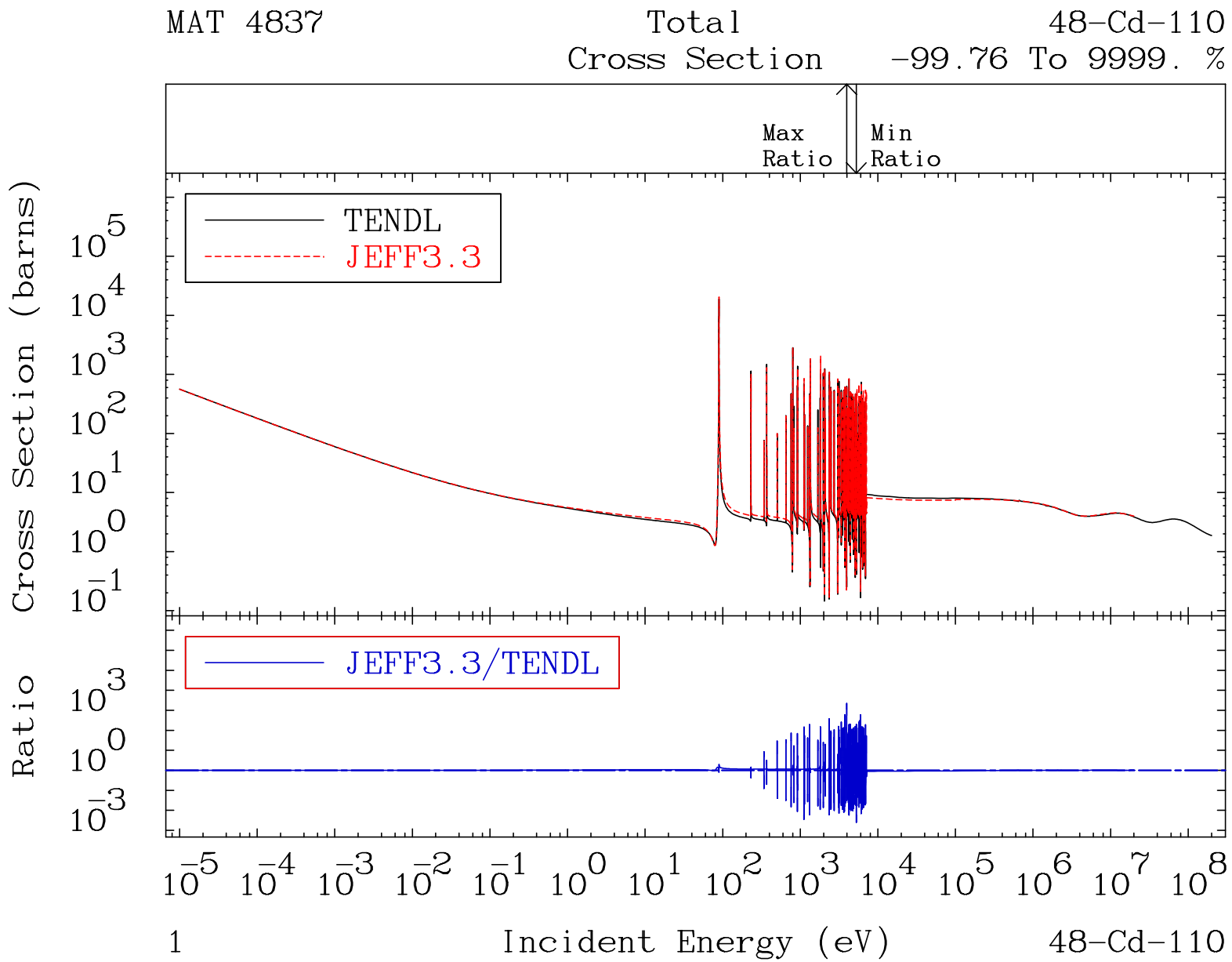
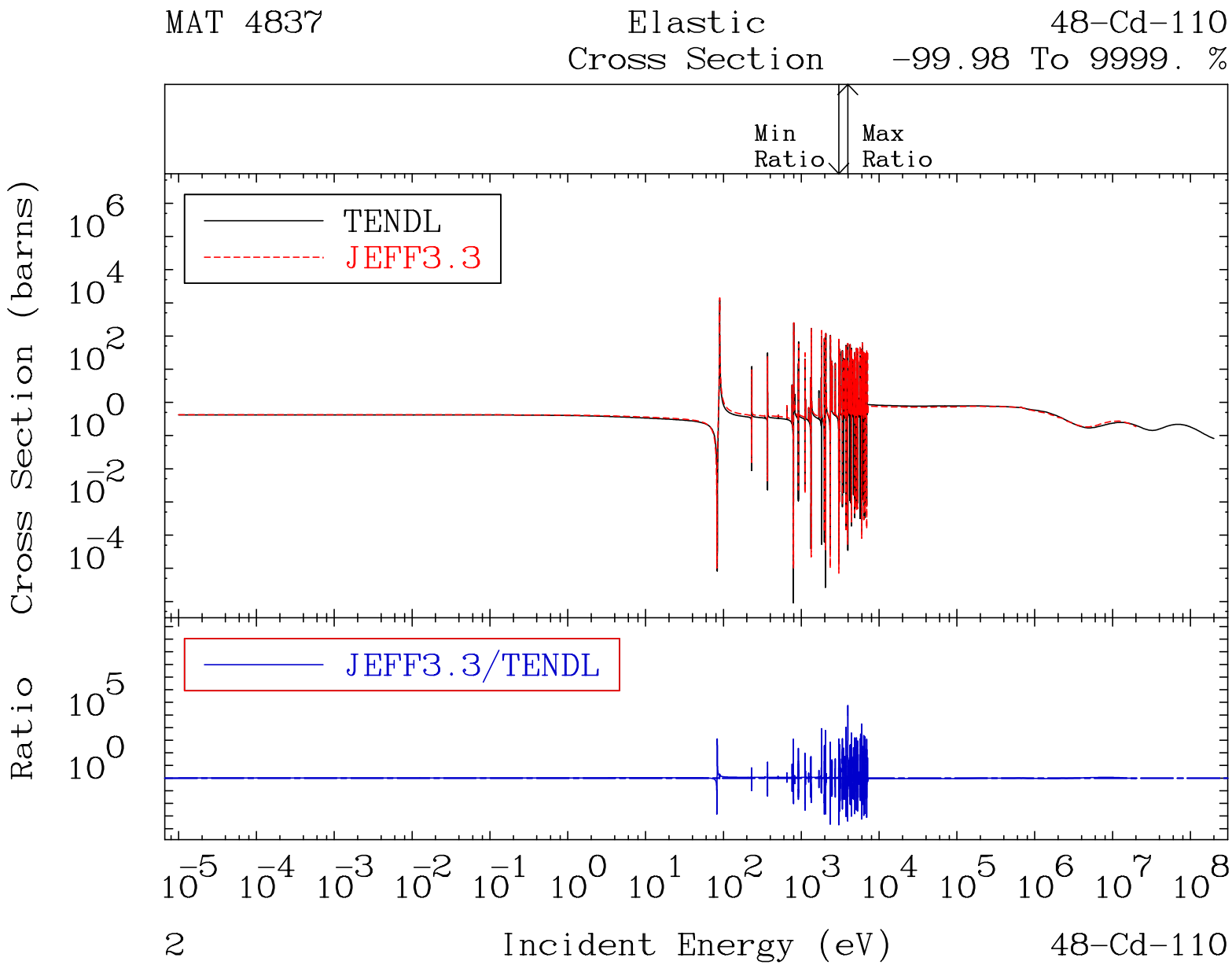
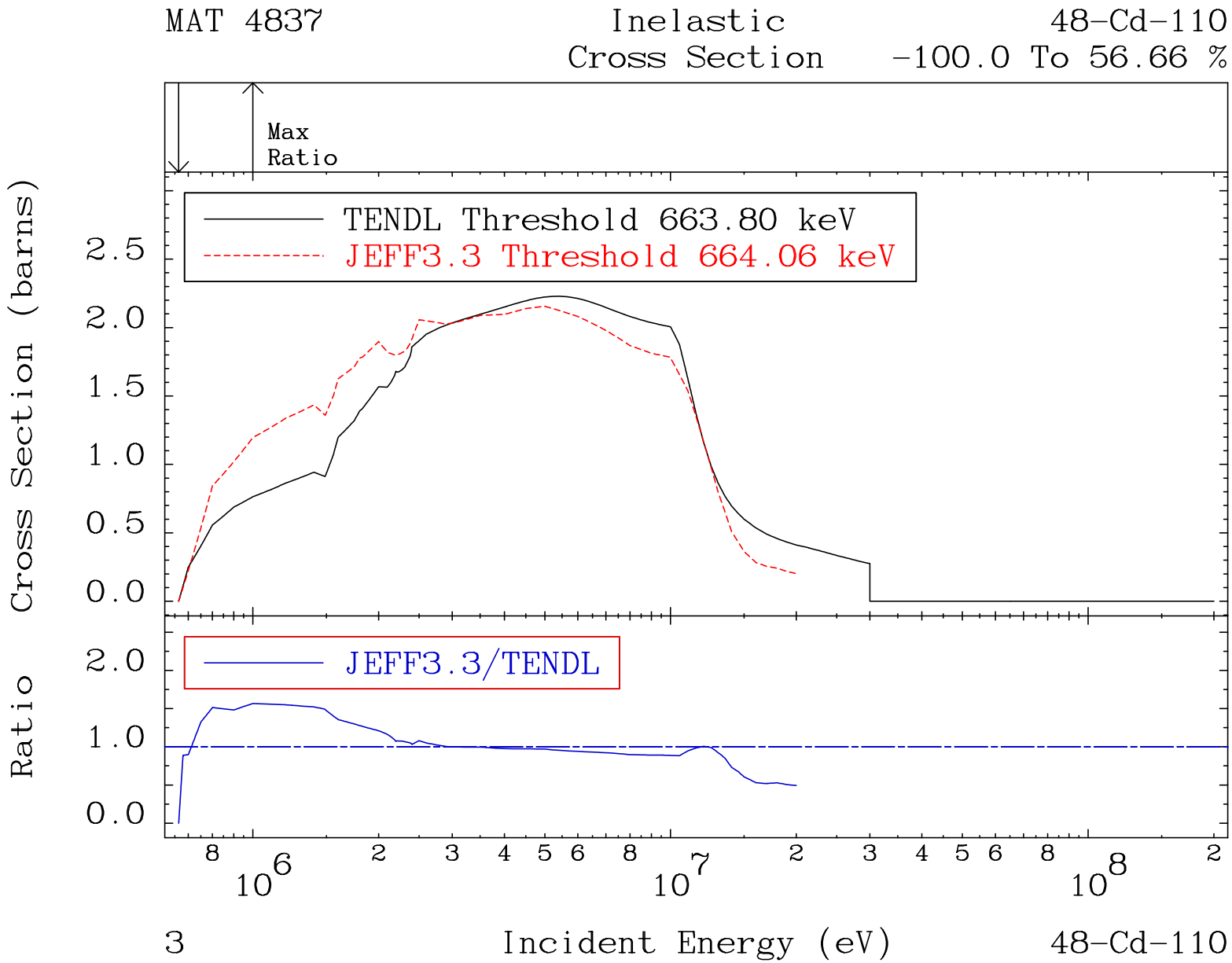
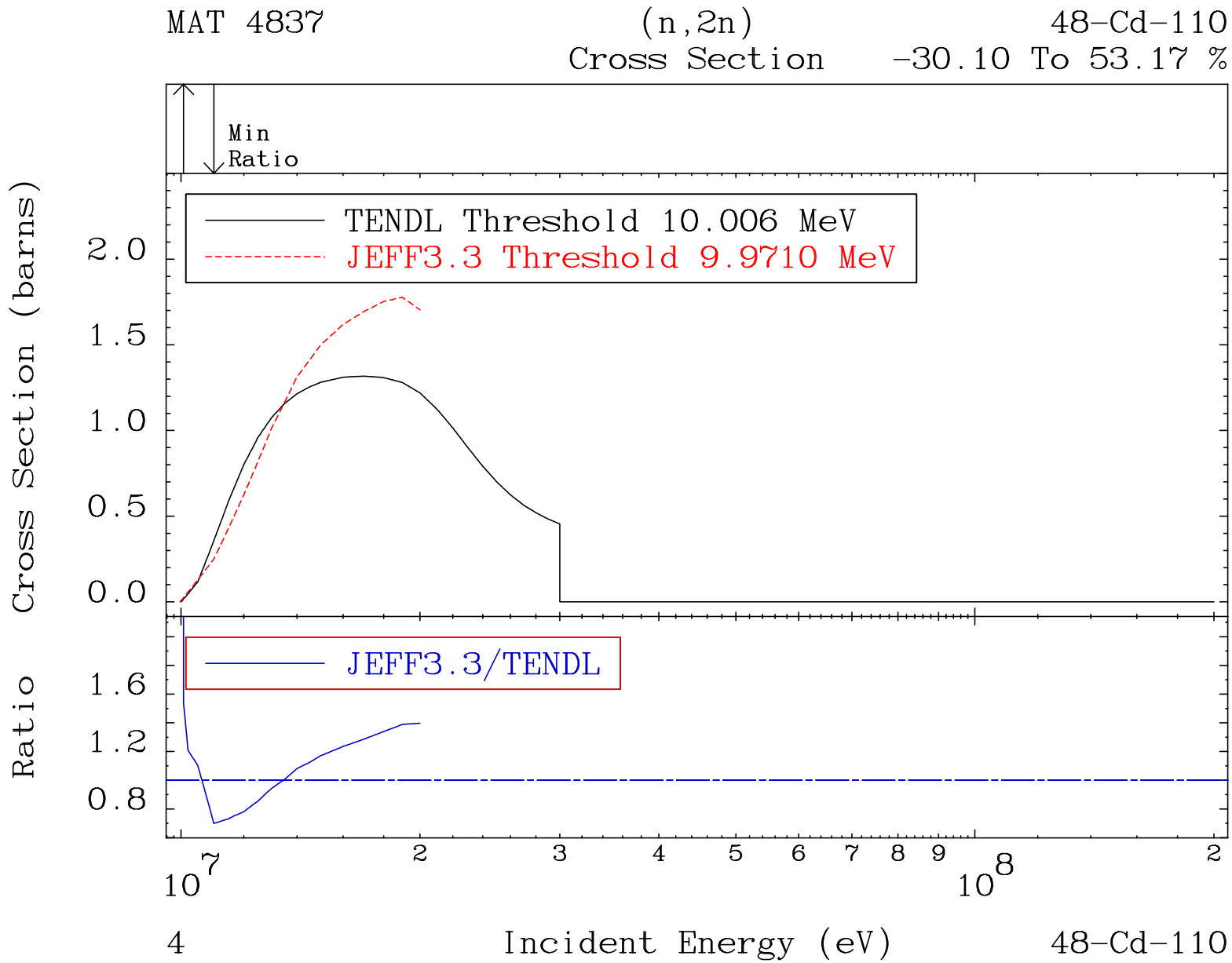
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

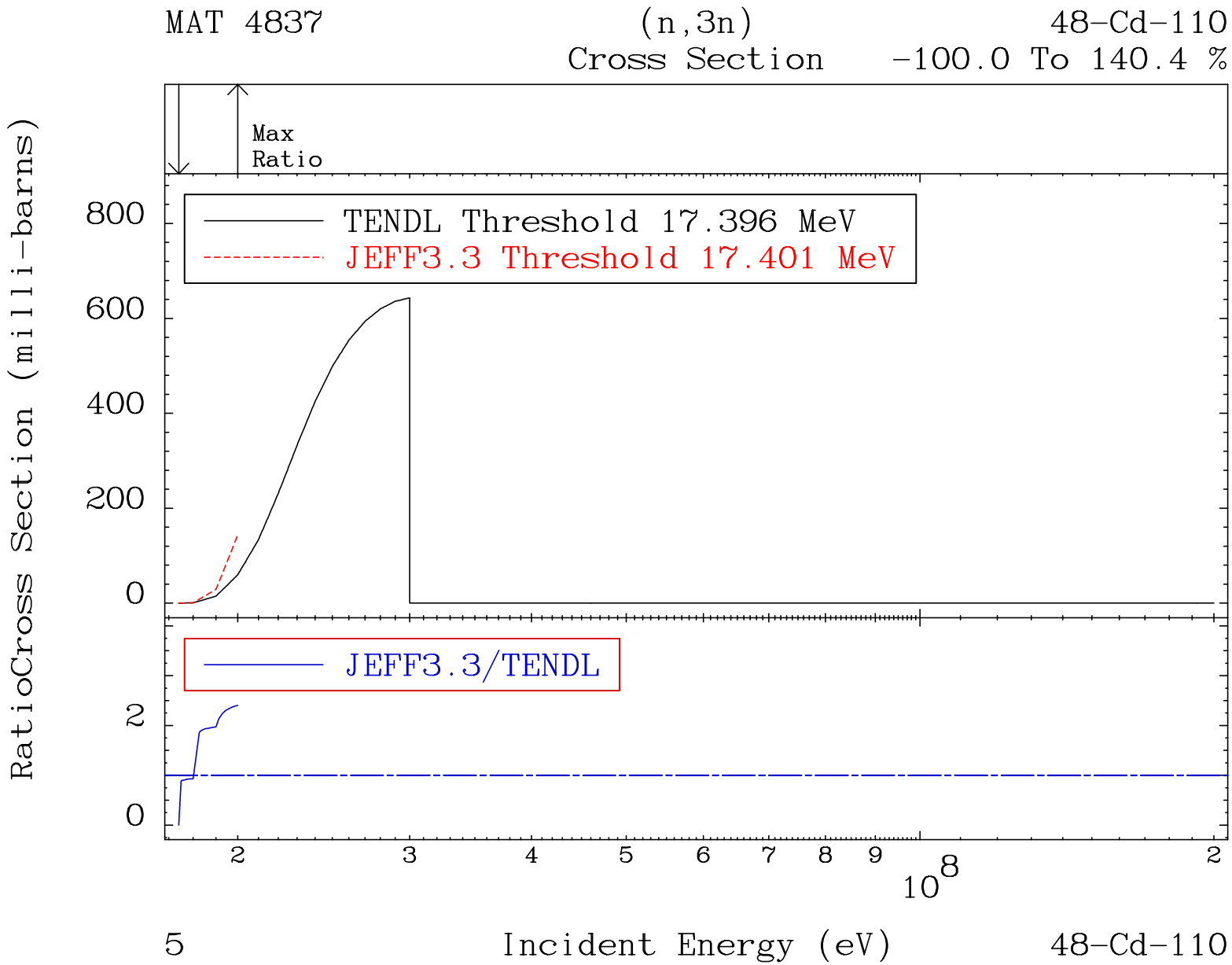
Press Mouse Button to Start

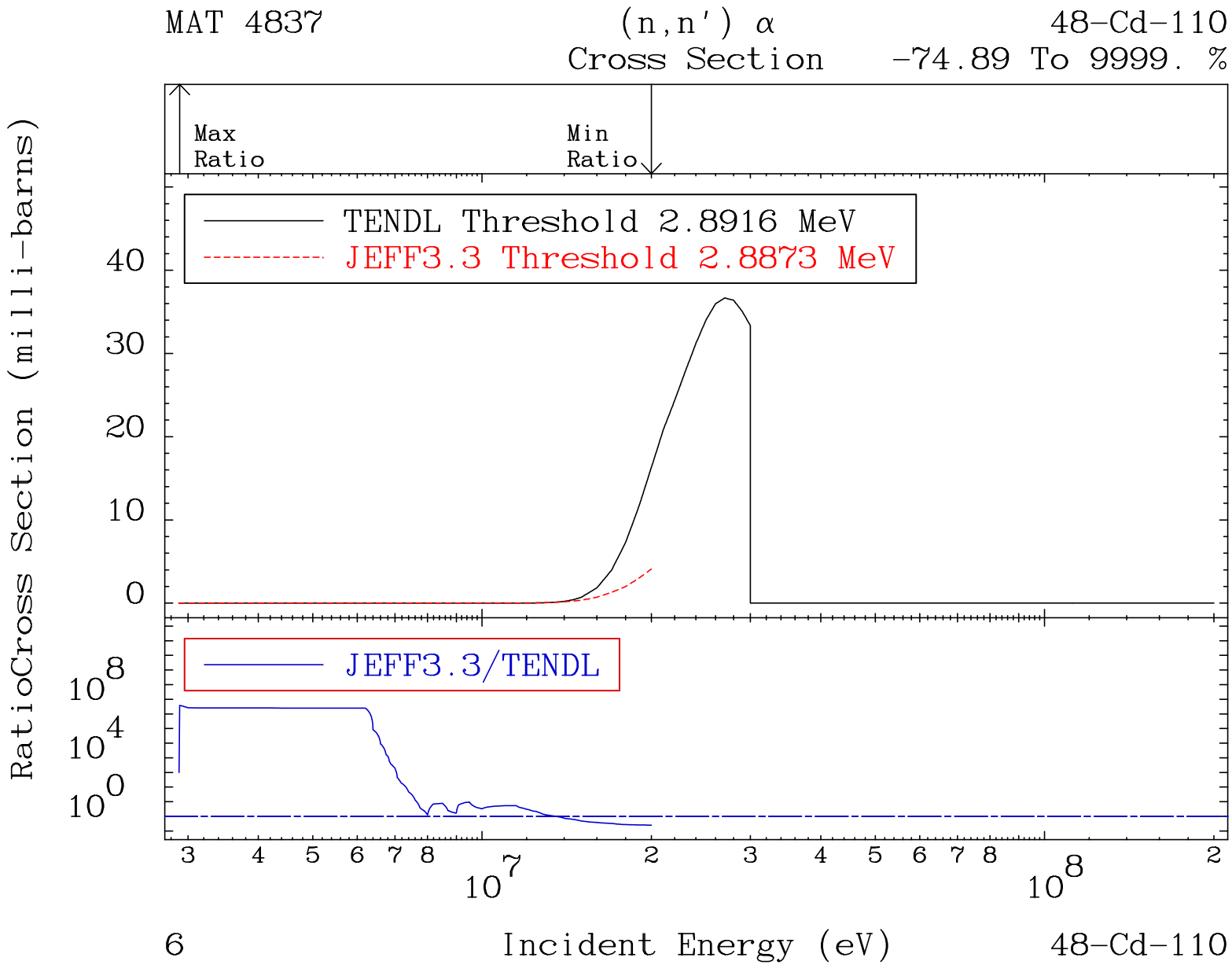

MAT 4837
Total
Cross Section
48-Cd-110
-99.76 To 9999. %
Max
Ratio
Min
Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
48-Cd-110

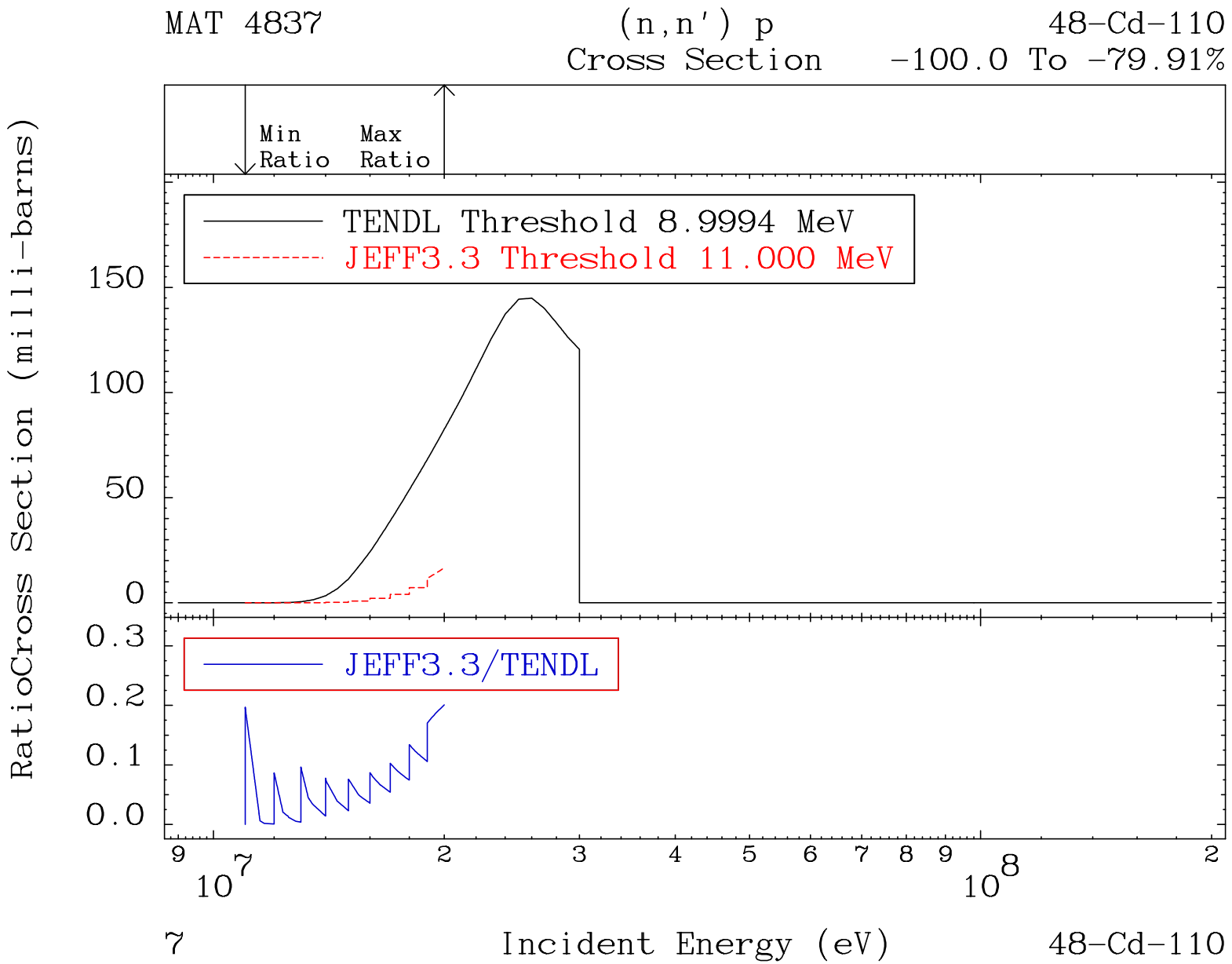

MAT 4837
Elastic
Cross Section
48-Cd-110
-99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
48-Cd-110

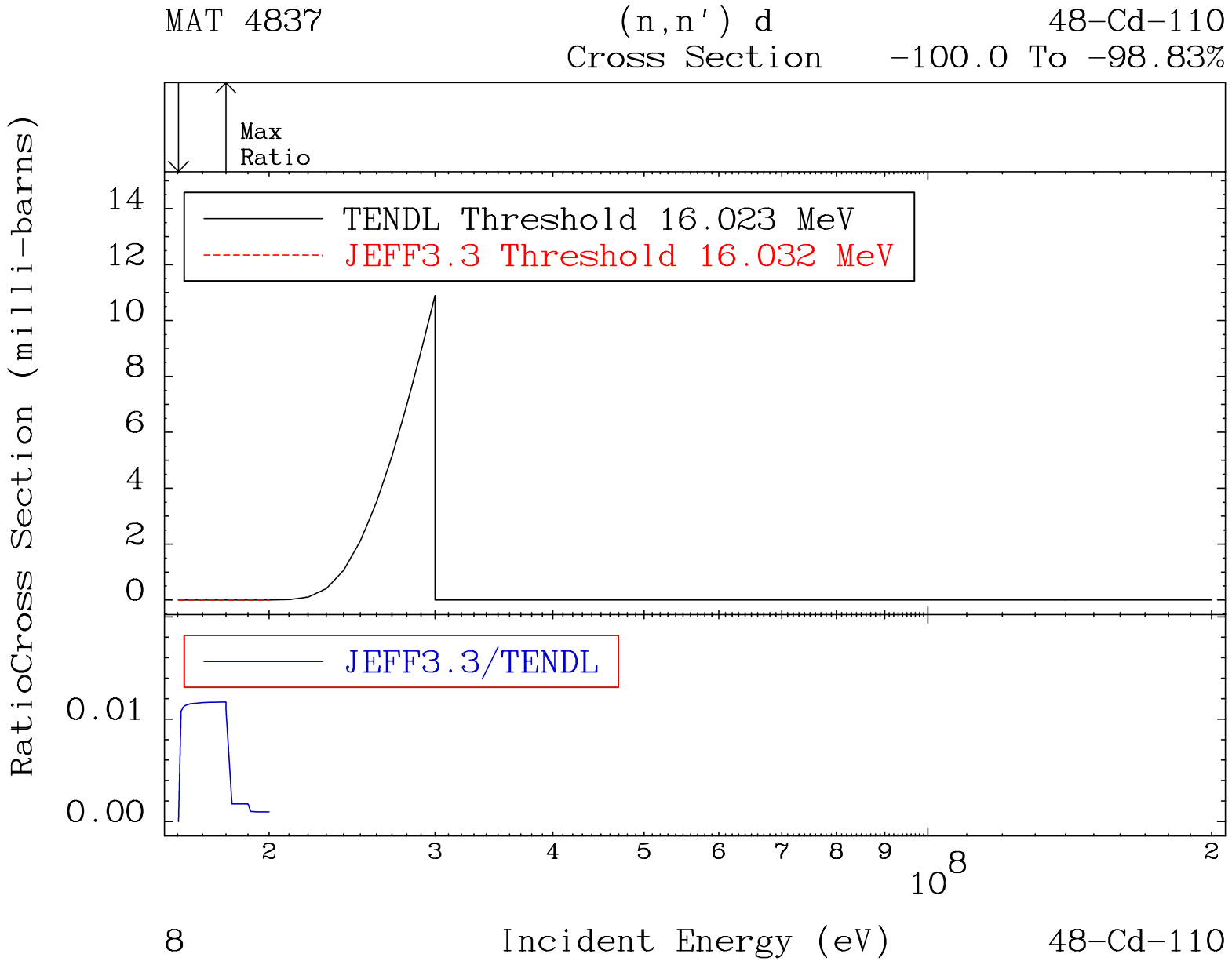

MAT 4837
Inelastic
Cross Section
48-Cd-110
-100.0 To 56.66 %
Max
Ratio
TENDL Threshold 663.80 keV
JEFF3.3 Threshold 664.06 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
3
48-Cd-110

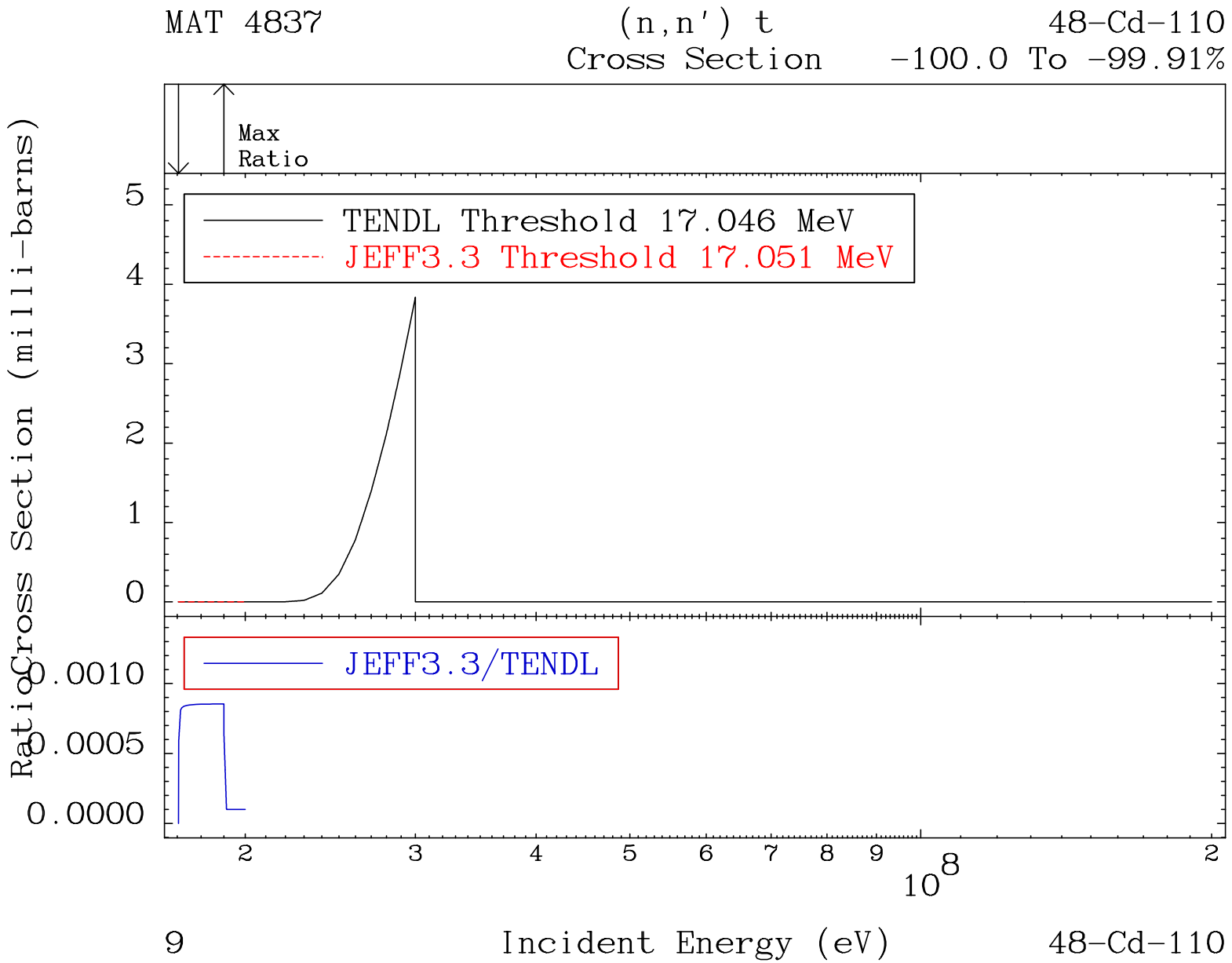

MAT 4837
(n,2n)
Cross Section
48-Cd-110
-30.10 To 53.17 %
Min
Ratio
TENDL Threshold 10.006 MeV
JEFF3.3 Threshold 9.9710 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
1.6
1.2
0.8
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
48-Cd-110

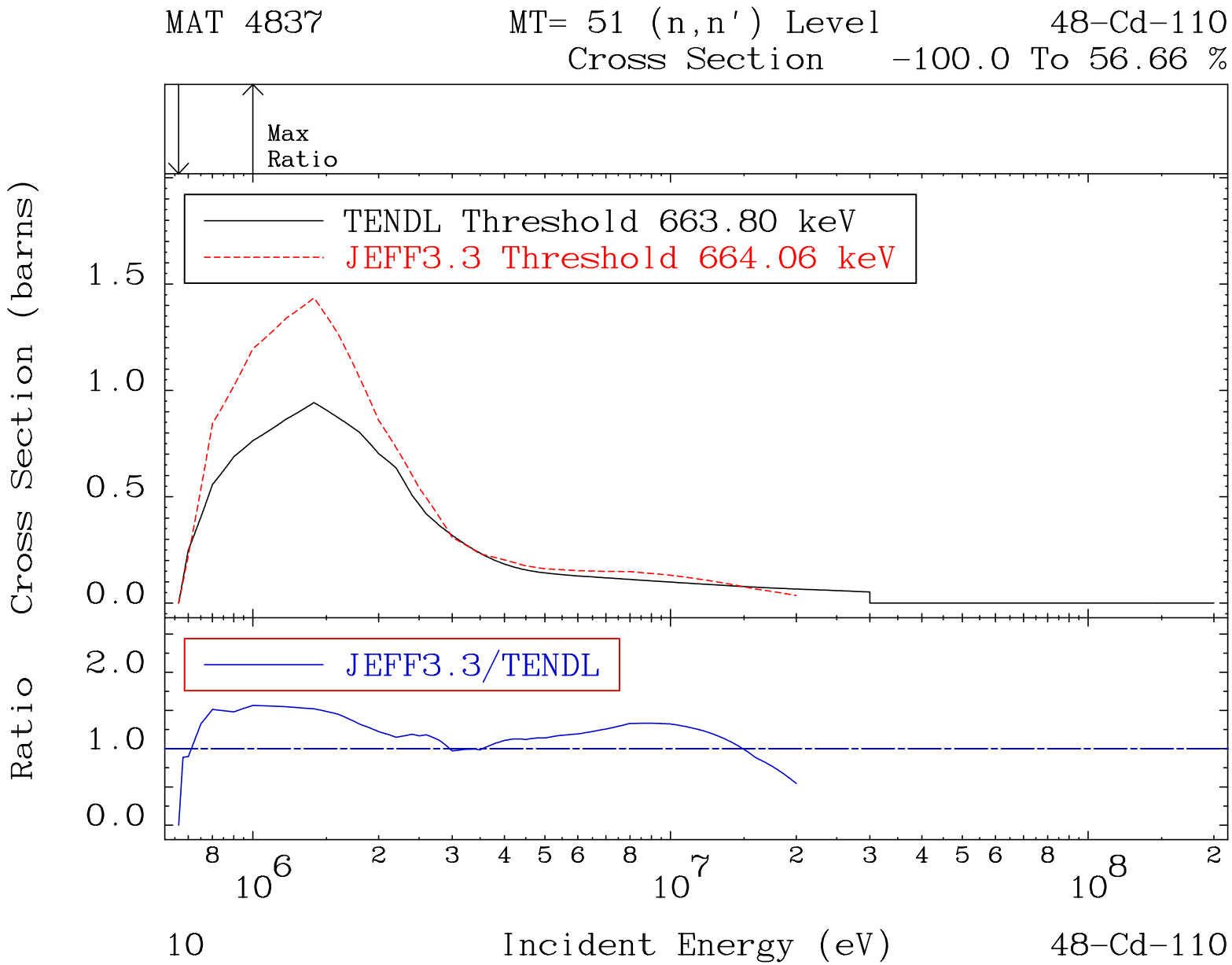

MAT 4837
(n,3n)
Cross Section
48-Cd-110
-100.0 To 140.4 %
Max
Ratio
TENDL Threshold 17.396 MeV
JEFF3.3 Threshold 17.401 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
2
0
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
48-Cd-110

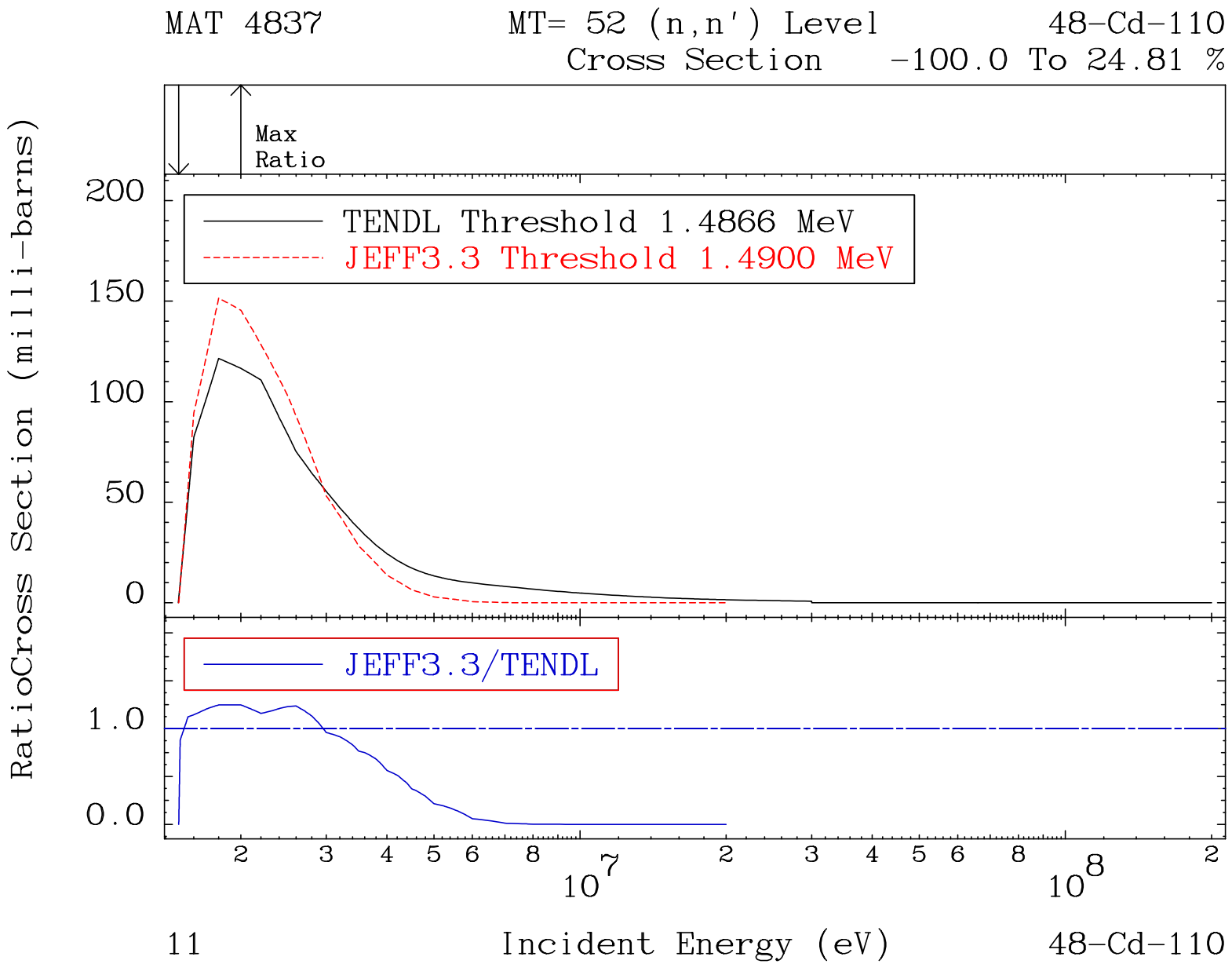

MAT 4837
(n,n') α
Cross Section
48-Cd-110
-74.89 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 2.8916 MeV
JEFF3.3 Threshold 2.8873 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
10^8
10^4
10^0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
6
Incident Energy (eV)
48-Cd-110

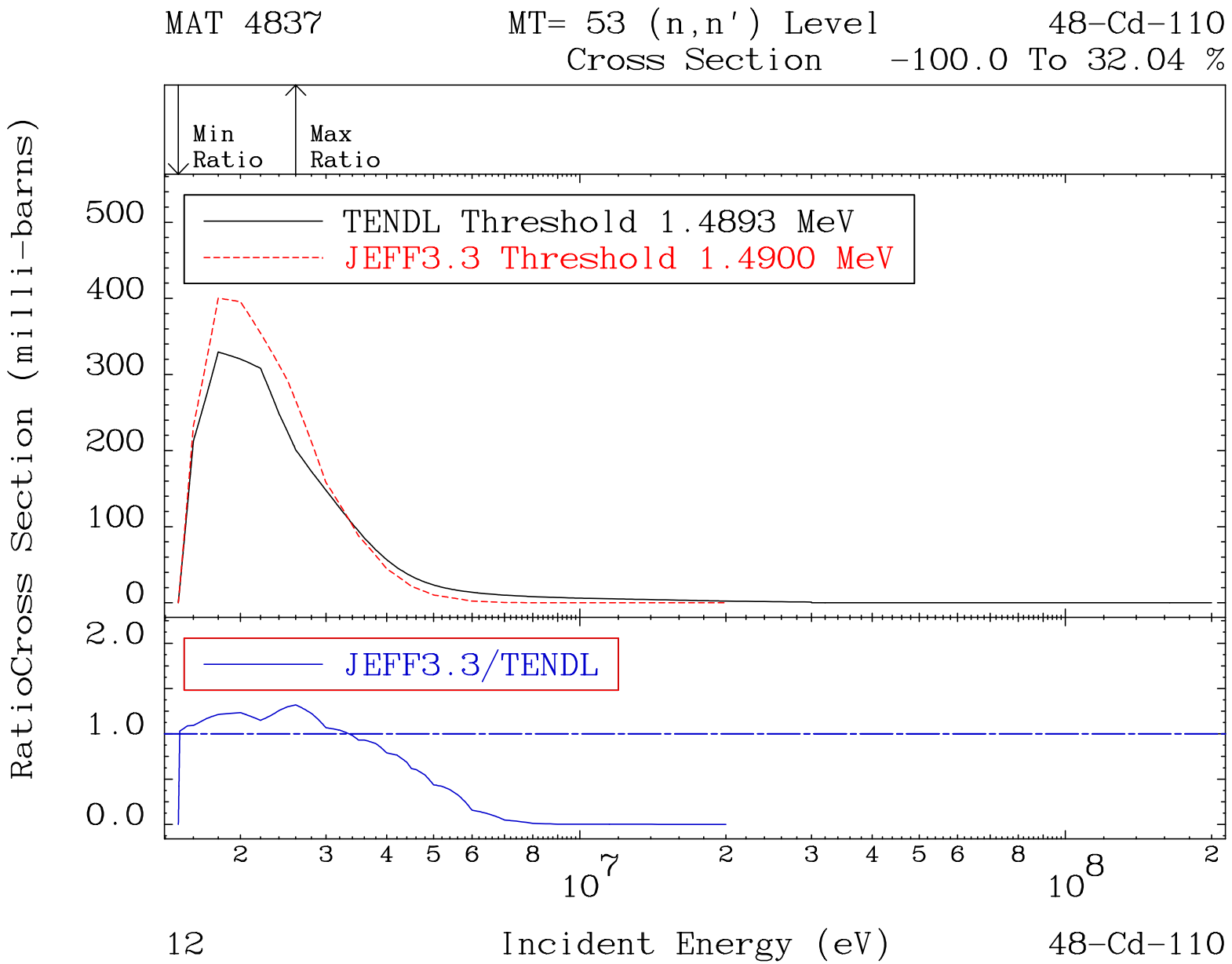

MAT 4837
(n,n') p
Cross Section
48-Cd-110
-100.0 To -79.91%
Min Ratio
Max Ratio
TENDL Threshold 8.9994 MeV
JEFF3.3 Threshold 11.000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
150
100
50
0
0.3
0.2
0.1
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
48-Cd-110

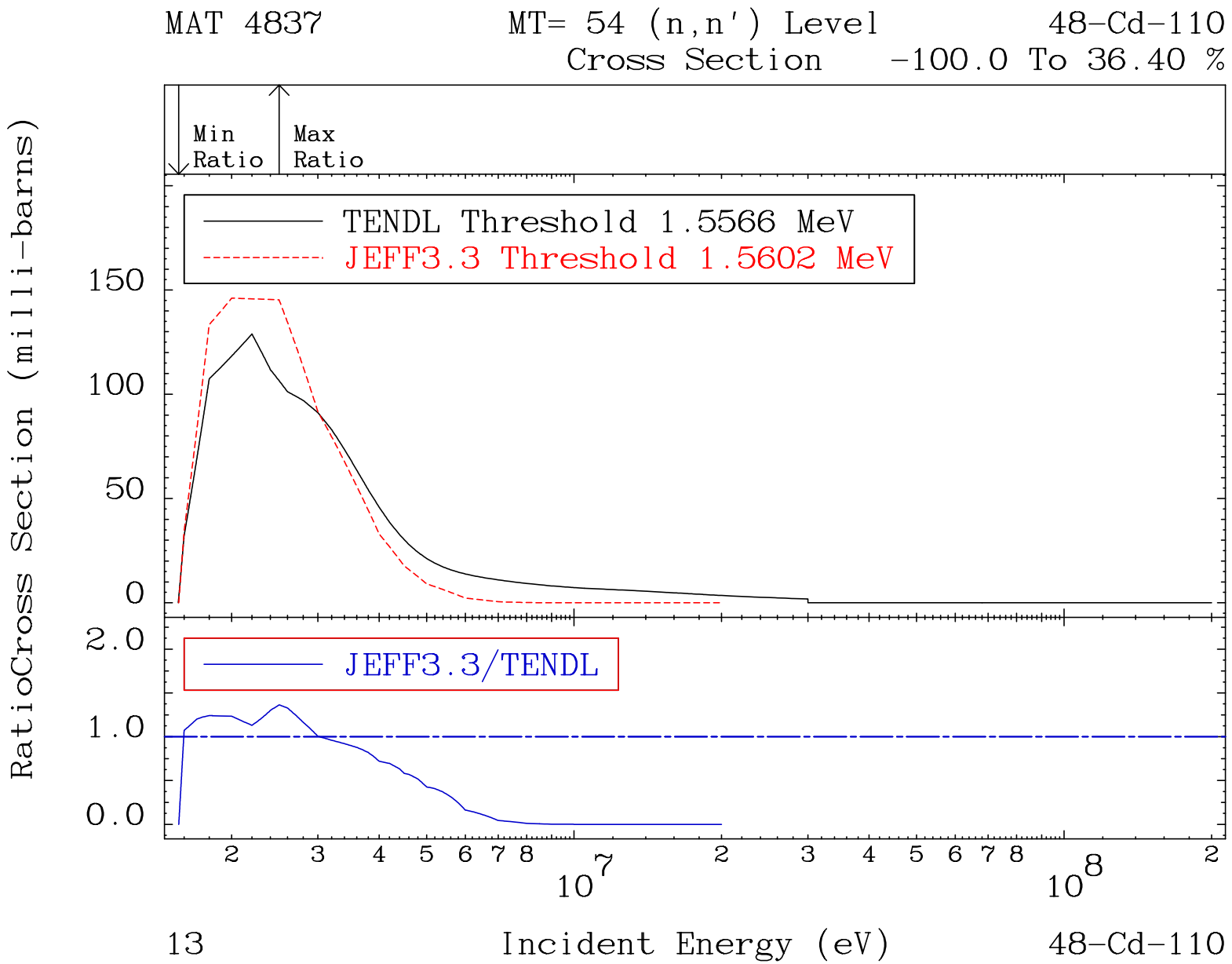

MAT 4837
(n,n') d
Cross Section
48-Cd-110
-100.0 To -98.83%
Max
Ratio
TENDL Threshold 16.023 MeV
JEFF3.3 Threshold 16.032 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
14
12
10
8
6
4
2
0
0.01
0.00
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
48-Cd-110

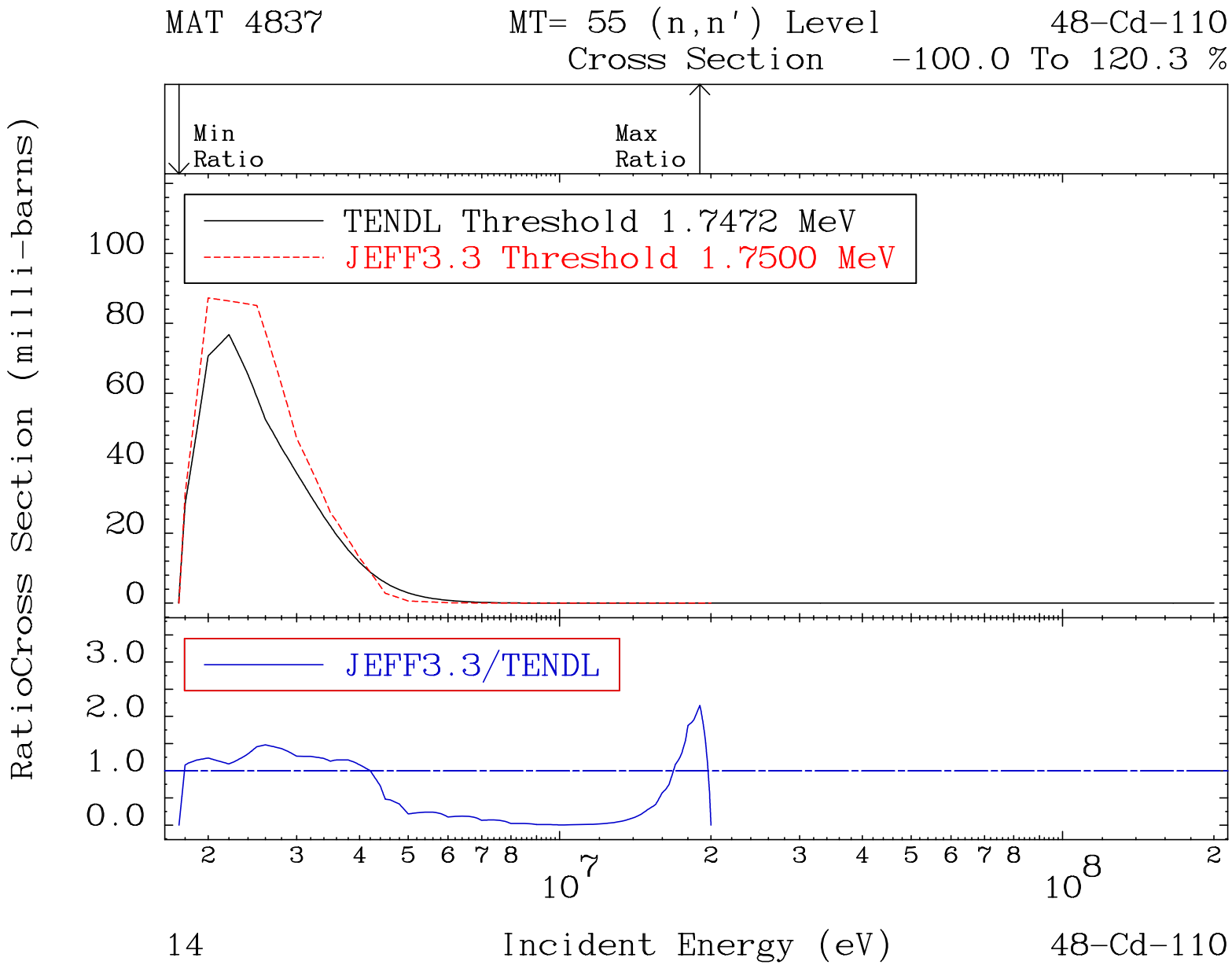

MAT 4837
(n,n') t
Cross Section
48-Cd-110
-100.0 To -99.91%
Max
Ratio
TENDL Threshold 17.046 MeV
JEFF3.3 Threshold 17.051 MeV
JEFF3.3/TENDL
Ratio Cross Section (milli-barns)
0
1
2
3
4
5
0.0010
0.0005
0.0000
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
48-Cd-110

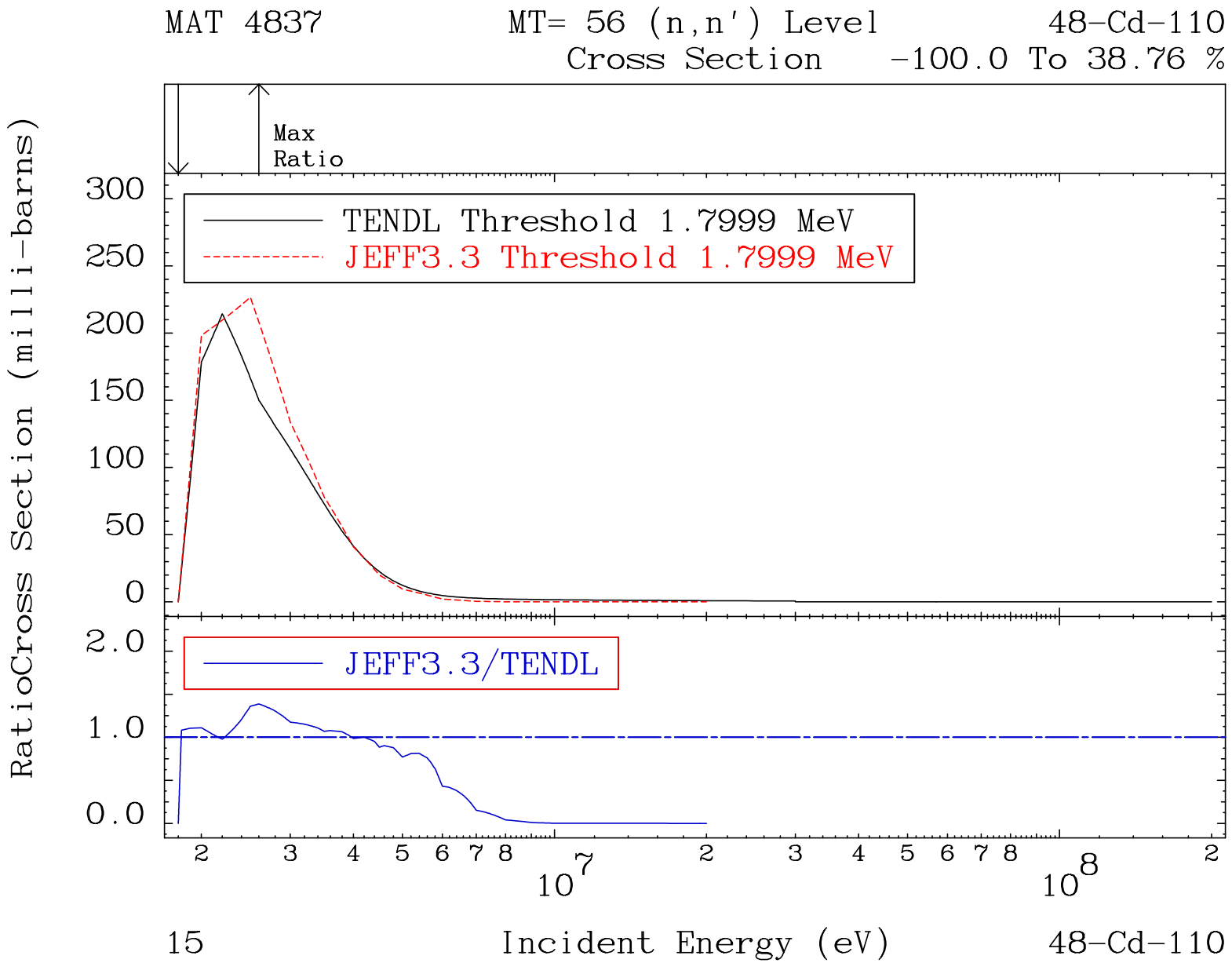

MAT 4837
MT= 51 (n,n') Level
Cross Section
48-Cd-110
-100.0 To 56.66 %
Max
Ratio
TENDL Threshold 663.80 keV
JEFF3.3 Threshold 664.06 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
2.0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
10
Incident Energy (eV)
48-Cd-110

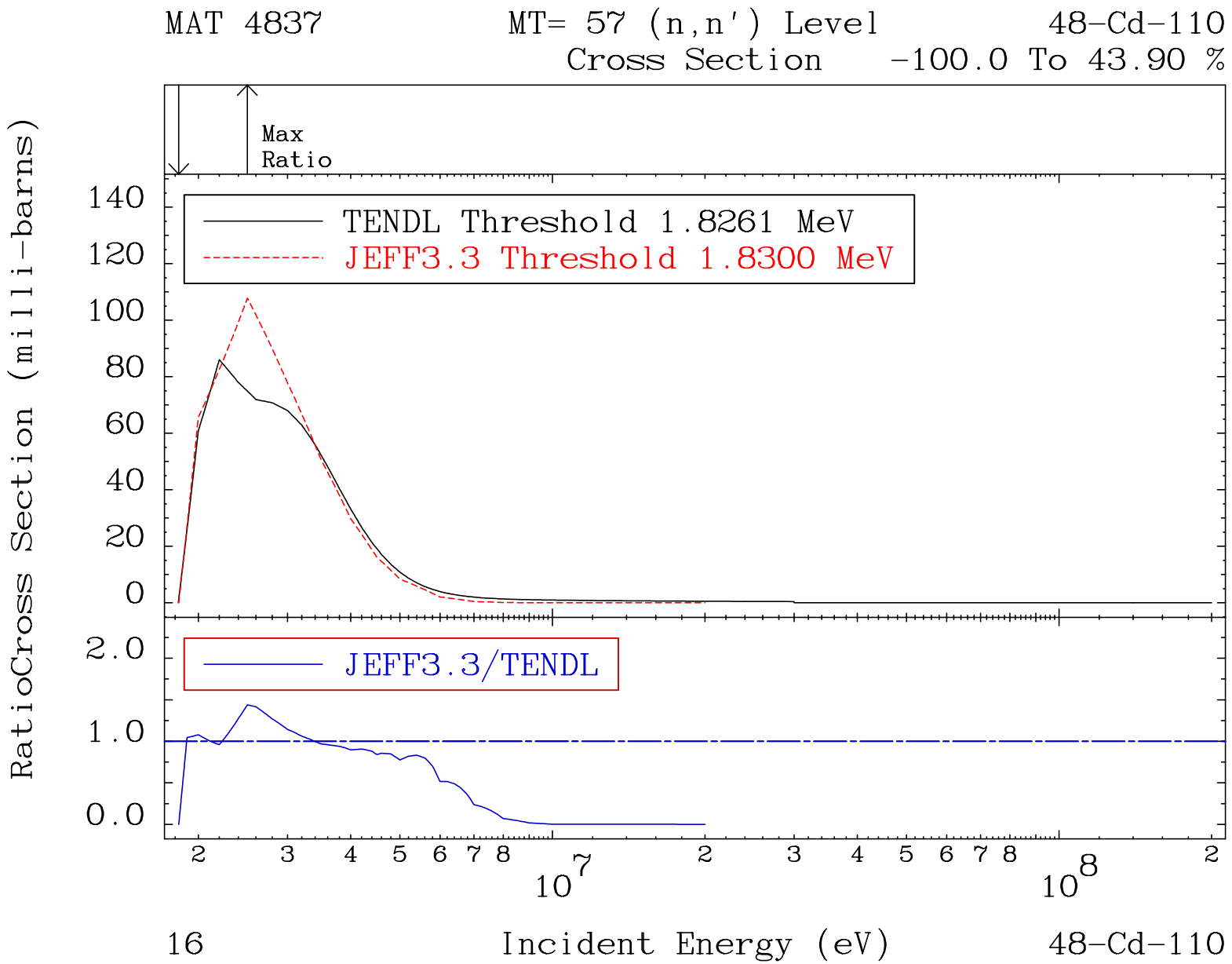

MAT 4837
MT= 52 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 24.81 %
Max
Ratio
TENDL Threshold 1.4866 MeV
JEFF3.3 Threshold 1.4900 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.0
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
11
Incident Energy (eV)
48-Cd-110

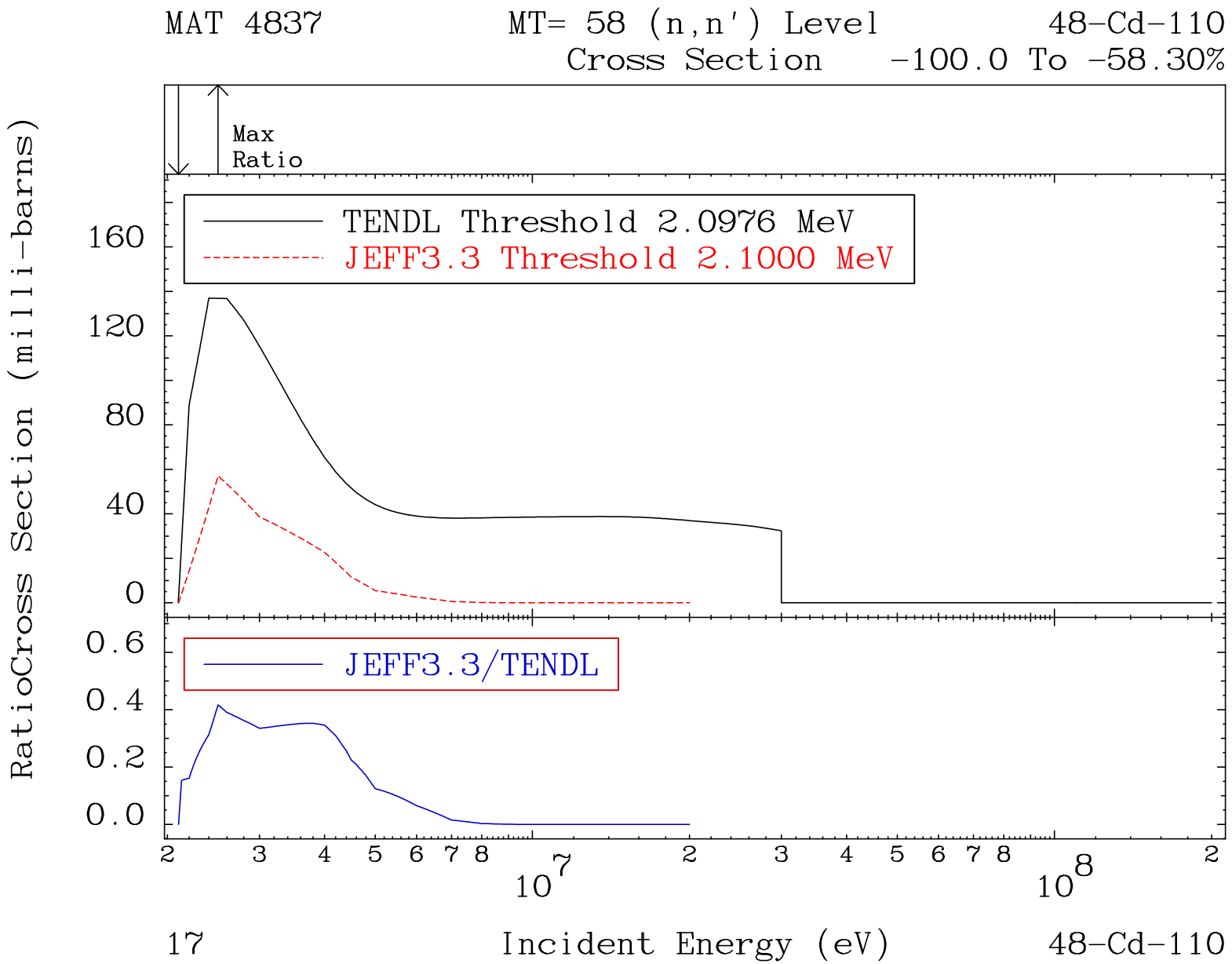

MAT 4837
MT= 53 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 32.04 %
Min Ratio
Max Ratio
TENDL Threshold 1.4893 MeV
JEFF3.3 Threshold 1.4900 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
2.0
1.0
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
12
Incident Energy (eV)
48-Cd-110

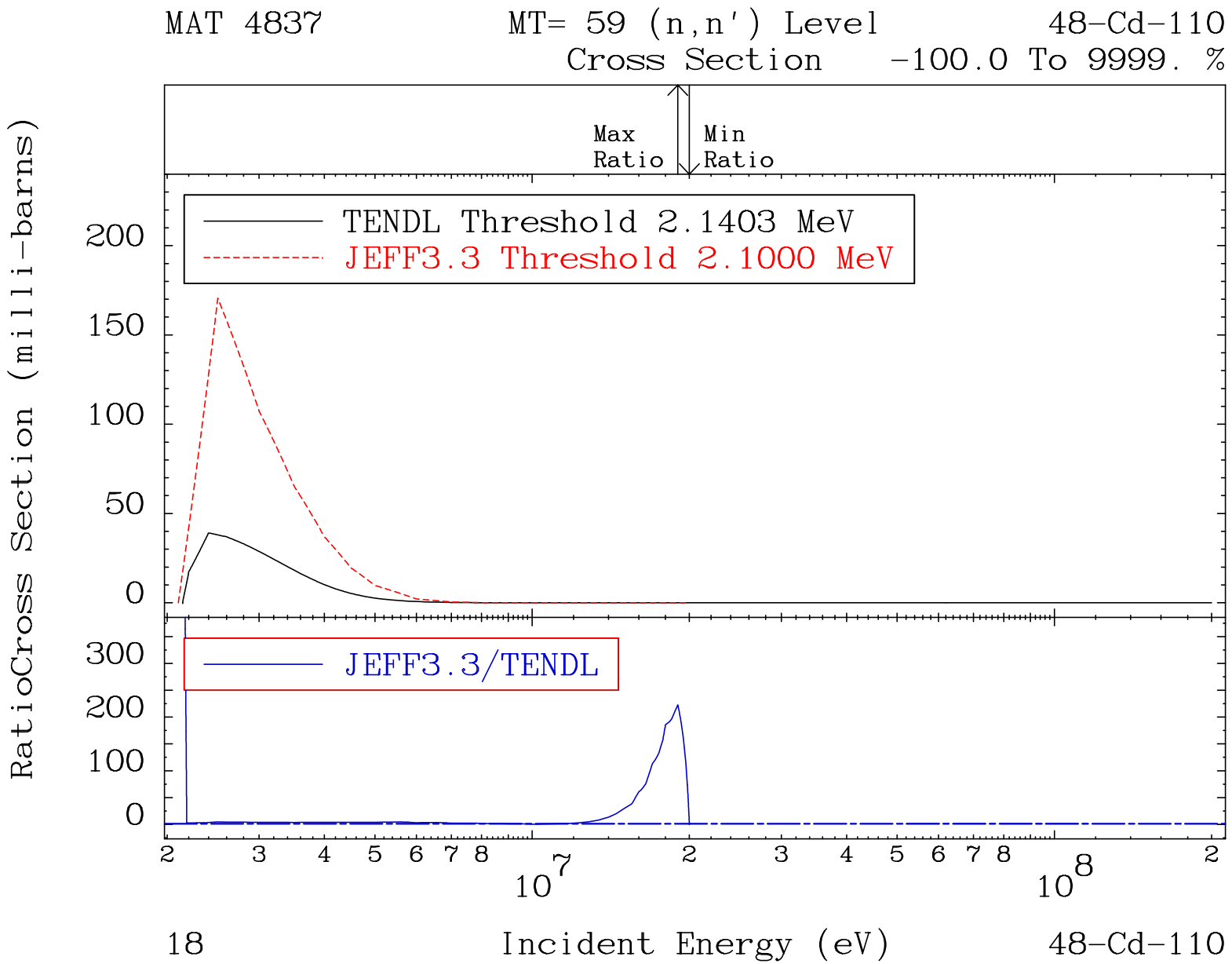

MAT 4837
MT= 54 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 36.40 %
Min Ratio
Max Ratio
TENDL Threshold 1.5566 MeV
JEFF3.3 Threshold 1.5602 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
150
100
50
0
2.0
1.0
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
13
Incident Energy (eV)
48-Cd-110

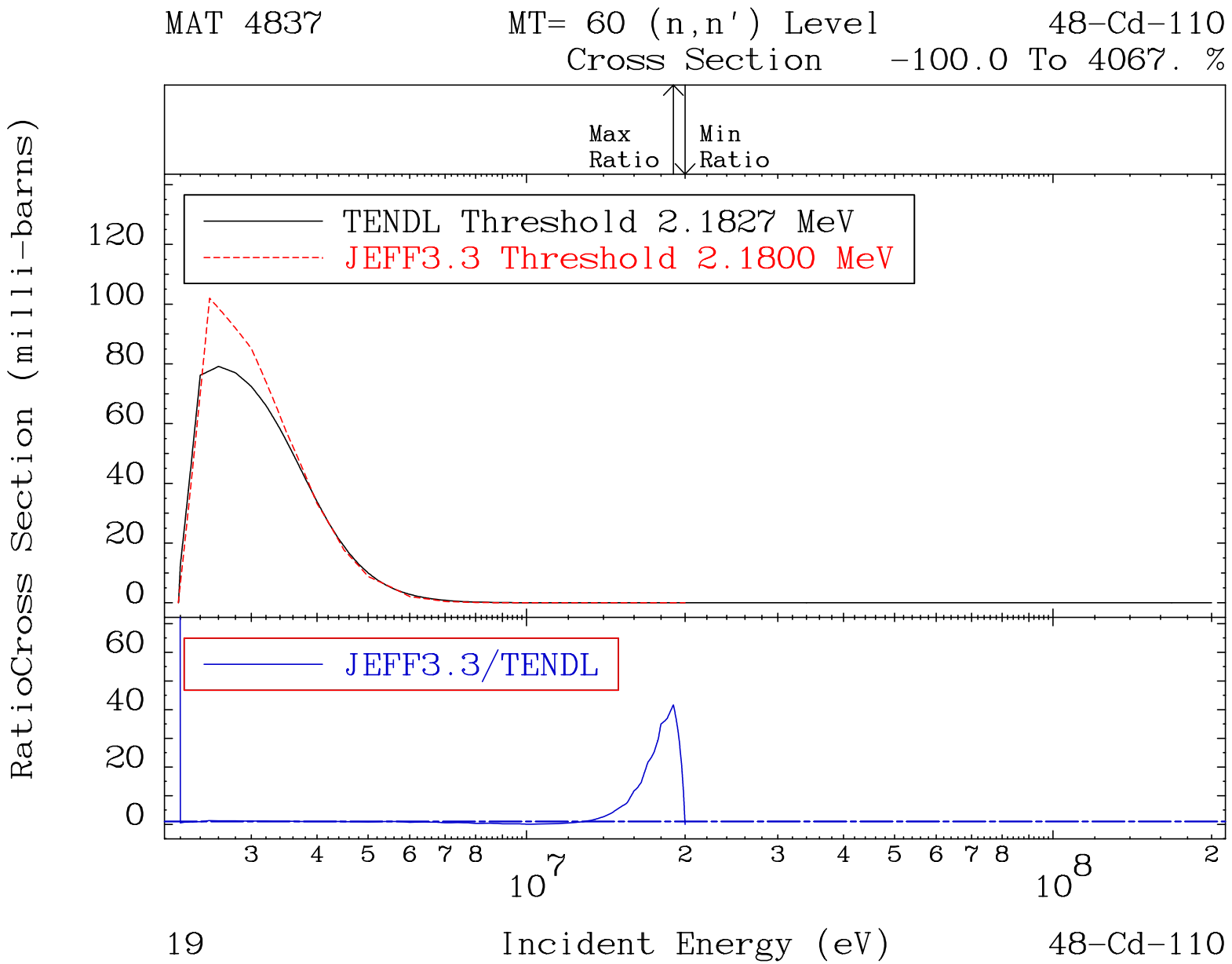

MAT 4837
MT= 55 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 120.3 %
Min Ratio
Max Ratio
TENDL Threshold 1.7472 MeV
JEFF3.3 Threshold 1.7500 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
3.0
2.0
1.0
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
14
Incident Energy (eV)
48-Cd-110

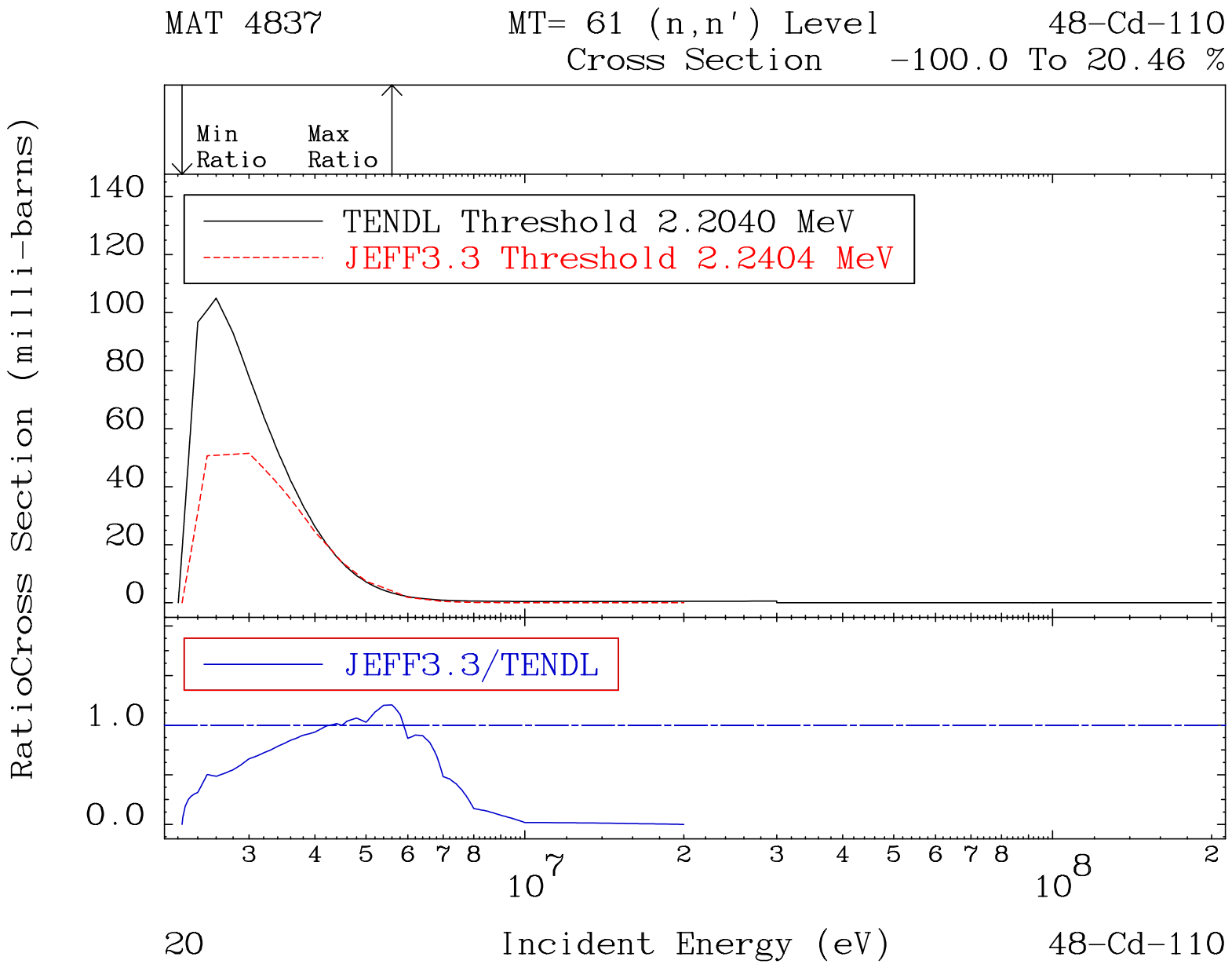

MAT 4837
MT= 56 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 38.76 %
Max
Ratio
TENDL Threshold 1.7999 MeV
JEFF3.3 Threshold 1.7999 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
2.0
1.0
0.0
2
3
4
5
6
7
8
10^7
10^8
15
Incident Energy (eV)
48-Cd-110

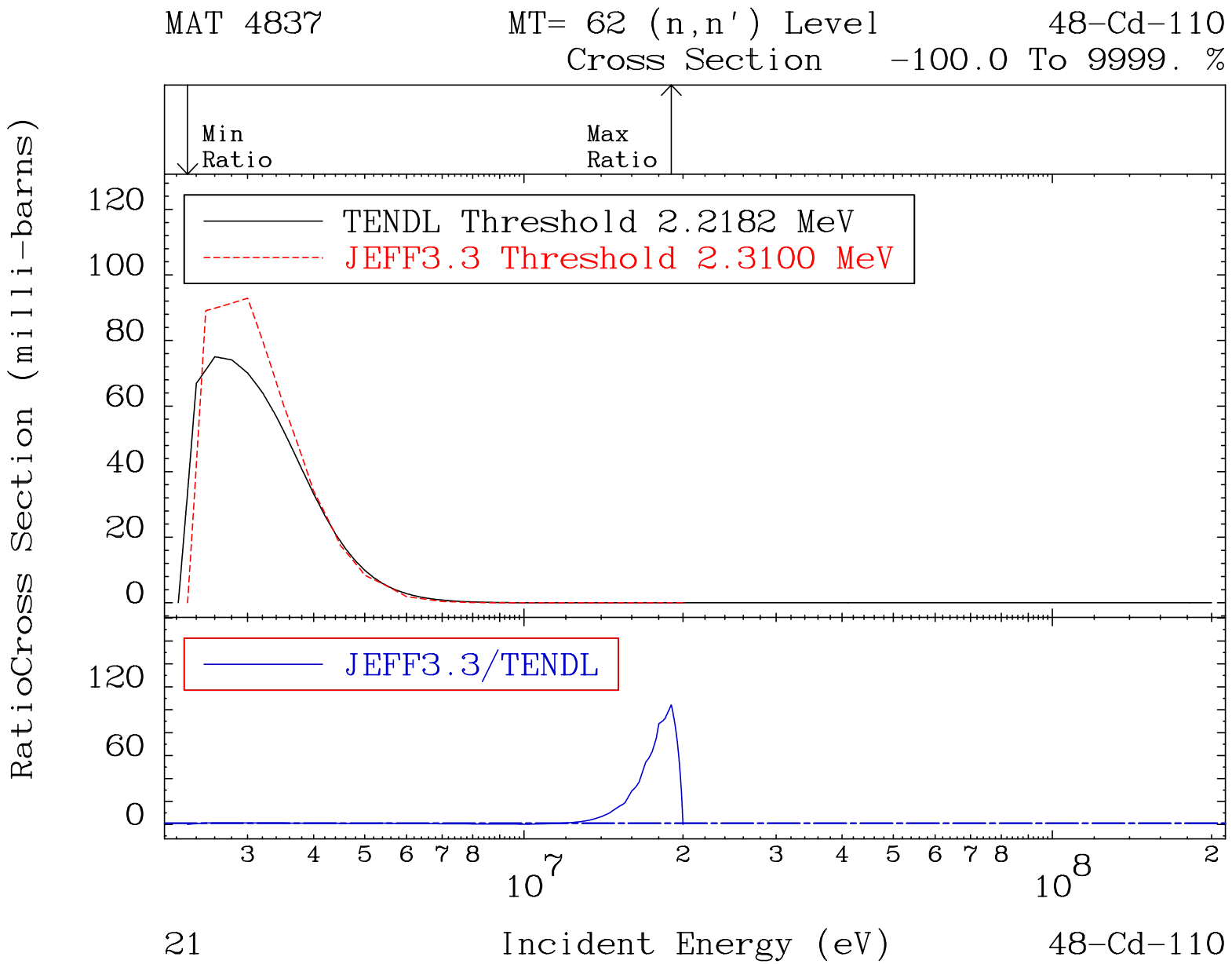

MAT 4837
MT= 57 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 43.90 %
Max
Ratio
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
TENDL Threshold 1.8261 MeV
JEFF3.3 Threshold 1.8300 MeV
2.0
1.0
0.0
JEFF3.3/TENDL
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
16
Incident Energy (eV)
48-Cd-110

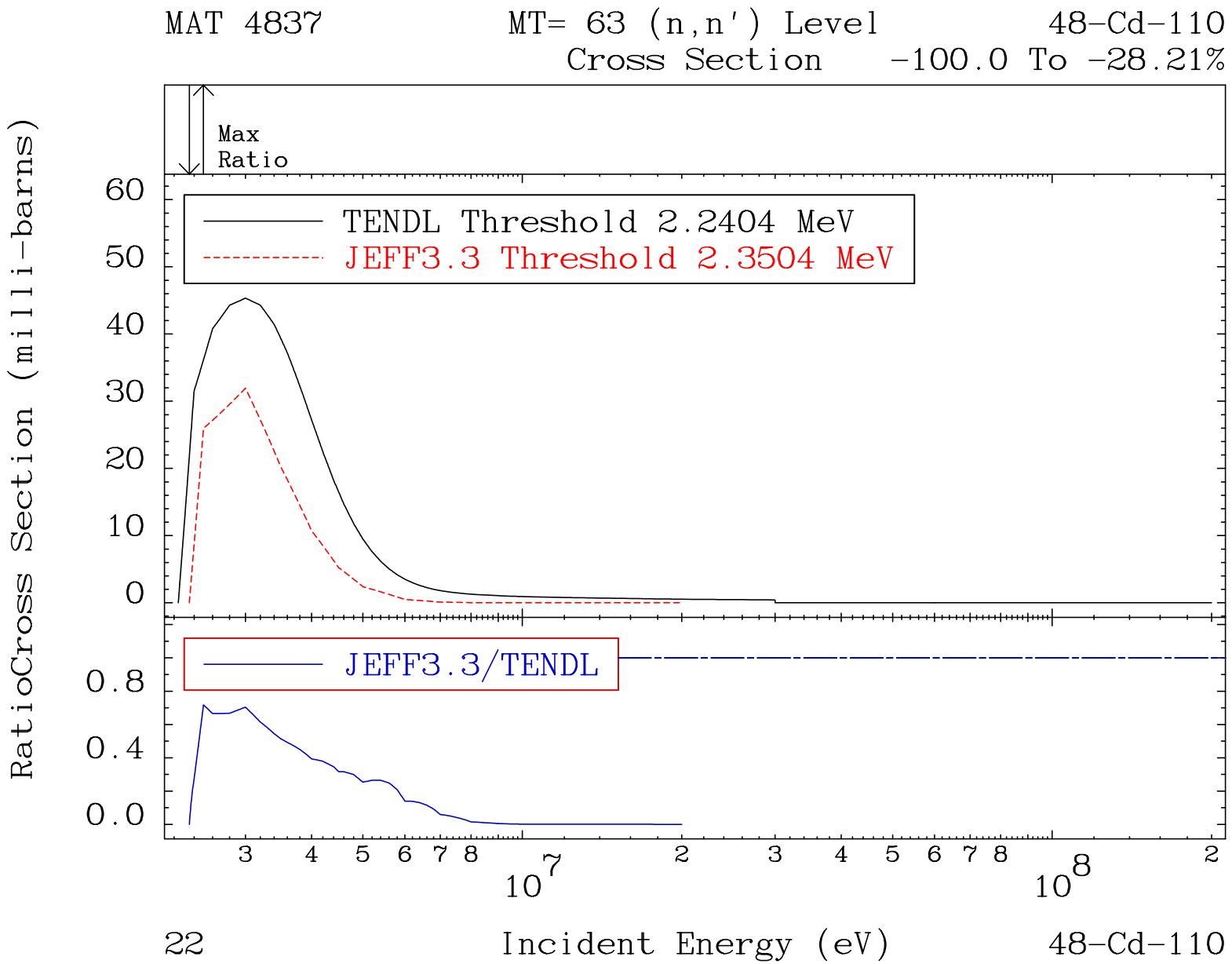

MAT 4837
MT= 58 (n,n') Level
48-Cd-110
Cross Section
-100.0 To -58.30%
Max
Ratio
TENDL Threshold 2.0976 MeV
JEFF3.3 Threshold 2.1000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
0.6
0.4
0.2
0.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
17
Incident Energy (eV)
48-Cd-110

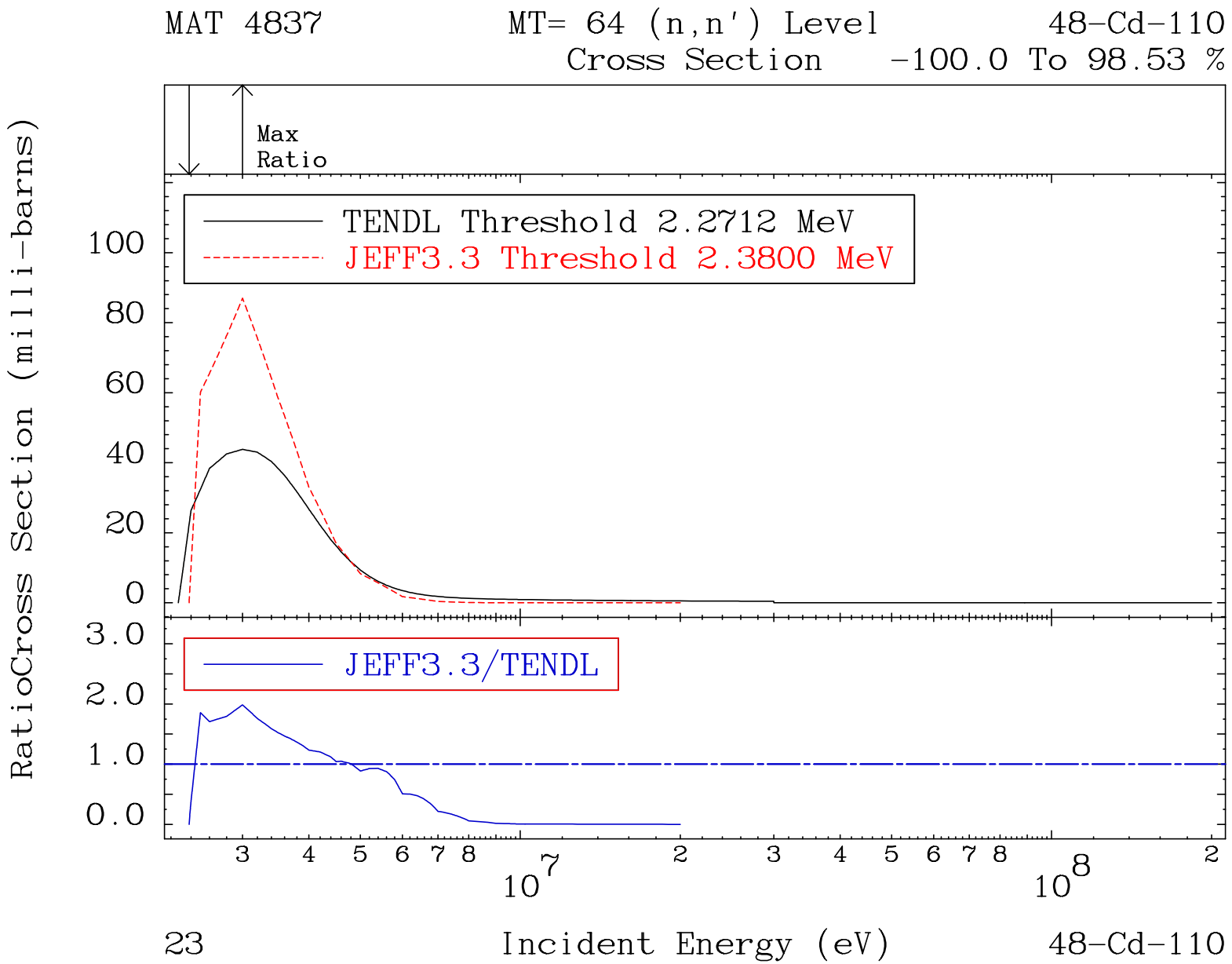

MAT 4837
MT= 59 (n,n') Level
48-Cd-110
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 2.1403 MeV
JEFF3.3 Threshold 2.1000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
300
200
100
0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
18
Incident Energy (eV)
48-Cd-110

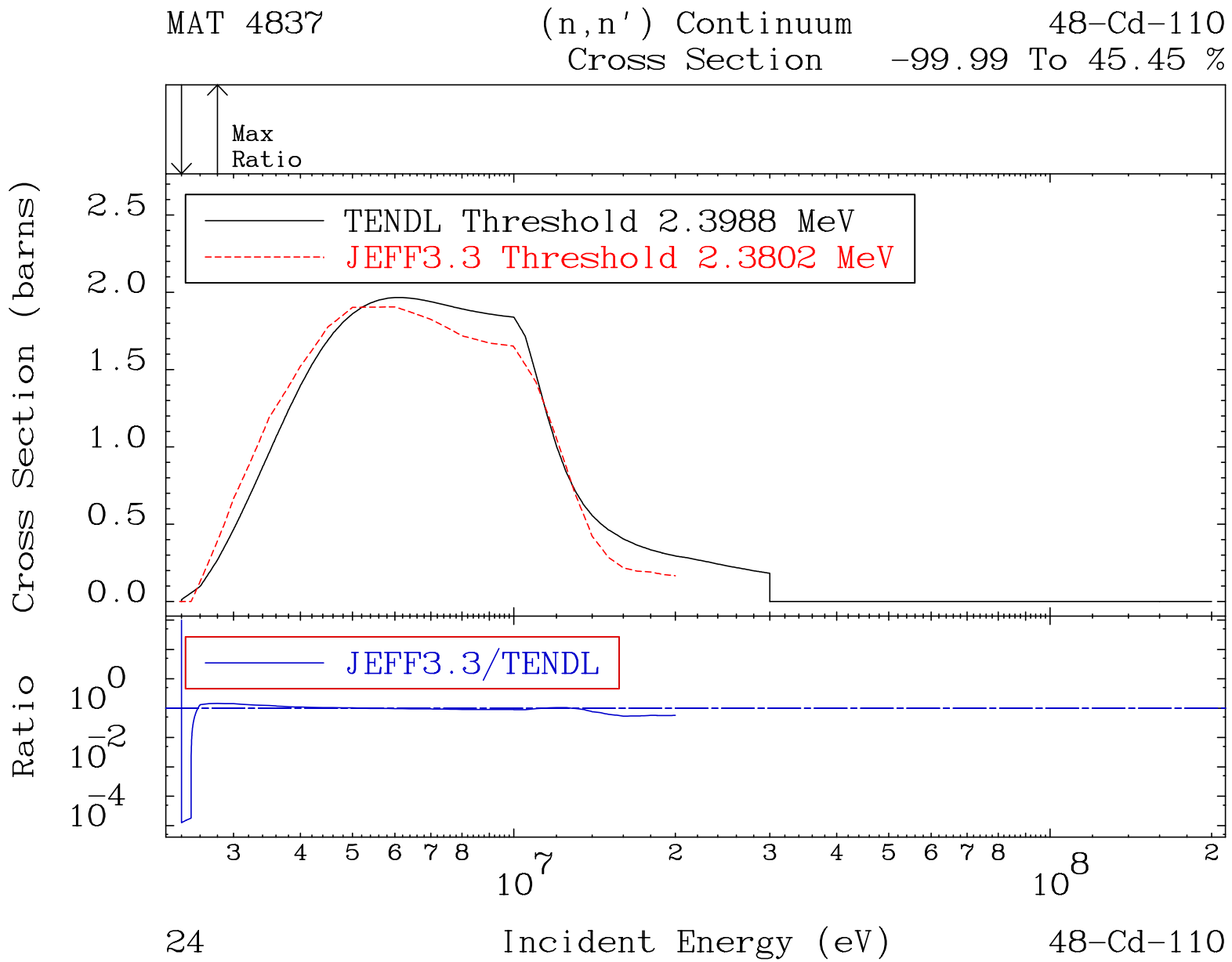

MAT 4837
MT= 60 (n,n') Level
48-Cd-110
Cross Section -100.0 To 4067. %
Max Ratio
Min Ratio
TENDL Threshold 2.1827 MeV
JEFF3.3 Threshold 2.1800 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
60
40
20
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
19
Incident Energy (eV)
48-Cd-110

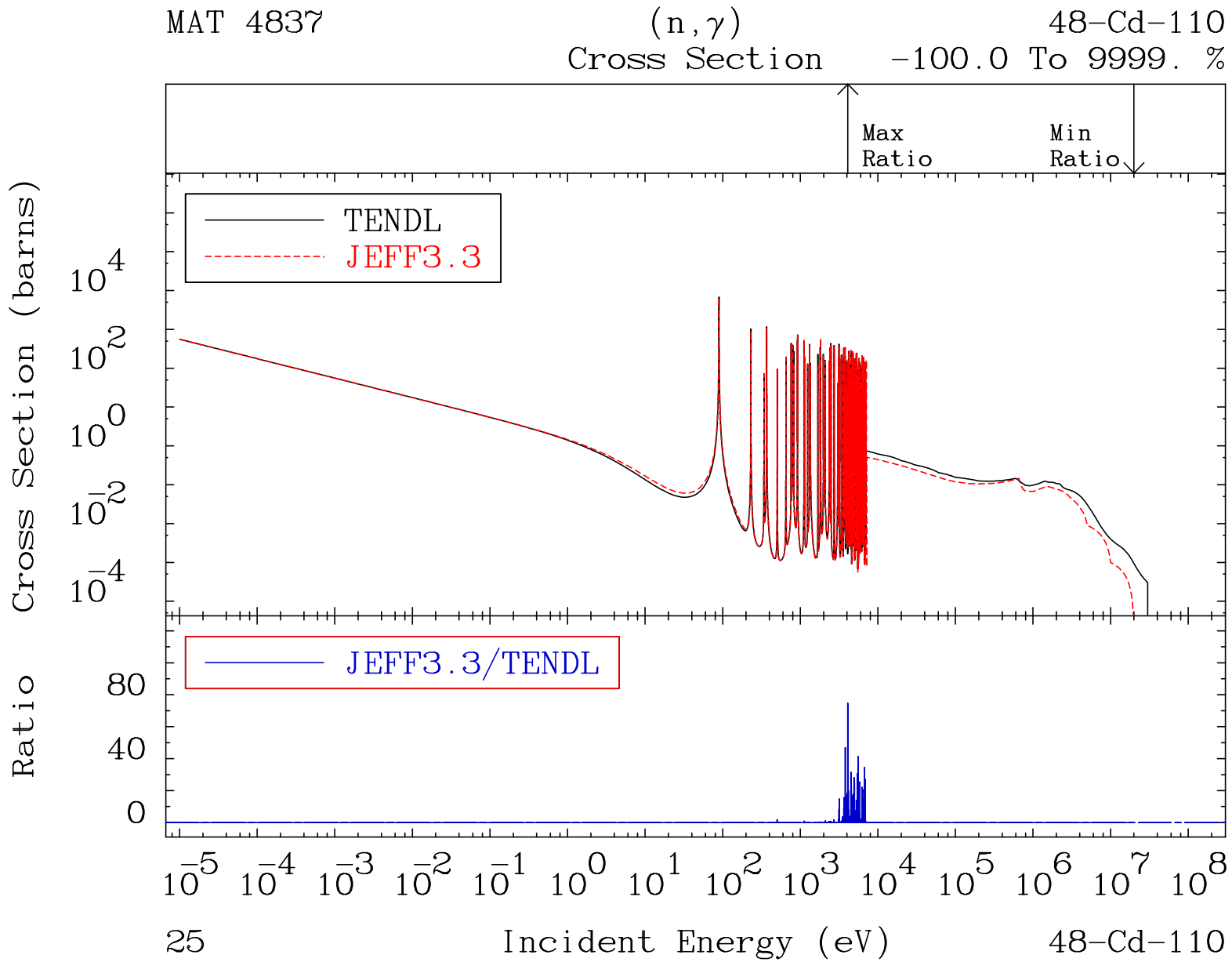

MAT 4837
MT= 61 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 20.46 %
Min Ratio
Max Ratio
TENDL Threshold 2.2040 MeV
JEFF3.3 Threshold 2.2404 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
1.0
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
20
Incident Energy (eV)
48-Cd-110

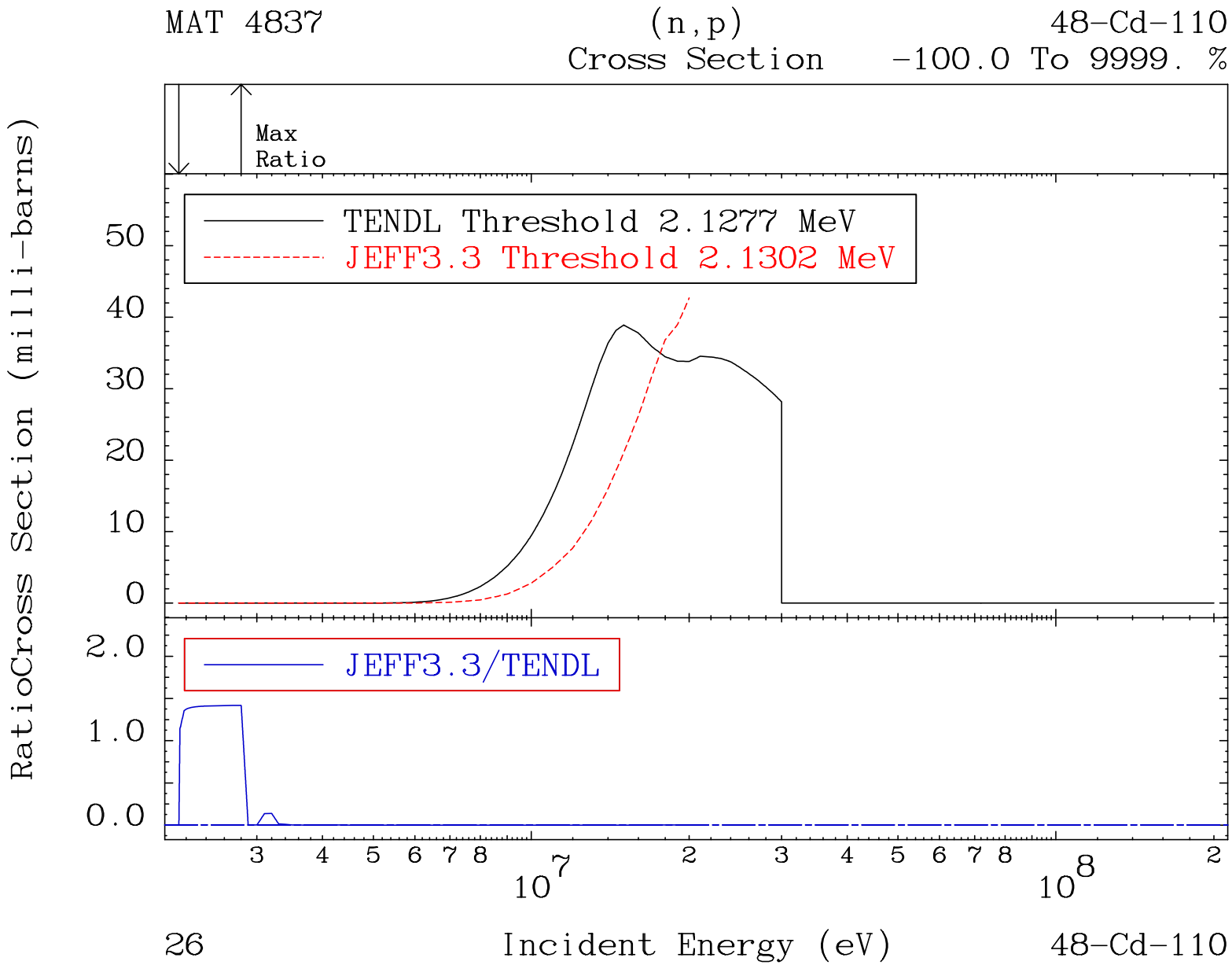

MAT 4837
MT= 62 (n,n') Level
48-Cd-110
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.2182 MeV
JEFF3.3 Threshold 2.3100 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
120
60
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
21
Incident Energy (eV)
48-Cd-110

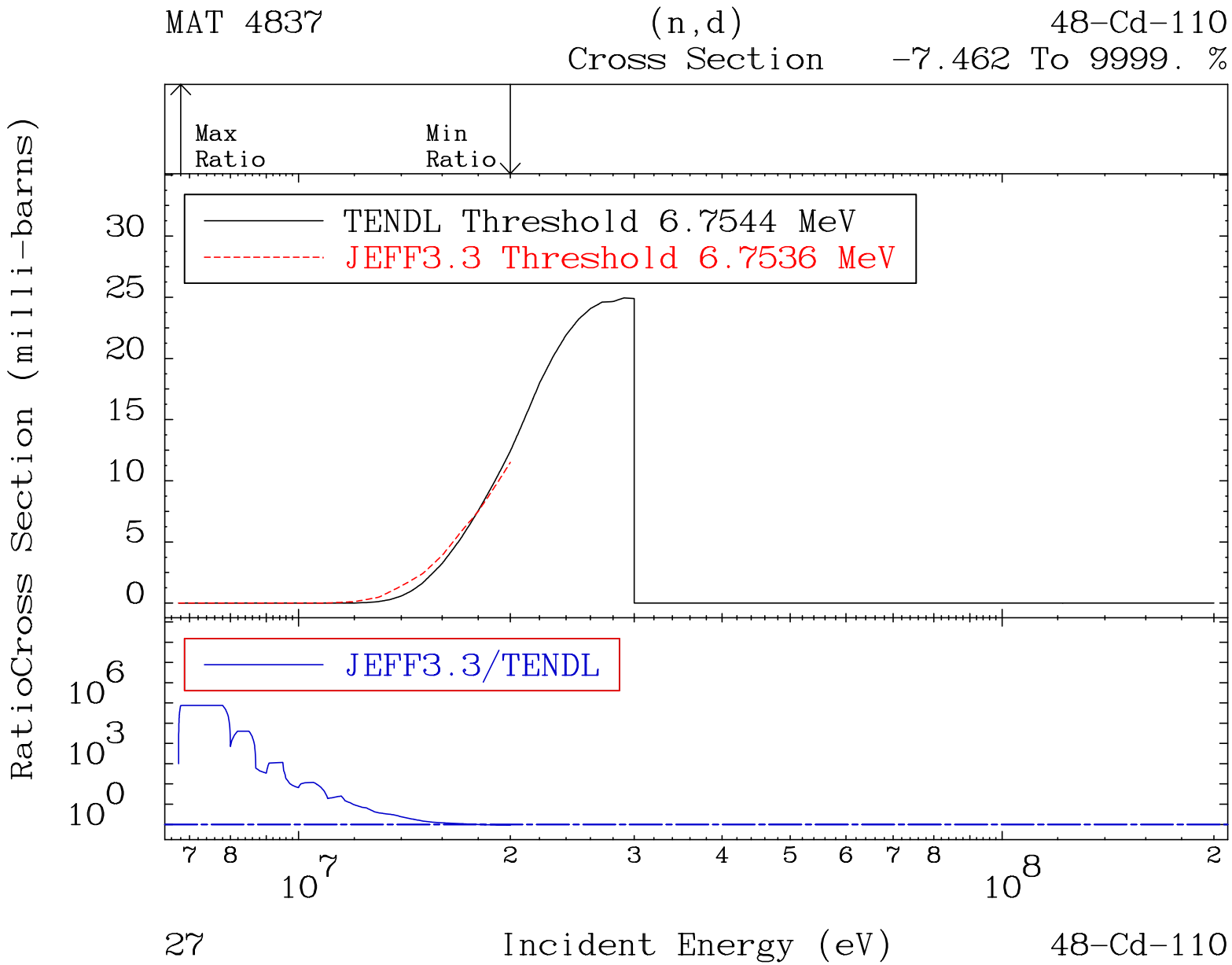

MAT 4837
MT= 63 (n,n') Level
48-Cd-110
Cross Section
-100.0 To -28.21%
Max
Ratio
TENDL Threshold 2.2404 MeV
JEFF3.3 Threshold 2.3504 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
0.8
0.4
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
22
Incident Energy (eV)
48-Cd-110

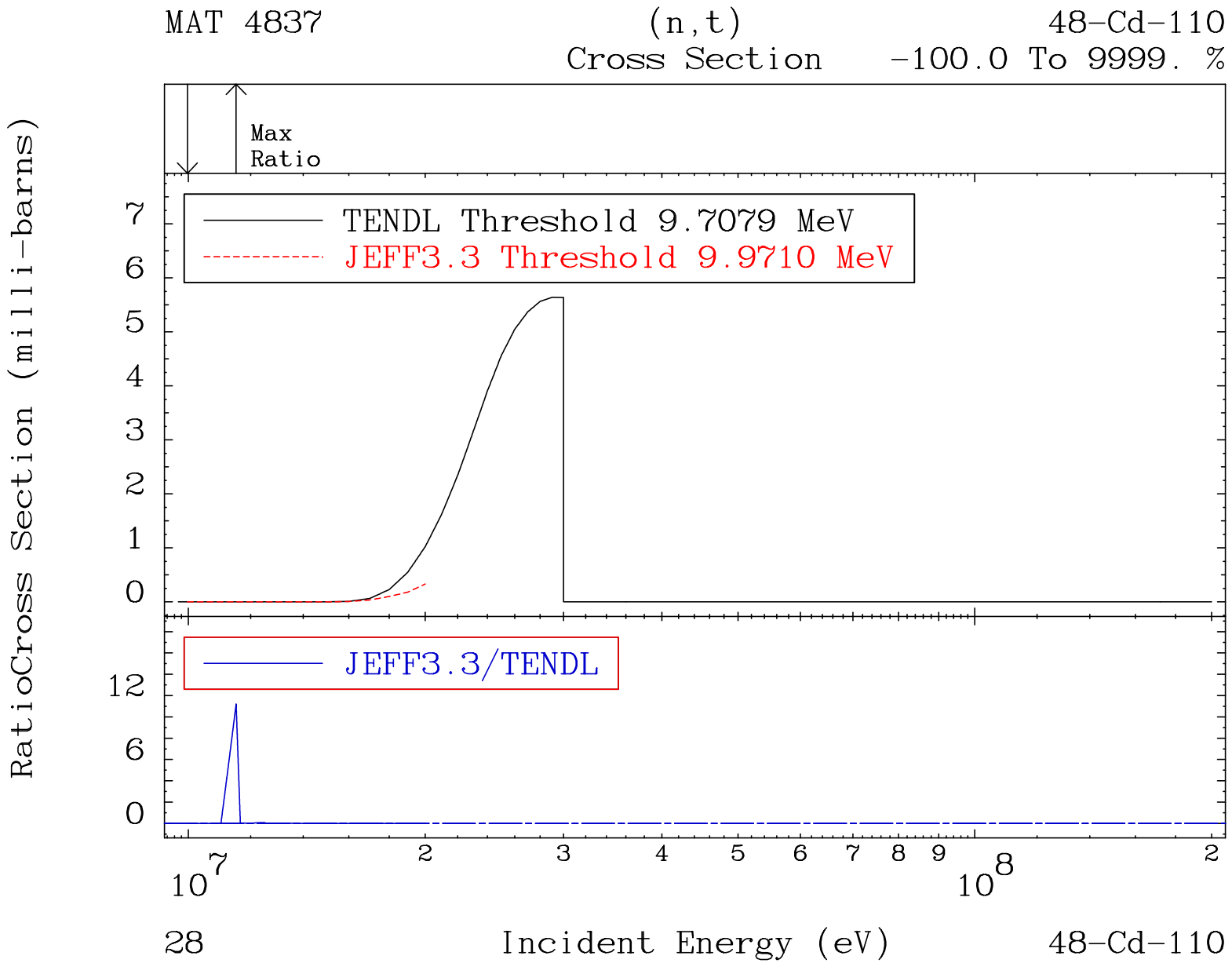

MAT 4837
MT= 64 (n,n') Level
48-Cd-110
Cross Section
-100.0 To 98.53 %
Max
Ratio
TENDL Threshold 2.2712 MeV
JEFF3.3 Threshold 2.3800 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
3.0
2.0
1.0
0.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
23
Incident Energy (eV)
48-Cd-110

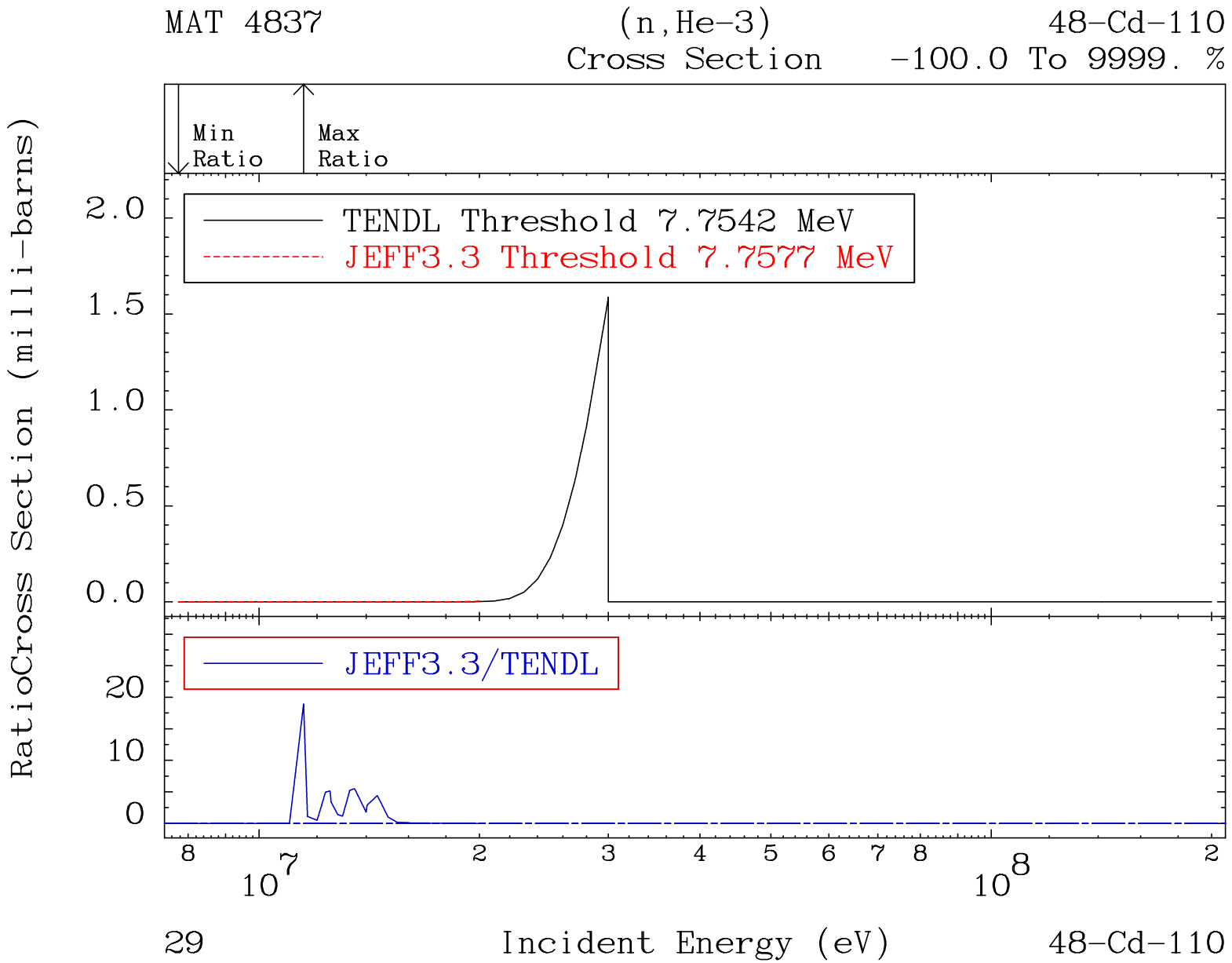

MAT 4837
(n,n') Continuum
Cross Section
48-Cd-110
-99.99 To 45.45 %
Max
Ratio
TENDL Threshold 2.3988 MeV
JEFF3.3 Threshold 2.3802 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
24
48-Cd-110

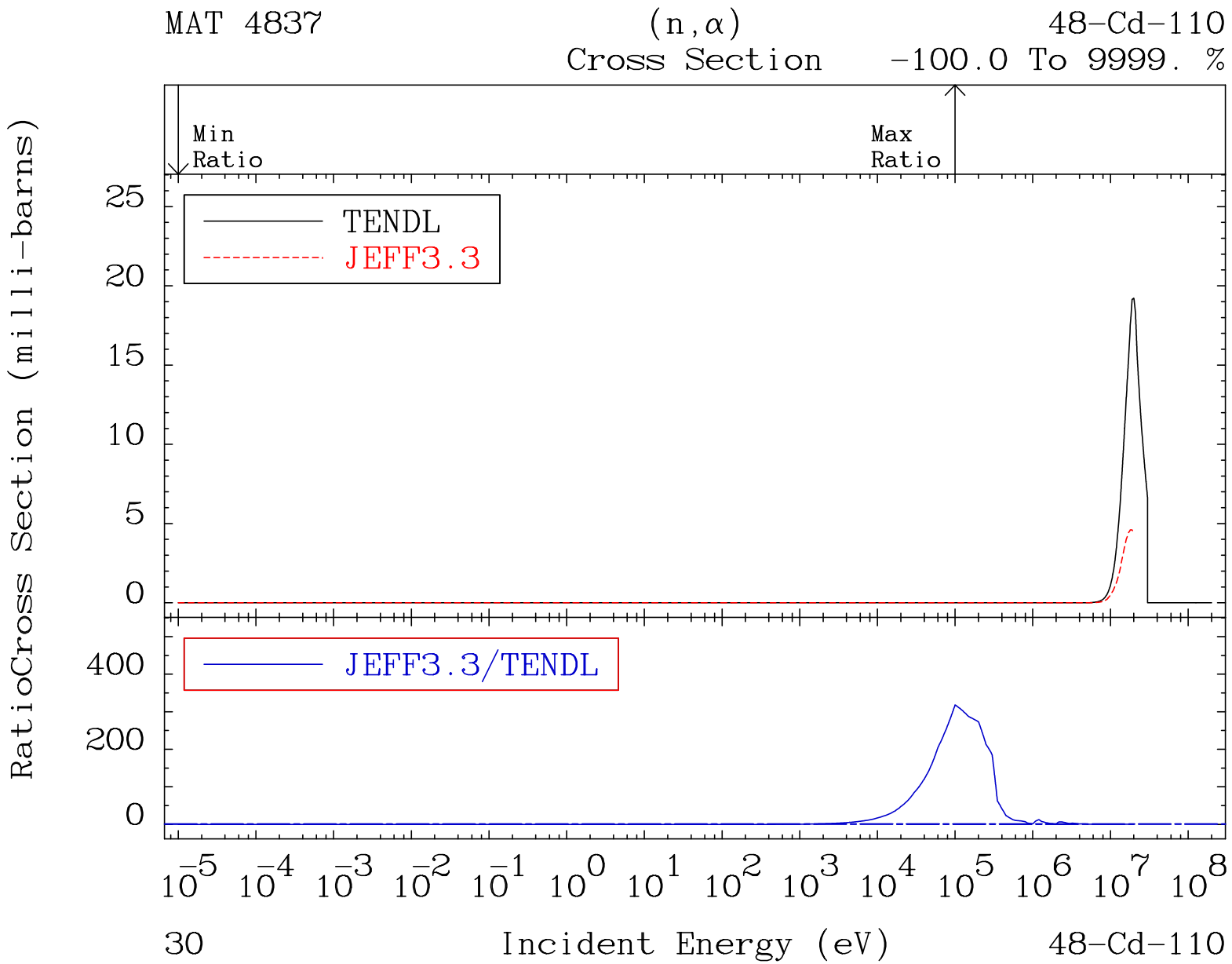

MAT 4837
(n,γ)
Cross Section
48-Cd-110
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
25
48-Cd-110

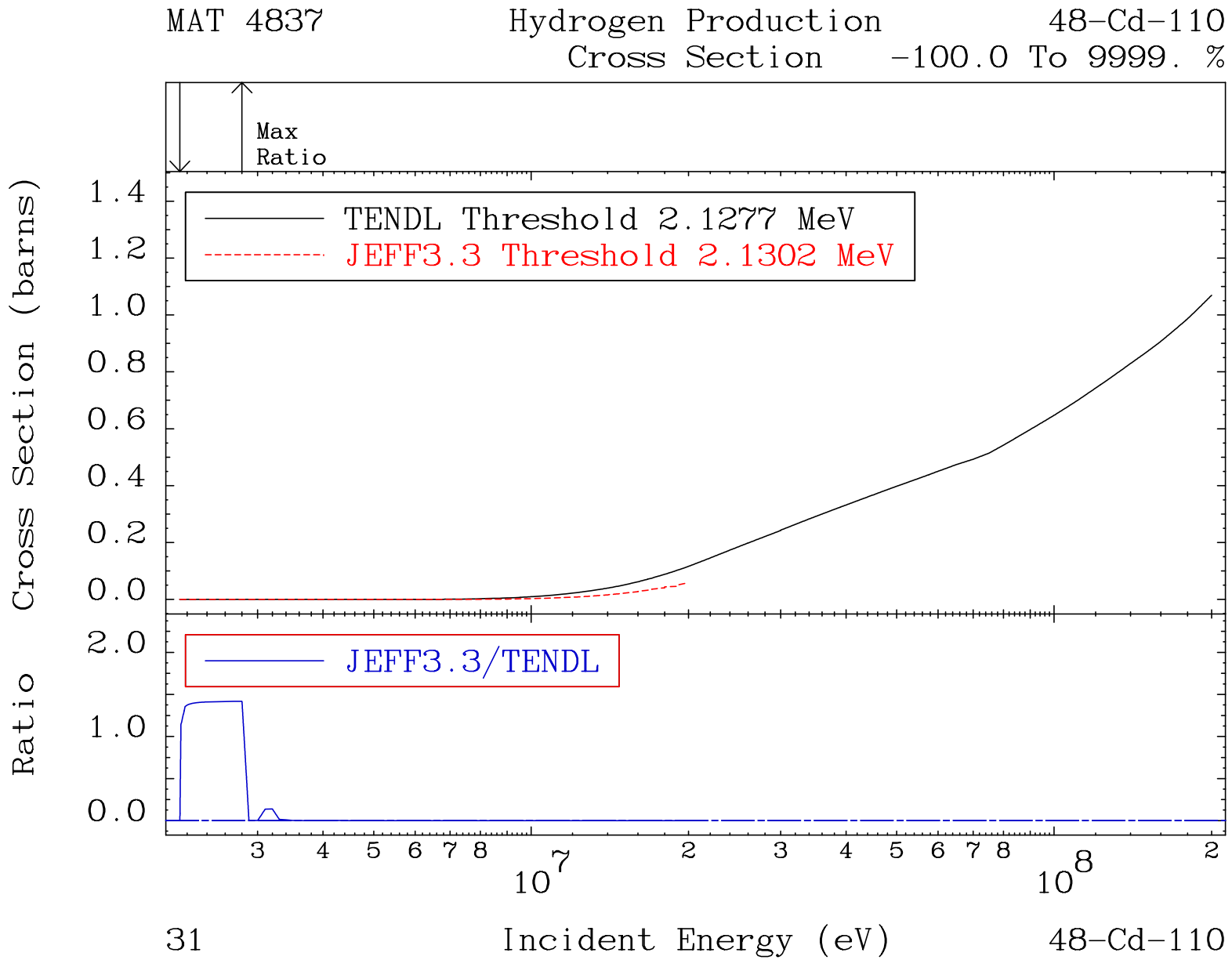

MAT 4837
(n,p)
Cross Section
48-Cd-110
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 2.1277 MeV
JEFF3.3 Threshold 2.1302 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
2.0
1.0
0.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
26
Incident Energy (eV)
48-Cd-110

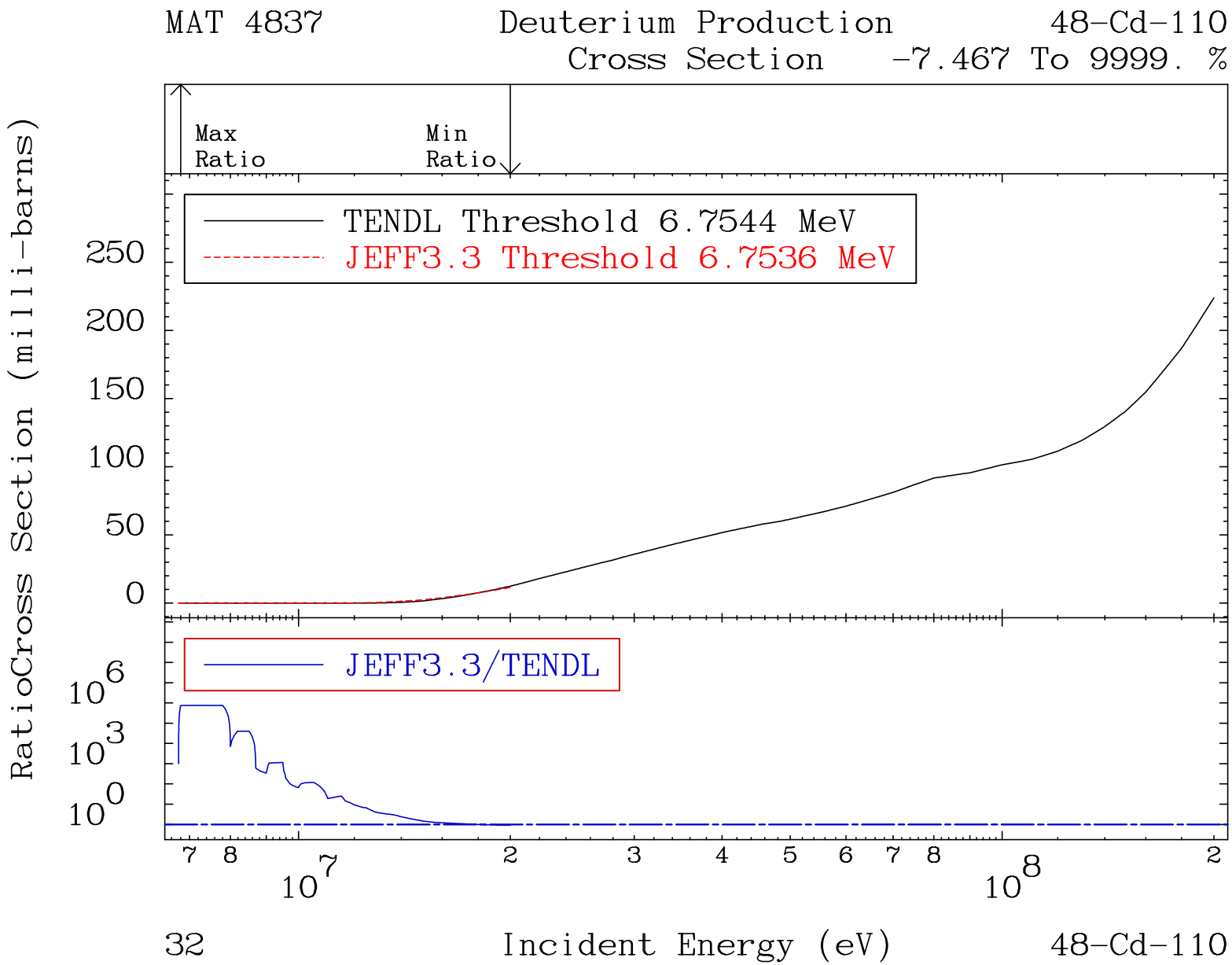

MAT 4837
(n,d)
48-Cd-110
Cross Section
-7.462 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.7544 MeV
JEFF3.3 Threshold 6.7536 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
10^6
10^3
10^0
7 8
10^7
2 3 4 5 6 7 8
10^8
2
27
Incident Energy (eV)
48-Cd-110

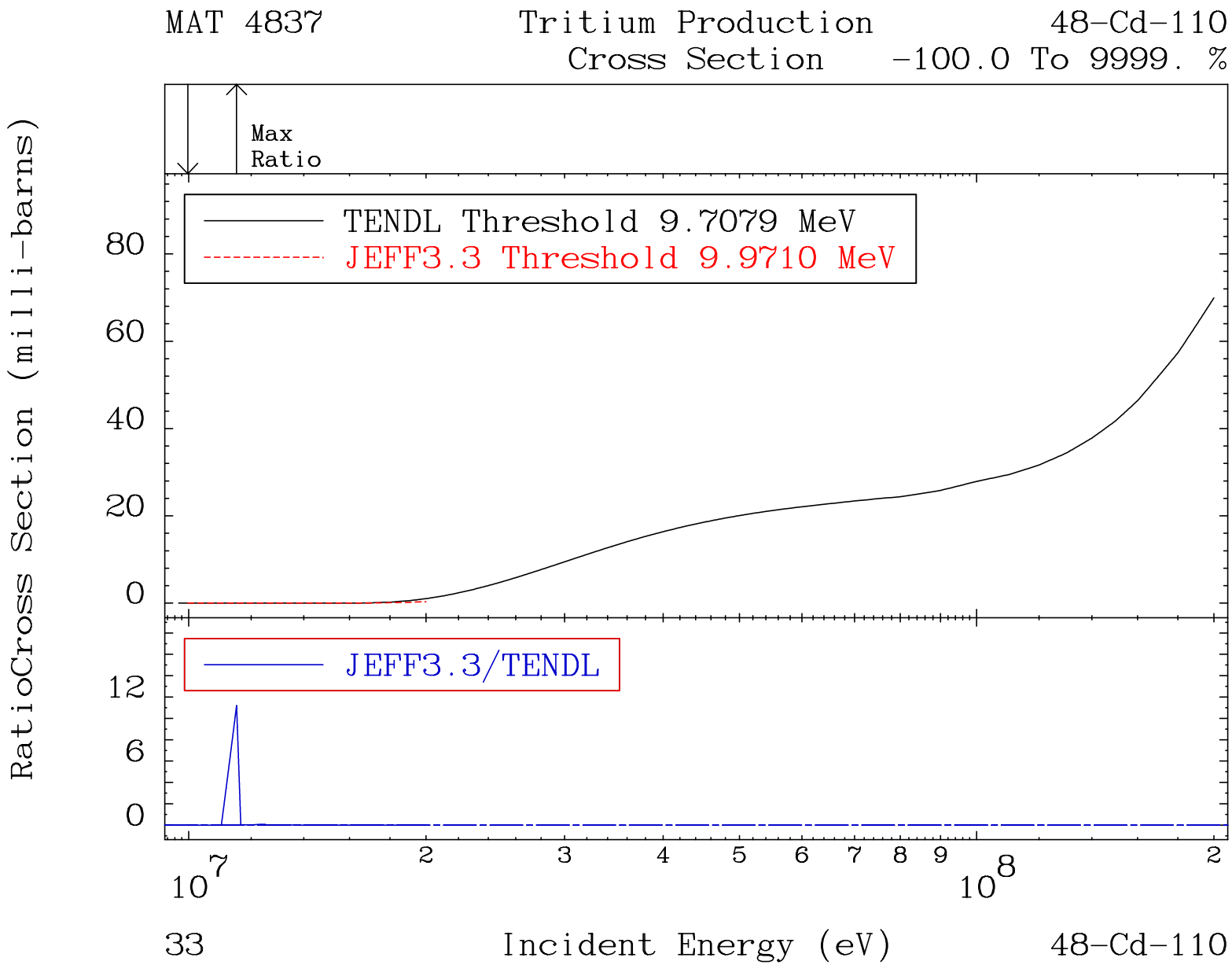

MAT 4837
(n,t)
Cross Section
48-Cd-110
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 9.7079 MeV
JEFF3.3 Threshold 9.9710 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
28
48-Cd-110

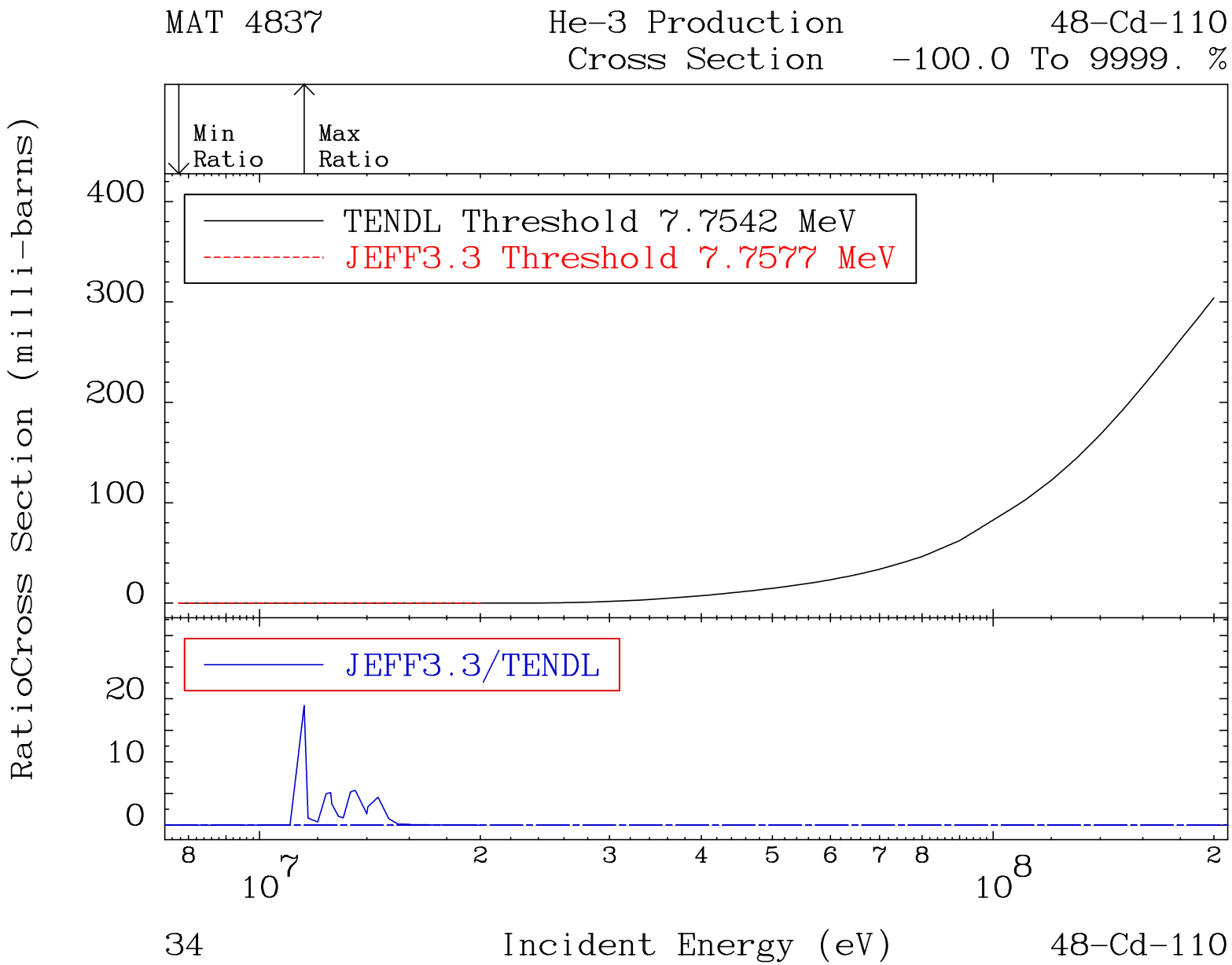

MAT 4837
(n,He-3)
Cross Section
48-Cd-110
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 7.7542 MeV
JEFF3.3 Threshold 7.7577 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
20
10
0
8
2
3
4
5
6
7
8
2
10^7
10^8
29
Incident Energy (eV)
48-Cd-110

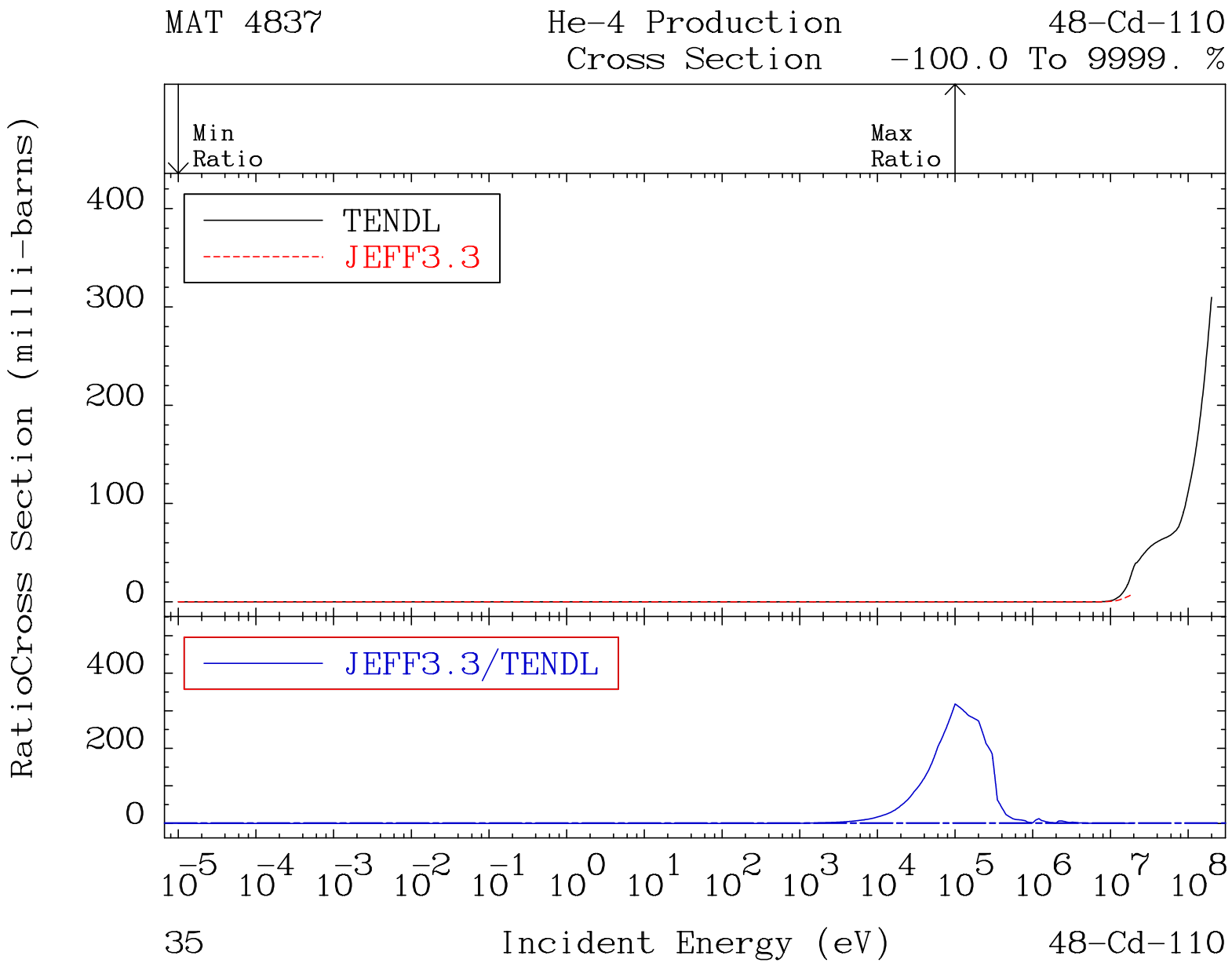

MAT 4837
(n,α)
Cross Section
48-Cd-110
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
400
200
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
30
Incident Energy (eV)
48-Cd-110

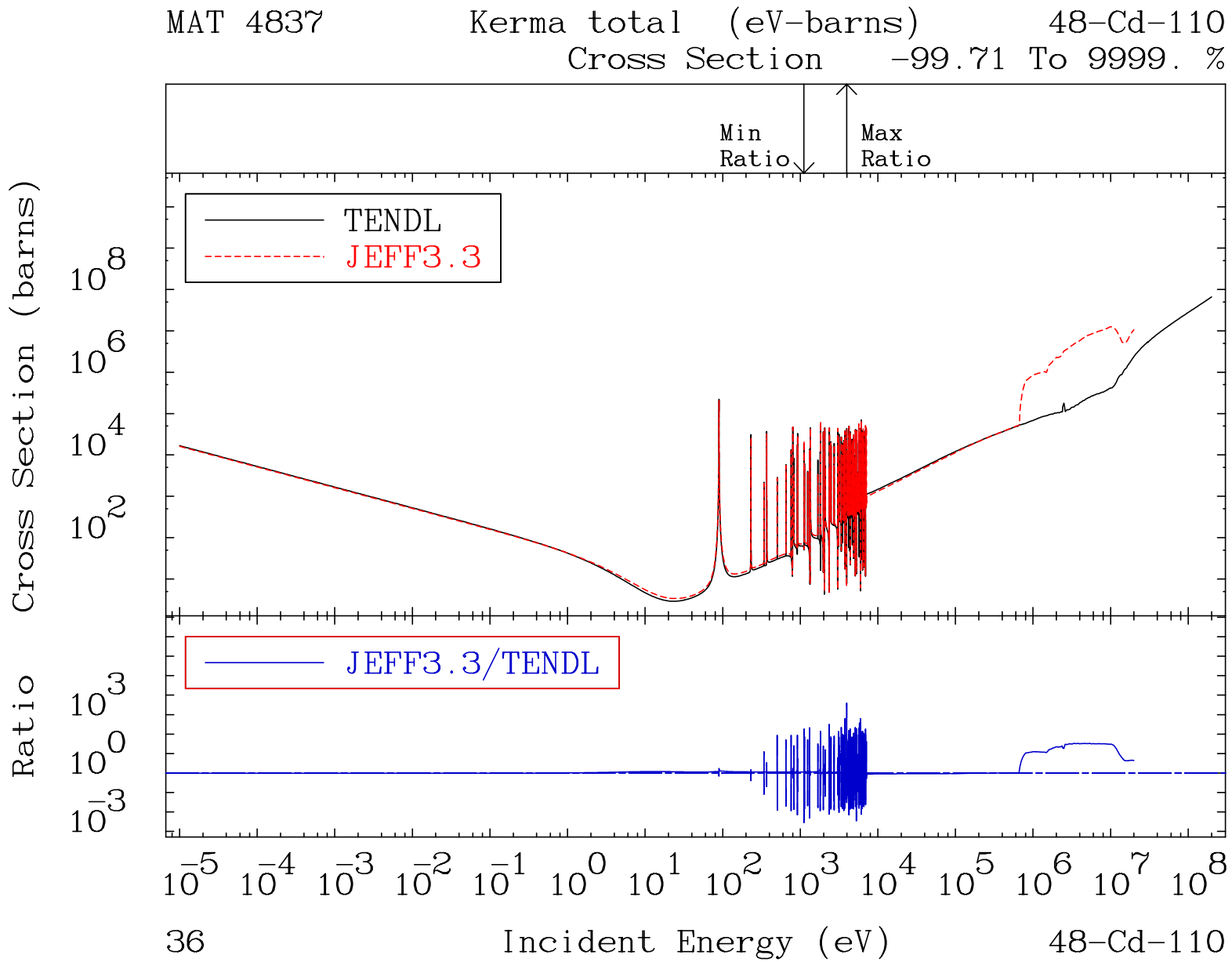

MAT 4837
Hydrogen Production
48-Cd-110
Cross Section
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 2.1277 MeV
JEFF3.3 Threshold 2.1302 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2.0
1.0
0.0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
31
Incident Energy (eV)
48-Cd-110

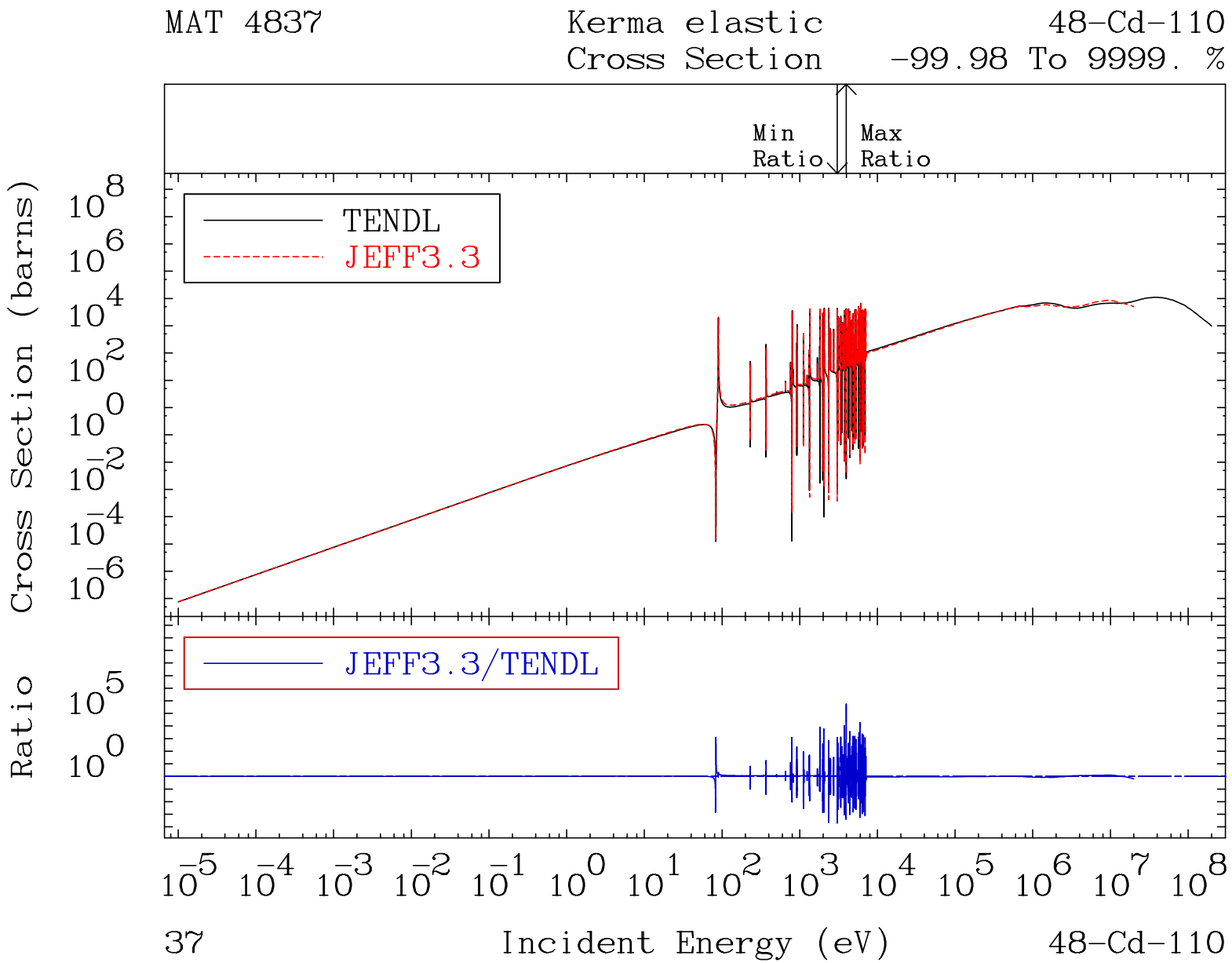

MAT 4837
Deuterium Production
48-Cd-110
Cross Section
-7.467 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.7544 MeV
JEFF3.3 Threshold 6.7536 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^6
10^3
10^0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
32
Incident Energy (eV)
48-Cd-110

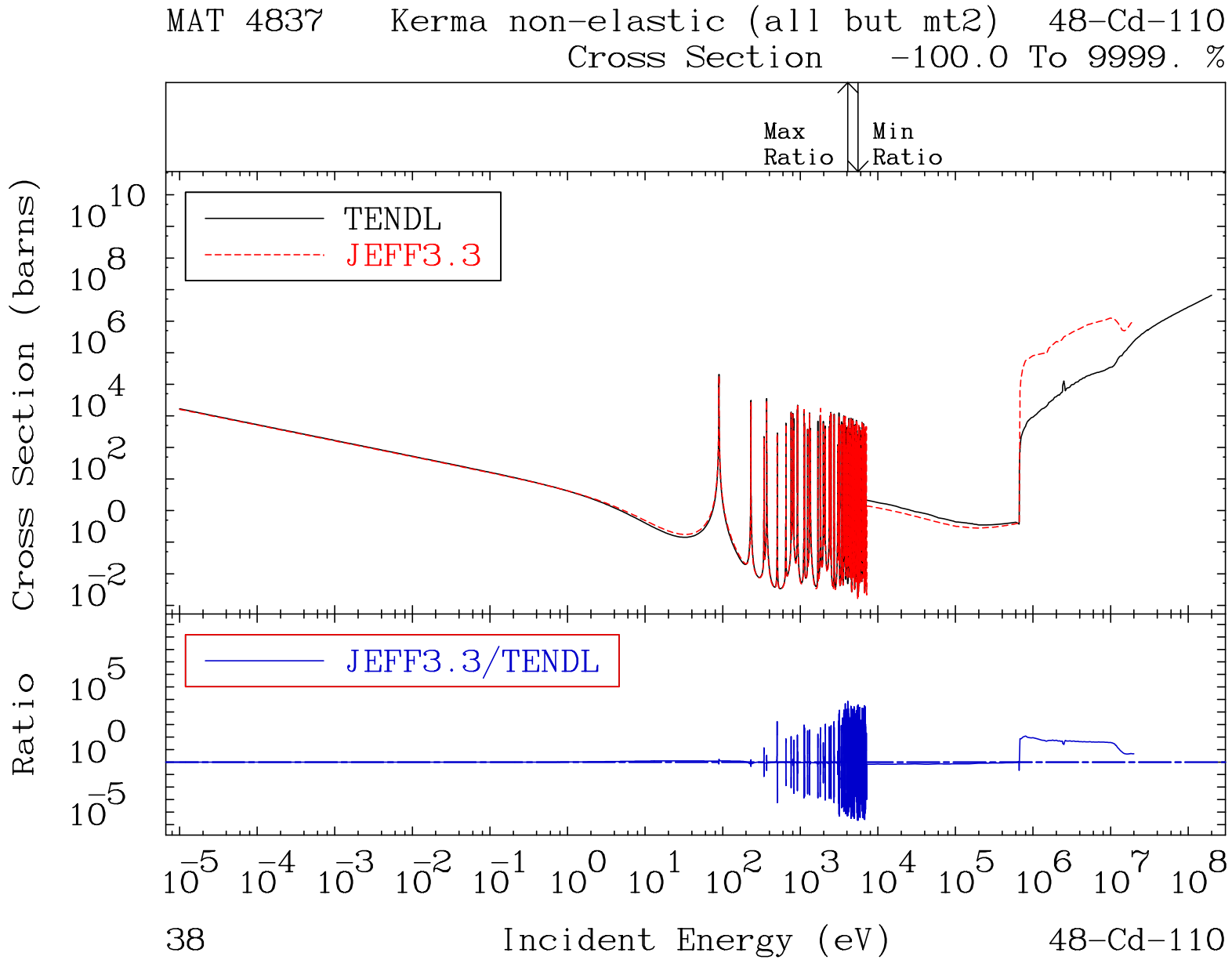

MAT 4837
Tritium Production
Cross Section
48-Cd-110
-100.0 To 9999. %
Max
Ratio
TENDL Threshold 9.7079 MeV
JEFF3.3 Threshold 9.9710 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
12
6
0
10^7
2
3
4
5
6
7
8
9
10^8
2
33
Incident Energy (eV)
48-Cd-110

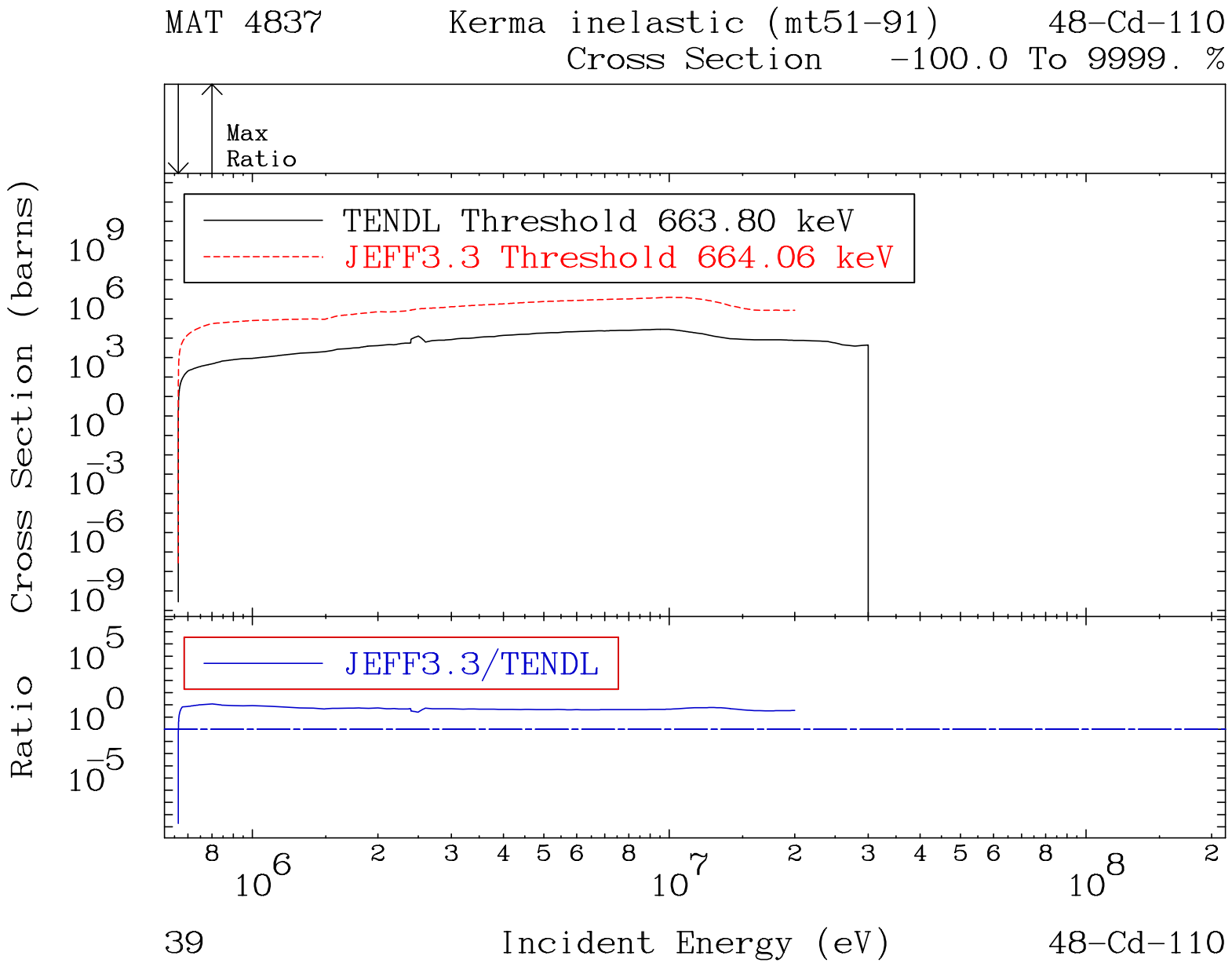

MAT 4837
He-3 Production
Cross Section
48-Cd-110
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 7.7542 MeV
JEFF3.3 Threshold 7.7577 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
20
10
0
8
2
3
4
5
6
7
8
2
10^7
10^8
34
Incident Energy (eV)
48-Cd-110

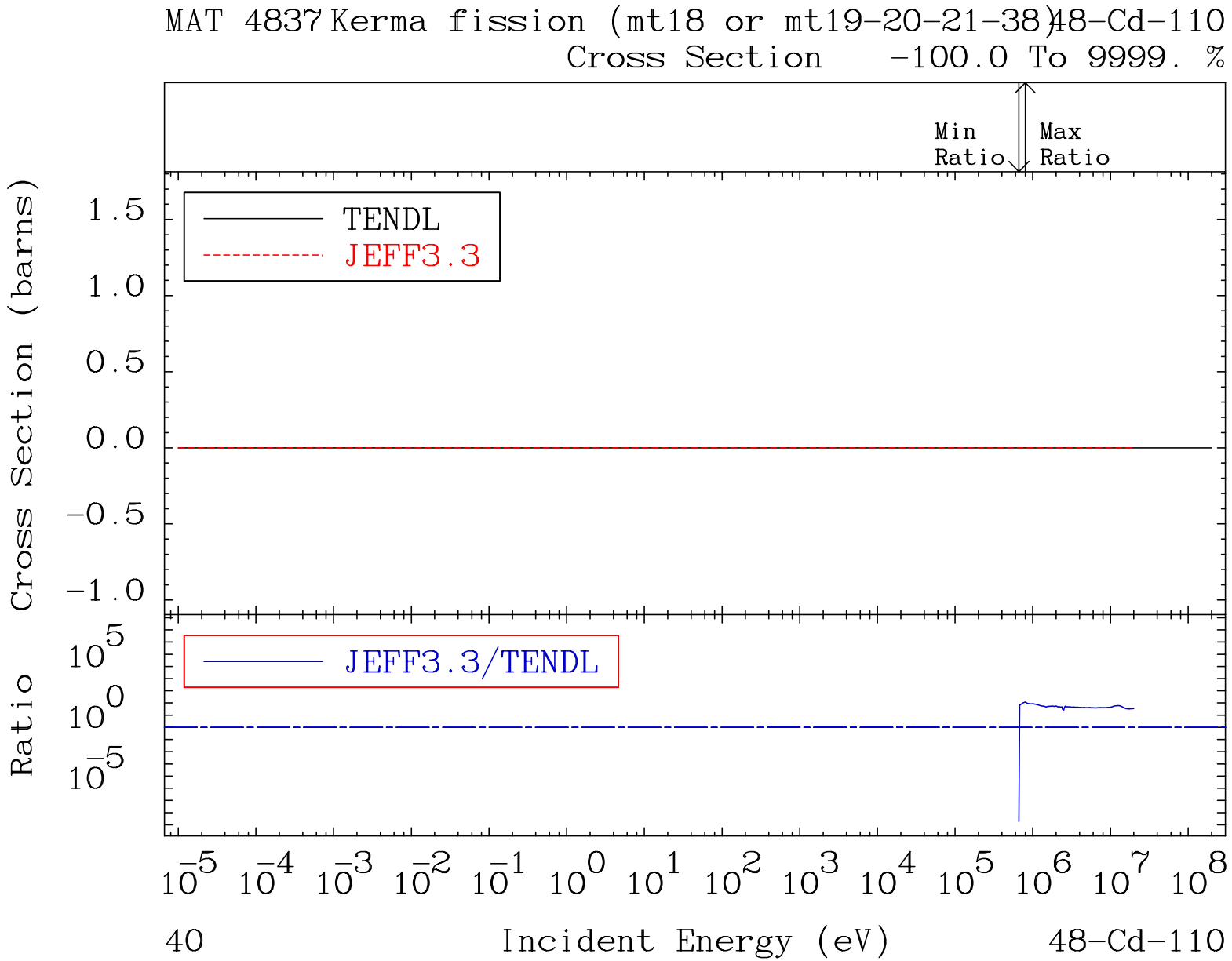

MAT 4837
He-4 Production
Cross Section
48-Cd-110
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
400
200
0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
35
Incident Energy (eV)
48-Cd-110

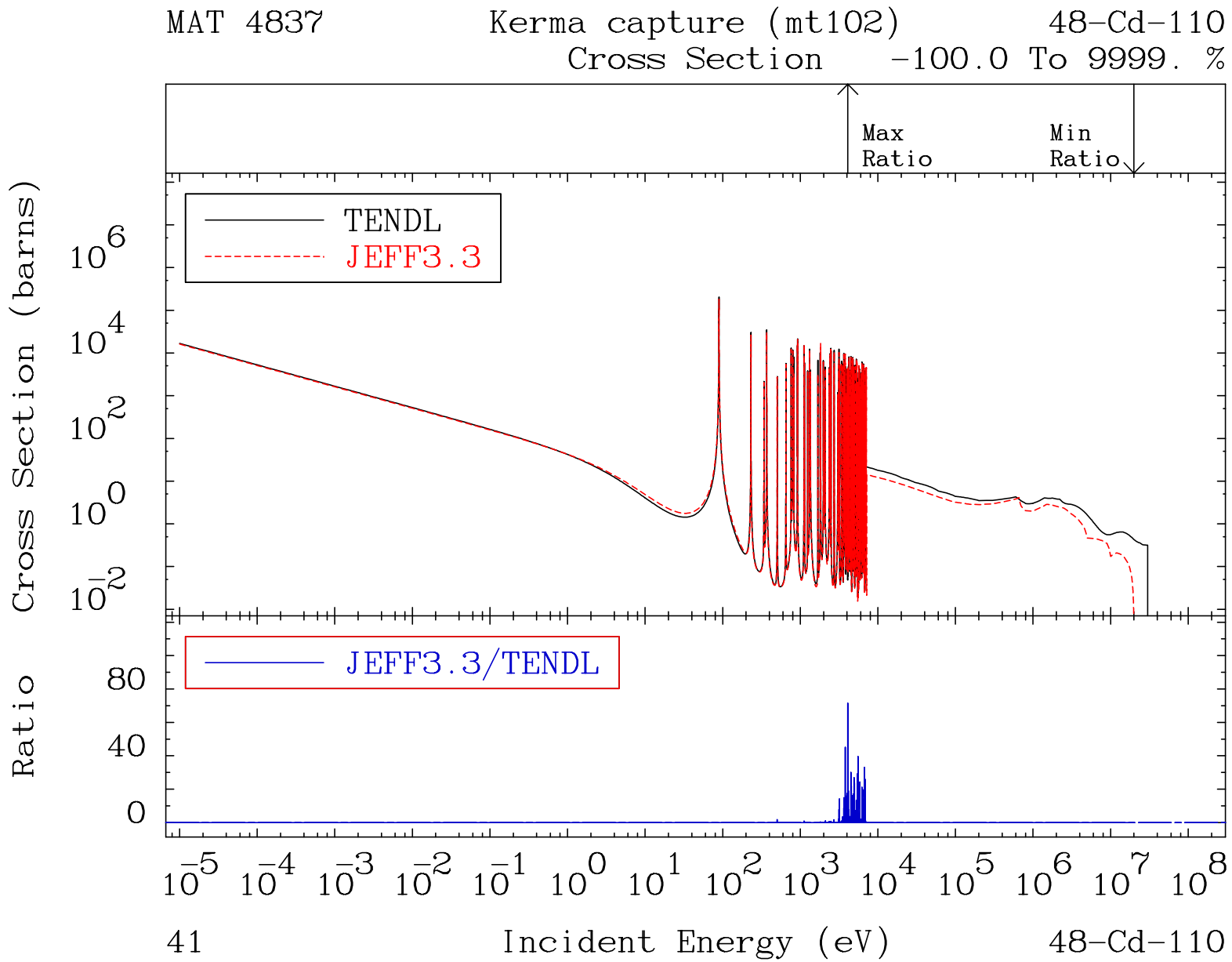

MAT 4837
Kerma total (eV-barns)
48-Cd-110
Cross Section -99.71 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
36
48-Cd-110

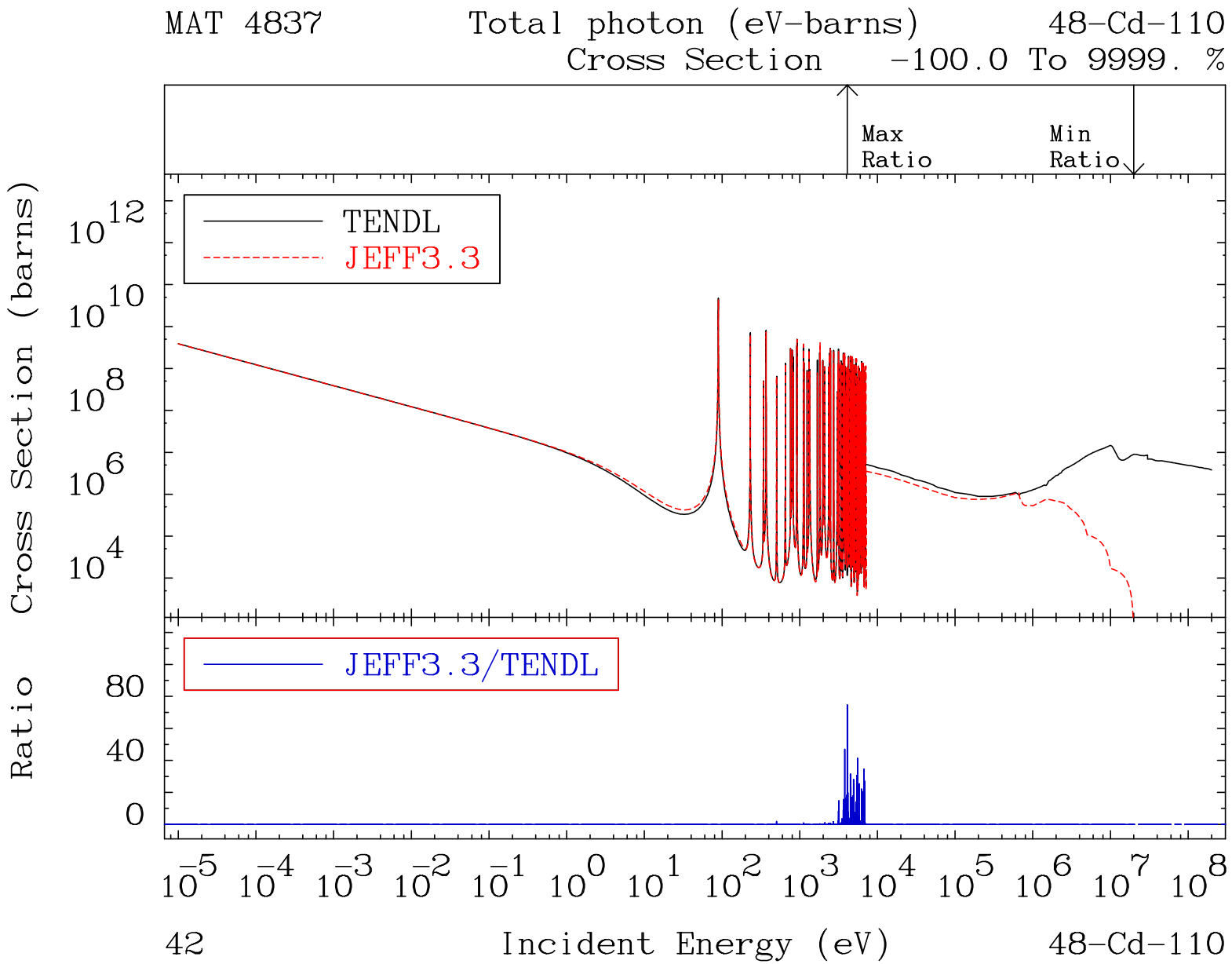

MAT 4837
Kerma elastic
Cross Section
48-Cd-110
-99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
37
48-Cd-110

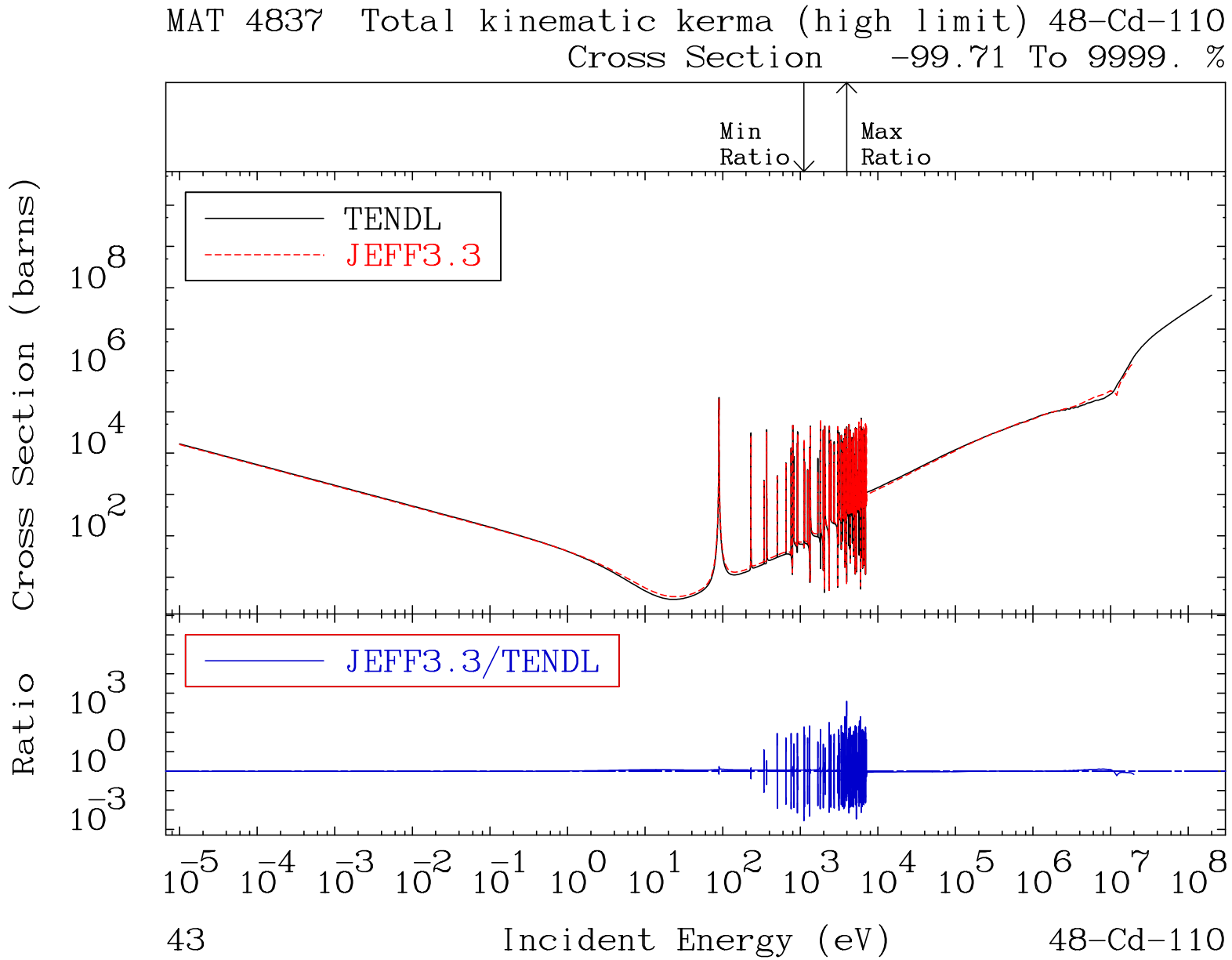

MAT 4837 Kerma non-elastic (all but mt2) 48-Cd-110
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
38
48-Cd-110

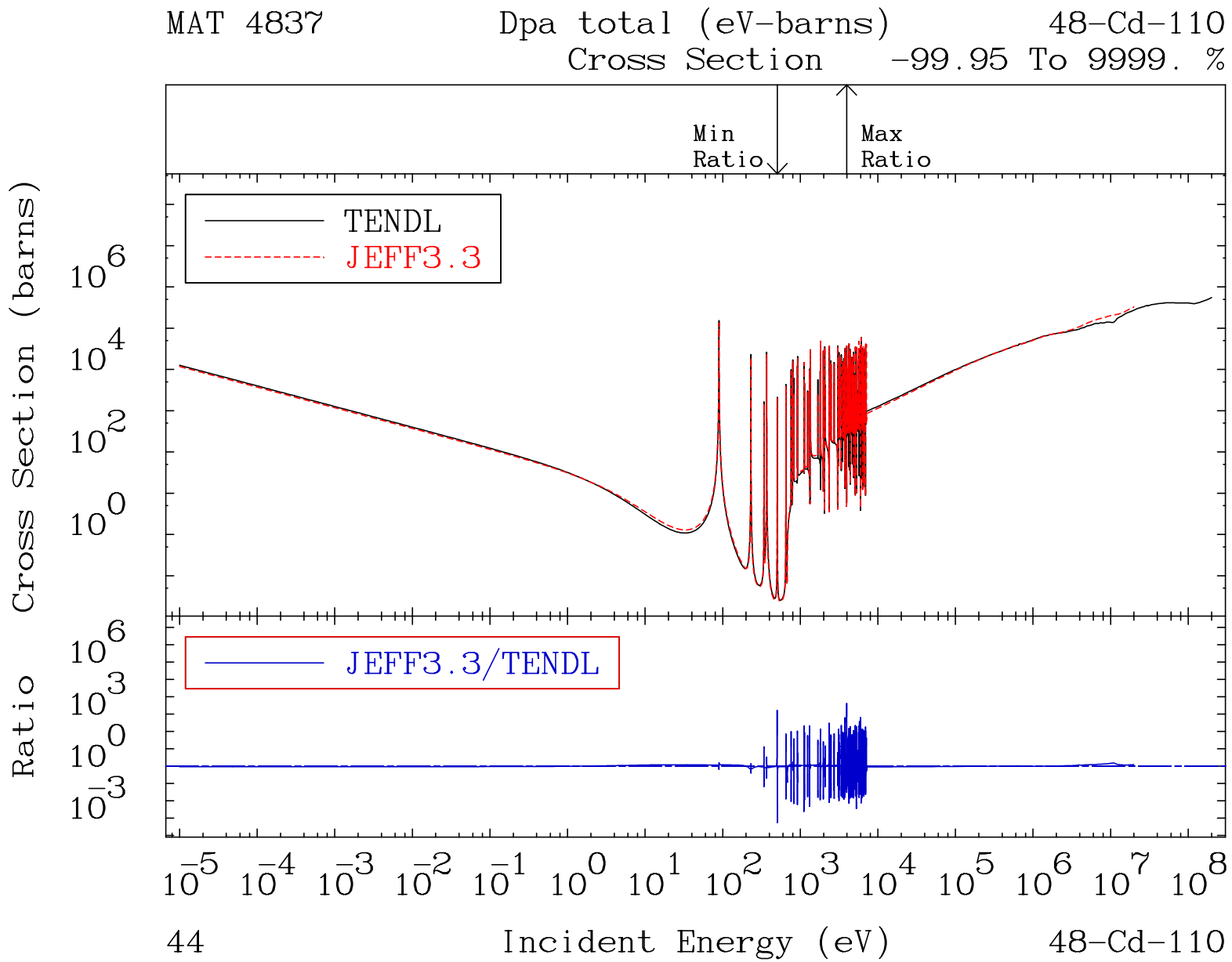

MAT 4837
Kerma inelastic (mt51-91)
48-Cd-110
Cross Section -100.0 To 9999. %
Max
Ratio
TENDL Threshold 663.80 keV
JEFF3.3 Threshold 664.06 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
39
48-Cd-110

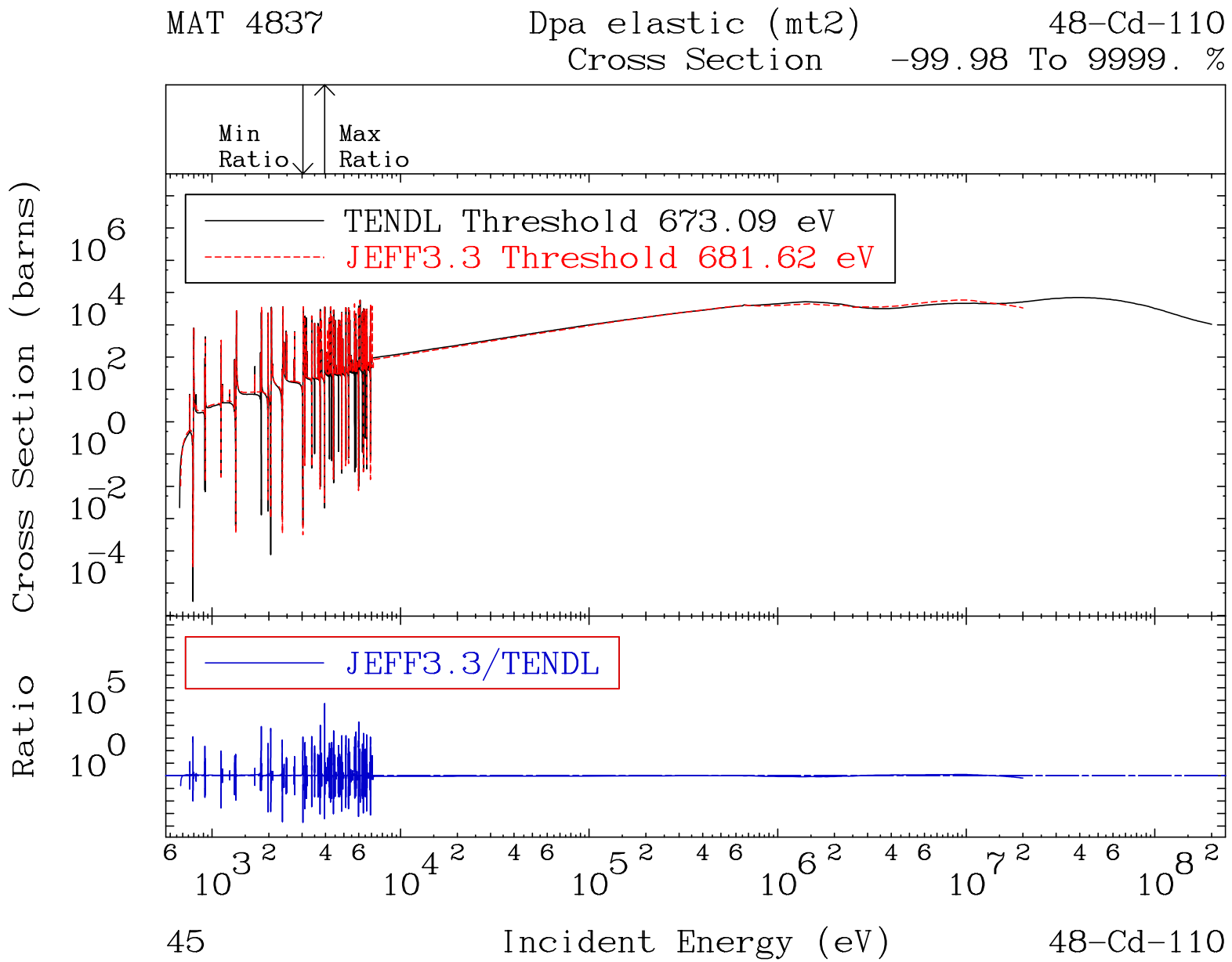

MAT 4837 Kerma fission (mt18 or mt19-20-21-38) 48-Cd-110
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{5}
10^{0}
10^{-5}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
40
Incident Energy (eV)
48-Cd-110

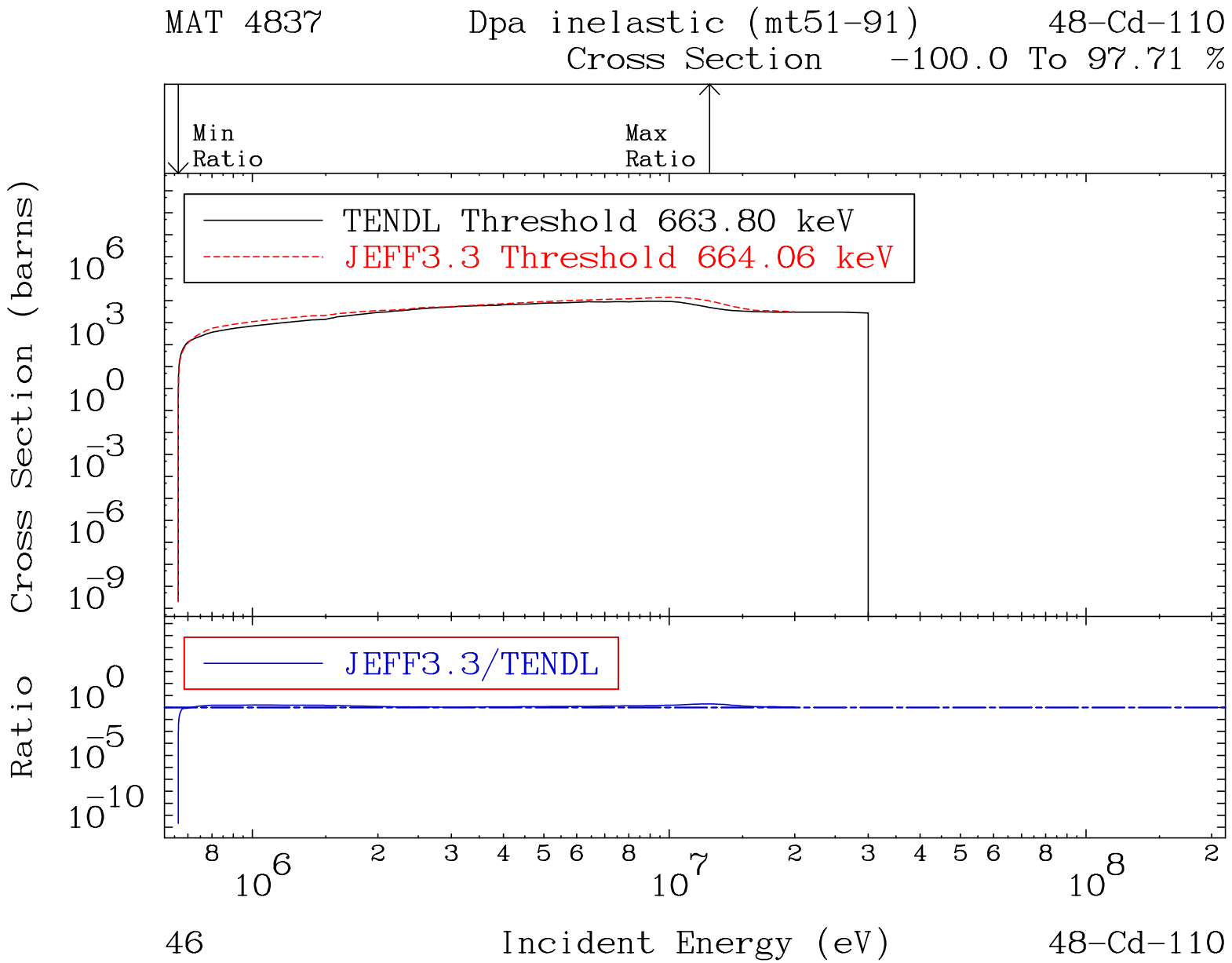

MAT 4837
Kerma capture (mt102)
48-Cd-110
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
41
48-Cd-110

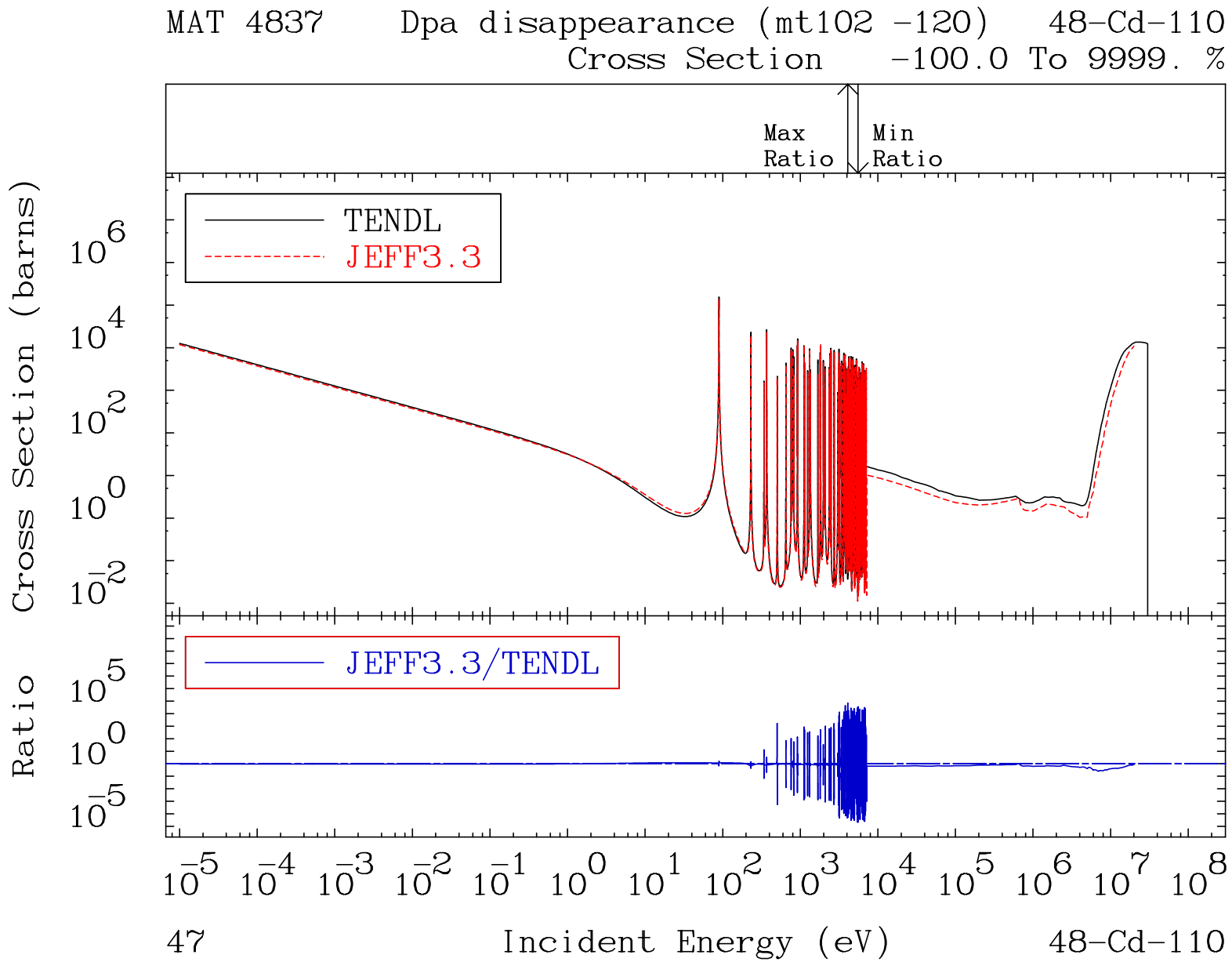

MAT 4837
Total photon (eV-barns)
48-Cd-110
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
48-Cd-110


MAT 4837 Total kinematic kerma (high limit) 48-Cd-110
Cross Section -99.71 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
48-Cd-110


MAT 4837
Dpa total (eV-barns)
48-Cd-110
Cross Section -99.95 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
44
48-Cd-110


MAT 4837
Dpa elastic (mt2)
Cross Section
48-Cd-110
-99.98 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 673.09 eV
JEFF3.3 Threshold 681.62 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
45
48-Cd-110


MAT 4837
Dpa inelastic (mt51-91)
48-Cd-110
Cross Section -100.0 To 97.71 %
Min Ratio
Max Ratio
TENDL Threshold 663.80 keV
JEFF3.3 Threshold 664.06 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
46
48-Cd-110


MAT 4837 Dpa disappearance (mt102 -120) 48-Cd-110
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
47
48-Cd-110