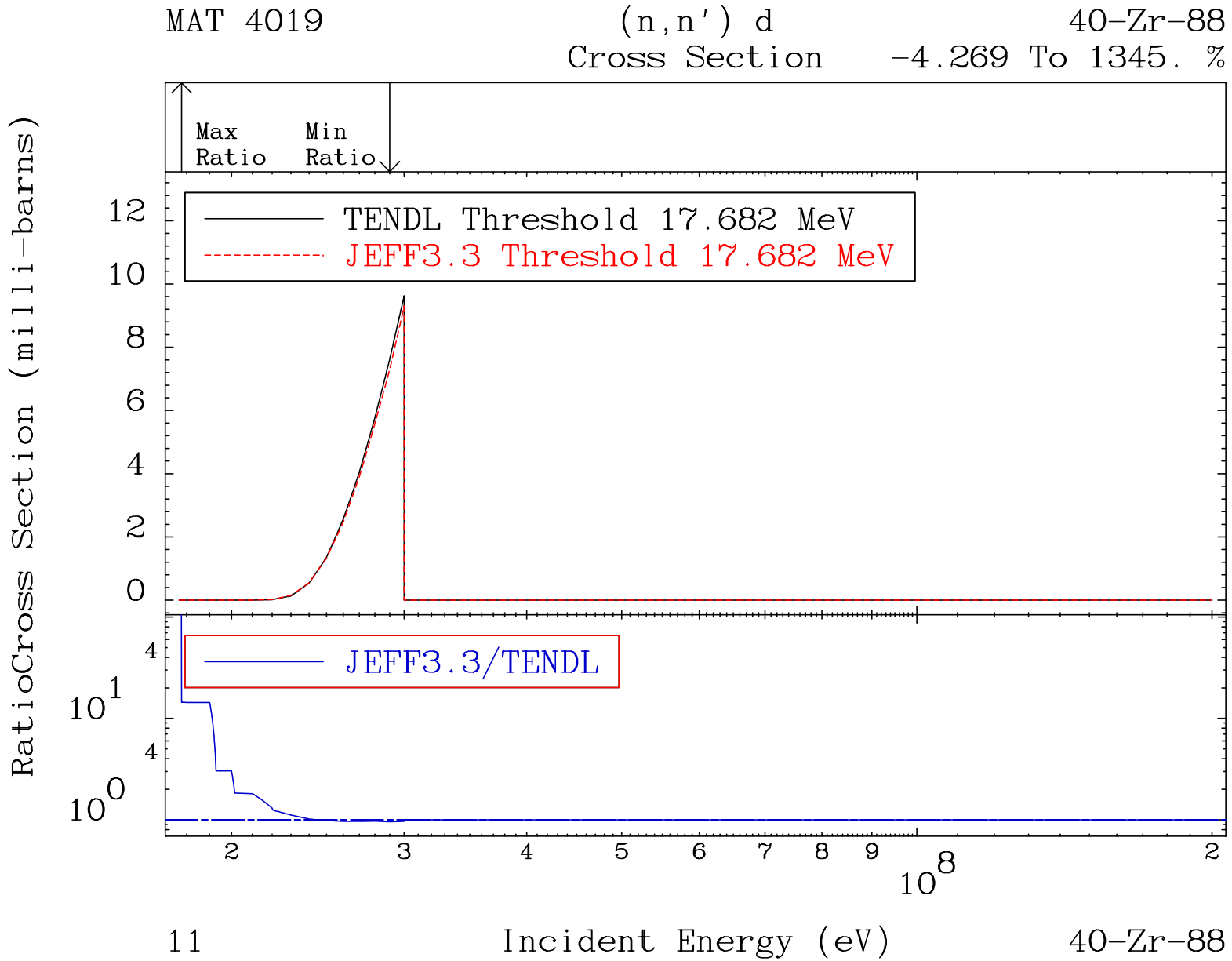

MAT 4019
(n,3n)
40-Zr-88
Cross Section 0.000 To 195.3 %
Min
Ratio
TENDL Threshold 22.053 MeV
JEFF3.3 Threshold 22.053 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
4.0
3.0
2.0
1.0
20
40
60
80
100
120
140
160
180
200
6
Incident Energy (MeV)
40-Zr-88

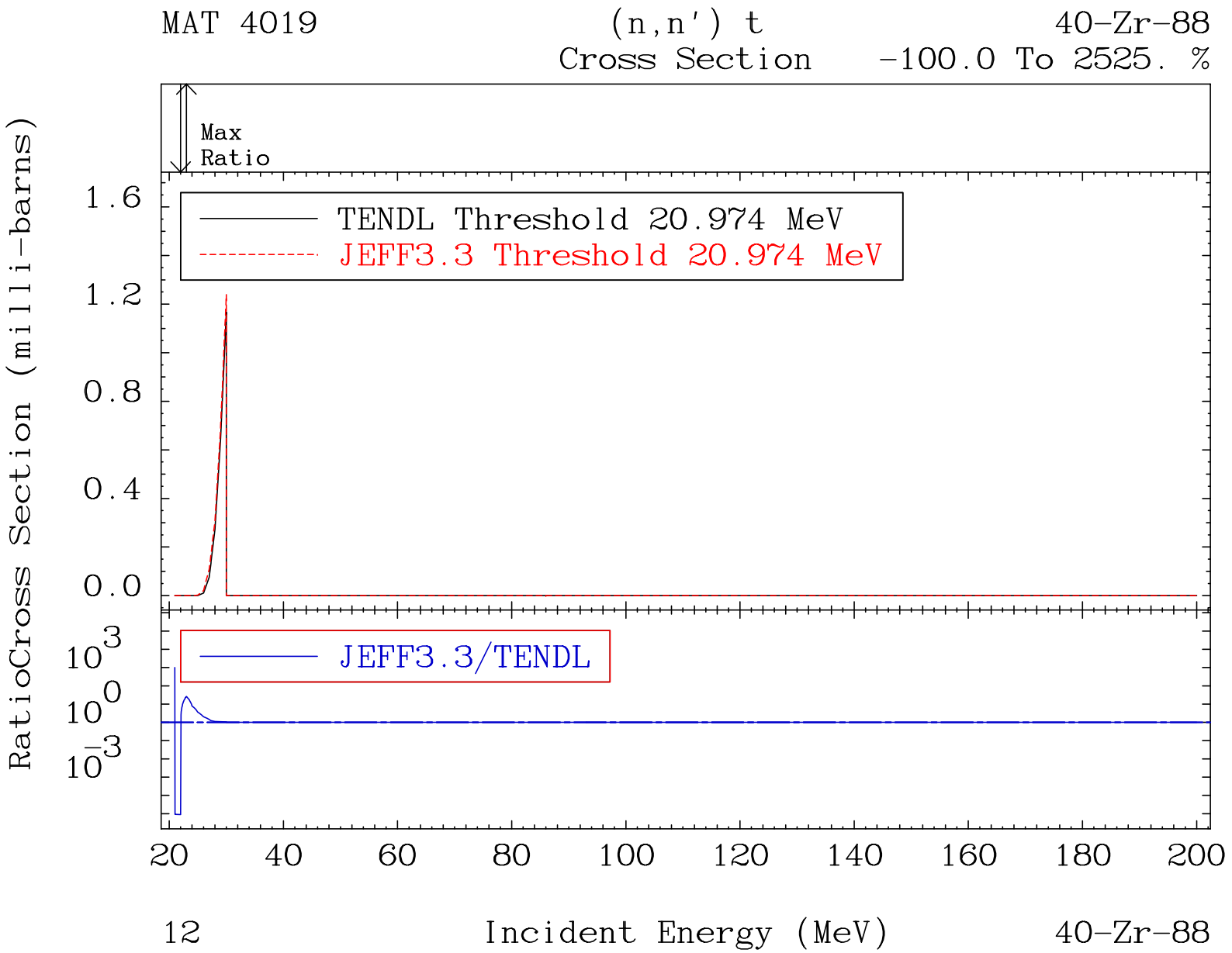

MAT 4019
(n,n') α
Cross Section
40-Zr-88
-3.632 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 5.4662 MeV
JEFF3.3 Threshold 5.4662 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
7
40-Zr-88

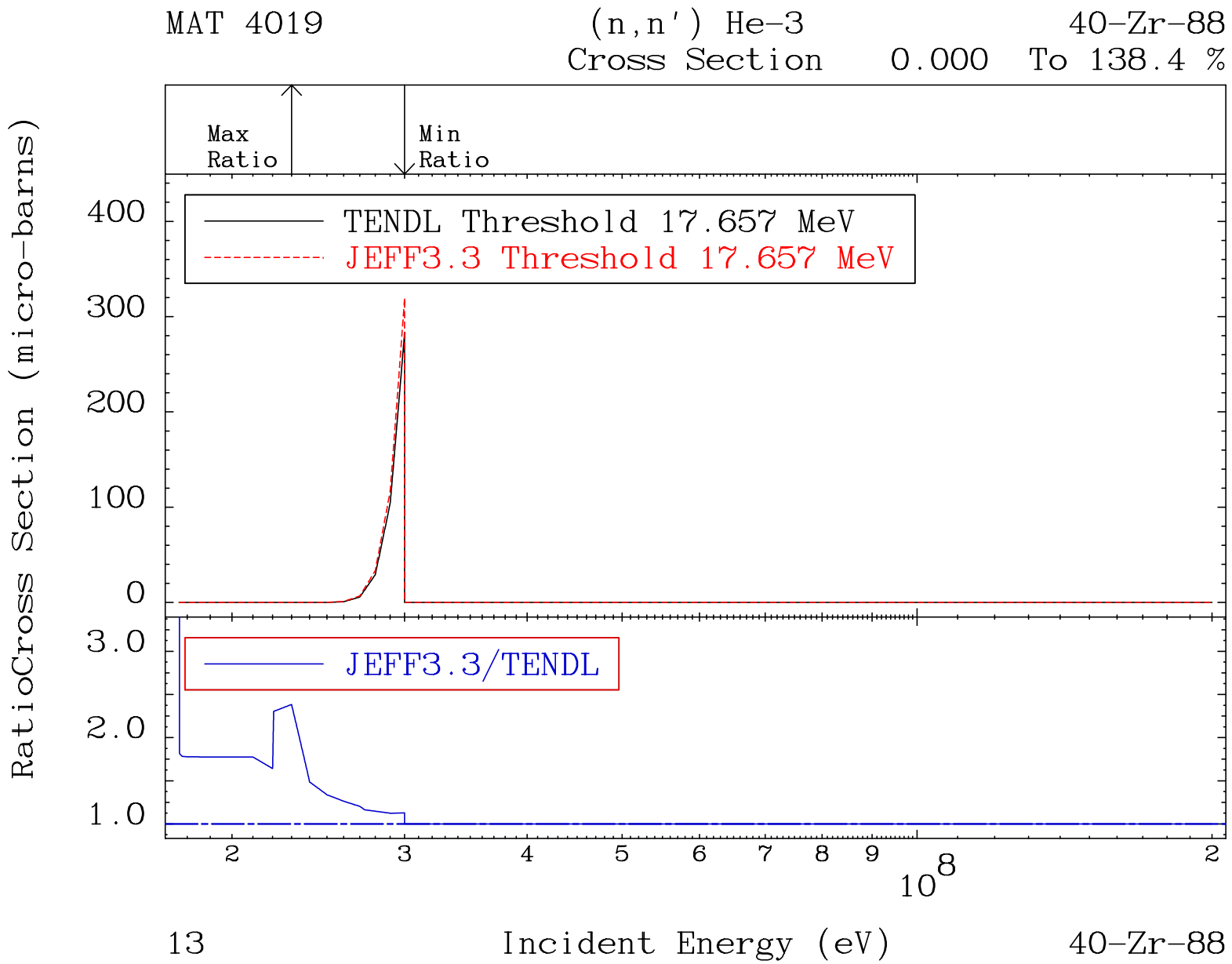

MAT 4019
(n,2n) α
40-Zr-88
Cross Section
-99.80 To 9999. %
Max
Ratio
TENDL Threshold 17.526 MeV
JEFF3.3 Threshold 17.526 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
6
4
2
0
10^3
10^0
10^-3
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
40-Zr-88

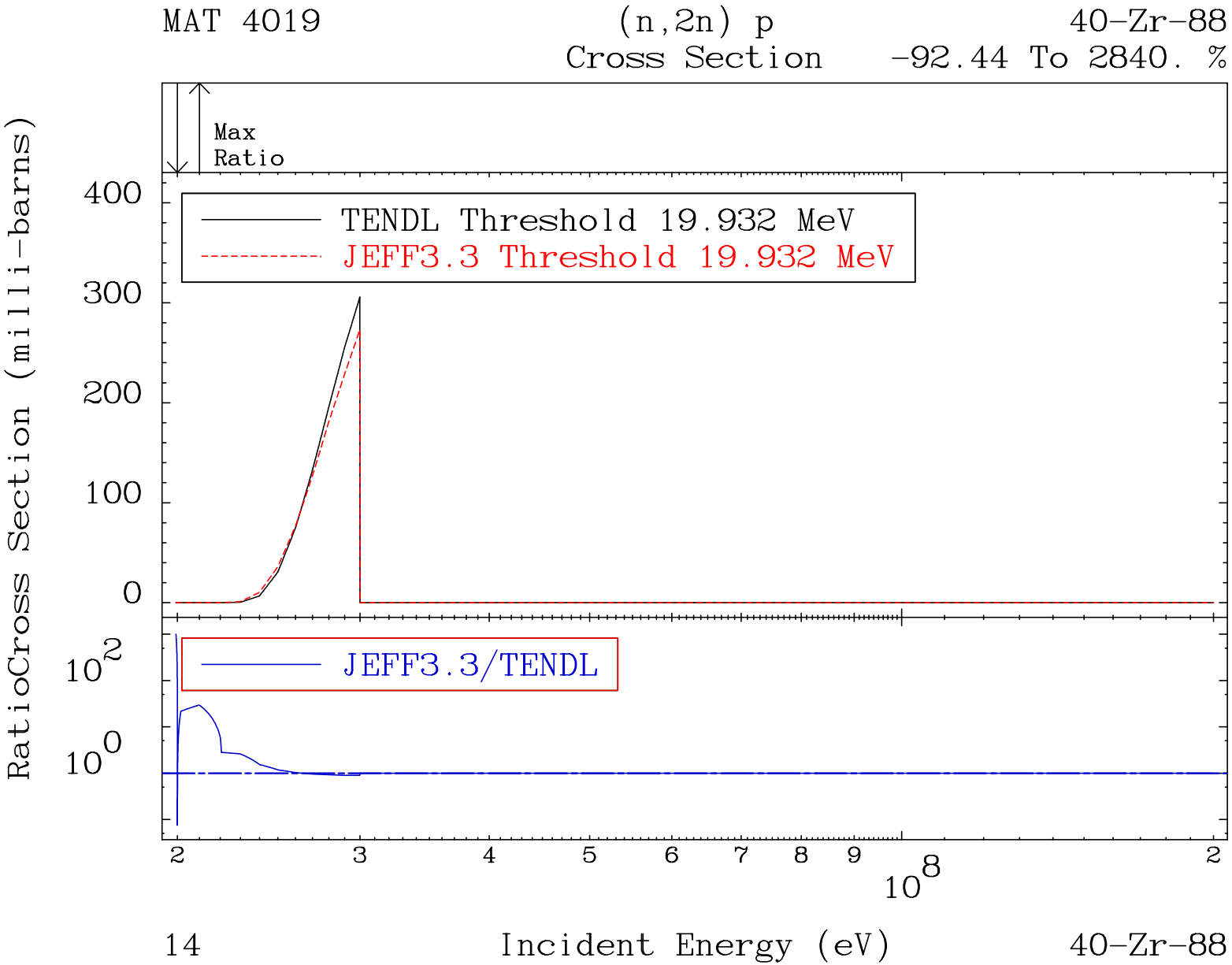

MAT 4019
(n,n') p
Cross Section
40-Zr-88
-3.178 To 4190. %
Max Ratio
Min Ratio
TENDL Threshold 7.9901 MeV
JEFF3.3 Threshold 7.9901 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
10^2
10^1
10^0
8
10^7
2
3
4
5
6
7
8
10^8
2
9
Incident Energy (eV)
40-Zr-88

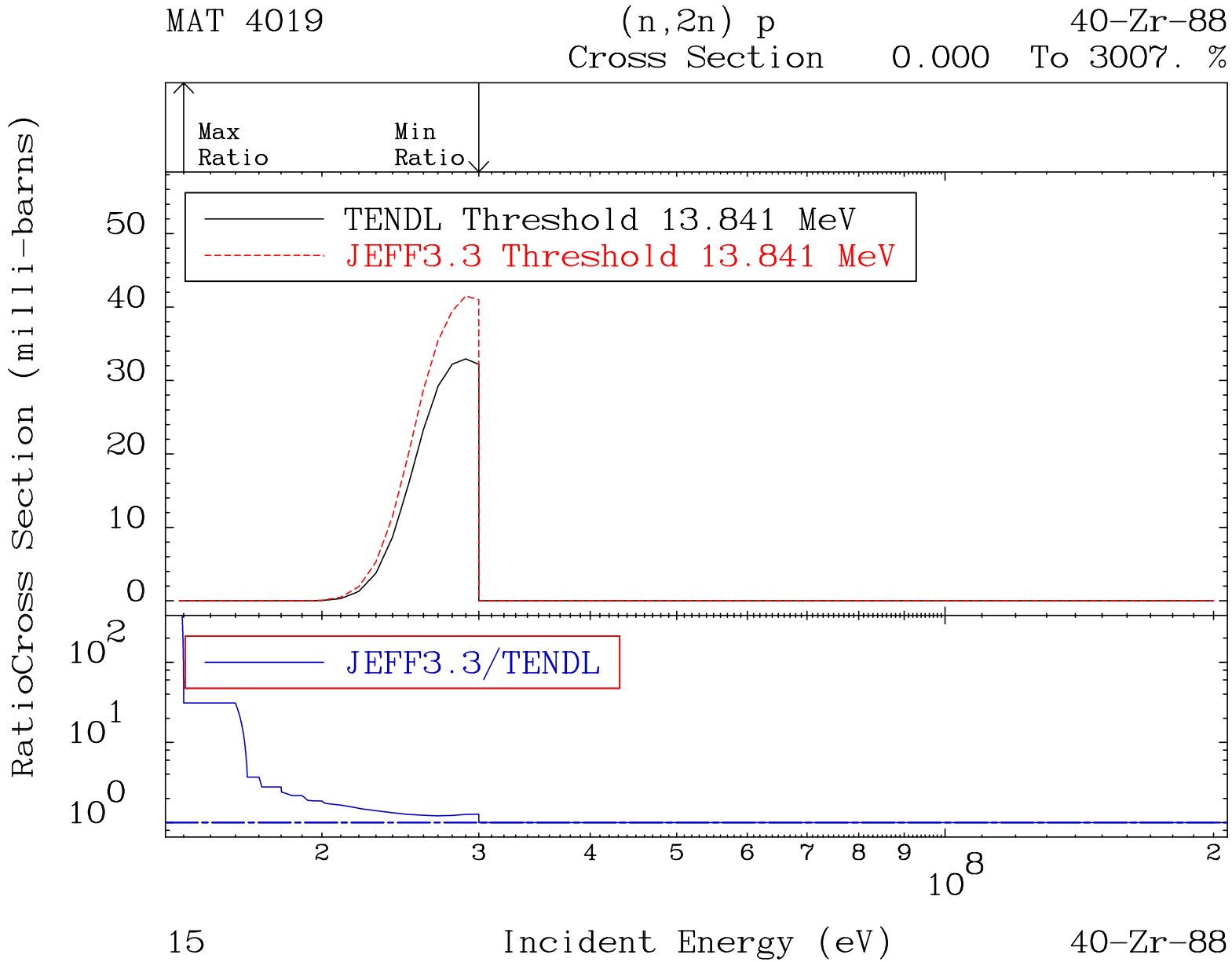

MAT 4019
(n,n') 2α
40-Zr-88
Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 10.707 MeV
JEFF3.3 Threshold 10.707 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
10
Incident Energy (eV)
40-Zr-88

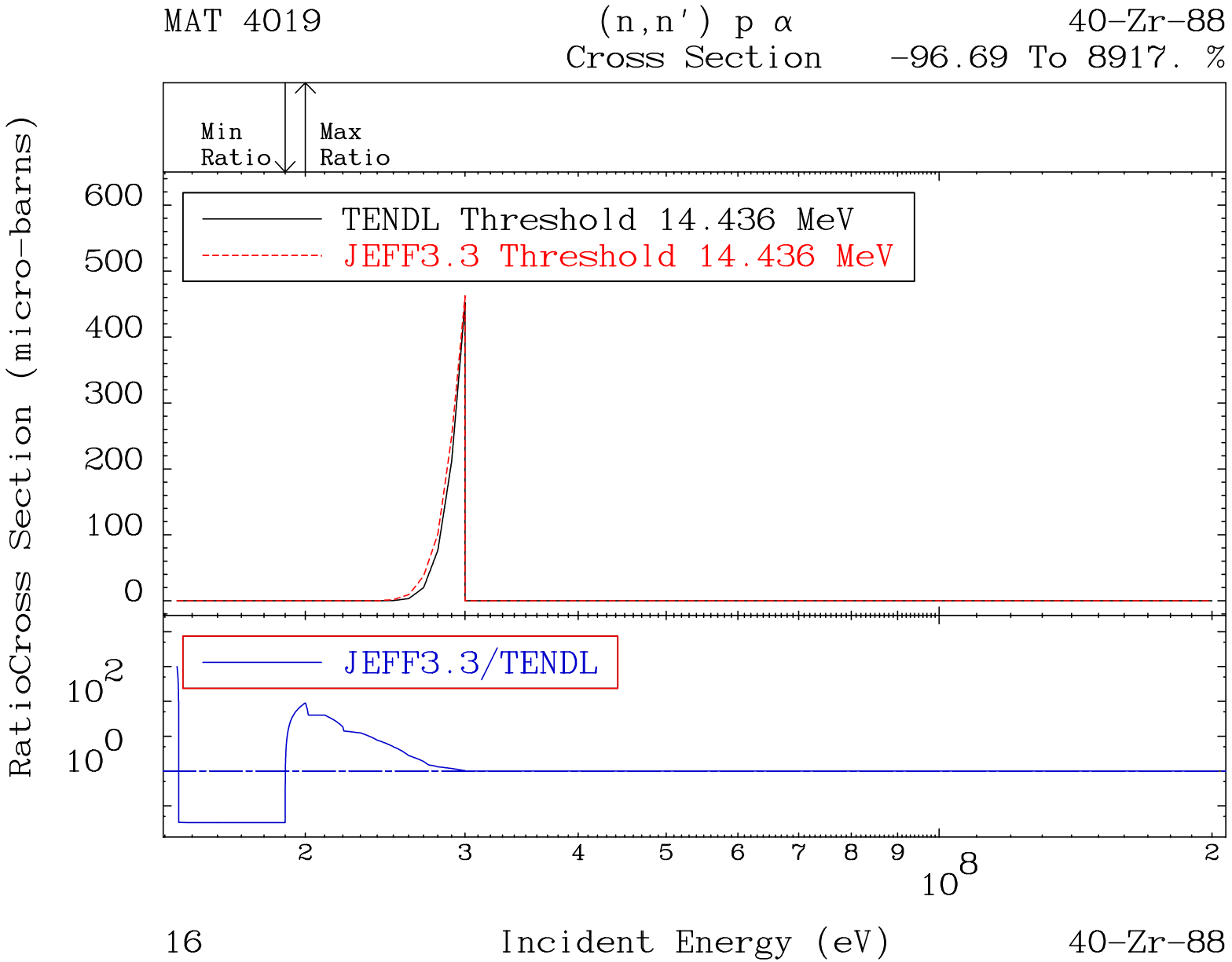

MAT 4019
(n,n') d
Cross Section
40-Zr-88
-4.269 To 1345. %
Max Ratio
Min Ratio
TENDL Threshold 17.682 MeV
JEFF3.3 Threshold 17.682 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
12
10
8
6
4
2
0
10^1
4
10^0
4
2
3
4
5
6
7
8
9
10^8
2
11
Incident Energy (eV)
40-Zr-88

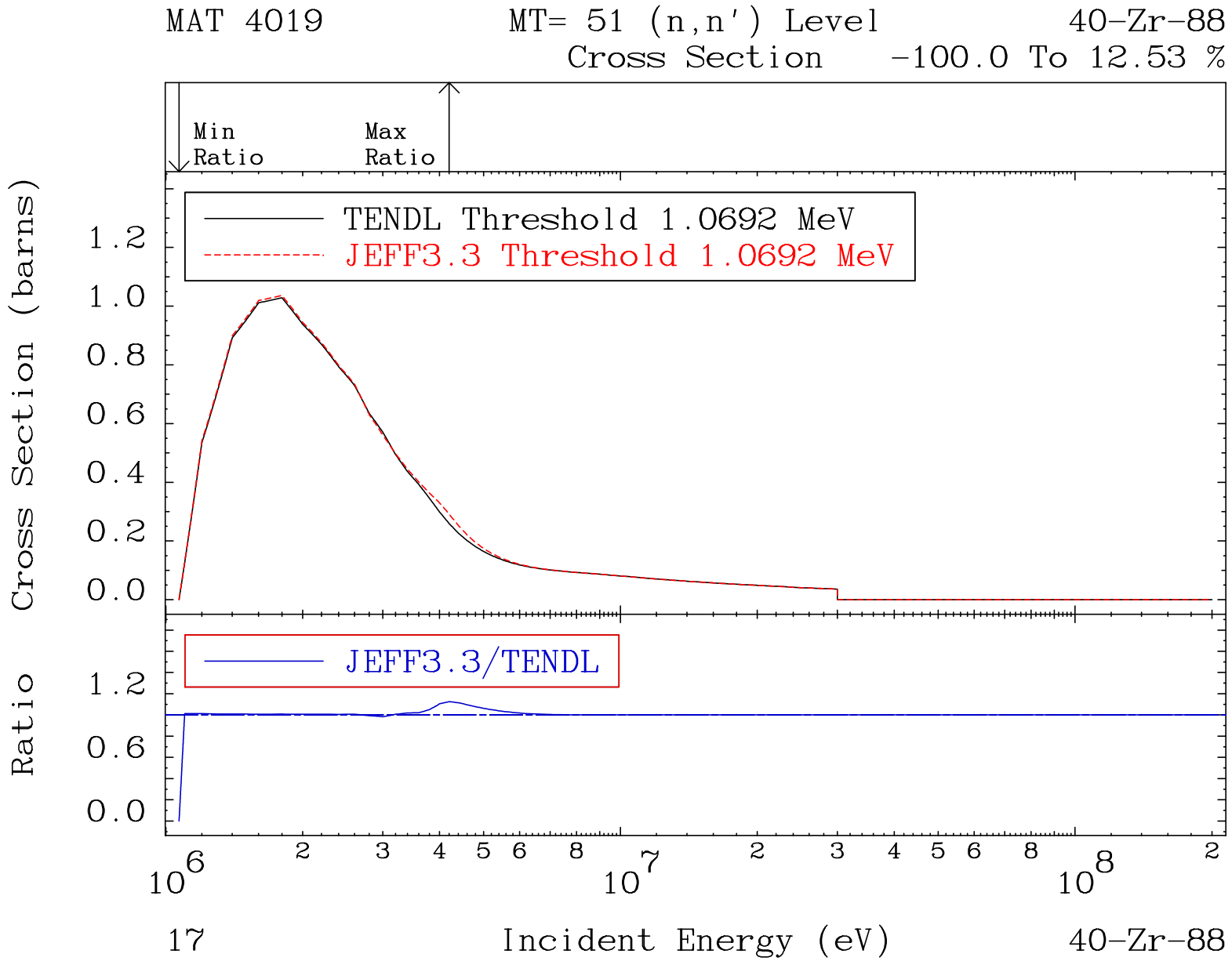

MAT 4019
(n,n') t
40-Zr-88
Cross Section
-100.0 To 2525. %
Max
Ratio
TENDL Threshold 20.974 MeV
JEFF3.3 Threshold 20.974 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
10^3
10^0
10^-3
20
40
60
80
100
120
140
160
180
200
12
Incident Energy (MeV)
40-Zr-88

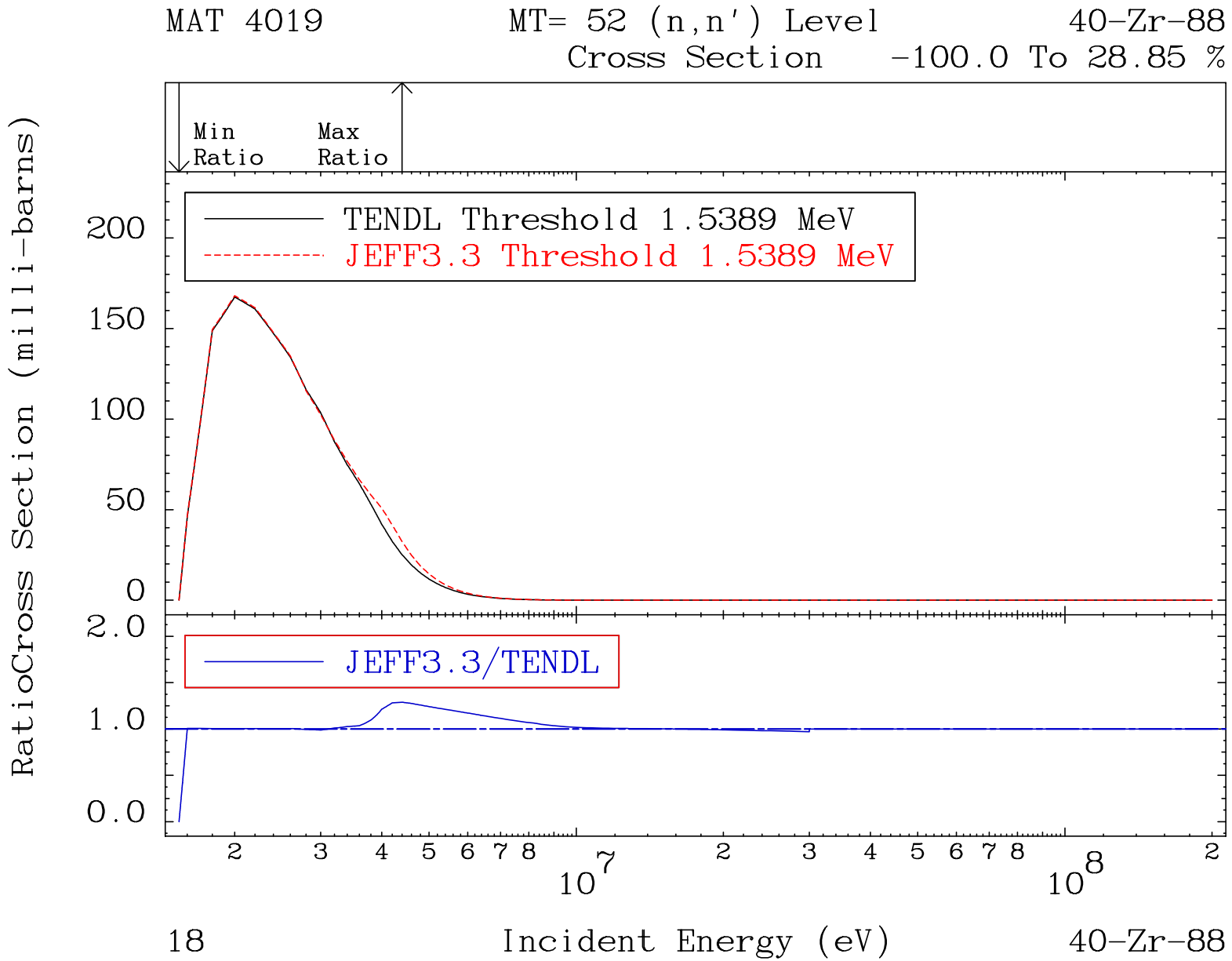

MAT 4019
(n,n') He-3
Cross Section
40-Zr-88
0.000 To 138.4 %
Max Ratio
Min Ratio
TENDL Threshold 17.657 MeV
JEFF3.3 Threshold 17.657 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
400
300
200
100
0
3.0
2.0
1.0
2
3
4
5
6
7
8
9
2
10^8
13
Incident Energy (eV)
40-Zr-88

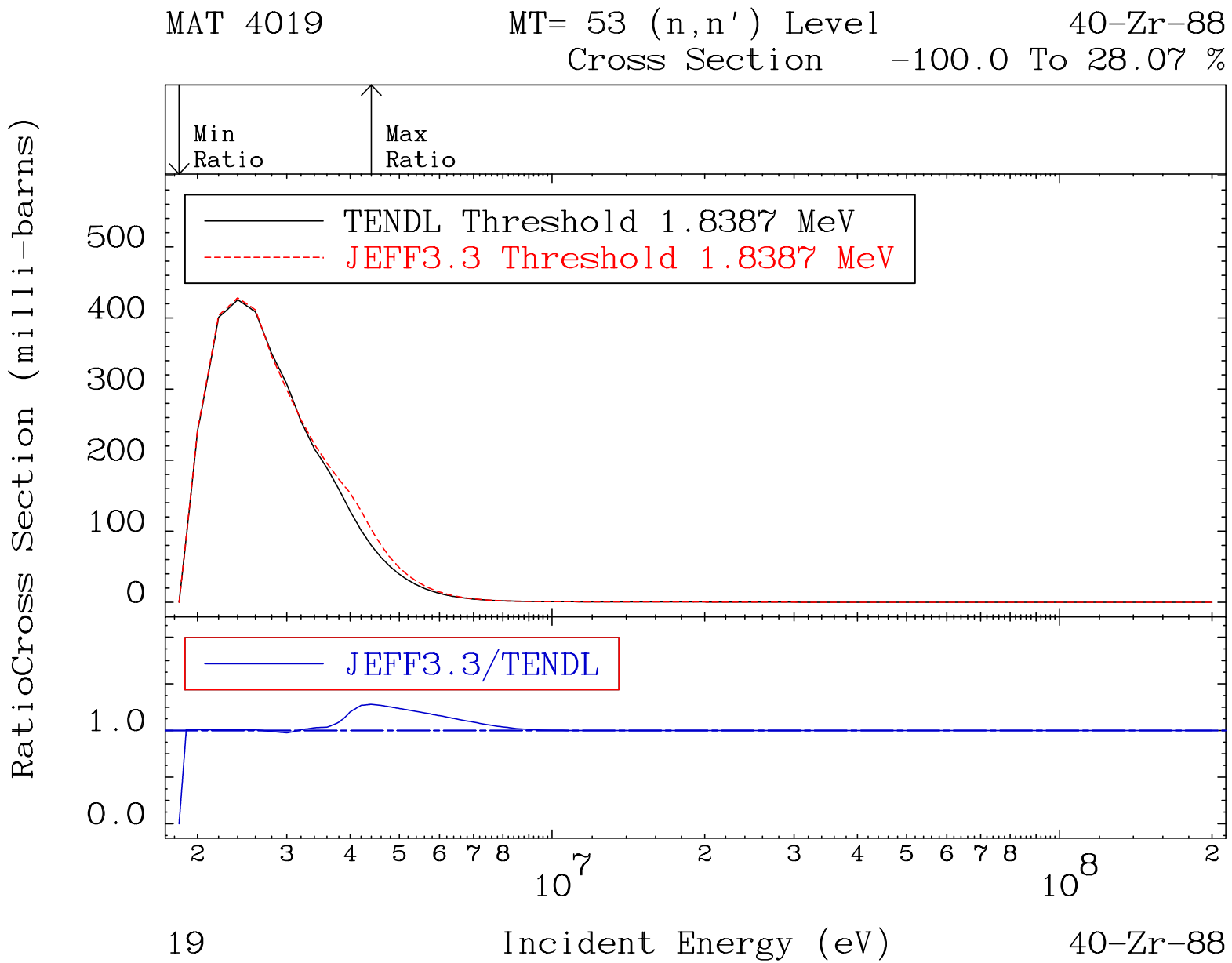

MAT 4019
(n,2n) p
Cross Section
40-Zr-88
-92.44 To 2840. %
Max
Ratio
TENDL Threshold 19.932 MeV
JEFF3.3 Threshold 19.932 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
40-Zr-88

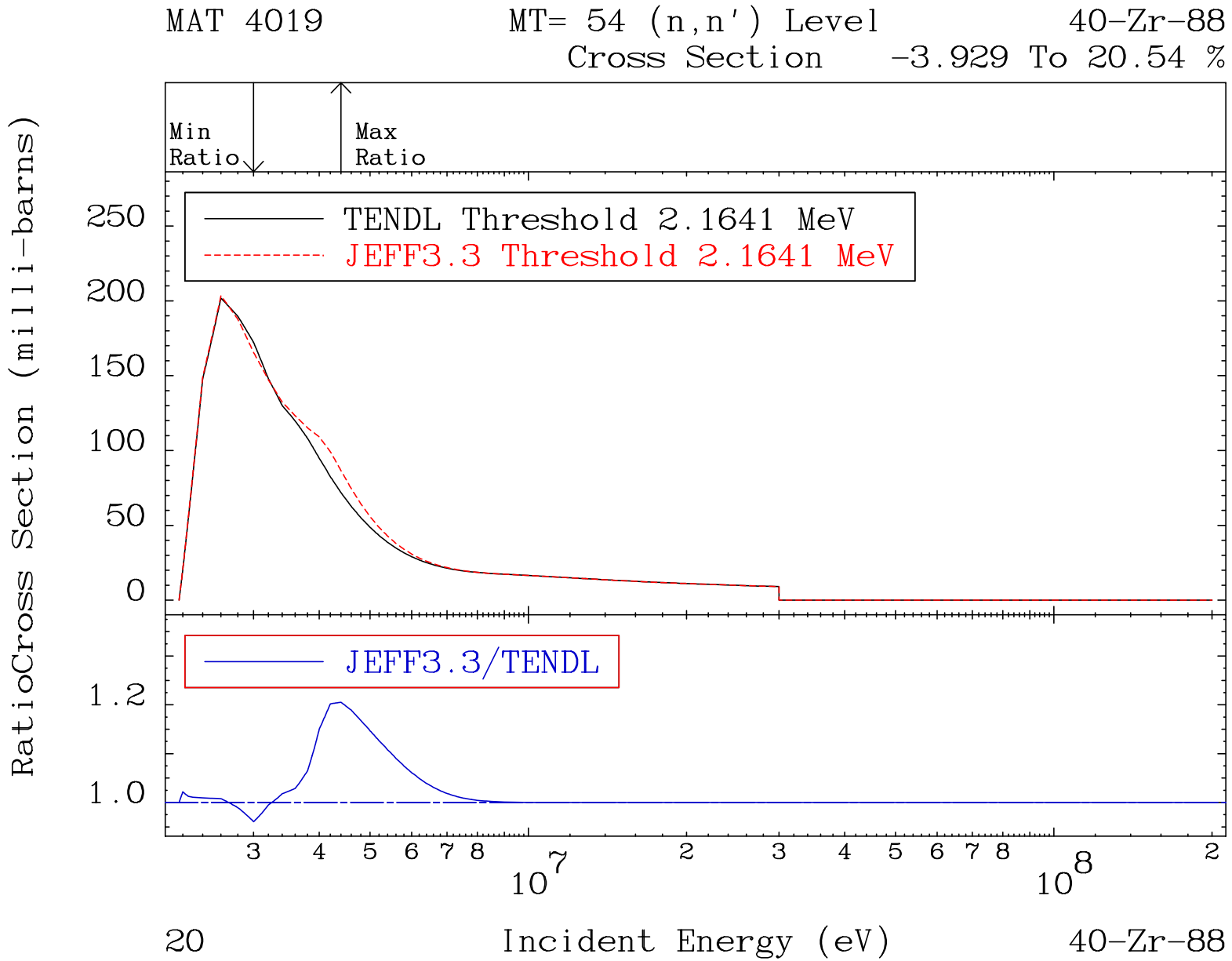

MAT 4019
(n,2n) p
40-Zr-88
Cross Section 0.000 To 3007. %
Max Ratio
Min Ratio
TENDL Threshold 13.841 MeV
JEFF3.3 Threshold 13.841 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
15
Incident Energy (eV)
40-Zr-88

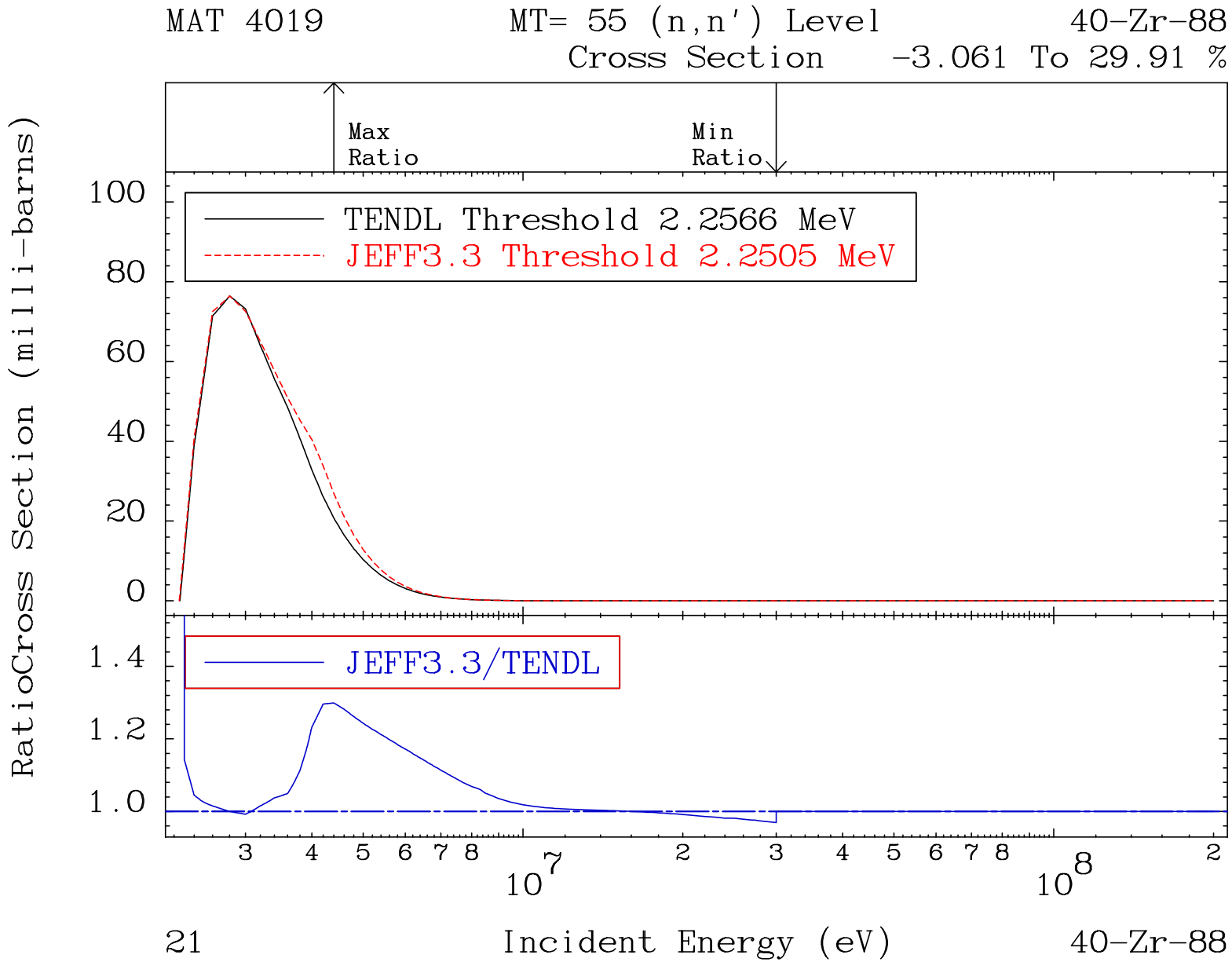

MAT 4019
(n,n') p α
40-Zr-88
Cross Section
-96.69 To 8917. %
Min Ratio
Max Ratio
TENDL Threshold 14.436 MeV
JEFF3.3 Threshold 14.436 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
500
400
300
200
100
0
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
40-Zr-88

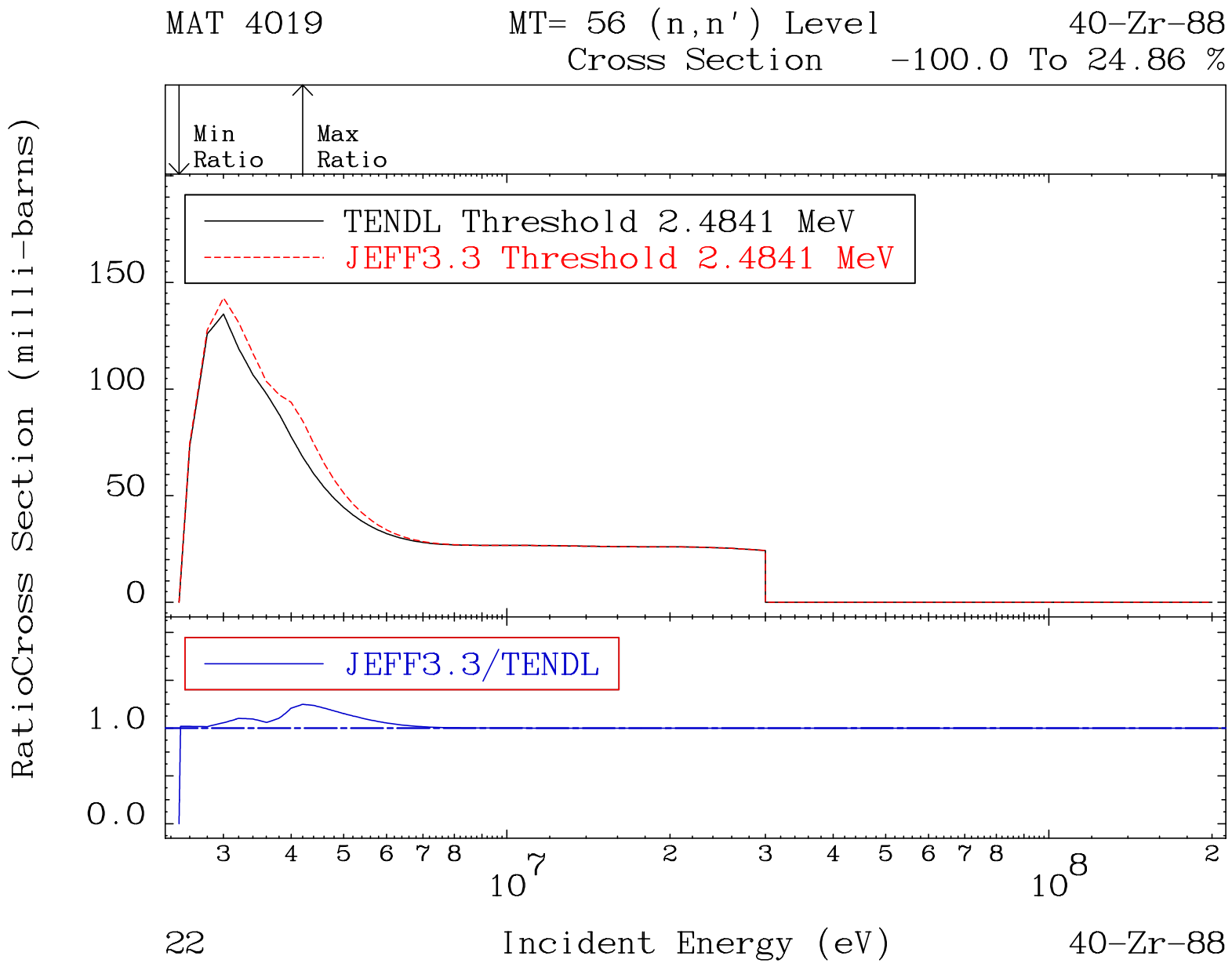

MAT 4019
MT= 51 (n,n') Level
40-Zr-88
Cross Section -100.0 To 12.53 %
Min Ratio
Max Ratio
TENDL Threshold 1.0692 MeV
JEFF3.3 Threshold 1.0692 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10^6
10^7
10^8
Incident Energy (eV)
17
40-Zr-88

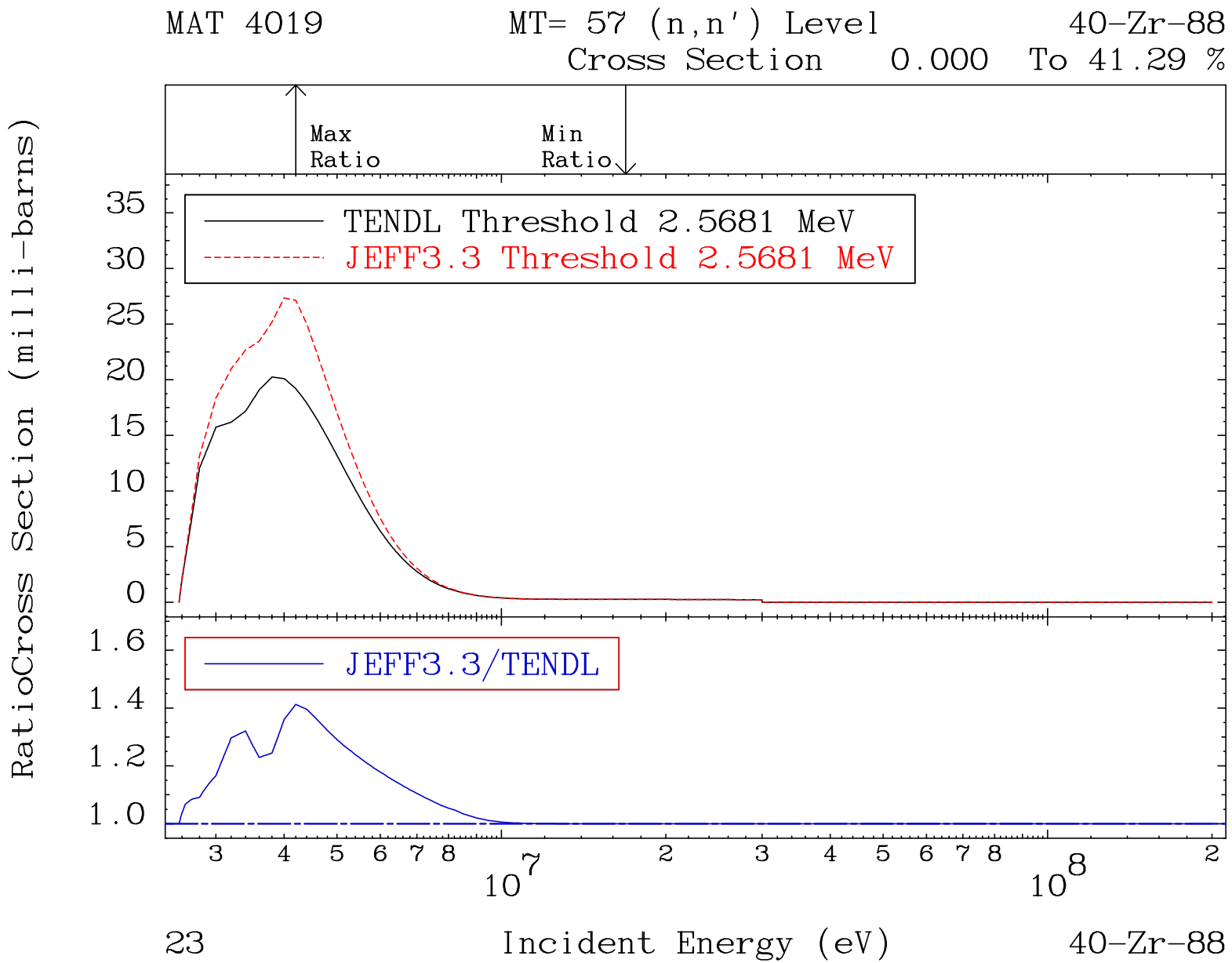

MAT 4019
MT= 52 (n,n') Level
40-Zr-88
Cross Section
-100.0 To 28.85 %
Min Ratio
Max Ratio
TENDL Threshold 1.5389 MeV
JEFF3.3 Threshold 1.5389 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
2.0
1.0
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
18
Incident Energy (eV)
40-Zr-88

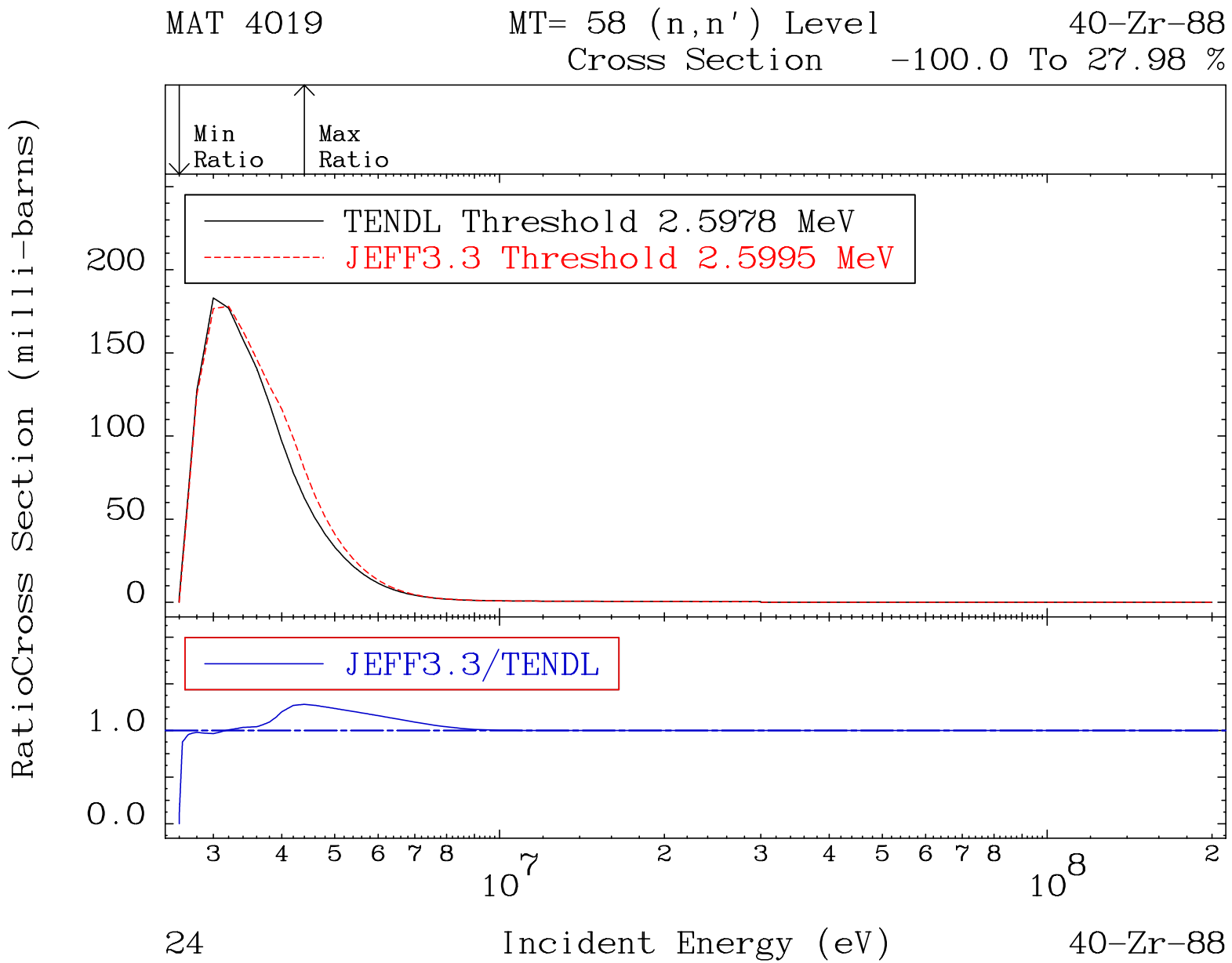

MAT 4019
MT= 53 (n,n') Level
40-Zr-88
Cross Section
-100.0 To 28.07 %
Min Ratio
Max Ratio
TENDL Threshold 1.8387 MeV
JEFF3.3 Threshold 1.8387 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
1.0
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
19
Incident Energy (eV)
40-Zr-88

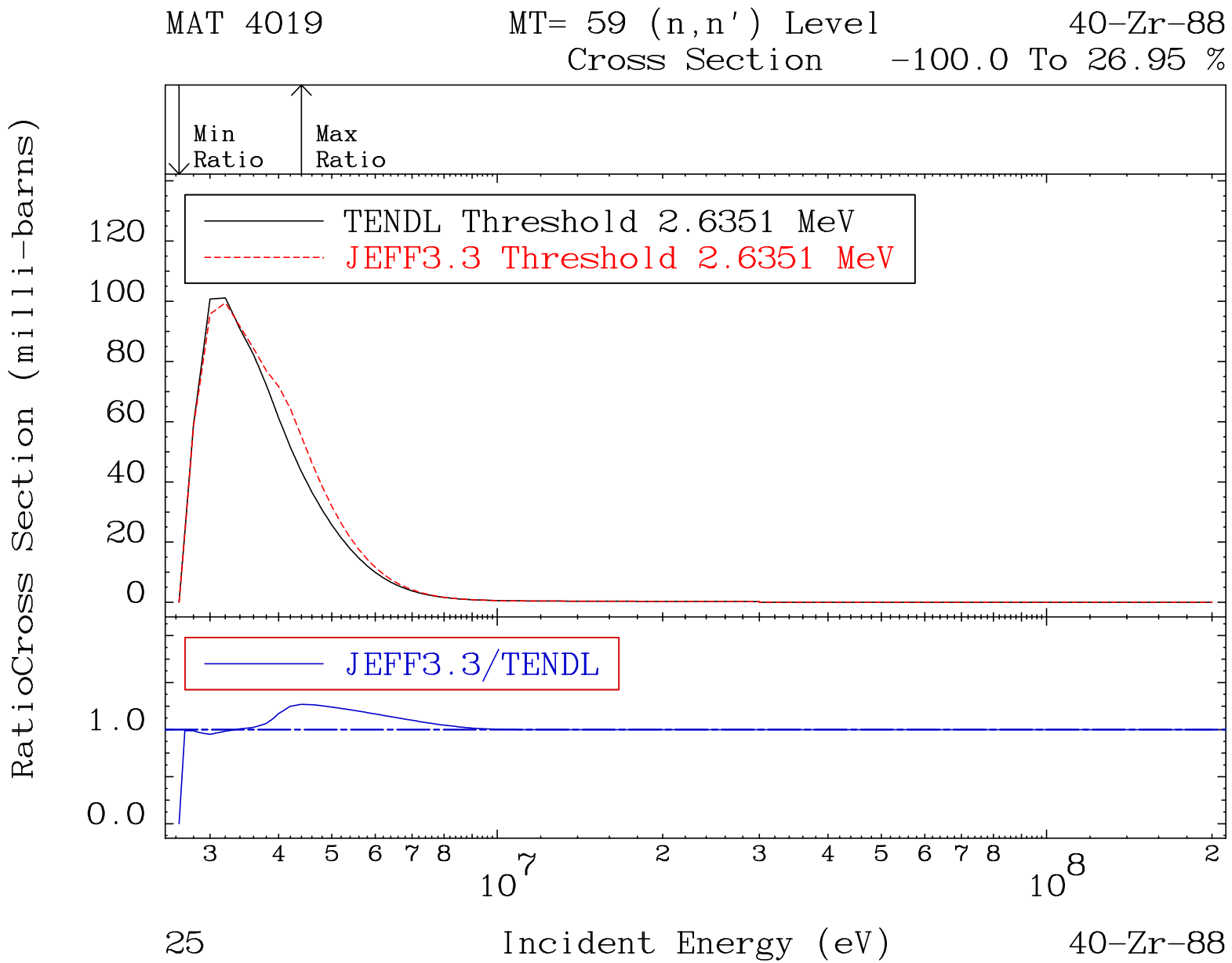

MAT 4019
MT= 54 (n,n') Level
40-Zr-88
Cross Section -3.929 To 20.54 %
Min Ratio
Max Ratio
TENDL Threshold 2.1641 MeV
JEFF3.3 Threshold 2.1641 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.2
1.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
20
Incident Energy (eV)
40-Zr-88

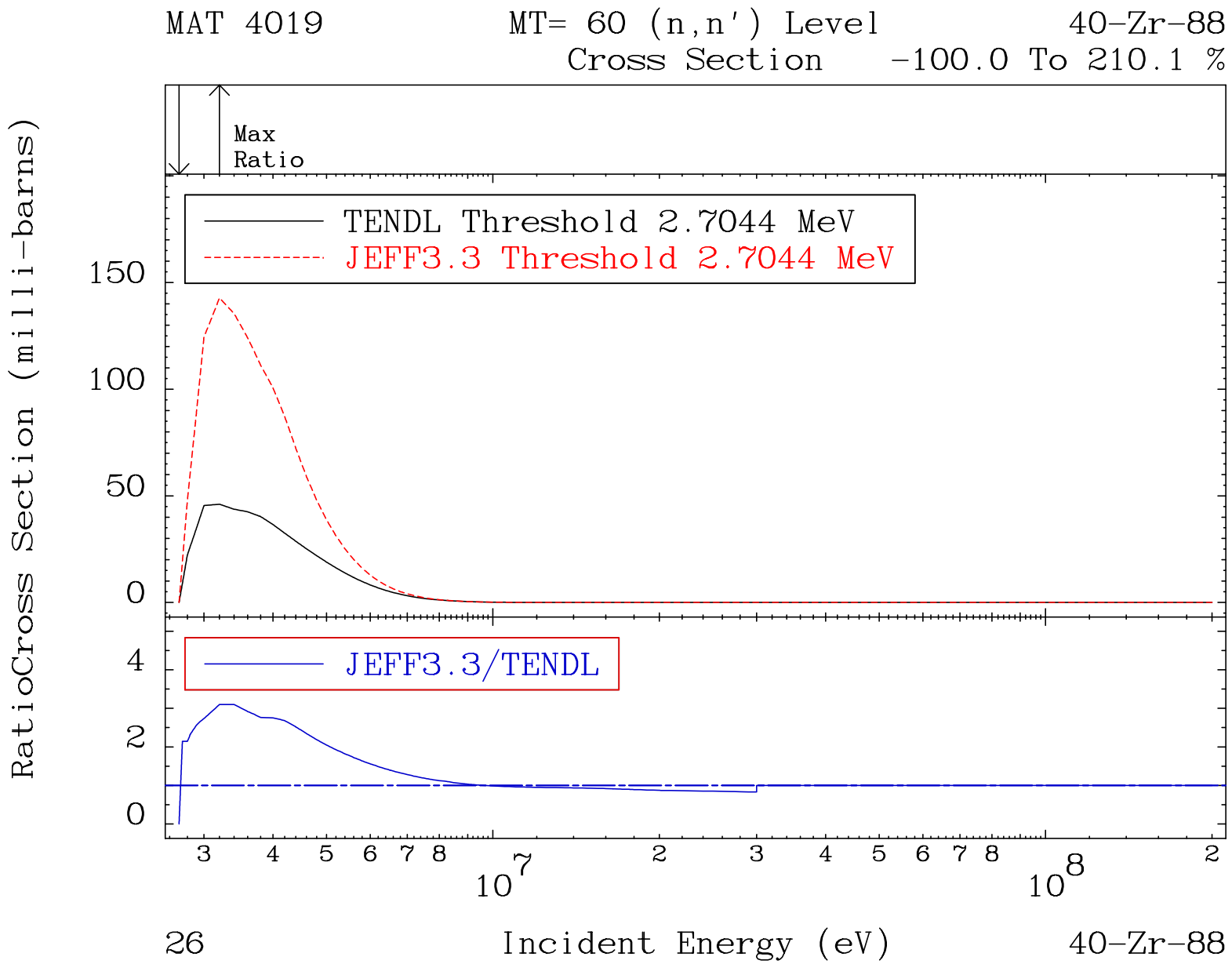

MAT 4019
MT= 55 (n,n') Level
40-Zr-88
Cross Section -3.061 To 29.91 %
Max Ratio
Min Ratio
TENDL Threshold 2.2566 MeV
JEFF3.3 Threshold 2.2505 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
1.4
1.2
1.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
40-Zr-88

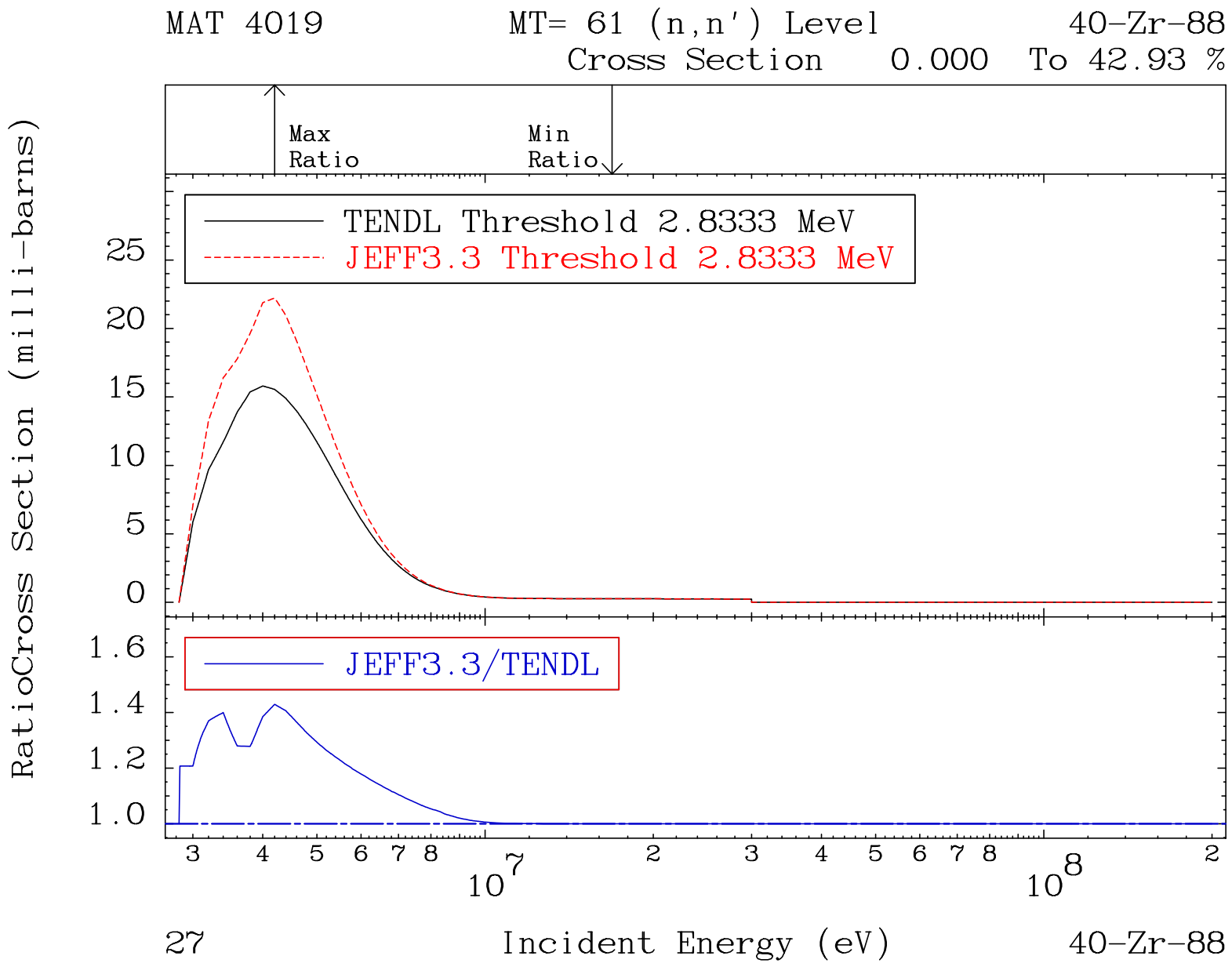

MAT 4019
MT= 56 (n,n') Level
40-Zr-88
Cross Section -100.0 To 24.86 %
Min Ratio
Max Ratio
TENDL Threshold 2.4841 MeV
JEFF3.3 Threshold 2.4841 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
150
100
50
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
22
Incident Energy (eV)
40-Zr-88

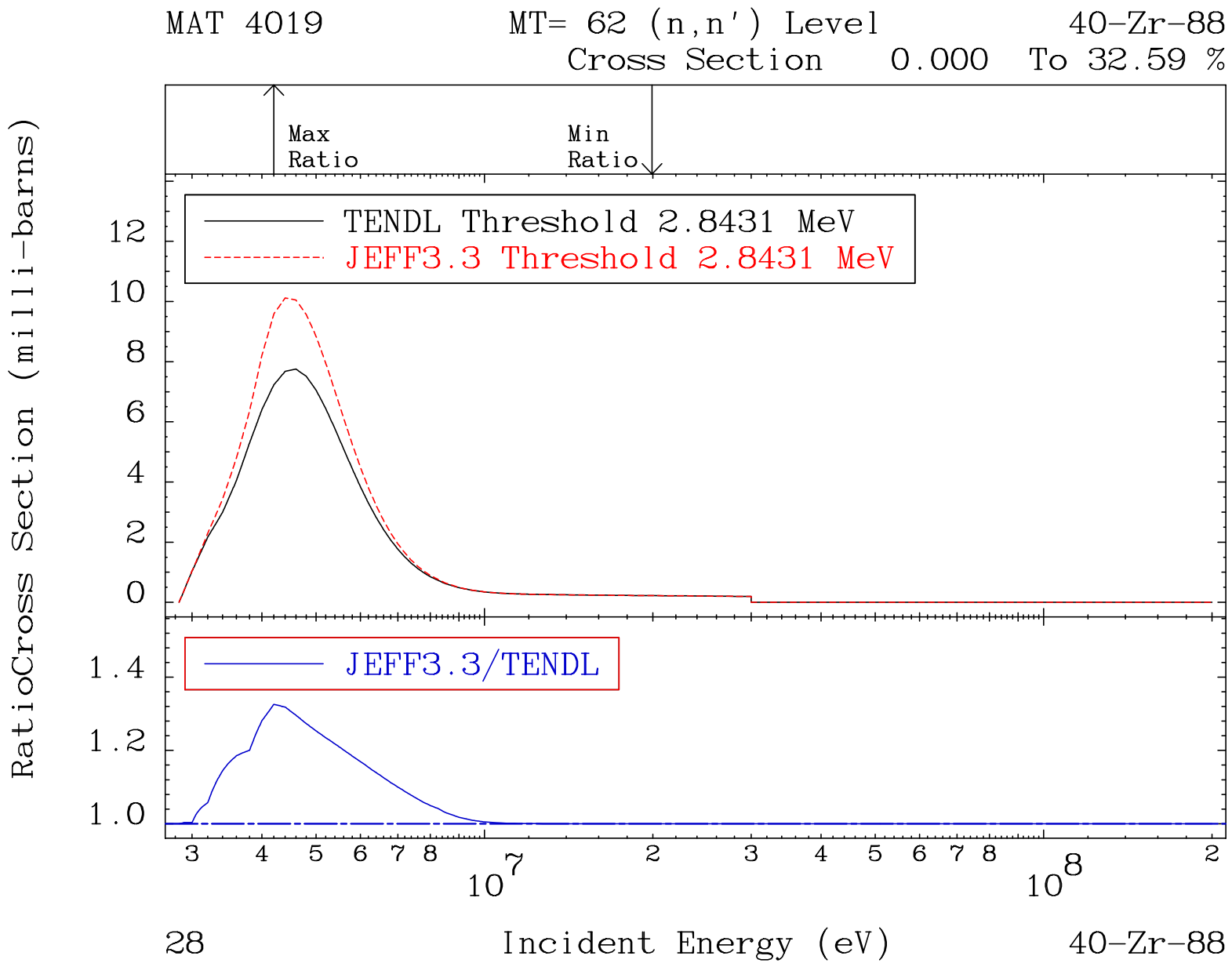

MAT 4019
MT= 57 (n,n') Level
40-Zr-88
Cross Section 0.000 To 41.29 %
Max Ratio
Min Ratio
TENDL Threshold 2.5681 MeV
JEFF3.3 Threshold 2.5681 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
35
30
25
20
15
10
5
0
1.6
1.4
1.2
1.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
23
Incident Energy (eV)
40-Zr-88

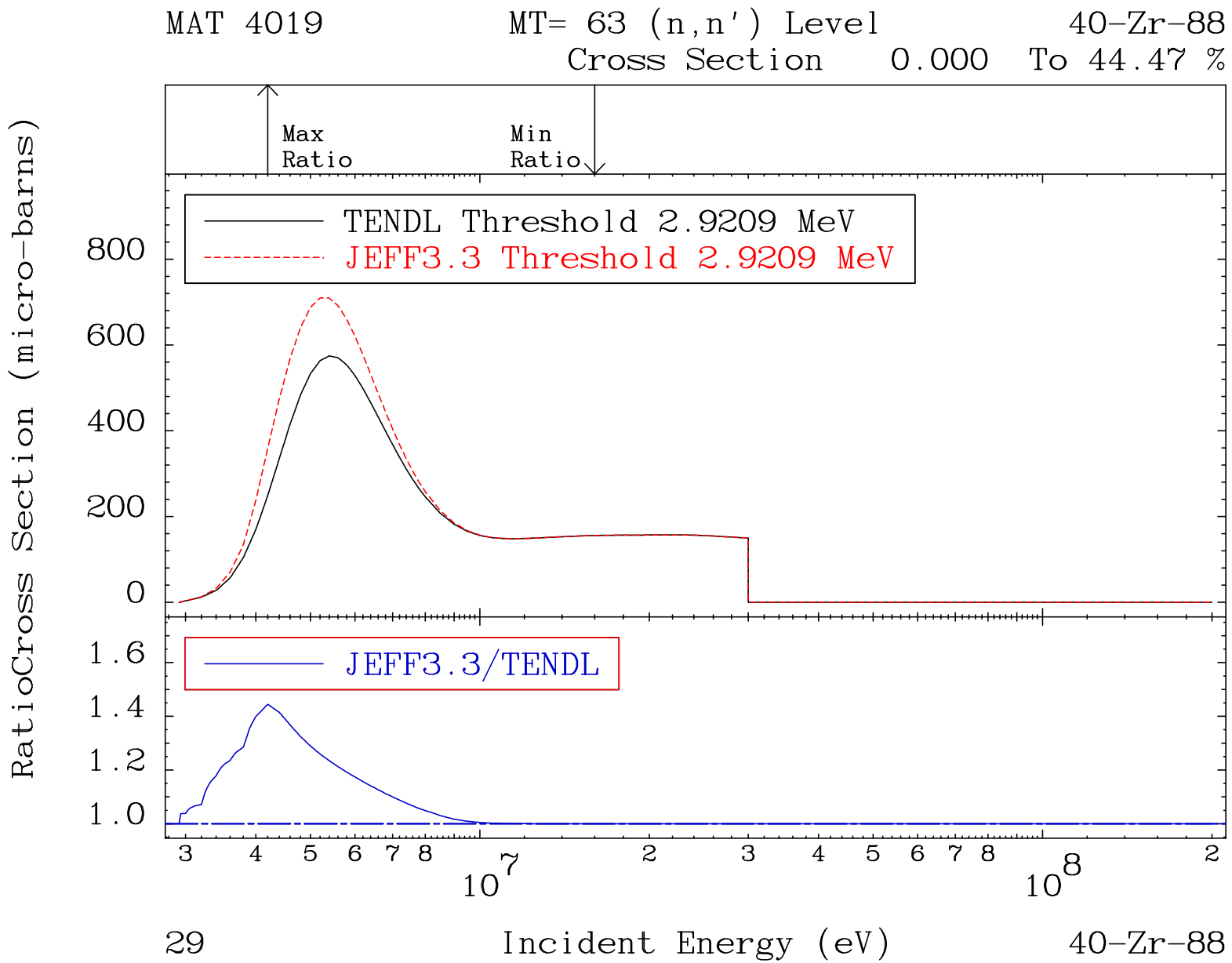

MAT 4019
MT= 58 (n,n') Level
40-Zr-88
Cross Section
-100.0 To 27.98 %
Min Ratio
Max Ratio
TENDL Threshold 2.5978 MeV
JEFF3.3 Threshold 2.5995 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.0
0.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
24
Incident Energy (eV)
40-Zr-88

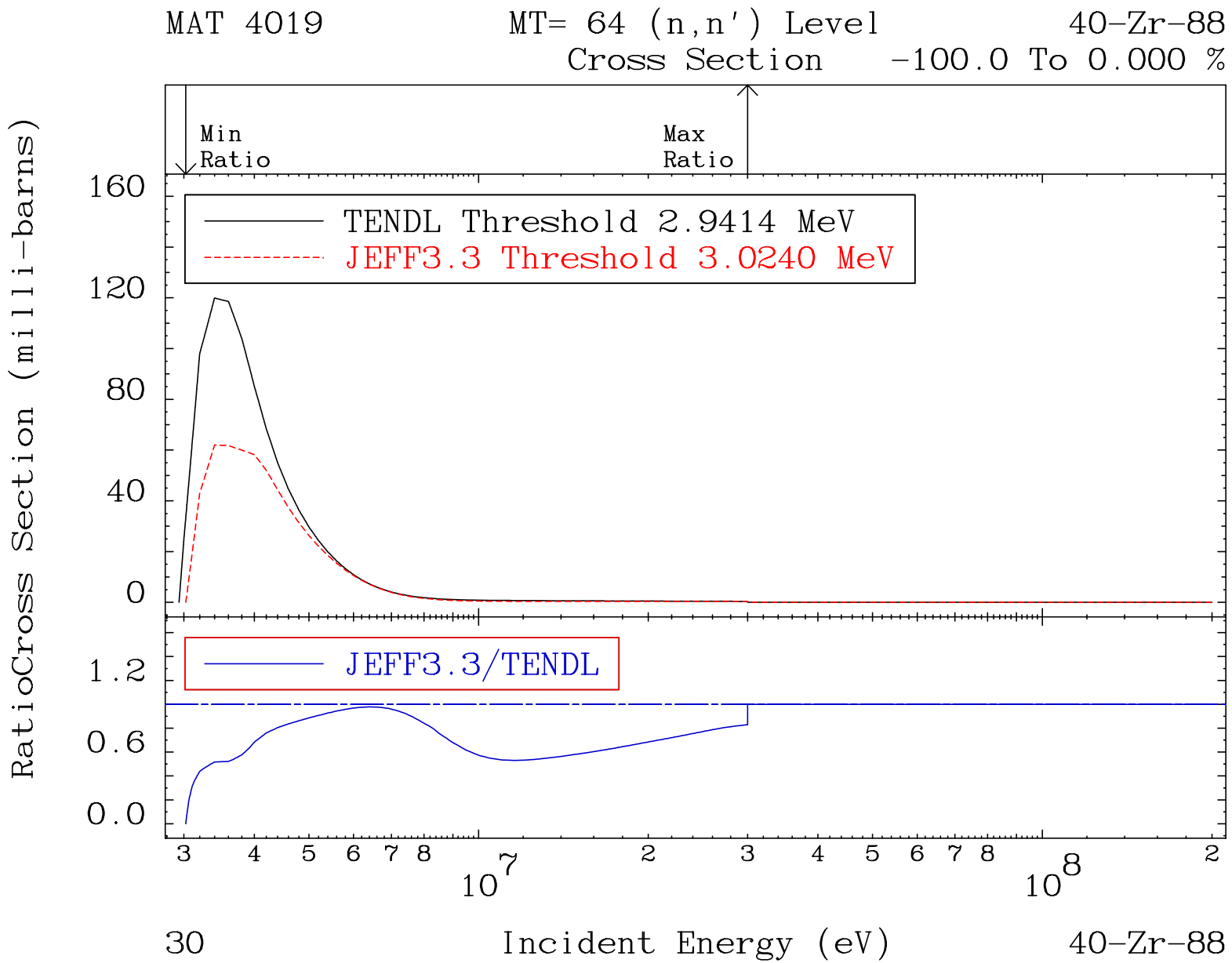

MAT 4019
MT= 59 (n,n') Level
40-Zr-88
Cross Section -100.0 To 26.95 %
Min Ratio
Max Ratio
TENDL Threshold 2.6351 MeV
JEFF3.3 Threshold 2.6351 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
25
Incident Energy (eV)
40-Zr-88

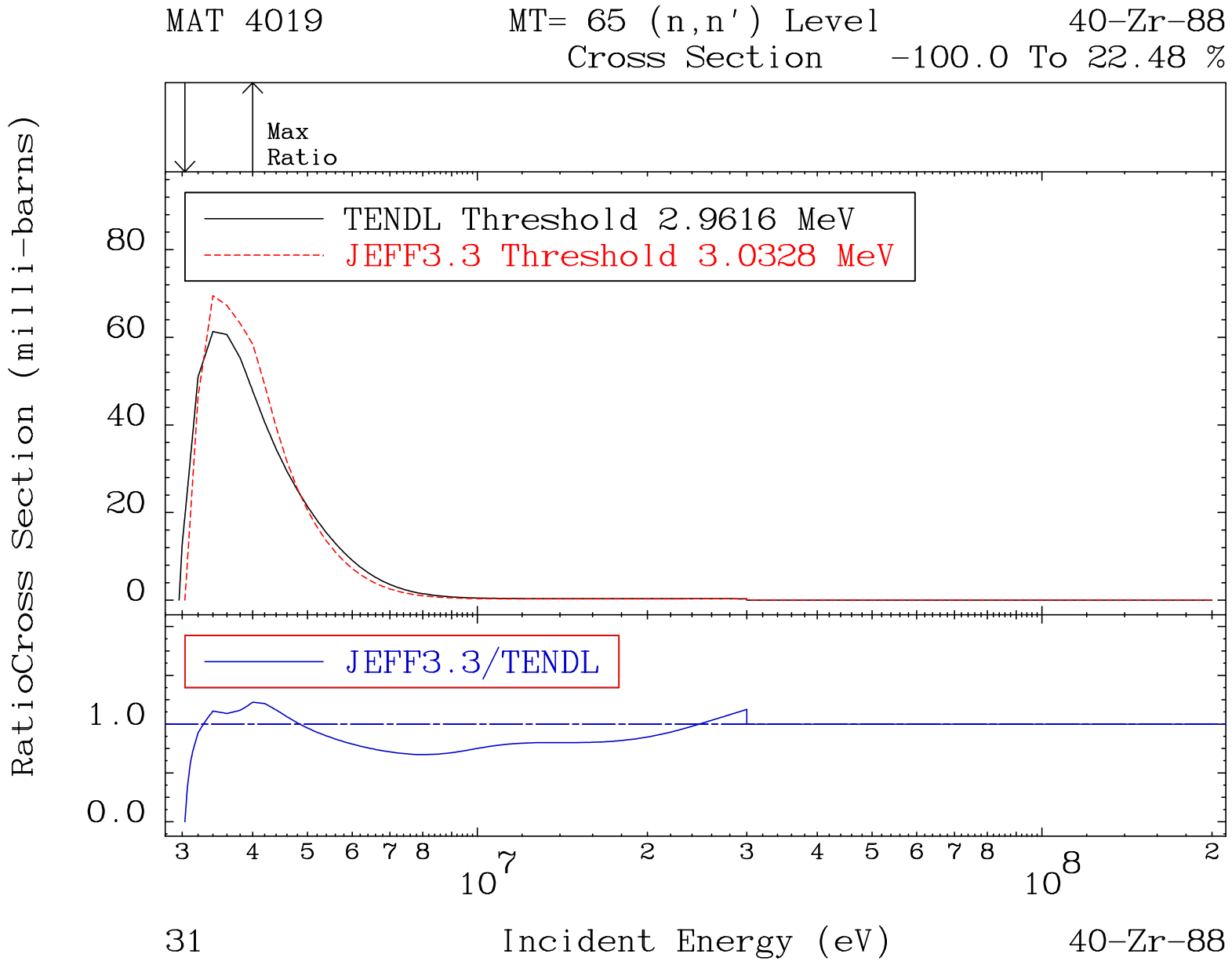

MAT 4019
MT= 60 (n,n') Level
40-Zr-88
Cross Section -100.0 To 210.1 %
Max
Ratio
TENDL Threshold 2.7044 MeV
JEFF3.3 Threshold 2.7044 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
150
100
50
0
4
2
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
26
40-Zr-88

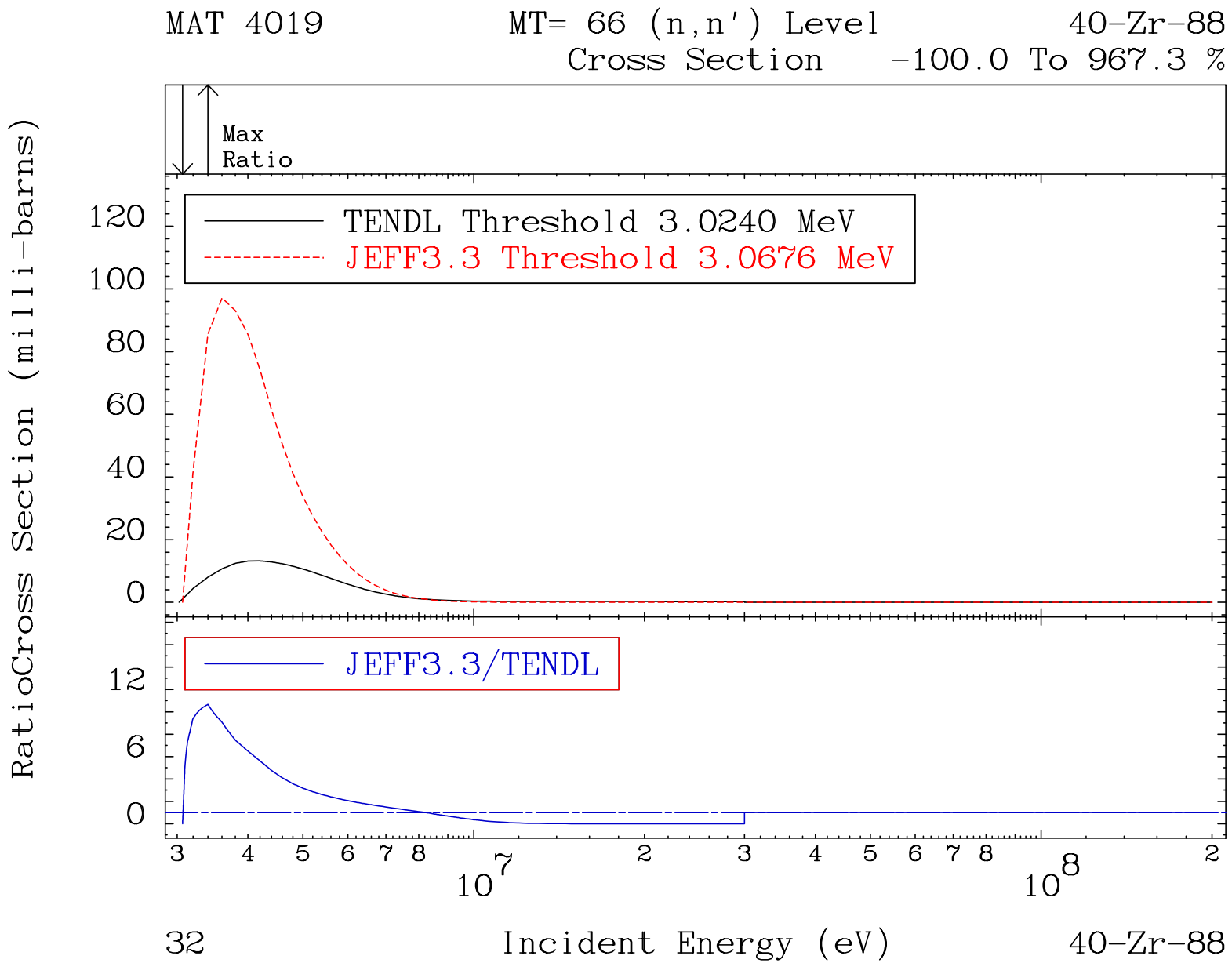

MAT 4019
MT= 61 (n,n') Level
40-Zr-88
Cross Section 0.000 To 42.93 %
Max Ratio
Min Ratio
TENDL Threshold 2.8333 MeV
JEFF3.3 Threshold 2.8333 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
1.6
1.4
1.2
1.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
27
Incident Energy (eV)
40-Zr-88

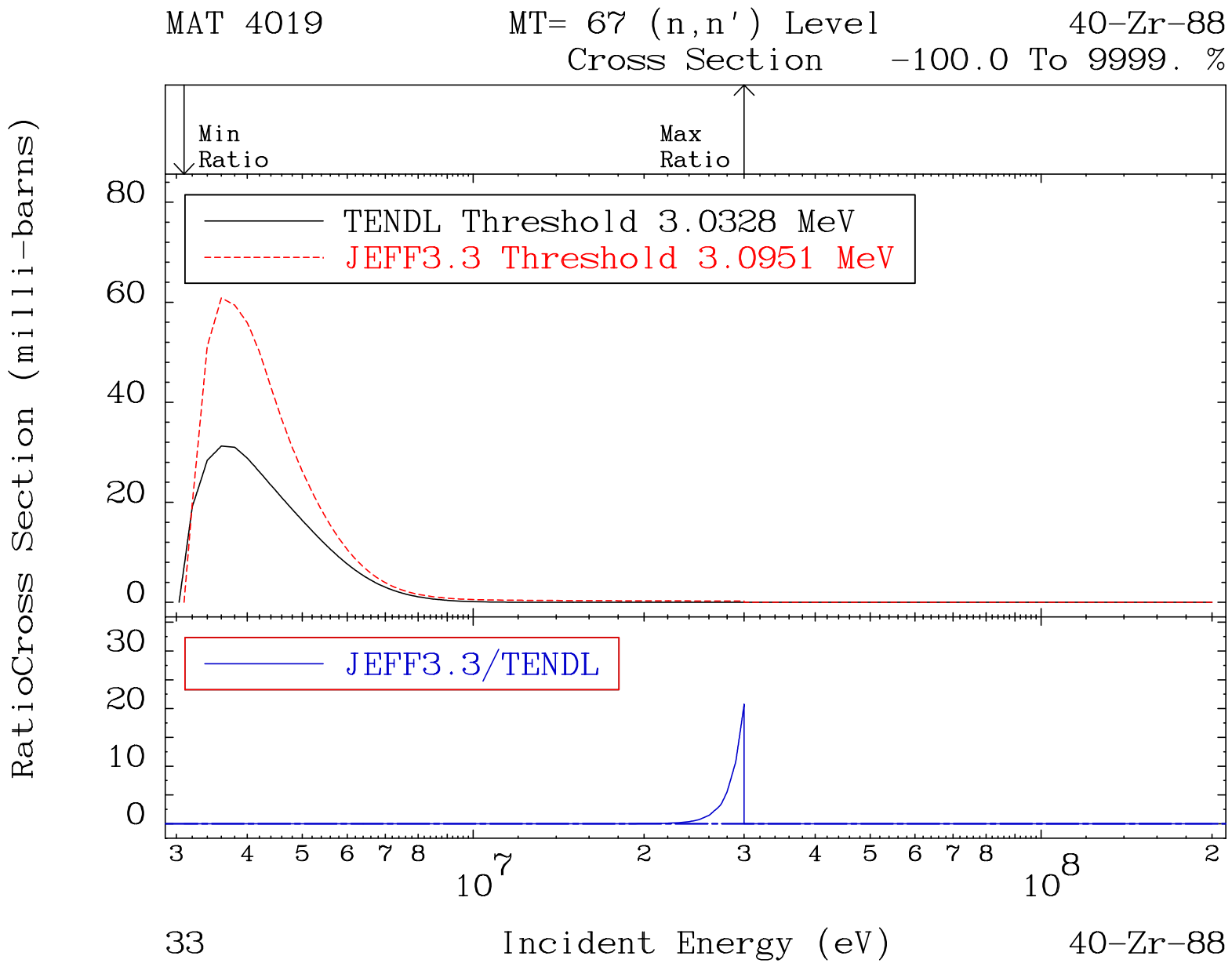

MAT 4019
MT= 62 (n,n') Level
40-Zr-88
Cross Section 0.000 To 32.59 %
Max Ratio
Min Ratio
TENDL Threshold 2.8431 MeV
JEFF3.3 Threshold 2.8431 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
12
10
8
6
4
2
0
1.4
1.2
1.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
28
40-Zr-88

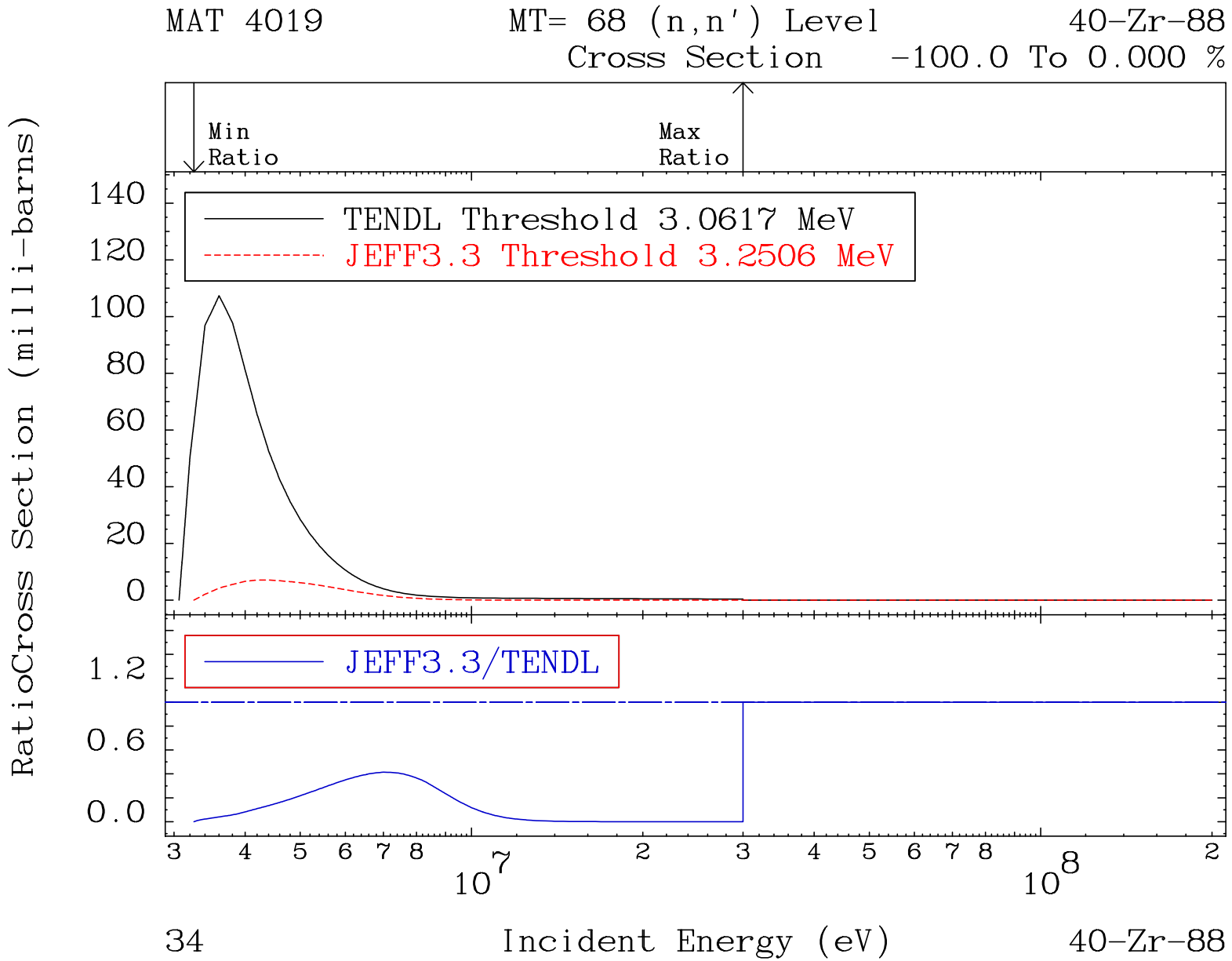

MAT 4019
MT= 63 (n,n') Level
40-Zr-88
Cross Section 0.000 To 44.47 %
Max Ratio
Min Ratio
TENDL Threshold 2.9209 MeV
JEFF3.3 Threshold 2.9209 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
800
600
400
200
0
1.6
1.4
1.2
1.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
29
Incident Energy (eV)
40-Zr-88

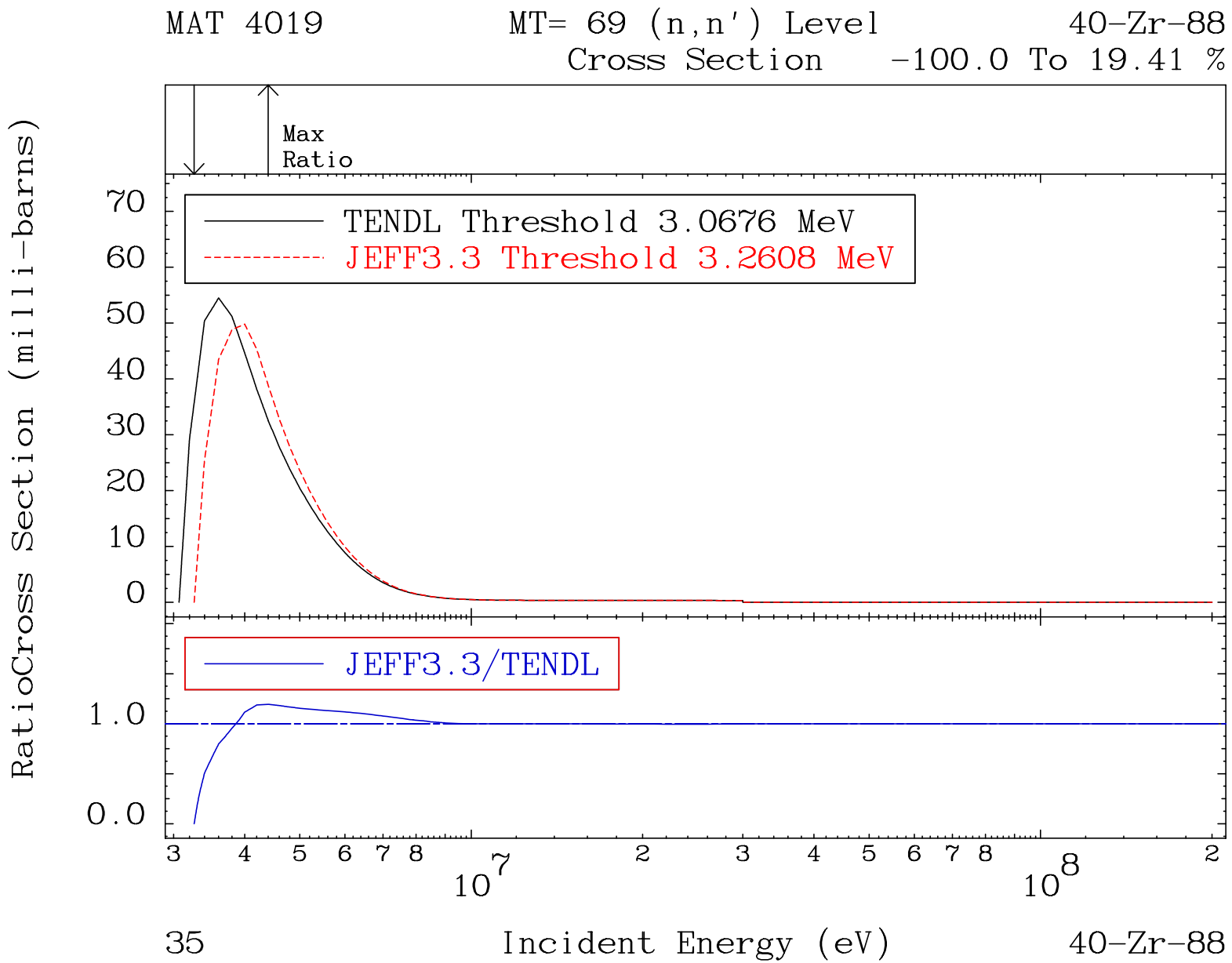

MAT 4019
MT= 64 (n,n') Level
40-Zr-88
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 2.9414 MeV
JEFF3.3 Threshold 3.0240 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
30
Incident Energy (eV)
40-Zr-88

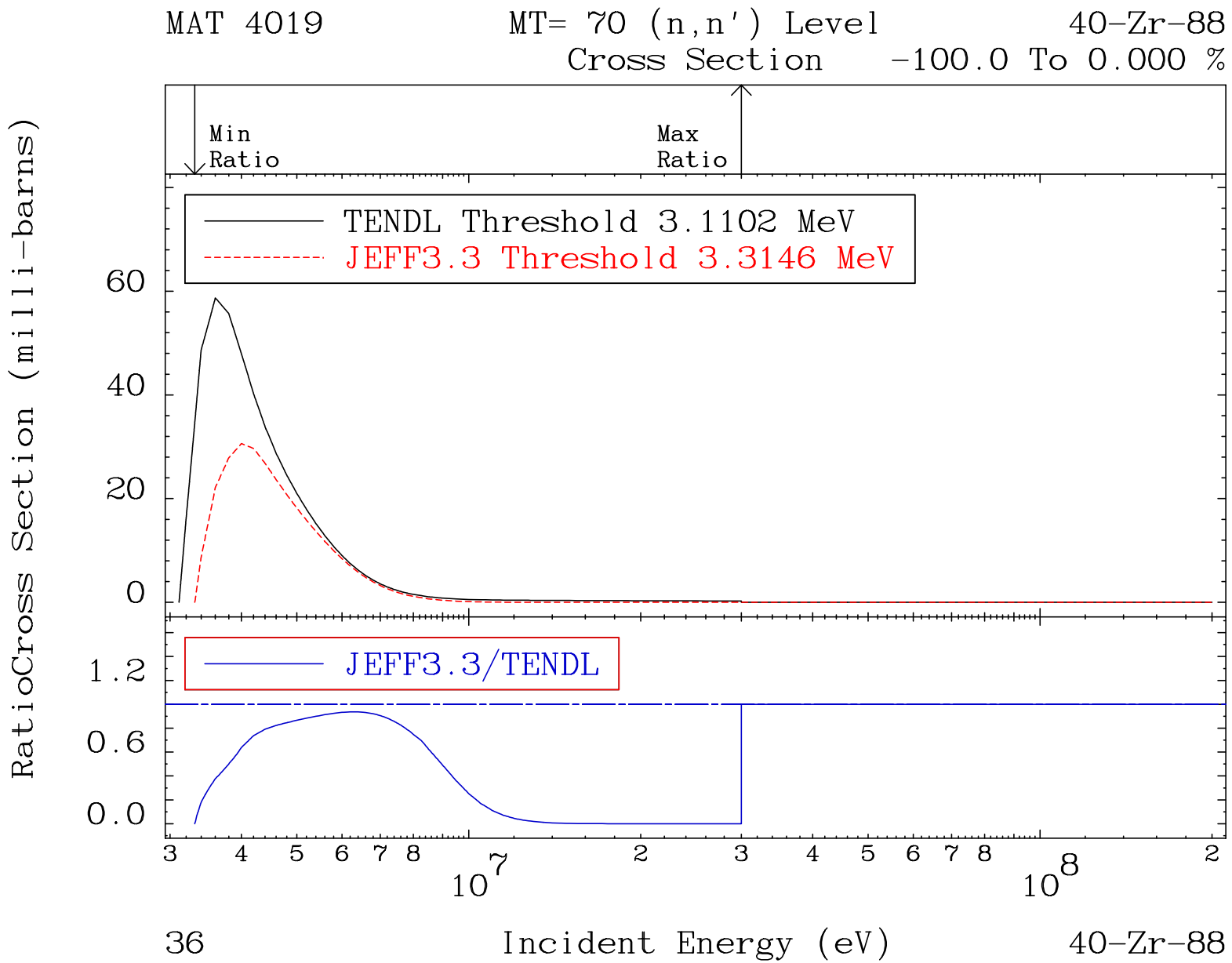

MAT 4019
MT= 65 (n,n') Level
40-Zr-88
Cross Section -100.0 To 22.48 %
Max
Ratio
TENDL Threshold 2.9616 MeV
JEFF3.3 Threshold 3.0328 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
31
Incident Energy (eV)
40-Zr-88

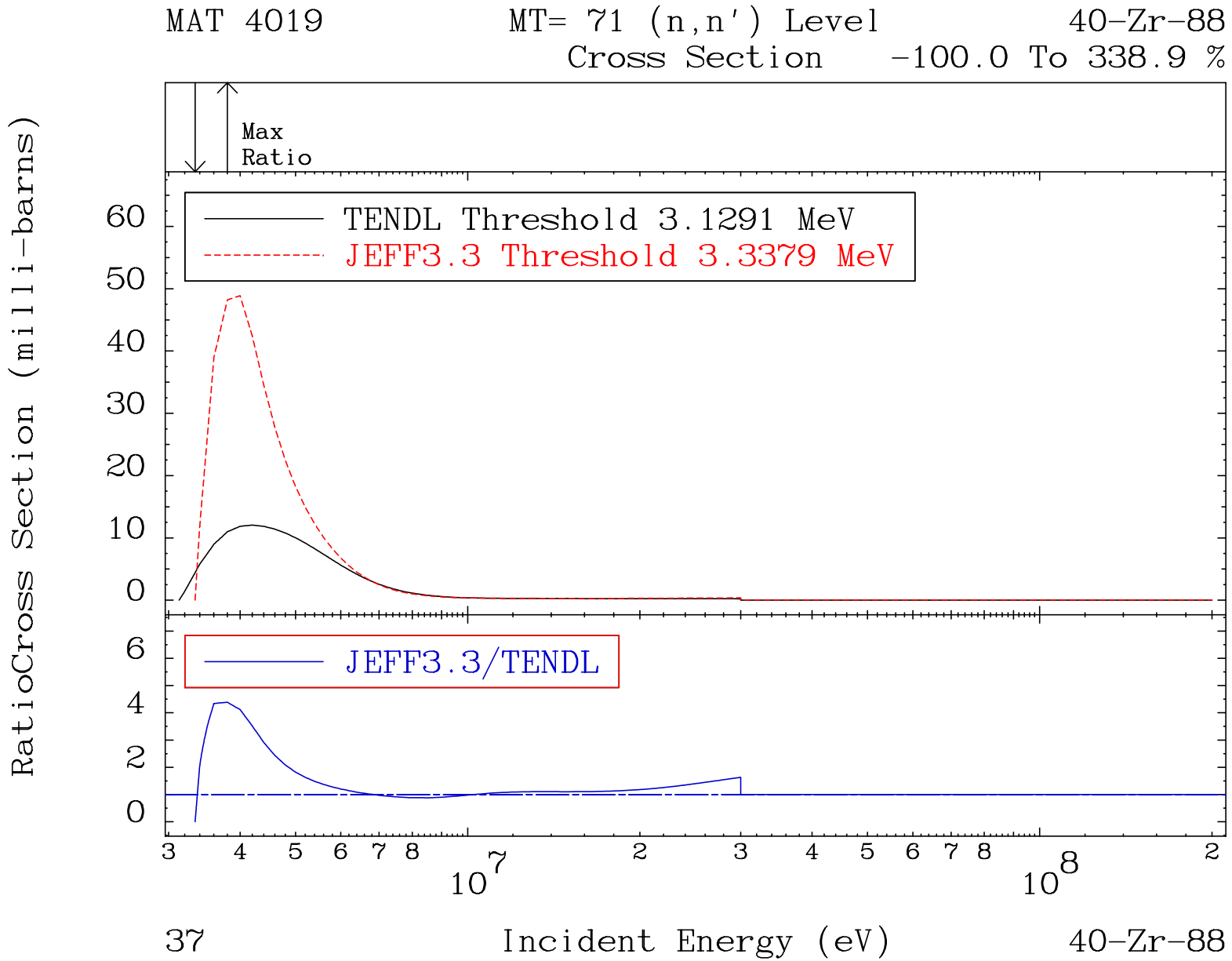

MAT 4019
MT= 66 (n,n') Level
40-Zr-88
Cross Section
-100.0 To 967.3 %
Max
Ratio
TENDL Threshold 3.0240 MeV
JEFF3.3 Threshold 3.0676 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
12
6
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
32
Incident Energy (eV)
40-Zr-88

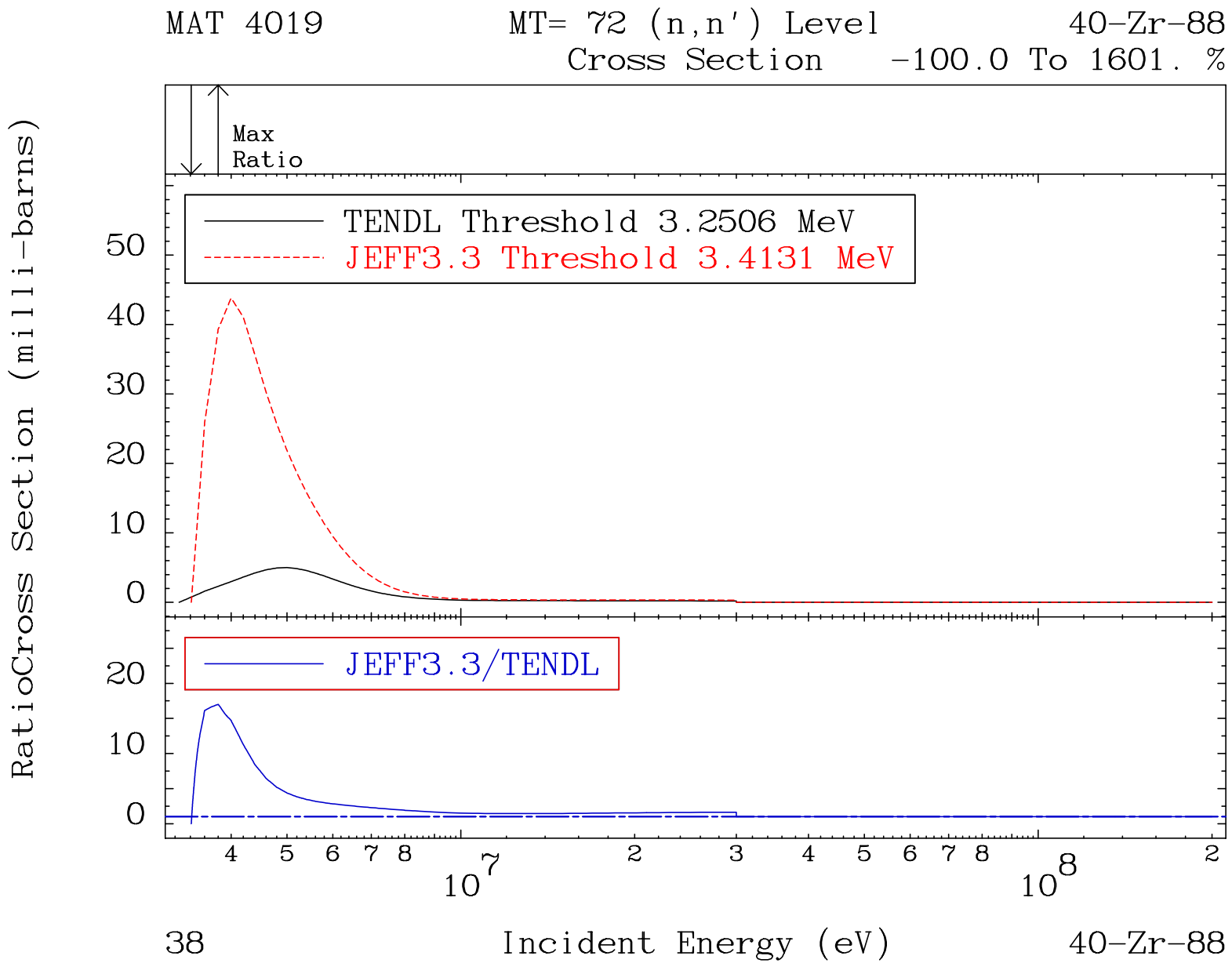

MAT 4019
MT= 67 (n,n') Level
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 3.0328 MeV
JEFF3.3 Threshold 3.0951 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
33
40-Zr-88

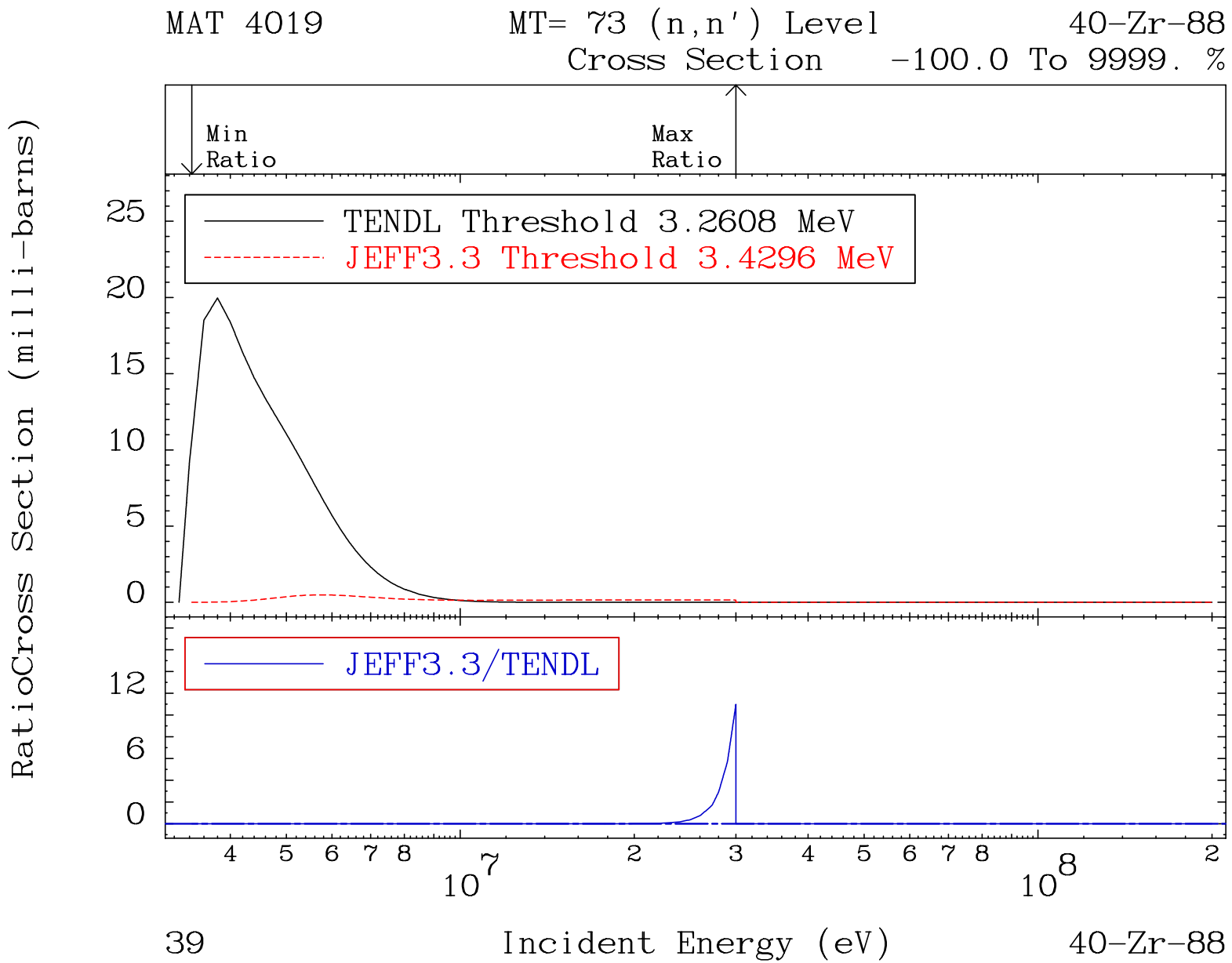

MAT 4019
MT= 68 (n,n') Level
40-Zr-88
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 3.0617 MeV
JEFF3.3 Threshold 3.2506 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
34
Incident Energy (eV)
40-Zr-88

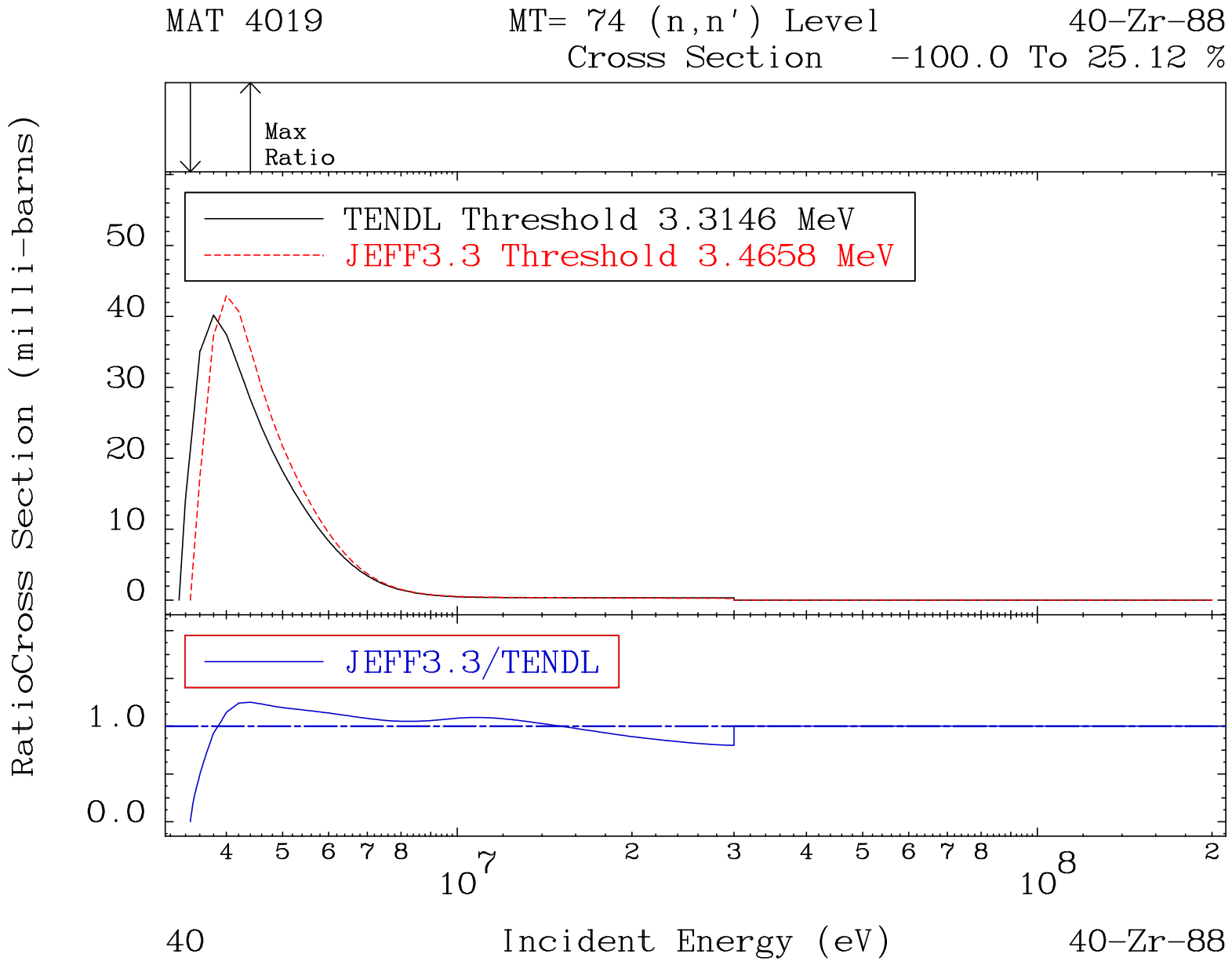

MAT 4019
MT= 69 (n,n') Level
40-Zr-88
Cross Section -100.0 To 19.41 %
Max
Ratio
TENDL Threshold 3.0676 MeV
JEFF3.3 Threshold 3.2608 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
35
Incident Energy (eV)
40-Zr-88

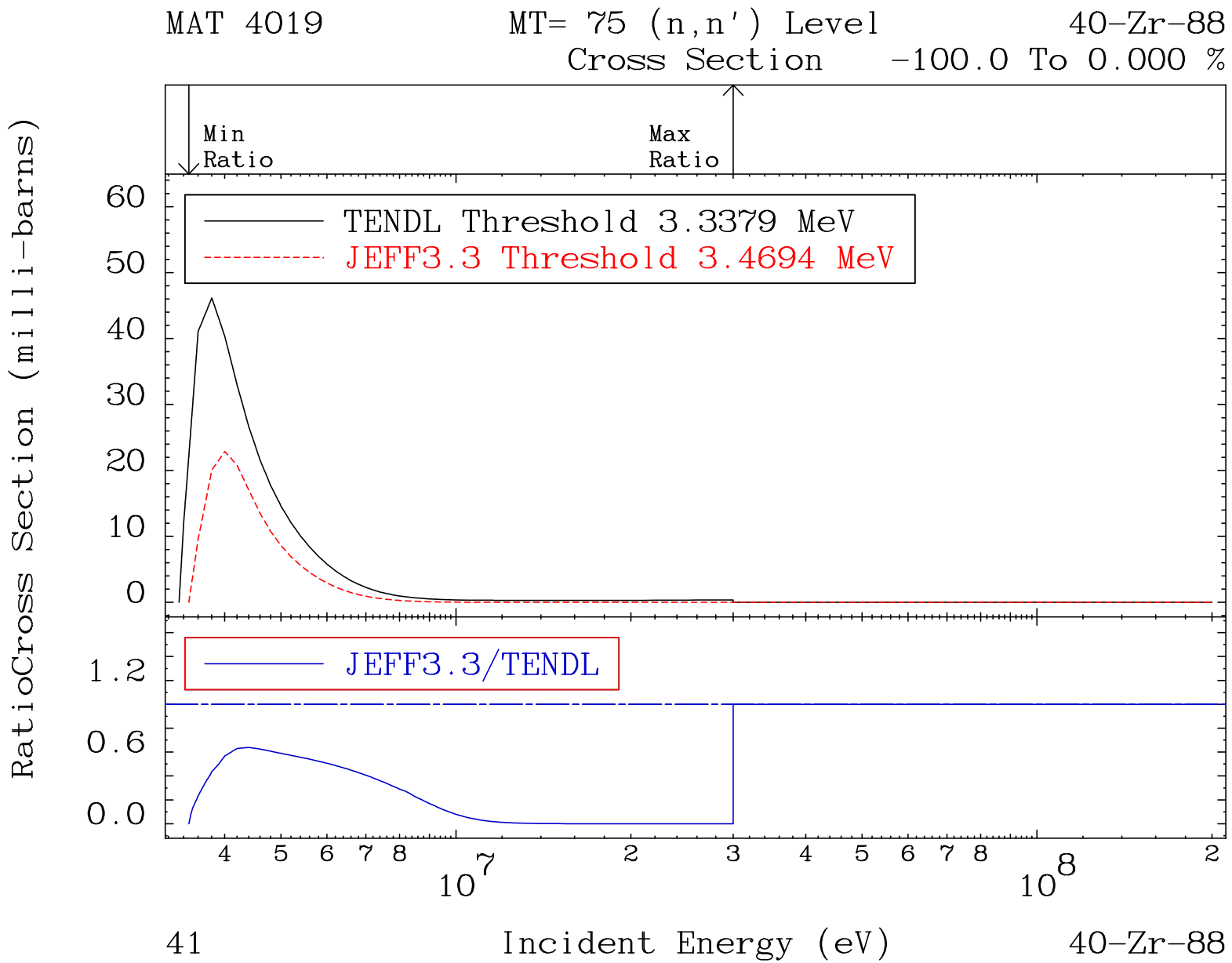

MAT 4019
MT= 70 (n,n') Level
40-Zr-88
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 3.1102 MeV
JEFF3.3 Threshold 3.3146 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
40
20
0
1.2
0.6
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
36
Incident Energy (eV)
40-Zr-88

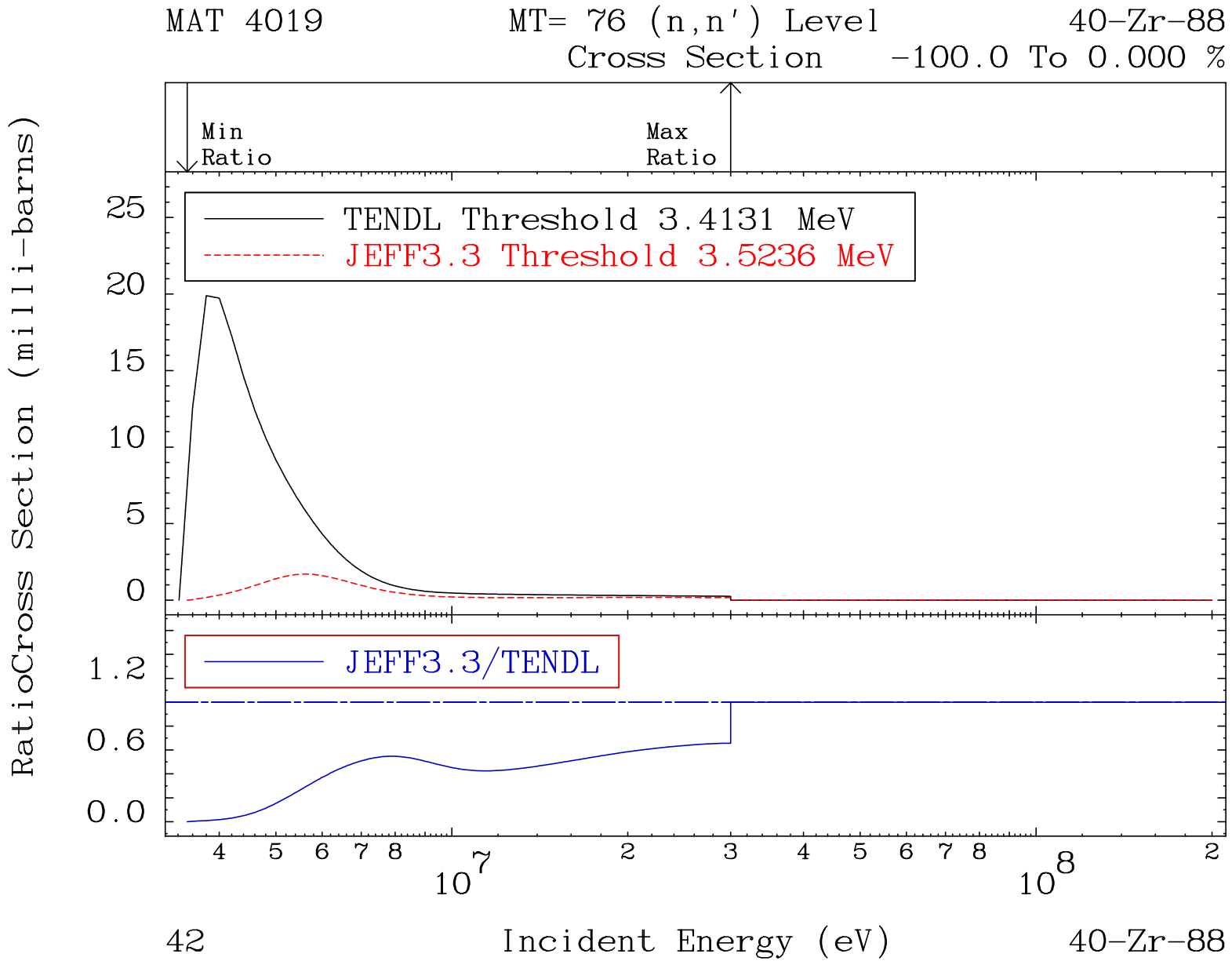

MAT 4019
MT= 71 (n,n') Level
40-Zr-88
Cross Section -100.0 To 338.9 %
Max
Ratio
TENDL Threshold 3.1291 MeV
JEFF3.3 Threshold 3.3379 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
6
4
2
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
37
Incident Energy (eV)
40-Zr-88

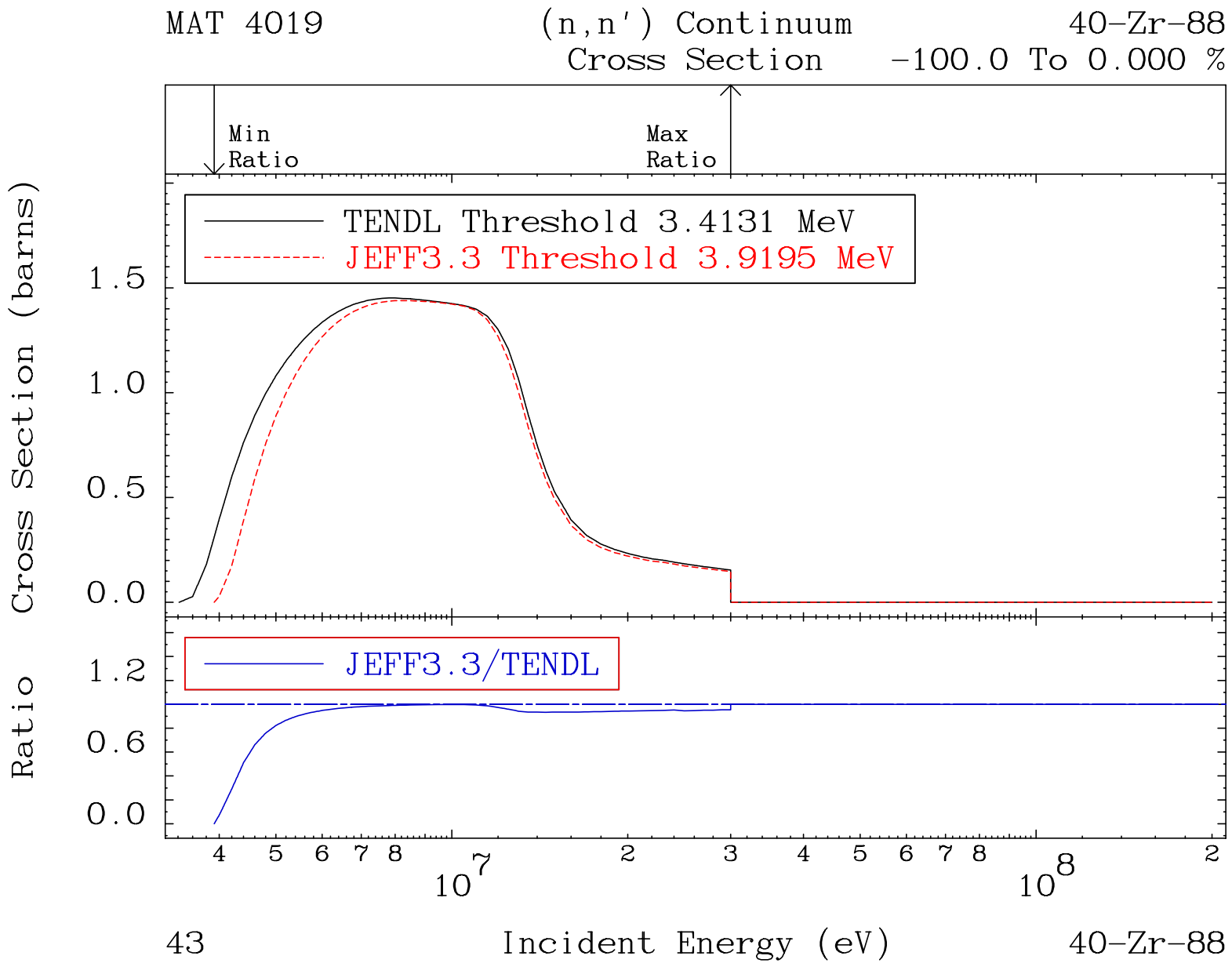

MAT 4019
MT= 72 (n,n') Level
40-Zr-88
Cross Section -100.0 To 1601. %
Max
Ratio
TENDL Threshold 3.2506 MeV
JEFF3.3 Threshold 3.4131 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
20
10
0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
38
Incident Energy (eV)
40-Zr-88

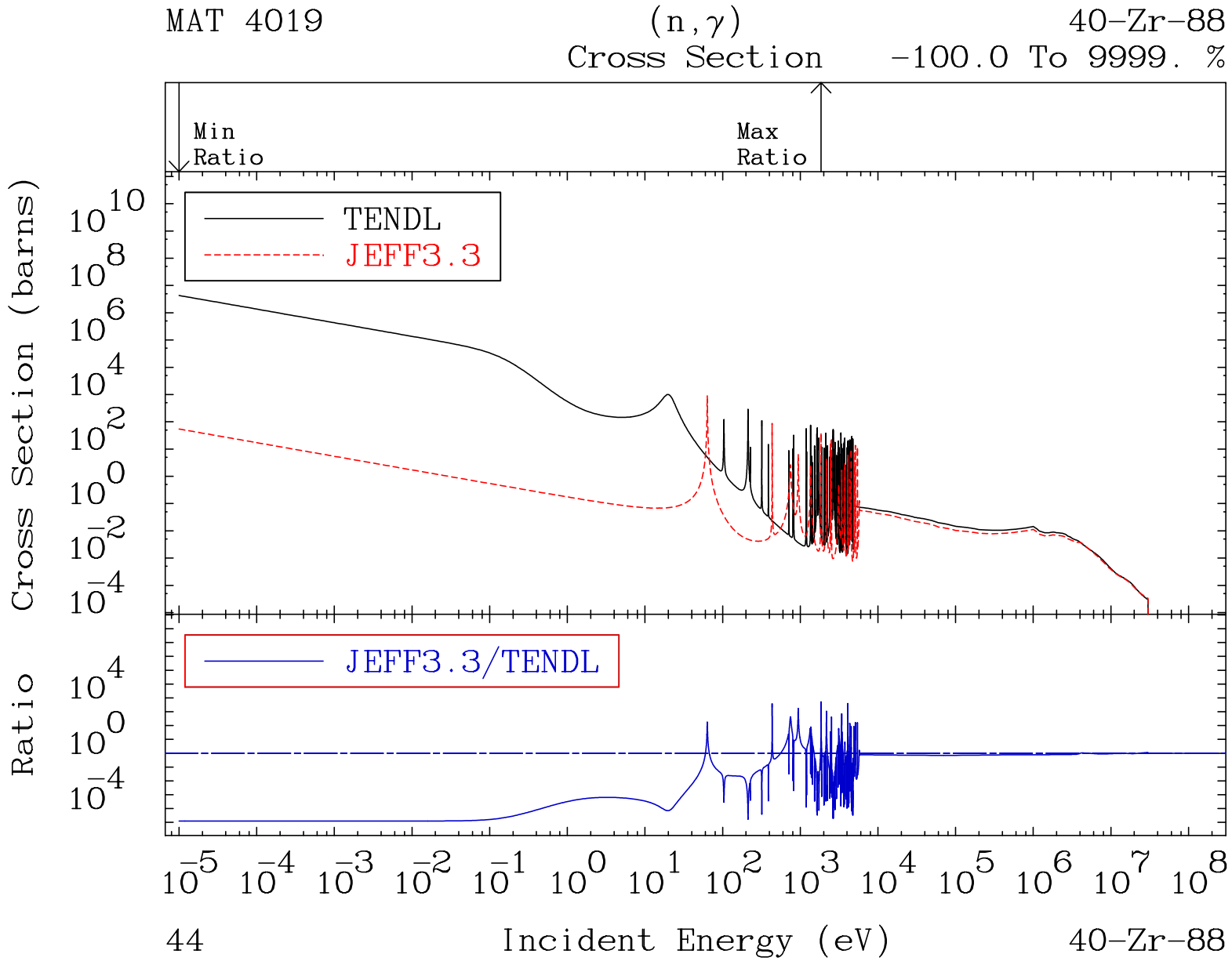

MAT 4019
MT= 73 (n,n') Level
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 3.2608 MeV
JEFF3.3 Threshold 3.4296 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
12
6
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
39
Incident Energy (eV)
40-Zr-88

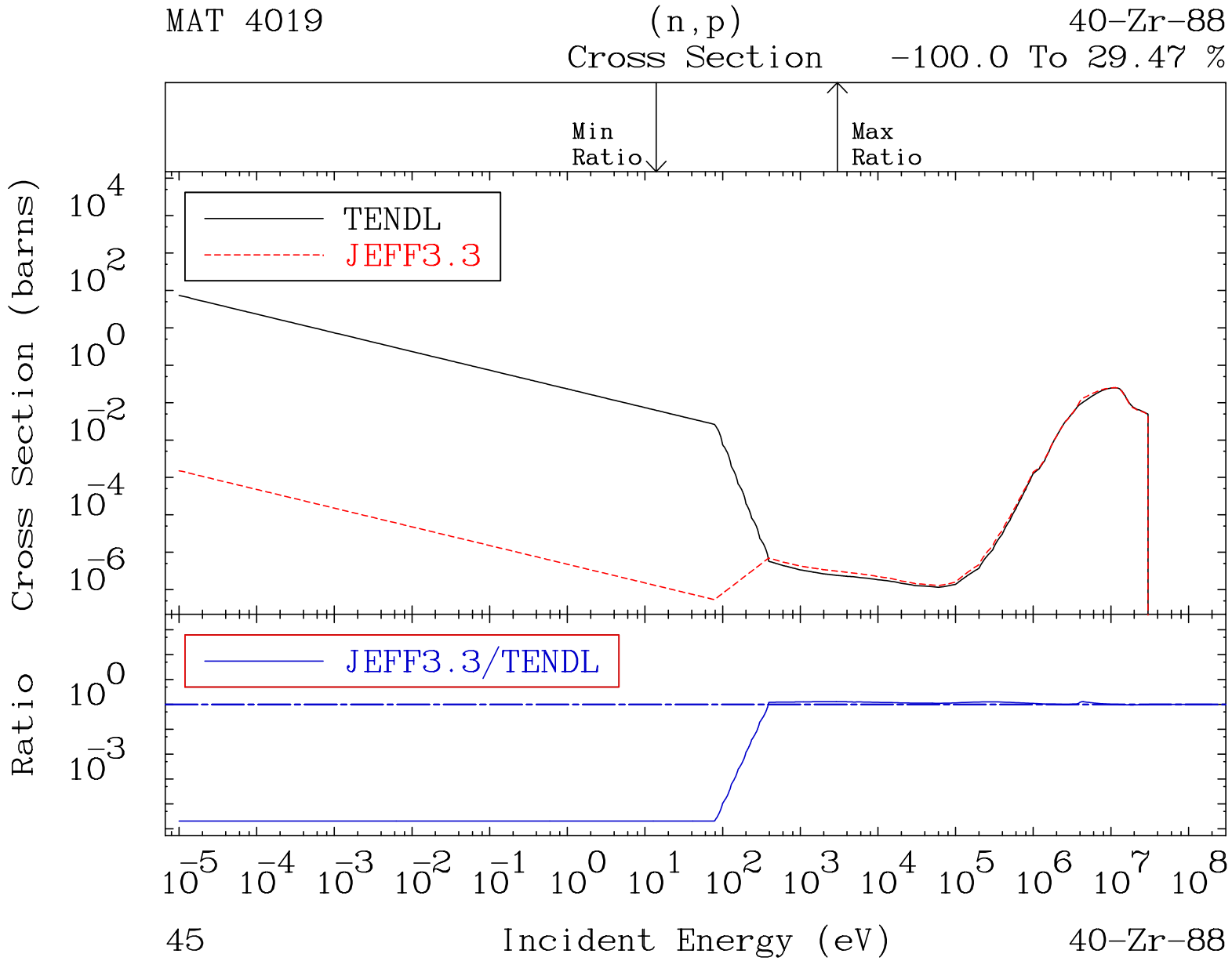

MAT 4019
MT= 74 (n,n') Level
40-Zr-88
Cross Section -100.0 To 25.12 %
Max
Ratio
TENDL Threshold 3.3146 MeV
JEFF3.3 Threshold 3.4658 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
1.0
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
40
Incident Energy (eV)
40-Zr-88

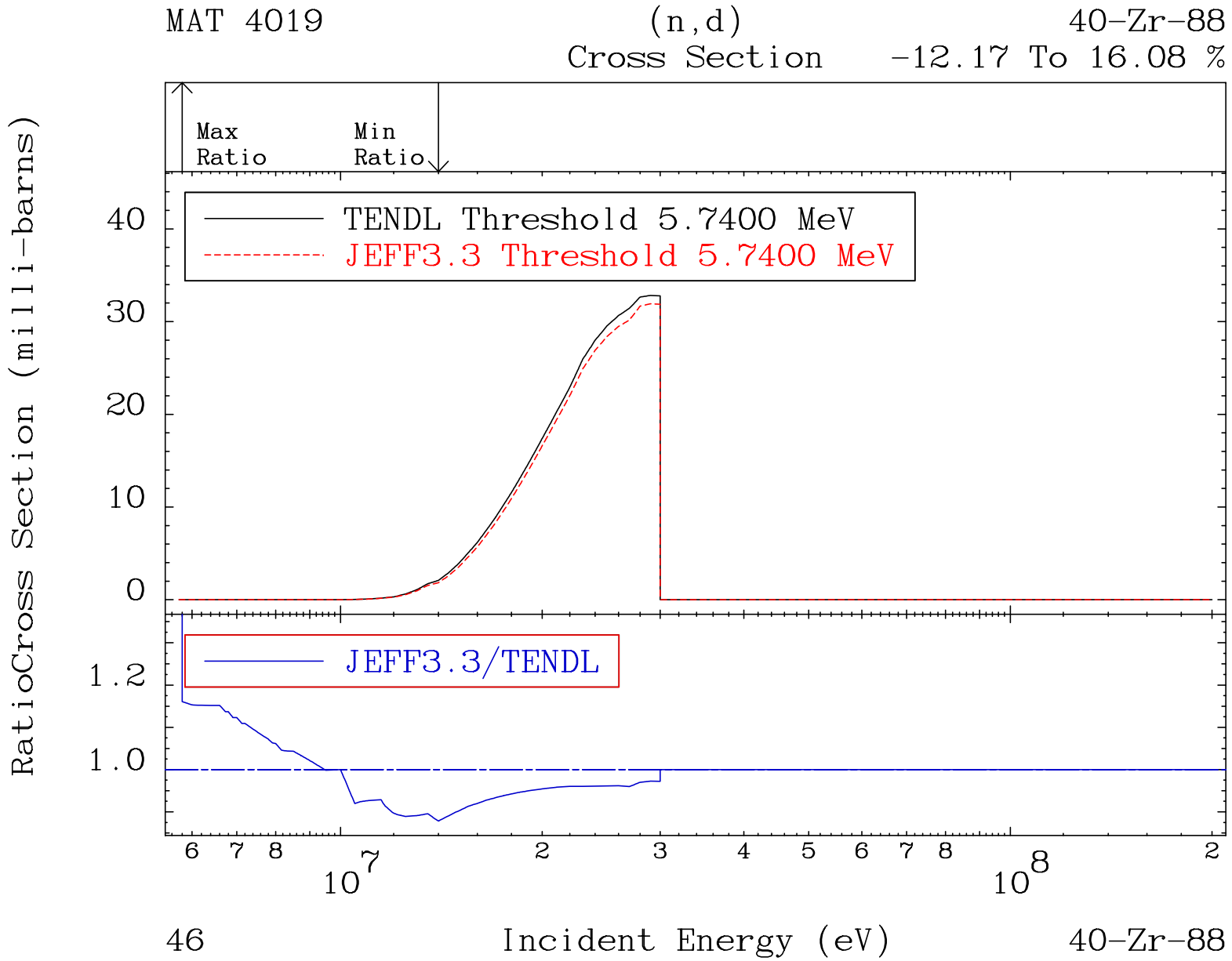

MAT 4019
MT= 75 (n,n') Level
40-Zr-88
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 3.3379 MeV
JEFF3.3 Threshold 3.4694 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
1.2
0.6
0.0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
41
Incident Energy (eV)
40-Zr-88

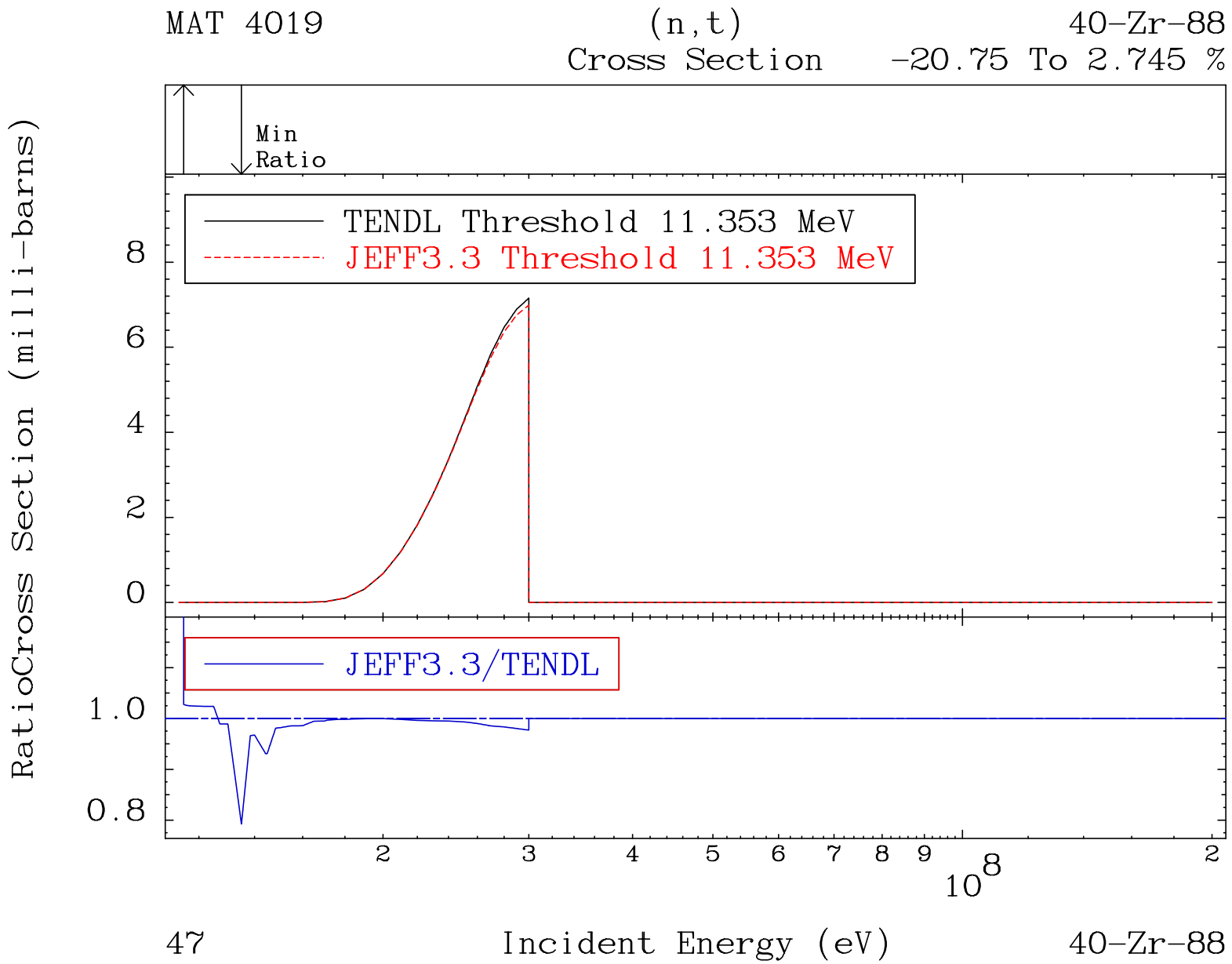

MAT 4019
MT= 76 (n,n') Level
40-Zr-88
Cross Section -100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 3.4131 MeV
JEFF3.3 Threshold 3.5236 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
1.2
0.6
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
42
Incident Energy (eV)
40-Zr-88

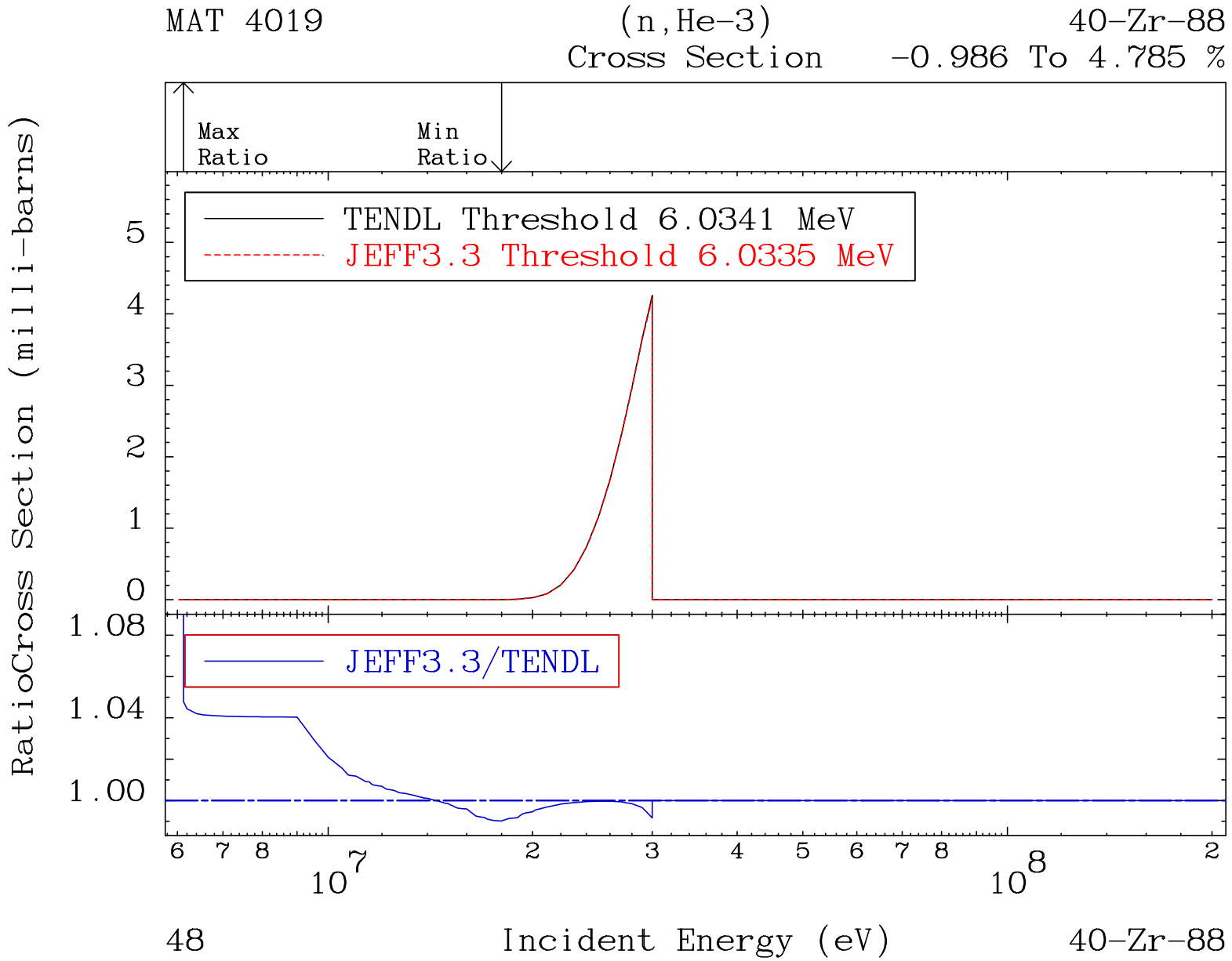

MAT 4019
(n,n') Continuum
Cross Section
40-Zr-88
-100.0 To 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 3.4131 MeV
JEFF3.3 Threshold 3.9195 MeV
Cross Section (barns)
1.5
1.0
0.5
0.0
JEFF3.3/TENDL
Ratio
1.2
0.6
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
43
Incident Energy (eV)
40-Zr-88

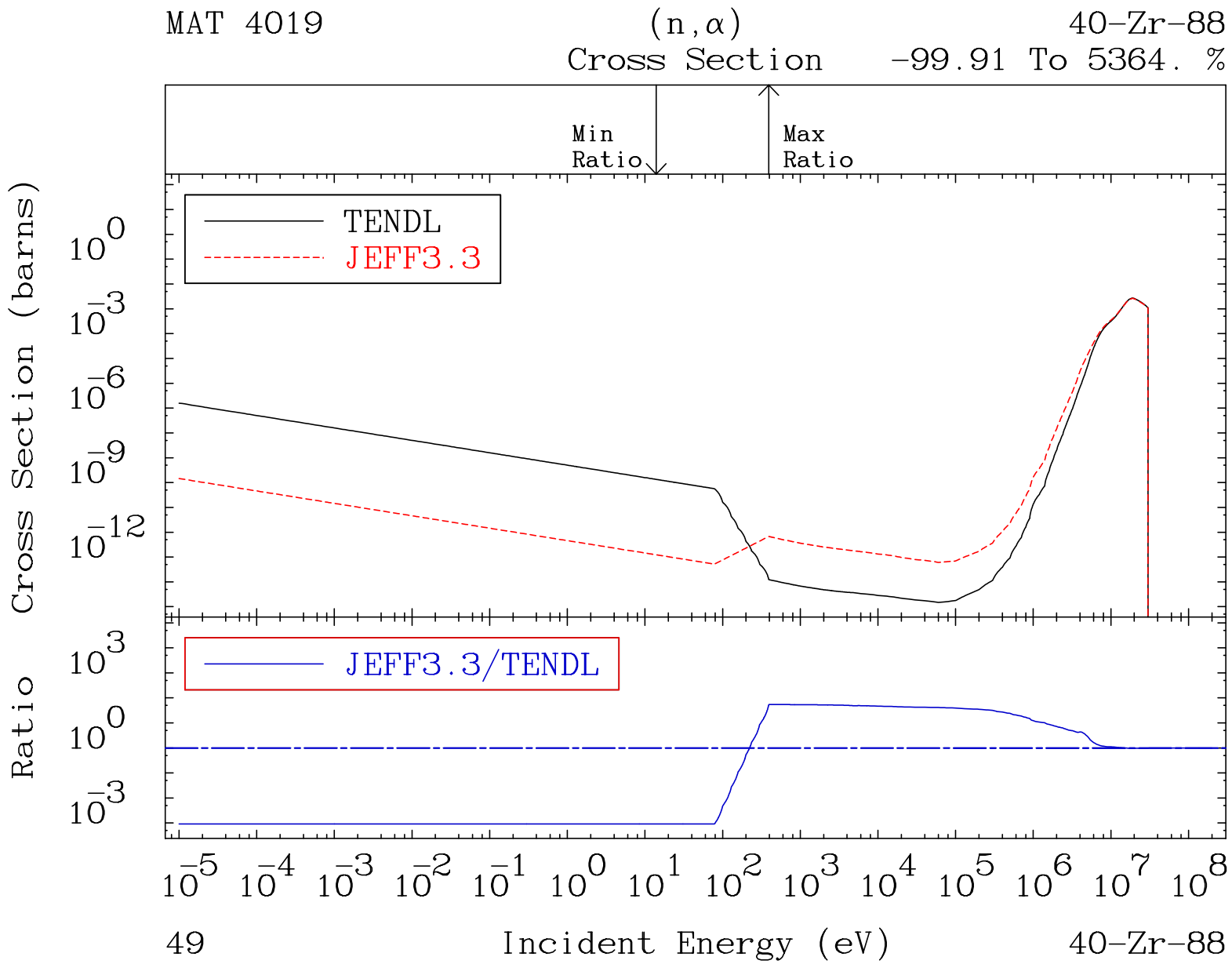

MAT 4019
(n,γ)
Cross Section
40-Zr-88
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
44
40-Zr-88

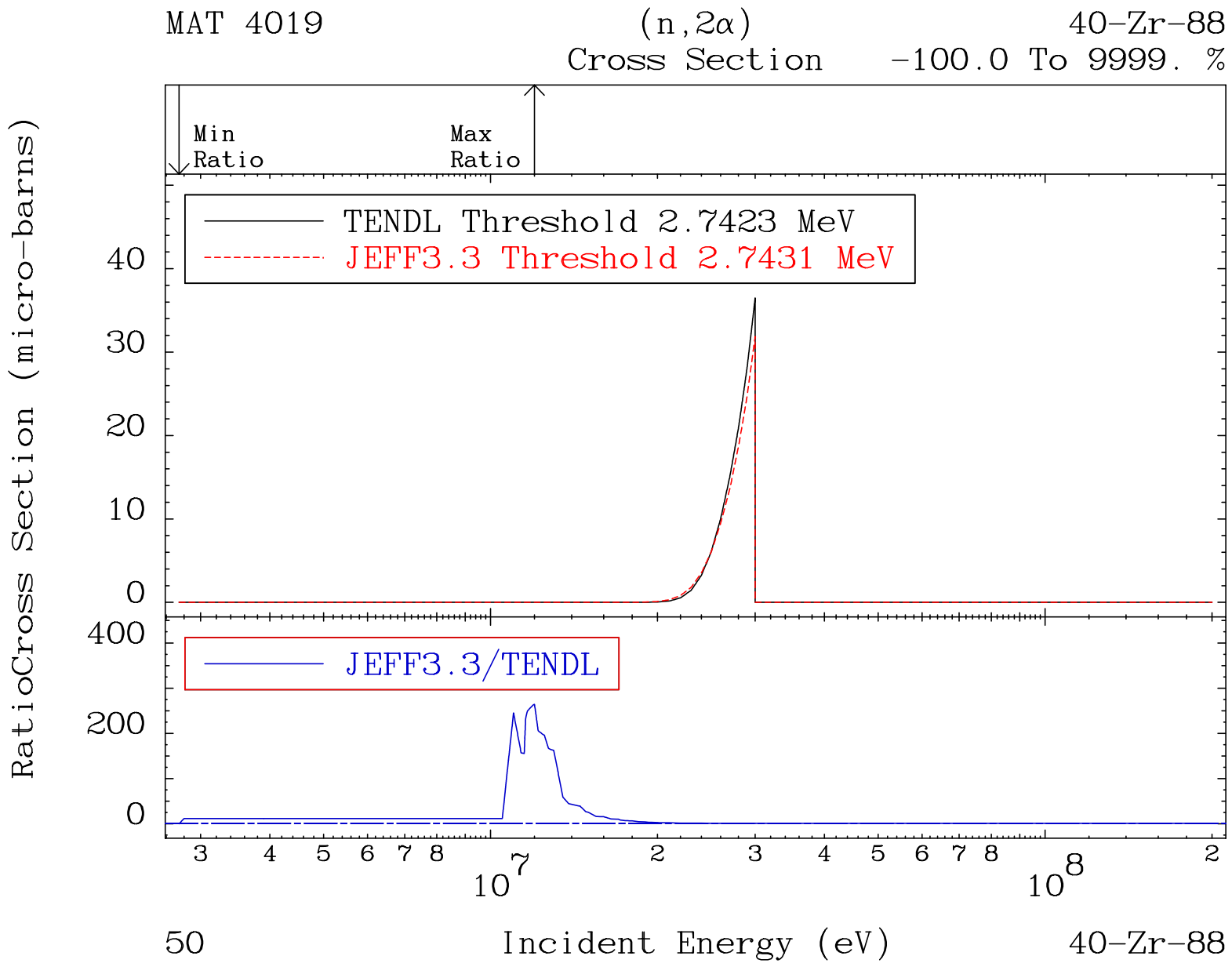

MAT 4019
(n,p)
40-Zr-88
Cross Section
-100.0 To 29.47 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
45
40-Zr-88

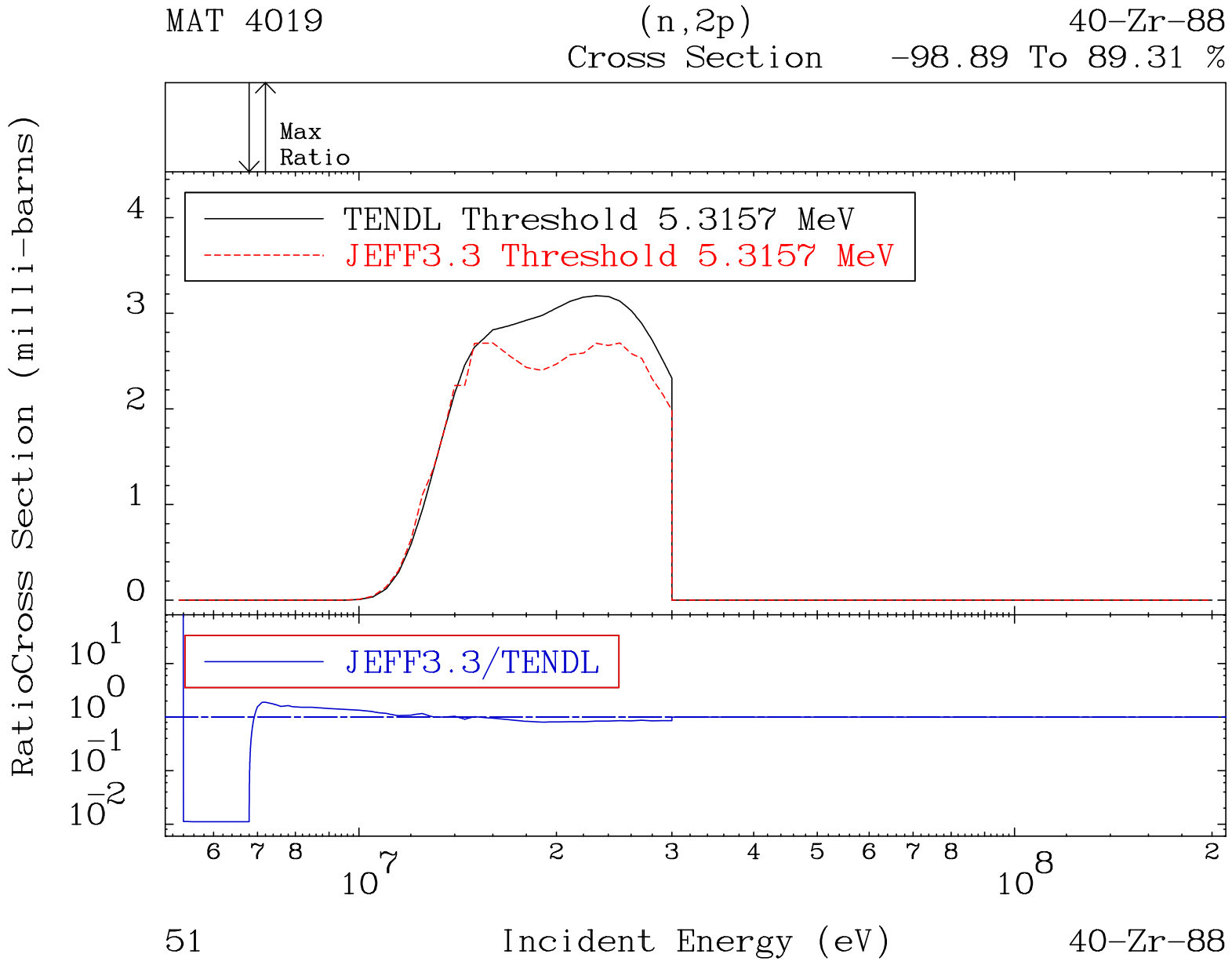

MAT 4019
(n,d)
40-Zr-88
Cross Section
-12.17 To 16.08 %
Max Ratio
Min Ratio
TENDL Threshold 5.7400 MeV
JEFF3.3 Threshold 5.7400 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.2
1.0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
46
Incident Energy (eV)
40-Zr-88

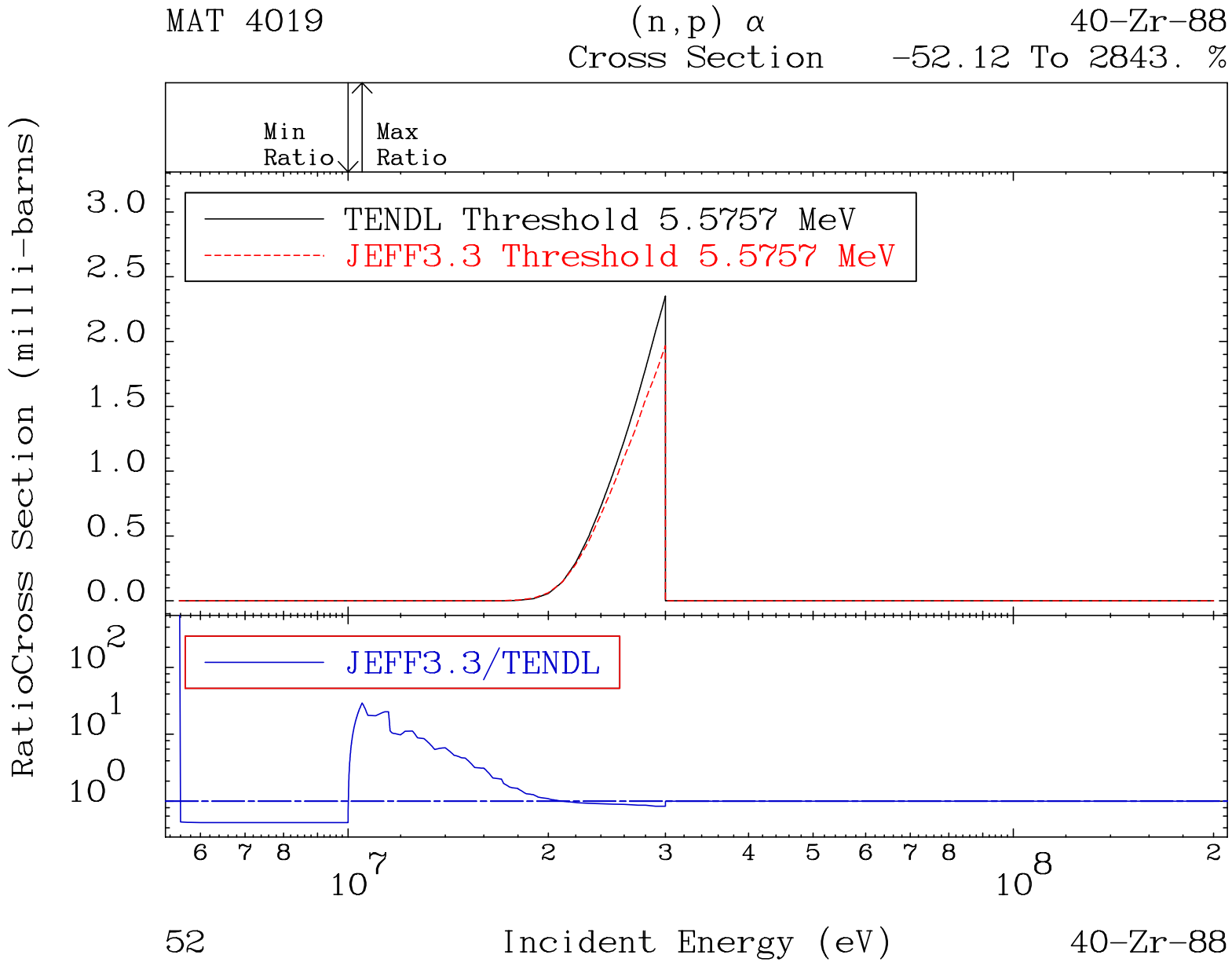

MAT 4019
(n,t)
40-Zr-88
Cross Section
-20.75 To 2.745 %
Min
Ratio
TENDL Threshold 11.353 MeV
JEFF3.3 Threshold 11.353 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
8
6
4
2
0
1.0
0.8
2
3
4
5
6
7
8
9
2
10^8
47
Incident Energy (eV)
40-Zr-88

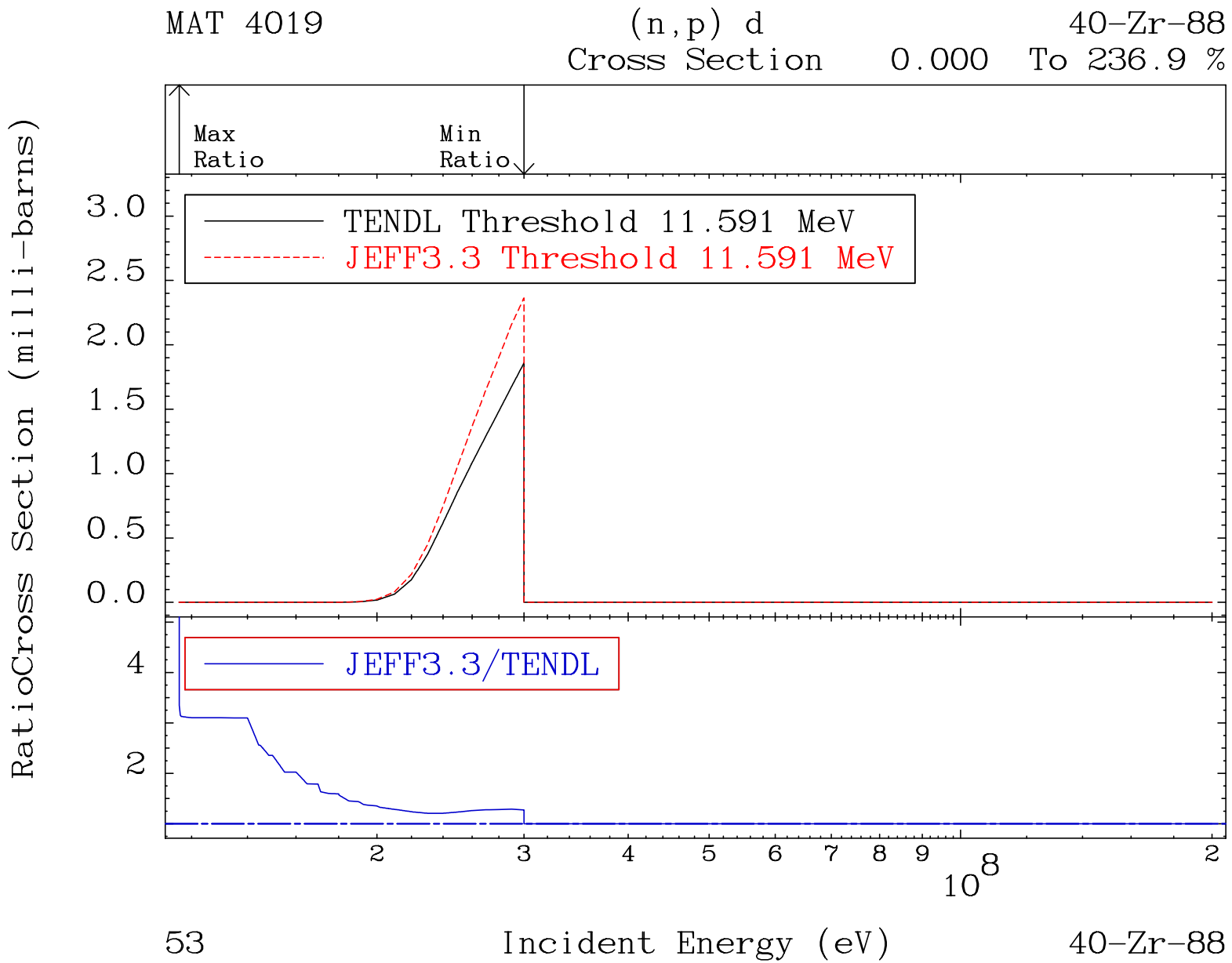

MAT 4019
(n,He-3)
Cross Section
40-Zr-88
-0.986 To 4.785 %
Max Ratio
Min Ratio
TENDL Threshold 6.0341 MeV
JEFF3.3 Threshold 6.0335 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
0
1
2
3
4
5
1.08
1.04
1.00
6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
48
Incident Energy (eV)
40-Zr-88

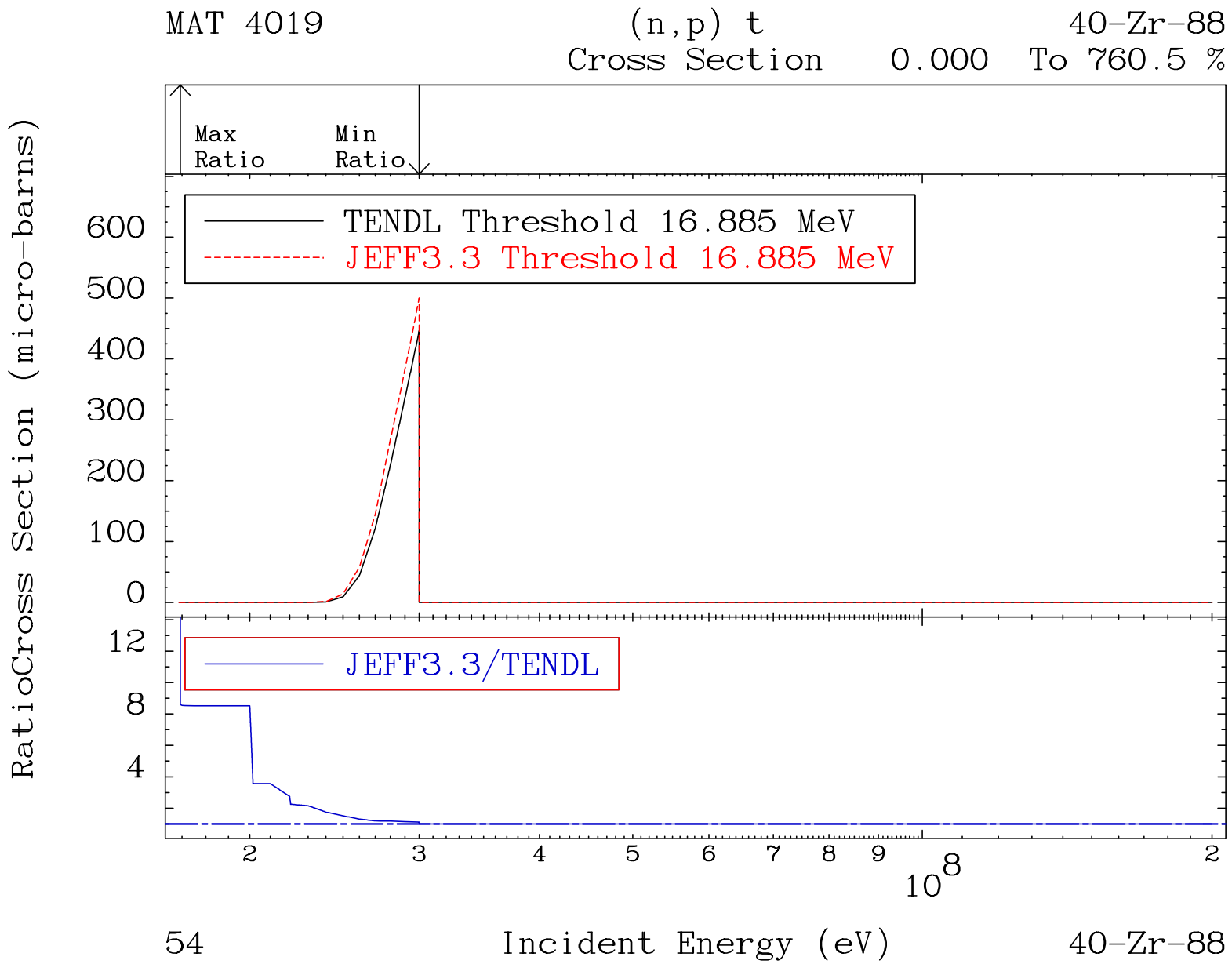

MAT 4019
(n,α)
40-Zr-88
Cross Section
-99.91 To 5364. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
49
40-Zr-88

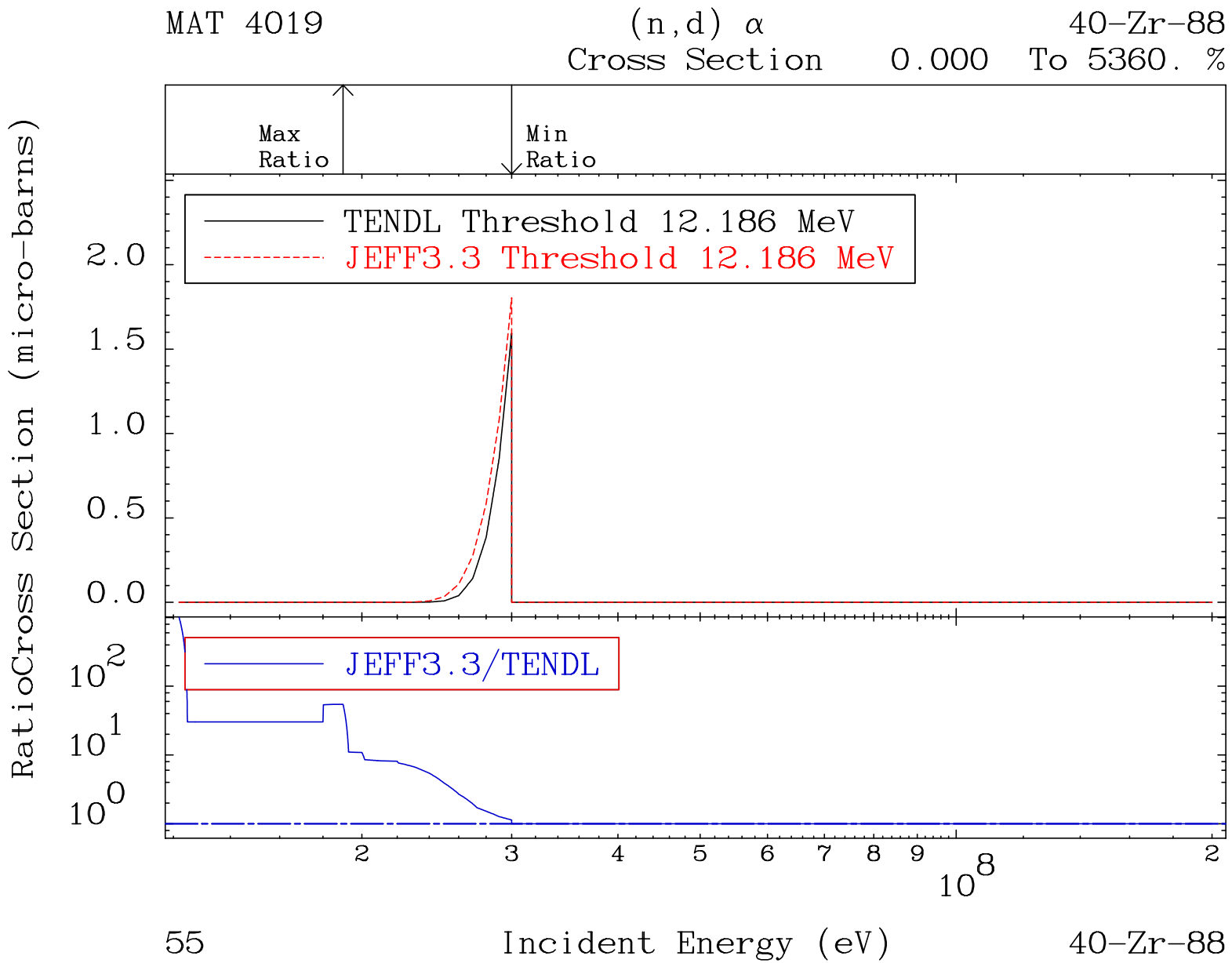

MAT 4019
(n,2α)
40-Zr-88
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.7423 MeV
JEFF3.3 Threshold 2.7431 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
40
30
20
10
0
400
200
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
50
Incident Energy (eV)
40-Zr-88

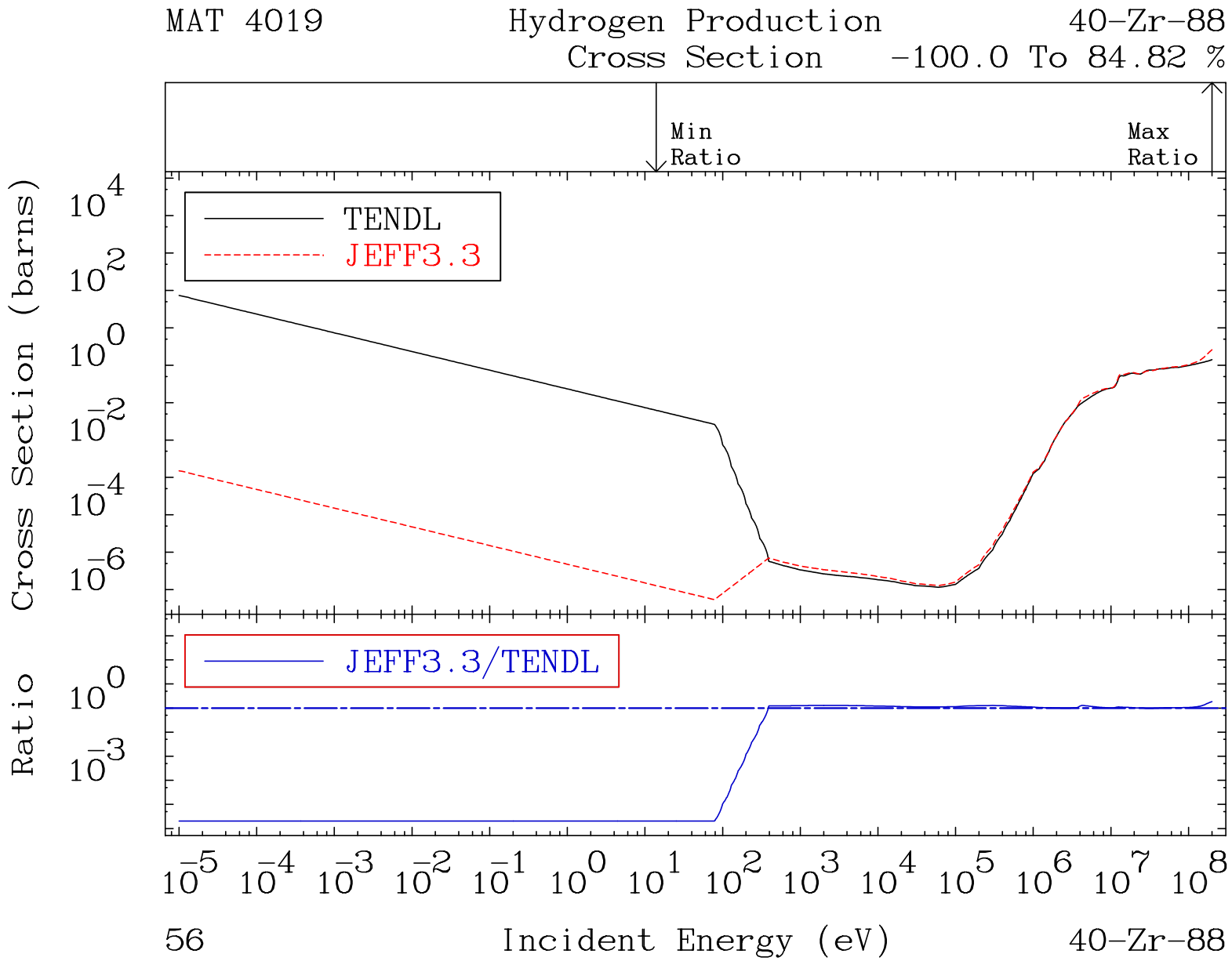

MAT 4019
(n,2p)
40-Zr-88
Cross Section
-98.89 To 89.31 %
Max
Ratio
TENDL Threshold 5.3157 MeV
JEFF3.3 Threshold 5.3157 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
51
40-Zr-88

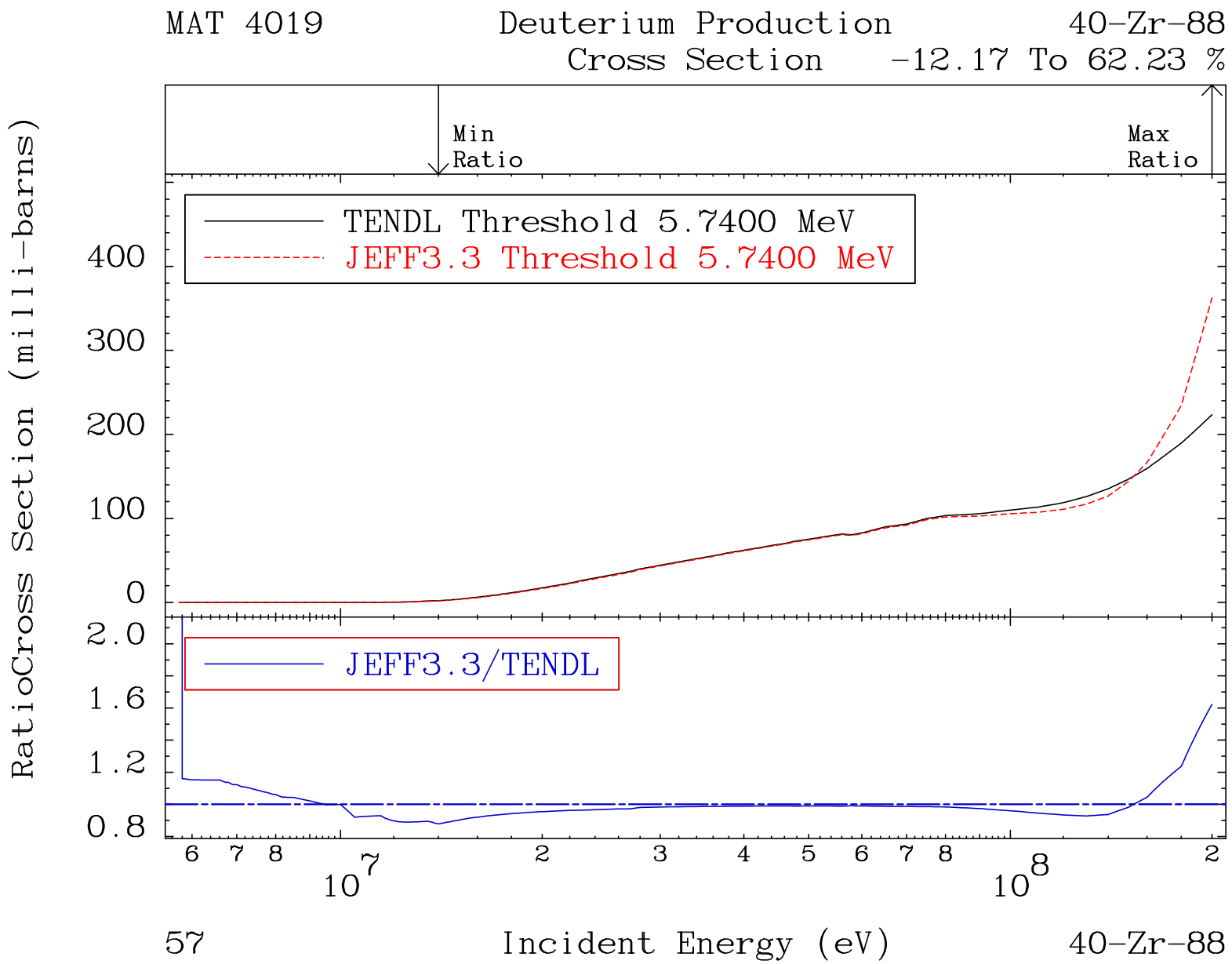

MAT 4019
(n,p) α
40-Zr-88
Cross Section
-52.12 To 2843. %
Min Ratio
Max Ratio
TENDL Threshold 5.5757 MeV
JEFF3.3 Threshold 5.5757 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10^2
10^1
10^0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
52
Incident Energy (eV)
40-Zr-88

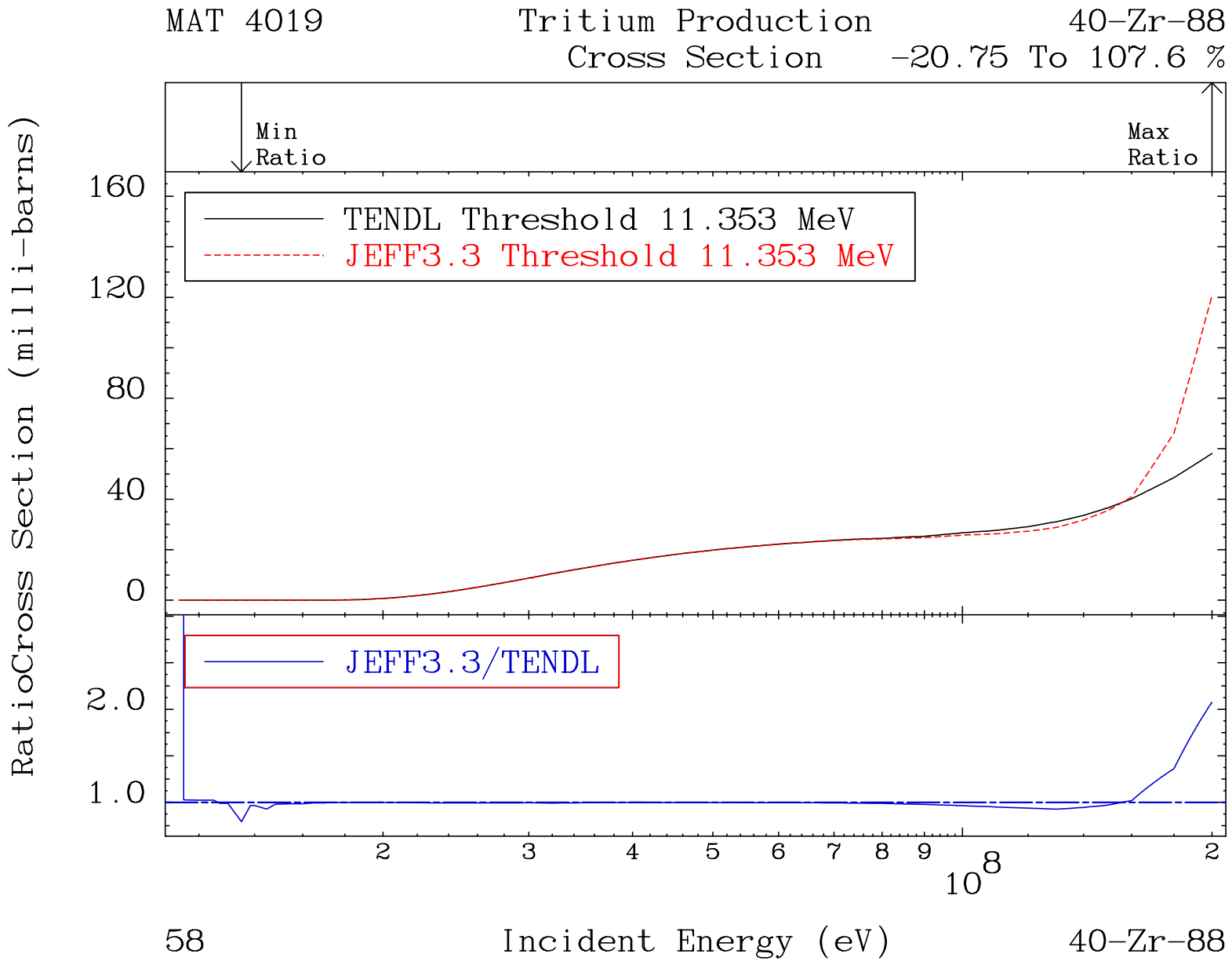

MAT 4019
(n,p) d
40-Zr-88
Cross Section 0.000 To 236.9 %
Max Ratio
Min Ratio
TENDL Threshold 11.591 MeV
JEFF3.3 Threshold 11.591 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
4
2
2
3
4
5
6
7
8
9
10^8
2
53
Incident Energy (eV)
40-Zr-88

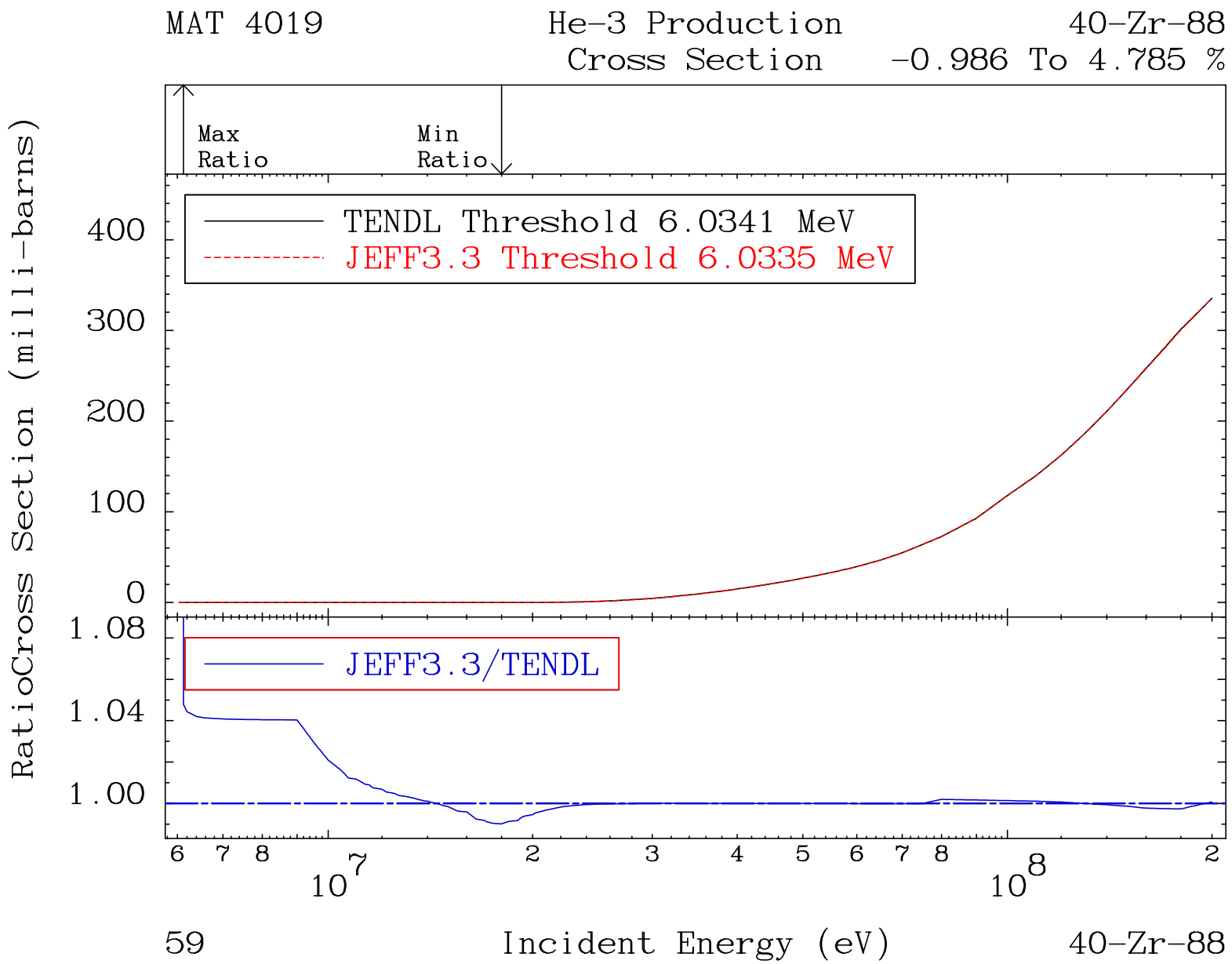

MAT 4019
(n,p) t
40-Zr-88
Cross Section 0.000 To 760.5 %
Max Ratio
Min Ratio
TENDL Threshold 16.885 MeV
JEFF3.3 Threshold 16.885 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
500
400
300
200
100
0
12
8
4
2
3
4
5
6
7
8
9
10^8
2
54
Incident Energy (eV)
40-Zr-88

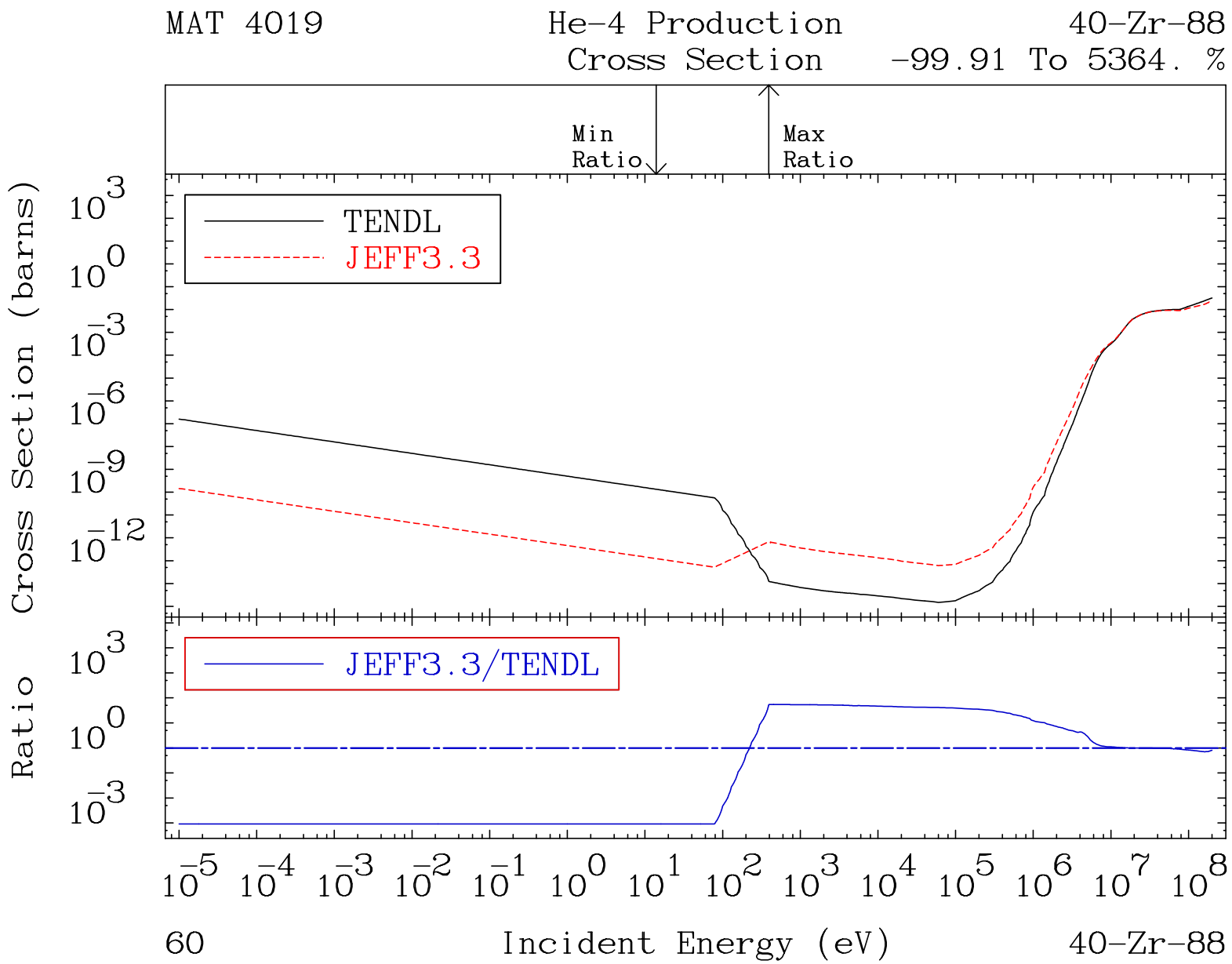

MAT 4019
(n,d) α
40-Zr-88
Cross Section 0.000 To 5360. %
Max Ratio
Min Ratio
TENDL Threshold 12.186 MeV
JEFF3.3 Threshold 12.186 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
2.0
1.5
1.0
0.5
0.0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
55
Incident Energy (eV)
40-Zr-88

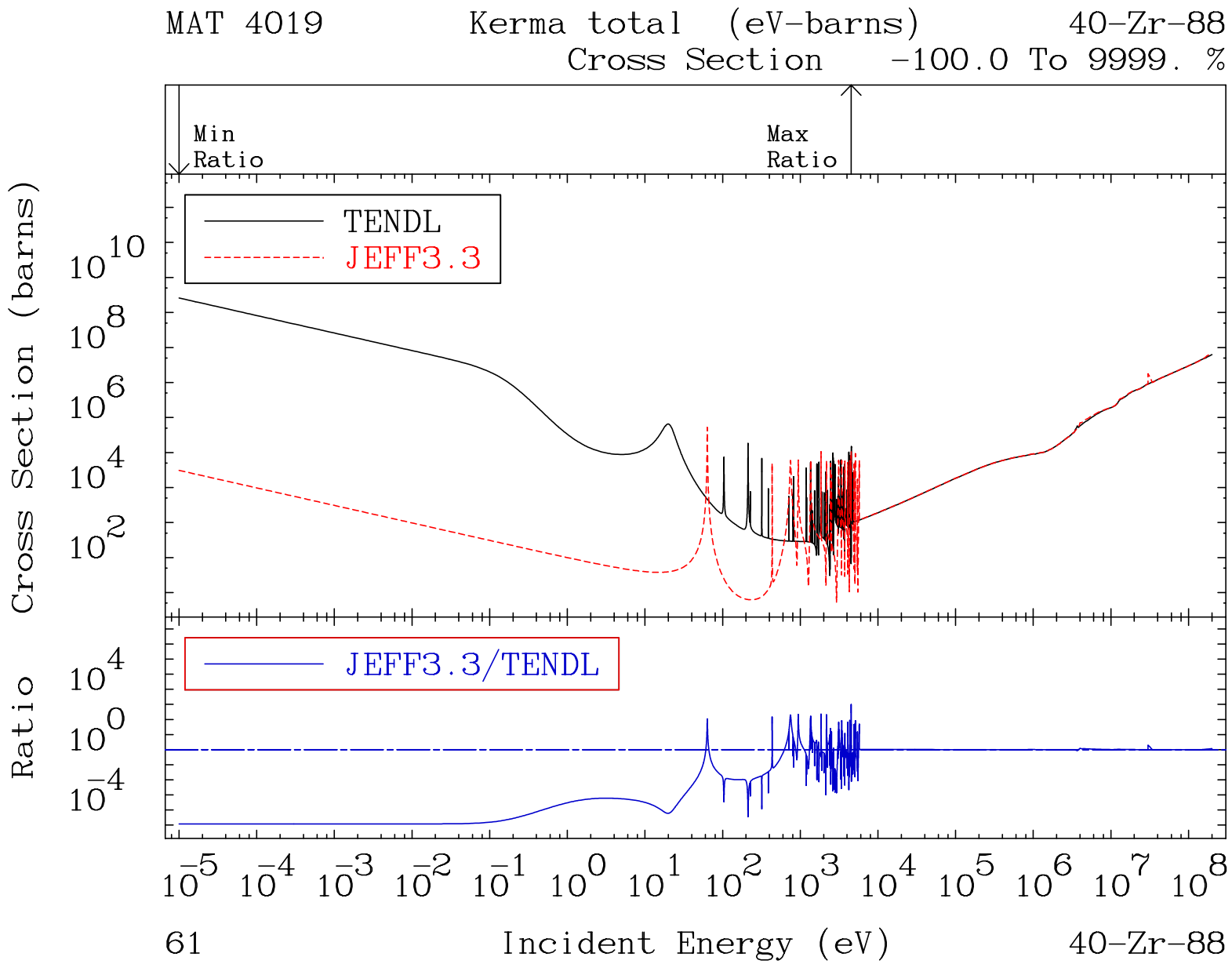

MAT 4019
Hydrogen Production
40-Zr-88
Cross Section
-100.0 To 84.82 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
40-Zr-88

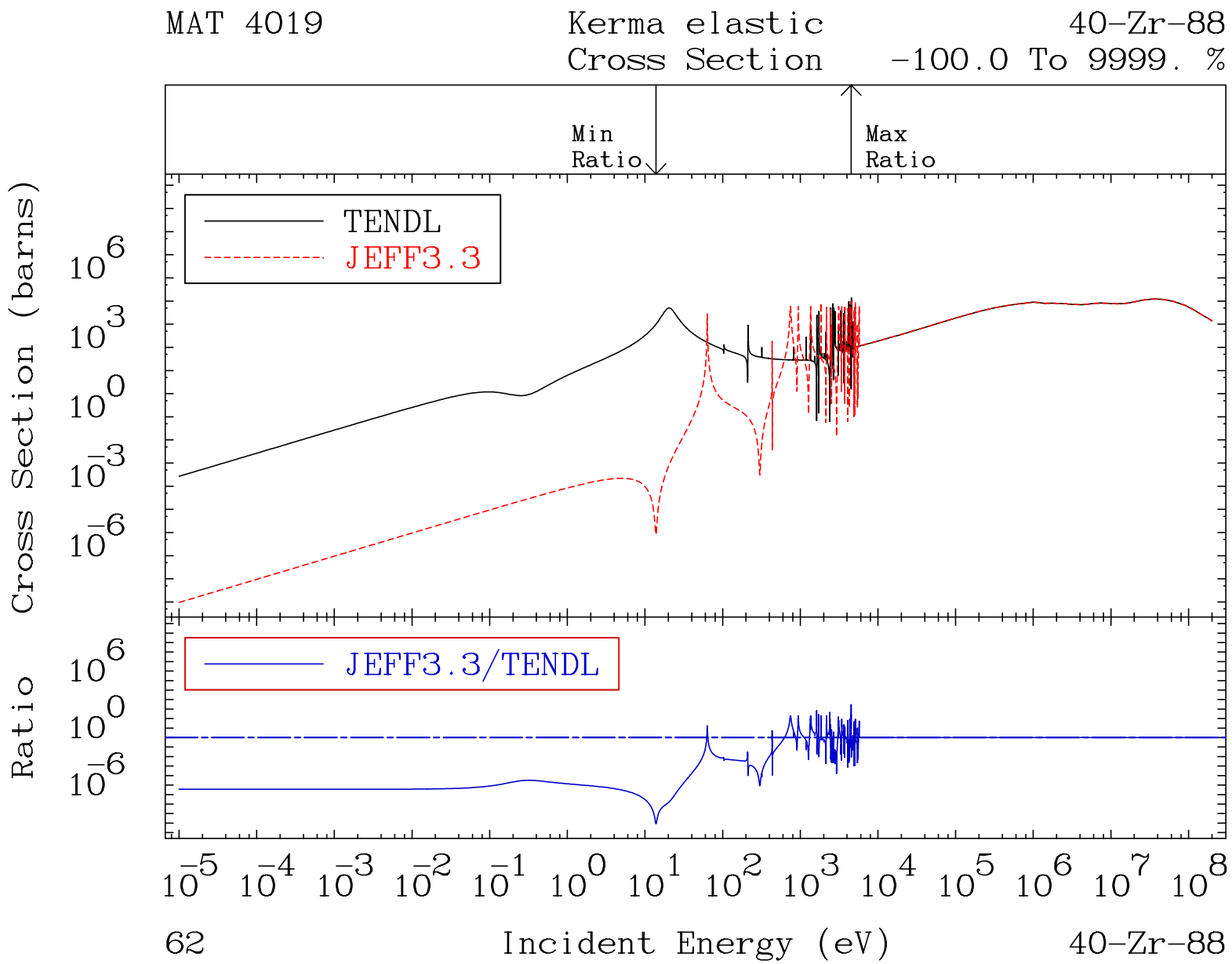

MAT 4019
Deuterium Production
40-Zr-88
Cross Section -12.17 To 62.23 %
Min Ratio
Max Ratio
TENDL Threshold 5.7400 MeV
JEFF3.3 Threshold 5.7400 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
2.0
1.6
1.2
0.8
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
57
Incident Energy (eV)
40-Zr-88

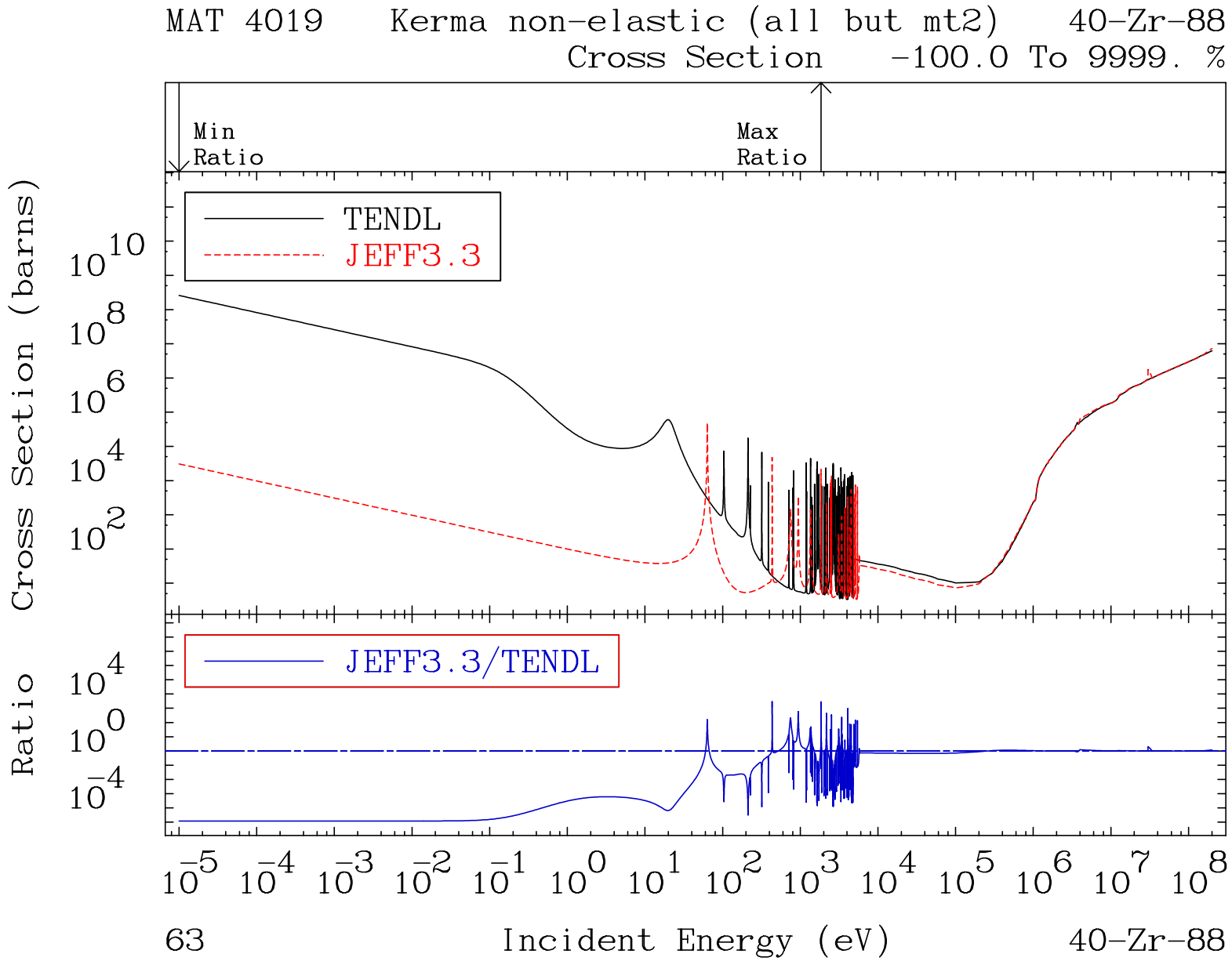

MAT 4019
Tritium Production
40-Zr-88
Cross Section
-20.75 To 107.6 %
Min Ratio
Max Ratio
TENDL Threshold 11.353 MeV
JEFF3.3 Threshold 11.353 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
2.0
1.0
2
3
4
5
6
7
8
9
2
10^8
58
Incident Energy (eV)
40-Zr-88

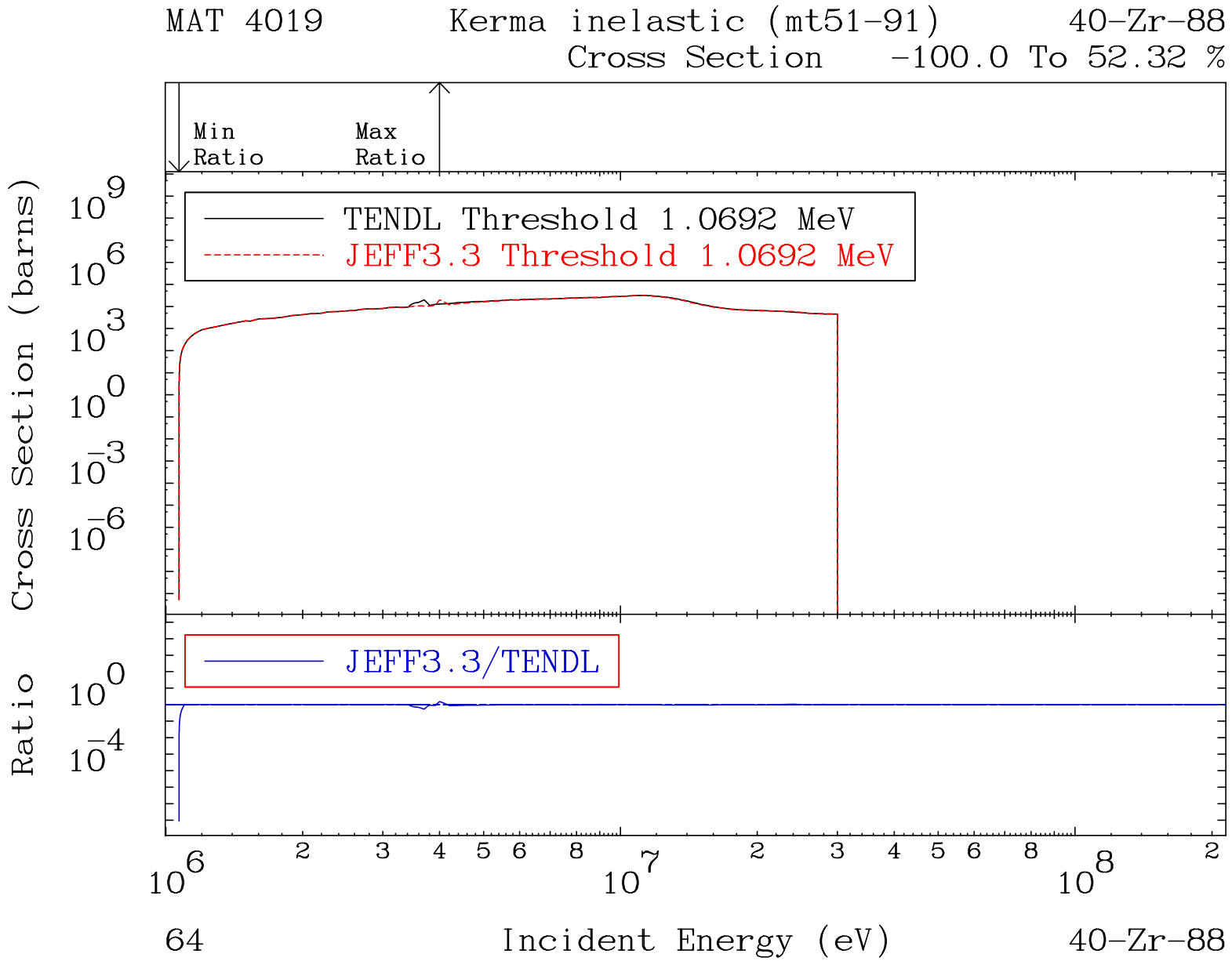

MAT 4019
He-3 Production
Cross Section
40-Zr-88
-0.986 To 4.785 %
Max Ratio
Min Ratio
TENDL Threshold 6.0341 MeV
JEFF3.3 Threshold 6.0335 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
1.08
1.04
1.00
6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
59
Incident Energy (eV)
40-Zr-88

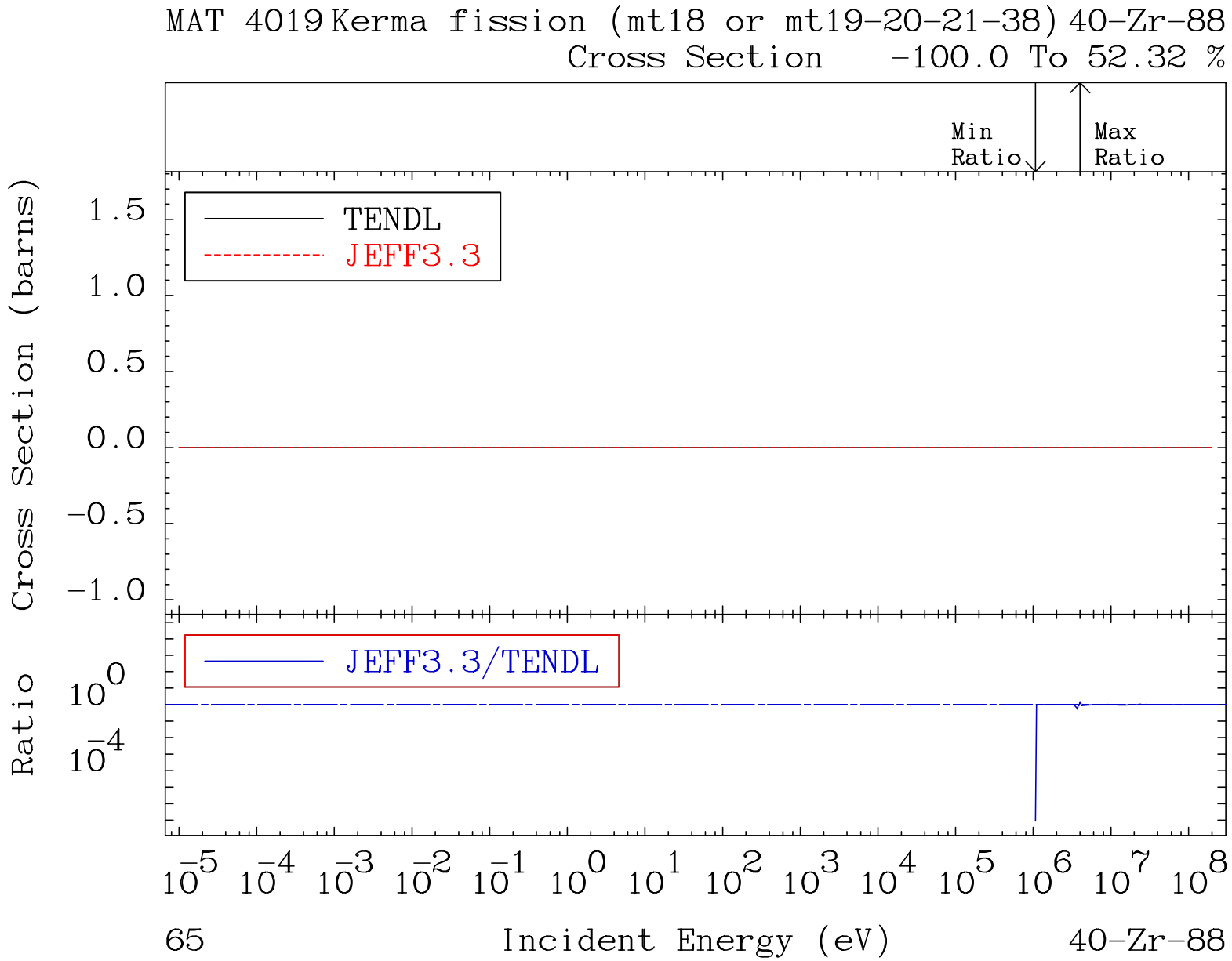

MAT 4019
He-4 Production
Cross Section
40-Zr-88
-99.91 To 5364. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
60
40-Zr-88

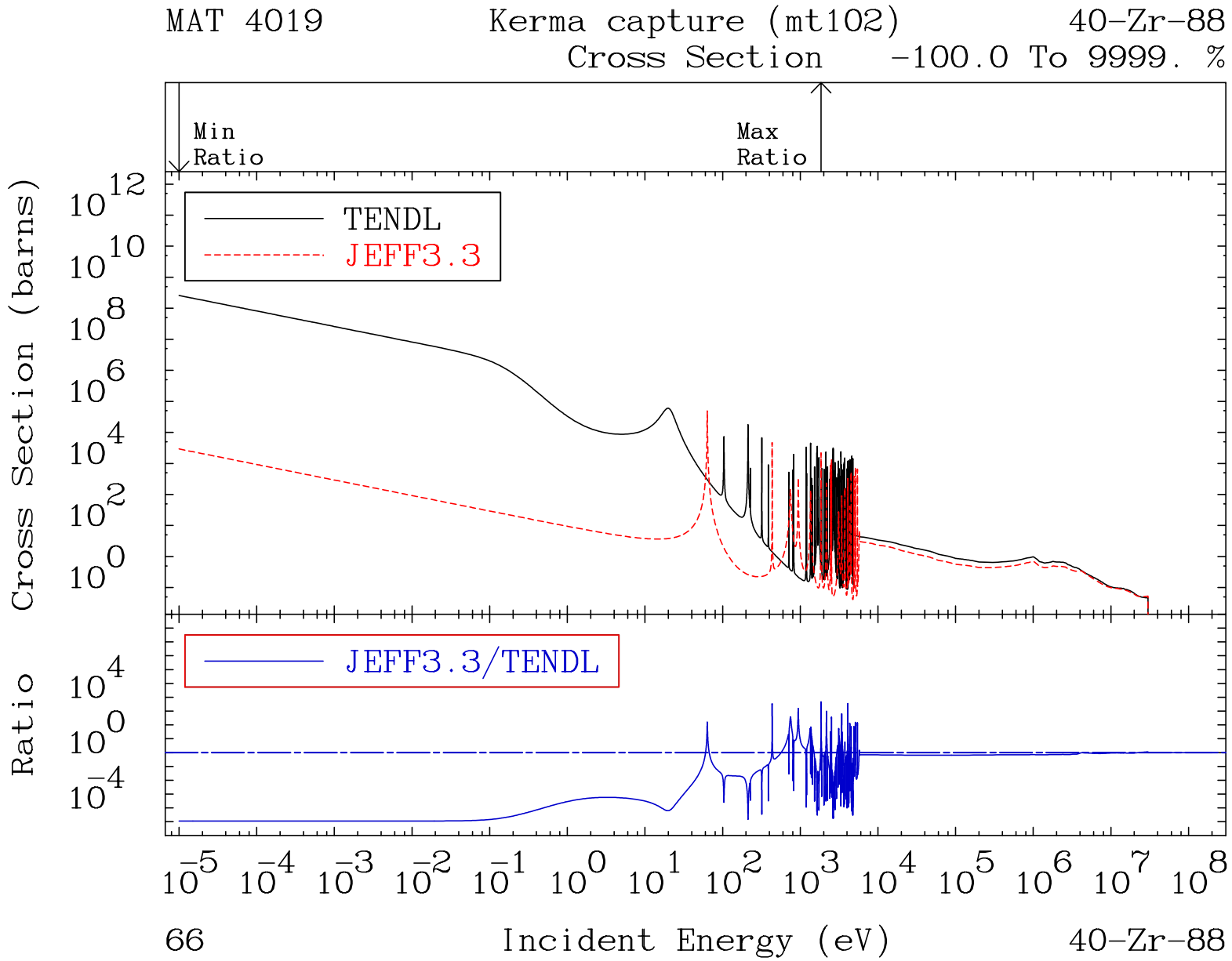

MAT 4019
Kerma total (eV-barns)
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
61
40-Zr-88

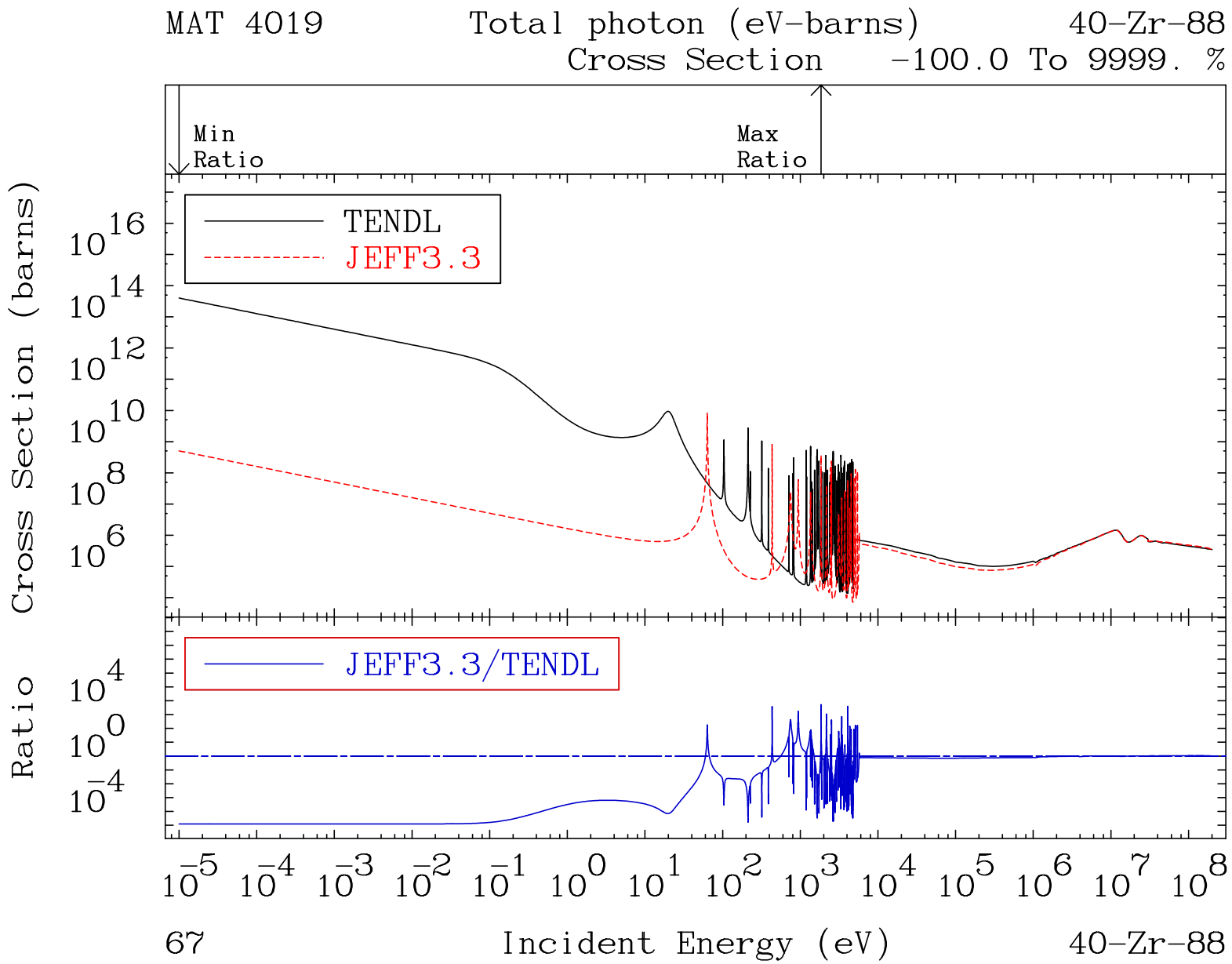

MAT 4019
Kerma elastic
Cross Section
40-Zr-88
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
62
40-Zr-88

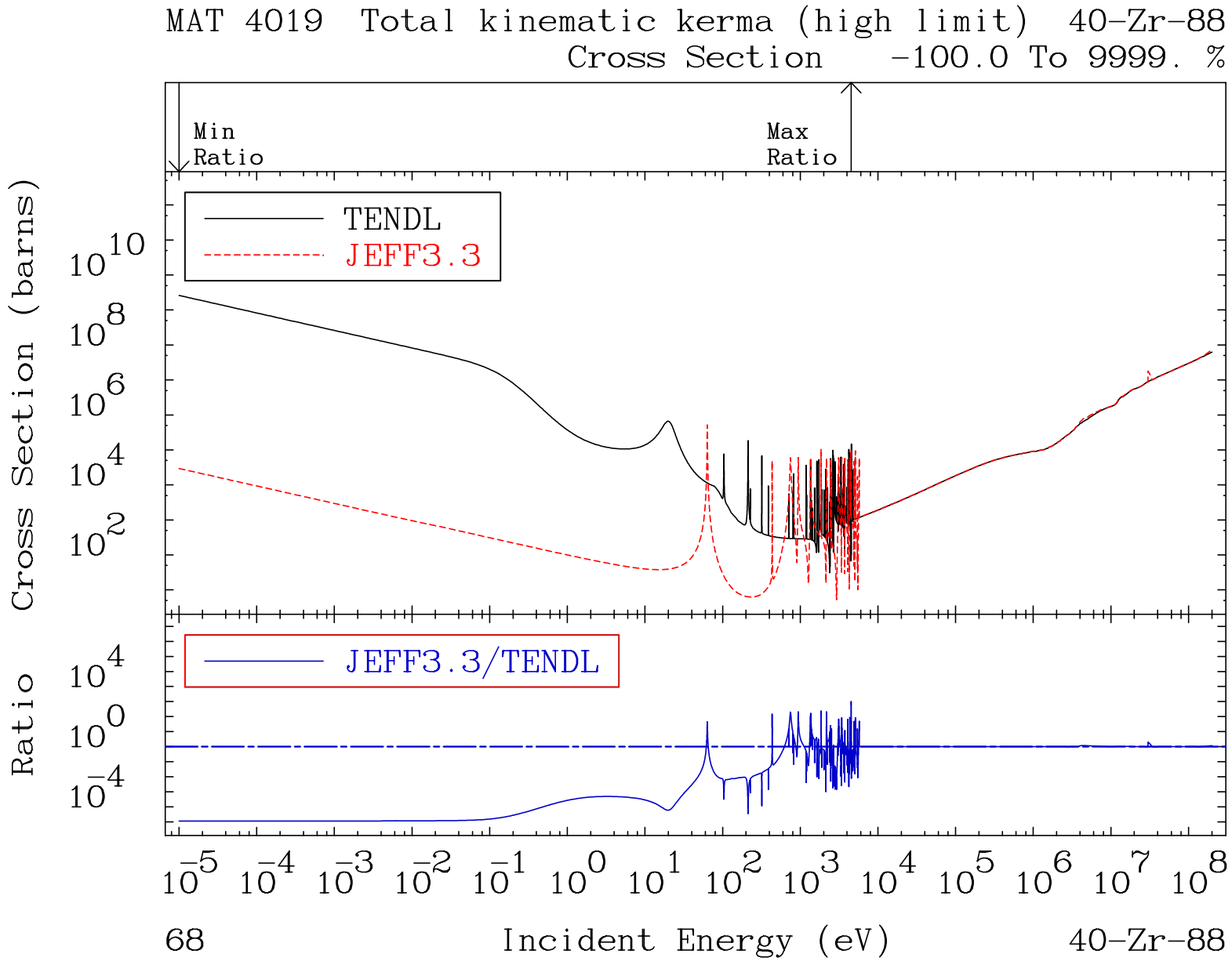

MAT 4019 Kerma non-elastic (all but mt2) 40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
63
40-Zr-88

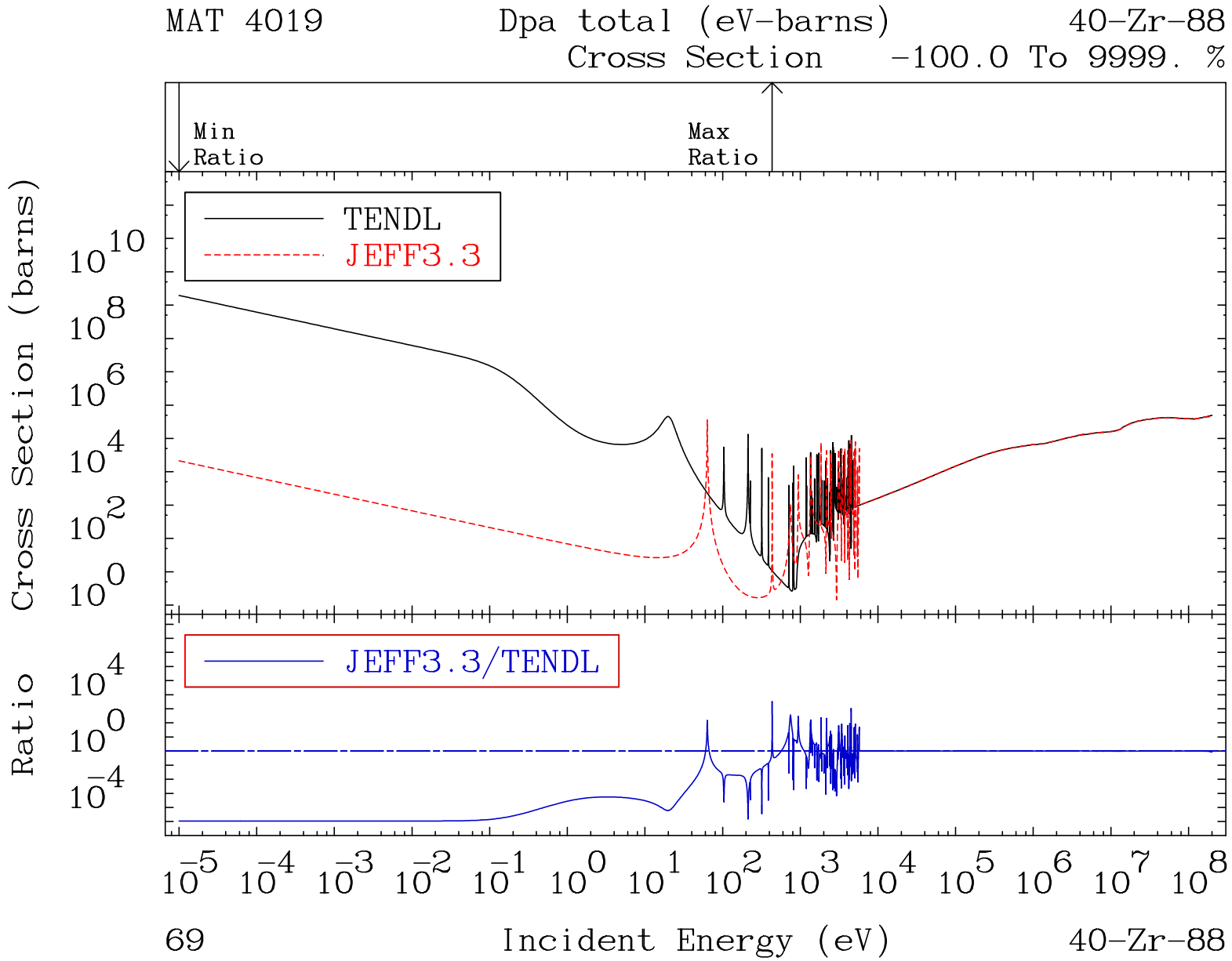

MAT 4019
Kerma inelastic (mt51-91)
40-Zr-88
Cross Section -100.0 To 52.32 %
Min Ratio
Max Ratio
TENDL Threshold 1.0692 MeV
JEFF3.3 Threshold 1.0692 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
64
40-Zr-88

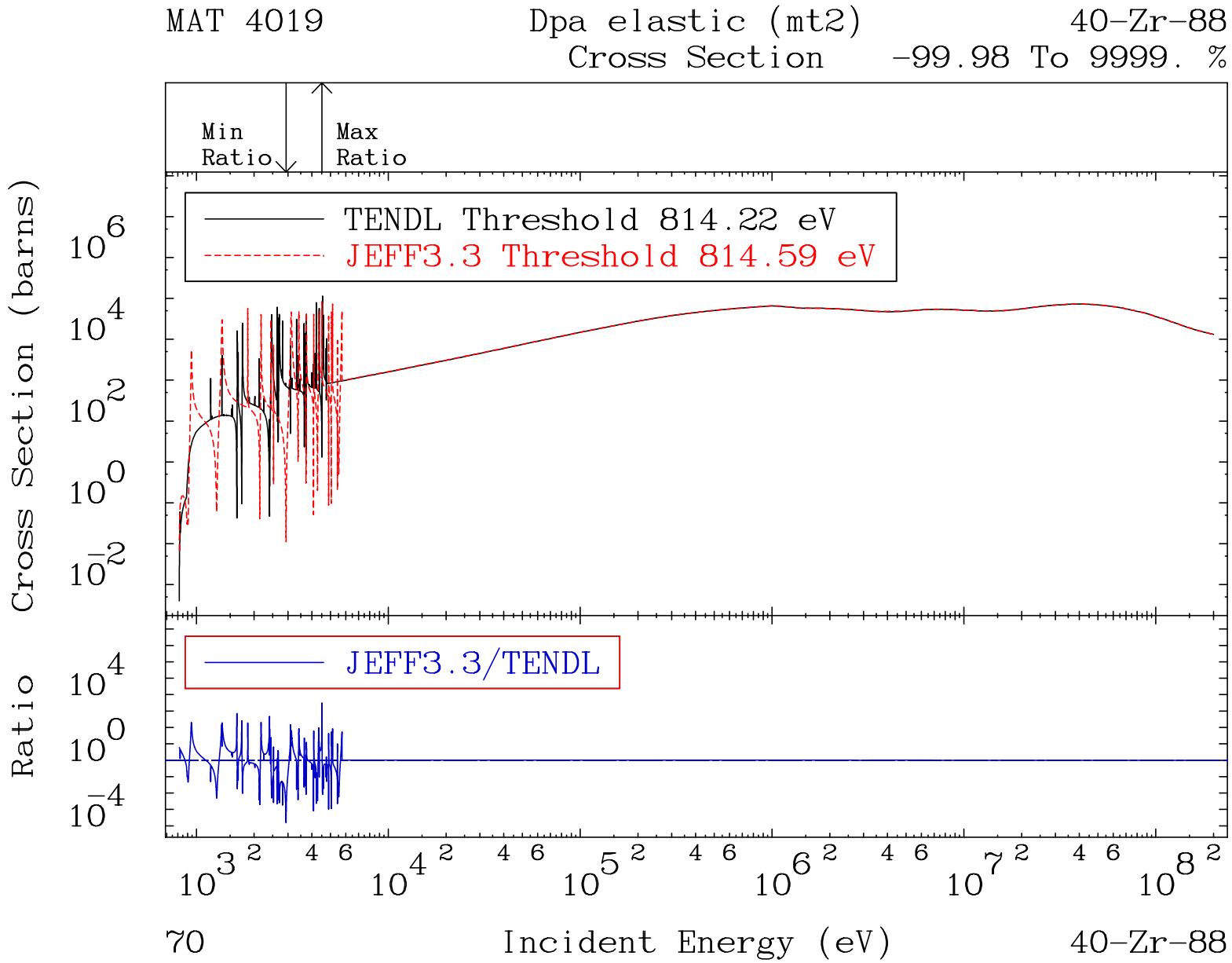

MAT 4019 Kerma fission (mt18 or mt19-20-21-38) 40-Zr-88
Cross Section -100.0 To 52.32 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{0}
10^{-4}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
65
Incident Energy (eV)
40-Zr-88

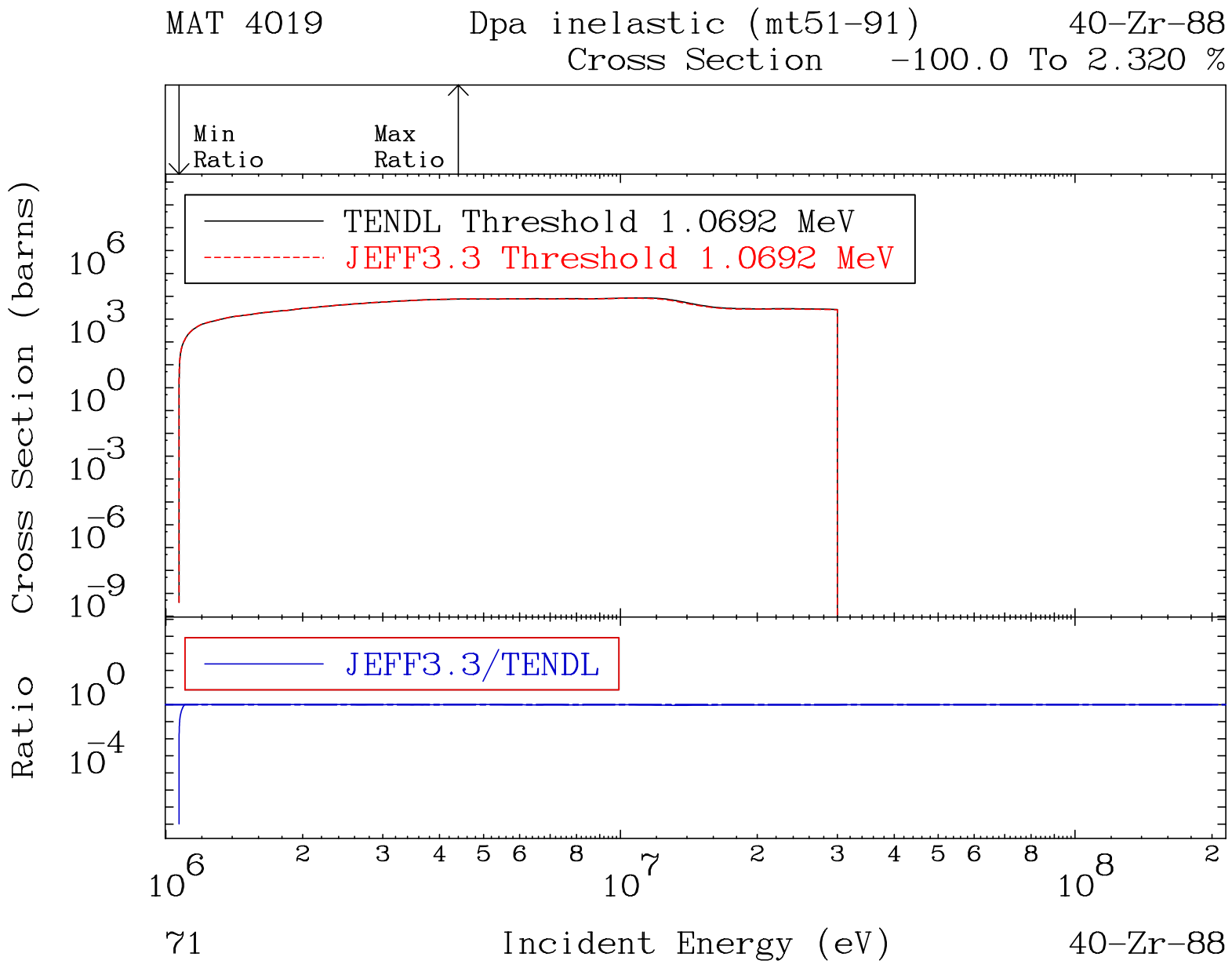

MAT 4019
Kerma capture (mt102)
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
66
40-Zr-88

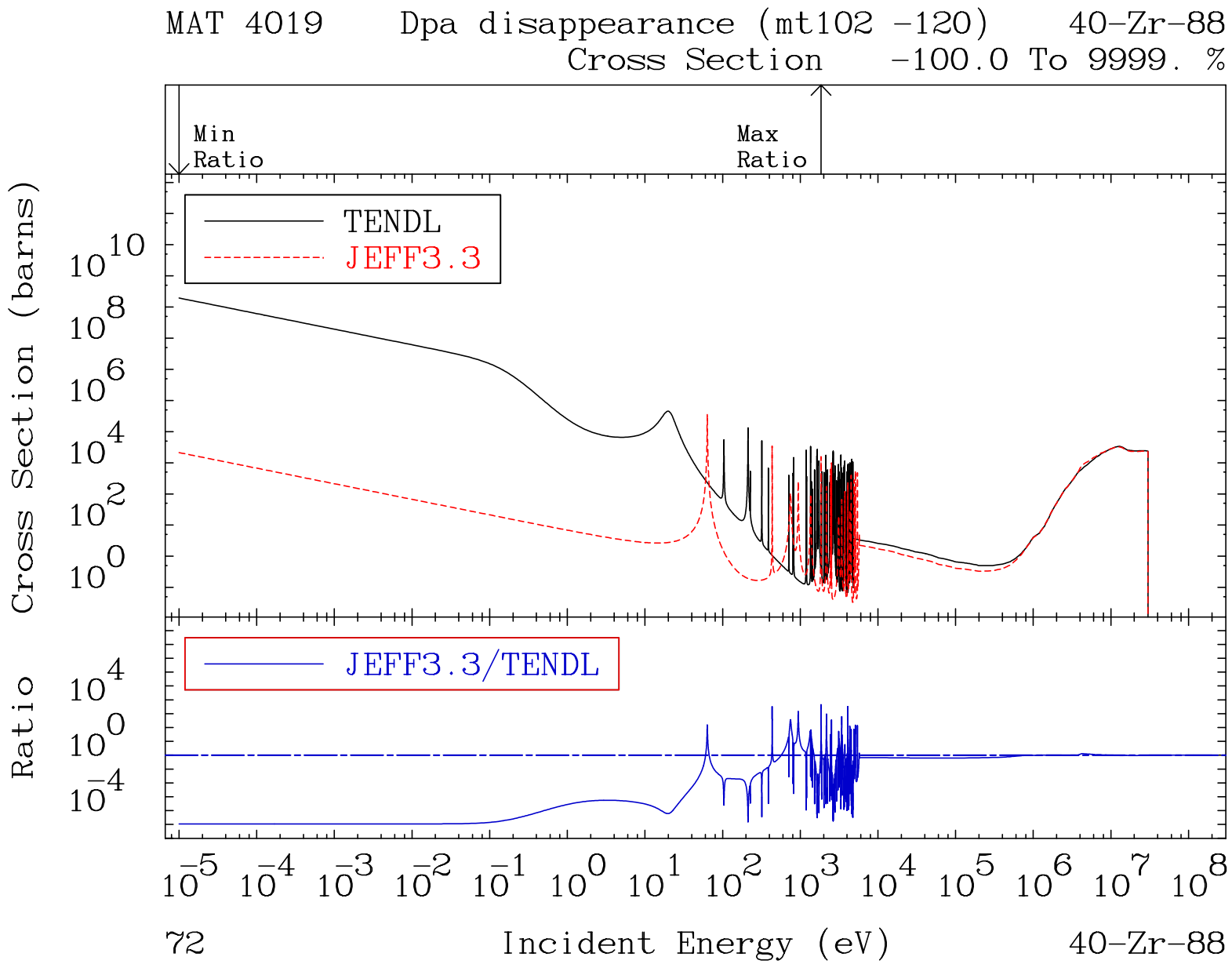

MAT 4019
Total photon (eV-barns)
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
67
40-Zr-88

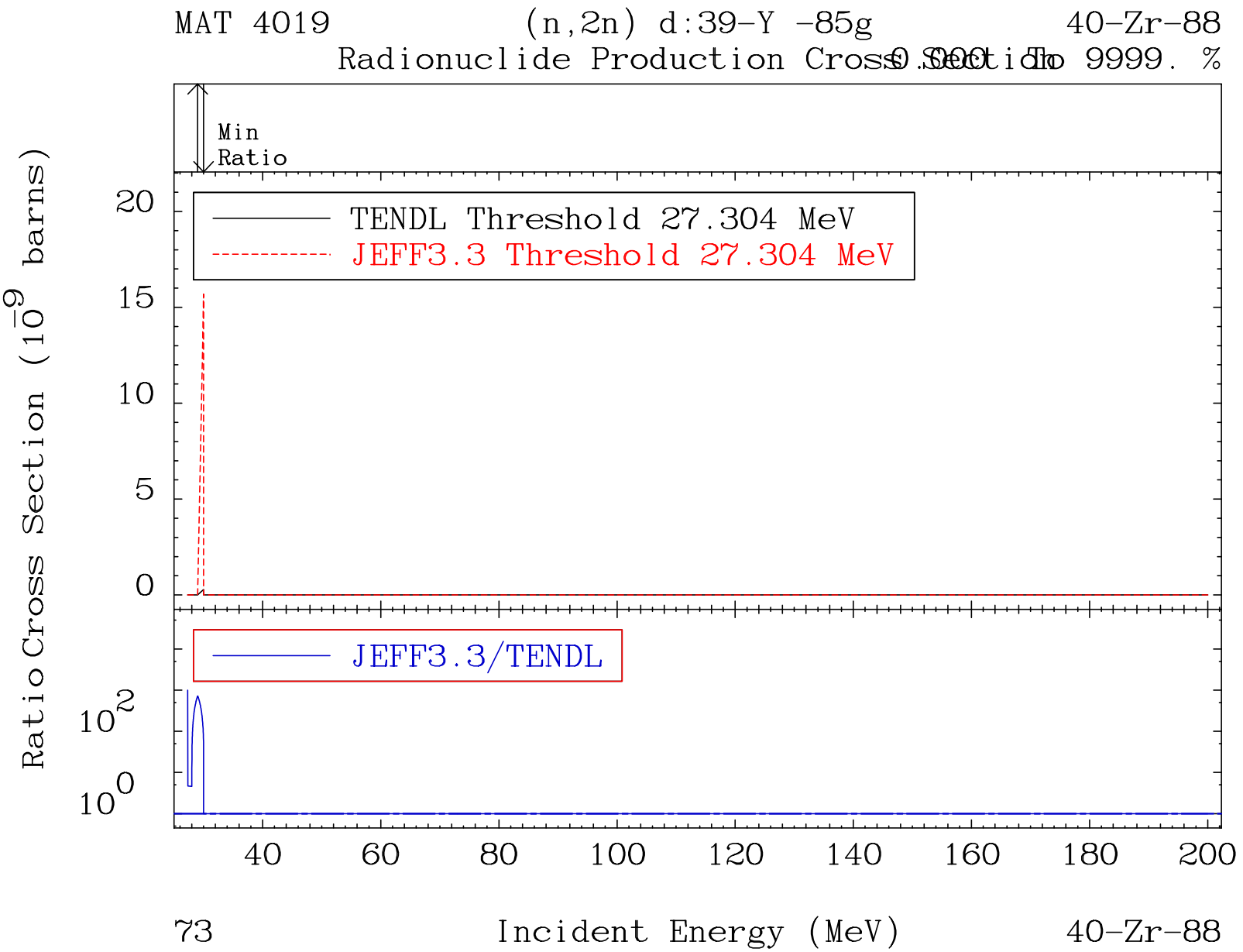

MAT 4019 Total kinematic kerma (high limit) 40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
68
40-Zr-88

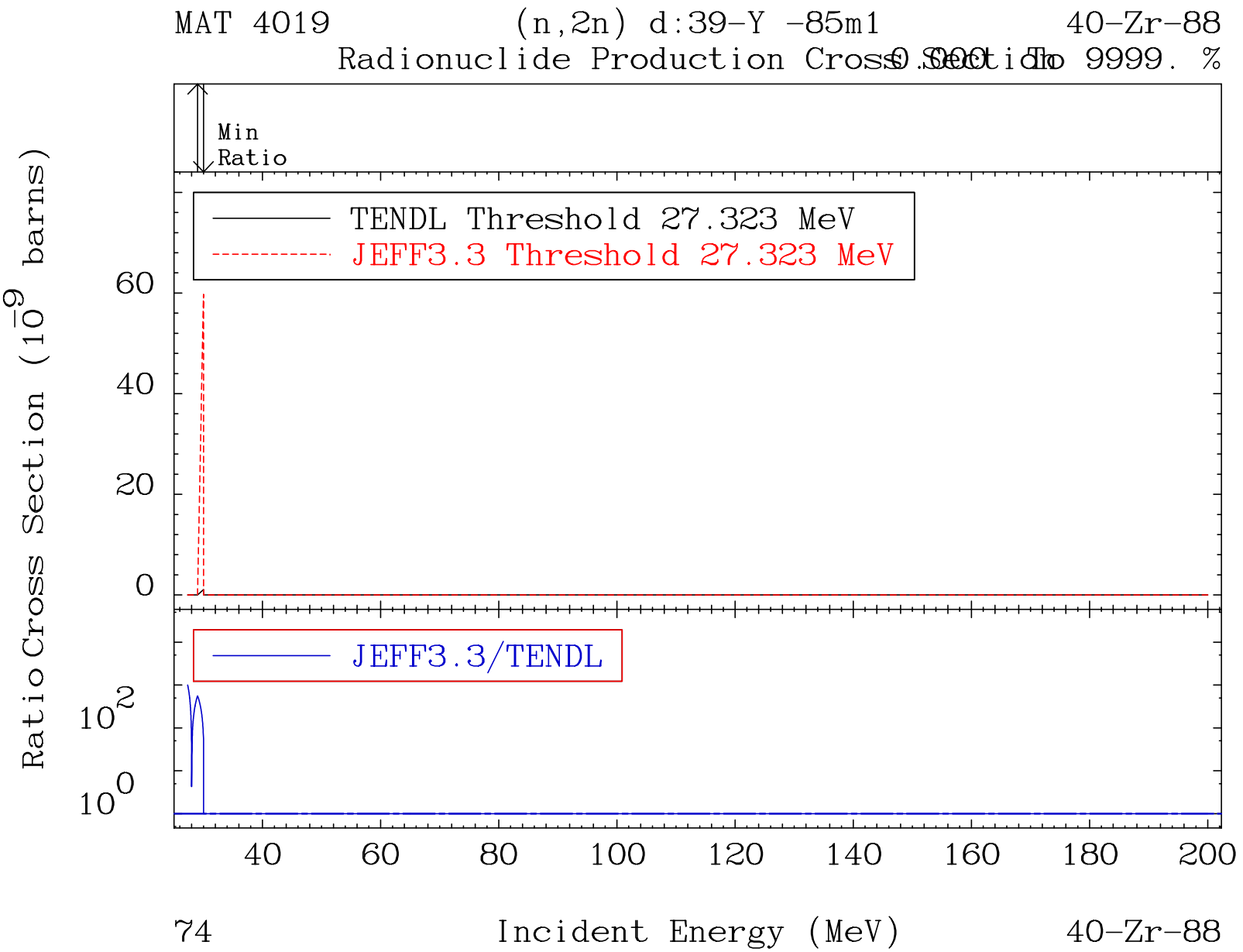

MAT 4019
Dpa total (eV-barns)
40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
69
40-Zr-88

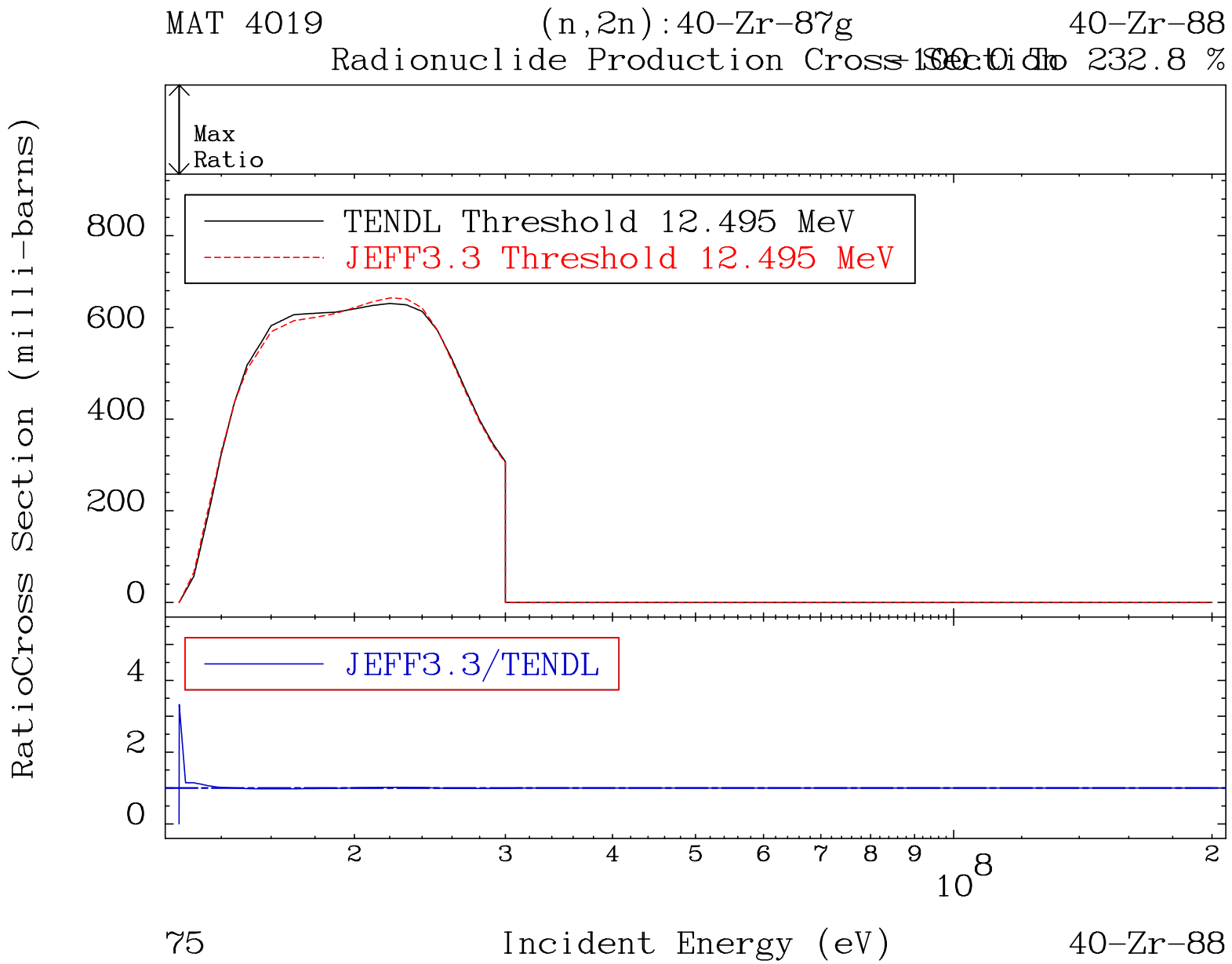

MAT 4019
Dpa elastic (mt2)
Cross Section
40-Zr-88
-99.98 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 814.22 eV
JEFF3.3 Threshold 814.59 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
70
40-Zr-88

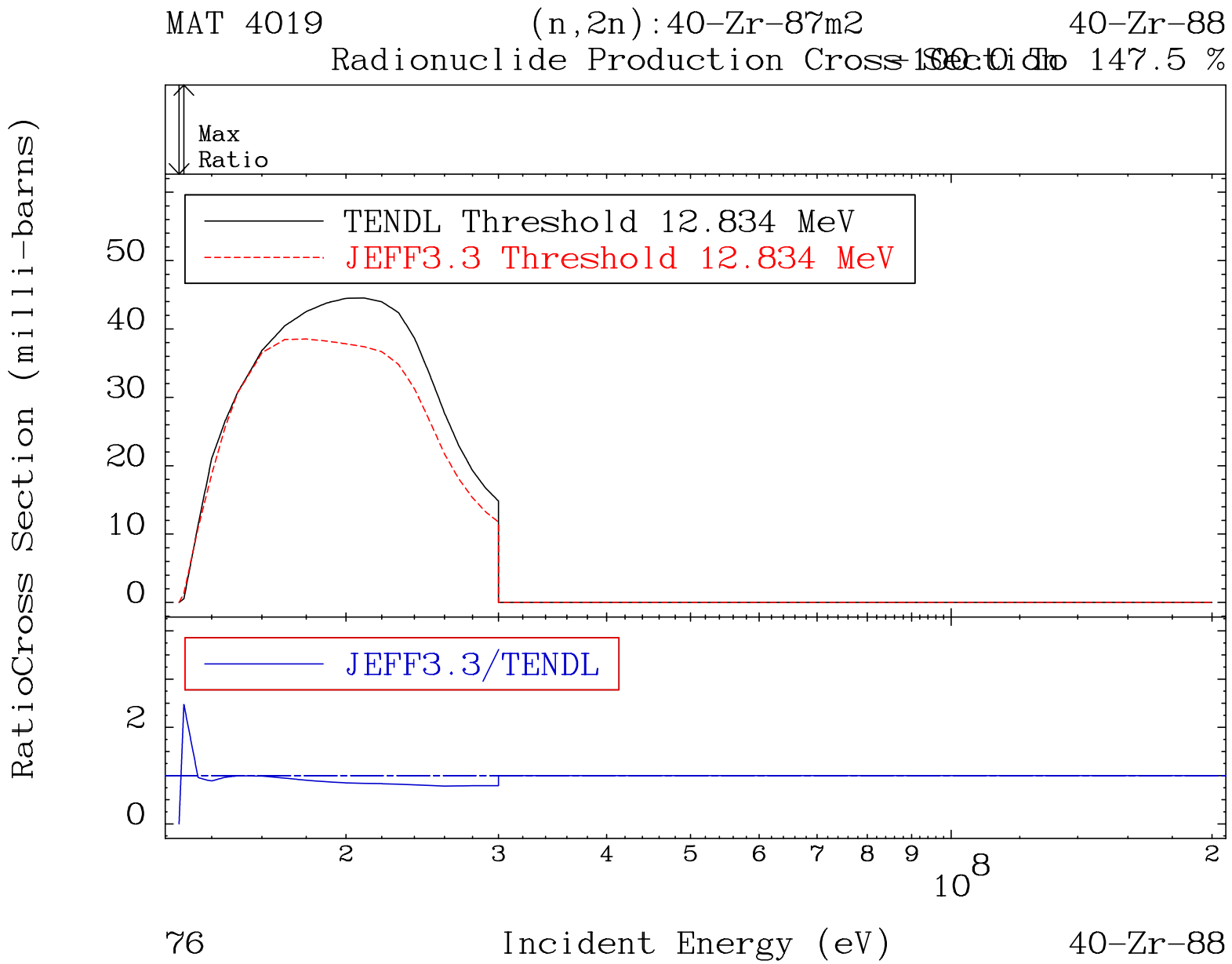

MAT 4019
Dpa inelastic (mt51-91)
40-Zr-88
Cross Section -100.0 To 2.320 %
Min Ratio
Max Ratio
TENDL Threshold 1.0692 MeV
JEFF3.3 Threshold 1.0692 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
71
40-Zr-88

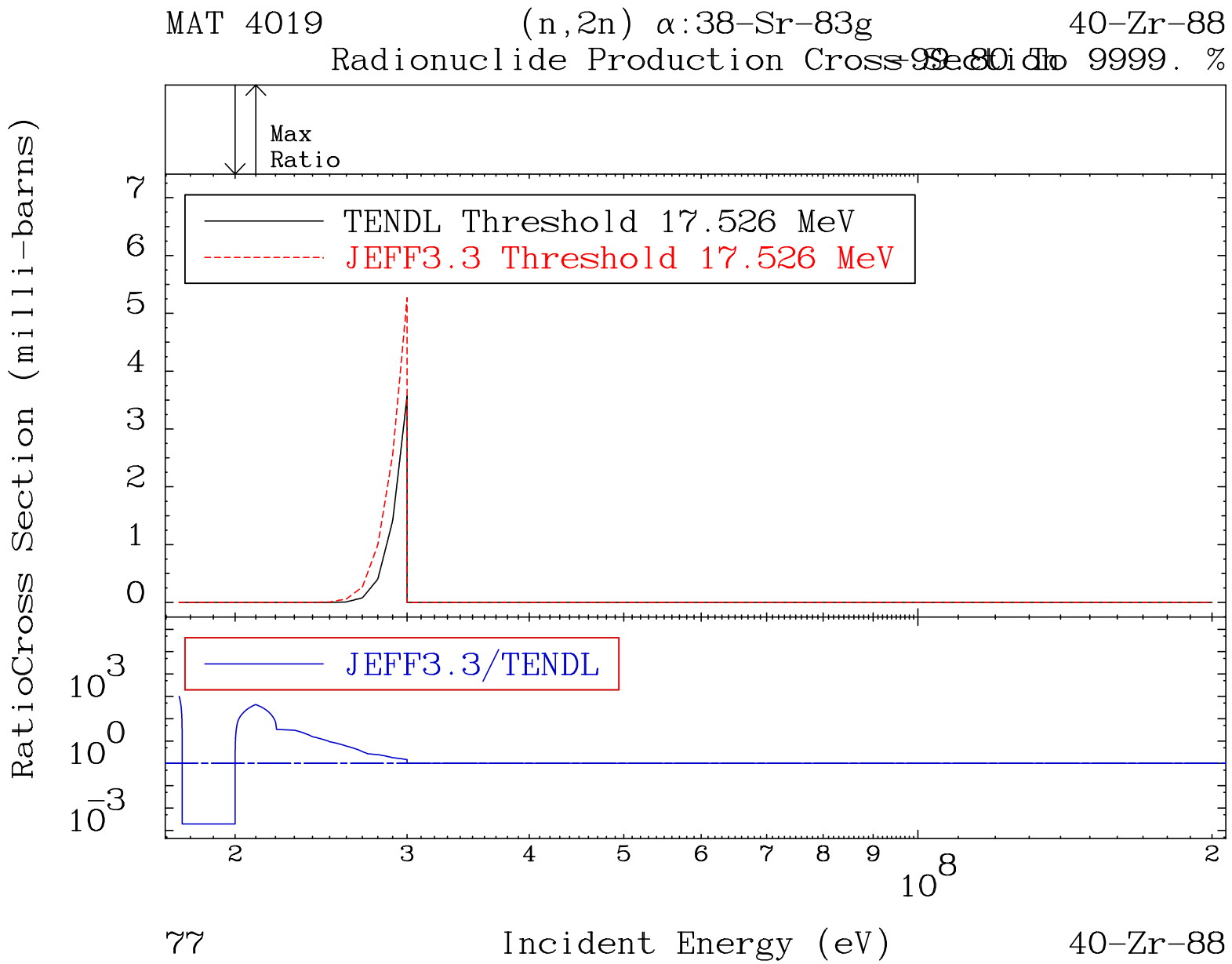

MAT 4019 Dpa disappearance (mt102 -120) 40-Zr-88
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
72
40-Zr-88

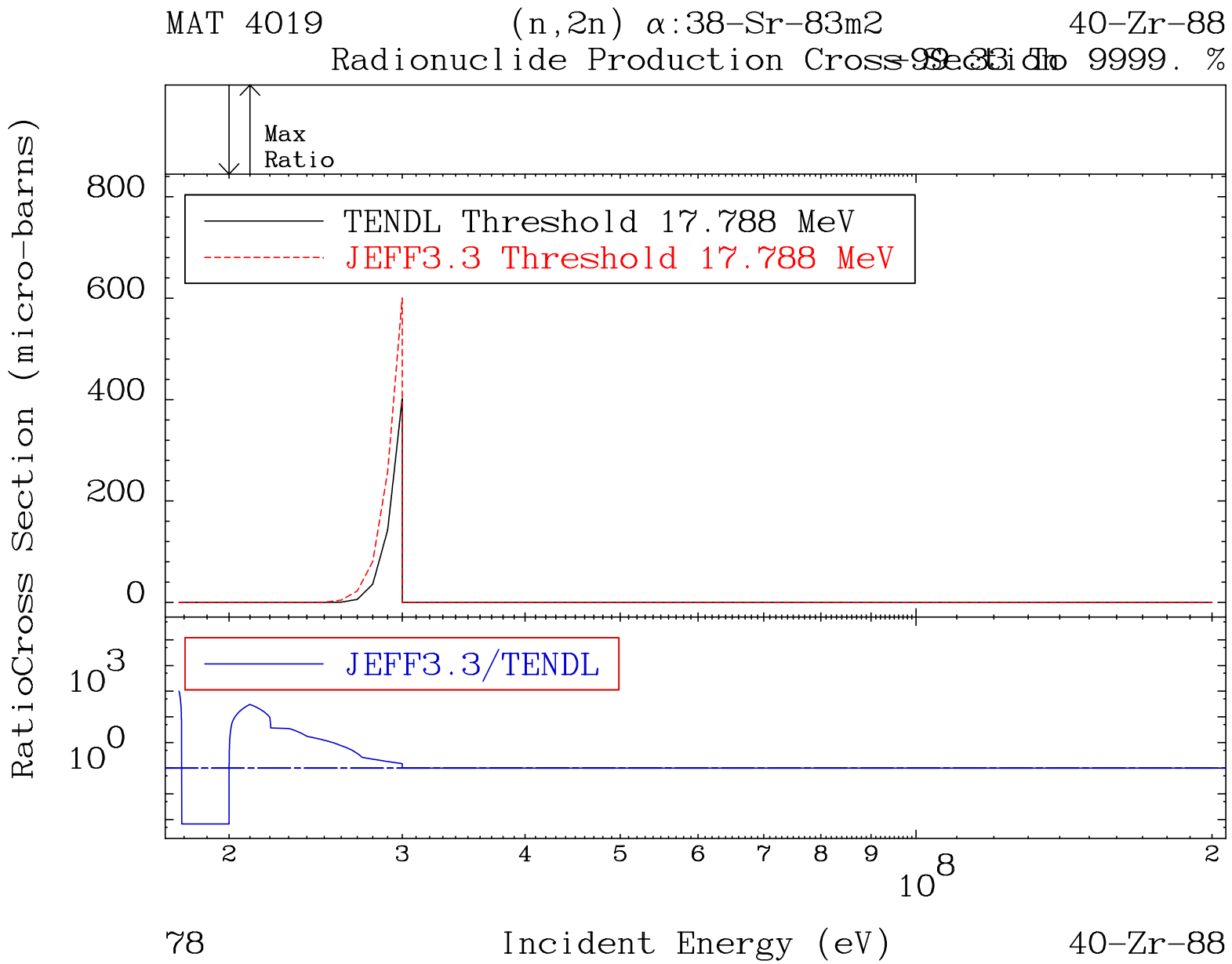

MAT 4019
(n,2n) d:39-Y -85g
40-Zr-88
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 27.304 MeV
JEFF3.3 Threshold 27.304 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
20
15
10
5
0
10^{2}
10^{0}
40
60
80
100
120
140
160
180
200
73
Incident Energy (MeV)
40-Zr-88

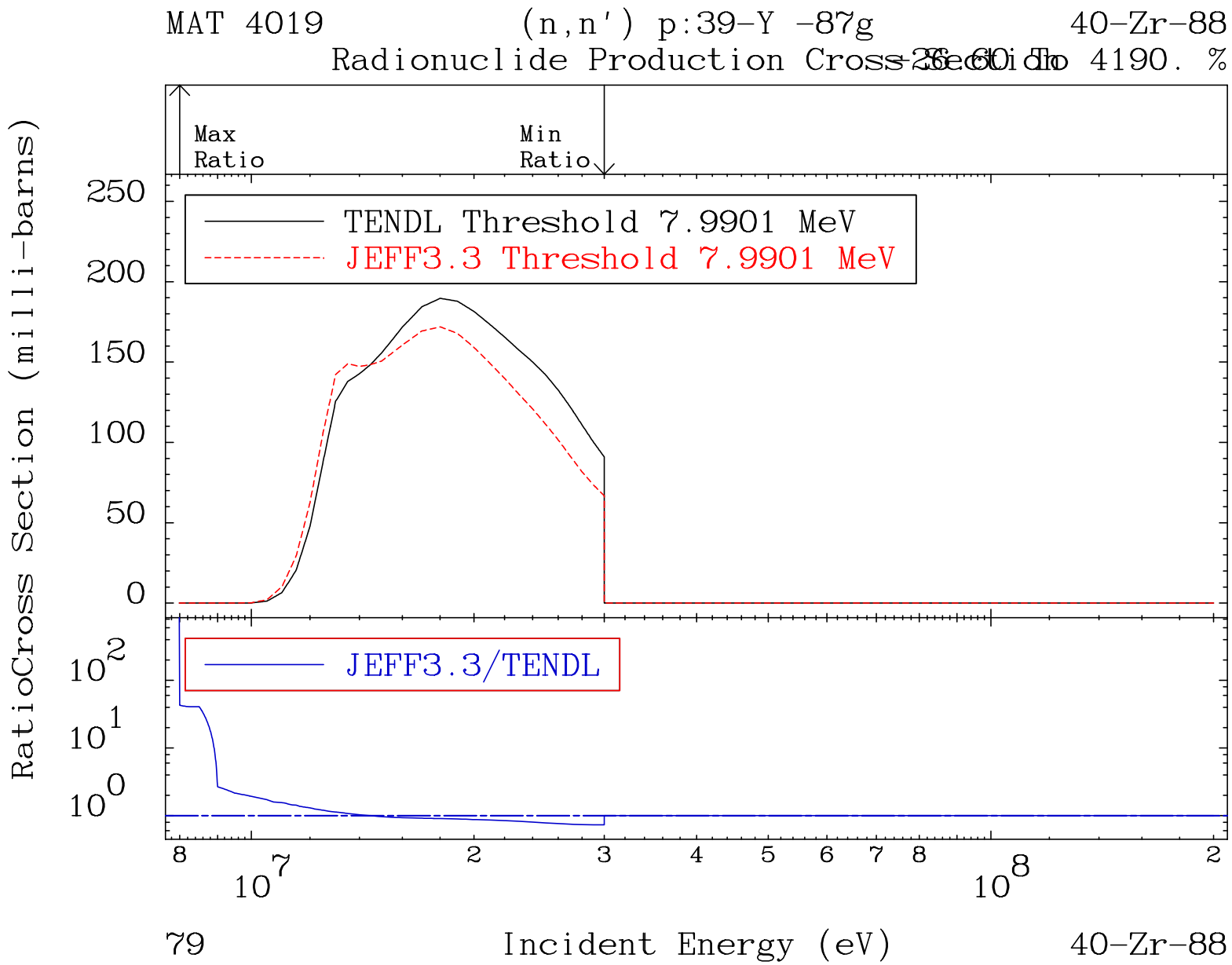

MAT 4019
(n,2n) d:39-Y -85m1
40-Zr-88
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 27.323 MeV
JEFF3.3 Threshold 27.323 MeV
JEFF3.3/TENDL
Ratio Cross Section (10^{-9} barns)
60
40
20
0
10^{2}
10^{0}
40
60
80
100
120
140
160
180
200
74
Incident Energy (MeV)
40-Zr-88

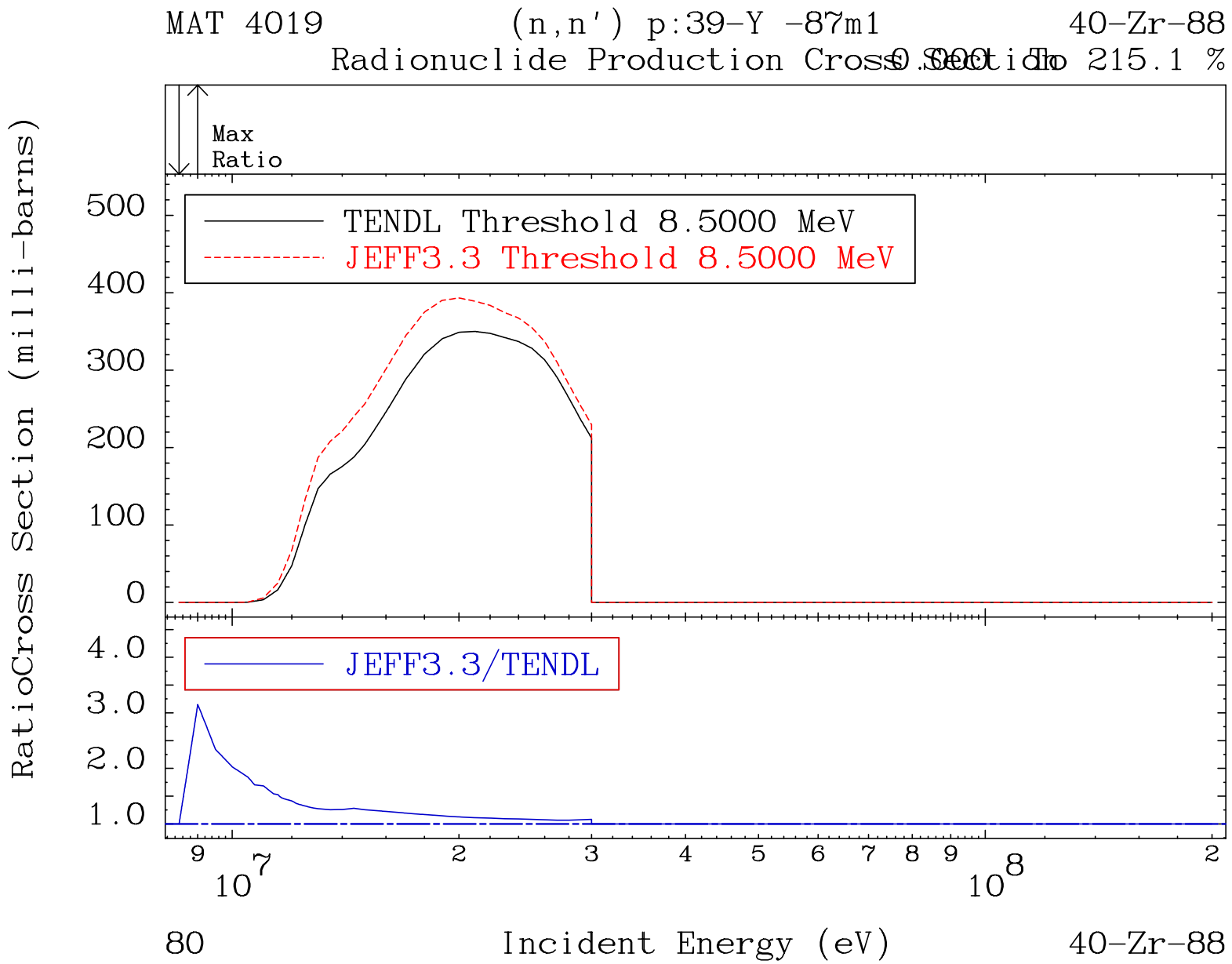

MAT 4019
(n,2n):40-Zr-87g
40-Zr-88
Radionuclide Production Cross Section
Max
Ratio
TENDL Threshold 12.495 MeV
JEFF3.3 Threshold 12.495 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
4
2
0
2
3
4
5
6
7
8
9
2
10^8
75
Incident Energy (eV)
40-Zr-88

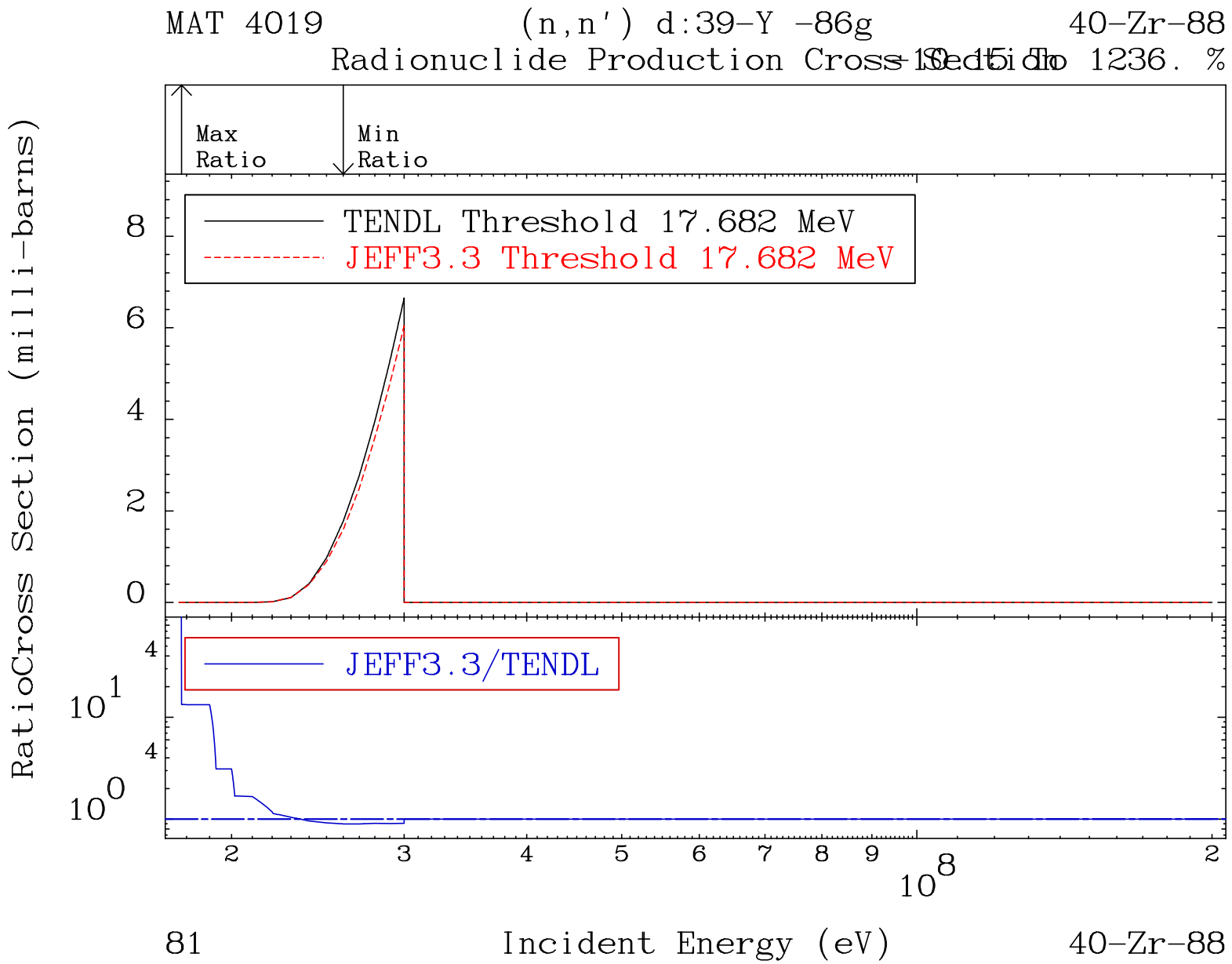

MAT 4019
(n,2n):40-Zr-87m2
40-Zr-88
Radionuclide Production Cross Section To 147.5 %
Max
Ratio
TENDL Threshold 12.834 MeV
JEFF3.3 Threshold 12.834 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
2
0
2
3
4
5
6
7
8
9
10^8
2
76
Incident Energy (eV)
40-Zr-88

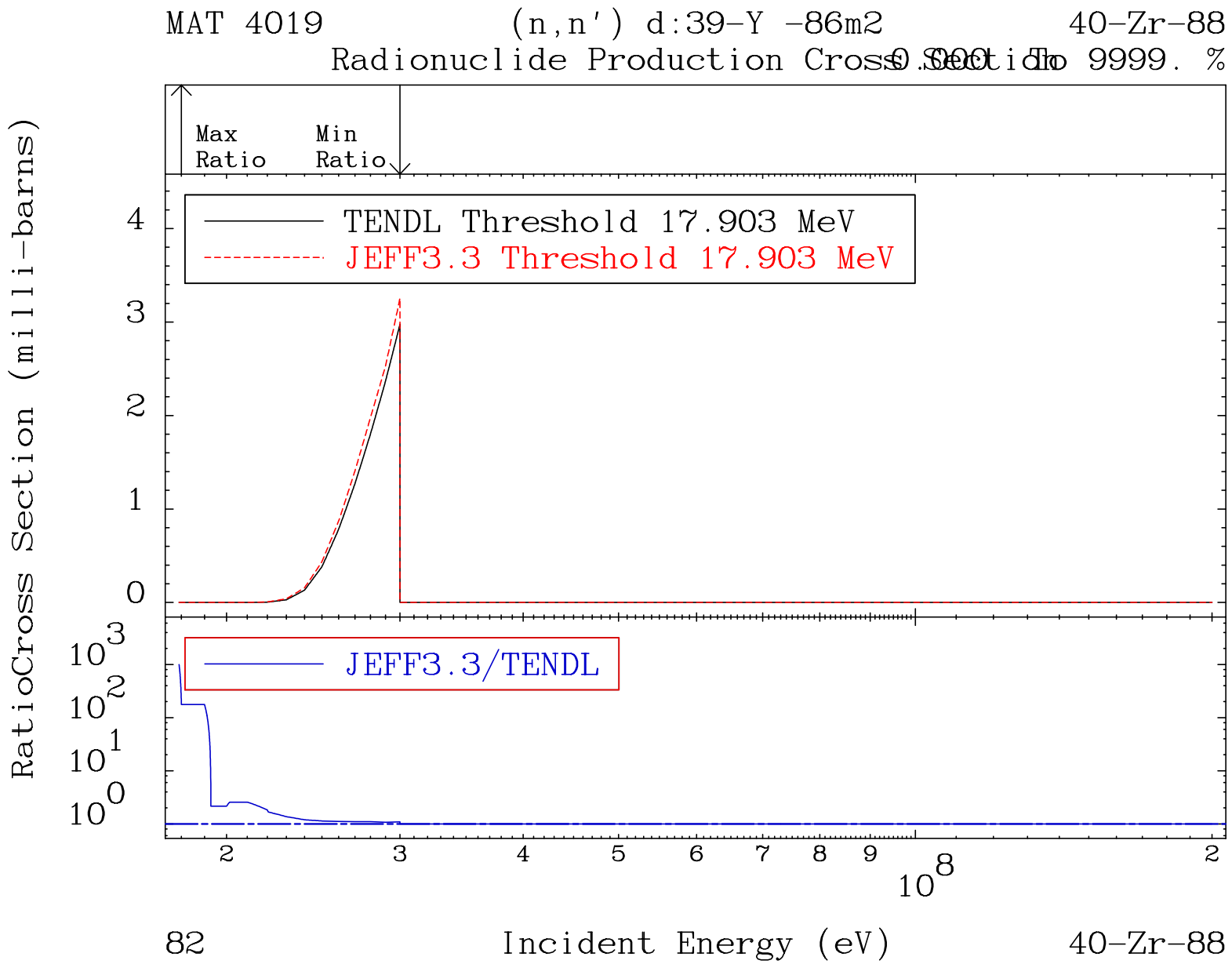

MAT 4019
(n,2n) α:38-Sr-83g
40-Zr-88
Radionuclide Production Cross Section To 9999. %
Max
Ratio
TENDL Threshold 17.526 MeV
JEFF3.3 Threshold 17.526 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
77
40-Zr-88

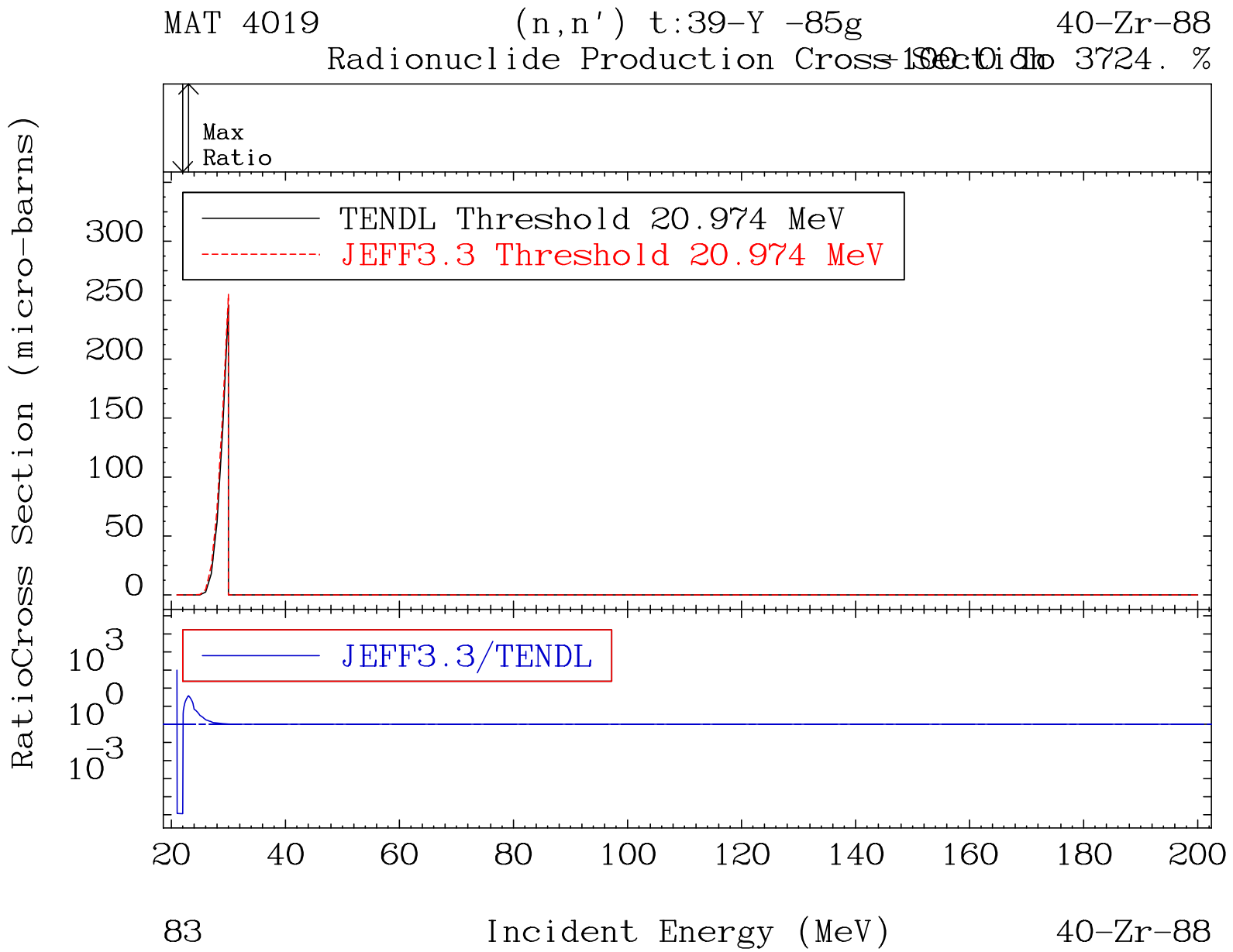

MAT 4019
(n,2n) α:38-Sr-83m2
40-Zr-88
Radionuclide Production Cross Section To 9999. %
Max
Ratio
800
600
400
200
0
TENDL Threshold 17.788 MeV
JEFF3.3 Threshold 17.788 MeV
JEFF3.3/TENDL
10^3
10^0
2
3
4
5
6
7
8
9
10^8
2
RatioCross Section (micro-barns)
78
Incident Energy (eV)
40-Zr-88

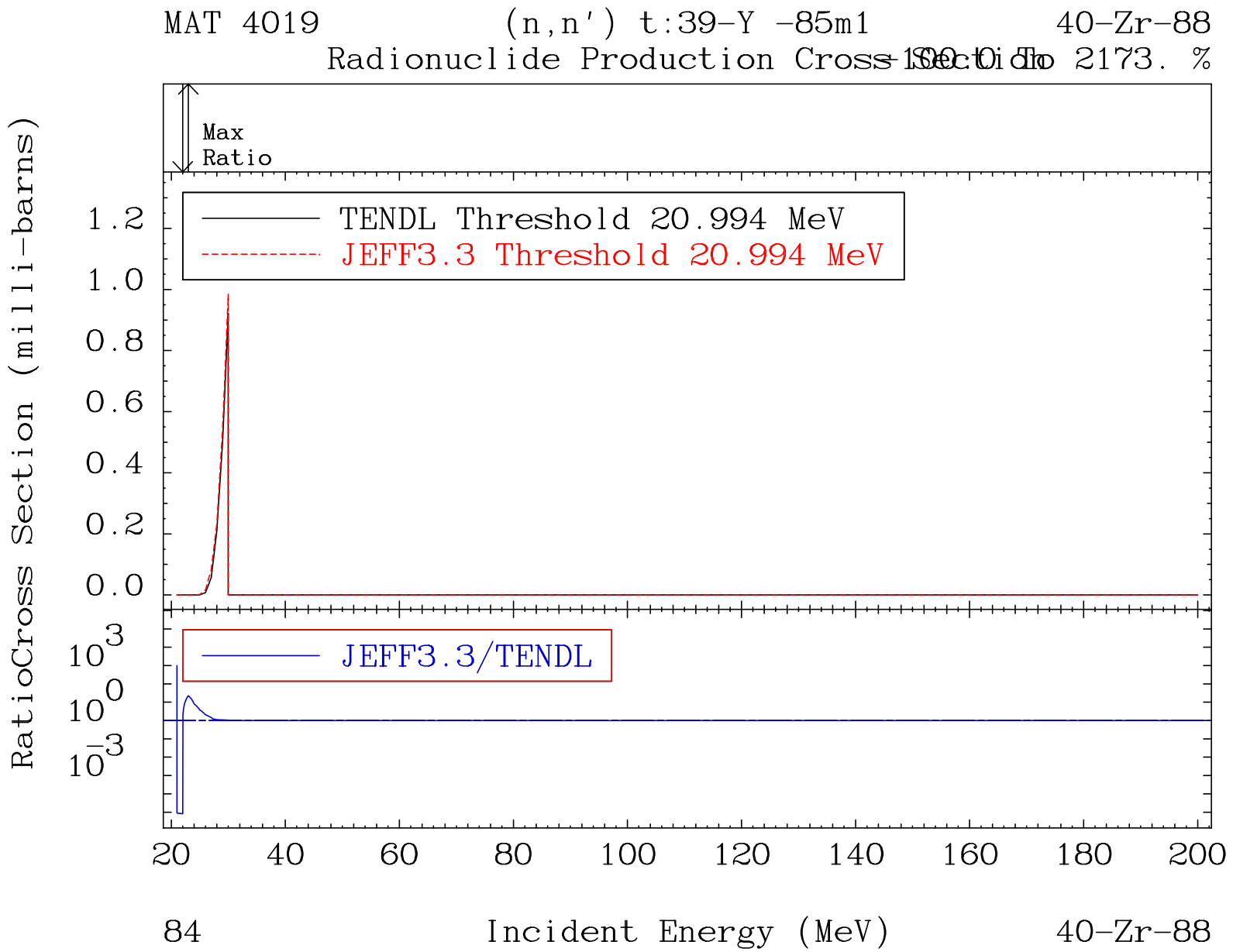

MAT 4019
(n,n') p:39-Y -87g
40-Zr-88
Radionuclide Production Cross-Section To 4190. %
Max Ratio
Min Ratio
TENDL Threshold 7.9901 MeV
JEFF3.3 Threshold 7.9901 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^2
10^1
10^0
8
10^7
2
3
4
5
6
7
8
10^8
2
79
Incident Energy (eV)
40-Zr-88

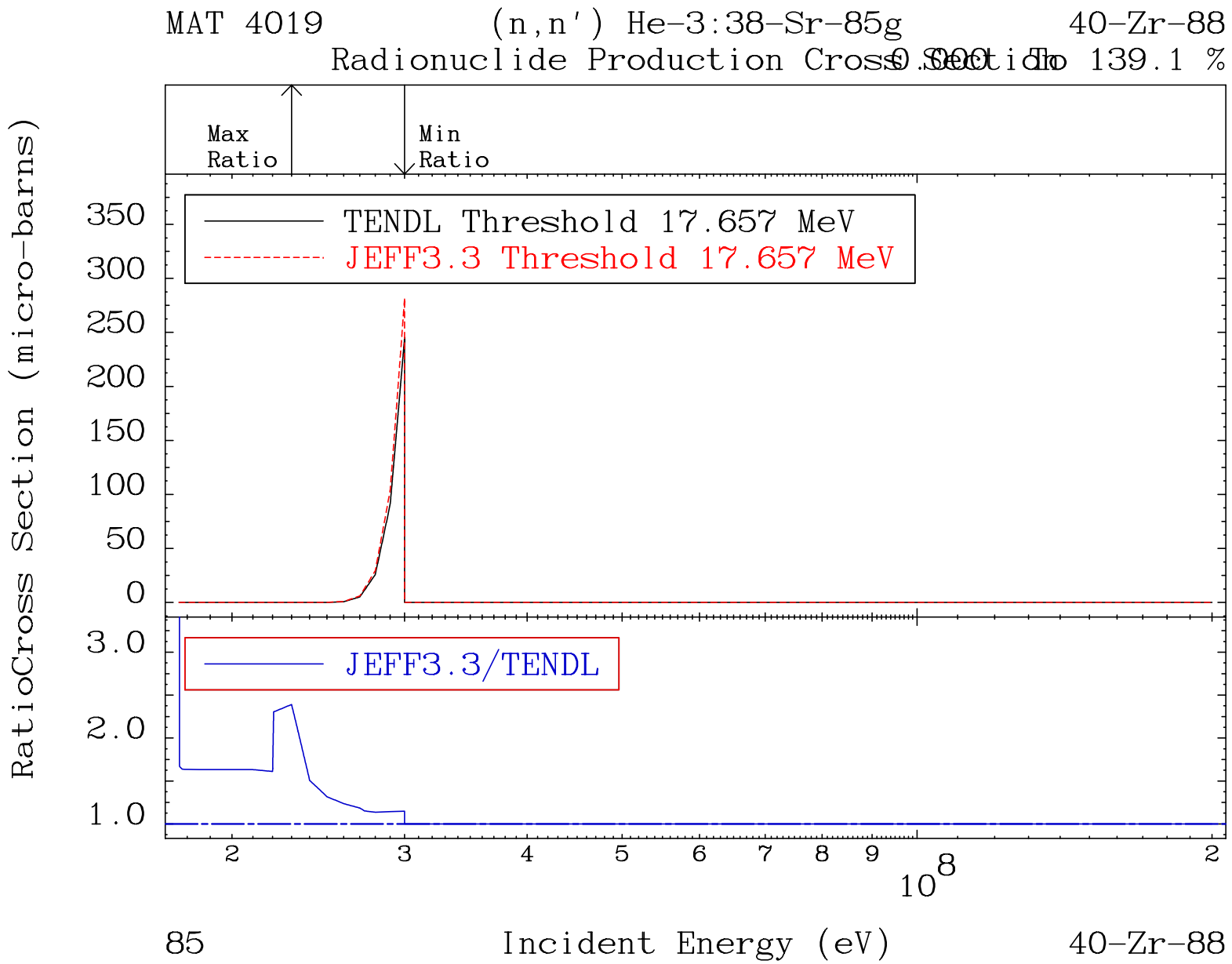

MAT 4019
(n,n') p:39-Y -87m1
40-Zr-88
Radionuclide Production Cross Section
0.000 To 215.1 %
Max
Ratio
TENDL Threshold 8.5000 MeV
JEFF3.3 Threshold 8.5000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
4.0
3.0
2.0
1.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
80
Incident Energy (eV)
40-Zr-88

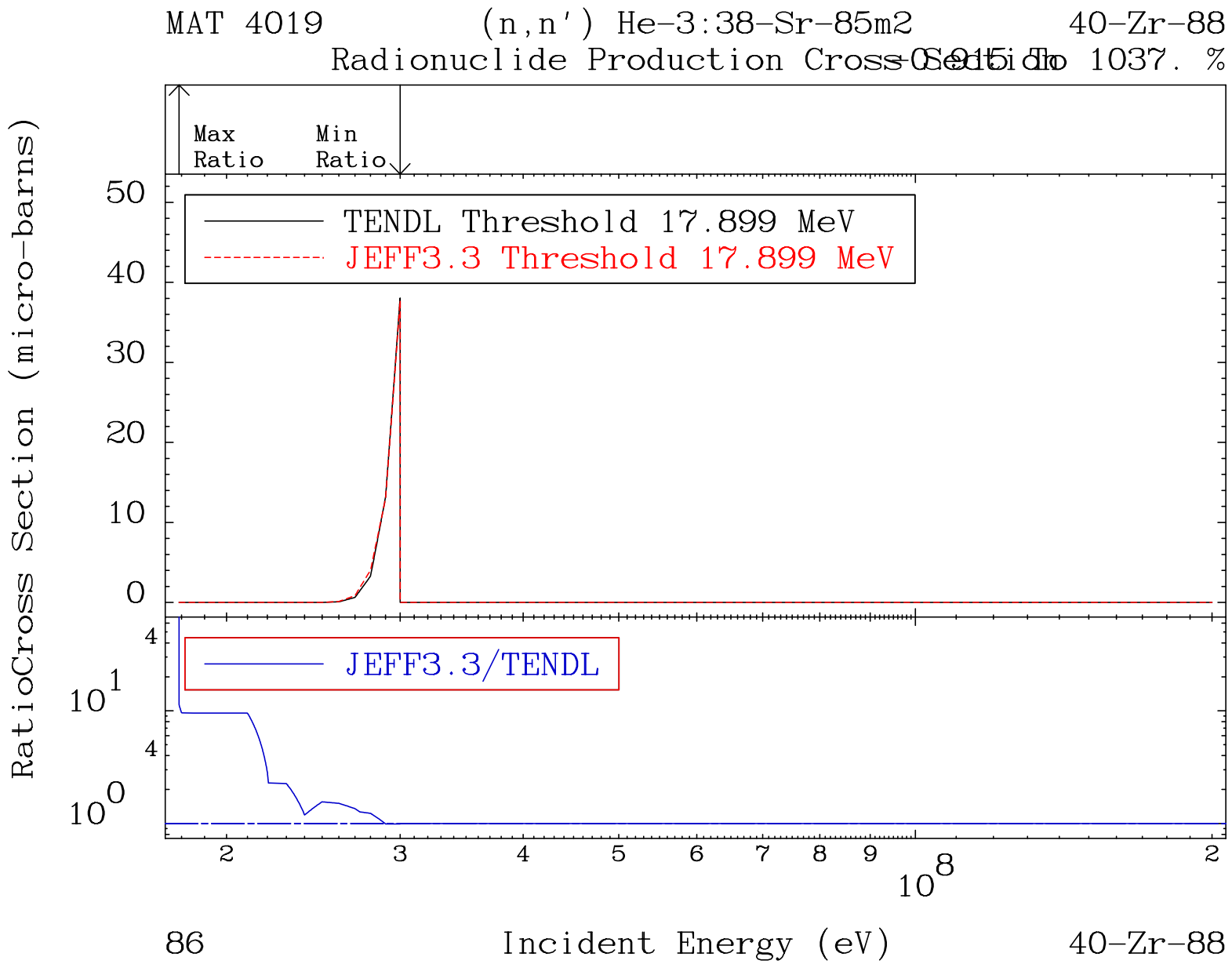

MAT 4019
(n,n') d:39-Y -86g
40-Zr-88
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 17.682 MeV
JEFF3.3 Threshold 17.682 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
81
40-Zr-88

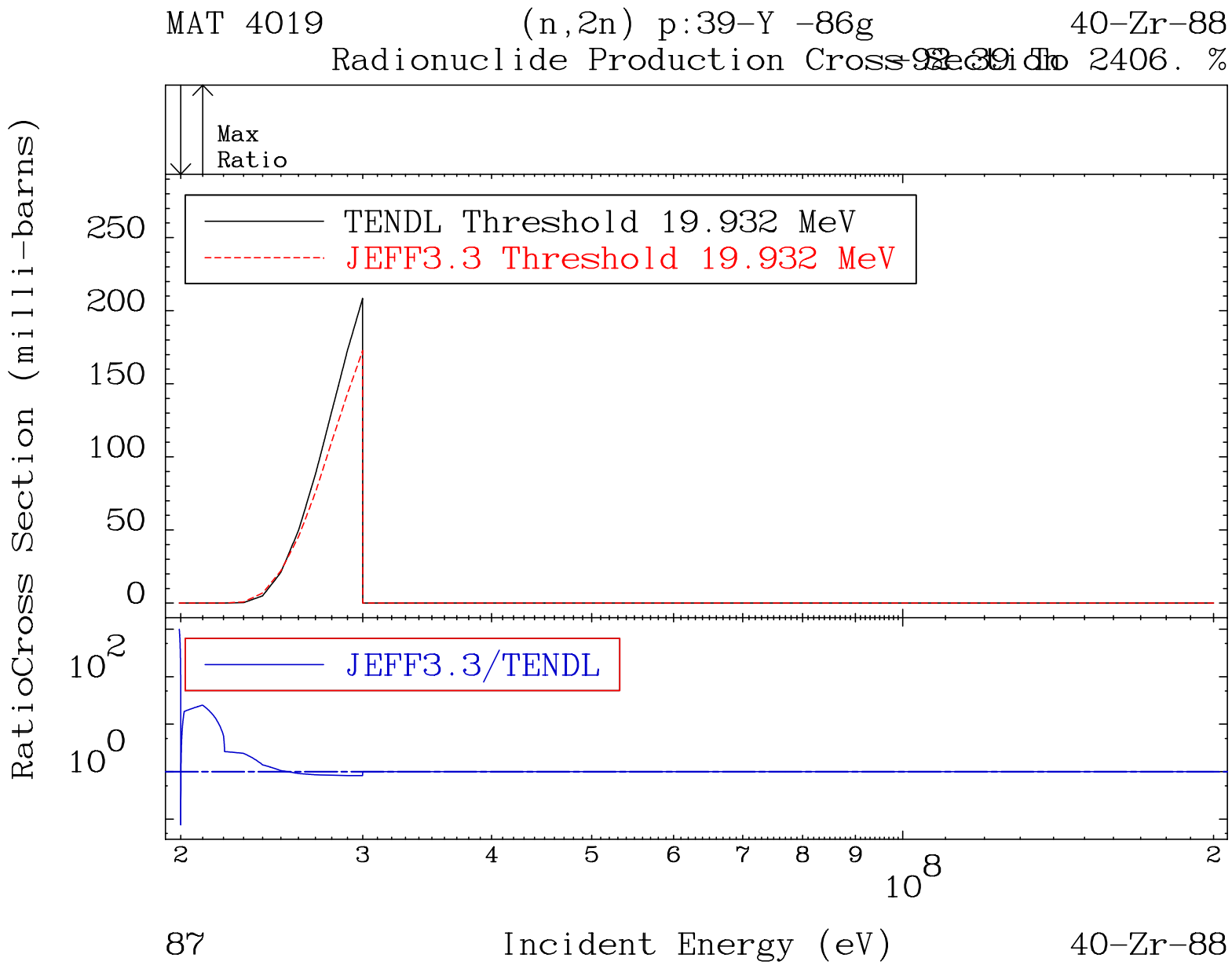

MAT 4019 (n,n') d:39-Y -86m2 40-Zr-88
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 17.903 MeV
JEFF3.3 Threshold 17.903 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
82
40-Zr-88

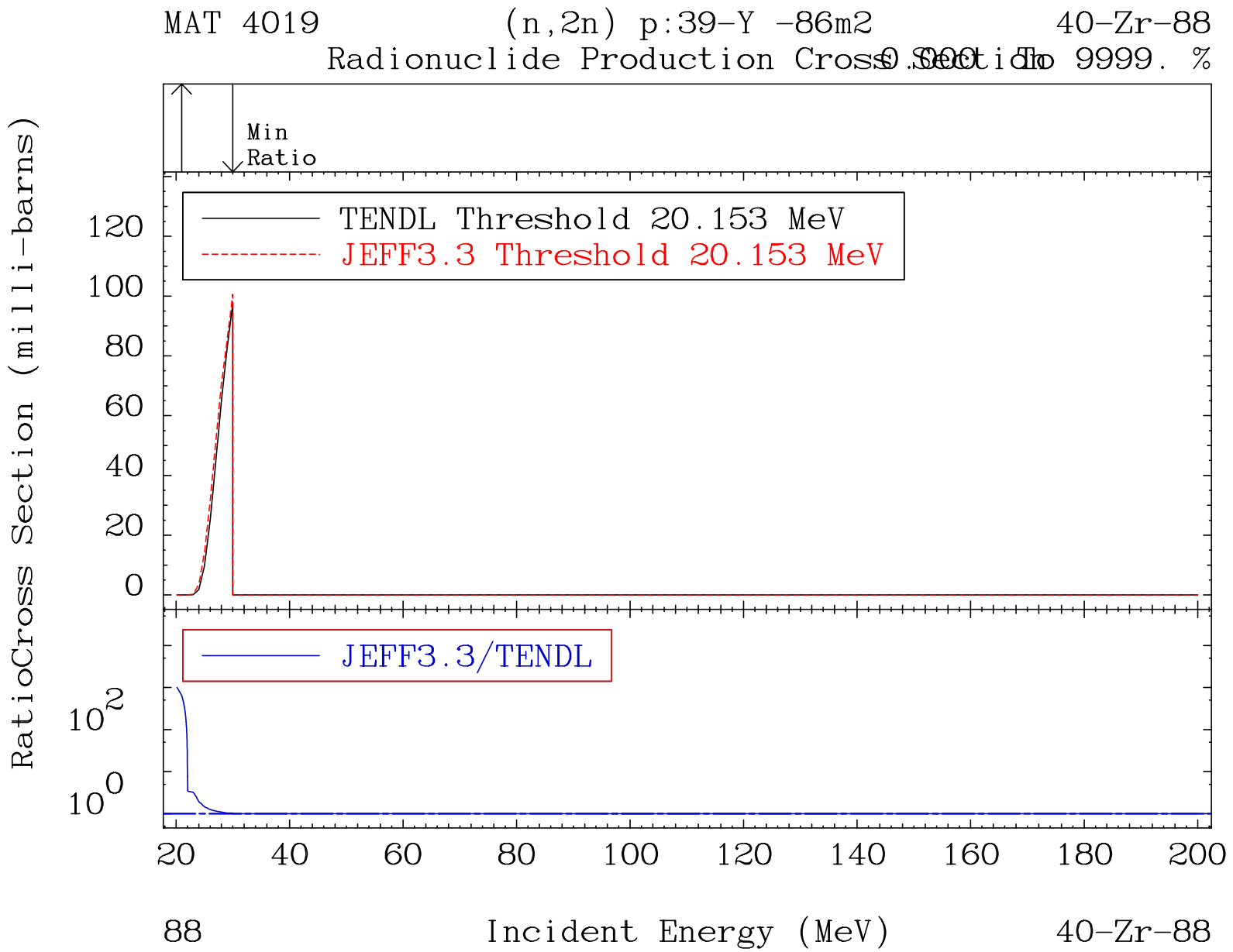

MAT 4019
(n,n') t:39-Y -85g
40-Zr-88
Radionuclide Production Cross Section To 3724. %
Max
Ratio
TENDL Threshold 20.974 MeV
JEFF3.3 Threshold 20.974 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
300
250
200
150
100
50
0
10^3
10^0
10^-3
20
40
60
80
100
120
140
160
180
200
83
Incident Energy (MeV)
40-Zr-88

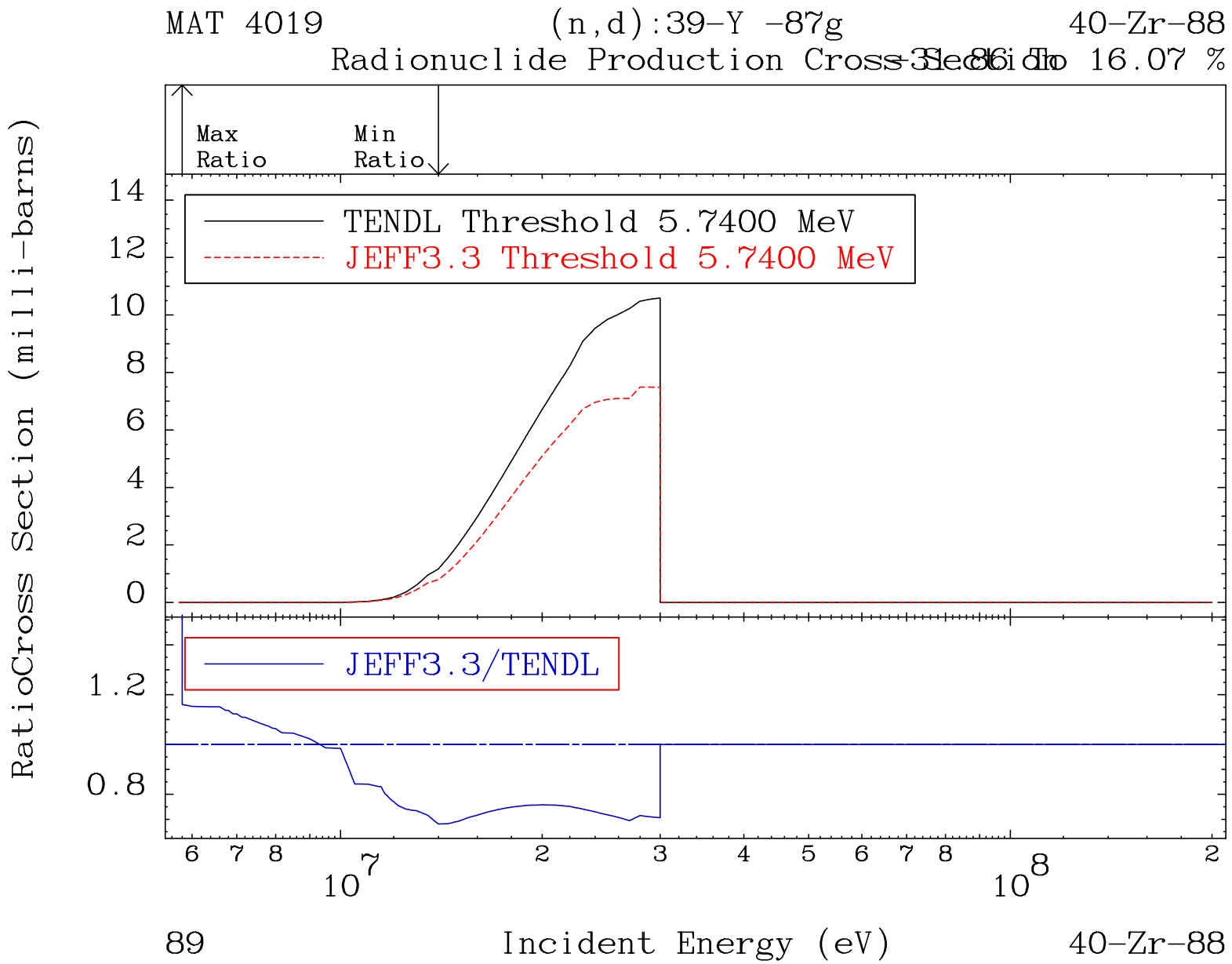

MAT 4019
(n,n') t:39-Y -85m1
40-Zr-88
Radionuclide Production Cross Section To 2173. %
Max
Ratio
TENDL Threshold 20.994 MeV
JEFF3.3 Threshold 20.994 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10^3
10^0
10^-3
20
40
60
80
100
120
140
160
180
200
84
Incident Energy (MeV)
40-Zr-88

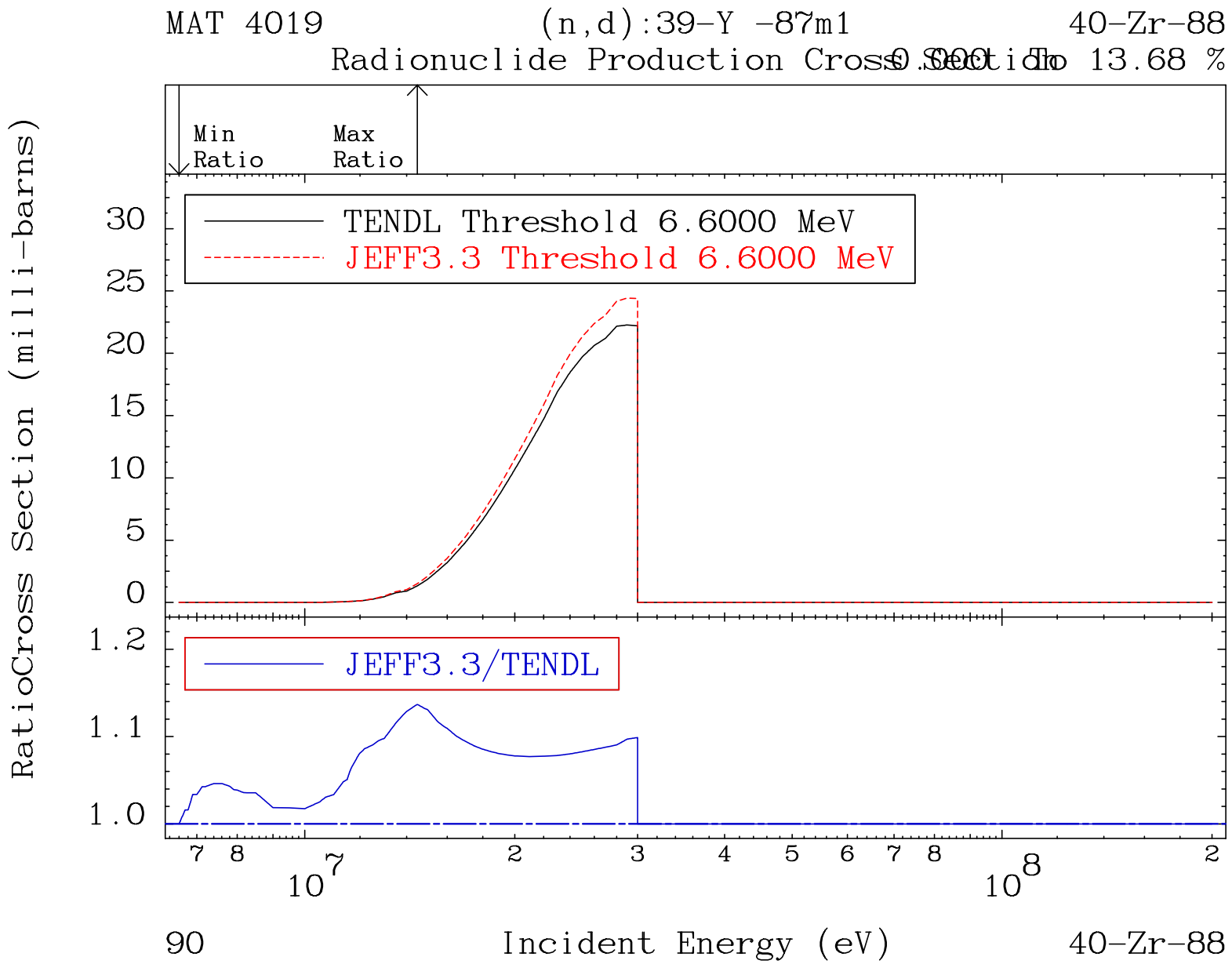

MAT 4019 (n,n') He-3:38-Sr-85g 40-Zr-88
Radionuclide Production Cross Section To 139.1 %
Max Ratio
Min Ratio
TENDL Threshold 17.657 MeV
JEFF3.3 Threshold 17.657 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
350
300
250
200
150
100
50
0
3.0
2.0
1.0
2
3
4
5
6
7
8
9
2
10^8
85
Incident Energy (eV)
40-Zr-88

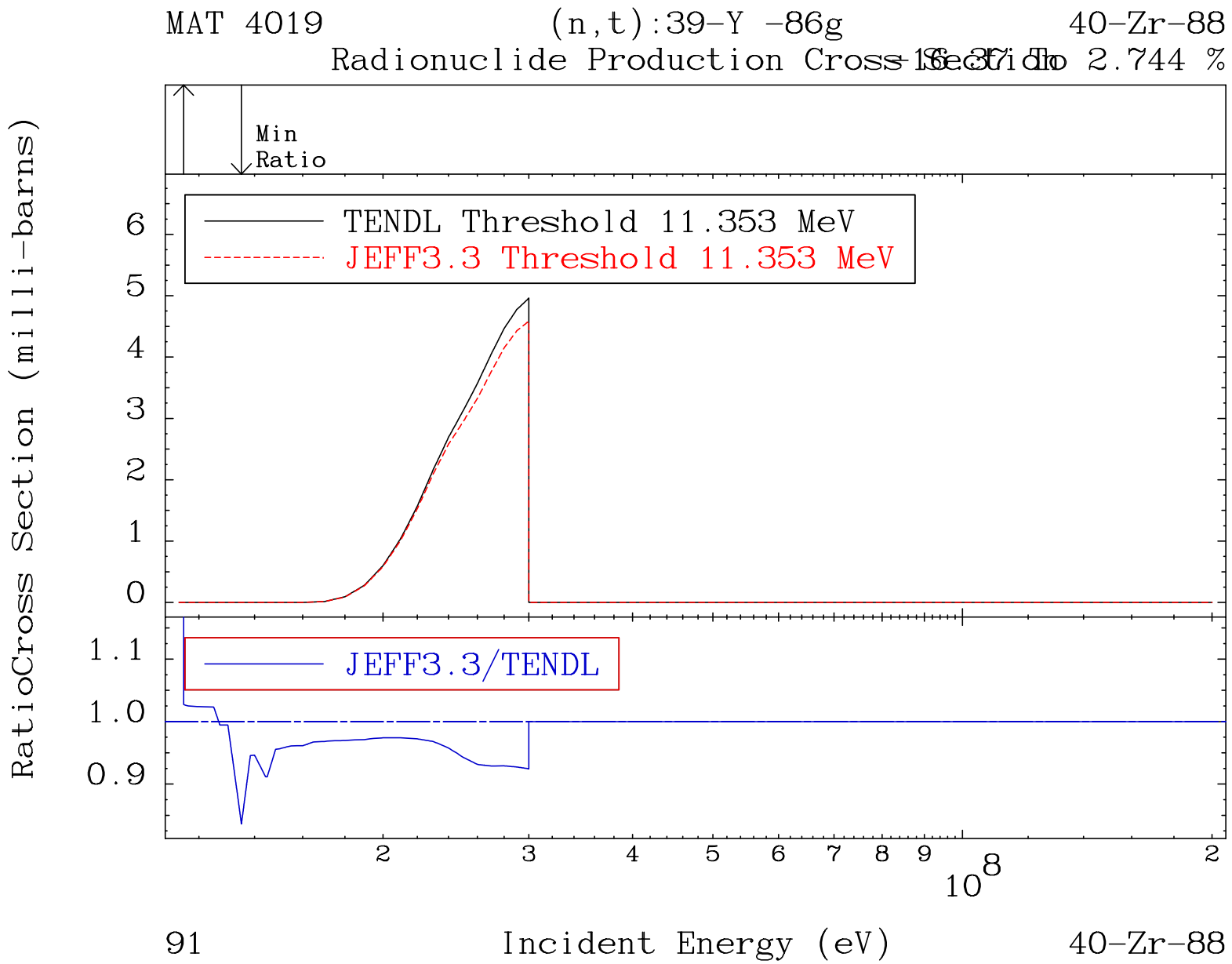

MAT 4019
(n,n') He-3:38-Sr-85m2
40-Zr-88
Radionuclide Production Cross Section
0.915 To 1037. %
Max Ratio
Min Ratio
TENDL Threshold 17.899 MeV
JEFF3.3 Threshold 17.899 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
50
40
30
20
10
0
4
10^1
4
10^0
2
3
4
5
6
7
8
9
10^8
2
86
Incident Energy (eV)
40-Zr-88

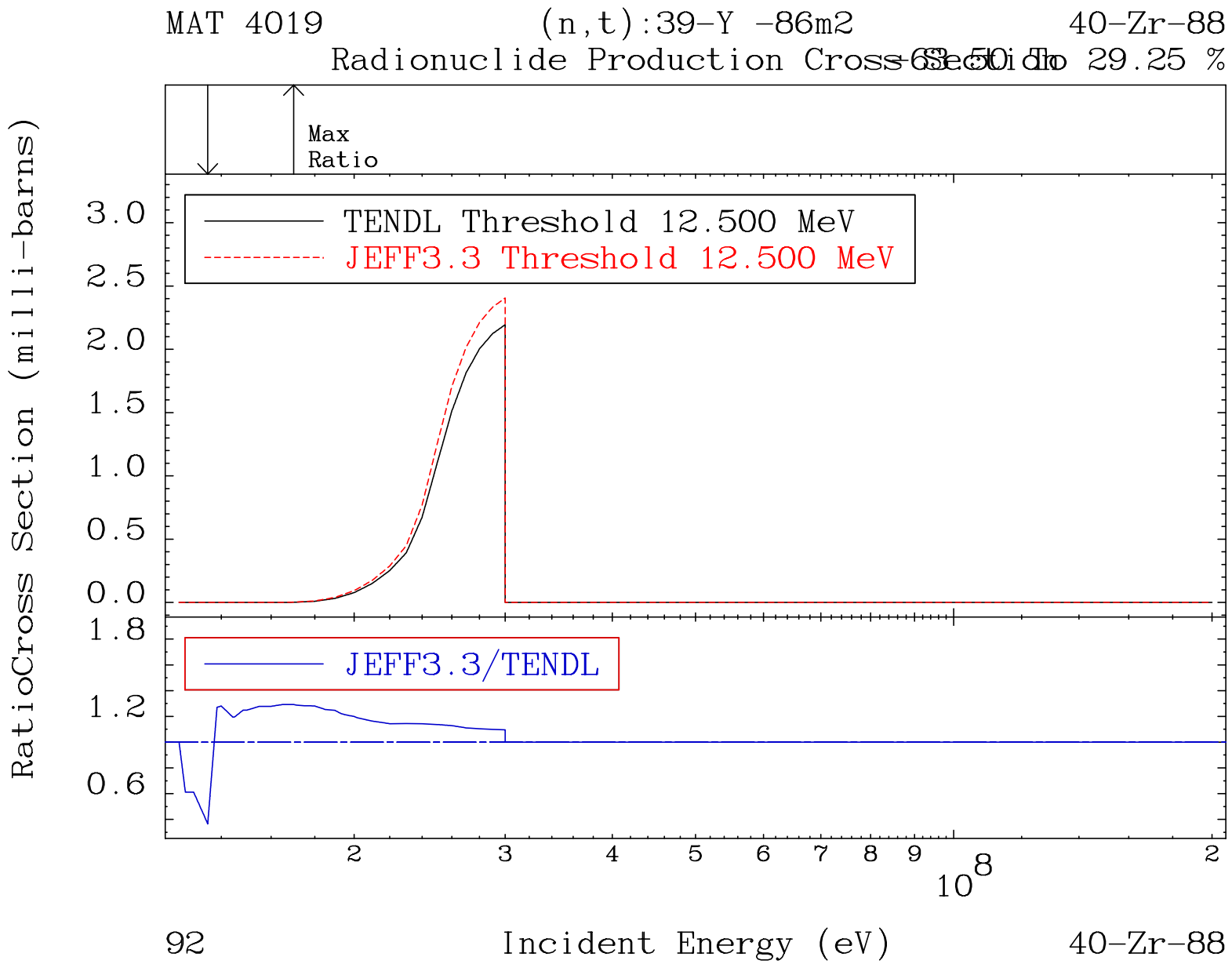

MAT 4019 (n,2n) p:39-Y -86g 40-Zr-88
Radionuclide Production Cross Section To 2406. %
Max
Ratio
TENDL Threshold 19.932 MeV
JEFF3.3 Threshold 19.932 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
87
Incident Energy (eV)
40-Zr-88

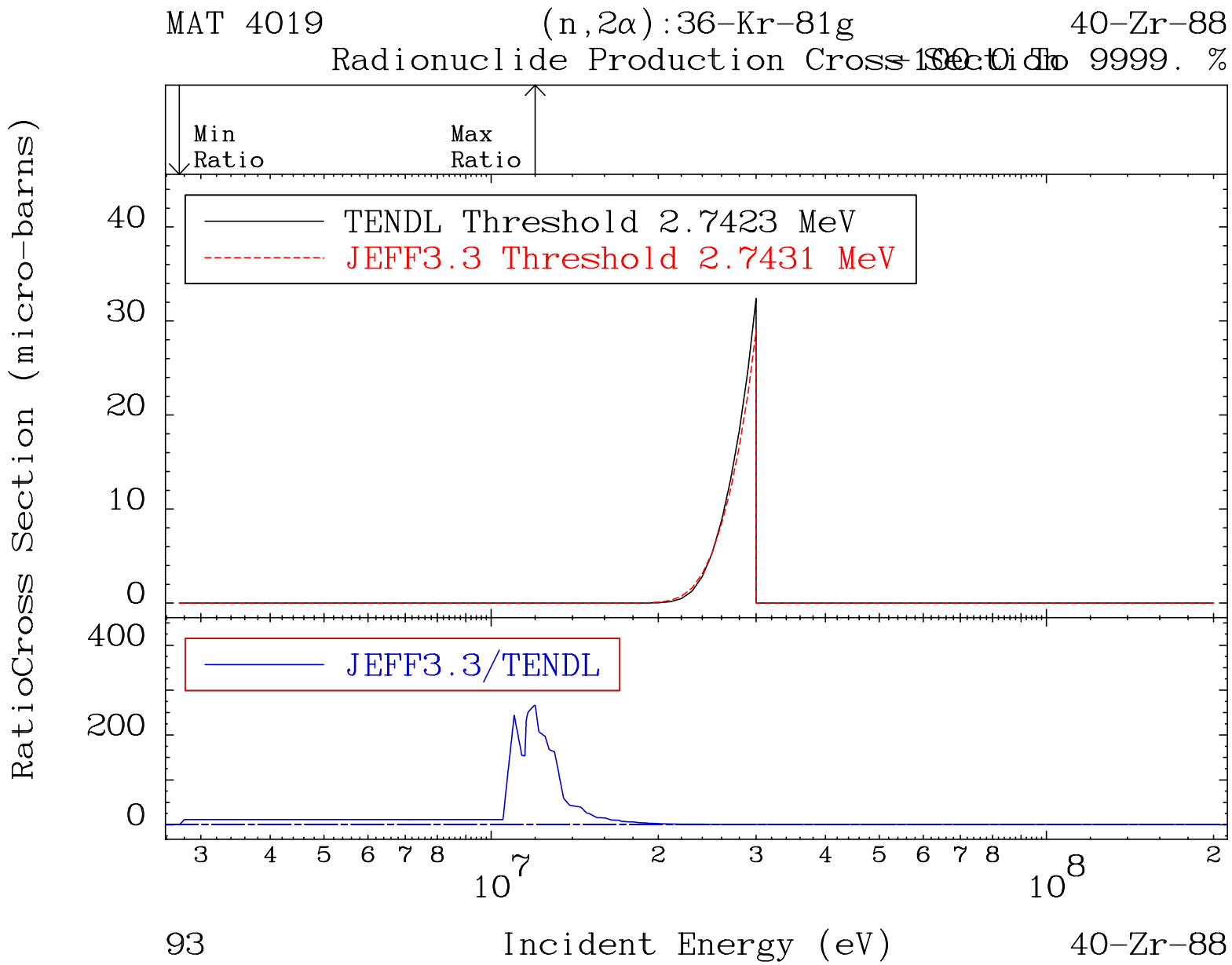

MAT 4019
(n,2n) p:39-Y -86m2
40-Zr-88
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 20.153 MeV
JEFF3.3 Threshold 20.153 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
10^2
10^0
20
40
60
80
100
120
140
160
180
200
88
Incident Energy (MeV)
40-Zr-88

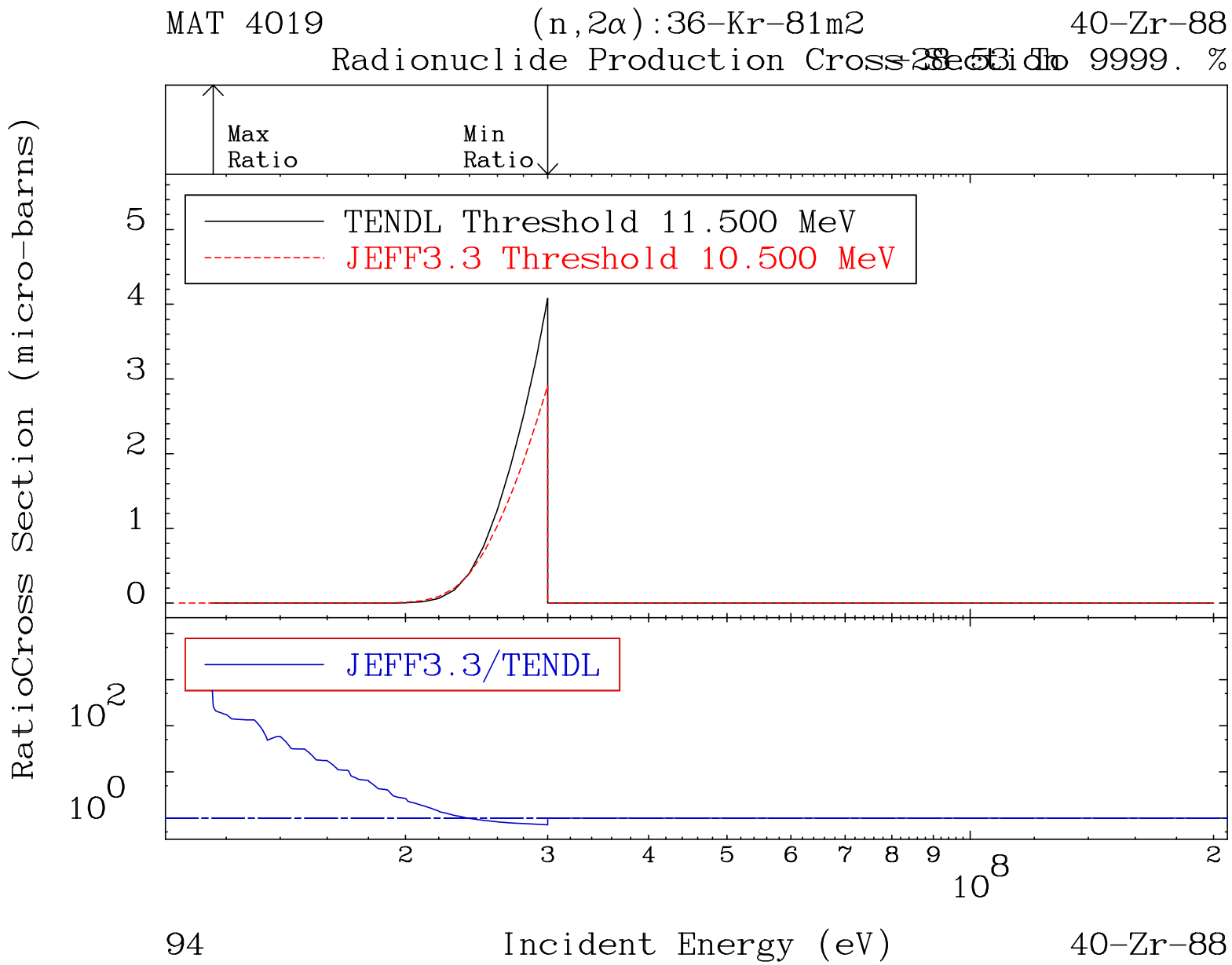

MAT 4019
(n,d):39-Y -87g
40-Zr-88
Radionuclide Production Cross-Section
Max Ratio
Min Ratio
TENDL Threshold 5.7400 MeV
JEFF3.3 Threshold 5.7400 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
89
40-Zr-88

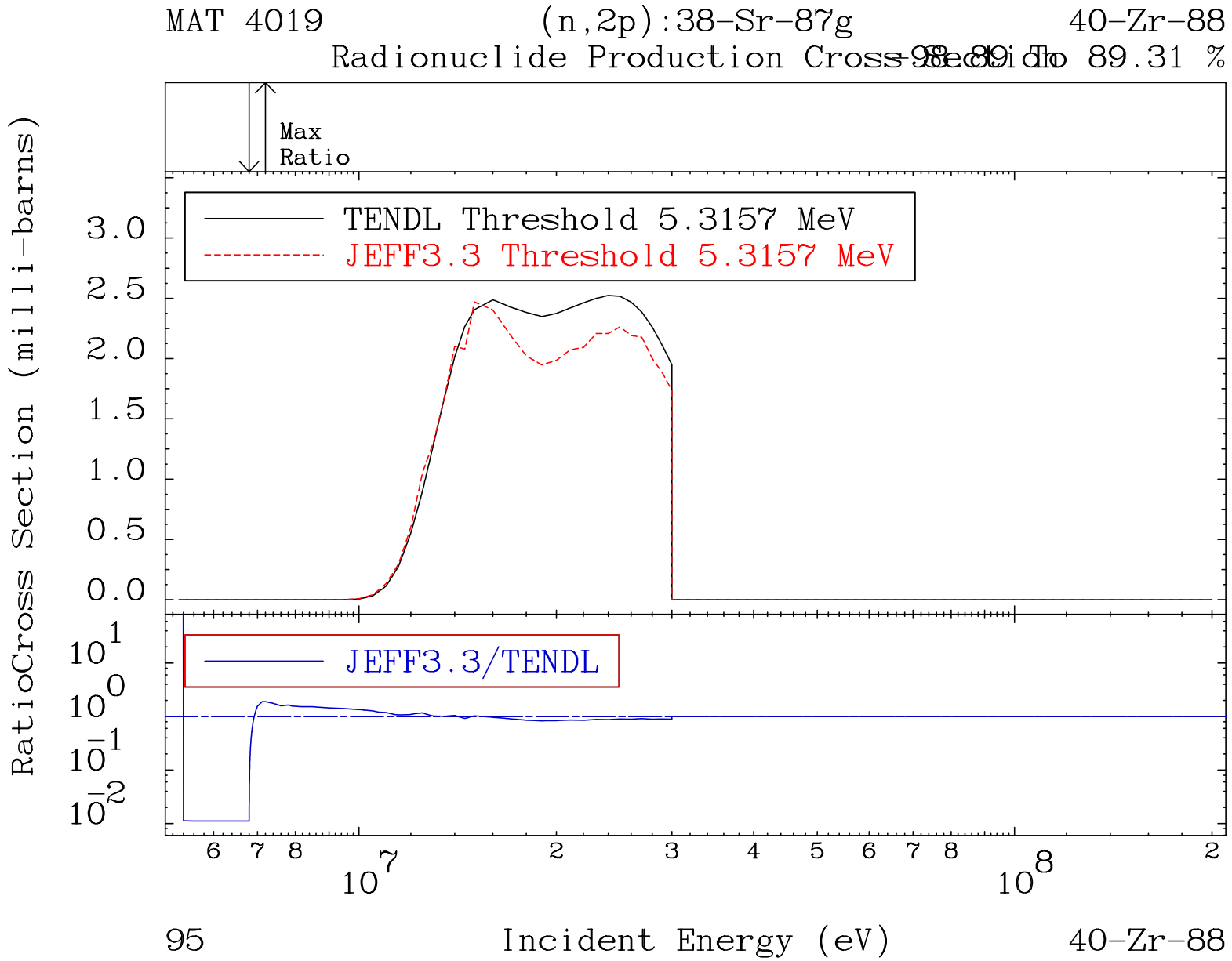

MAT 4019
(n,d):39-Y -87m1
40-Zr-88
Radionuclide Production Cross Section To 13.68 %
Min Ratio
Max Ratio
TENDL Threshold 6.6000 MeV
JEFF3.3 Threshold 6.6000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
1.2
1.1
1.0
7 8
10^7
2 3 4 5 6 7 8
10^8
2
90
Incident Energy (eV)
40-Zr-88

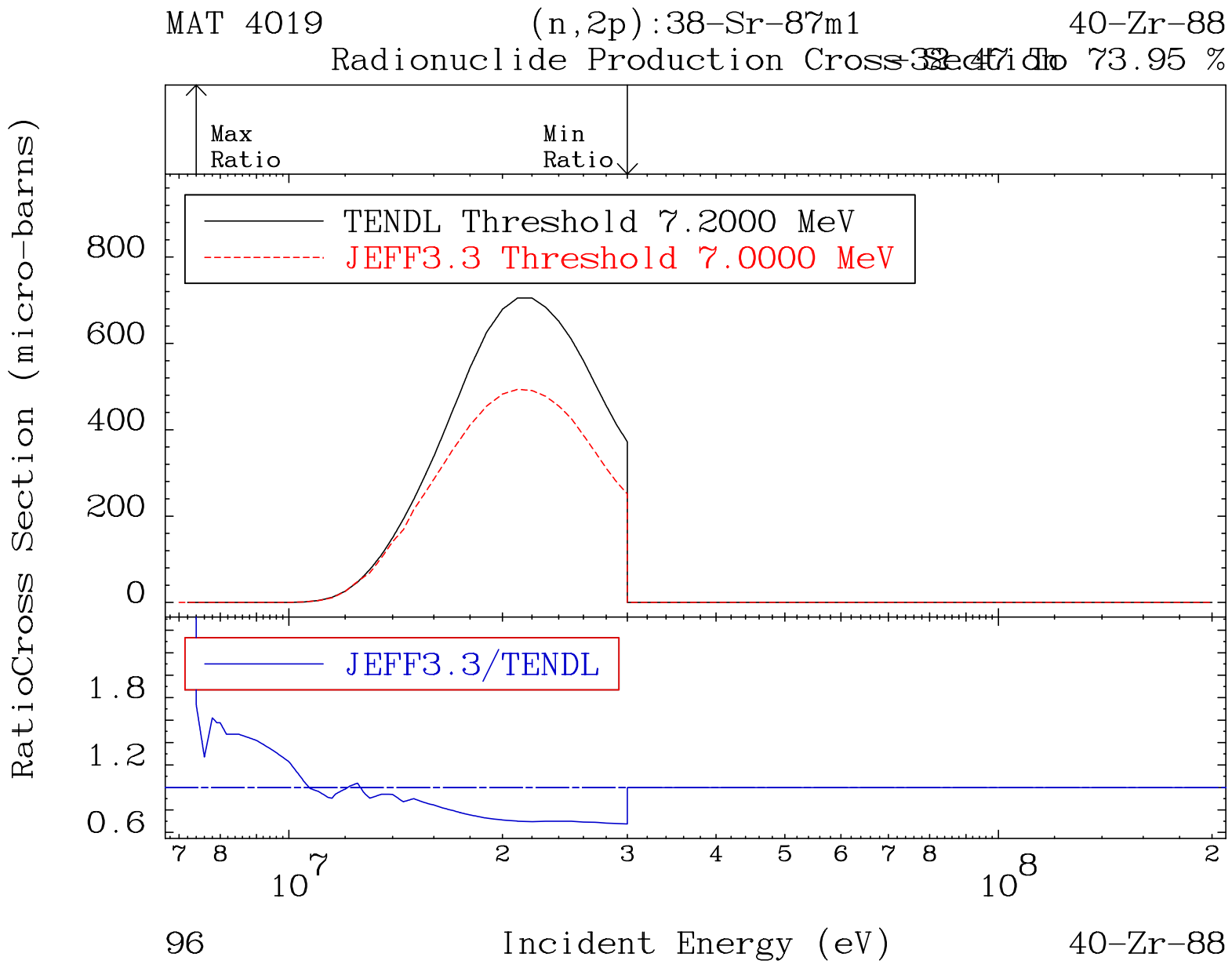

MAT 4019
(n,t):39-Y -86g
40-Zr-88
Radionuclide Production Cross Section
Min
Ratio
TENDL Threshold 11.353 MeV
JEFF3.3 Threshold 11.353 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
91
40-Zr-88

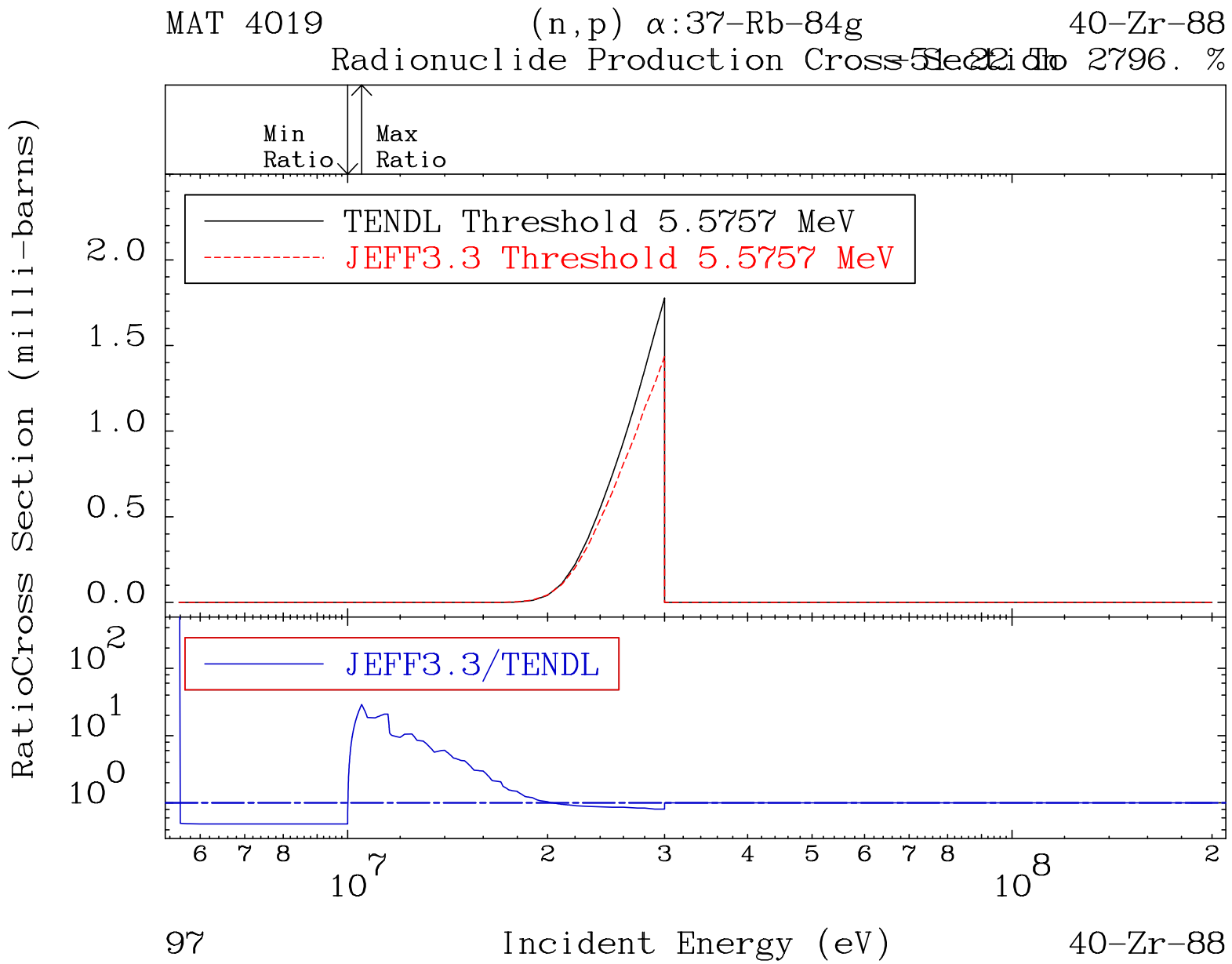

MAT 4019
(n,t):39-Y -86m2
40-Zr-88
Radionuclide Production Cross Section To 29.25 %
Max
Ratio
TENDL Threshold 12.500 MeV
JEFF3.3 Threshold 12.500 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.8
1.2
0.6
2
3
4
5
6
7
8
9
10^8
2
92
Incident Energy (eV)
40-Zr-88

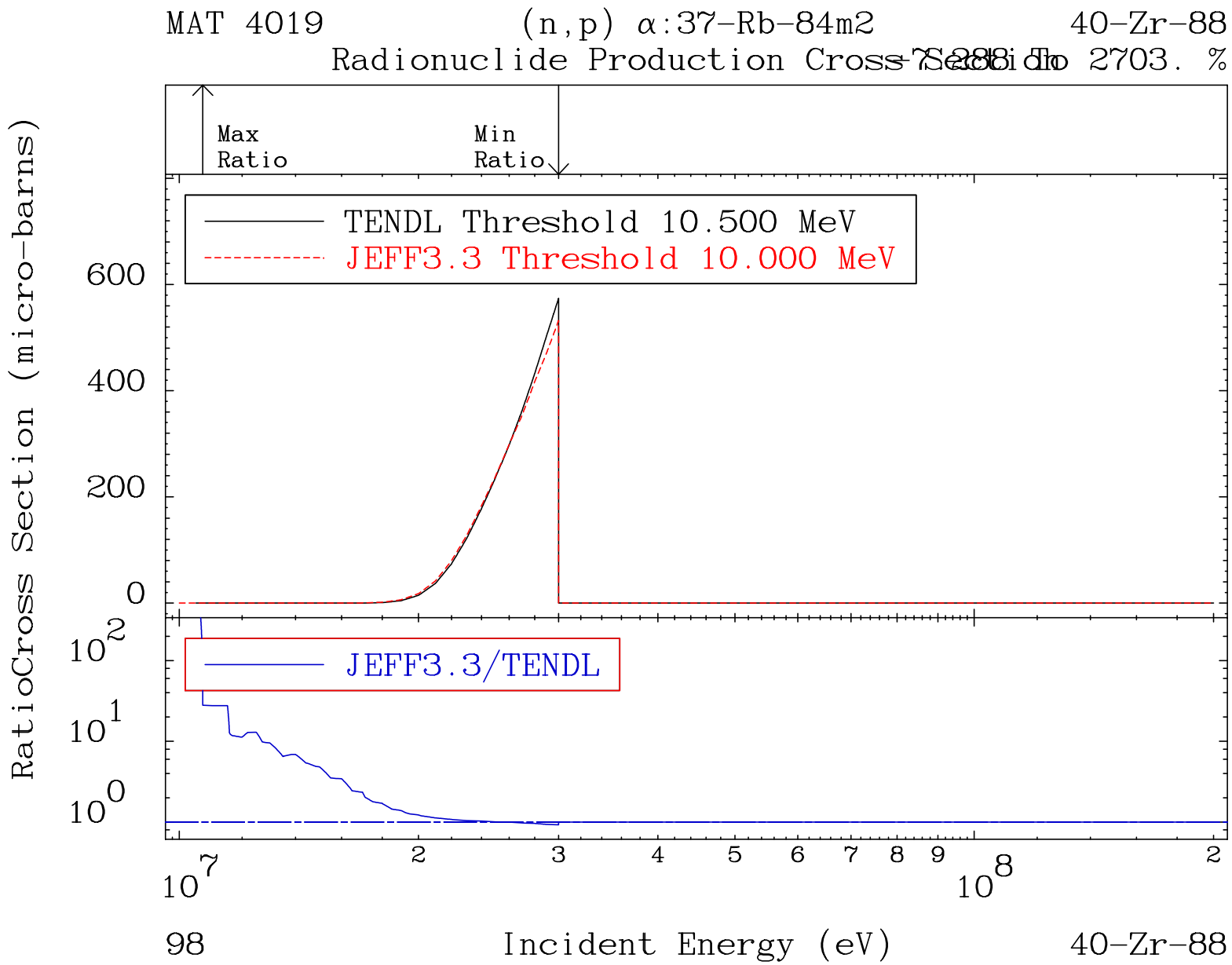

MAT 4019
(n,2α):36-Kr-81g
40-Zr-88
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.7423 MeV
JEFF3.3 Threshold 2.7431 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
40
30
20
10
0
400
200
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
93
Incident Energy (eV)
40-Zr-88

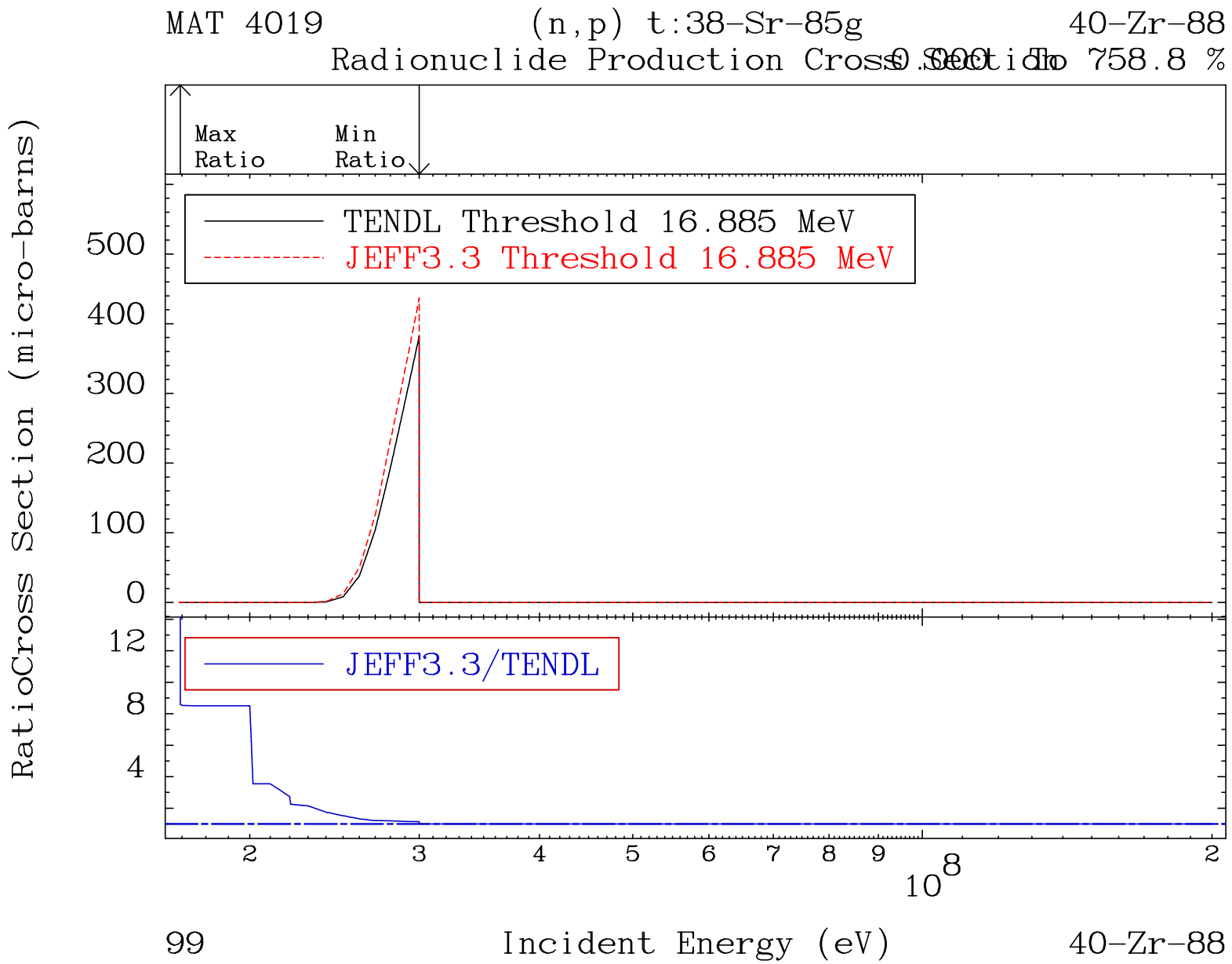

MAT 4019
(n,2α):36-Kr-81m2
40-Zr-88
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 11.500 MeV
JEFF3.3 Threshold 10.500 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
94
40-Zr-88

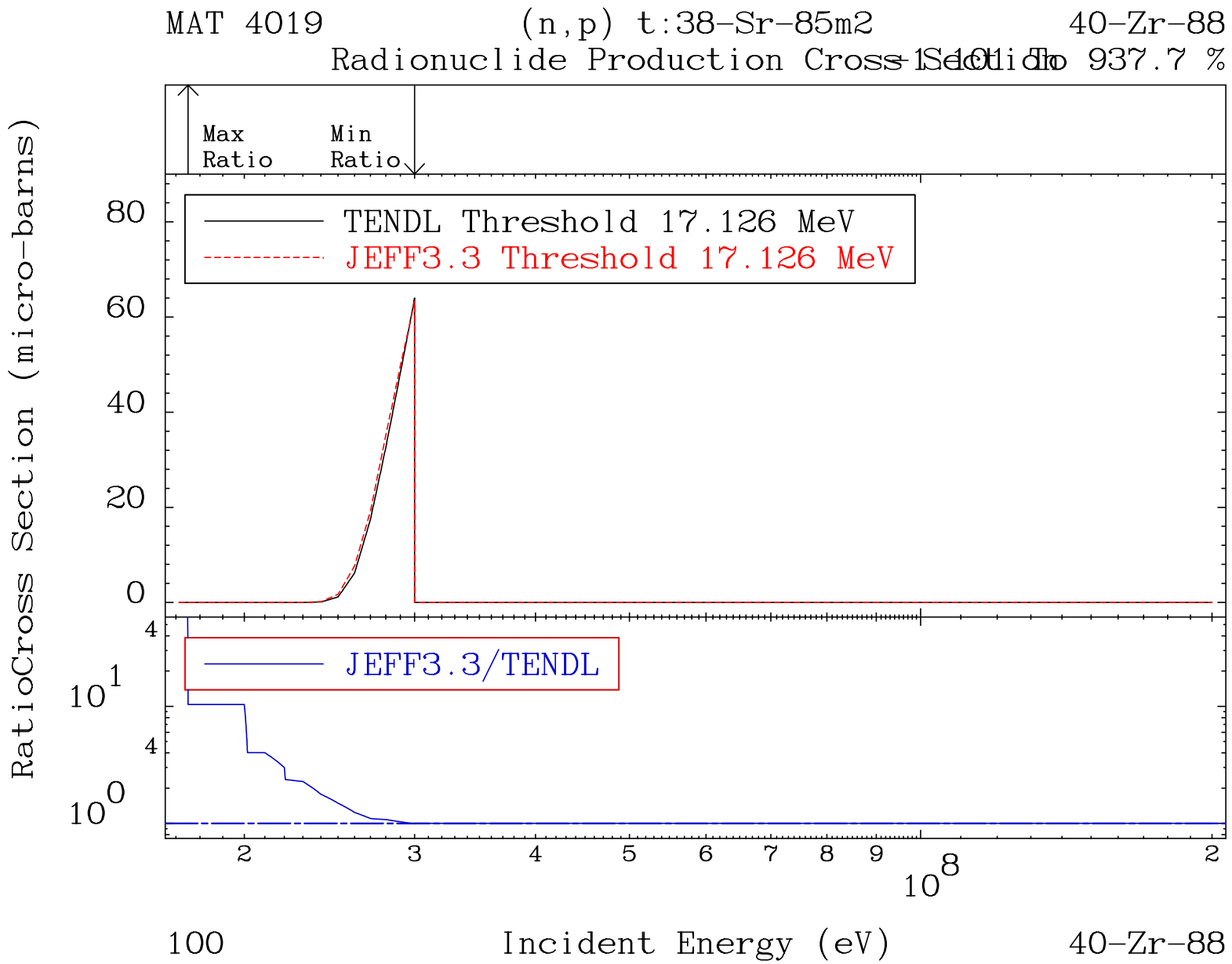

MAT 4019
(n,2p):38-Sr-87g
40-Zr-88
Radionuclide Production Cross Section To 89.31 %
Max
Ratio
TENDL Threshold 5.3157 MeV
JEFF3.3 Threshold 5.3157 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10^1
10^0
10^-1
10^-2
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
95
Incident Energy (eV)
40-Zr-88


MAT 4019
(n,2p):38-Sr-87m1
40-Zr-88
Radionuclide Production Cross Section To 73.95 %
Max Ratio
Min Ratio
TENDL Threshold 7.2000 MeV
JEFF3.3 Threshold 7.0000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
800
600
400
200
0
1.8
1.2
0.6
7 8 10^7 2 3 4 5 6 7 8 10^8 2
96
Incident Energy (eV)
40-Zr-88


MAT 4019
(n,p) α:37-Rb-84g
40-Zr-88
Radionuclide Production Cross Section To 2796. %
Min Ratio
Max Ratio
TENDL Threshold 5.5757 MeV
JEFF3.3 Threshold 5.5757 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
10^2
10^1
10^0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
97
Incident Energy (eV)
40-Zr-88


MAT 4019
(n,p) α:37-Rb-84m2
40-Zr-88
Radionuclide Production Cross Section In 2703. %
Max Ratio
Min Ratio
TENDL Threshold 10.500 MeV
JEFF3.3 Threshold 10.000 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
600
400
200
0
10^2
10^1
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
98
Incident Energy (eV)
40-Zr-88


MAT 4019
(n,p) t:38-Sr-85g
40-Zr-88
Radionuclide Production Cross Section To 758.8 %
Max Ratio
Min Ratio
TENDL Threshold 16.885 MeV
JEFF3.3 Threshold 16.885 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
500
400
300
200
100
0
12
8
4
2
3
4
5
6
7
8
9
2
10^8
99
Incident Energy (eV)
40-Zr-88


MAT 4019
(n,p) t:38-Sr-85m2
40-Zr-88
Radionuclide Production Cross Section To 937.7 %
Max Ratio
Min Ratio
TENDL Threshold 17.126 MeV
JEFF3.3 Threshold 17.126 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
80
60
40
20
0
4
10^1
4
10^0
2
3
4
5
6
7
8
9
10^8
2
100
Incident Energy (eV)
40-Zr-88