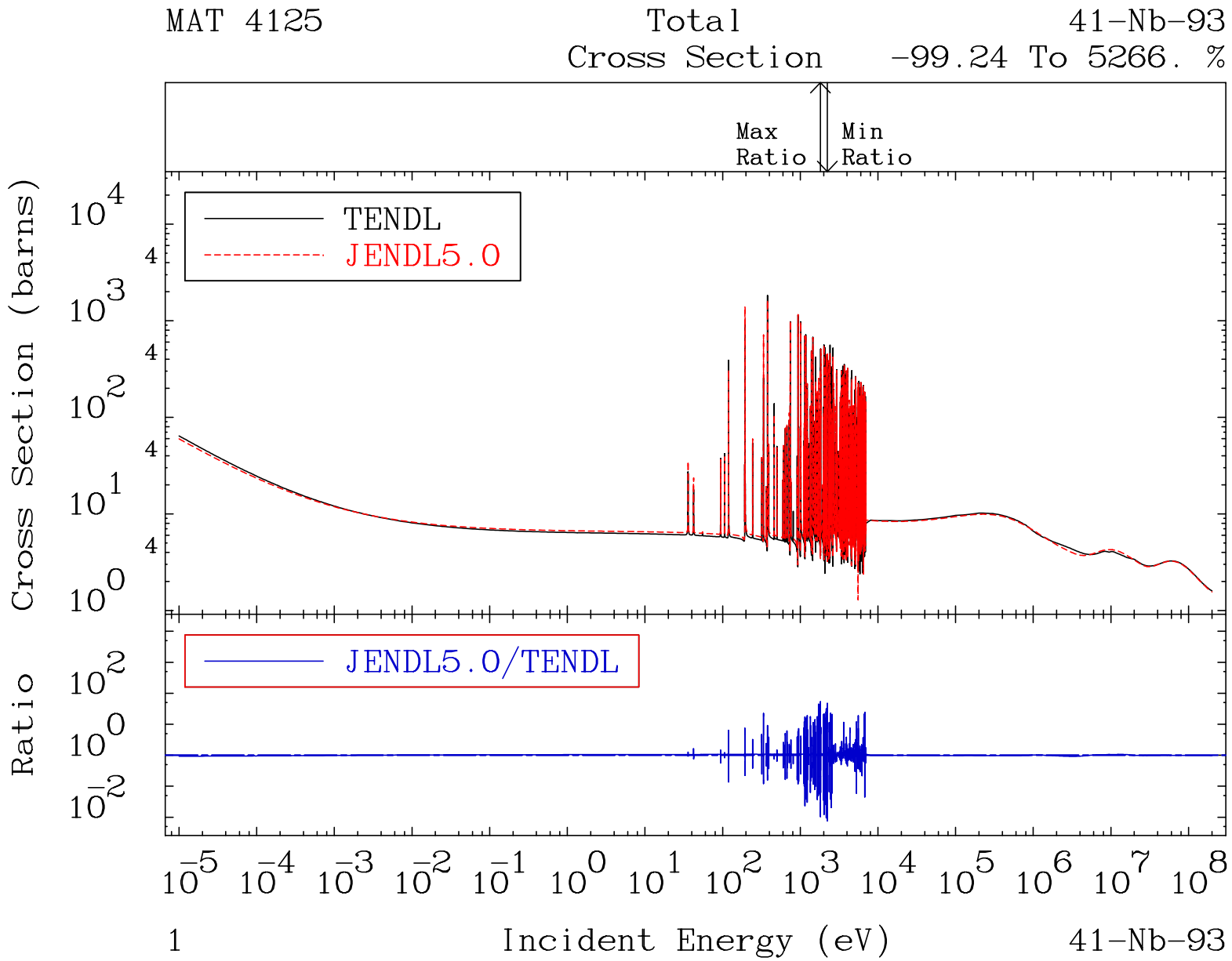
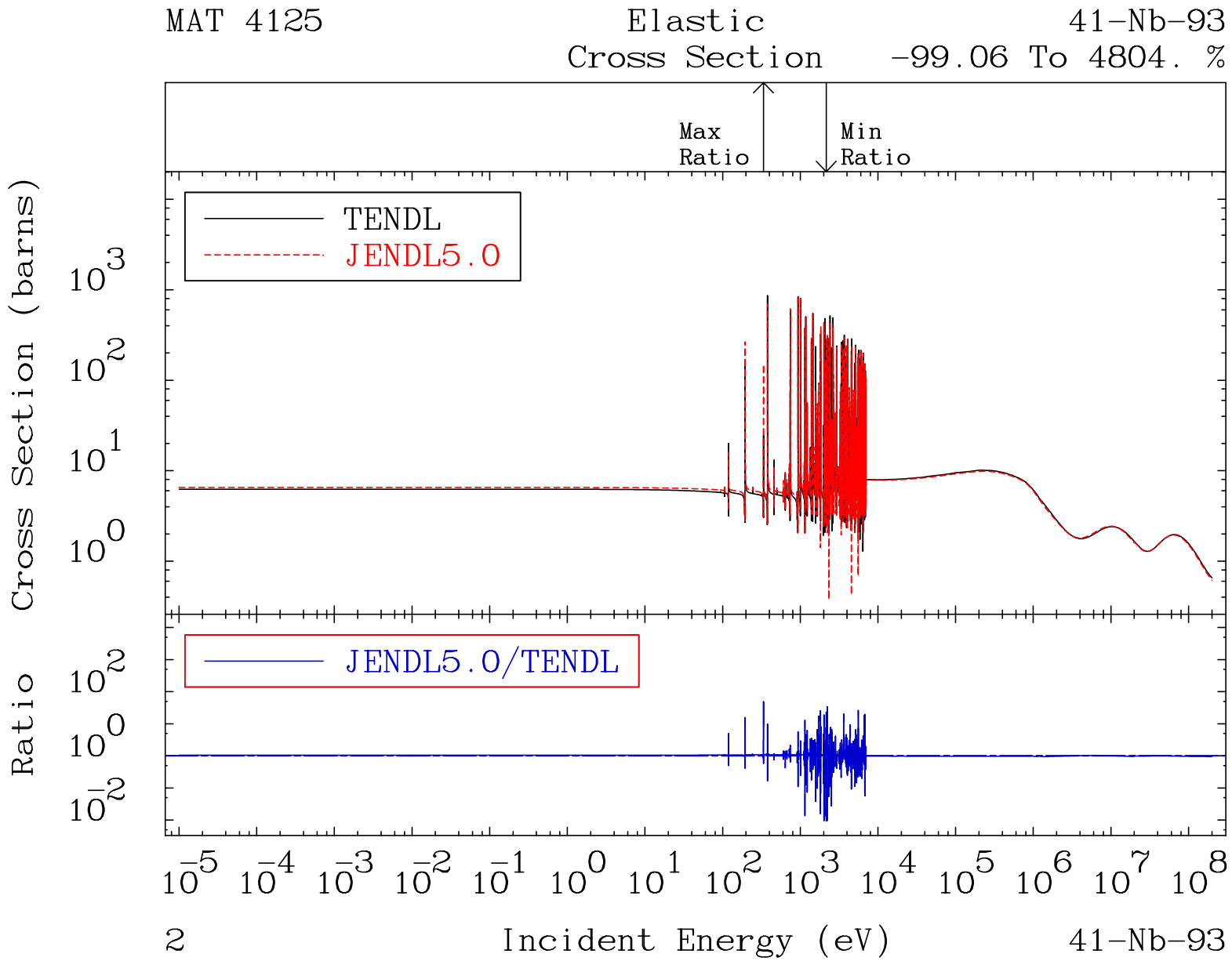
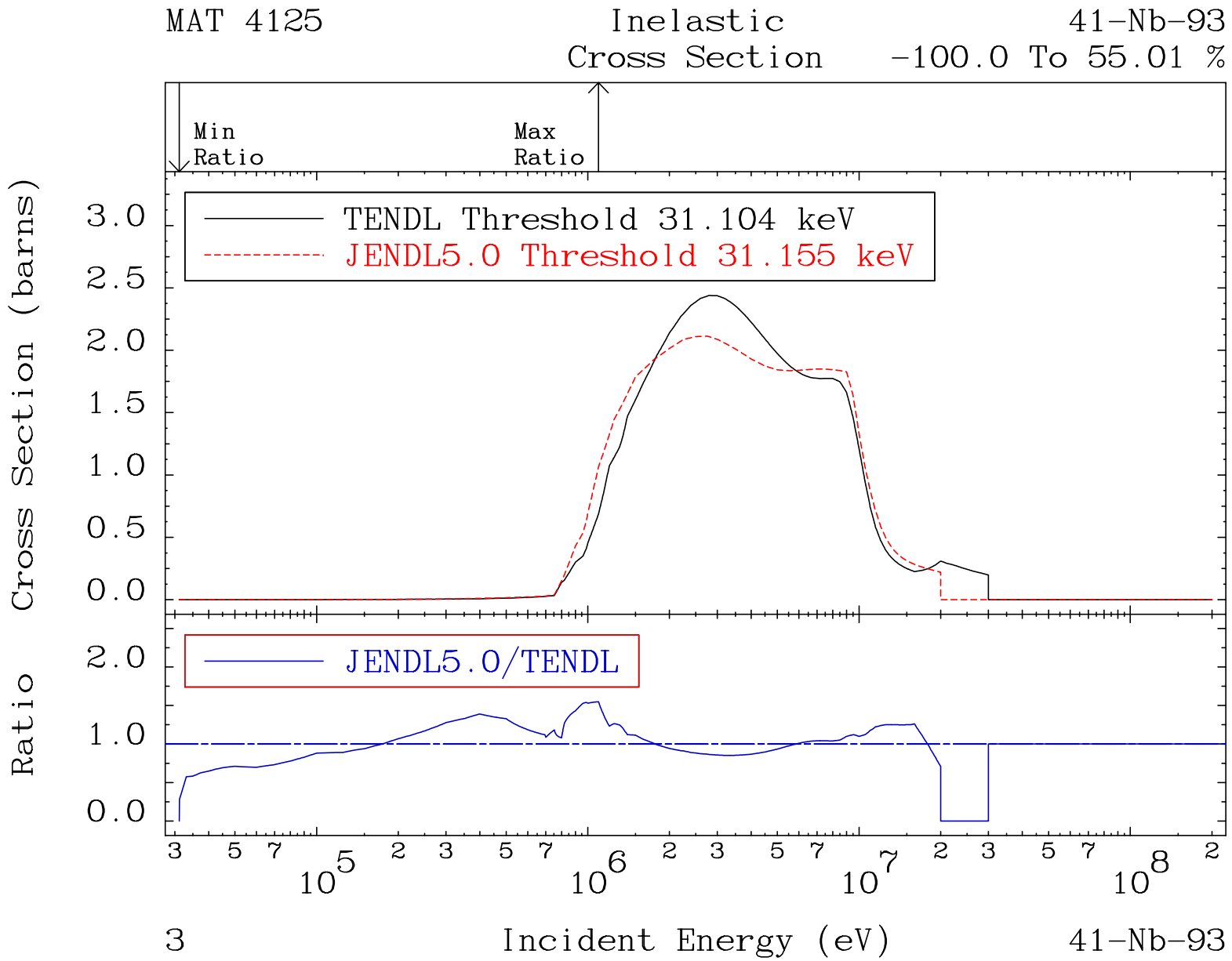
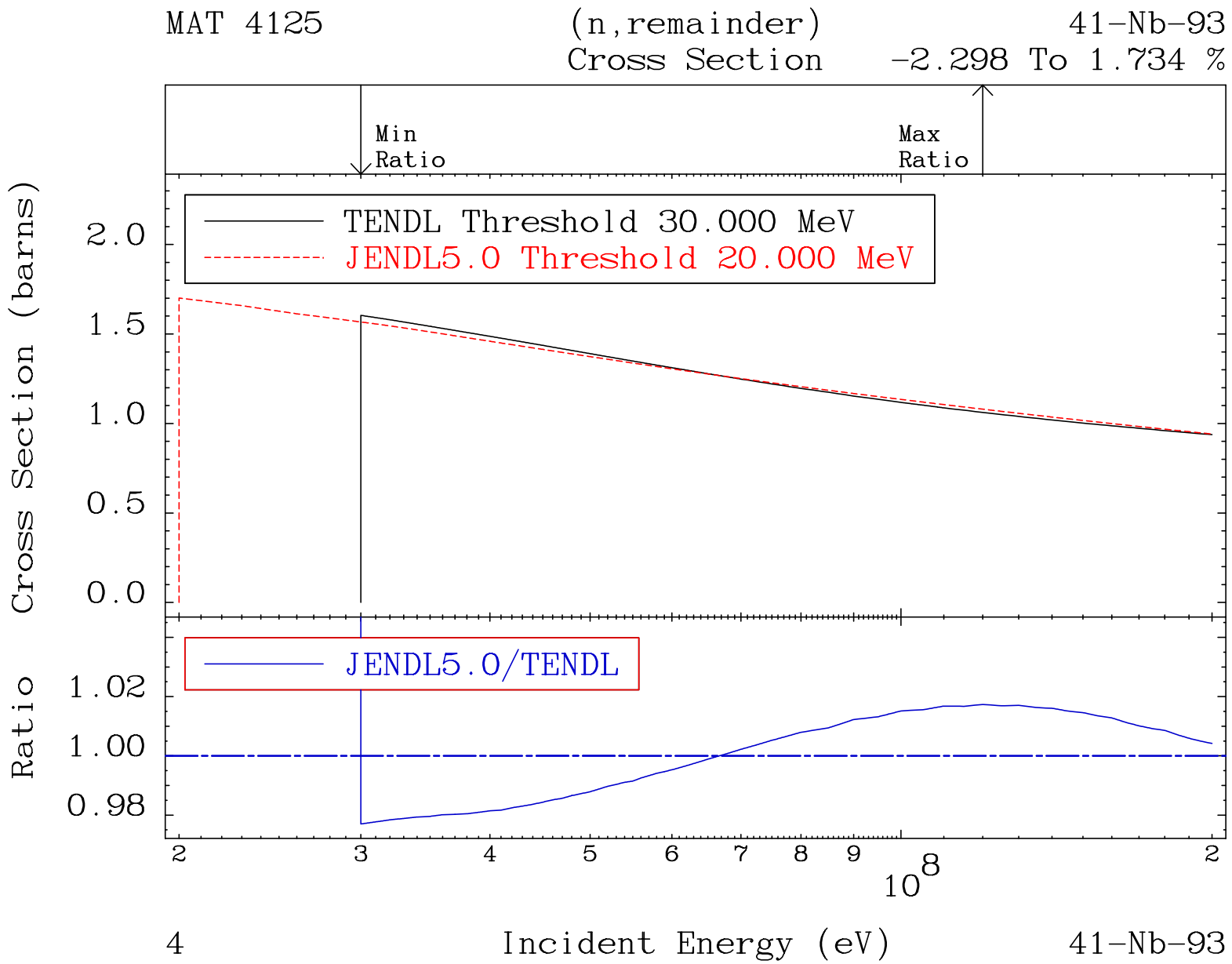
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

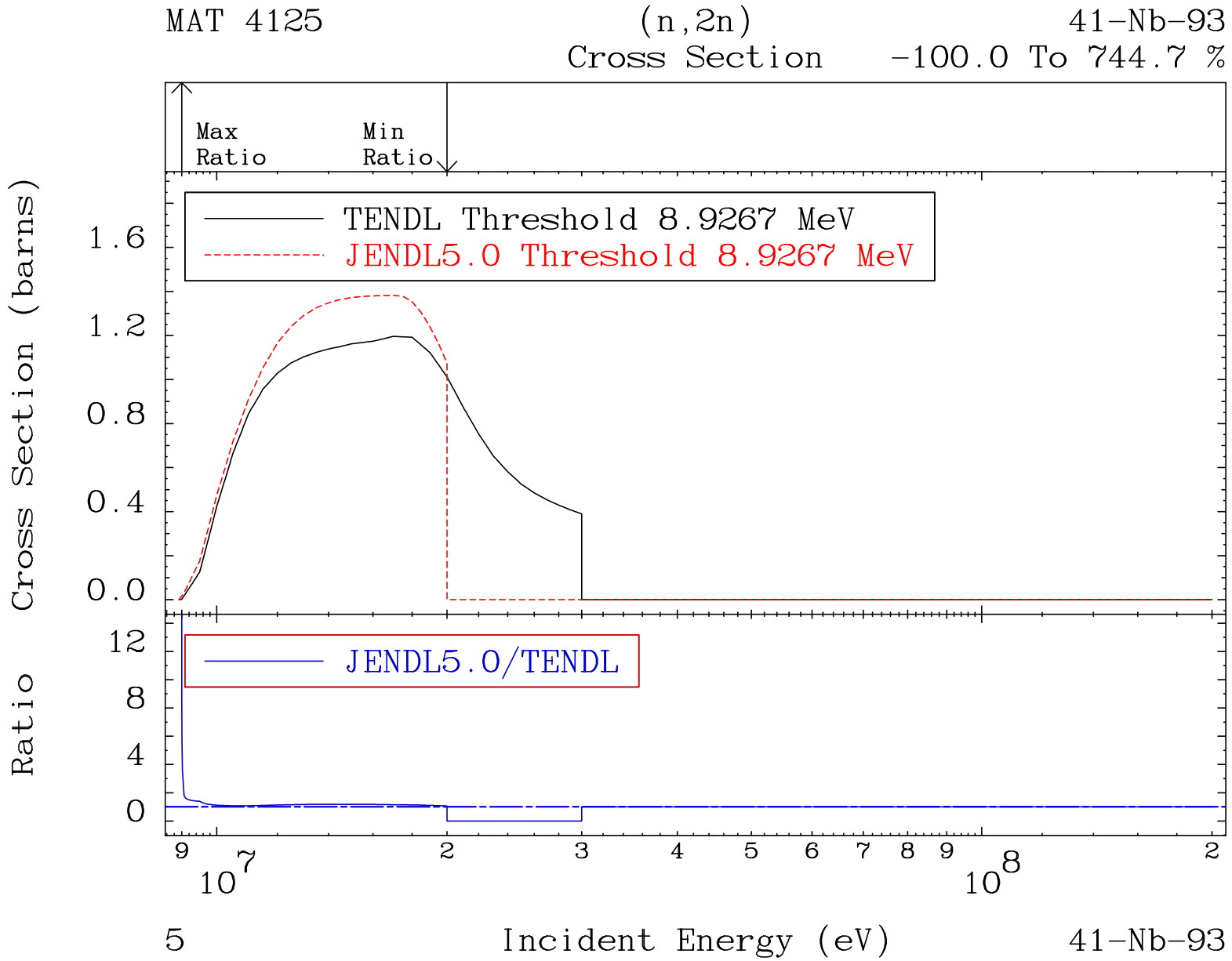
Press Mouse Button to Start

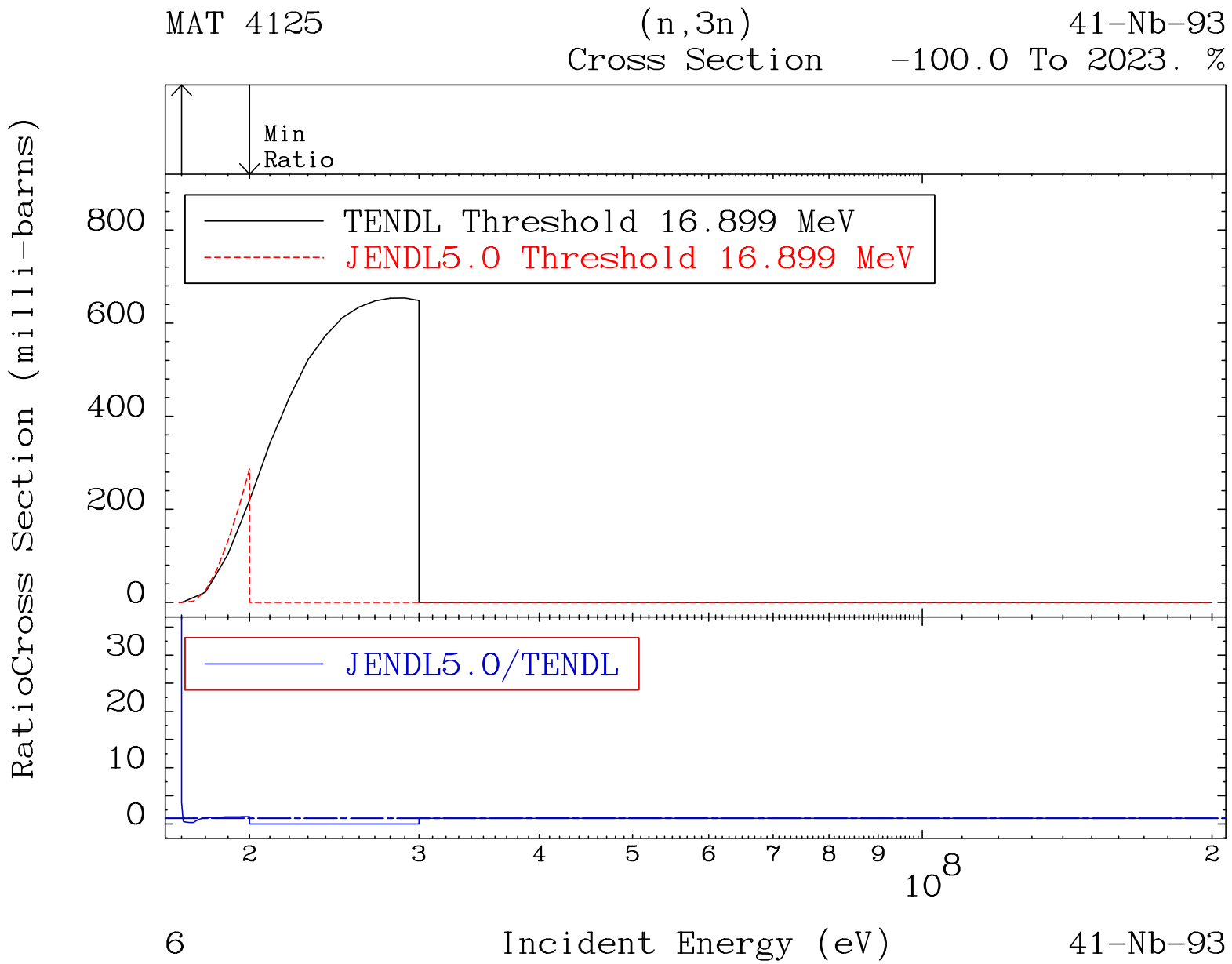

MAT 4125
Total
Cross Section
41-Nb-93
-99.24 To 5266. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
41-Nb-93

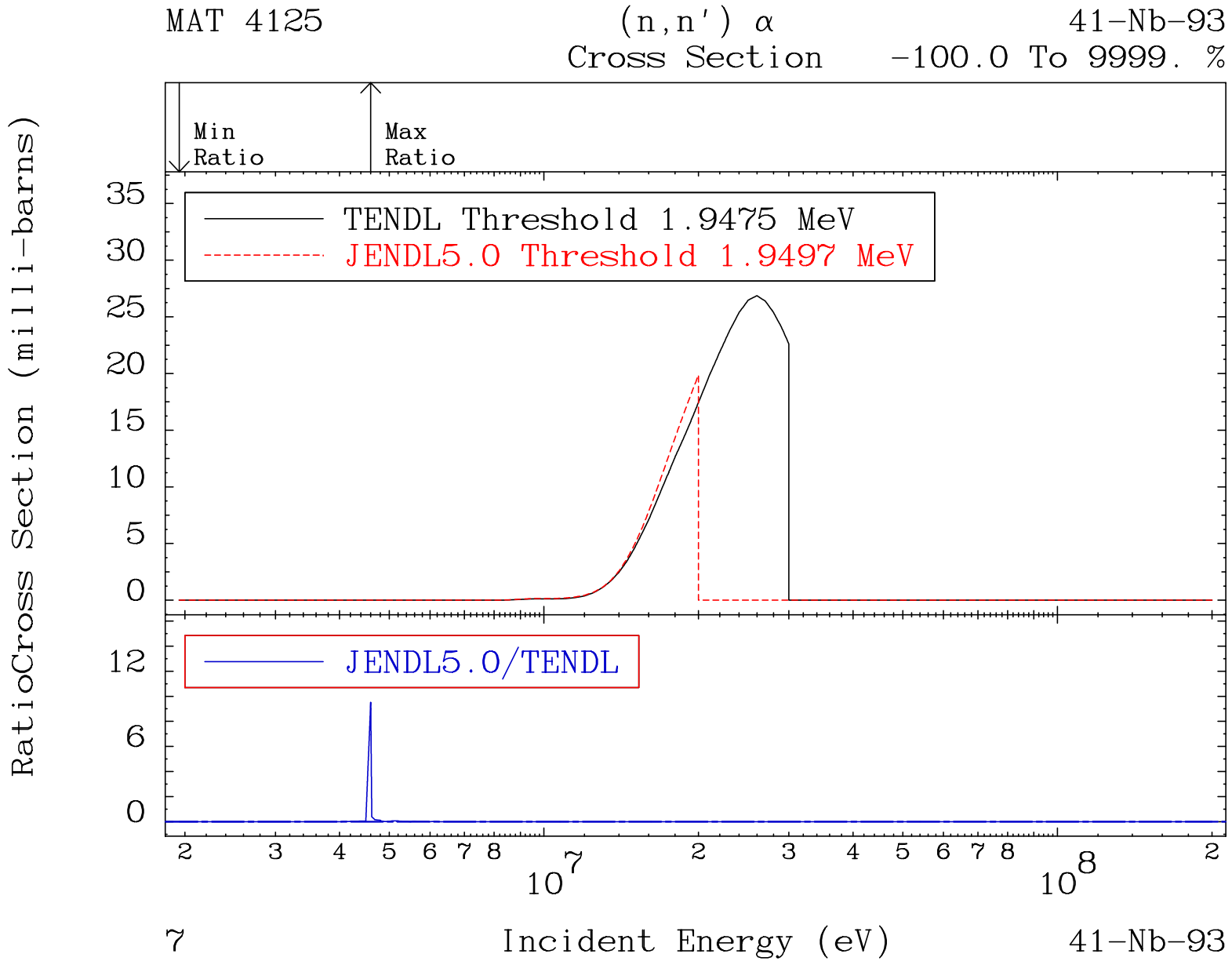

MAT 4125
Elastic
Cross Section
41-Nb-93
-99.06 To 4804. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
41-Nb-93

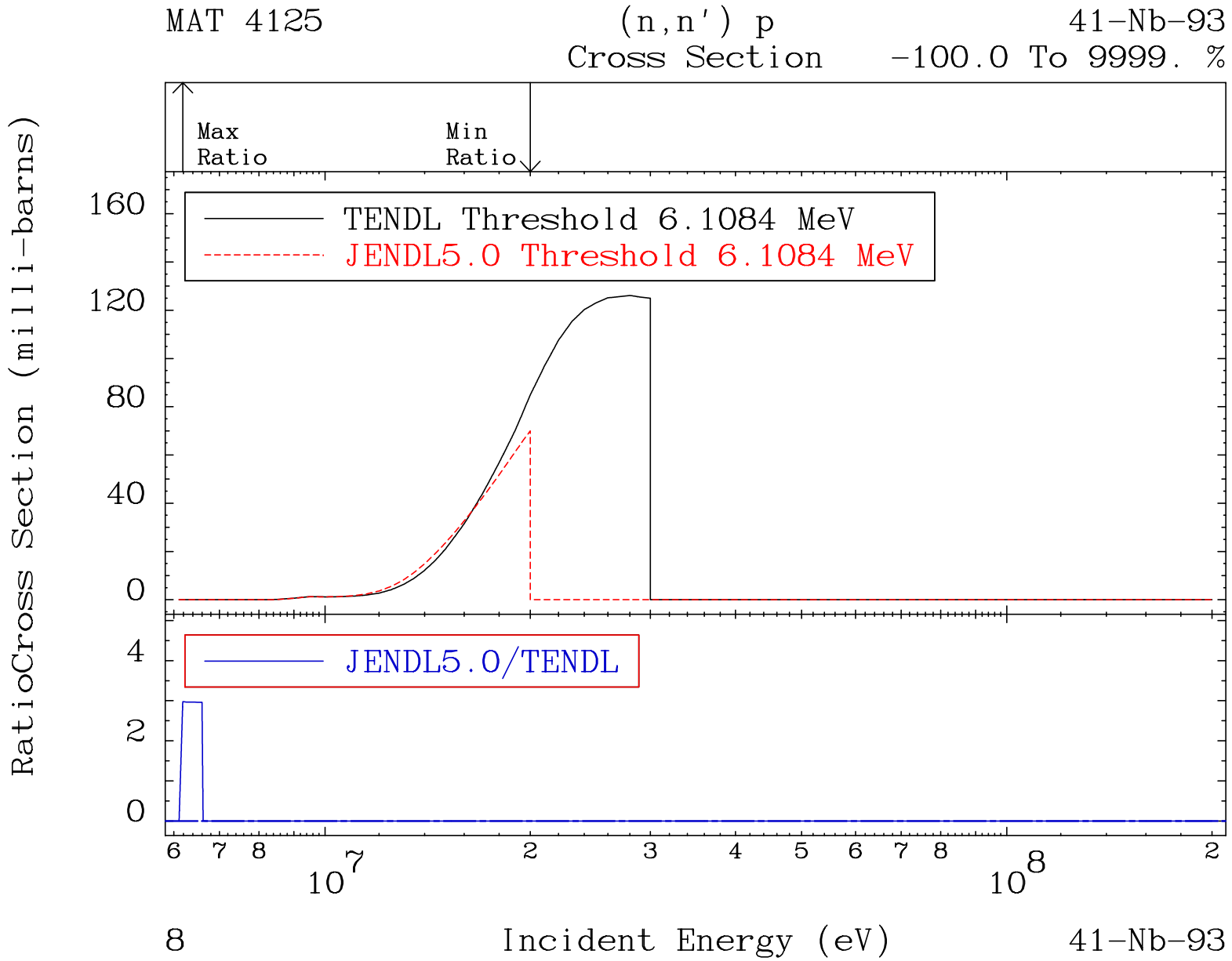

MAT 4125
Inelastic
Cross Section
41-Nb-93
-100.0 To 55.01 %
Min Ratio
Max Ratio
TENDL Threshold 31.104 keV
JENDL5.0 Threshold 31.155 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
41-Nb-93
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.0
1.0
0.0
3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
3

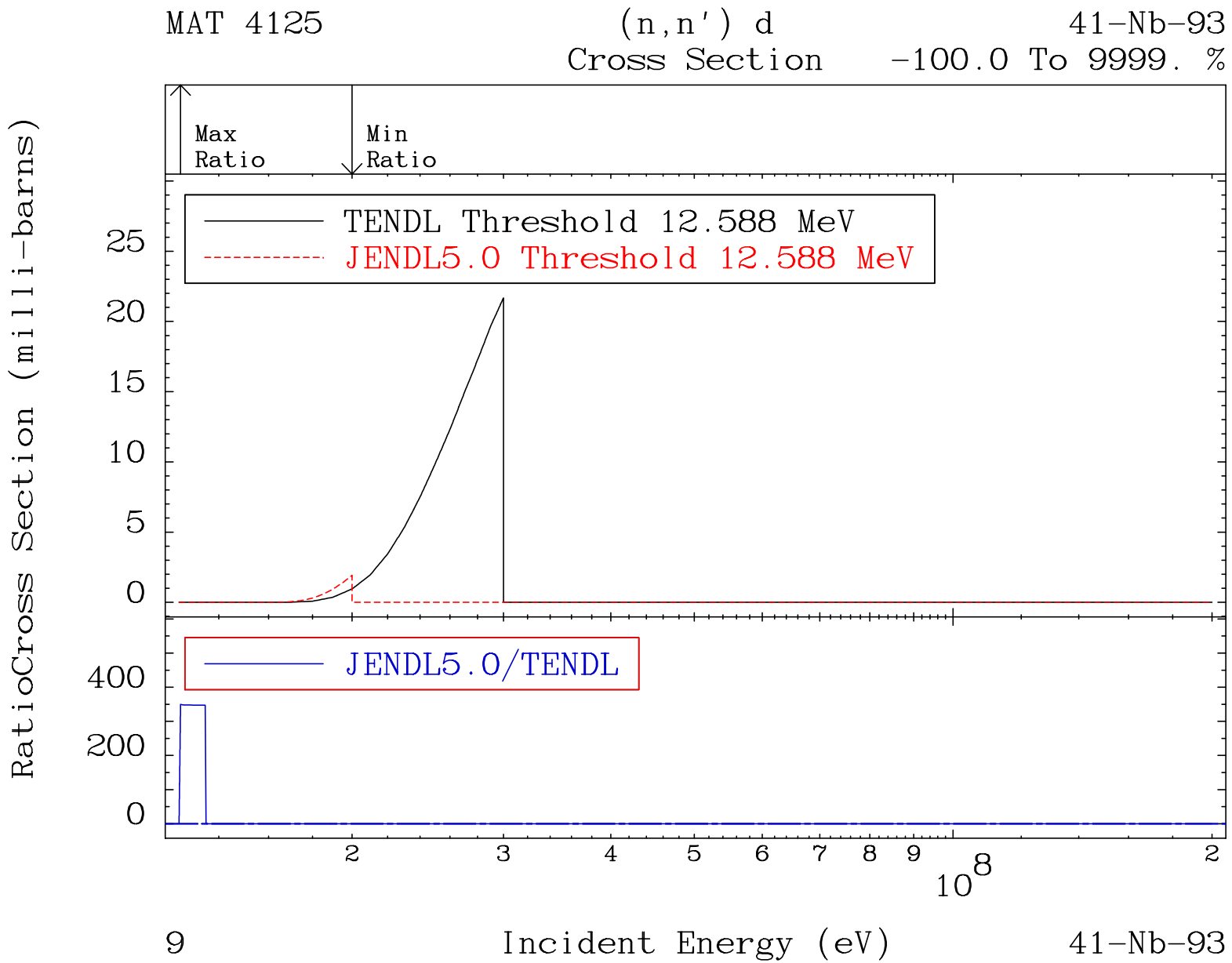

MAT 4125
(n,remainder)
Cross Section
41-Nb-93
-2.298 To 1.734 %
Min
Ratio
Max
Ratio
TENDL Threshold 30.000 MeV
JENDL5.0 Threshold 20.000 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
JENDL5.0/TENDL
Ratio
1.02
1.00
0.98
2
3
4
5
6
7
8
9
2
10^8
4
Incident Energy (eV)
41-Nb-93

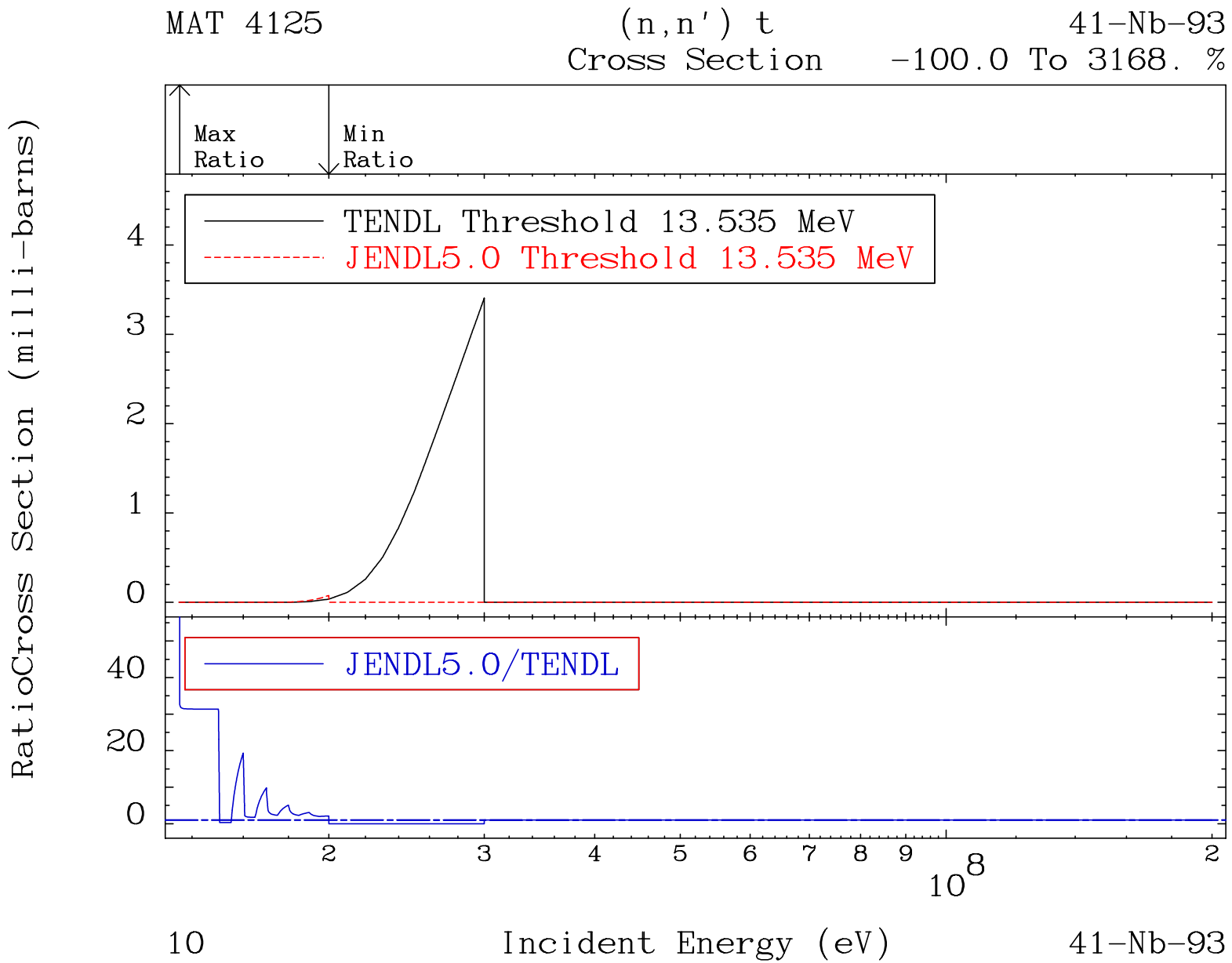

MAT 4125
(n,2n)
Cross Section
41-Nb-93
-100.0 To 744.7 %
Max Ratio
Min Ratio
TENDL Threshold 8.9267 MeV
JENDL5.0 Threshold 8.9267 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
12
8
4
0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
Incident Energy (eV)
5
41-Nb-93

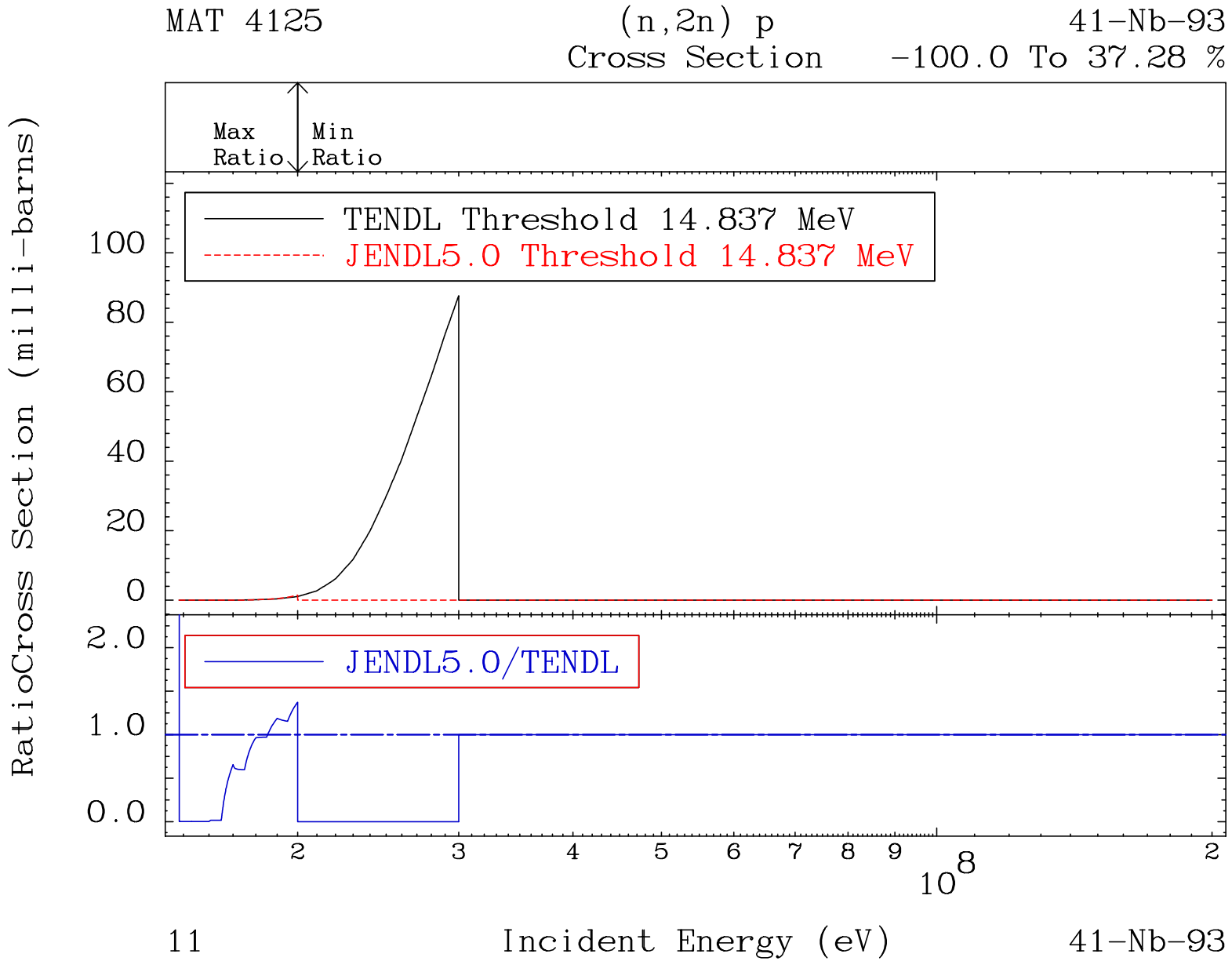

MAT 4125
(n,3n)
41-Nb-93
Cross Section
-100.0 To 2023. %
Min
Ratio
TENDL Threshold 16.899 MeV
JENDL5.0 Threshold 16.899 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
800
600
400
200
0
30
20
10
0
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
41-Nb-93

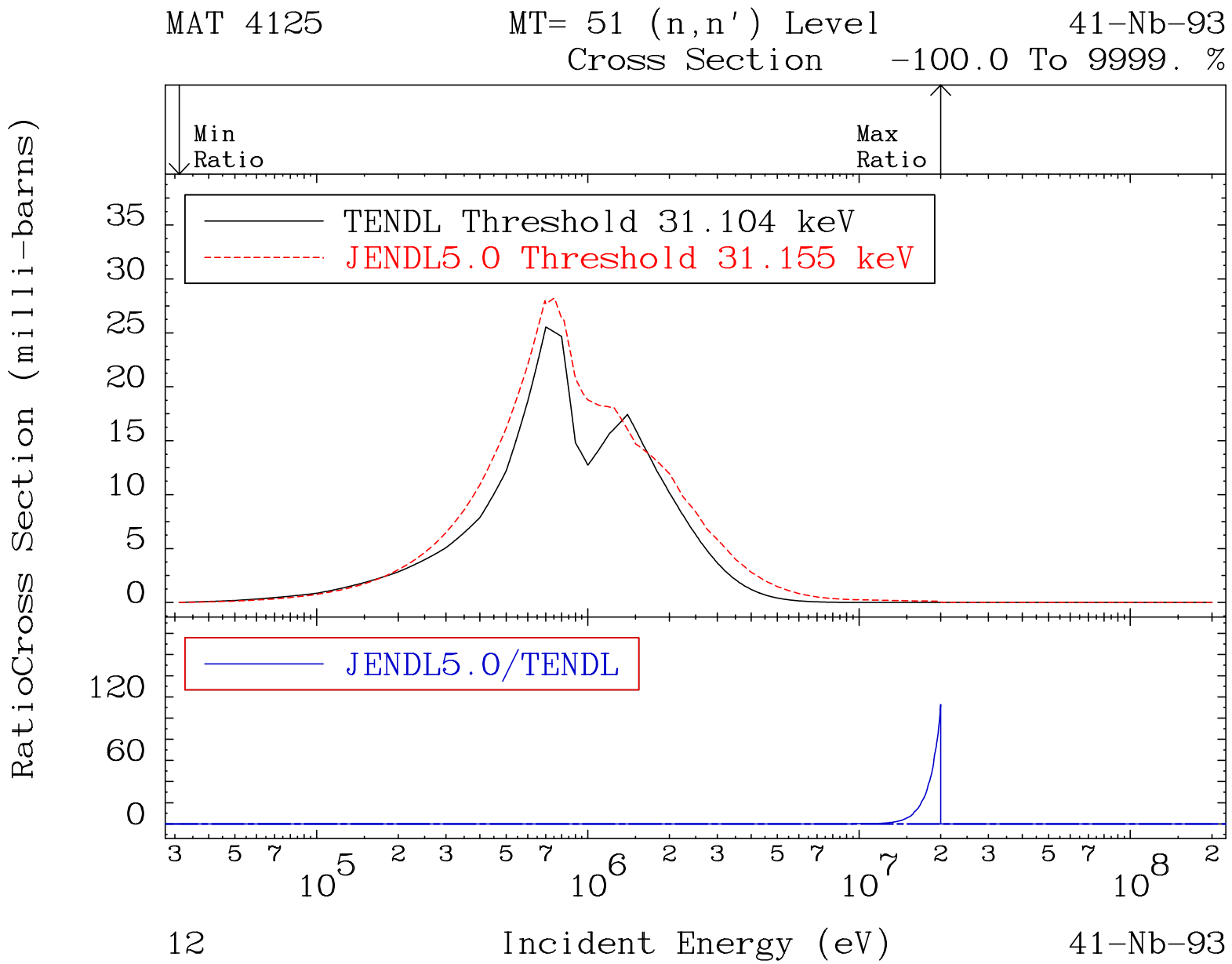

MAT 4125
(n,n') α
41-Nb-93
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.9475 MeV
JENDL5.0 Threshold 1.9497 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
41-Nb-93

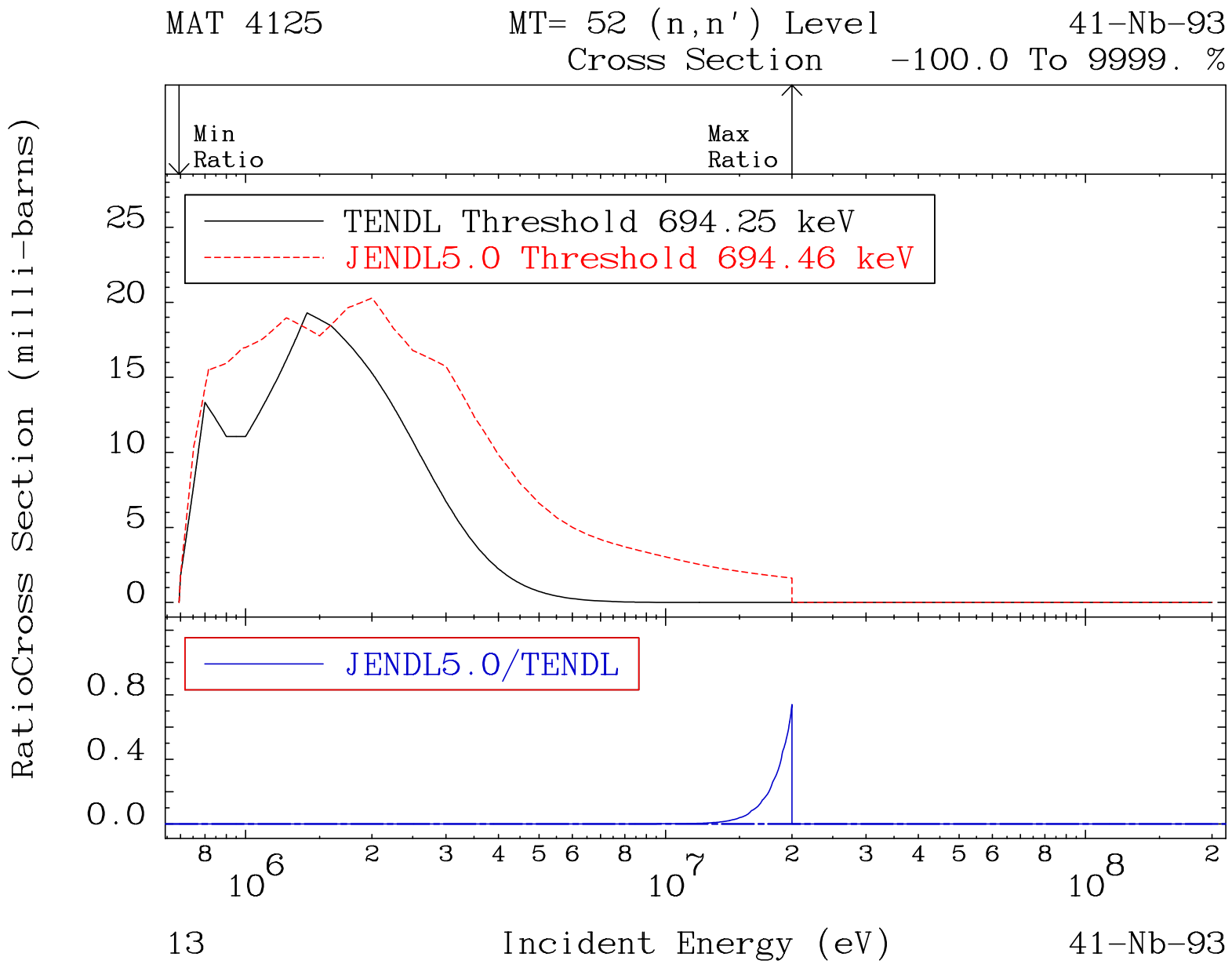

MAT 4125
(n,n') p
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.1084 MeV
JENDL5.0 Threshold 6.1084 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
4
2
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
Incident Energy (eV)
8
41-Nb-93

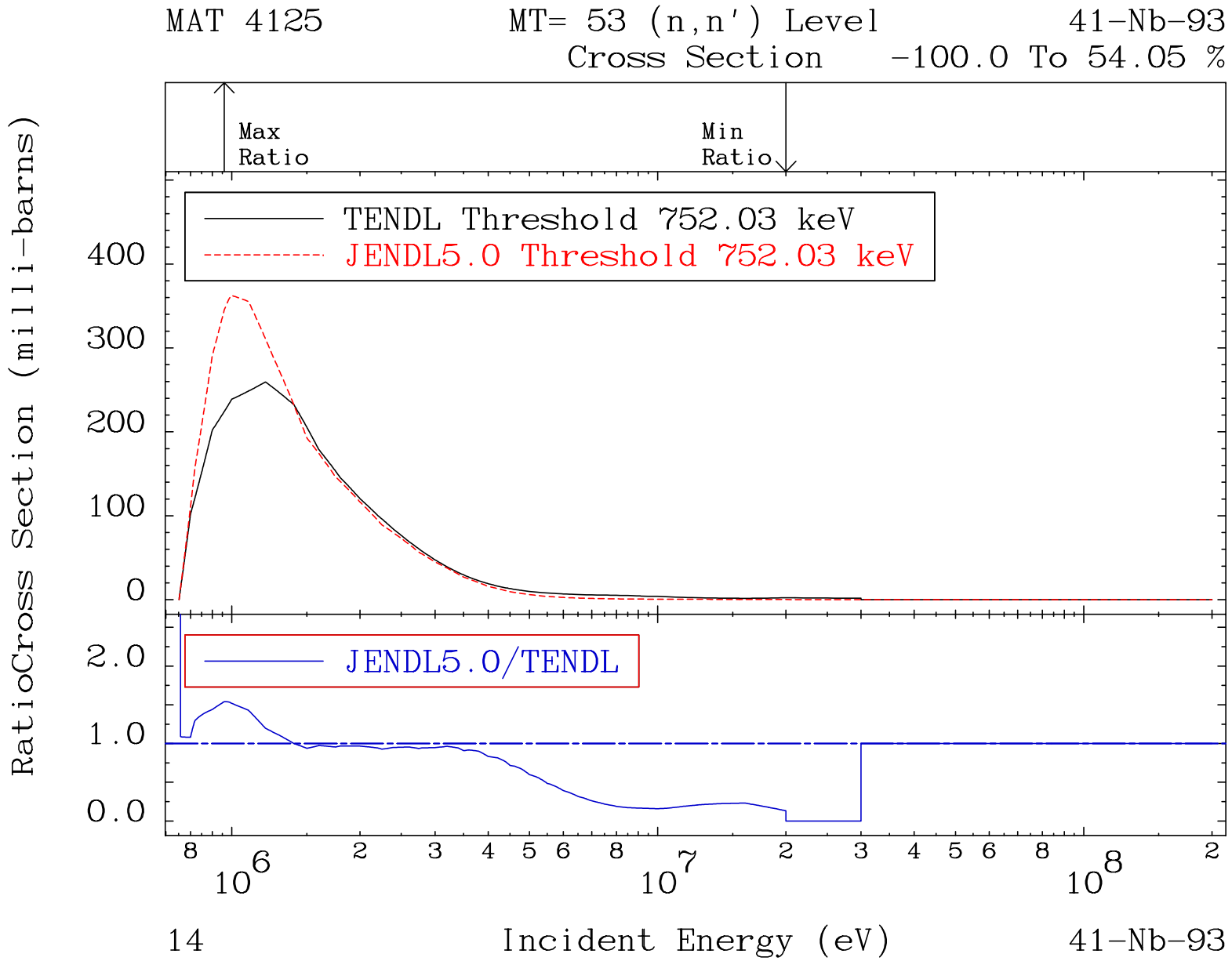

MAT 4125
(n,n') d
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 12.588 MeV
JENDL5.0 Threshold 12.588 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
400
200
0
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
41-Nb-93

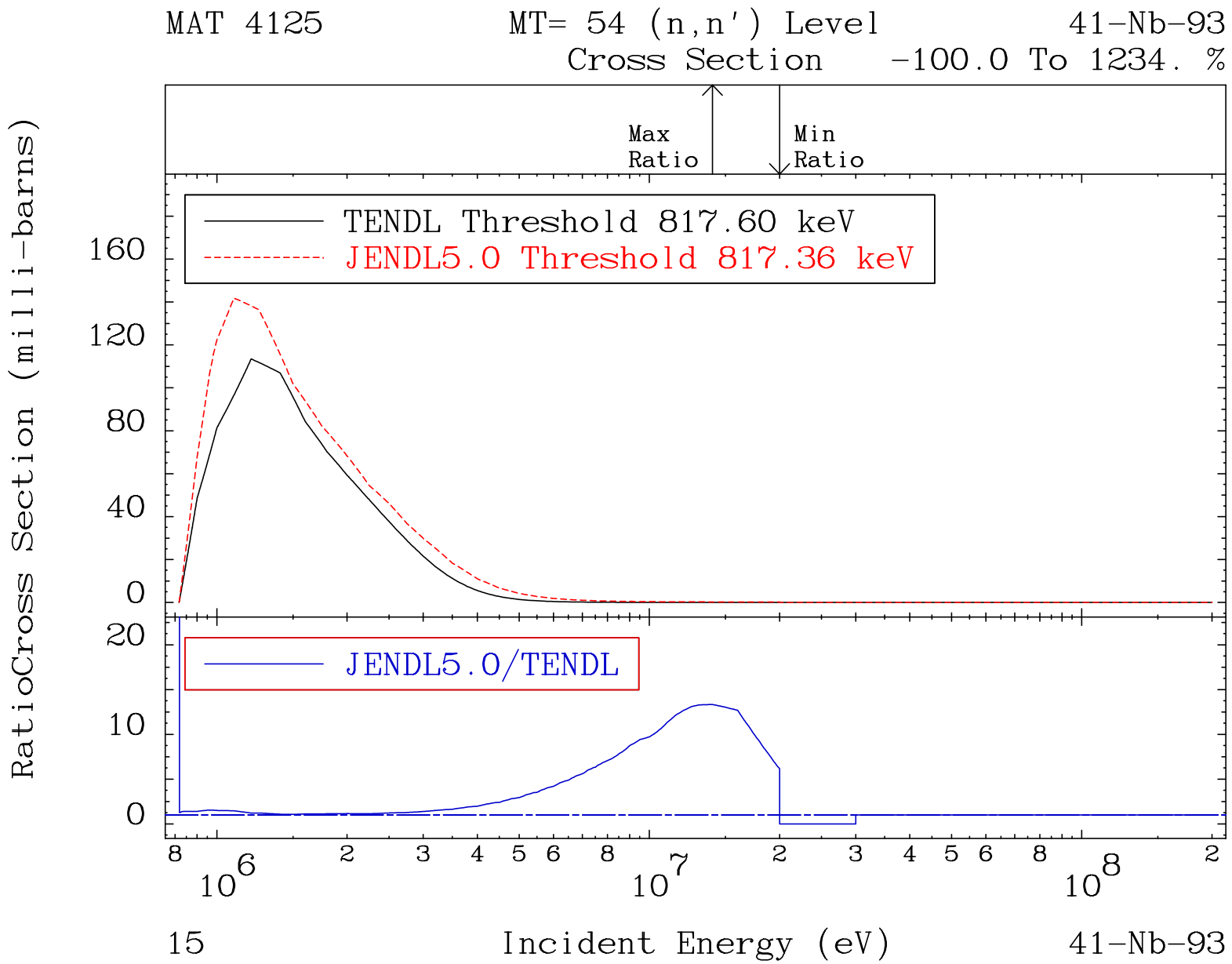

MAT 4125
(n,n') t
Cross Section
41-Nb-93
-100.0 To 3168. %
Max Ratio
Min Ratio
TENDL Threshold 13.535 MeV
JENDL5.0 Threshold 13.535 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
10
41-Nb-93

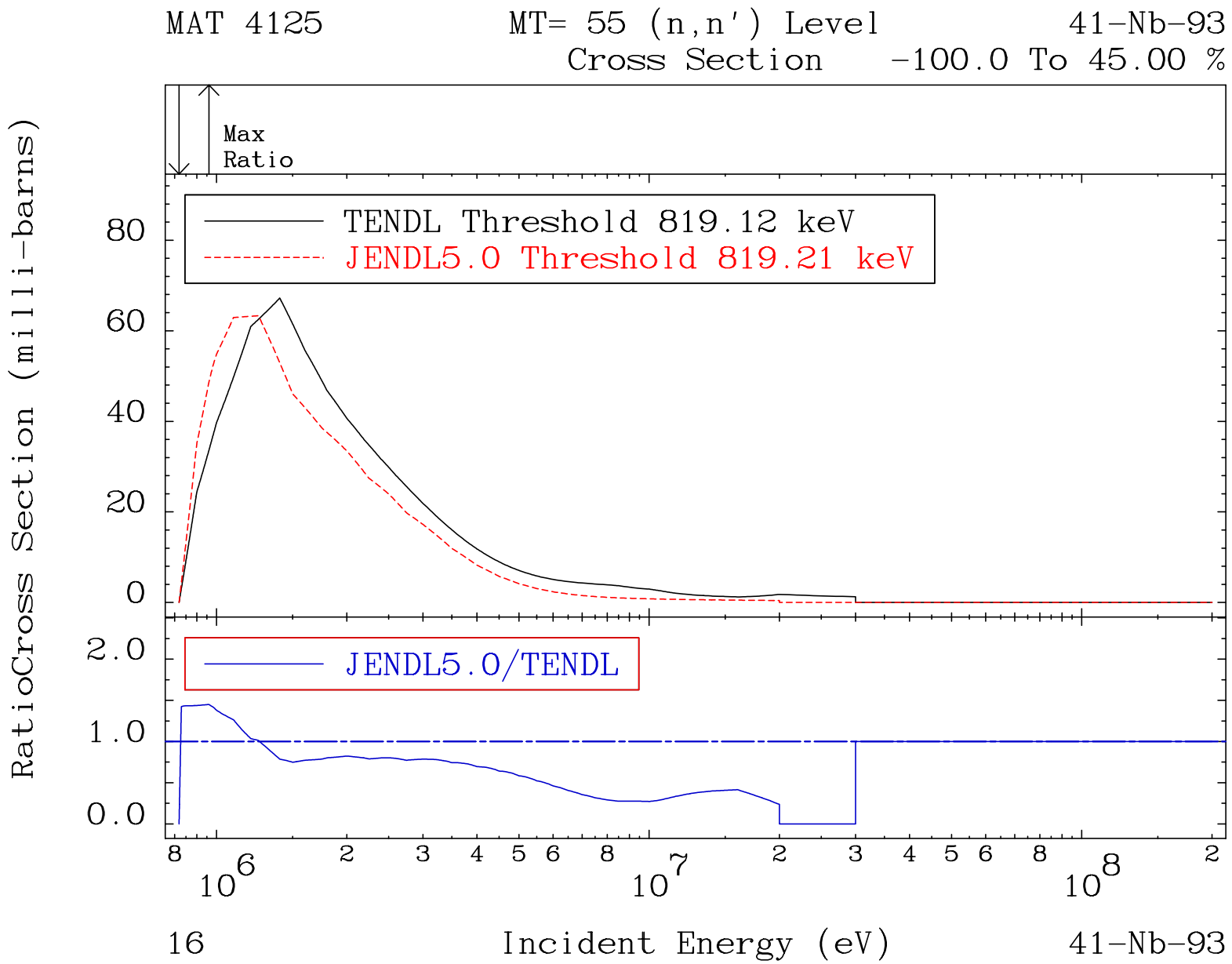

MAT 4125
(n,2n) p
Cross Section
41-Nb-93
-100.0 To 37.28 %
Max Ratio
Min Ratio
TENDL Threshold 14.837 MeV
JENDL5.0 Threshold 14.837 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
11
Incident Energy (eV)
41-Nb-93

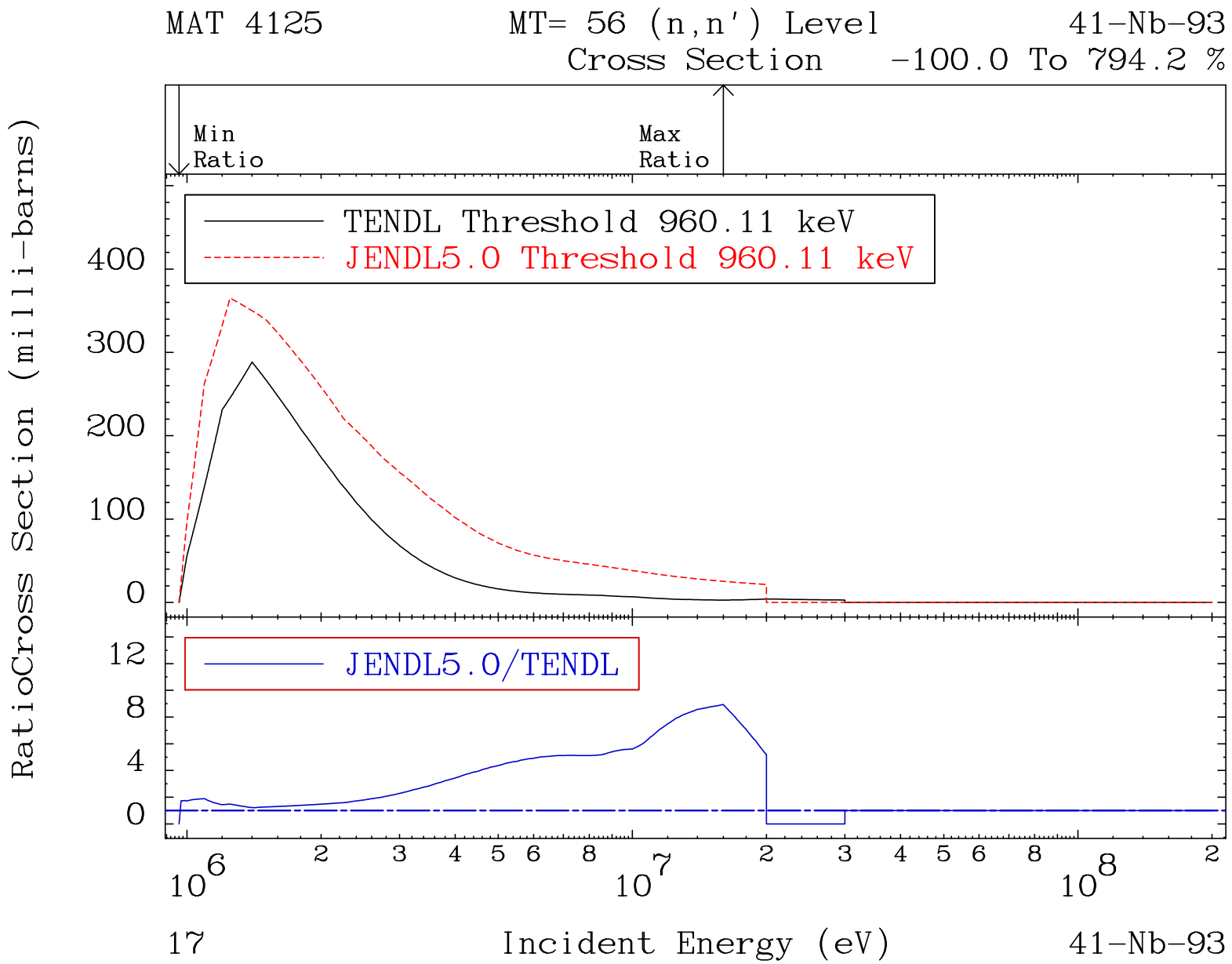

MAT 4125
MT= 51 (n,n') Level
41-Nb-93
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 31.104 keV
JENDL5.0 Threshold 31.155 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
12
41-Nb-93

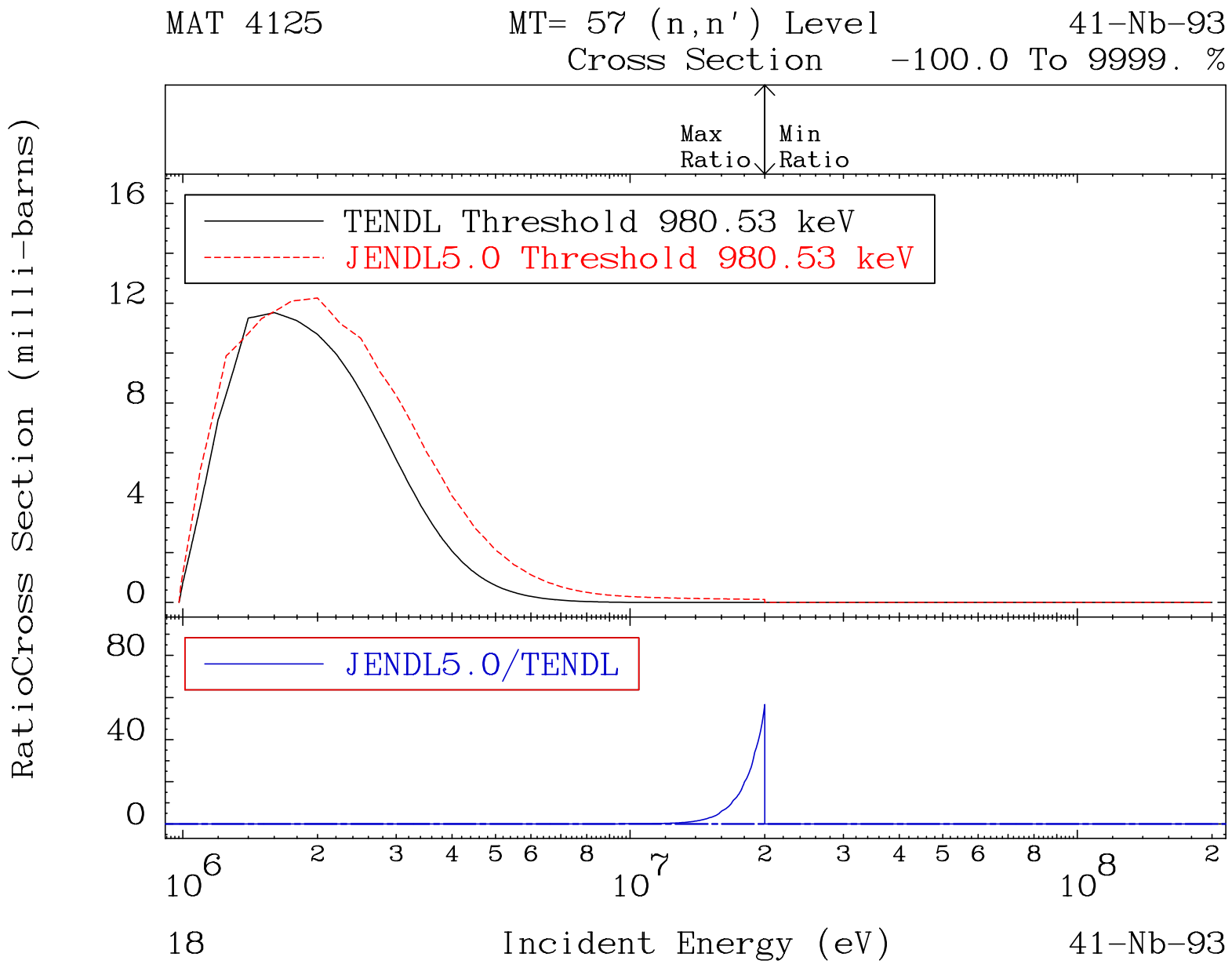

MAT 4125
MT= 52 (n,n') Level
41-Nb-93
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 694.25 keV
JENDL5.0 Threshold 694.46 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
0.8
0.4
0.0
8
2
3
4
5
6
8
2
3
4
5
6
8
2
10^6
10^7
10^8
13
Incident Energy (eV)
41-Nb-93

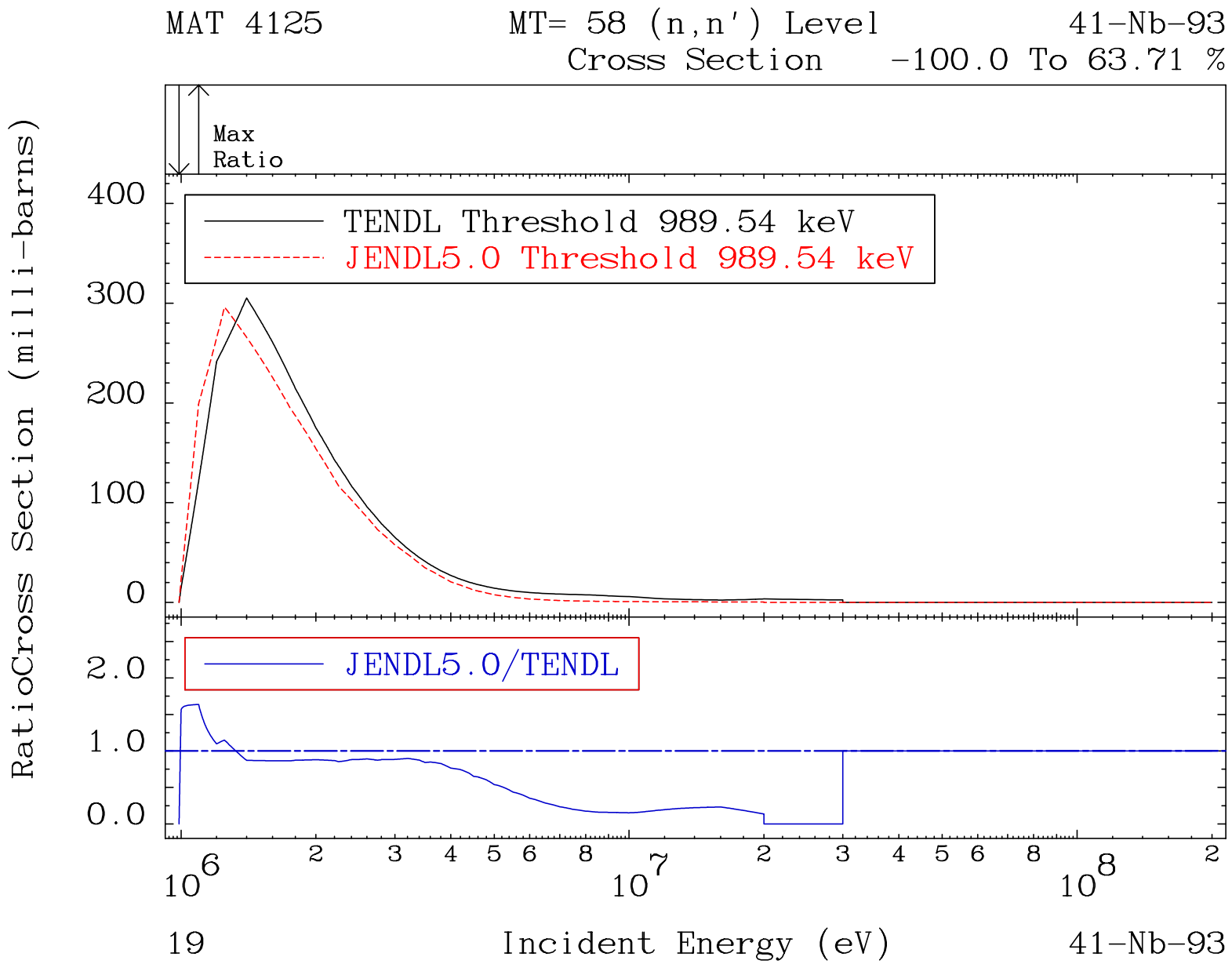

MAT 4125
MT= 53 (n,n') Level
Cross Section
41-Nb-93
-100.0 To 54.05 %
Max Ratio
Min Ratio
TENDL Threshold 752.03 keV
JENDL5.0 Threshold 752.03 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
2.0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
14
Incident Energy (eV)
41-Nb-93

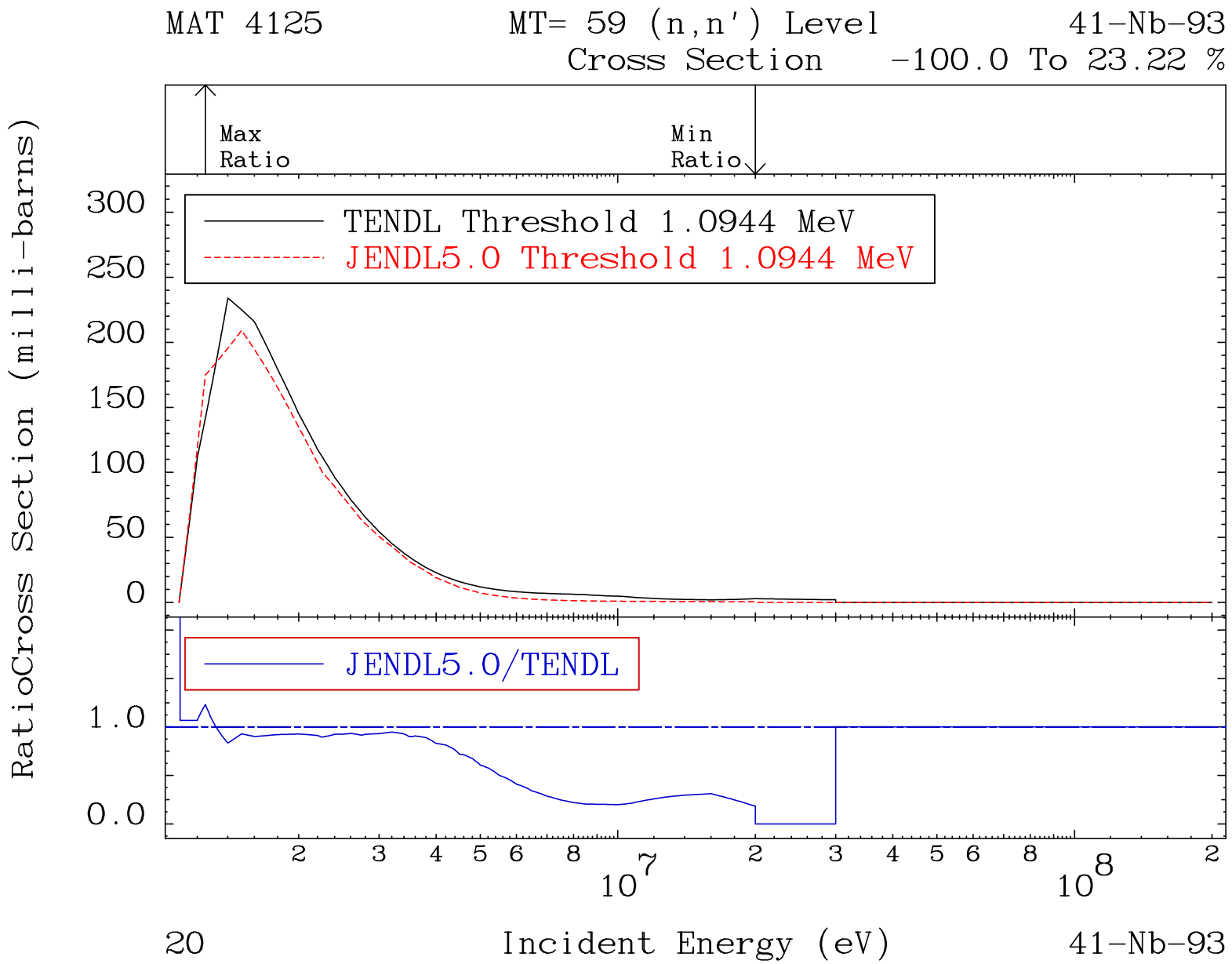

MAT 4125
MT= 54 (n,n') Level
41-Nb-93
Cross Section -100.0 To 1234. %
Max Ratio
Min Ratio
TENDL Threshold 817.60 keV
JENDL5.0 Threshold 817.36 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
20
10
0
8
2
3
4
5
6
8
2
3
4
5
6
8
2
10^6
10^7
10^8
15
Incident Energy (eV)
41-Nb-93

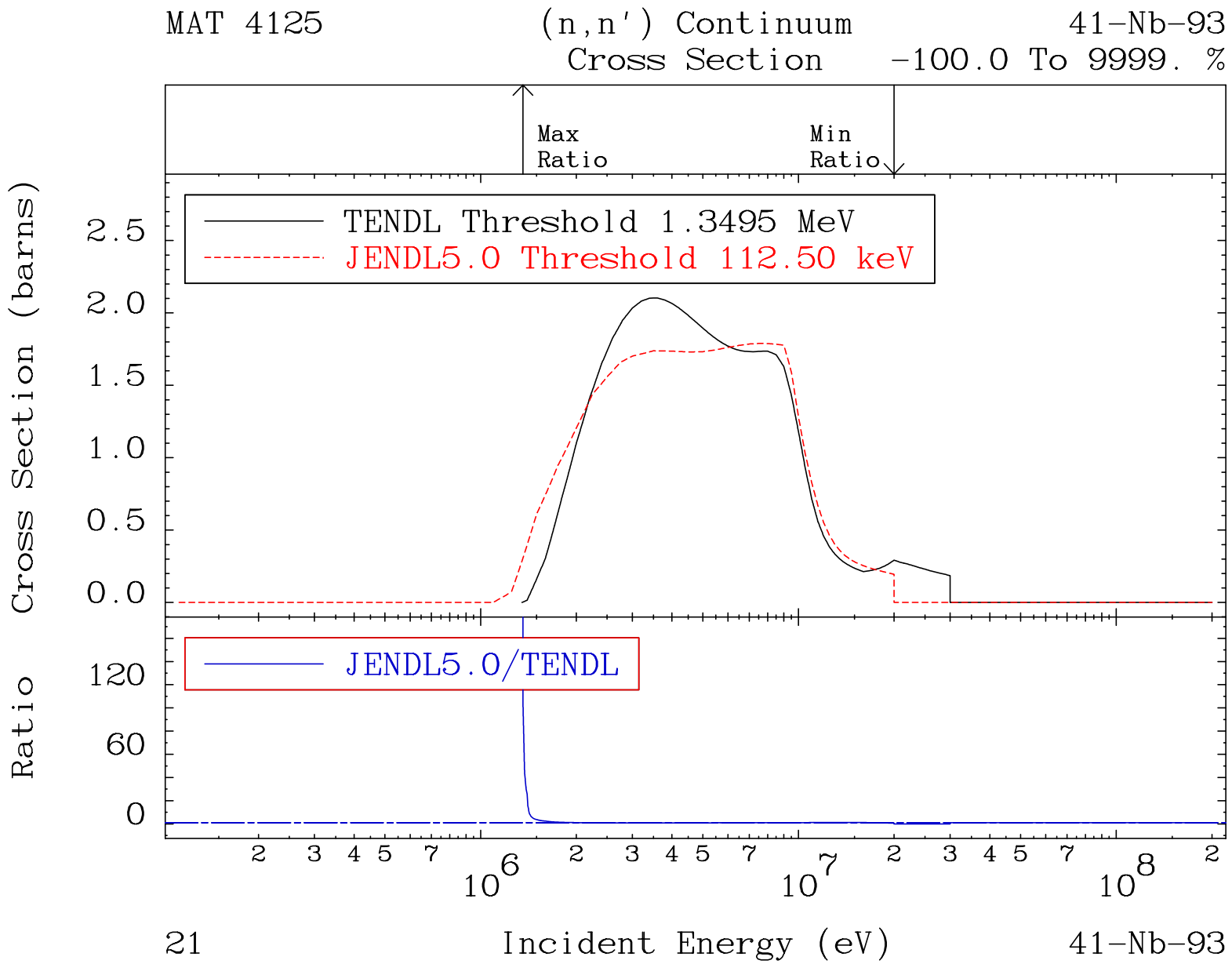

MAT 4125
MT= 55 (n,n') Level
Cross Section
41-Nb-93
-100.0 To 45.00 %
Max
Ratio
TENDL Threshold 819.12 keV
JENDL5.0 Threshold 819.21 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
2.0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
16
Incident Energy (eV)
41-Nb-93

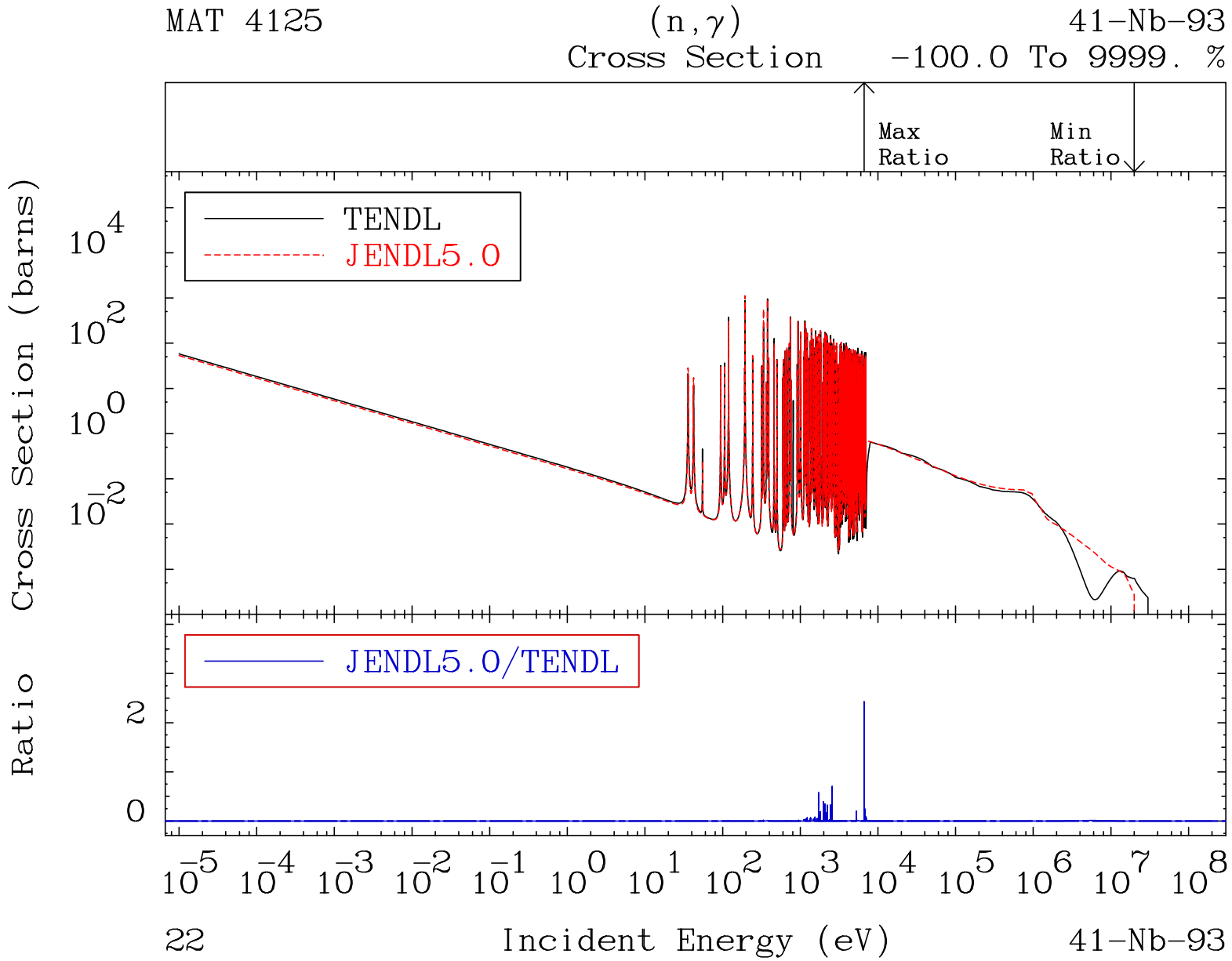

MAT 4125
MT= 56 (n,n') Level
41-Nb-93
Cross Section
-100.0 To 794.2 %
Min Ratio
Max Ratio
TENDL Threshold 960.11 keV
JENDL5.0 Threshold 960.11 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
12
8
4
0
10^6
2 3 4 5 6 8
10^7
2 3 4 5 6 8
10^8
2
17
Incident Energy (eV)
41-Nb-93

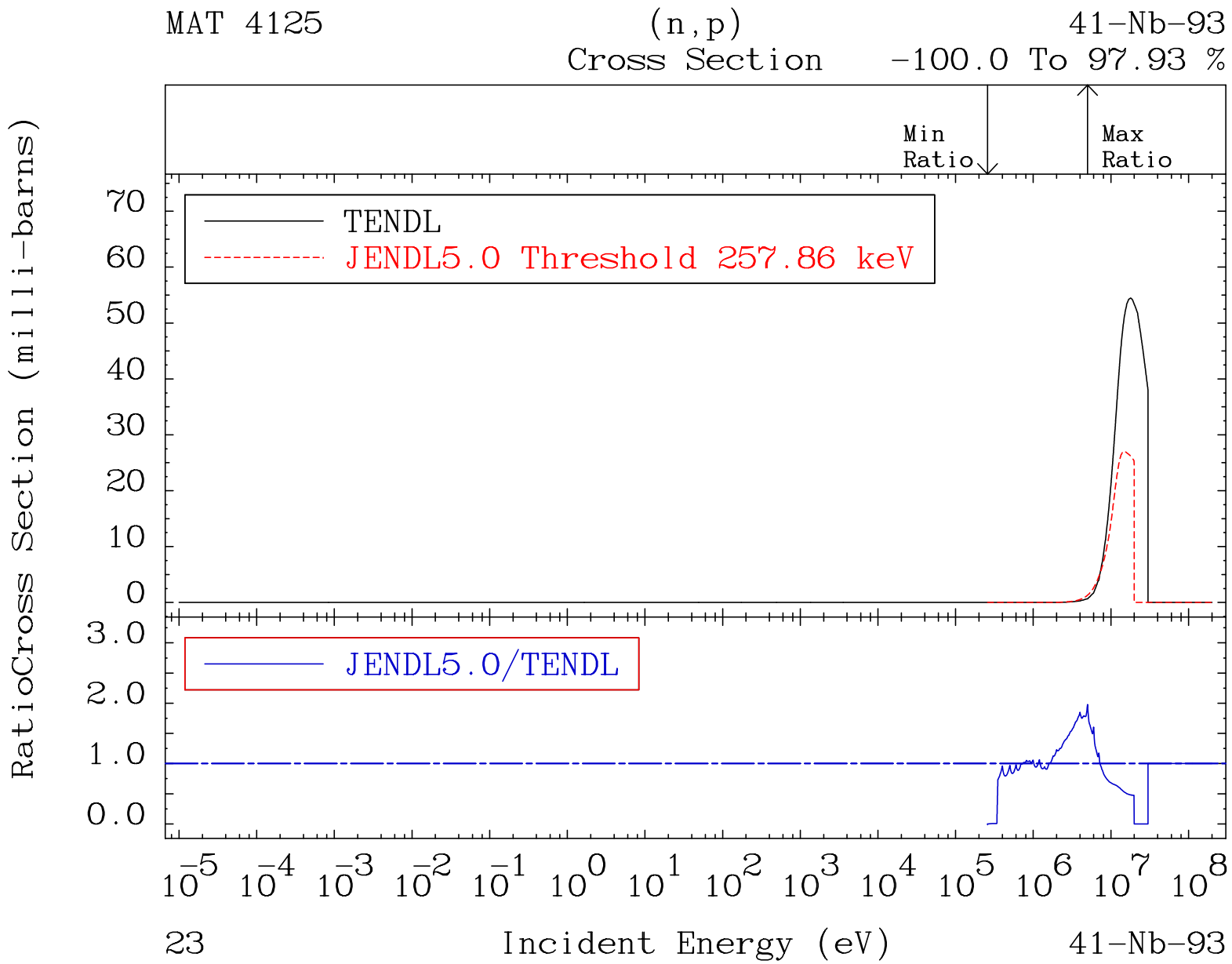

MAT 4125
MT= 57 (n,n') Level
41-Nb-93
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 980.53 keV
JENDL5.0 Threshold 980.53 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
16
12
8
4
0
80
40
0
10^6
10^7
10^8
2 3 4 5 6 8
18
Incident Energy (eV)
41-Nb-93

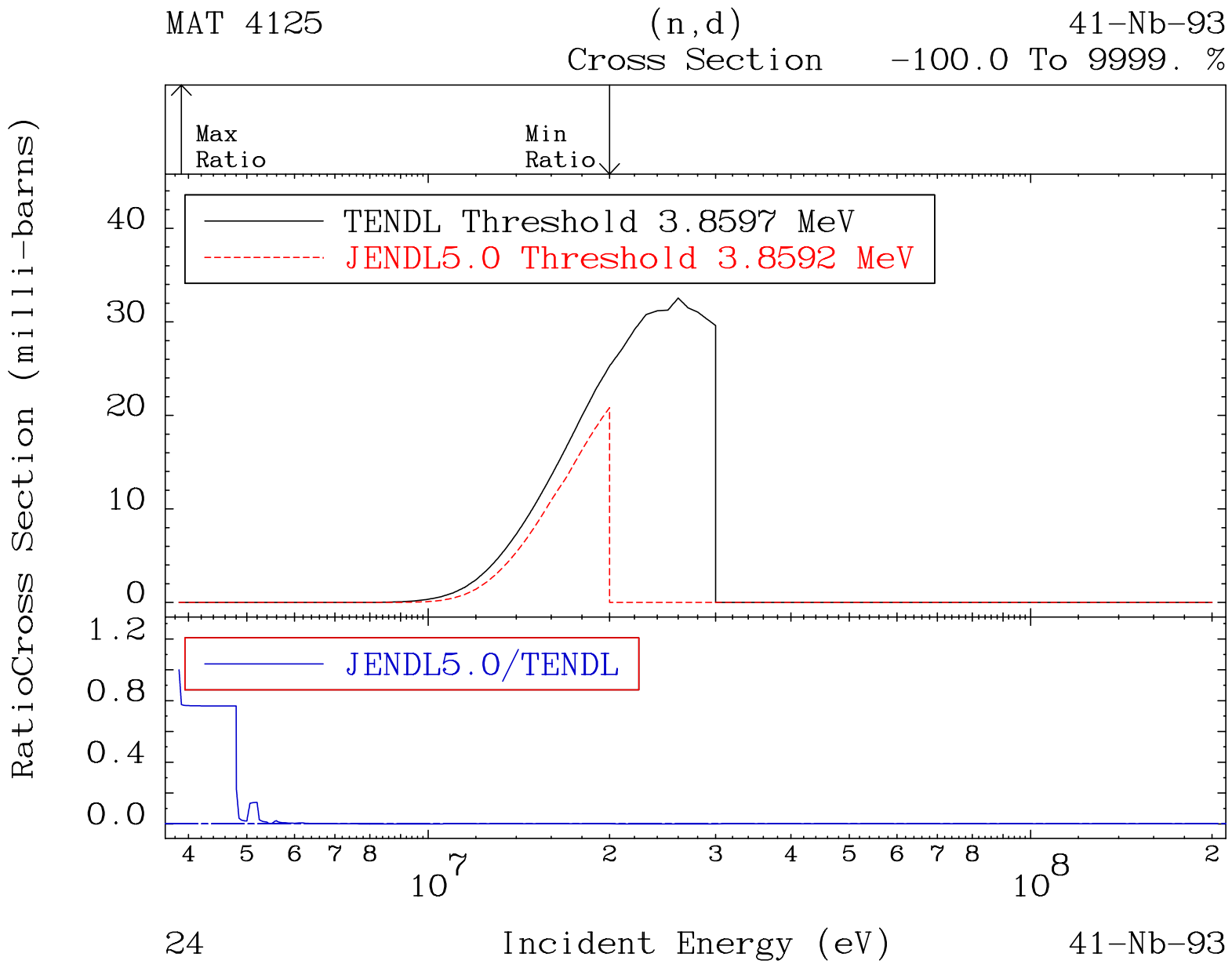

MAT 4125
MT= 58 (n,n') Level
Cross Section
41-Nb-93
-100.0 To 63.71 %
Max
Ratio
TENDL Threshold 989.54 keV
JENDL5.0 Threshold 989.54 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
400
300
200
100
0
2.0
1.0
0.0
10^6
10^7
10^8
Incident Energy (eV)
19
41-Nb-93

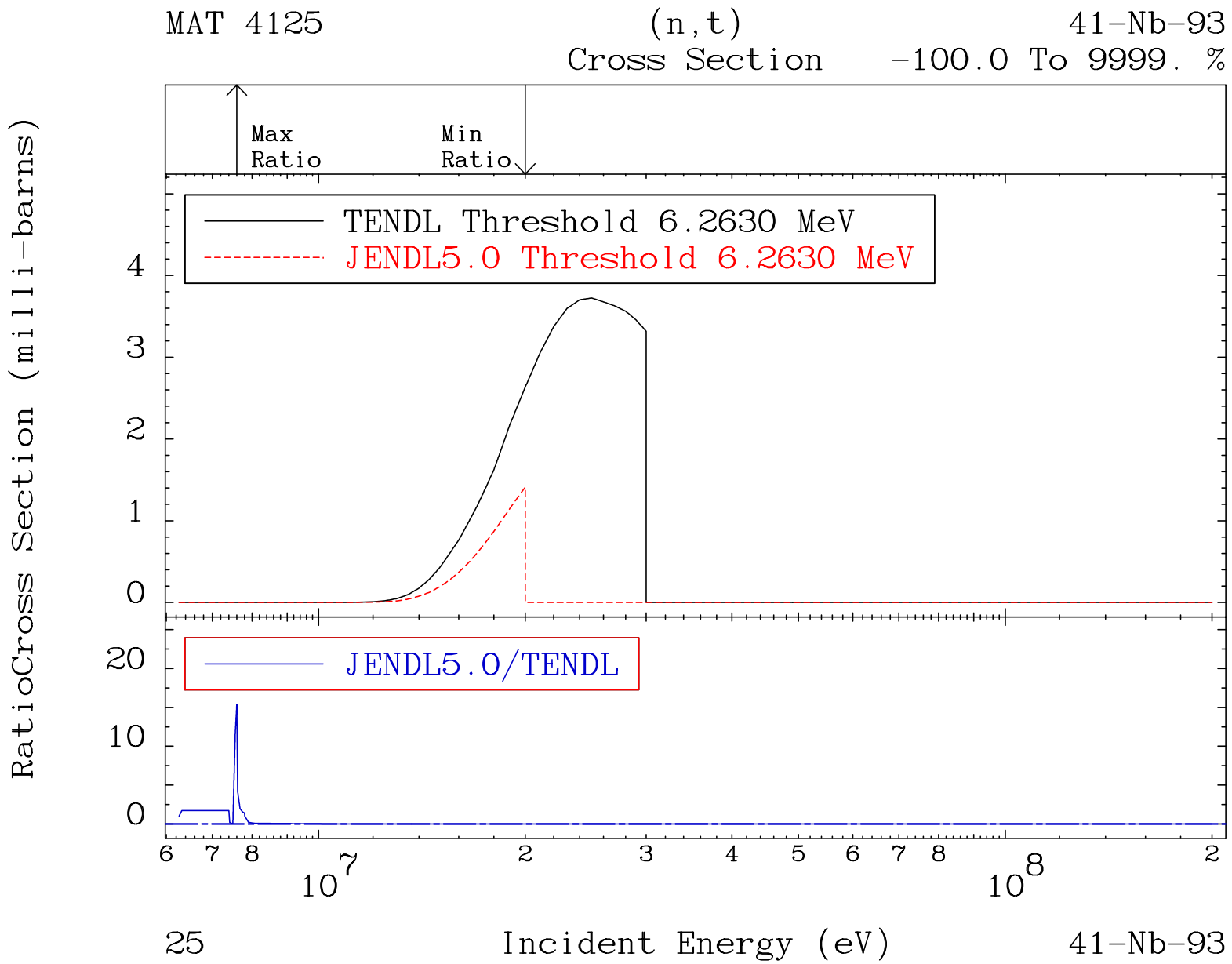

MAT 4125
MT= 59 (n,n') Level
41-Nb-93
Cross Section
-100.0 To 23.22 %
Max Ratio
Min Ratio
TENDL Threshold 1.0944 MeV
JENDL5.0 Threshold 1.0944 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
1.0
0.0
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
20
Incident Energy (eV)
41-Nb-93

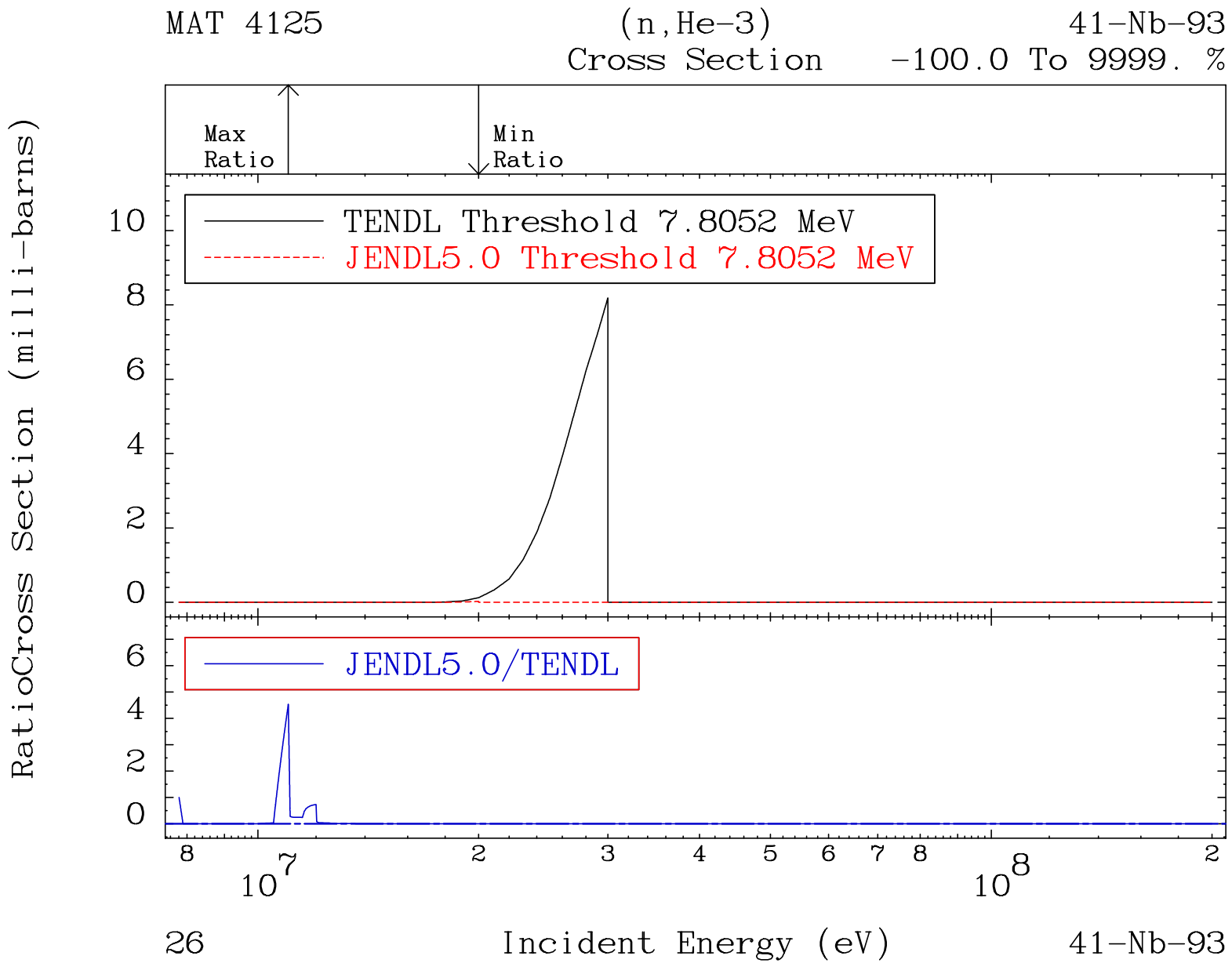

MAT 4125
(n,n') Continuum
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 1.3495 MeV
JENDL5.0 Threshold 112.50 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
2.5
2.0
1.5
1.0
0.5
0.0
120
60
0
2 3 4 5 7 10^6 2 3 4 5 7 10^7 2 3 4 5 7 10^8 2
21
Incident Energy (eV)
41-Nb-93

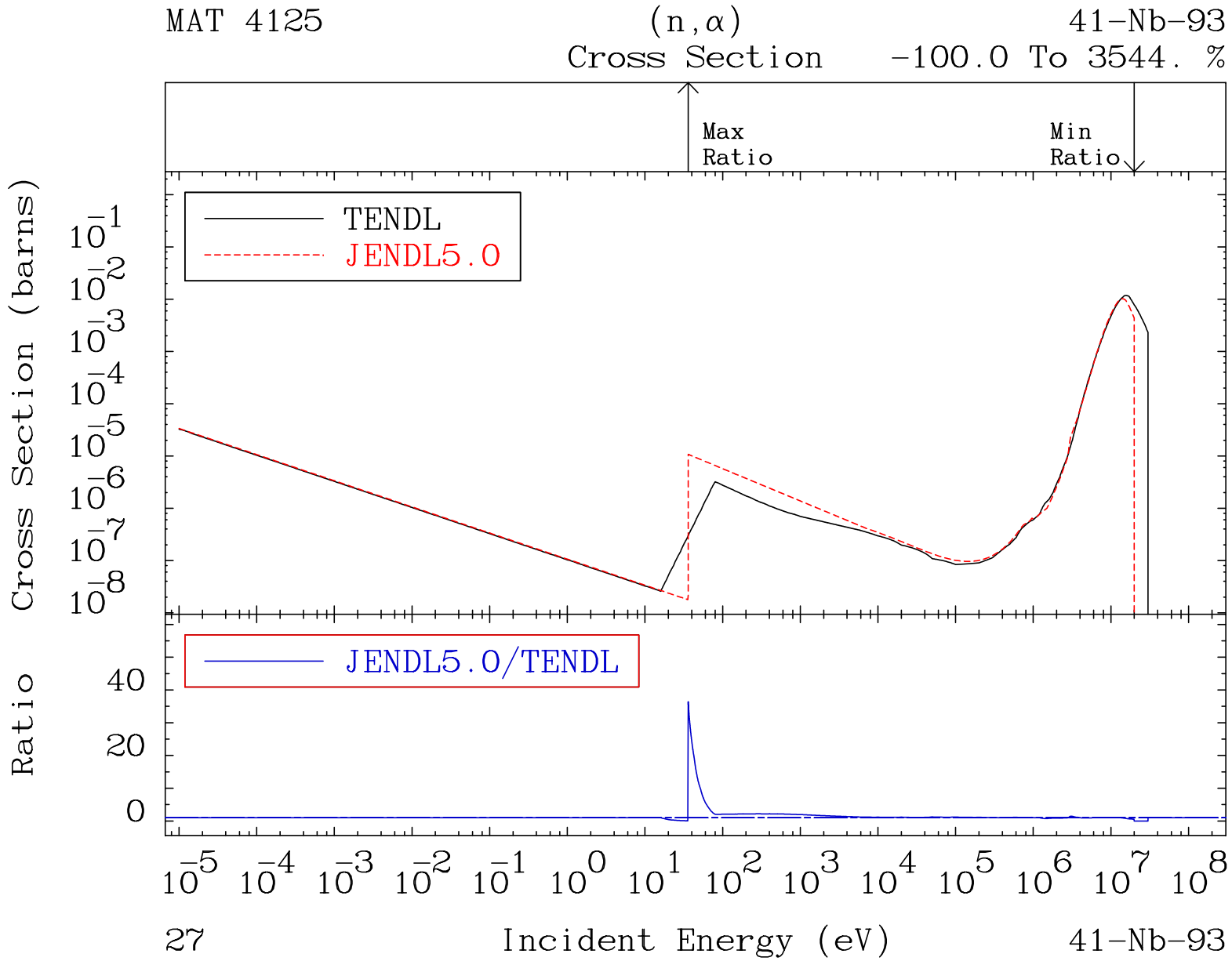

MAT 4125
(n,γ)
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
22
41-Nb-93

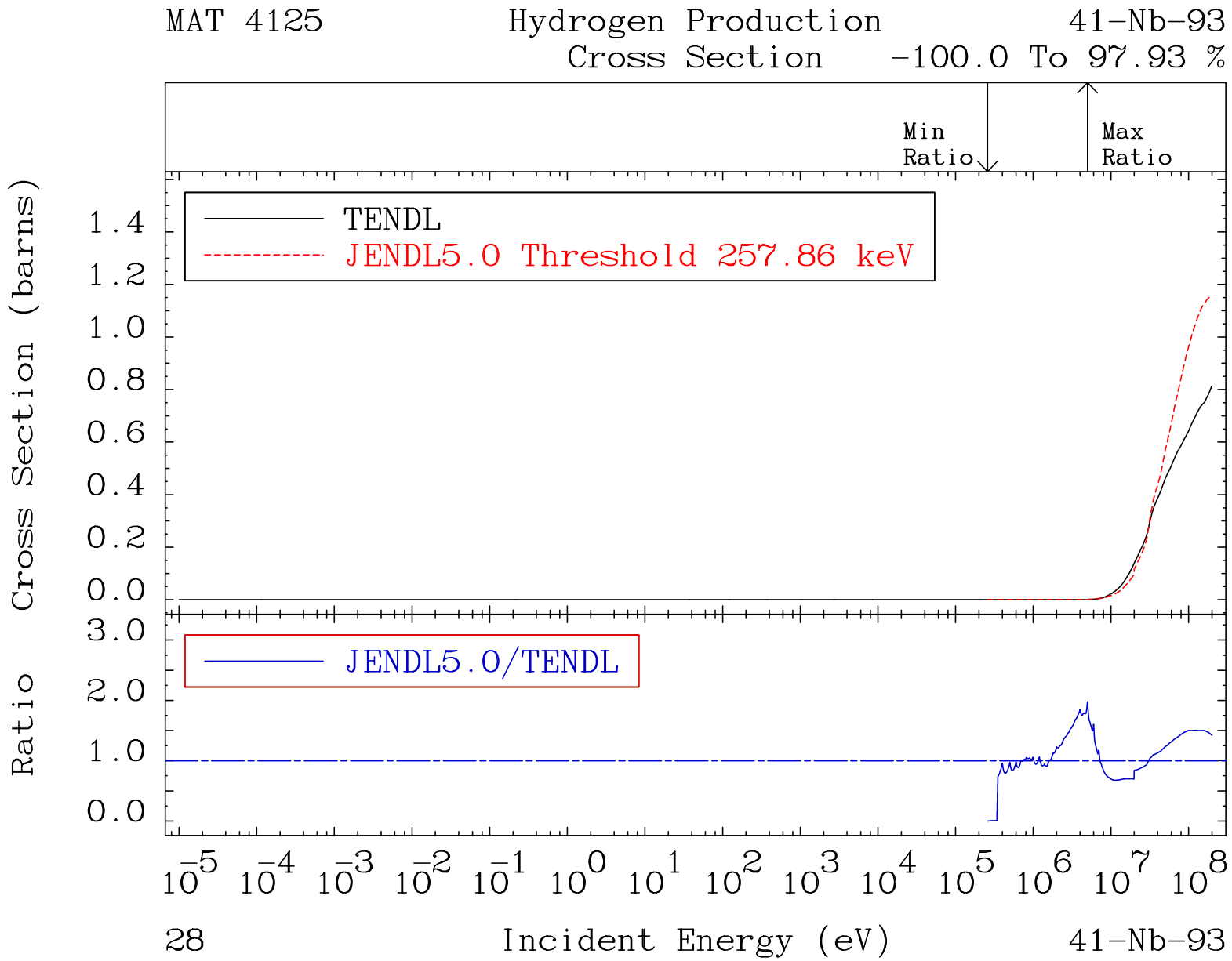

MAT 4125
(n,p)
Cross Section
41-Nb-93
-100.0 To 97.93 %
Min Ratio
Max Ratio
TENDL
JENDL5.0 Threshold 257.86 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
3.0
2.0
1.0
0.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
23
Incident Energy (eV)
41-Nb-93

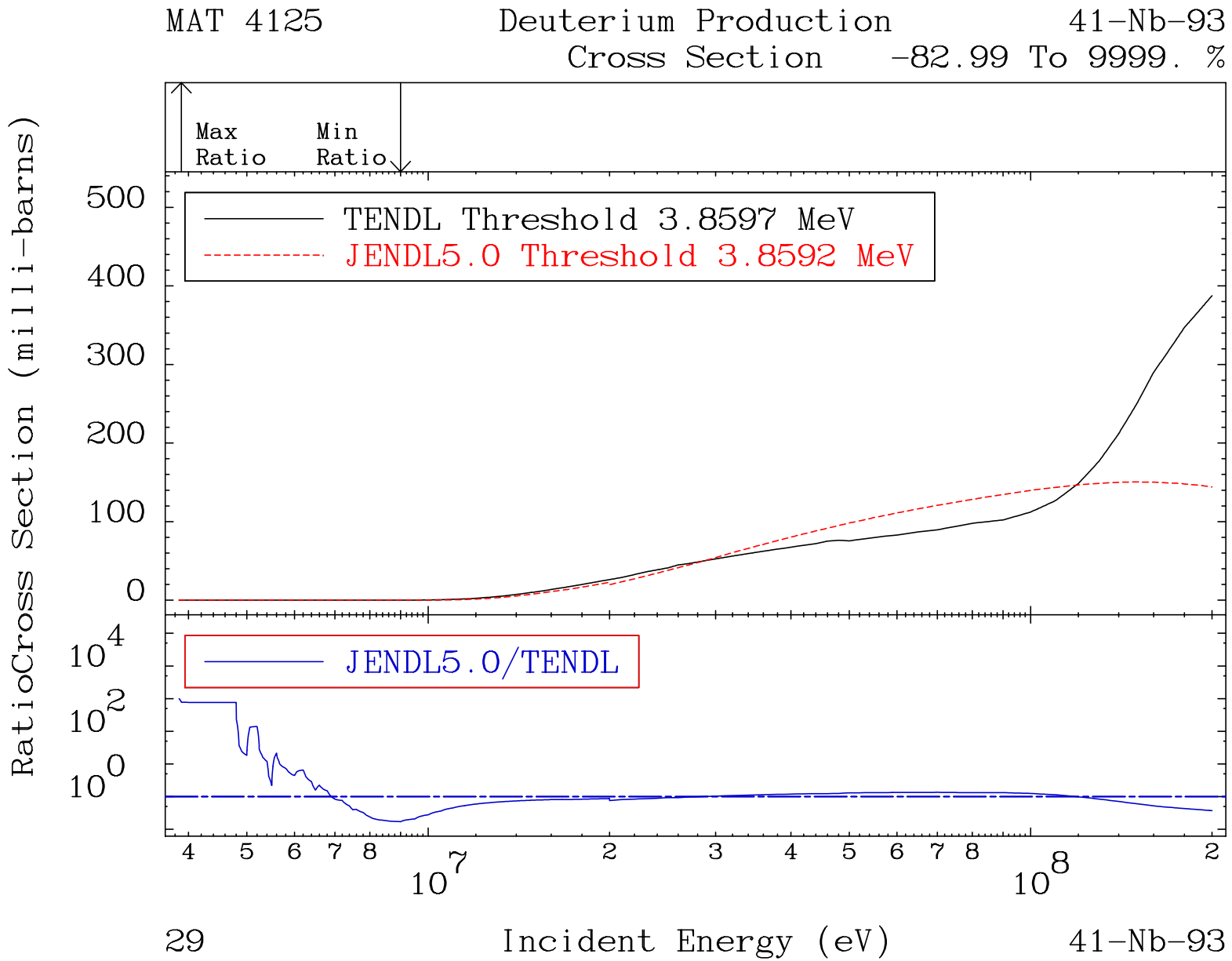

MAT 4125
(n,d)
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.8597 MeV
JENDL5.0 Threshold 3.8592 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.2
0.8
0.4
0.0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
24
Incident Energy (eV)
41-Nb-93

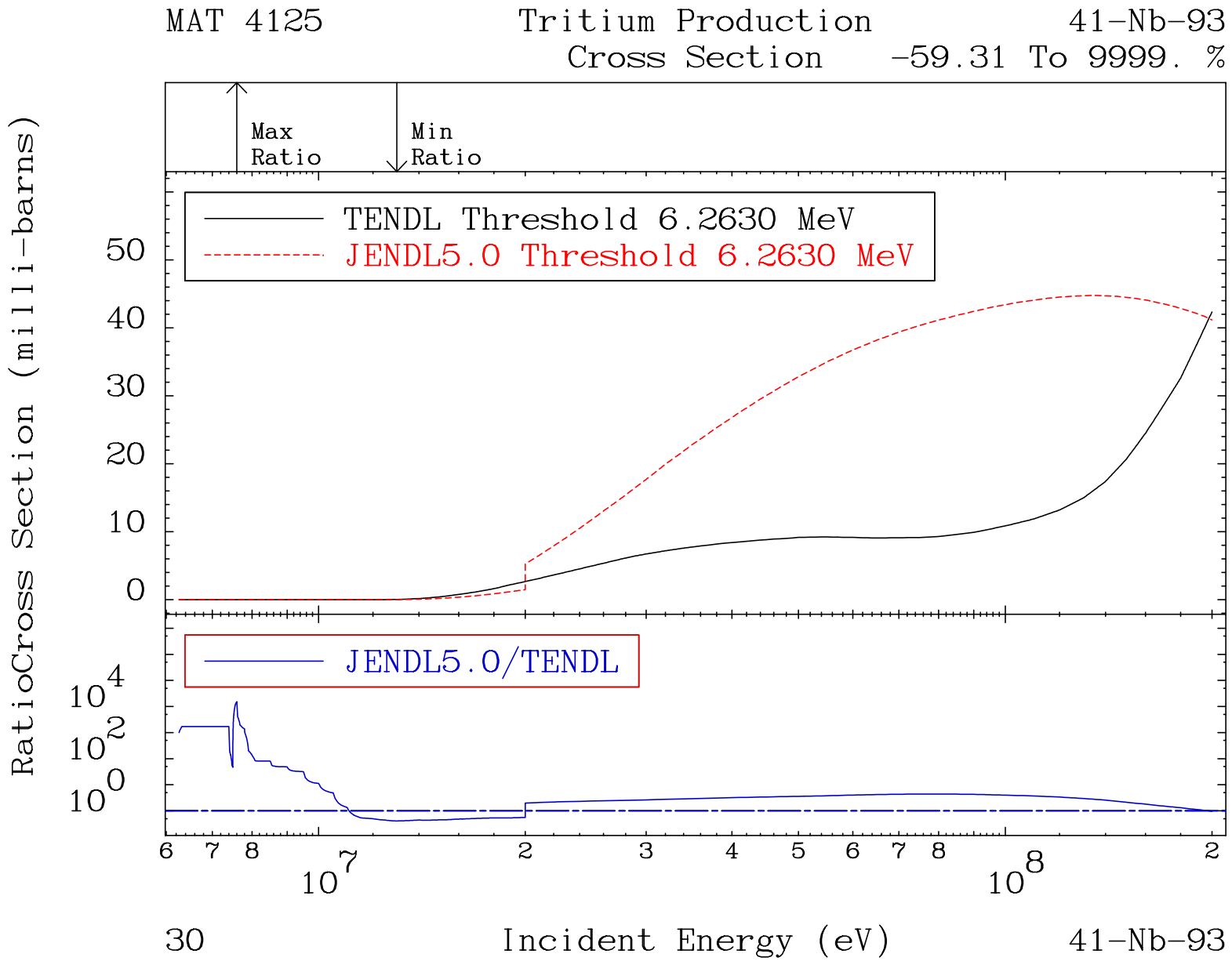

MAT 4125
(n,t)
41-Nb-93
Cross Section
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.2630 MeV
JENDL5.0 Threshold 6.2630 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
25
41-Nb-93

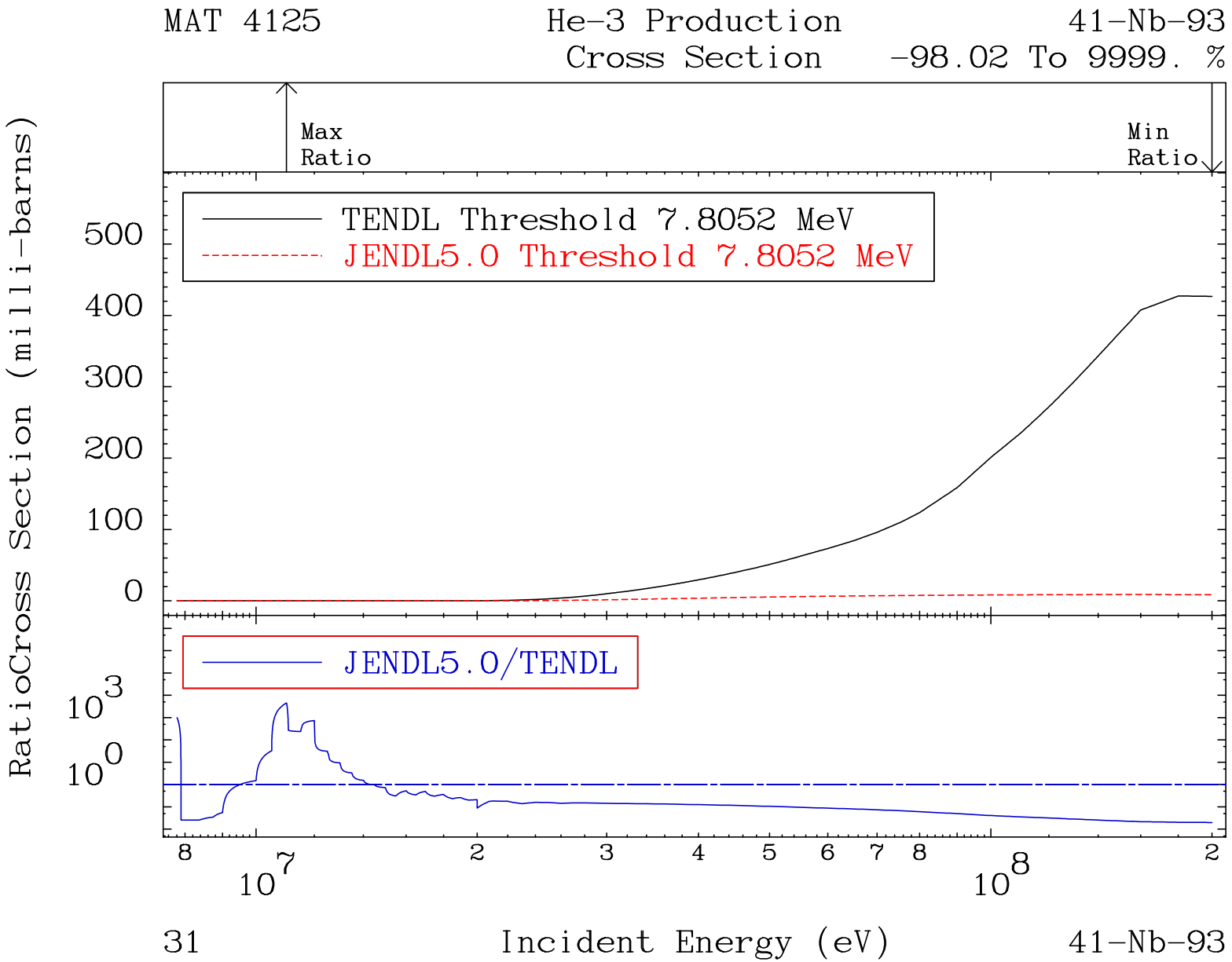

MAT 4125
(n,He-3)
Cross Section
41-Nb-93
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 7.8052 MeV
JENDL5.0 Threshold 7.8052 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
10
8
6
4
2
0
6
4
2
0
8
2
3
4
5
6
7
8
2
10^7
10^8
26
Incident Energy (eV)
41-Nb-93

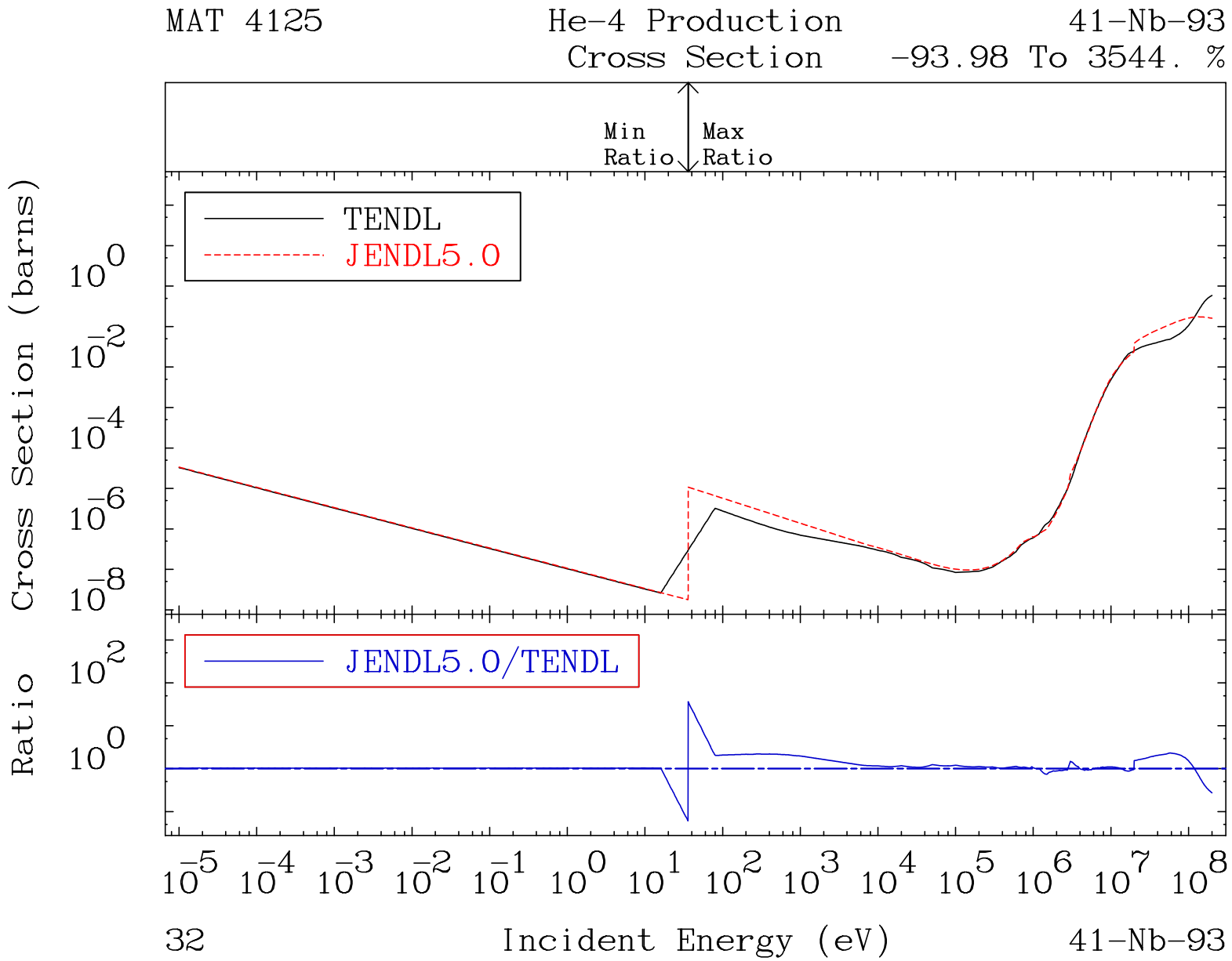

MAT 4125
(n,α)
41-Nb-93
Cross Section
-100.0 To 3544. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
27
41-Nb-93

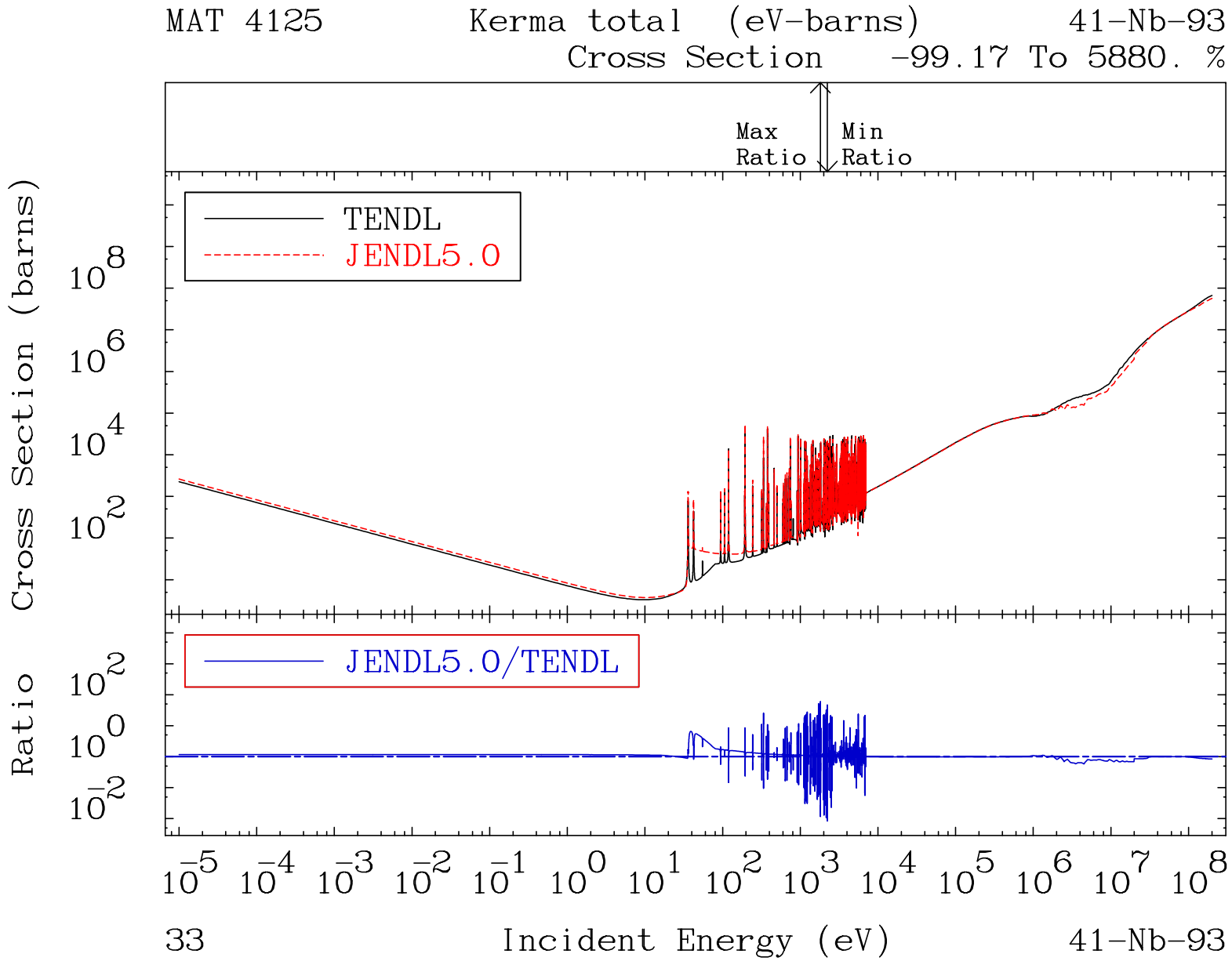

MAT 4125
Hydrogen Production
41-Nb-93
Cross Section
-100.0 To 97.93 %
Min Ratio
Max Ratio
TENDL
JENDL5.0 Threshold 257.86 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
3.0
2.0
1.0
0.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
Incident Energy (eV)
28
41-Nb-93

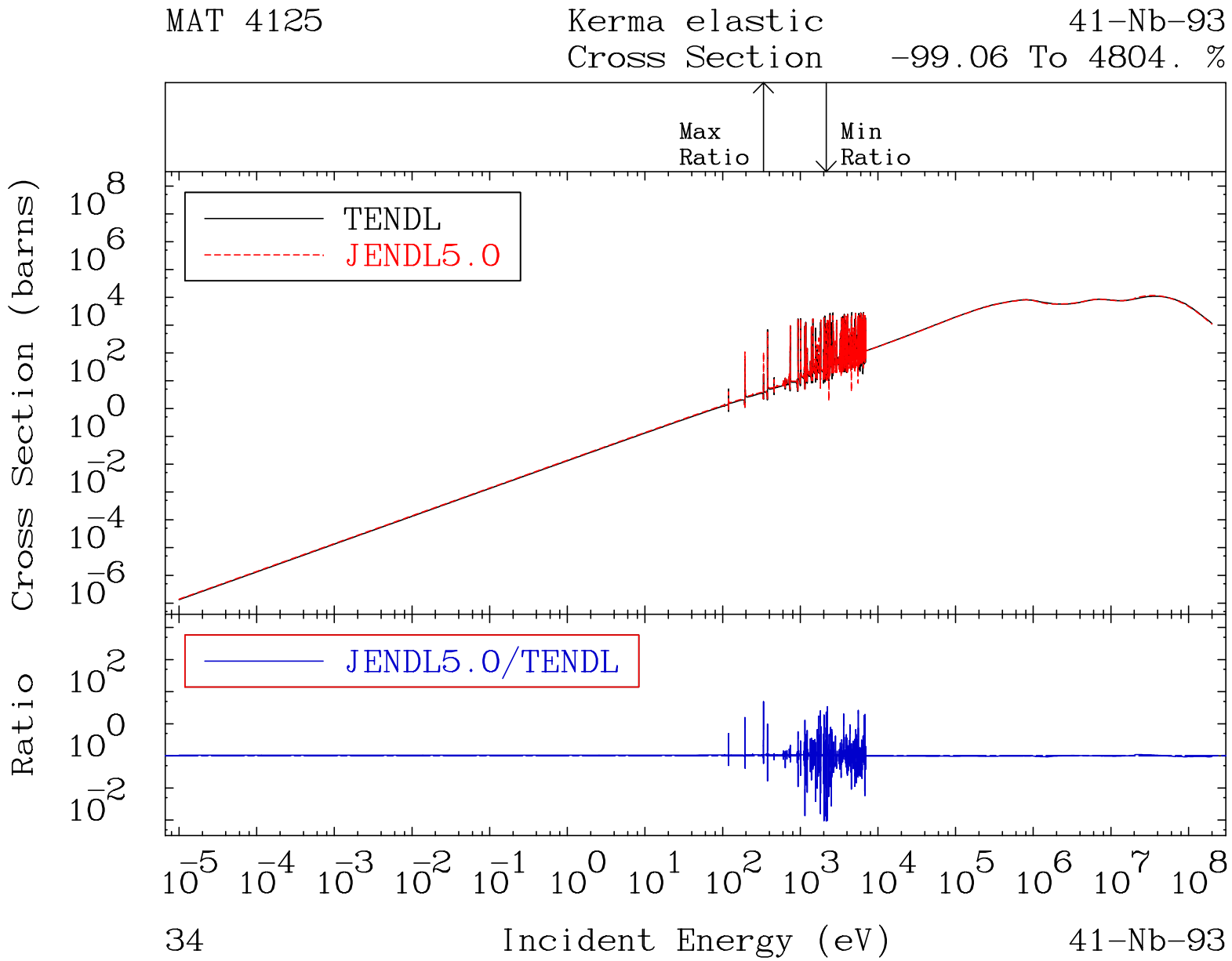

MAT 4125
Deuterium Production
41-Nb-93
Cross Section -82.99 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.8597 MeV
JENDL5.0 Threshold 3.8592 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
10^4
10^2
10^0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
29
Incident Energy (eV)
41-Nb-93

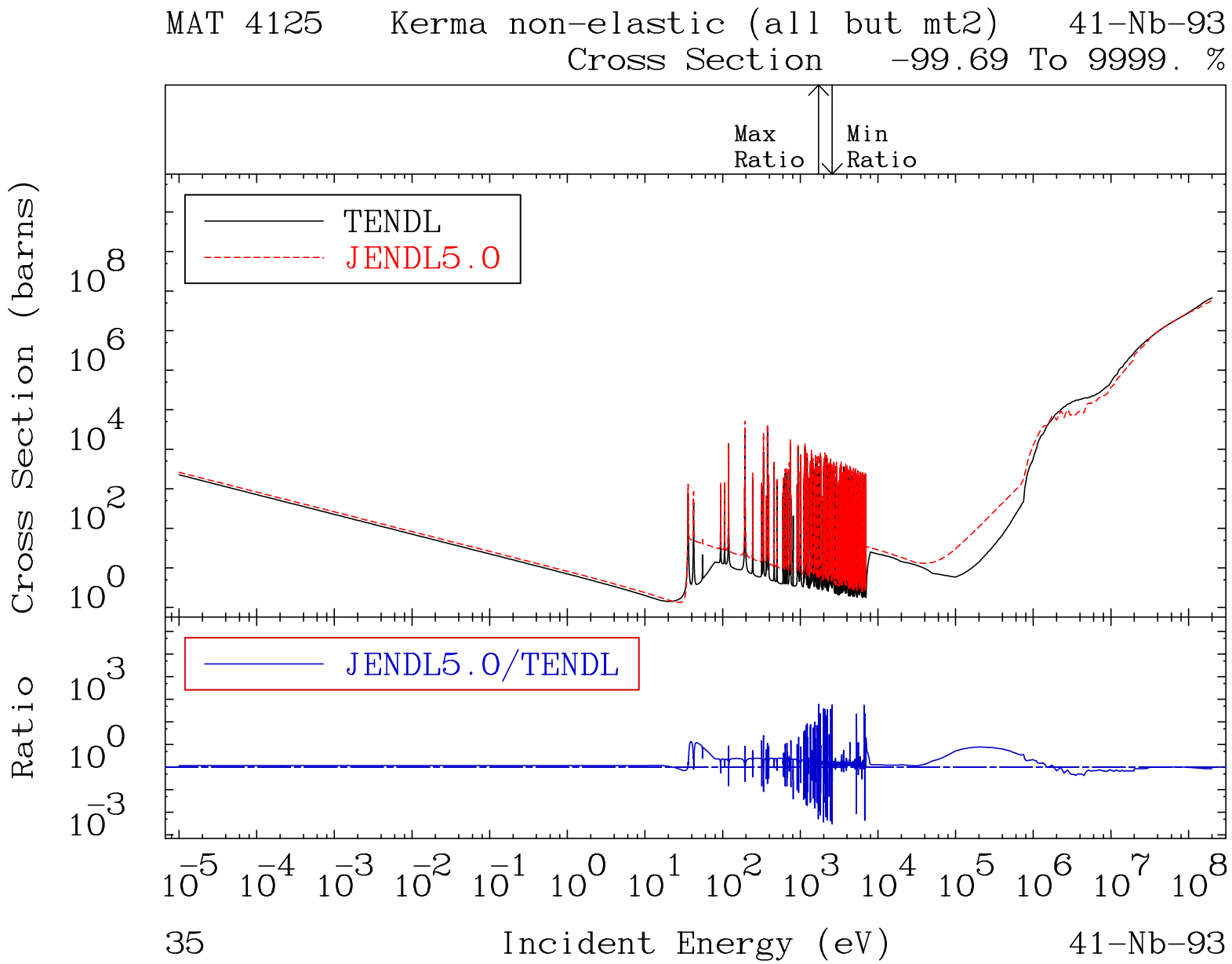

MAT 4125
Tritium Production
41-Nb-93
Cross Section
-59.31 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.2630 MeV
JENDL5.0 Threshold 6.2630 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
10^4
10^2
10^0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
30
Incident Energy (eV)
41-Nb-93

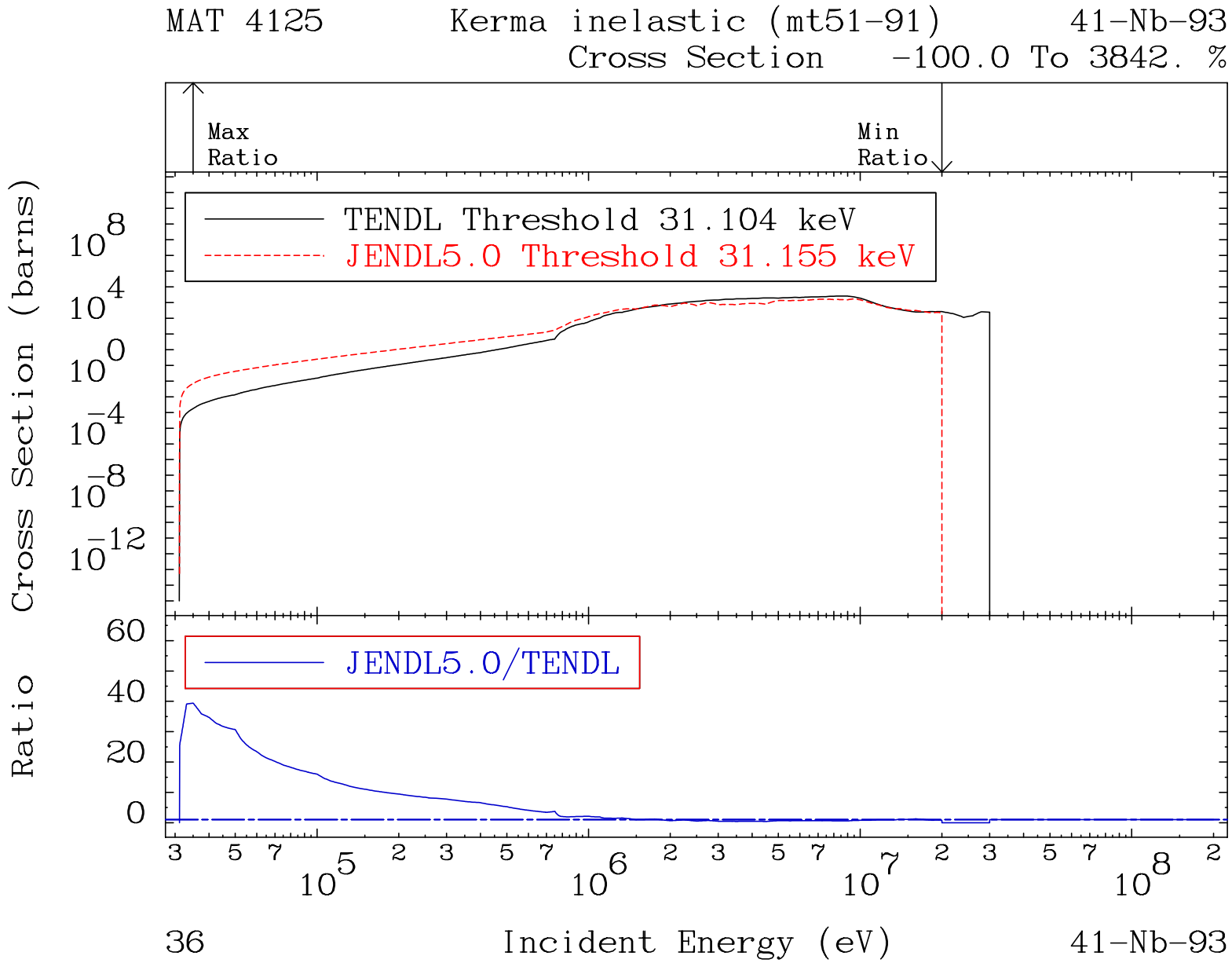

MAT 4125
He-3 Production
Cross Section
41-Nb-93
-98.02 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 7.8052 MeV
JENDL5.0 Threshold 7.8052 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
500
400
300
200
100
0
10^3
10^0
8
10^7
2
3
4
5
6
7
8
10^8
2
31
Incident Energy (eV)
41-Nb-93

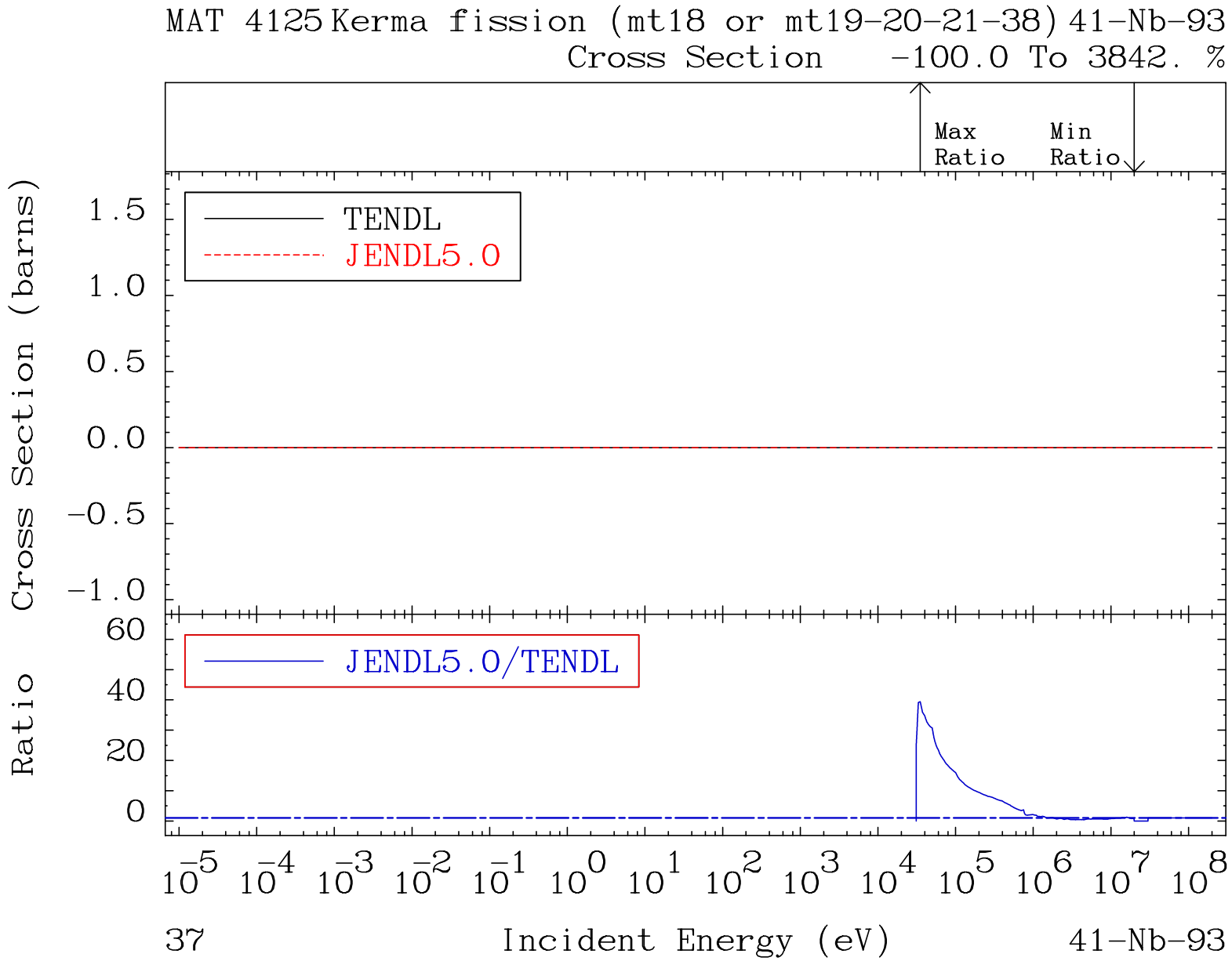

MAT 4125
He-4 Production
Cross Section
41-Nb-93
-93.98 To 3544. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
32
41-Nb-93

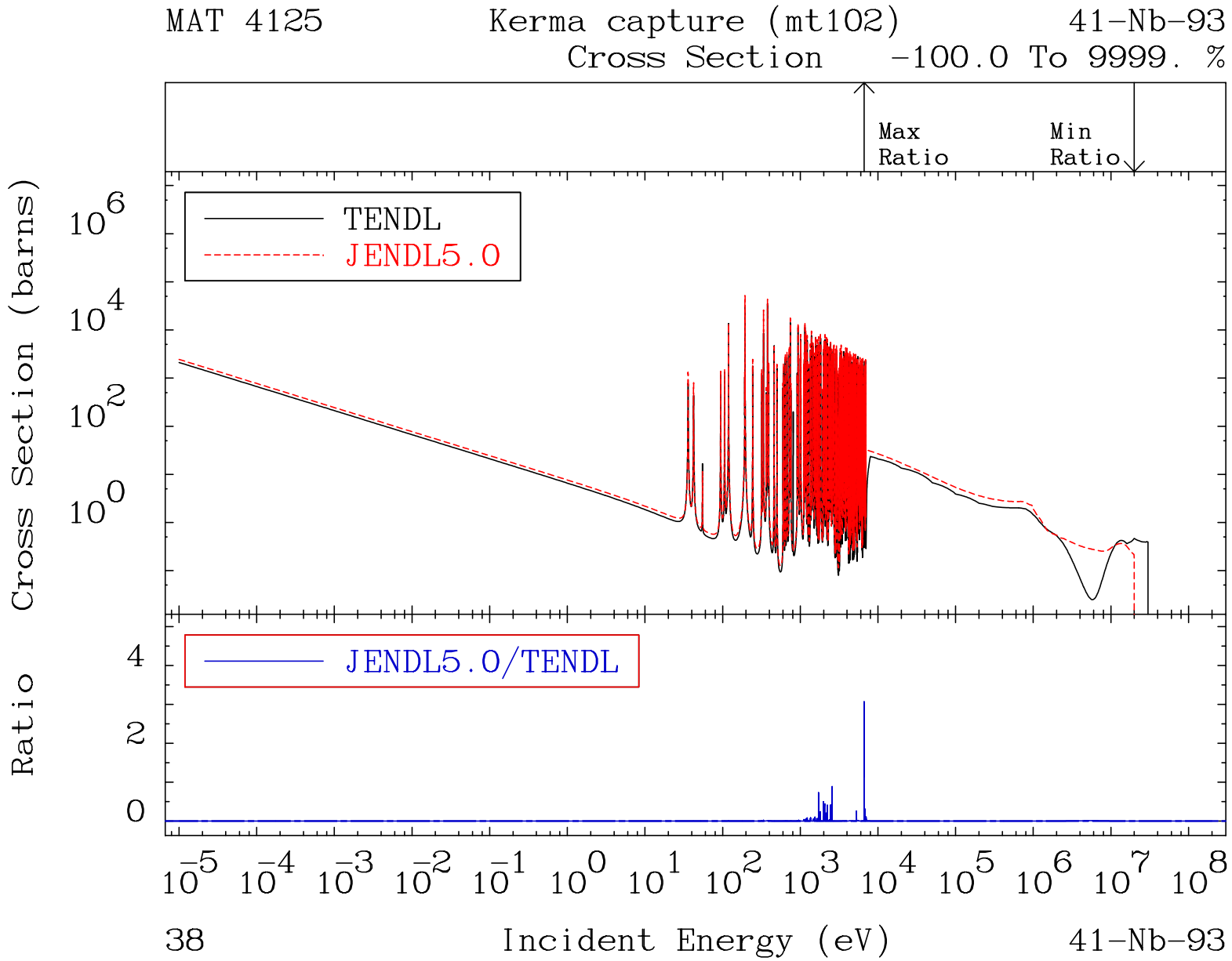

MAT 4125
Kerma total (eV-barns)
41-Nb-93
Cross Section -99.17 To 5880. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
33
41-Nb-93

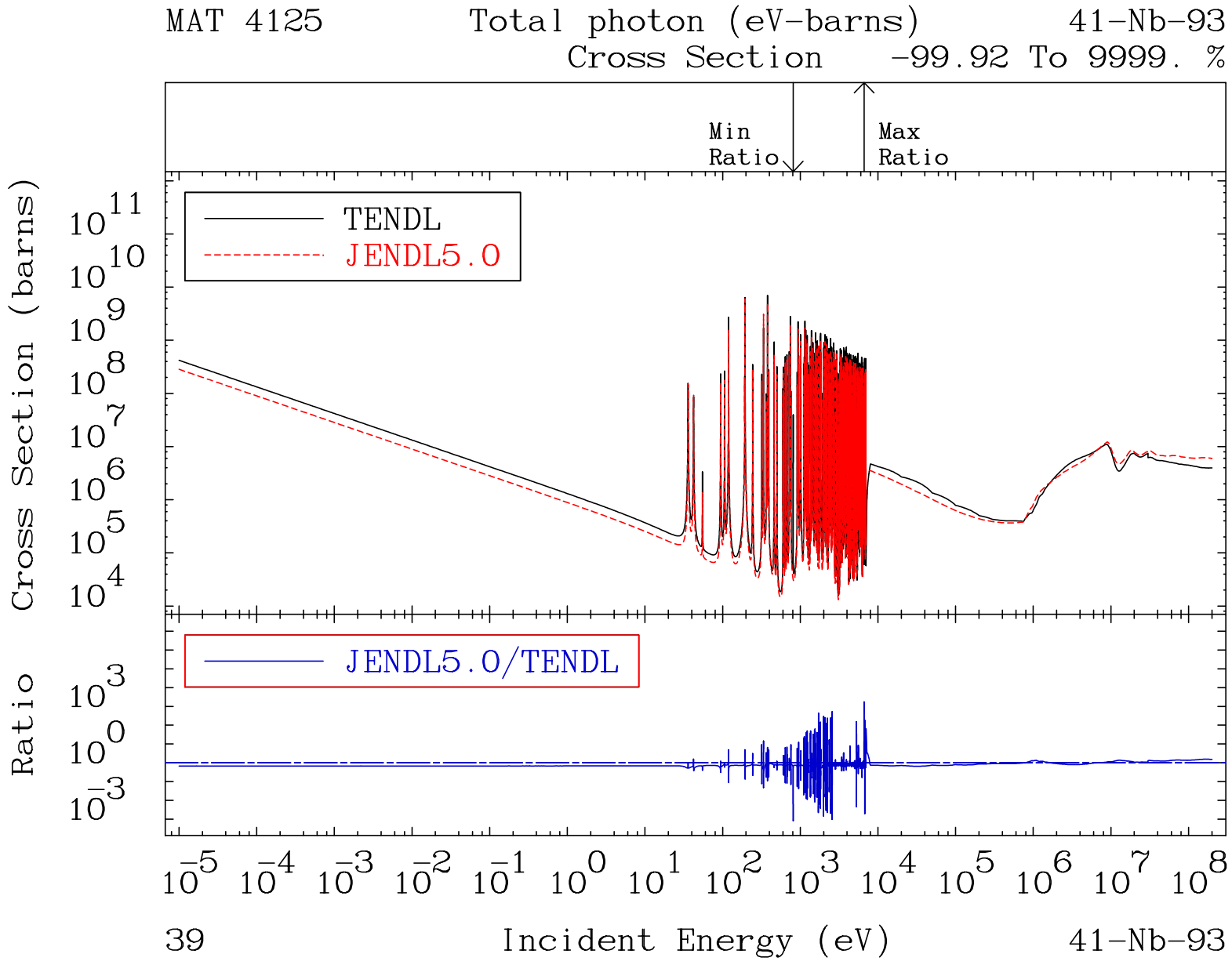

MAT 4125
Kerma elastic
Cross Section
41-Nb-93
-99.06 To 4804. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
34
41-Nb-93

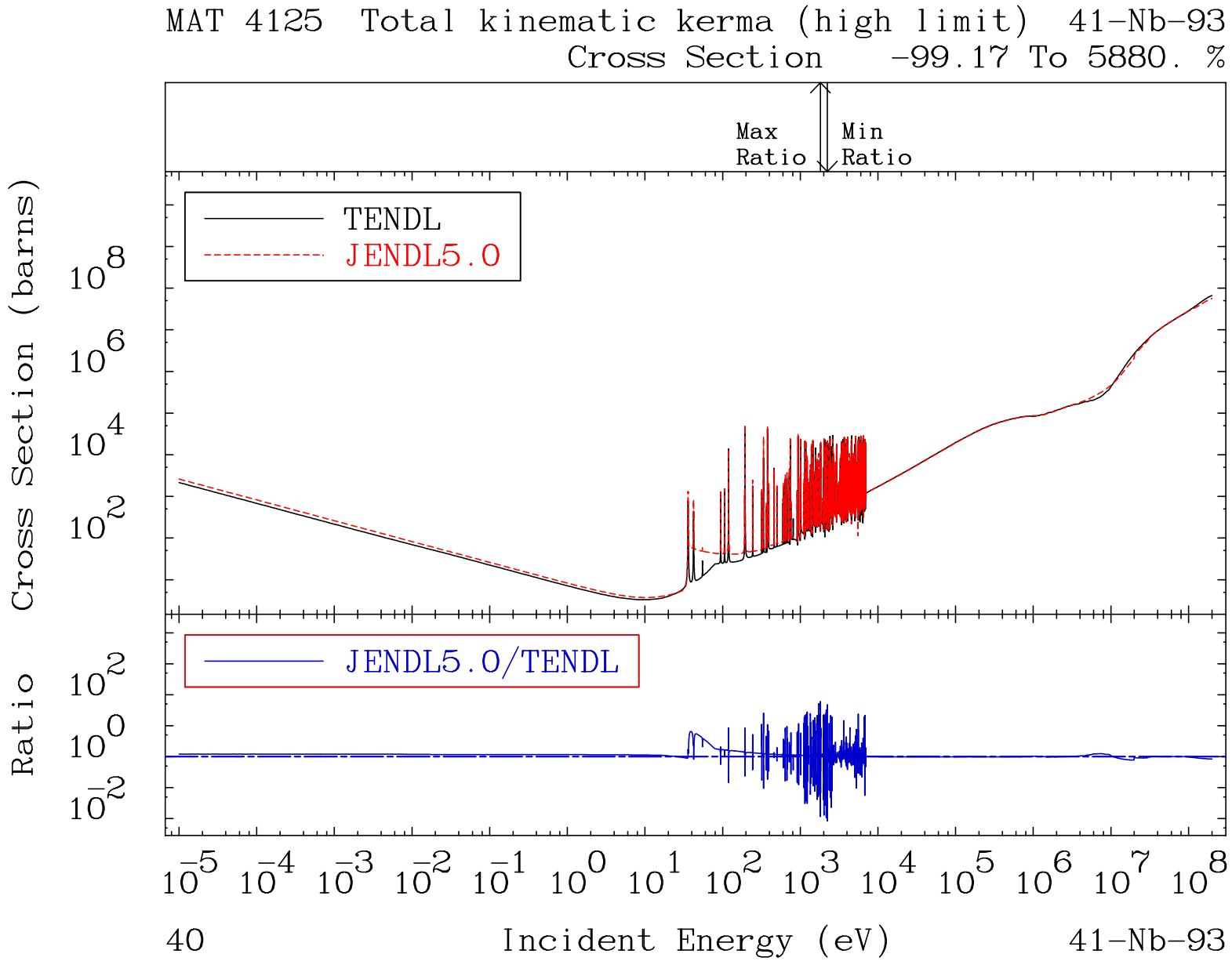

MAT 4125 Kerma non-elastic (all but mt2) 41-Nb-93
Cross Section -99.69 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
35
41-Nb-93

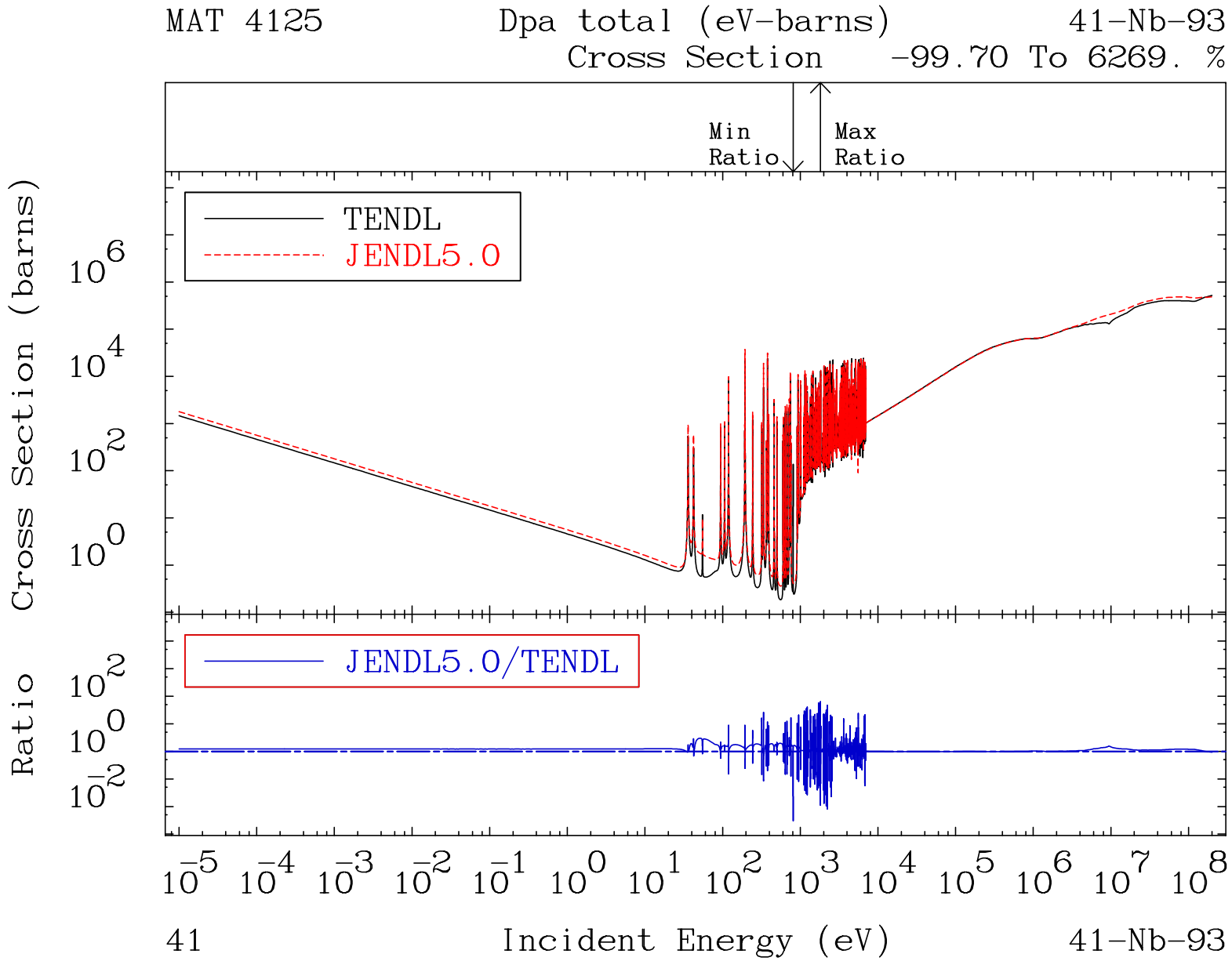

MAT 4125
Kerma inelastic (mt51-91)
41-Nb-93
Cross Section -100.0 To 3842. %
Max Ratio
Min Ratio
TENDL Threshold 31.104 keV
JENDL5.0 Threshold 31.155 keV
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
36
41-Nb-93

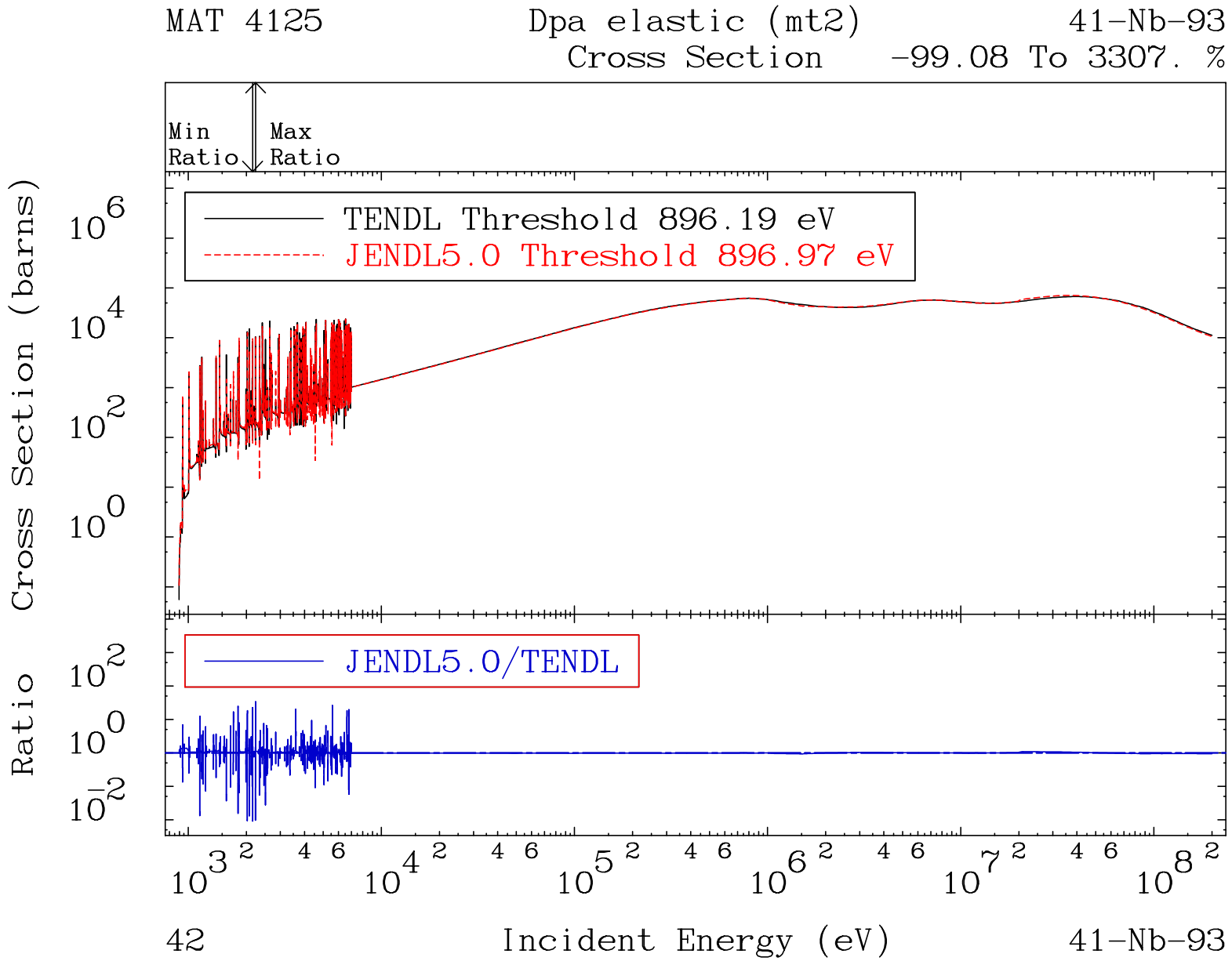

MAT 4125 Kerma fission (mt18 or mt19-20-21-38) 41-Nb-93
Cross Section -100.0 To 3842. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Ratio Cross Section (barns)
1.5
1.0
0.5
0.0
-0.5
-1.0
60
40
20
0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
37
Incident Energy (eV)
41-Nb-93

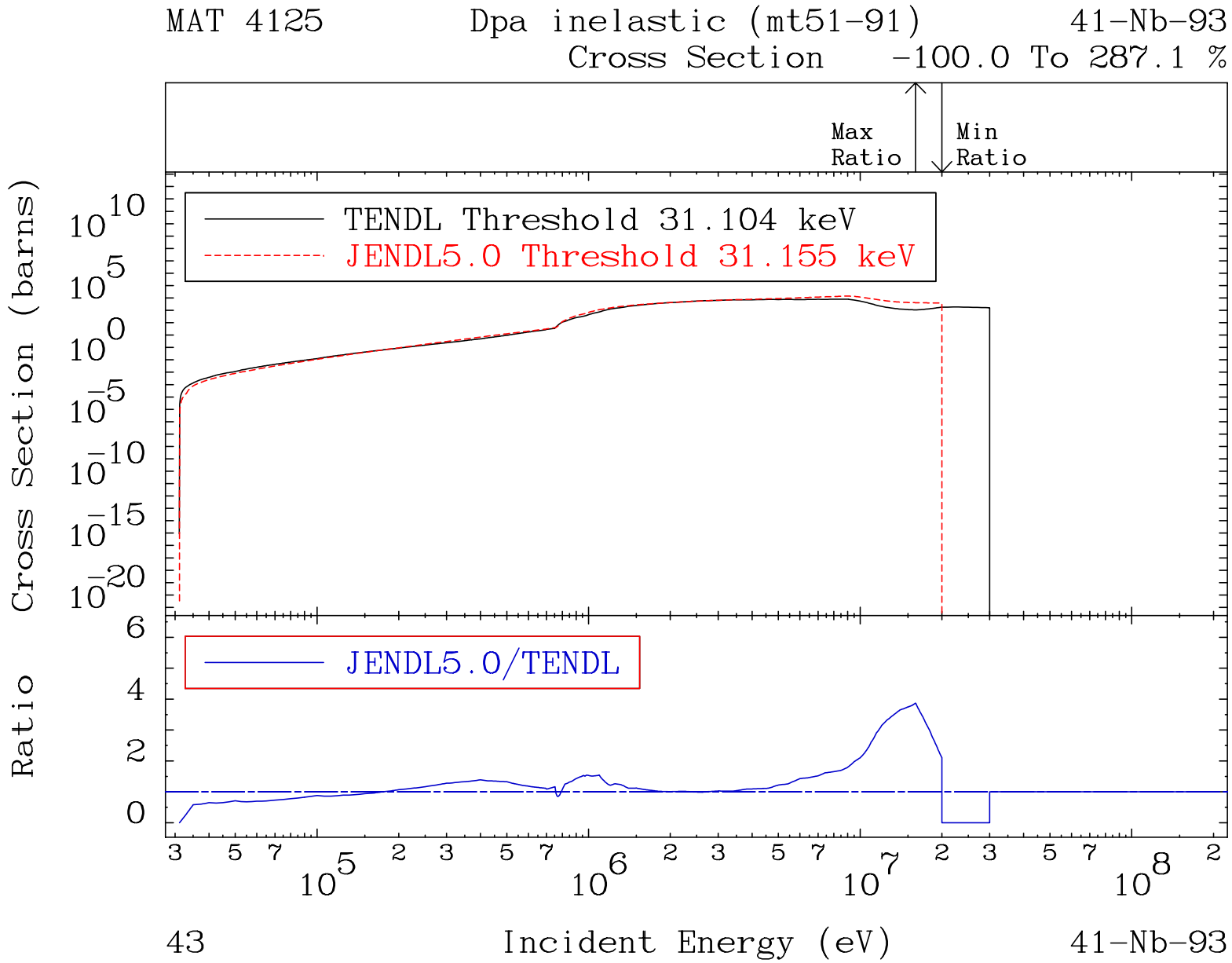

MAT 4125
Kerma capture (mt102)
41-Nb-93
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
38
41-Nb-93

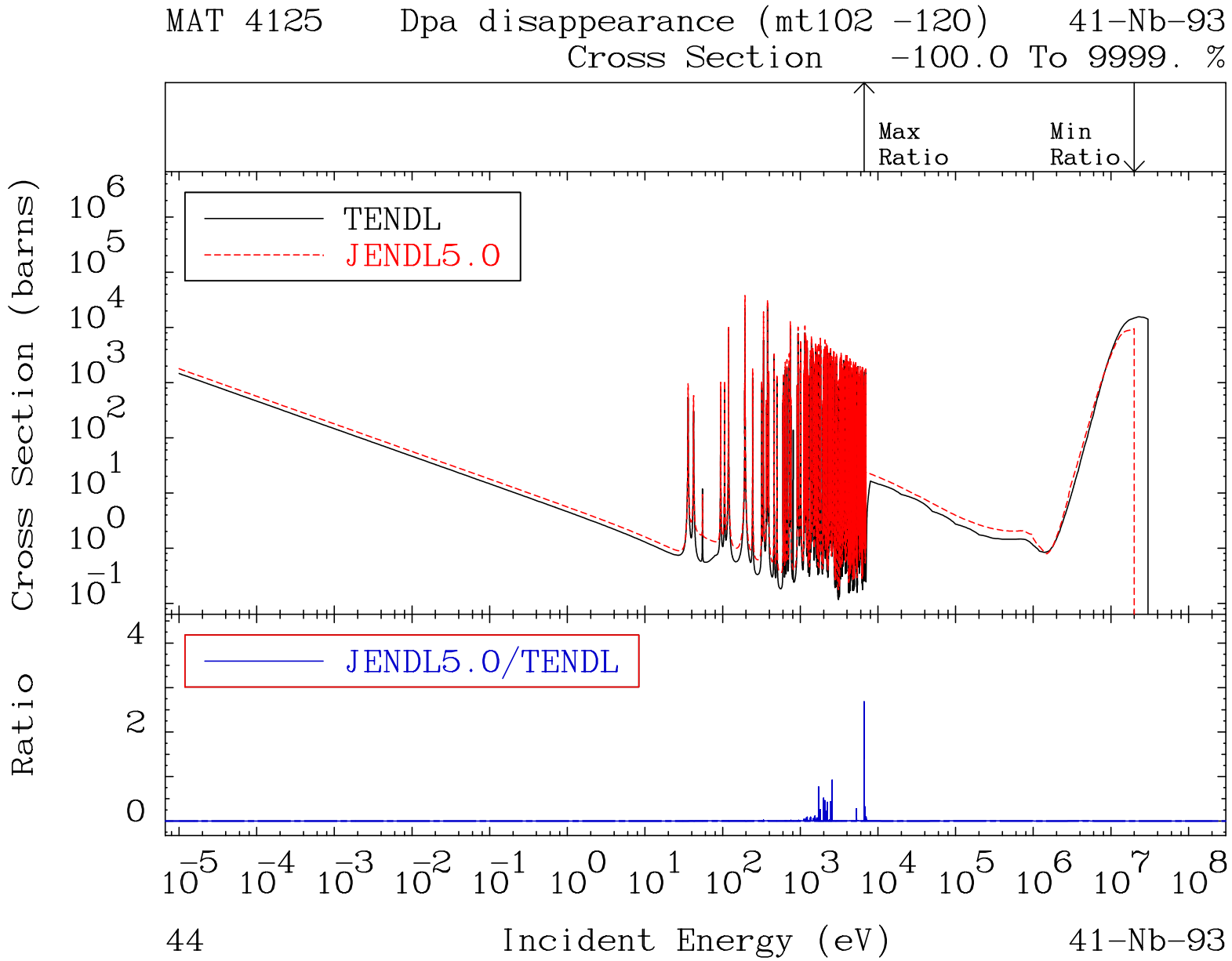

MAT 4125
Total photon (eV-barns)
41-Nb-93
Cross Section -99.92 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
39
41-Nb-93

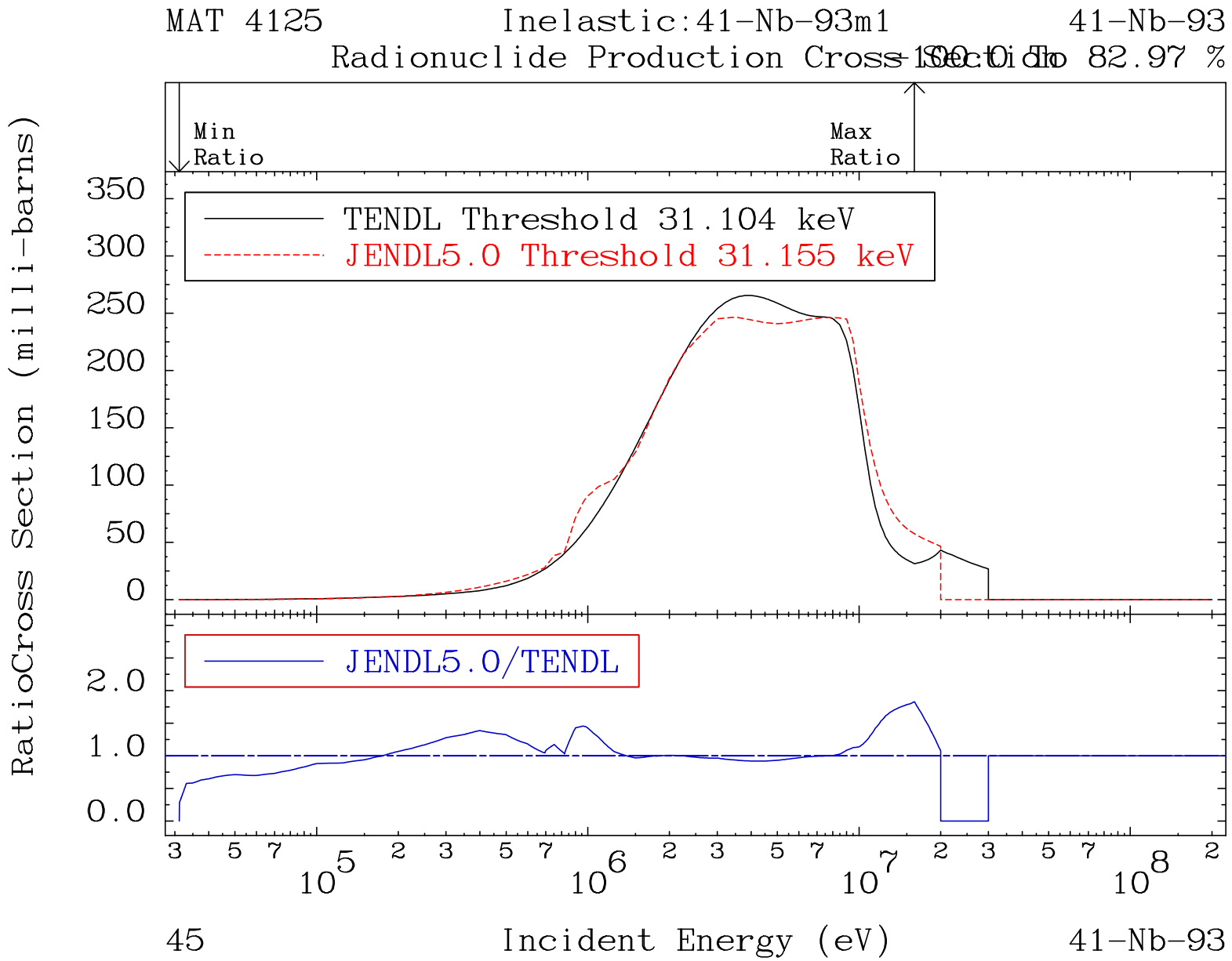

MAT 4125 Total kinematic kerma (high limit) 41-Nb-93
Cross Section -99.17 To 5880. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
40
41-Nb-93

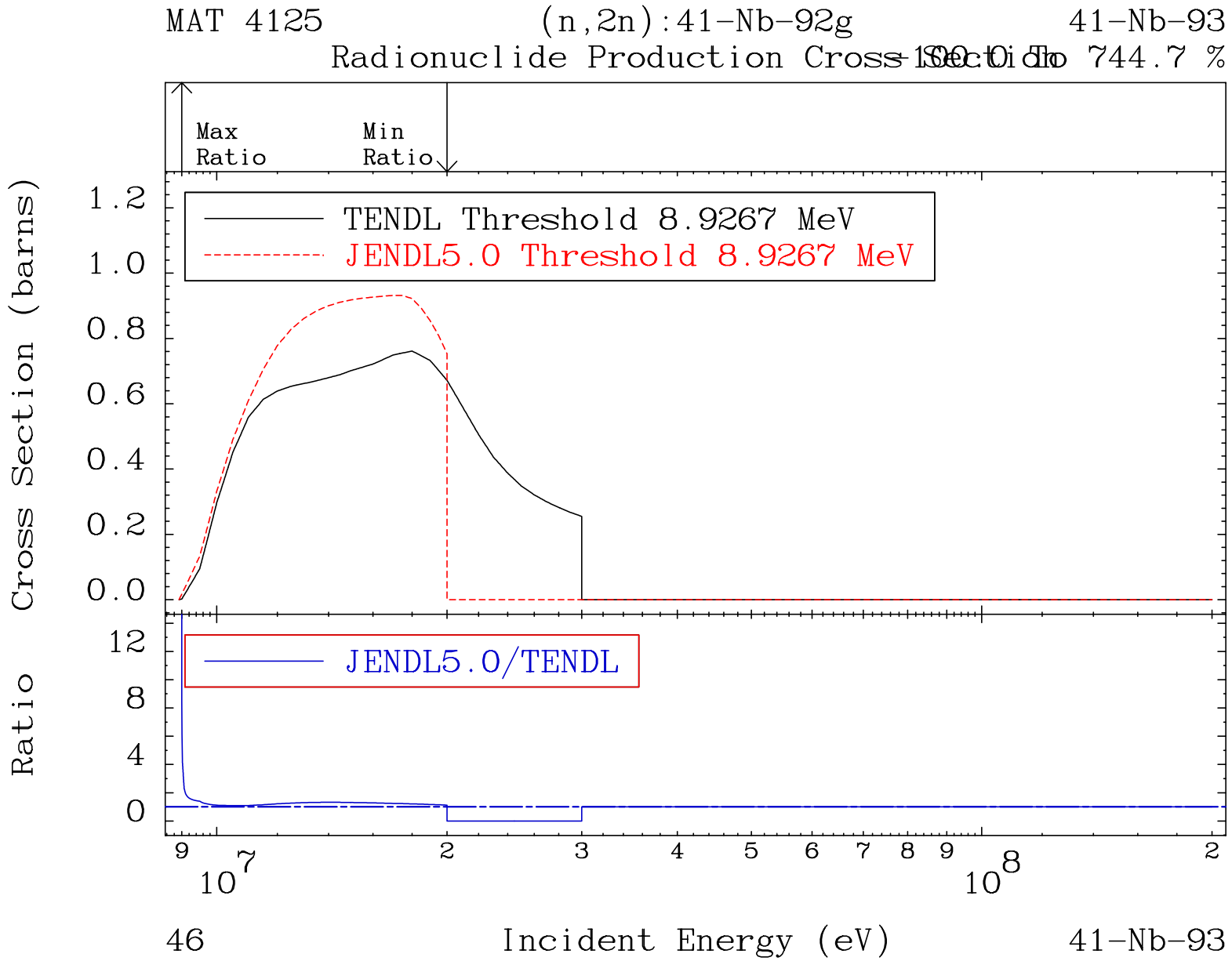

MAT 4125
Dpa total (eV-barns)
41-Nb-93
Cross Section -99.70 To 6269. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
Cross Section (barns)
Ratio
JENDL5.0/TENDL
Incident Energy (eV)
41
41-Nb-93

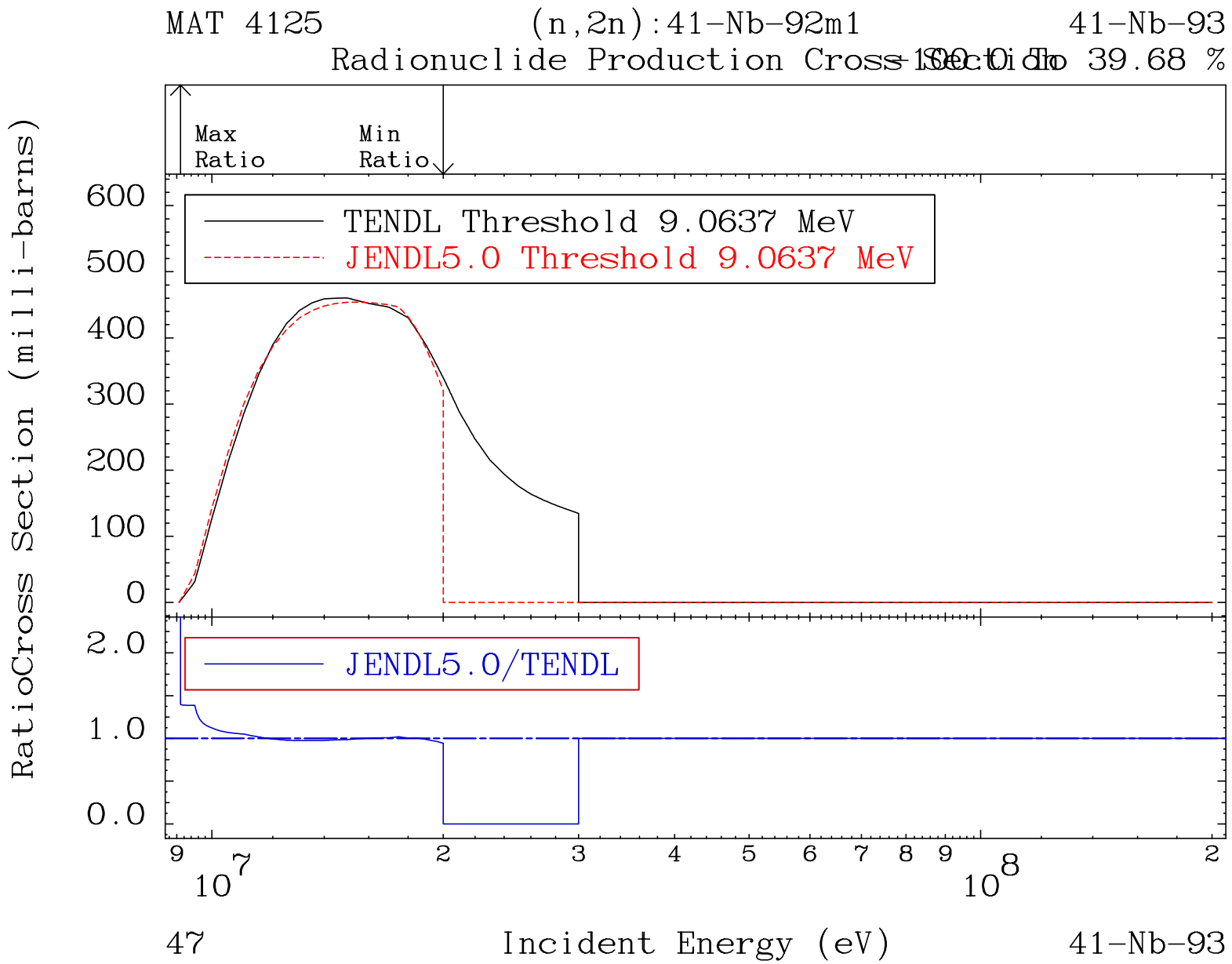

MAT 4125
Dpa elastic (mt2)
Cross Section
41-Nb-93
-99.08 To 3307. %
Min Ratio
Max Ratio
TENDL Threshold 896.19 eV
JENDL5.0 Threshold 896.97 eV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
41-Nb-93

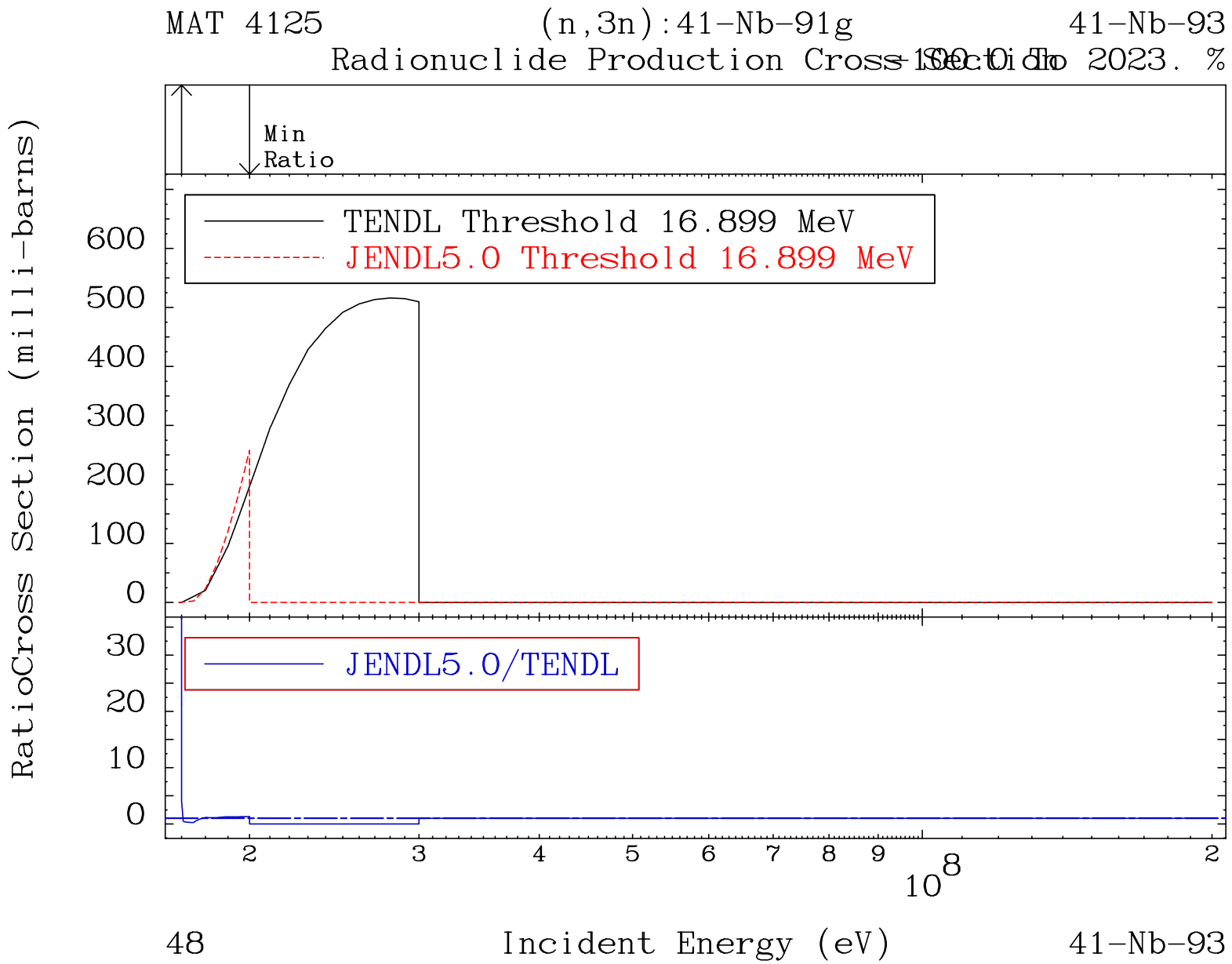

MAT 4125
Dpa inelastic (mt51-91)
41-Nb-93
Cross Section
-100.0 To 287.1 %
Max Ratio
Min Ratio
TENDL Threshold 31.104 keV
JENDL5.0 Threshold 31.155 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
41-Nb-93

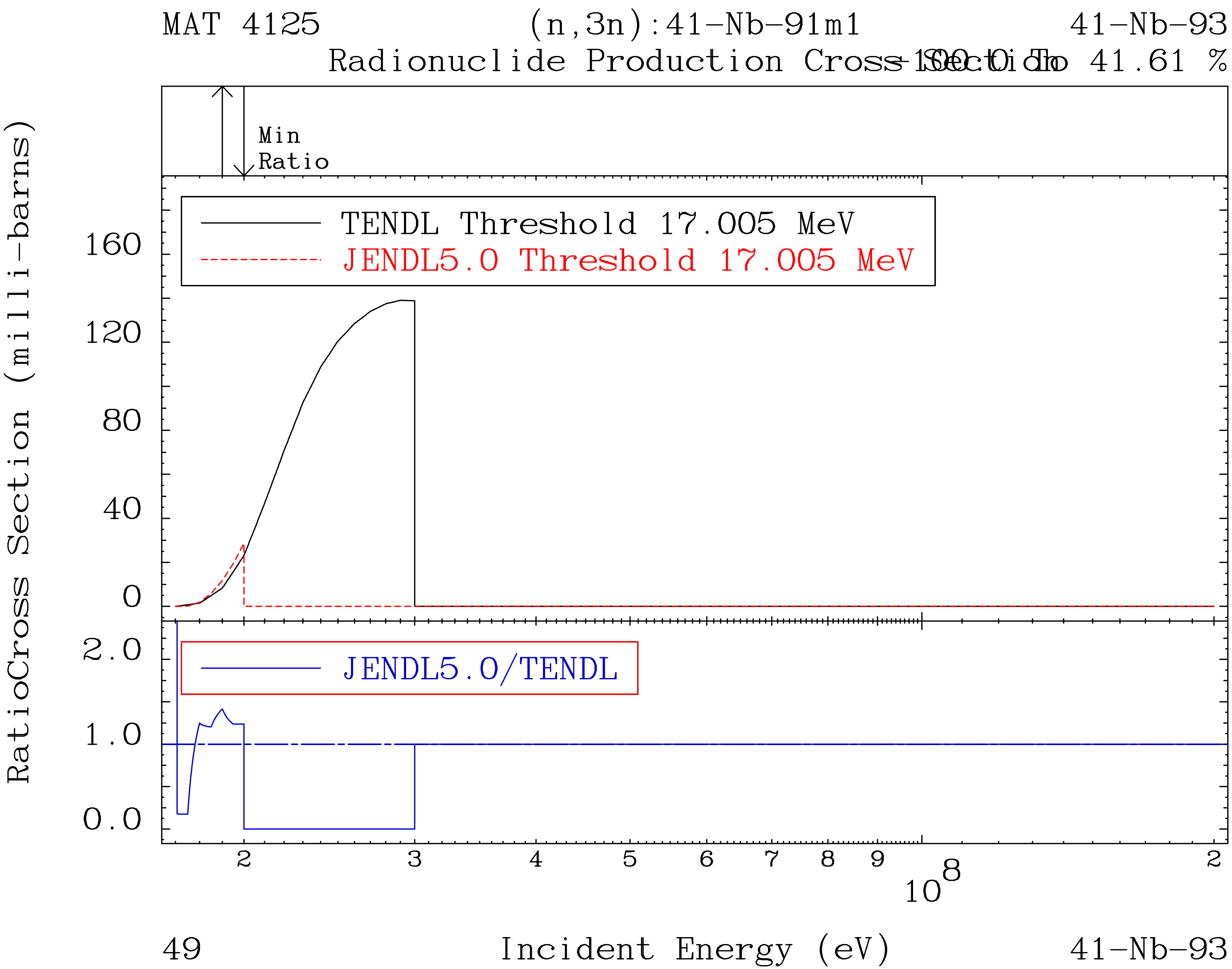

MAT 4125 Dpa disappearance (mt102 -120) 41-Nb-93
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
44
41-Nb-93

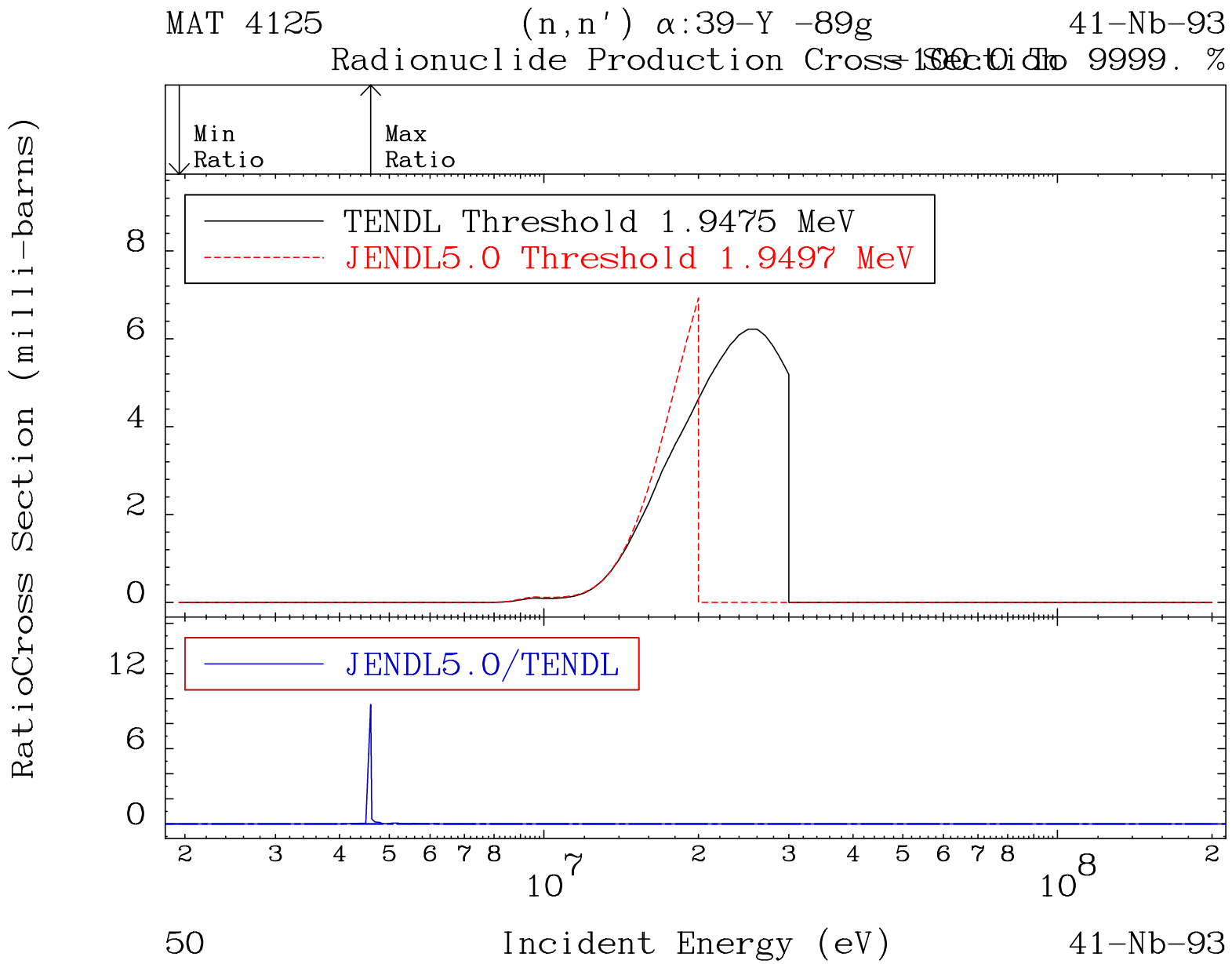

MAT 4125
Inelastic:41-Nb-93m1
41-Nb-93
Radionuclide Production Cross Section To 82.97 %
Min Ratio
Max Ratio
TENDL Threshold 31.104 keV
JENDL5.0 Threshold 31.155 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
45
41-Nb-93

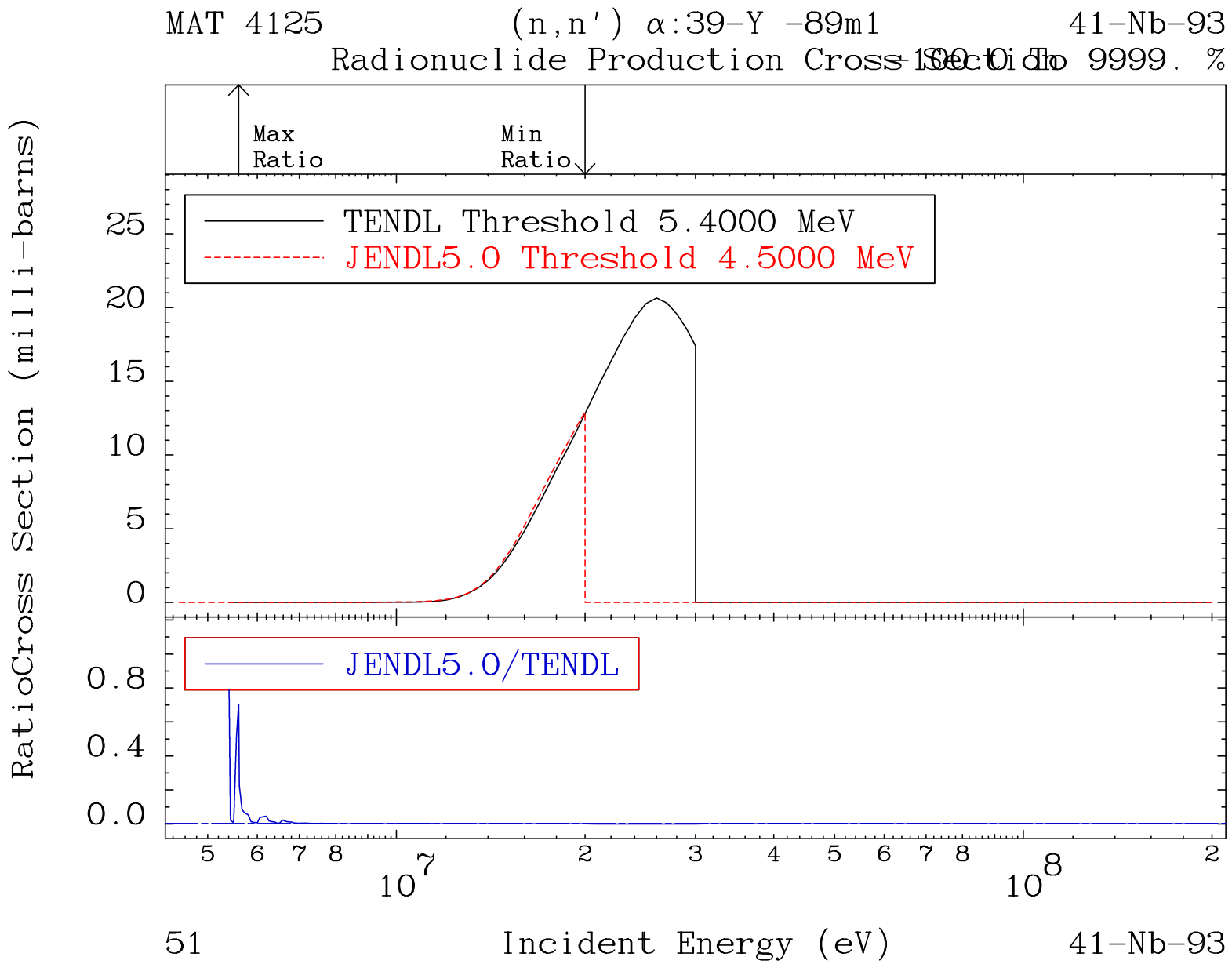

MAT 4125
(n,2n):41-Nb-92g
41-Nb-93
Radionuclide Production Cross Section To 744.7 %
Max Ratio
Min Ratio
TENDL Threshold 8.9267 MeV
JENDL5.0 Threshold 8.9267 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.2
1.0
0.8
0.6
0.4
0.2
0.0
12
8
4
0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
46
Incident Energy (eV)
41-Nb-93

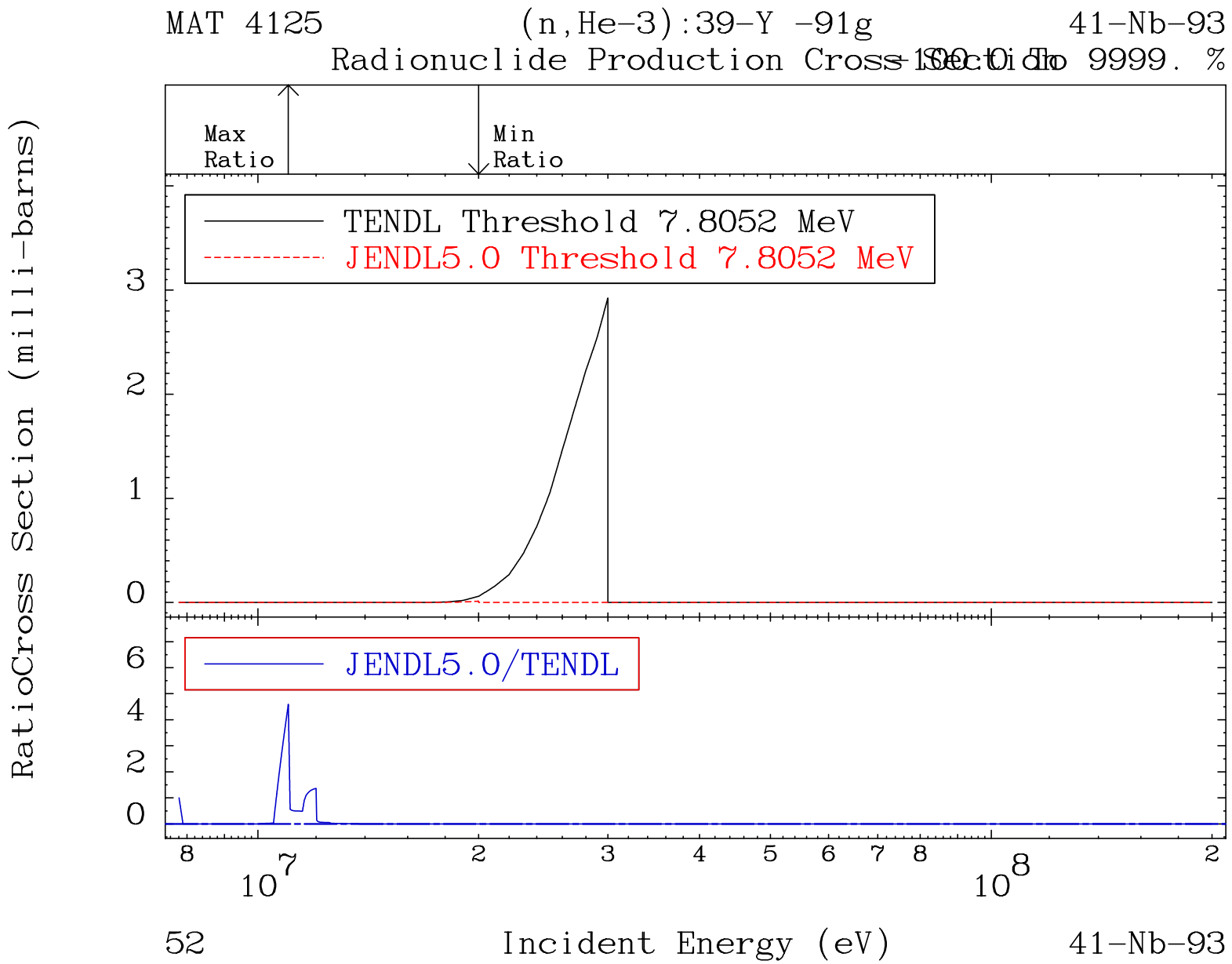

MAT 4125
(n,2n):41-Nb-92m1
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 9.0637 MeV
JENDL5.0 Threshold 9.0637 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
47
41-Nb-93

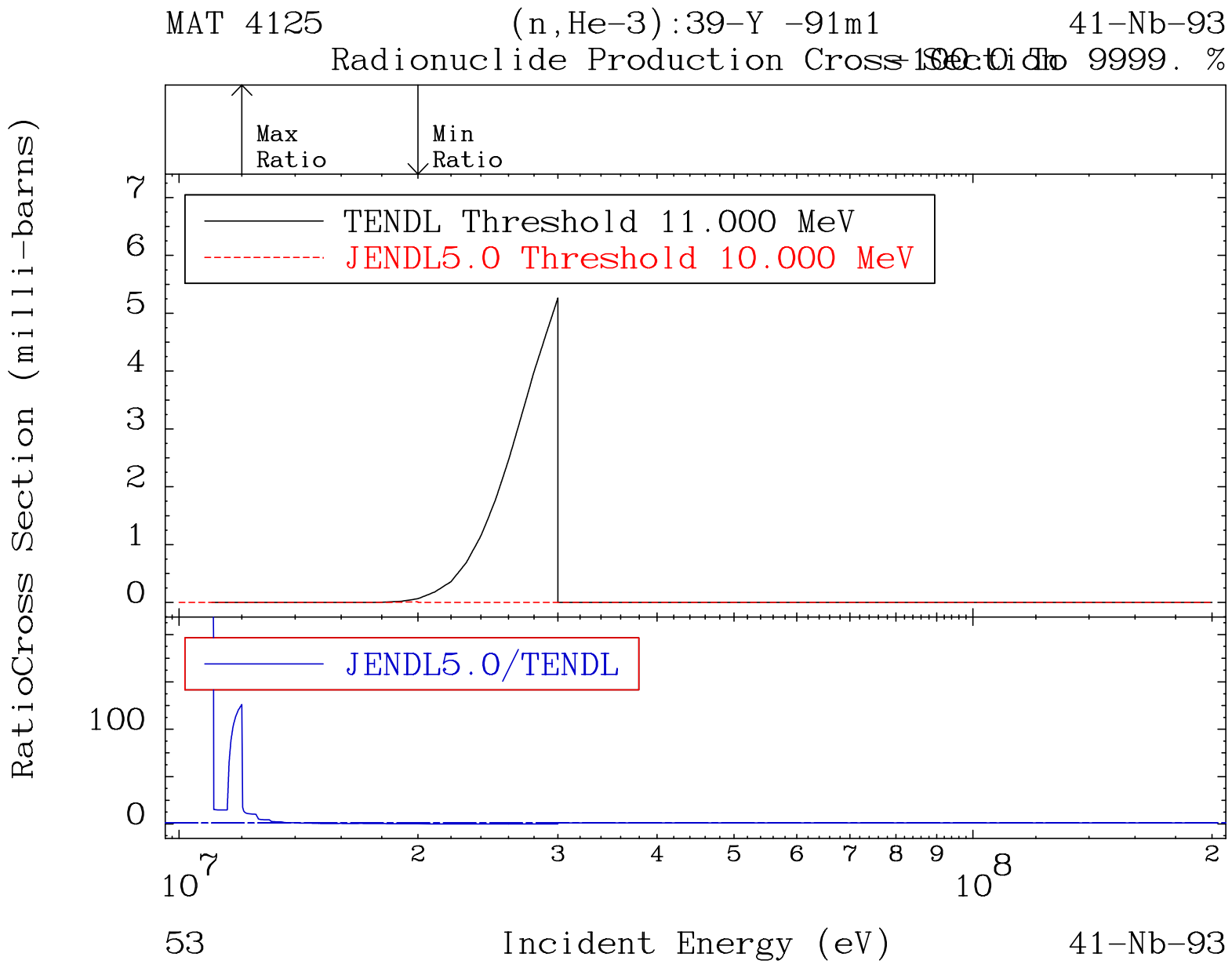

MAT 4125
(n,3n):41-Nb-91g
41-Nb-93
Radionuclide Production Cross Section
Min
Ratio
TENDL Threshold 16.899 MeV
JENDL5.0 Threshold 16.899 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
600
500
400
300
200
100
0
30
20
10
0
2
3
4
5
6
7
8
9
10^8
2
48
Incident Energy (eV)
41-Nb-93

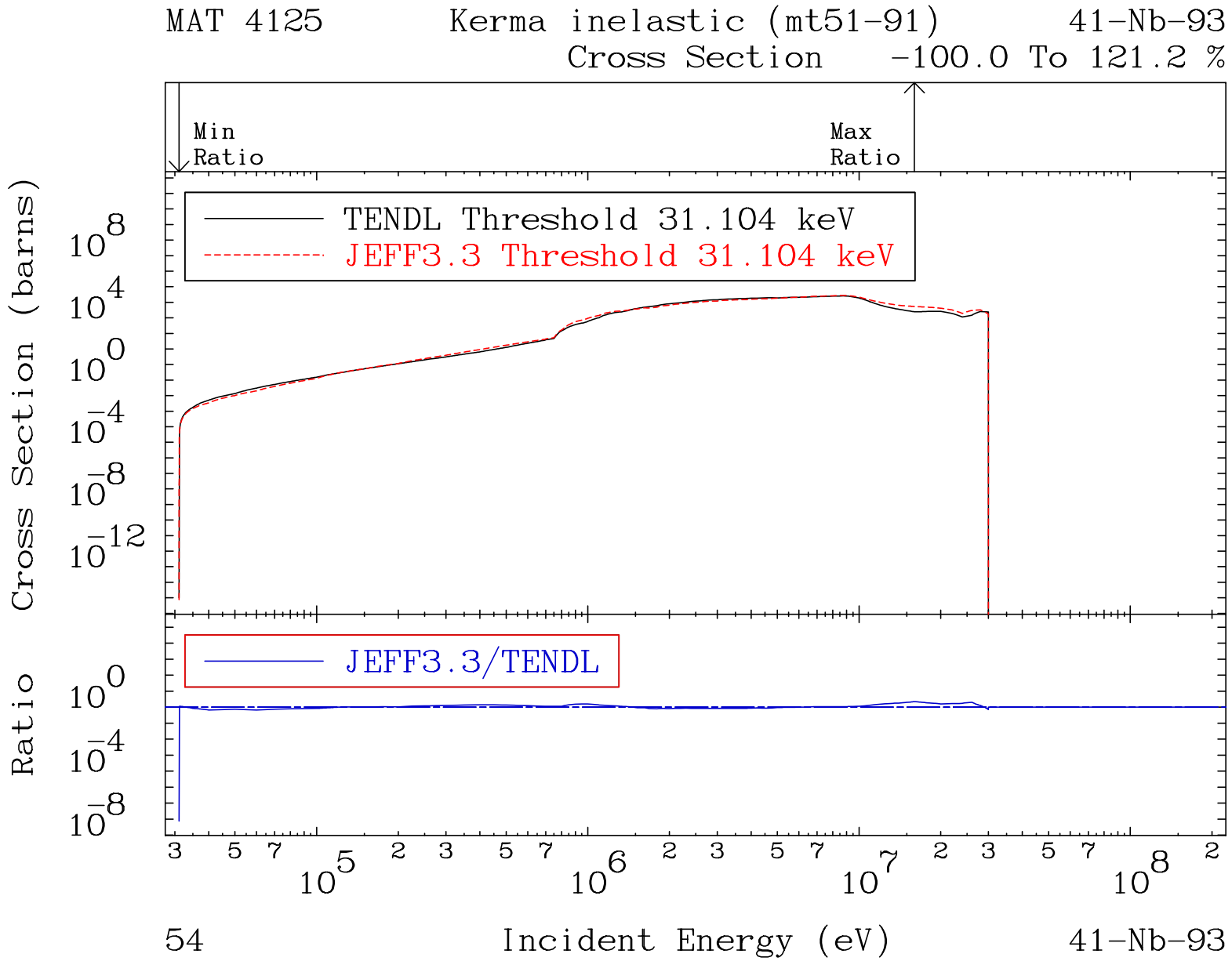

MAT 4125
(n,3n):41-Nb-91m1
41-Nb-93
Radionuclide Production Cross Section
-100.0 to 41.61 %
Min
Ratio
TENDL Threshold 17.005 MeV
JENDL5.0 Threshold 17.005 MeV
JENDL5.0/TENDL
160
120
80
40
0
2.0
1.0
0.0
RatioCross Section (milli-barns)
2
3
4
5
6
7
8
9
10^8
2
49
Incident Energy (eV)
41-Nb-93

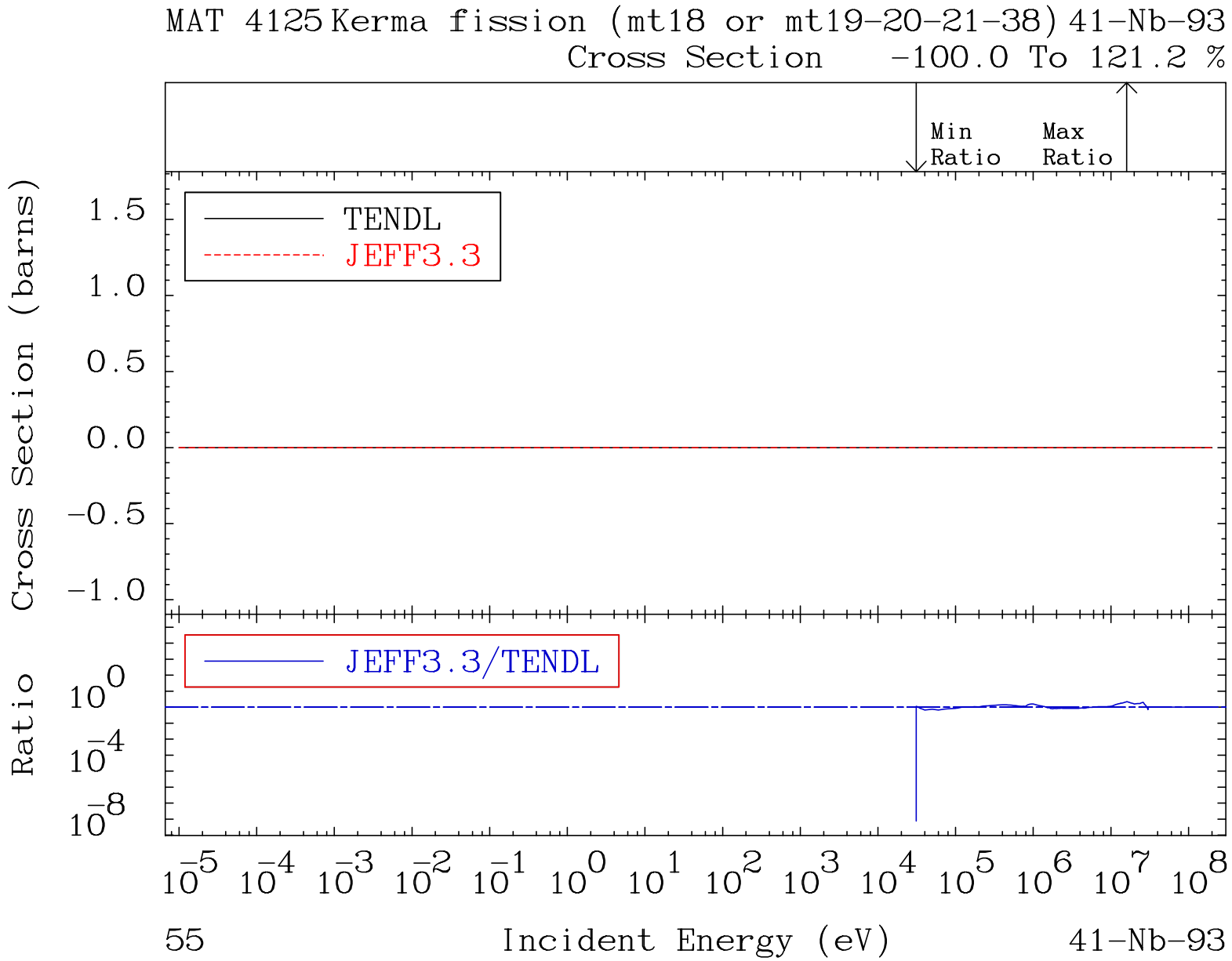

MAT 4125
(n,n') α:39-Y -89g
41-Nb-93
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.9475 MeV
JENDL5.0 Threshold 1.9497 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
50
41-Nb-93

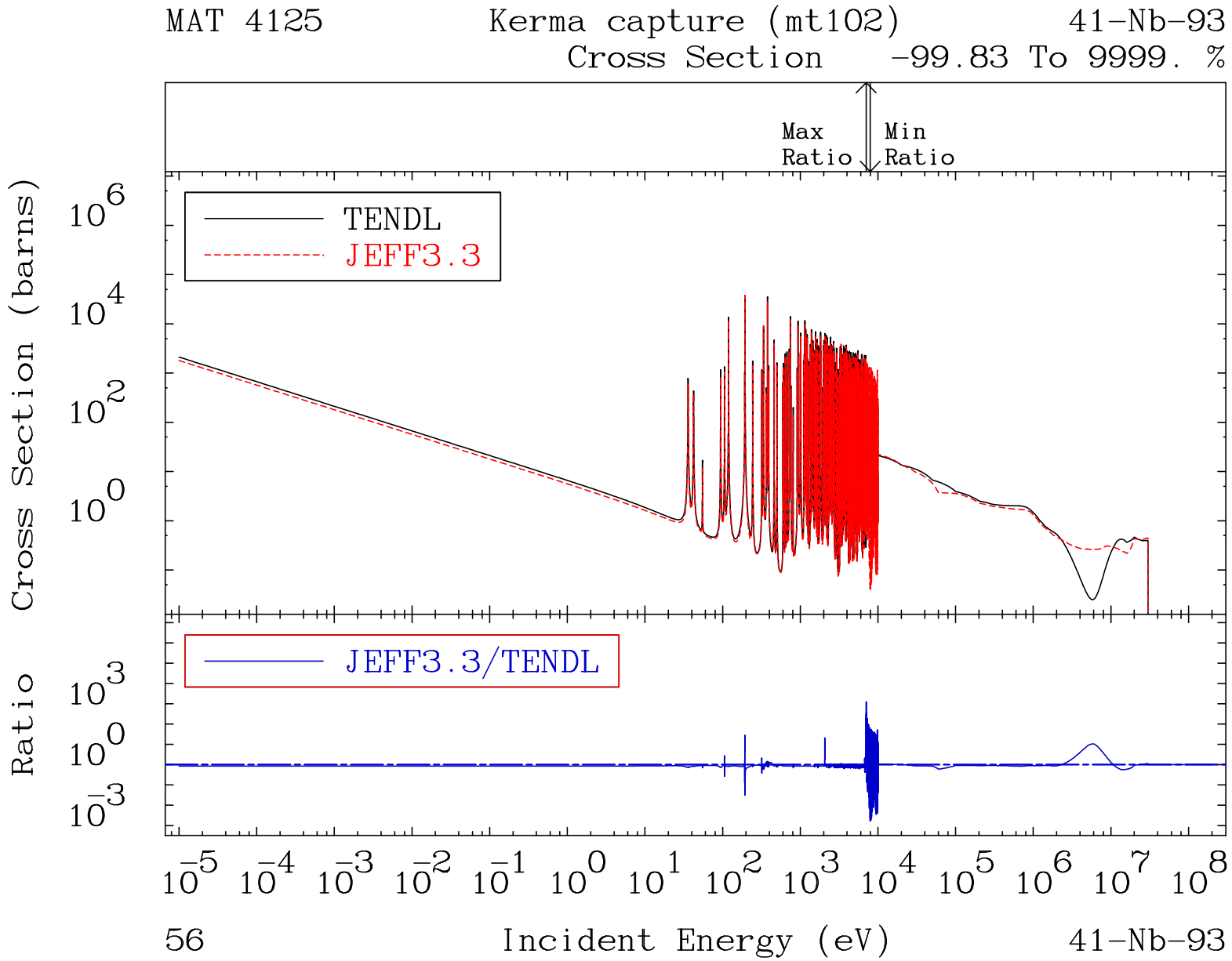

MAT 4125
(n,n') α:39-Y -89m1
41-Nb-93
Radionuclide Production Cross Section
Uncertainty 9999. %
Max Ratio
Min Ratio
TENDL Threshold 5.4000 MeV
JENDL5.0 Threshold 4.5000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
0.8
0.4
0.0
5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
51
Incident Energy (eV)
41-Nb-93

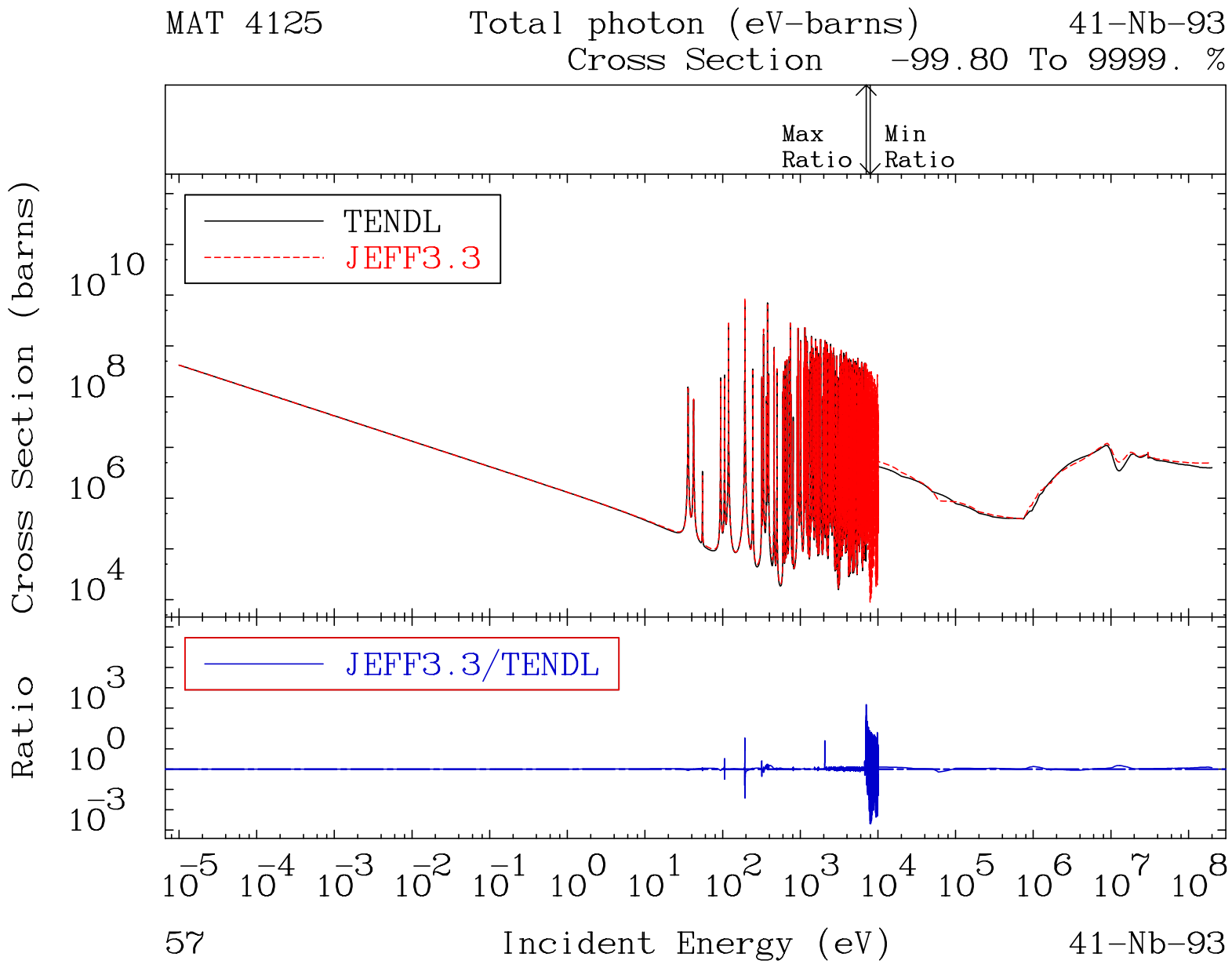

MAT 4125
(n,He-3):39-Y -91g
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 7.8052 MeV
JENDL5.0 Threshold 7.8052 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
52
41-Nb-93

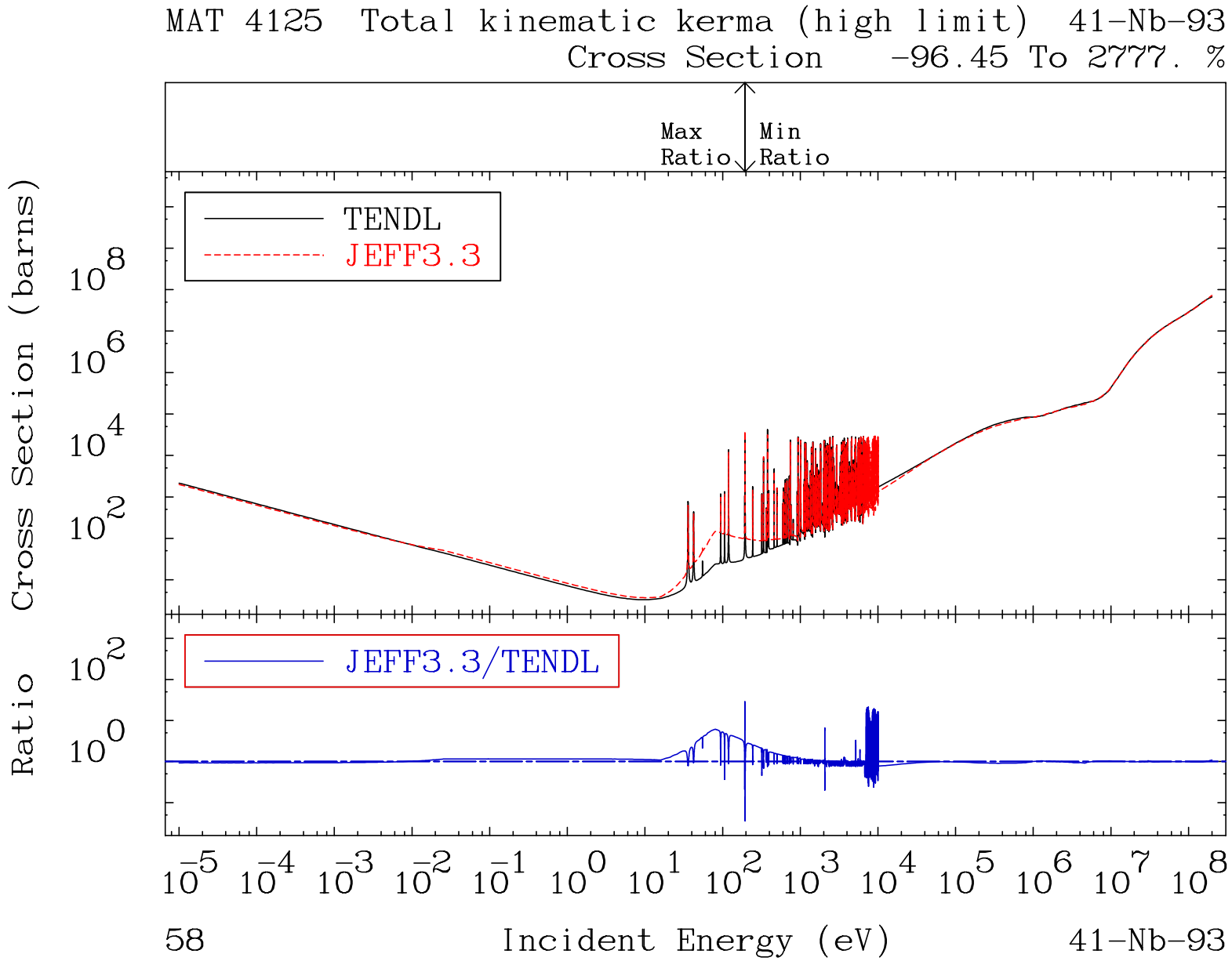

MAT 4125
(n,He-3):39-Y -91m1
41-Nb-93
Radionuclide Production Cross Section To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 11.000 MeV
JENDL5.0 Threshold 10.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
53
41-Nb-93

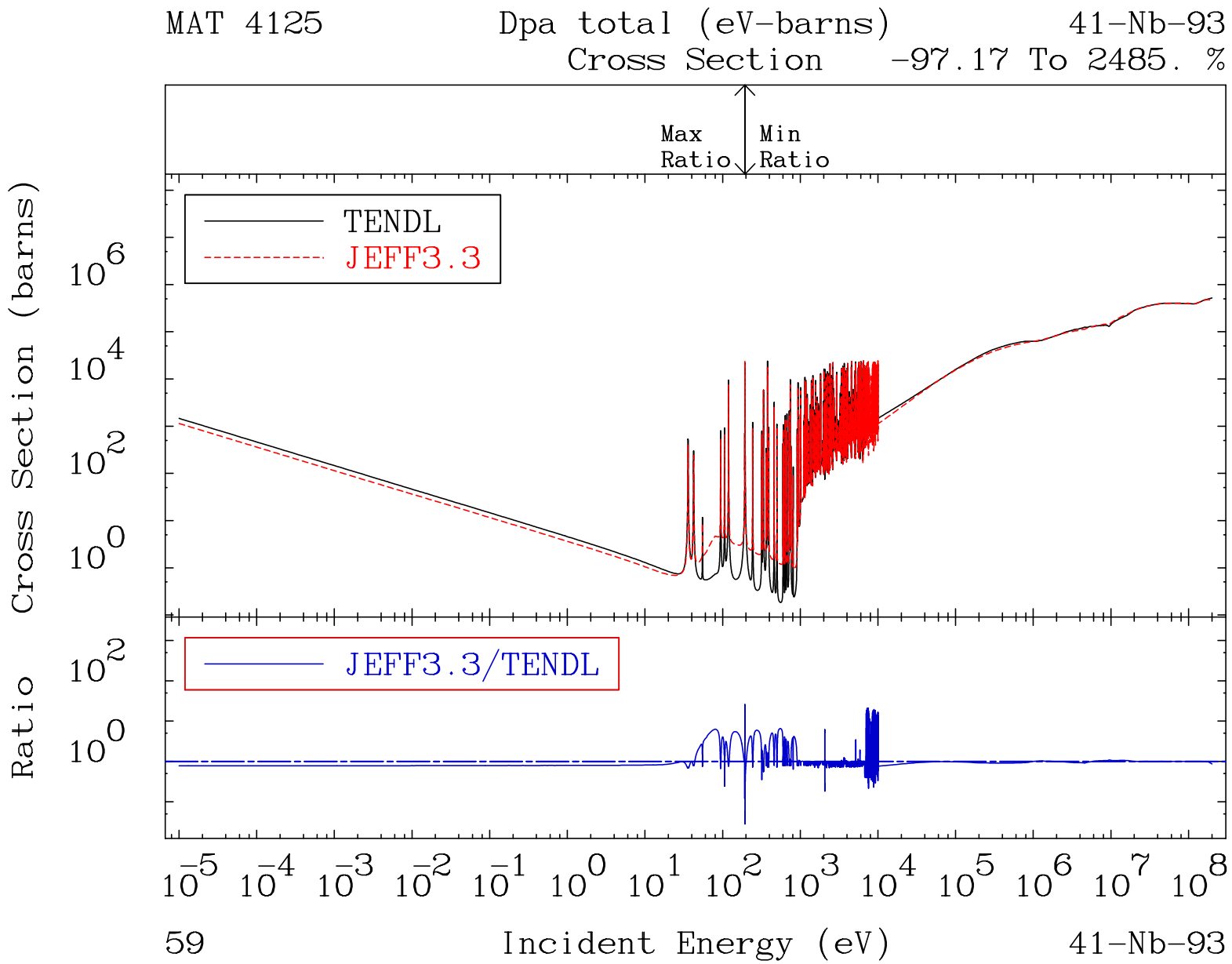

MAT 4125
Kerma inelastic (mt51-91)
41-Nb-93
Cross Section -100.0 To 121.2 %
Min Ratio
Max Ratio
TENDL Threshold 31.104 keV
JEFF3.3 Threshold 31.104 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
54
41-Nb-93

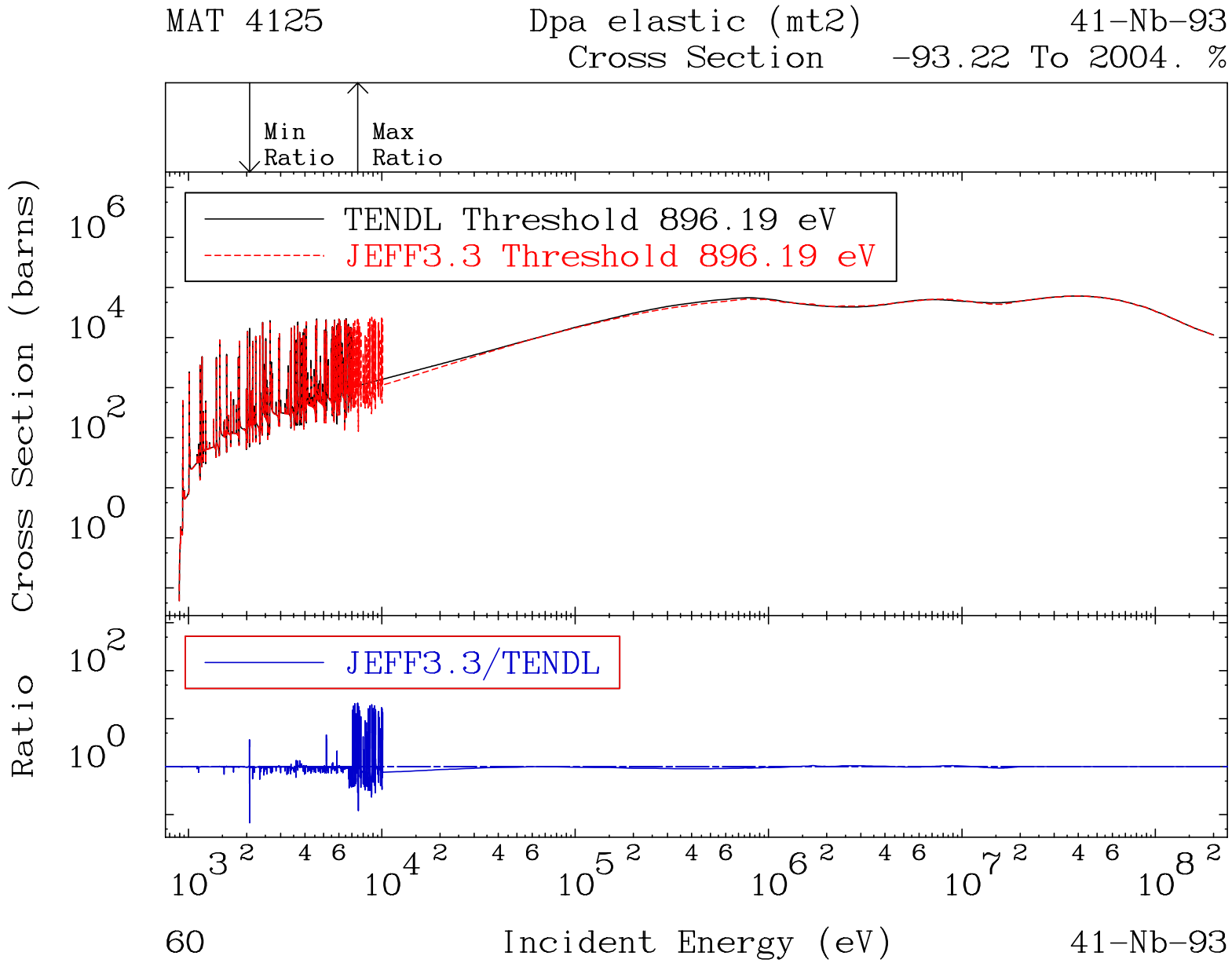

MAT 4125 Kerma fission (mt18 or mt19-20-21-38) 41-Nb-93
Cross Section -100.0 To 121.2 %
Min Ratio
Max Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{0}
10^{-4}
10^{-8}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
55
Incident Energy (eV)
41-Nb-93

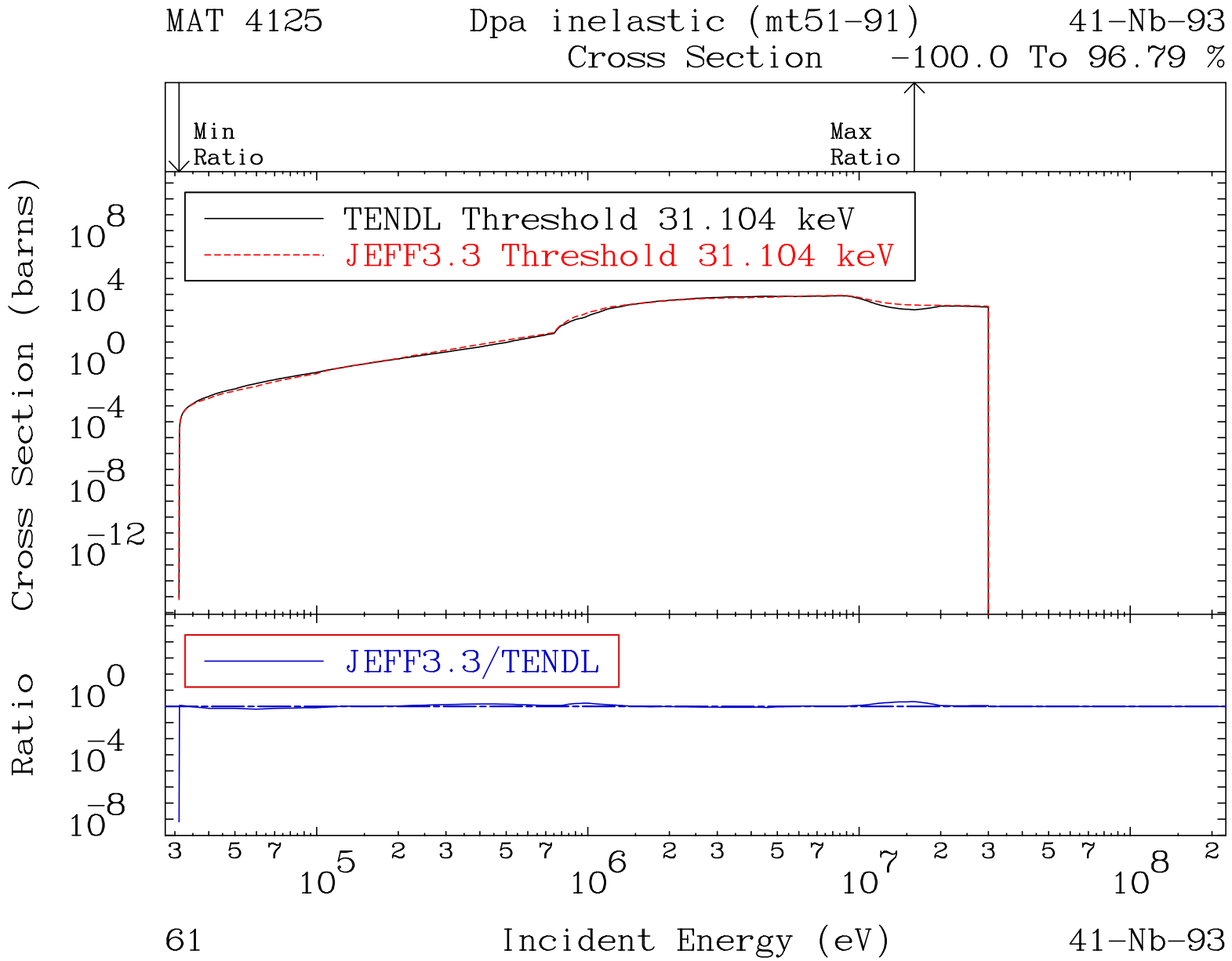

MAT 4125
Kerma capture (mt102)
41-Nb-93
Cross Section -99.83 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
56
41-Nb-93

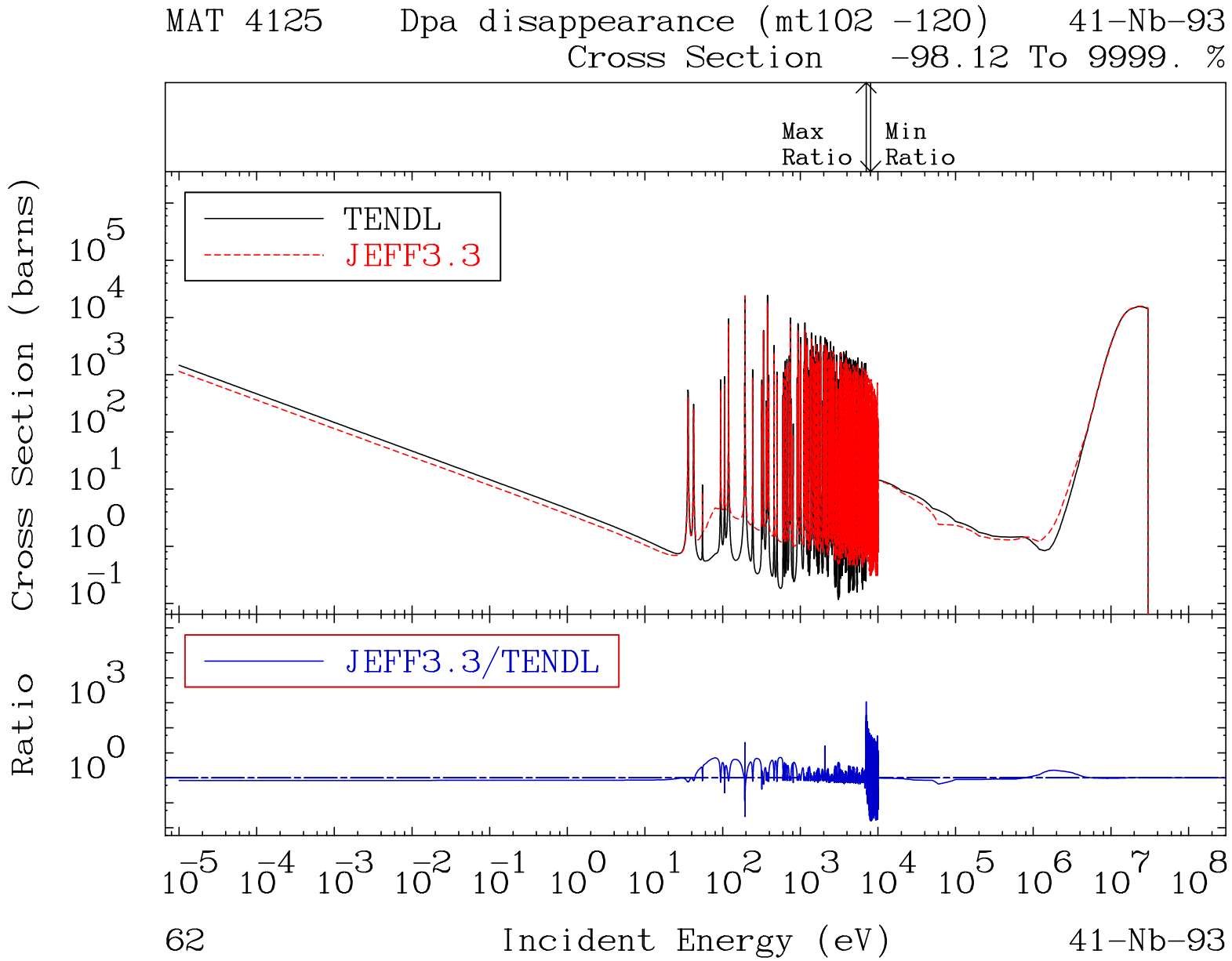

MAT 4125
Total photon (eV-barns)
41-Nb-93
Cross Section -99.80 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
57
41-Nb-93

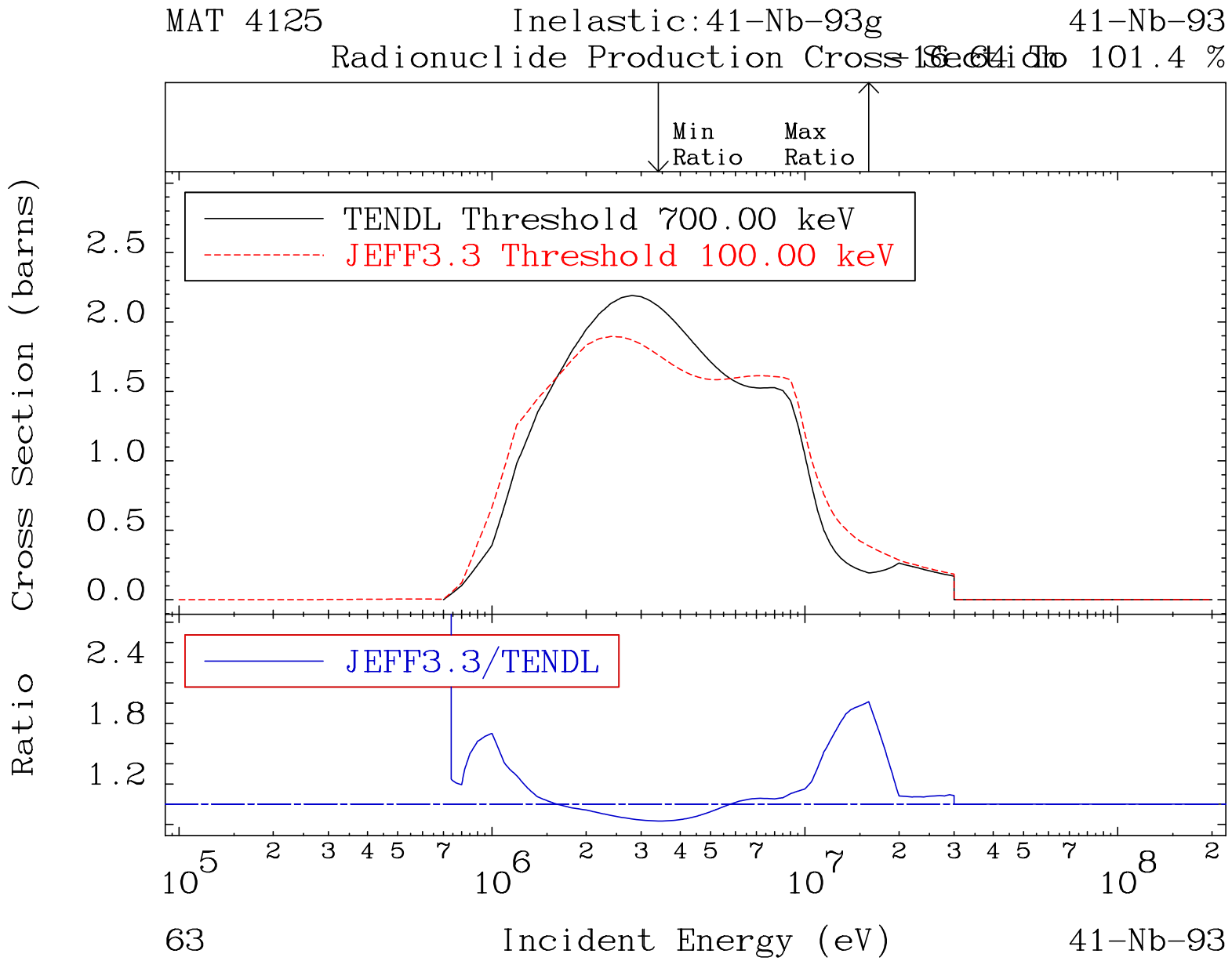

MAT 4125 Total kinematic kerma (high limit) 41-Nb-93
Cross Section -96.45 To 2777. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
58
41-Nb-93

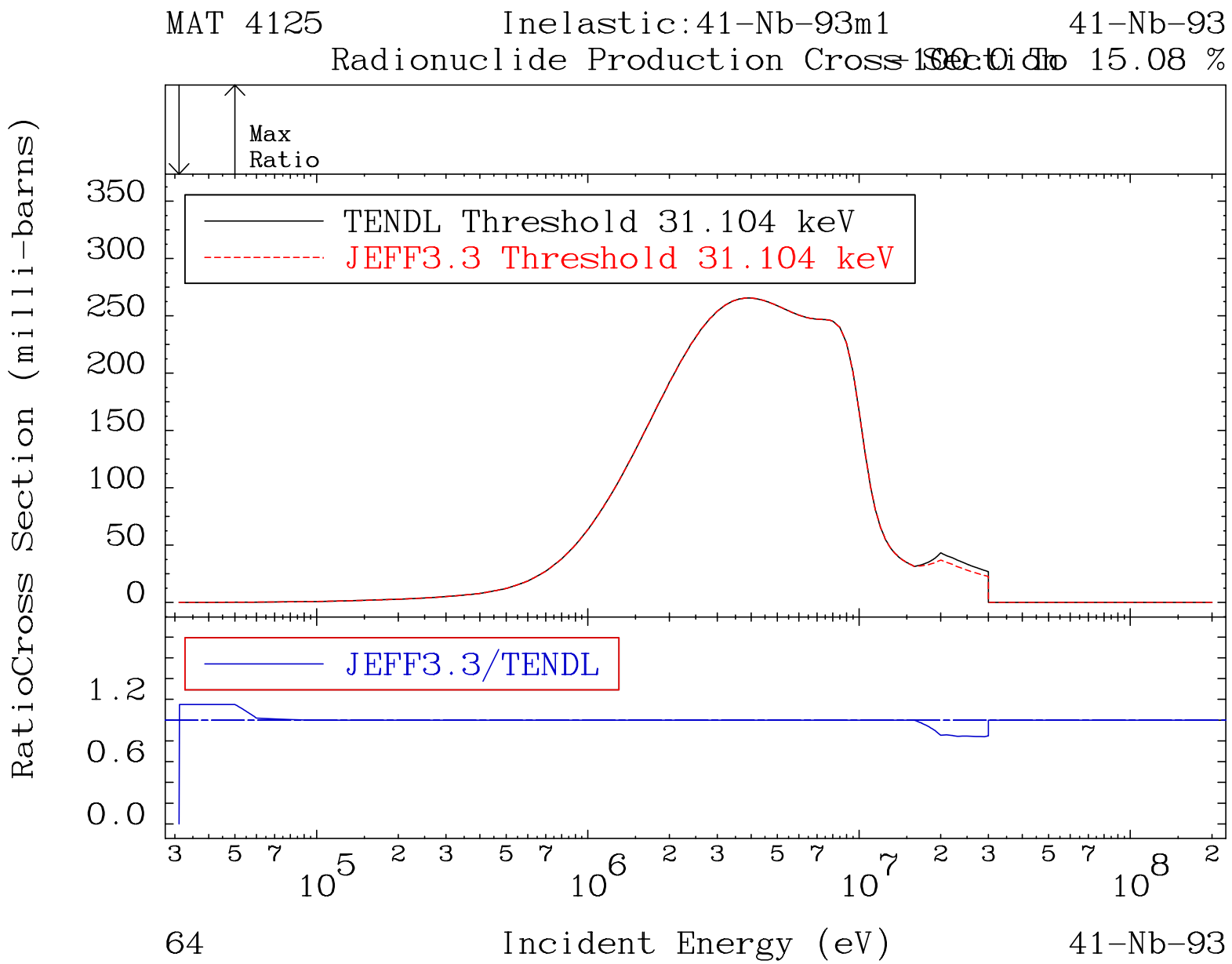

MAT 4125
Dpa total (eV-barns)
41-Nb-93
Cross Section -97.17 To 2485. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
59
41-Nb-93

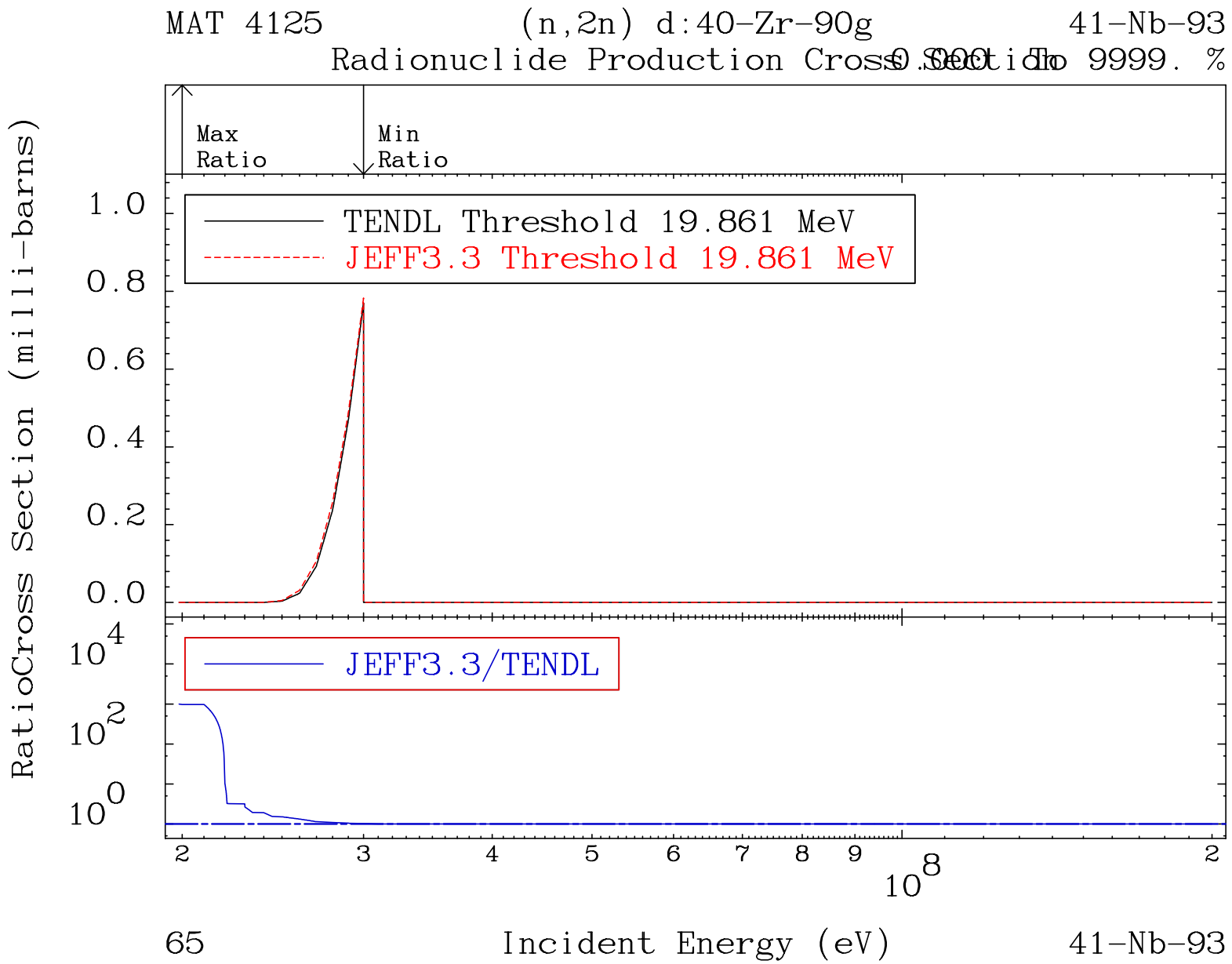

MAT 4125
Dpa elastic (mt2)
Cross Section
41-Nb-93
-93.22 To 2004. %
Min Ratio
Max Ratio
TENDL Threshold 896.19 eV
JEFF3.3 Threshold 896.19 eV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
60
41-Nb-93

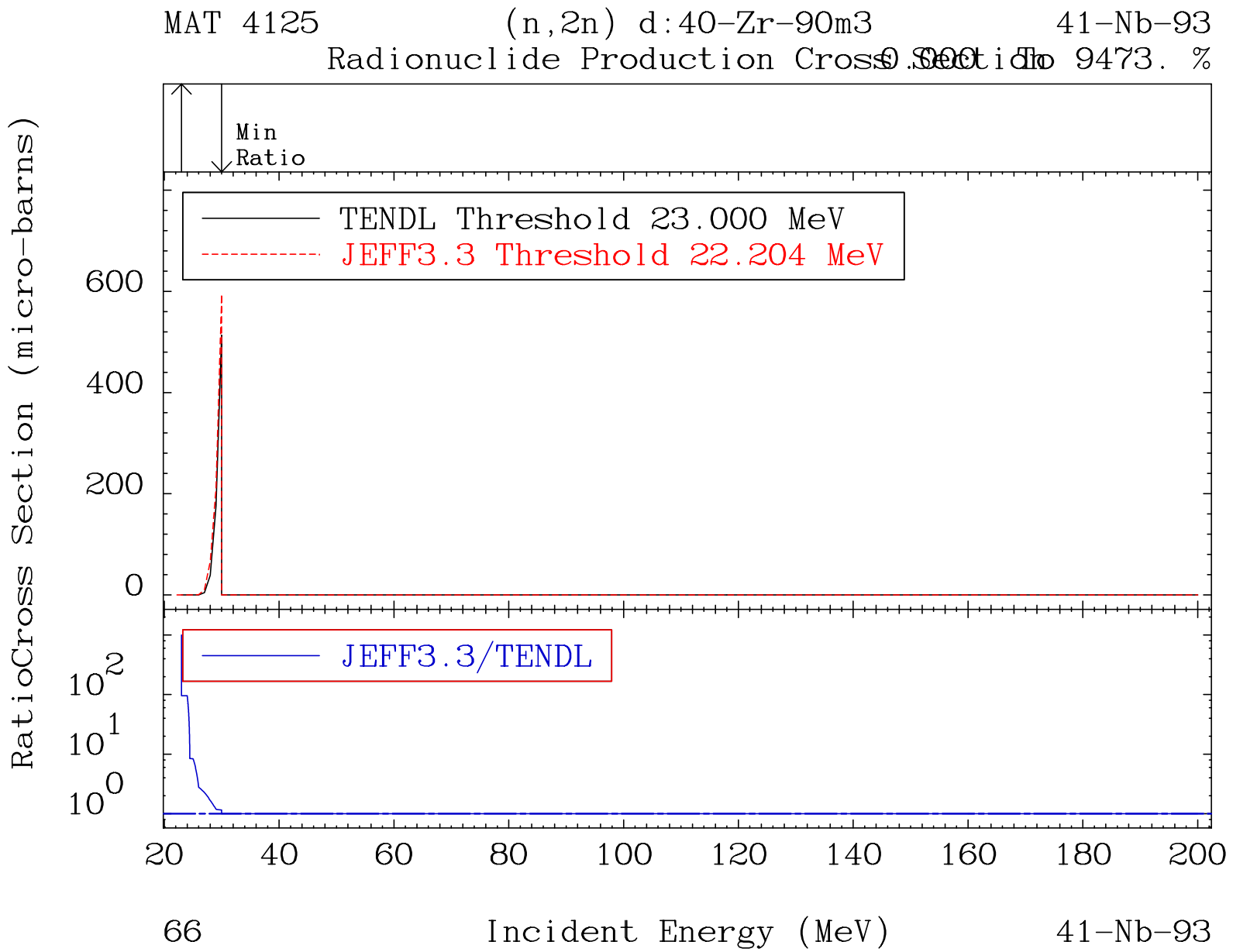

MAT 4125
Dpa inelastic (mt51-91)
41-Nb-93
Cross Section -100.0 To 96.79 %
Min Ratio
Max Ratio
TENDL Threshold 31.104 keV
JEFF3.3 Threshold 31.104 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
61
41-Nb-93

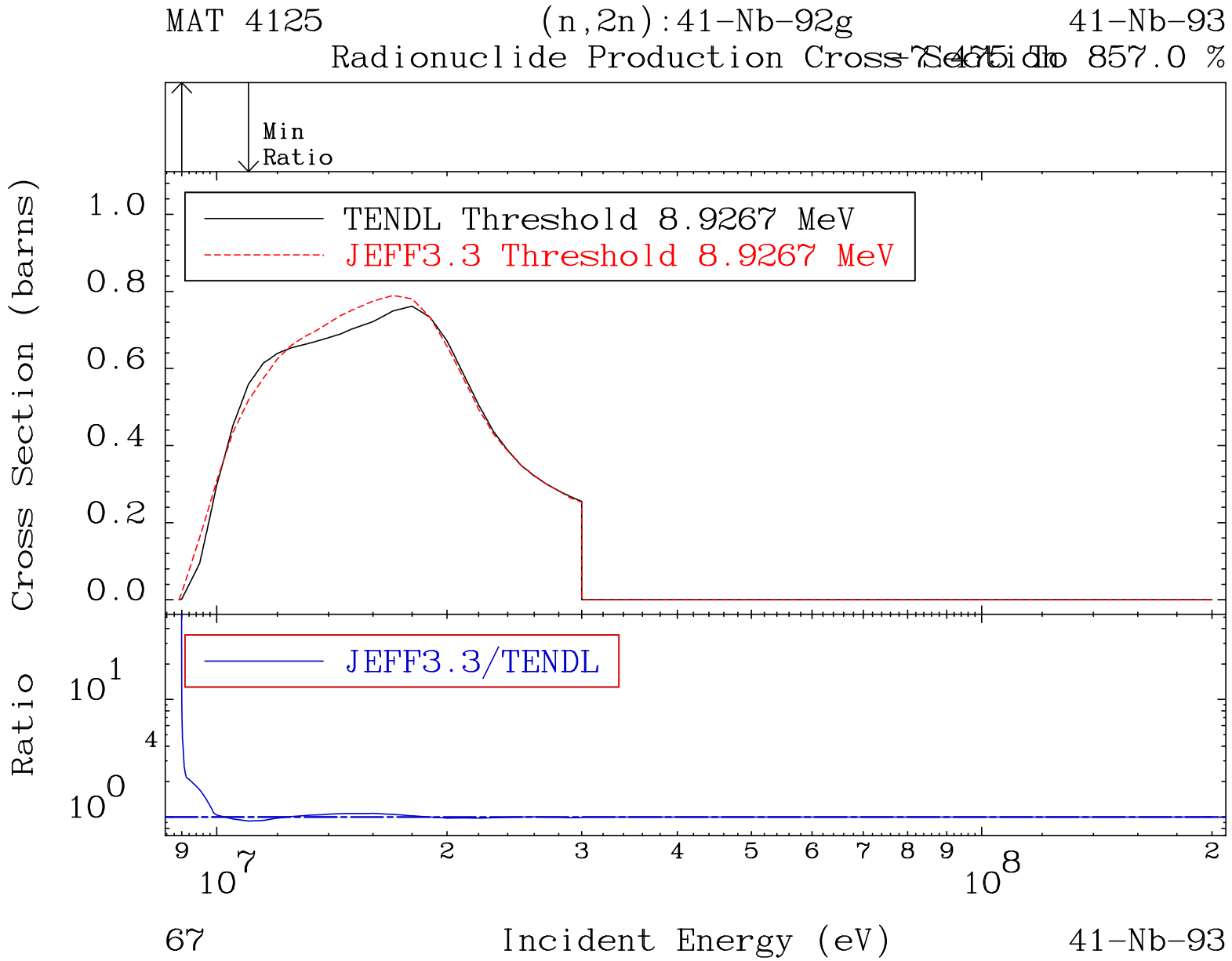

MAT 4125 Dpa disappearance (mt102 -120) 41-Nb-93
Cross Section -98.12 To 9999. %
Max Ratio
Min Ratio
TENDL
JEFF3.3
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
62
41-Nb-93

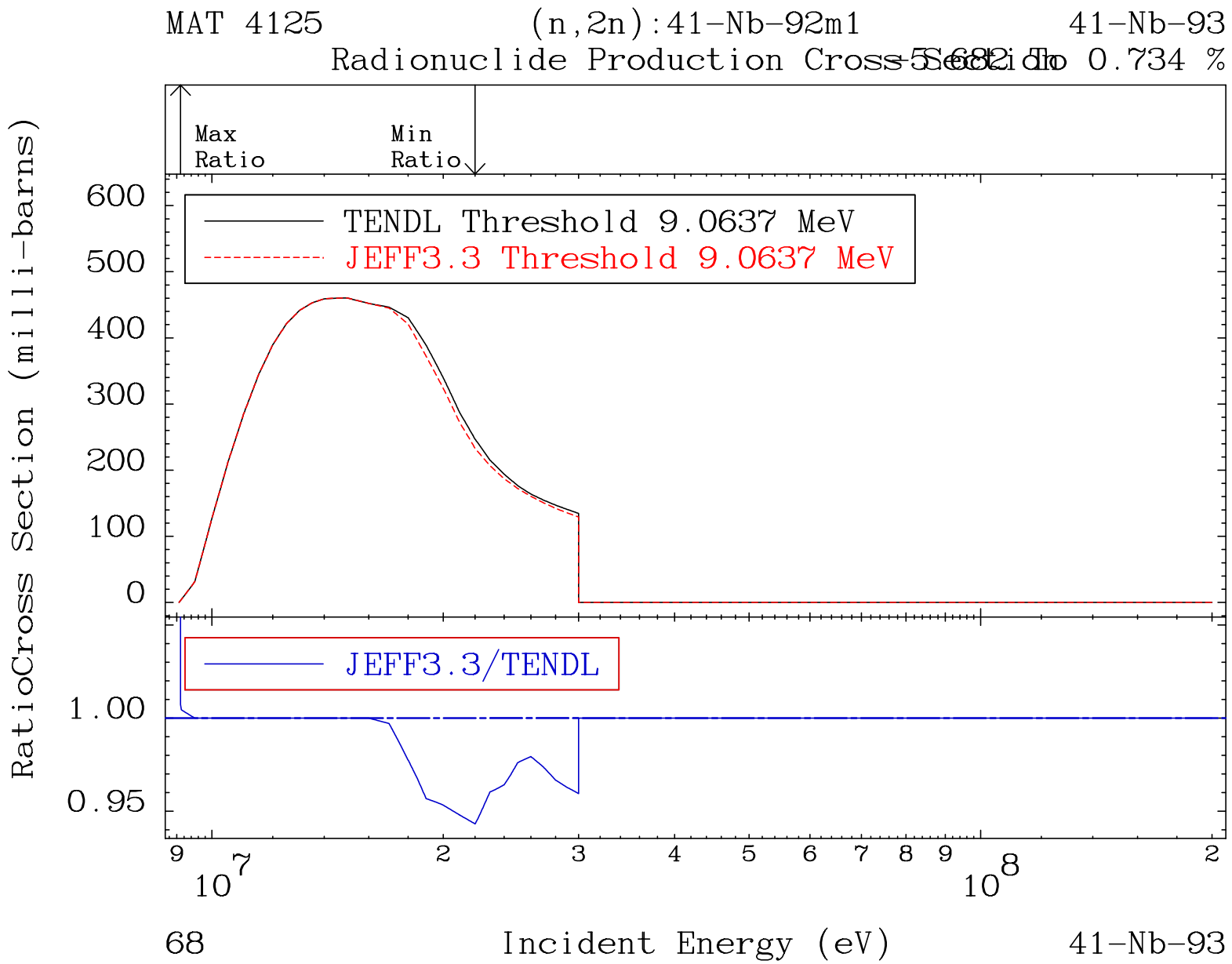

MAT 4125
Inelastic:41-Nb-93g
41-Nb-93
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 700.00 keV
JEFF3.3 Threshold 100.00 keV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
63
41-Nb-93

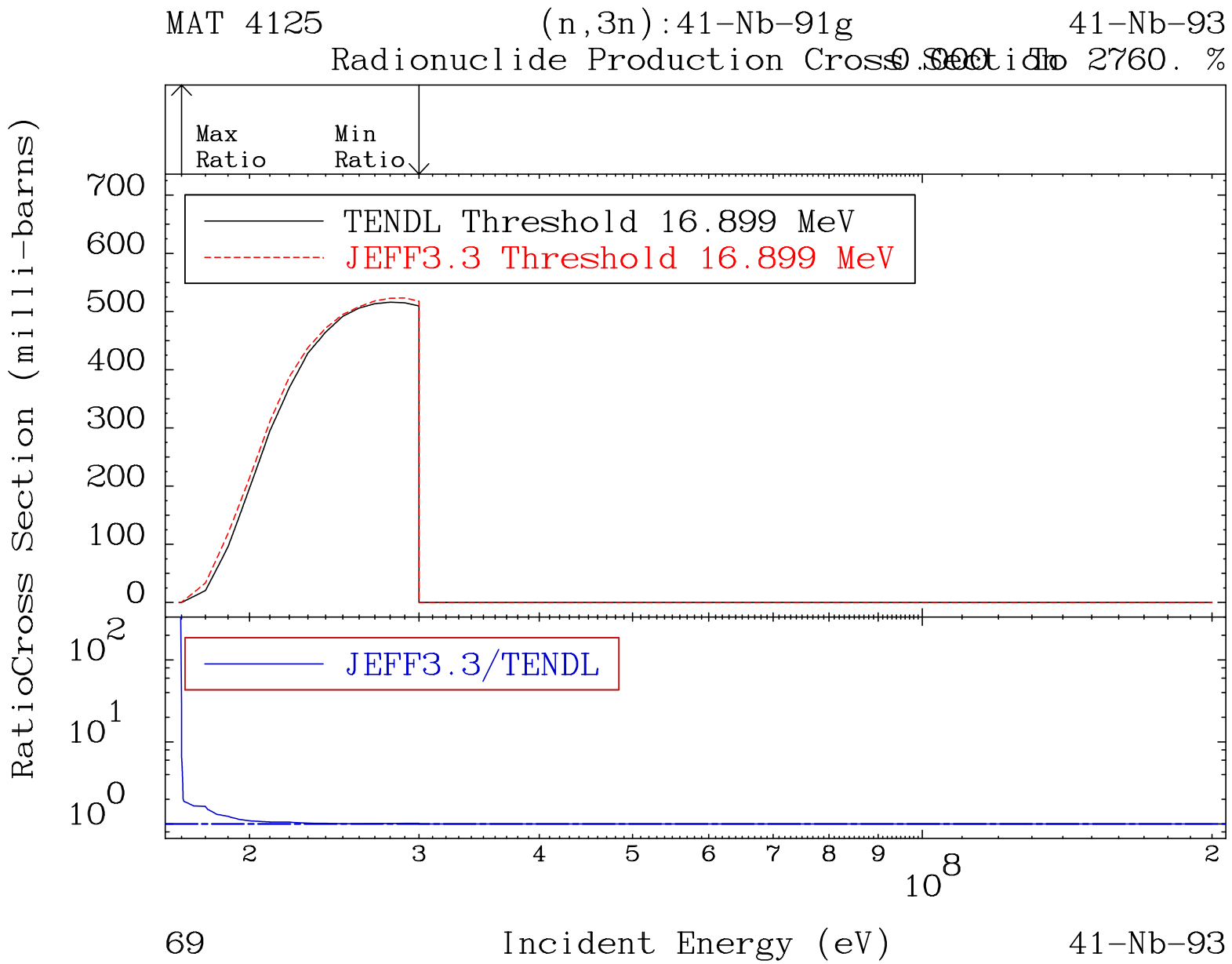

MAT 4125
Inelastic:41-Nb-93m1
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
TENDL Threshold 31.104 keV
JEFF3.3 Threshold 31.104 keV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
1.2
0.6
0.0
3 5 7 10^5 2 3 5 7 10^6 2 3 5 7 10^7 2 3 5 7 10^8 2
64
Incident Energy (eV)
41-Nb-93

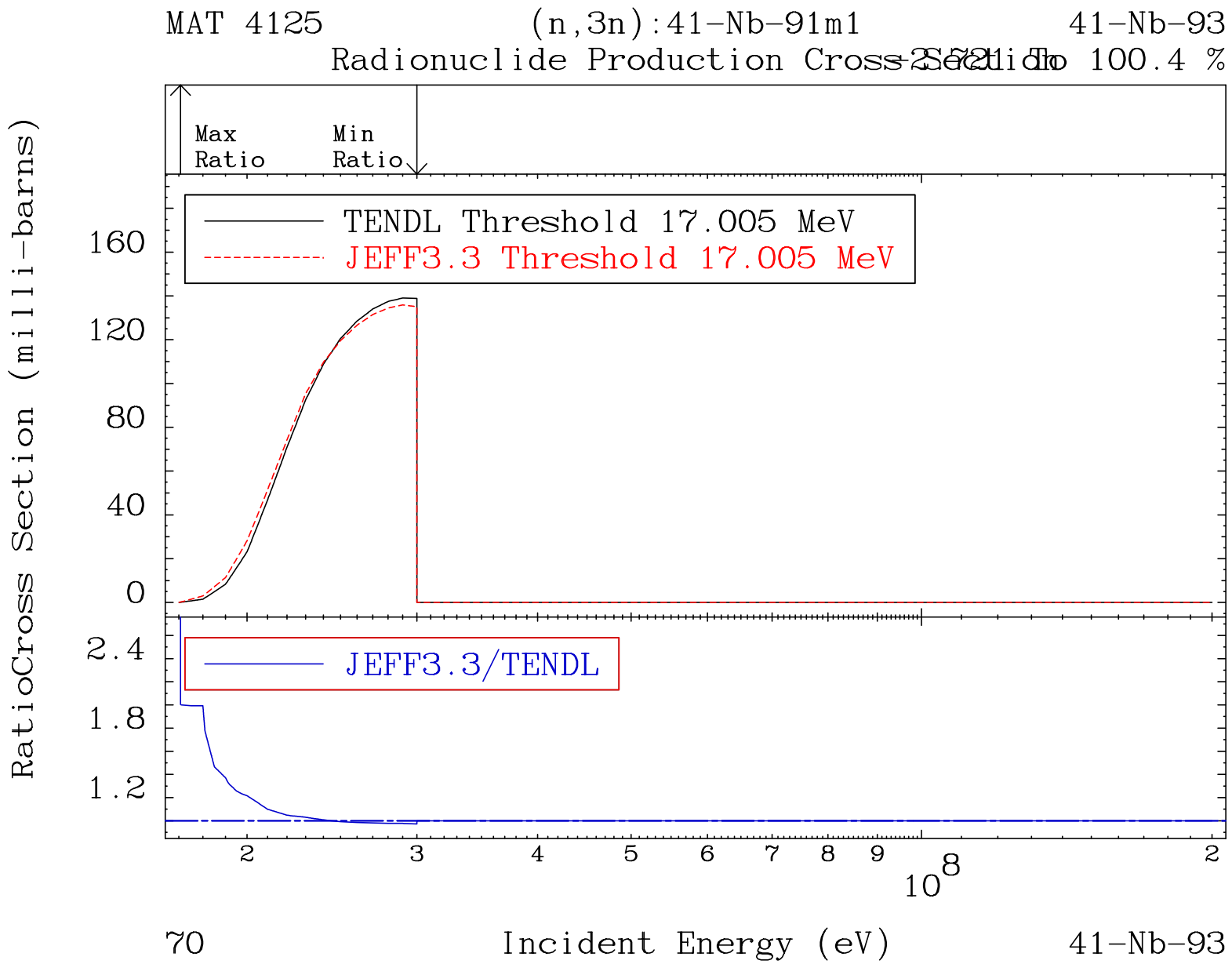

MAT 4125
(n,2n) d:40-Zr-90g
41-Nb-93
Radionuclide Production Cross Section
0.000 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 19.861 MeV
JEFF3.3 Threshold 19.861 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
65
Incident Energy (eV)
41-Nb-93

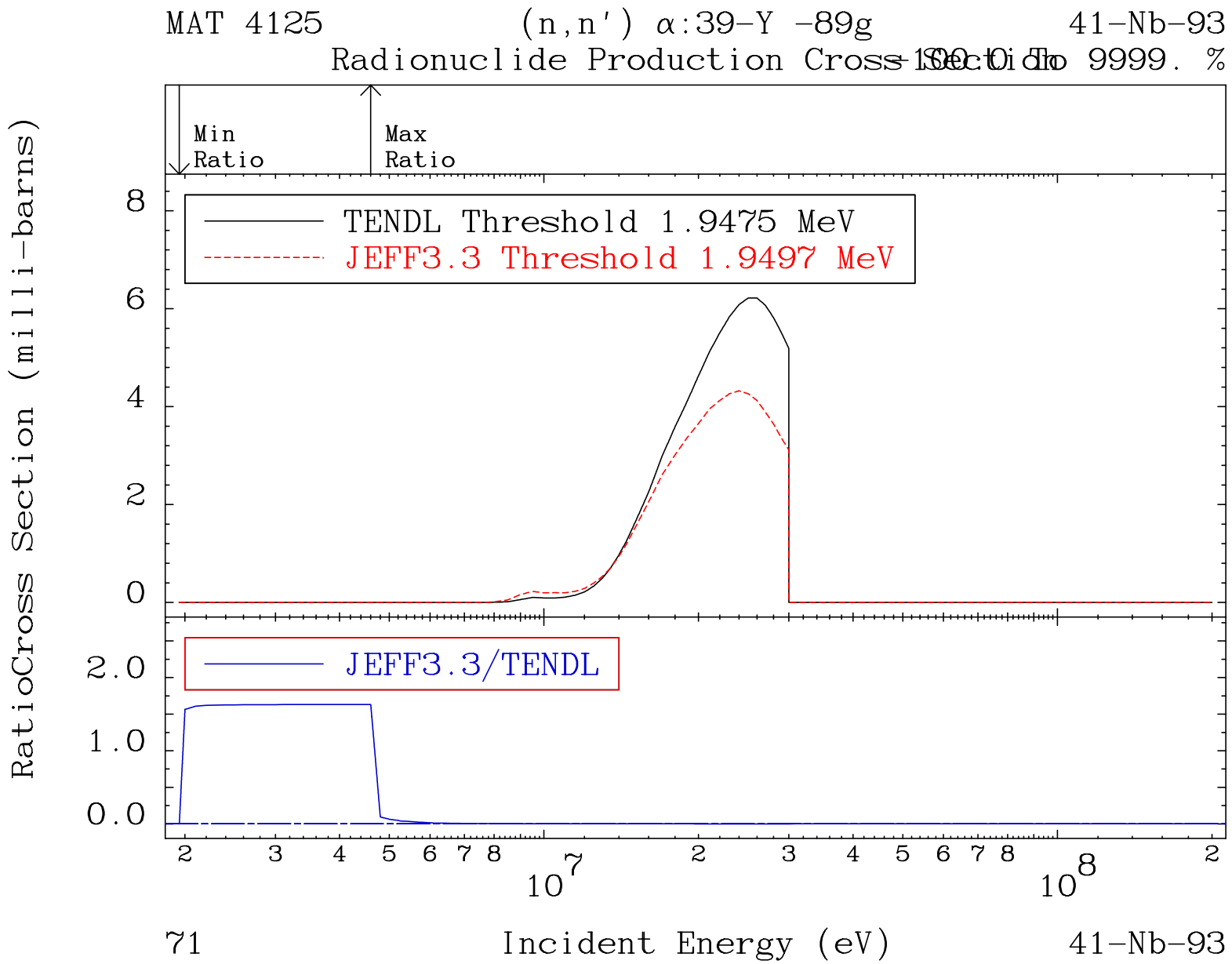

MAT 4125
(n,2n) d:40-Zr-90m3
41-Nb-93
Radionuclide Production Cross Section
0.000 To 9473. %
Min
Ratio
TENDL Threshold 23.000 MeV
JEFF3.3 Threshold 22.204 MeV
600
400
200
0
JEFF3.3/TENDL
10^2
10^1
10^0
RatioCross Section (micro-barns)
20
40
60
80
100
120
140
160
180
200
66
Incident Energy (MeV)
41-Nb-93

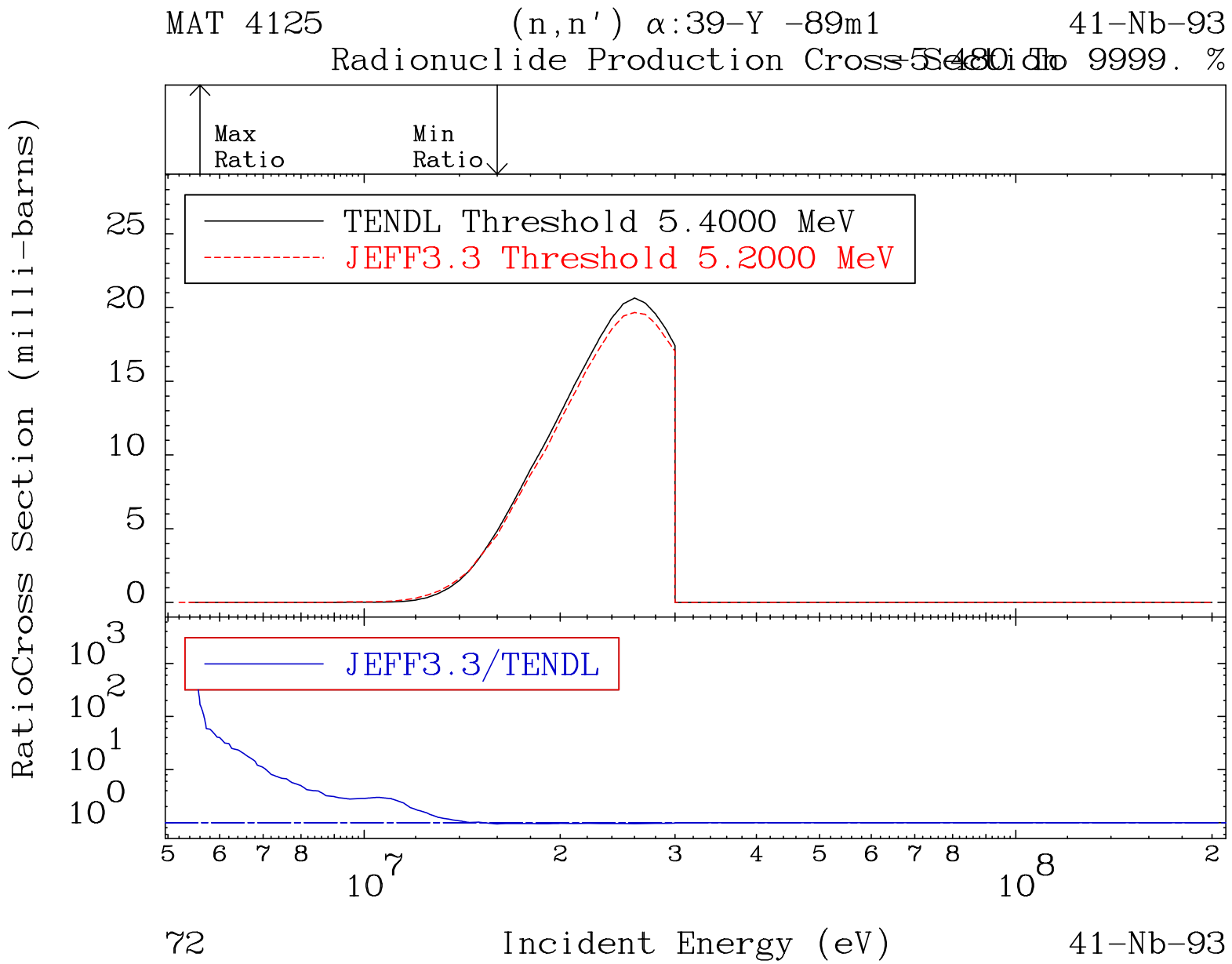

MAT 4125
(n,2n):41-Nb-92g
41-Nb-93
Radionuclide Production Cross Section
Min
Ratio
TENDL Threshold 8.9267 MeV
JEFF3.3 Threshold 8.9267 MeV
JEFF3.3/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
67
41-Nb-93

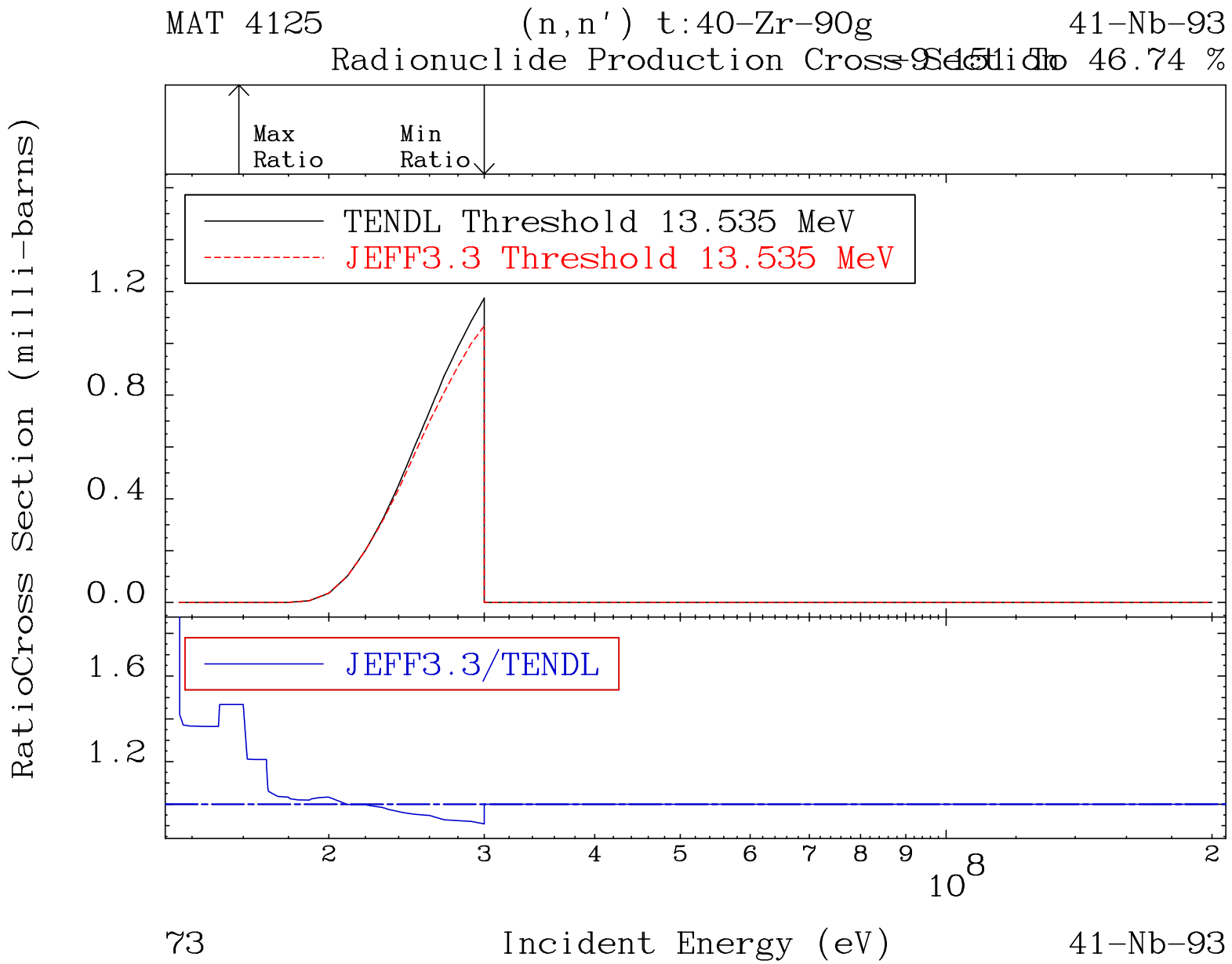

MAT 4125
(n,2n):41-Nb-92m1
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 9.0637 MeV
JEFF3.3 Threshold 9.0637 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
600
500
400
300
200
100
0
1.00
0.95
9
10^7
2
3
4
5
6
7
8
9
10^8
2
68
Incident Energy (eV)
41-Nb-93

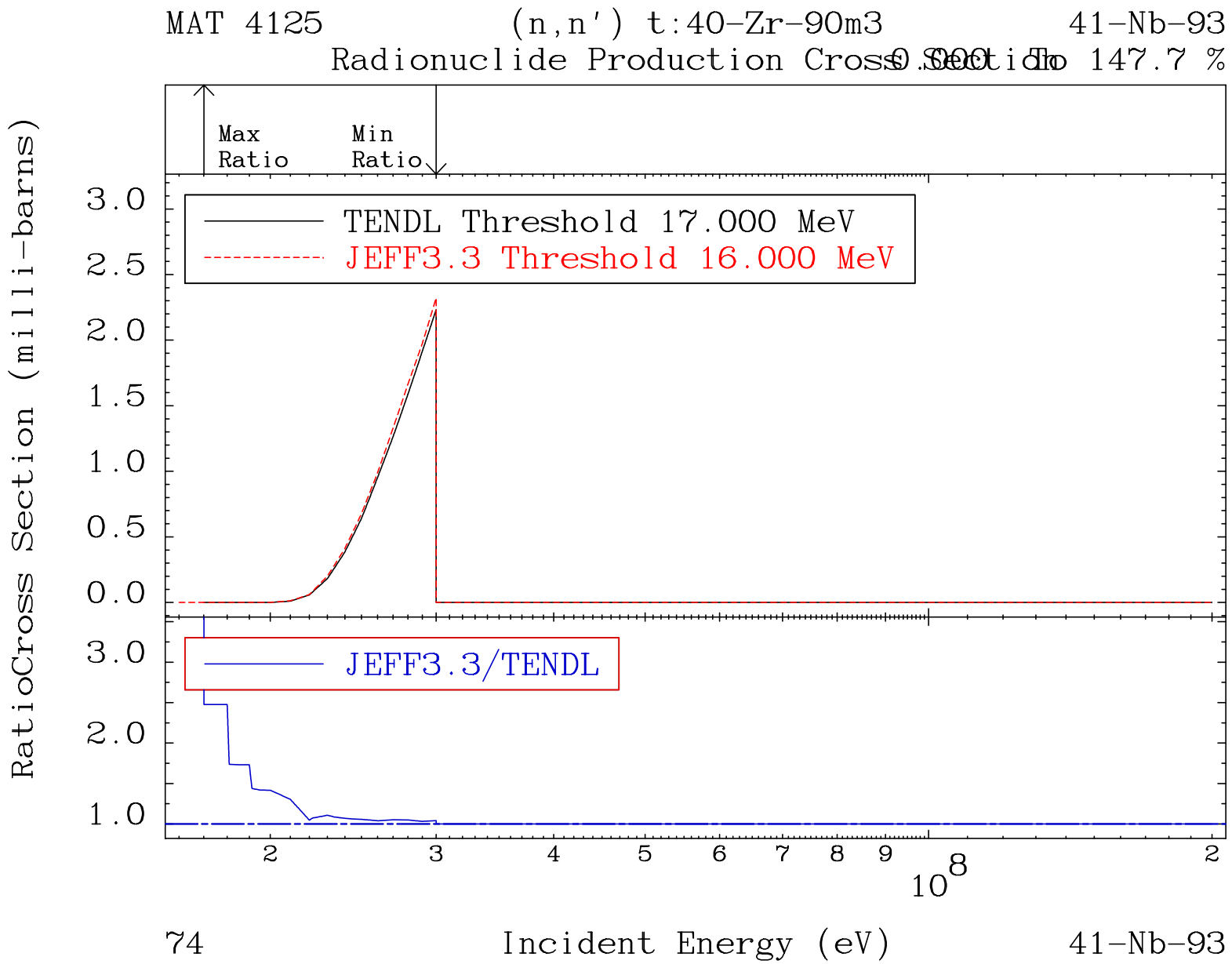

MAT 4125
(n,3n):41-Nb-91g
41-Nb-93
Radionuclide Production Cross Section
0.000 To 2760. %
Max Ratio
Min Ratio
TENDL Threshold 16.899 MeV
JEFF3.3 Threshold 16.899 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
69
Incident Energy (eV)
41-Nb-93

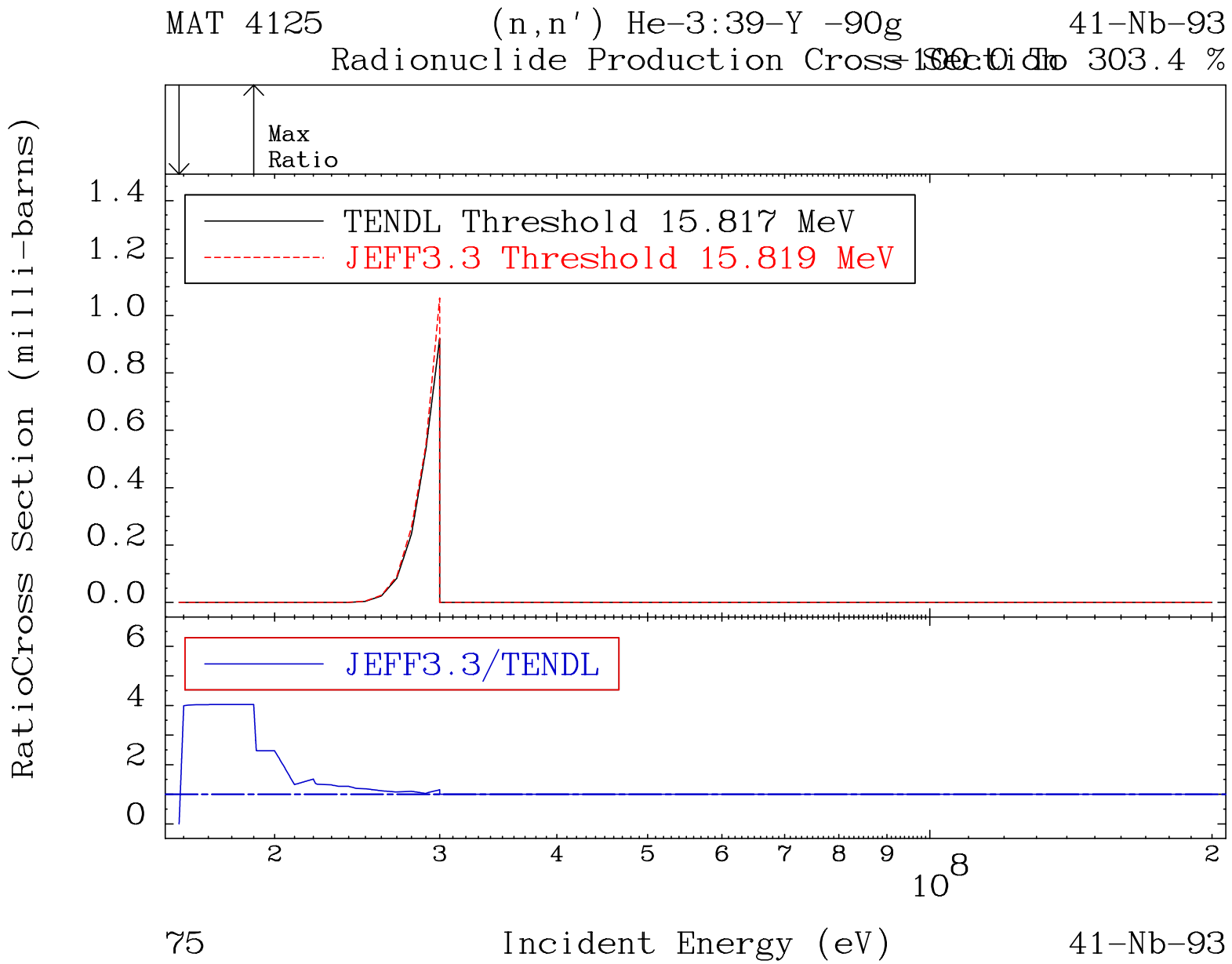

MAT 4125
(n,3n):41-Nb-91m1
41-Nb-93
Radionuclide Production Cross Section To 100.4 %
Max Ratio
Min Ratio
TENDL Threshold 17.005 MeV
JEFF3.3 Threshold 17.005 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
2.4
1.8
1.2
2
3
4
5
6
7
8
9
10^8
2
70
Incident Energy (eV)
41-Nb-93

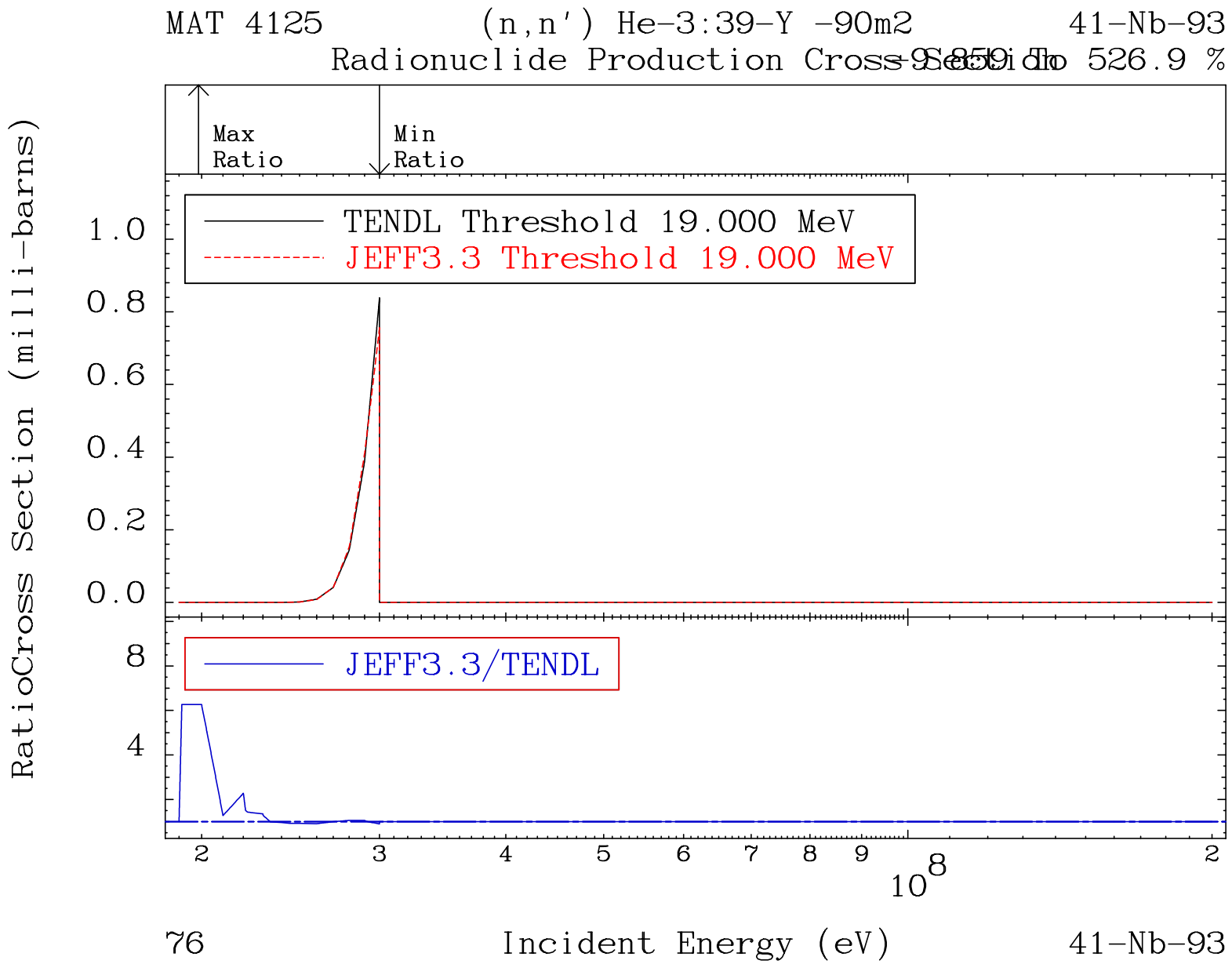

MAT 4125
(n,n') α:39-Y -89g
41-Nb-93
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.9475 MeV
JEFF3.3 Threshold 1.9497 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
71
41-Nb-93

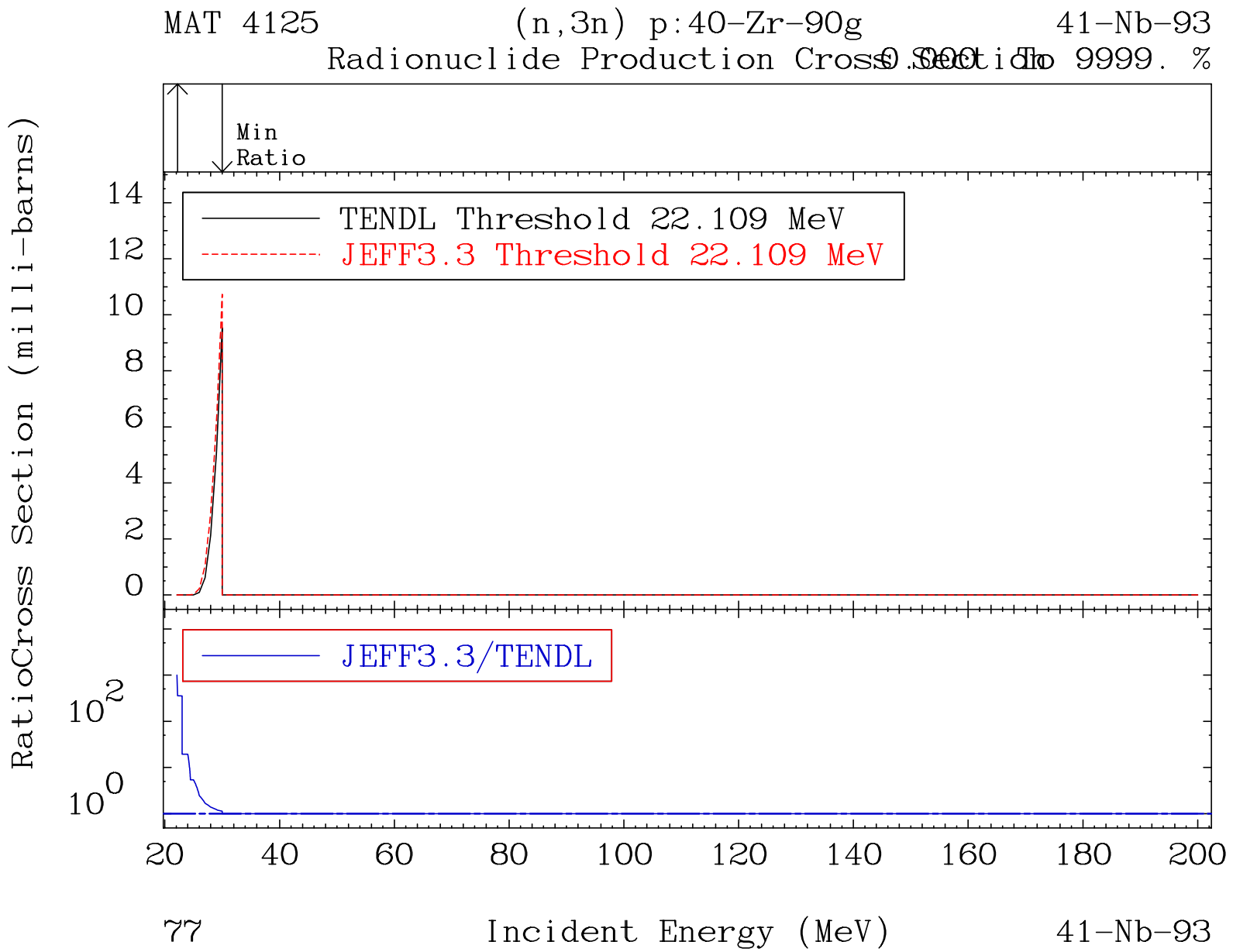

MAT 4125
(n,n') α:39-Y -89m1
41-Nb-93
Radionuclide Production Cross-Section
Max Ratio
Min Ratio
TENDL Threshold 5.4000 MeV
JEFF3.3 Threshold 5.2000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
72
41-Nb-93

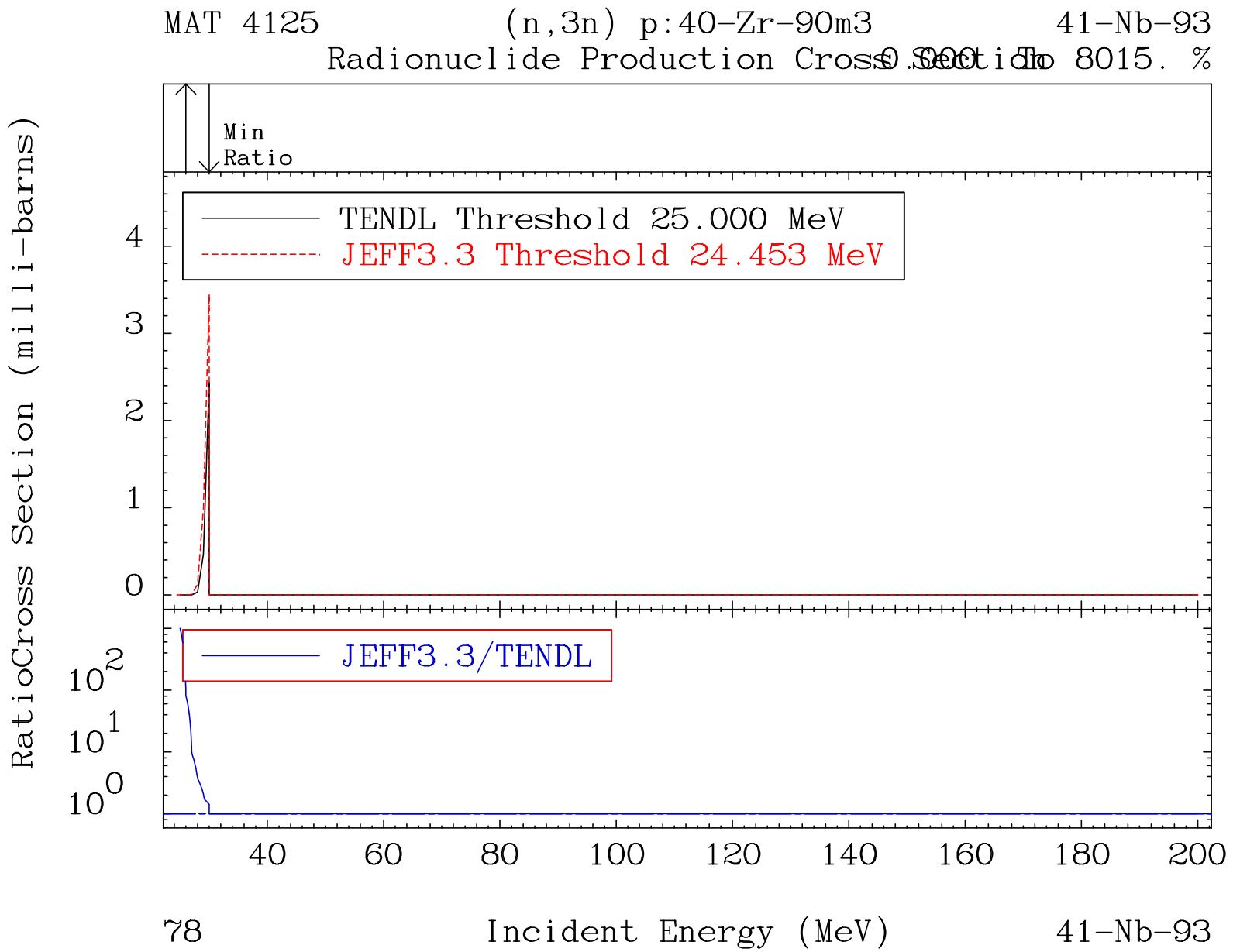

MAT 4125
(n,n') t:40-Zr-90g
41-Nb-93
Radionuclide Production Cross Section To 46.74 %
Max Ratio
Min Ratio
TENDL Threshold 13.535 MeV
JEFF3.3 Threshold 13.535 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.2
0.8
0.4
0.0
1.6
1.2
2
3
4
5
6
7
8
9
10^8
2
73
Incident Energy (eV)
41-Nb-93

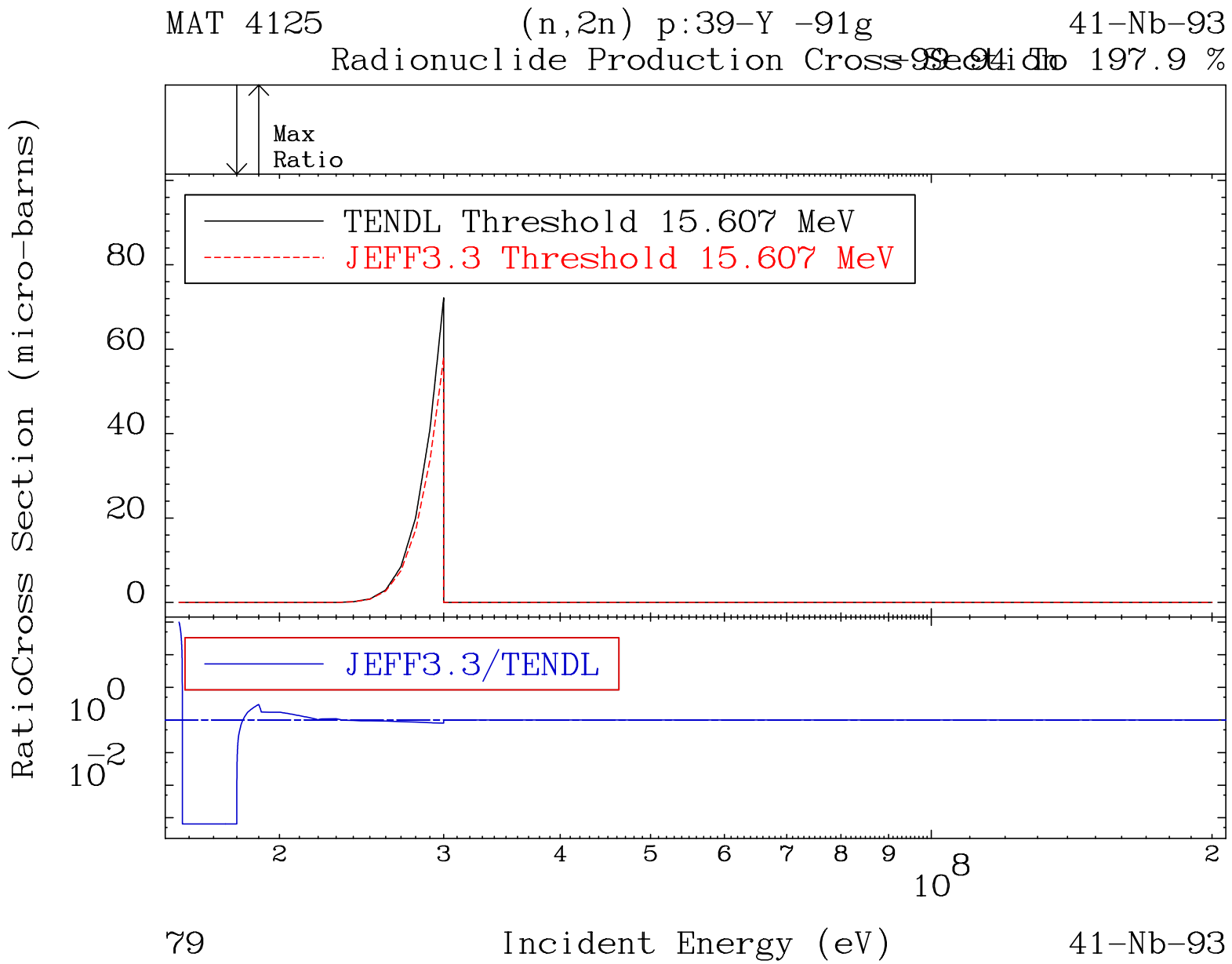

MAT 4125
(n,n') t:40-Zr-90m3
41-Nb-93
Radionuclide Production Cross Section
0.000 To 147.7 %
Max Ratio
Min Ratio
TENDL Threshold 17.000 MeV
JEFF3.3 Threshold 16.000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2
3
4
5
6
7
8
9
10^8
2
74
Incident Energy (eV)
41-Nb-93

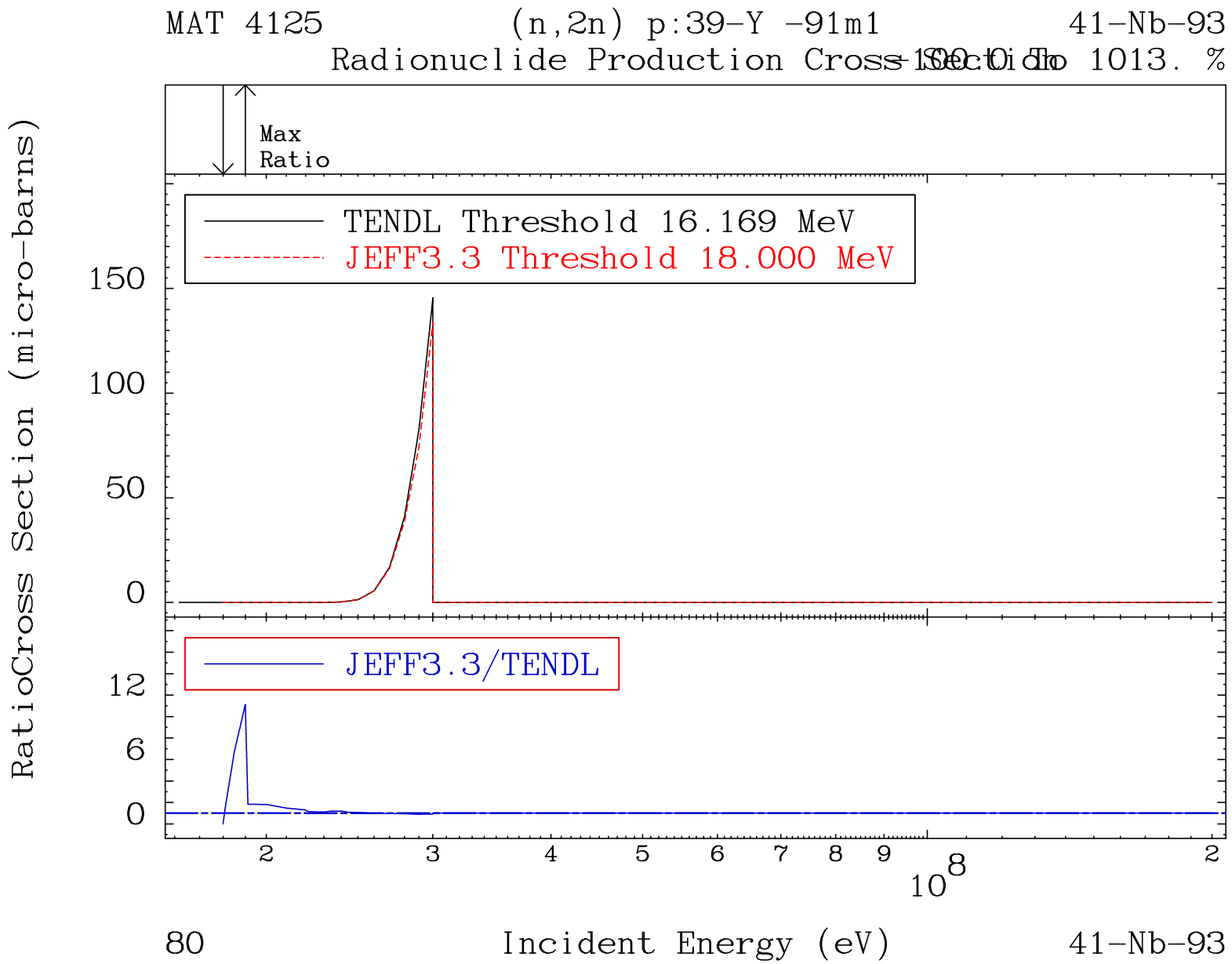

MAT 4125
(n,n') He-3:39-Y -90g
41-Nb-93
Radionuclide Production Cross Section To 303.4 %
Max
Ratio
TENDL Threshold 15.817 MeV
JEFF3.3 Threshold 15.819 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
6
4
2
0
2
3
4
5
6
7
8
9
10^8
2
75
Incident Energy (eV)
41-Nb-93

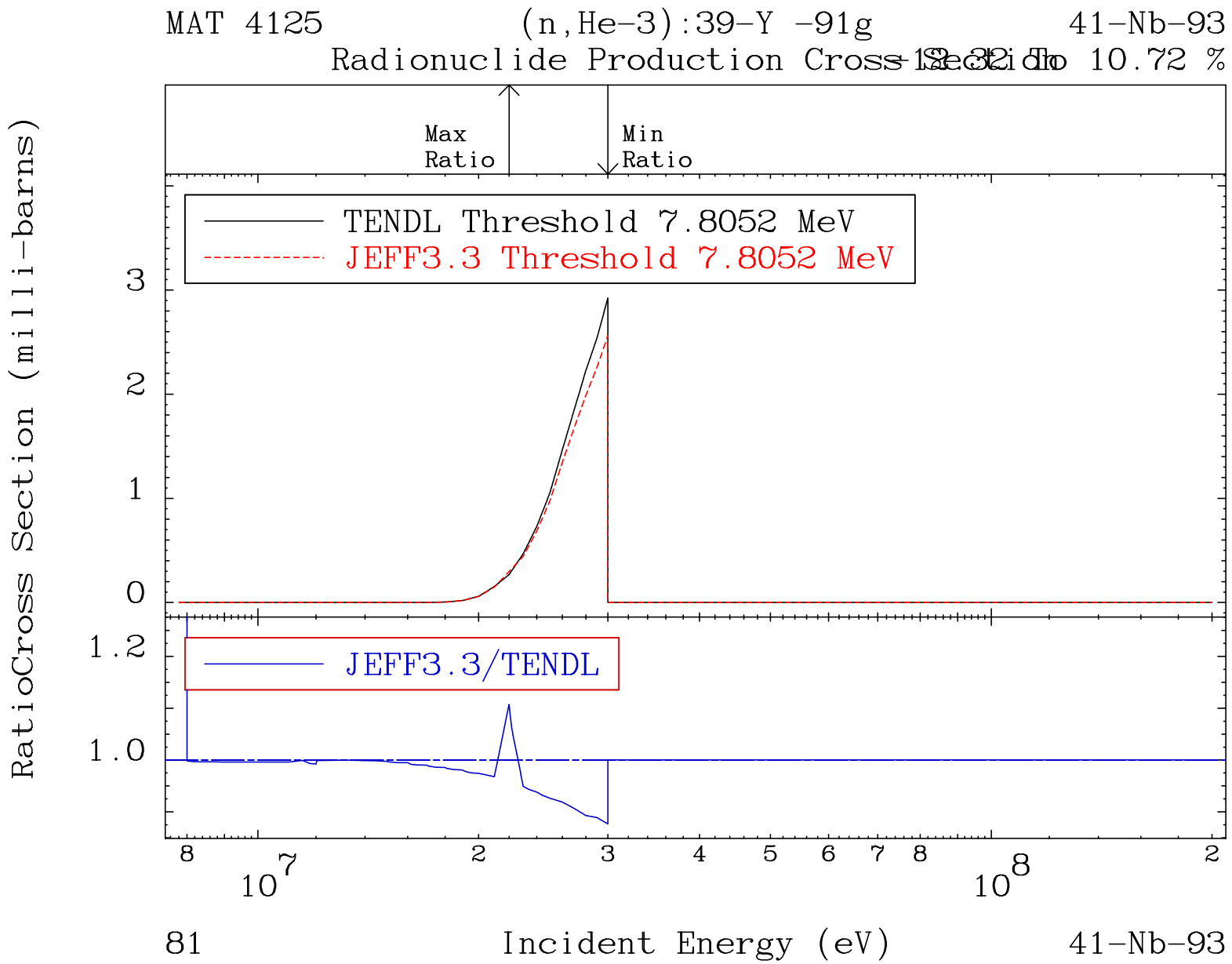

MAT 4125 (n,n') He-3:39-Y -90m2 41-Nb-93
Radionuclide Production Cross Section To 526.9 %
Max Ratio
Min Ratio
TENDL Threshold 19.000 MeV
JEFF3.3 Threshold 19.000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
8
4
2
3
4
5
6
7
8
9
2
10^8
76
Incident Energy (eV)
41-Nb-93

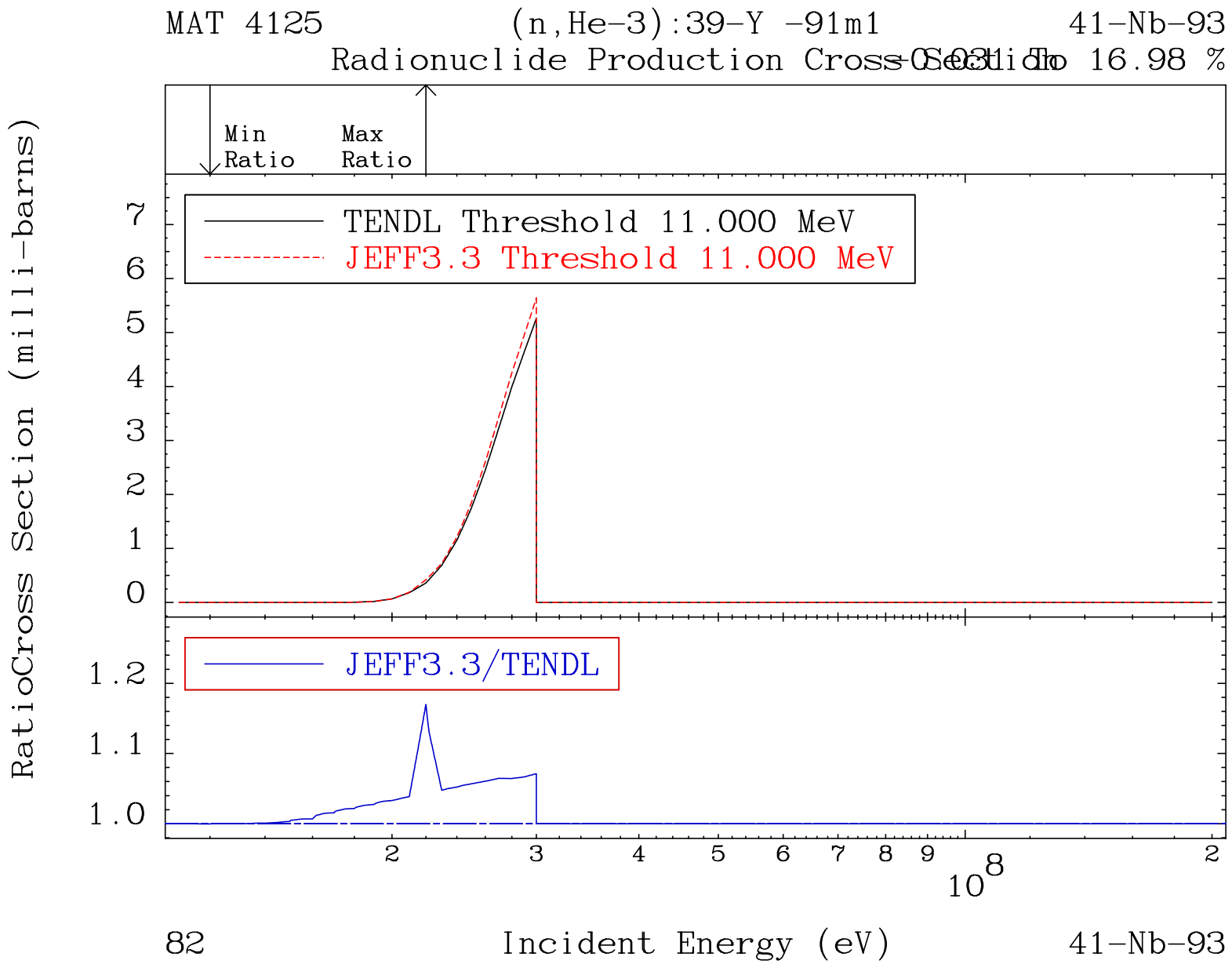

MAT 4125
(n,3n) p:40-Zr-90g
41-Nb-93
Radionuclide Production Cross Section
0.000 To 9999. %
Min
Ratio
TENDL Threshold 22.109 MeV
JEFF3.3 Threshold 22.109 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
14
12
10
8
6
4
2
0
10^2
10^0
20
40
60
80
100
120
140
160
180
200
77
Incident Energy (MeV)
41-Nb-93

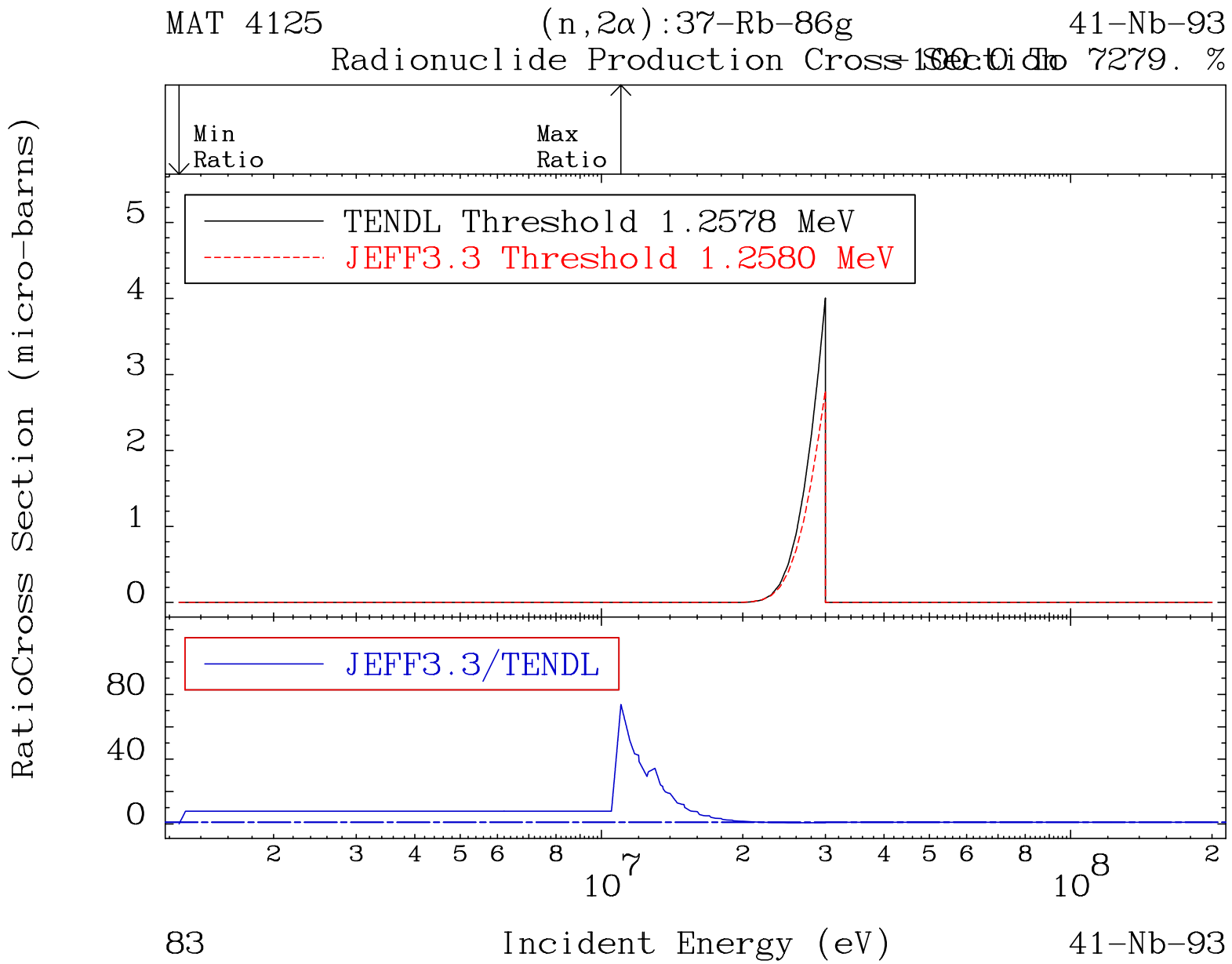

MAT 4125
(n,3n) p:40-Zr-90m3
41-Nb-93
Radionuclide Production Cross Section
0.000 To 8015. %
Min
Ratio
TENDL Threshold 25.000 MeV
JEFF3.3 Threshold 24.453 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
0
1
2
3
4
10^0
10^1
10^2
40
60
80
100
120
140
160
180
200
78
Incident Energy (MeV)
41-Nb-93

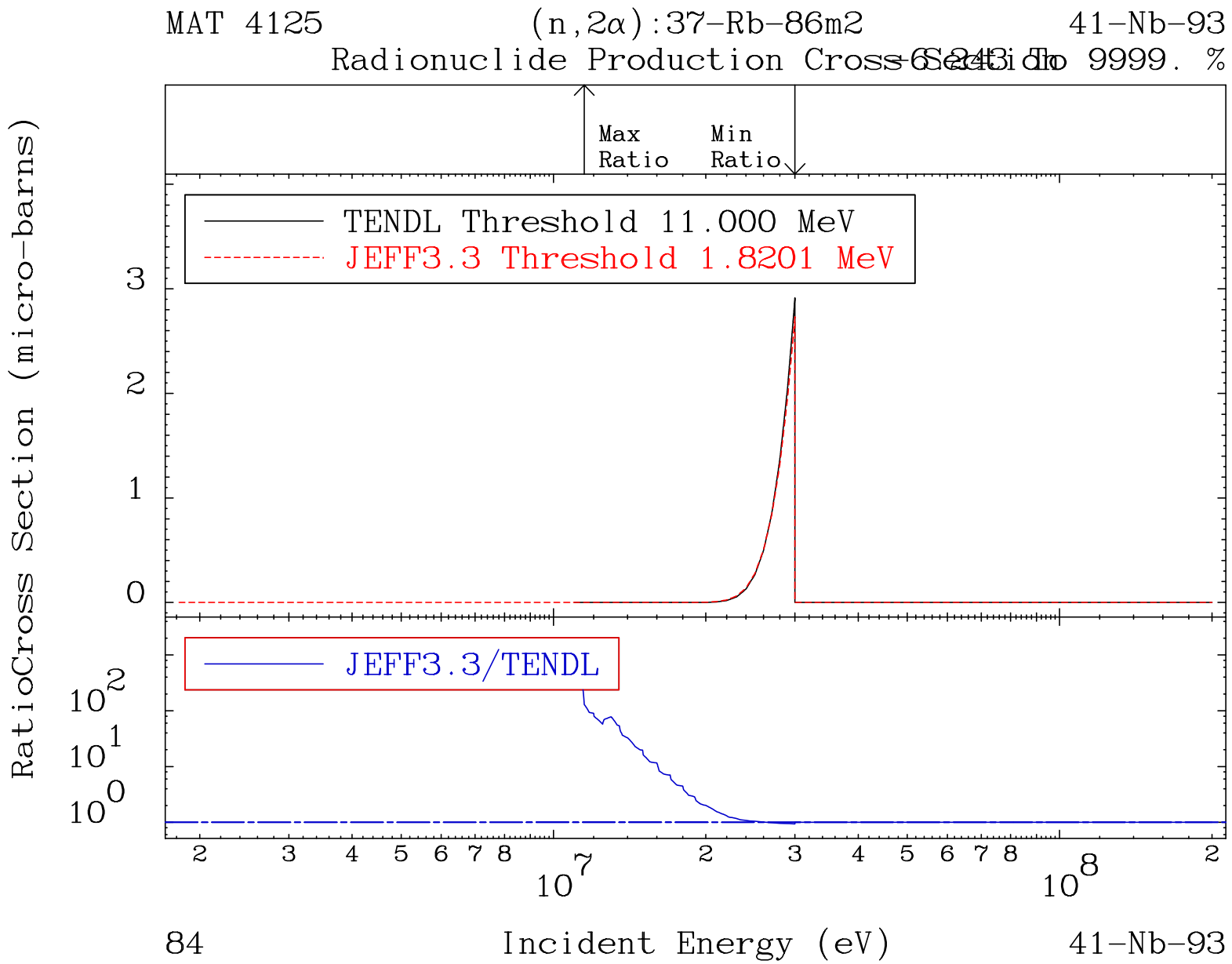

MAT 4125
(n,2n) p:39-Y -91g
41-Nb-93
Radionuclide Production Cross Section To 197.9 %
Max
Ratio
TENDL Threshold 15.607 MeV
JEFF3.3 Threshold 15.607 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
80
60
40
20
0
10^{0}
10^{-2}
2
3
4
5
6
7
8
9
10^{8}
2
79
Incident Energy (eV)
41-Nb-93

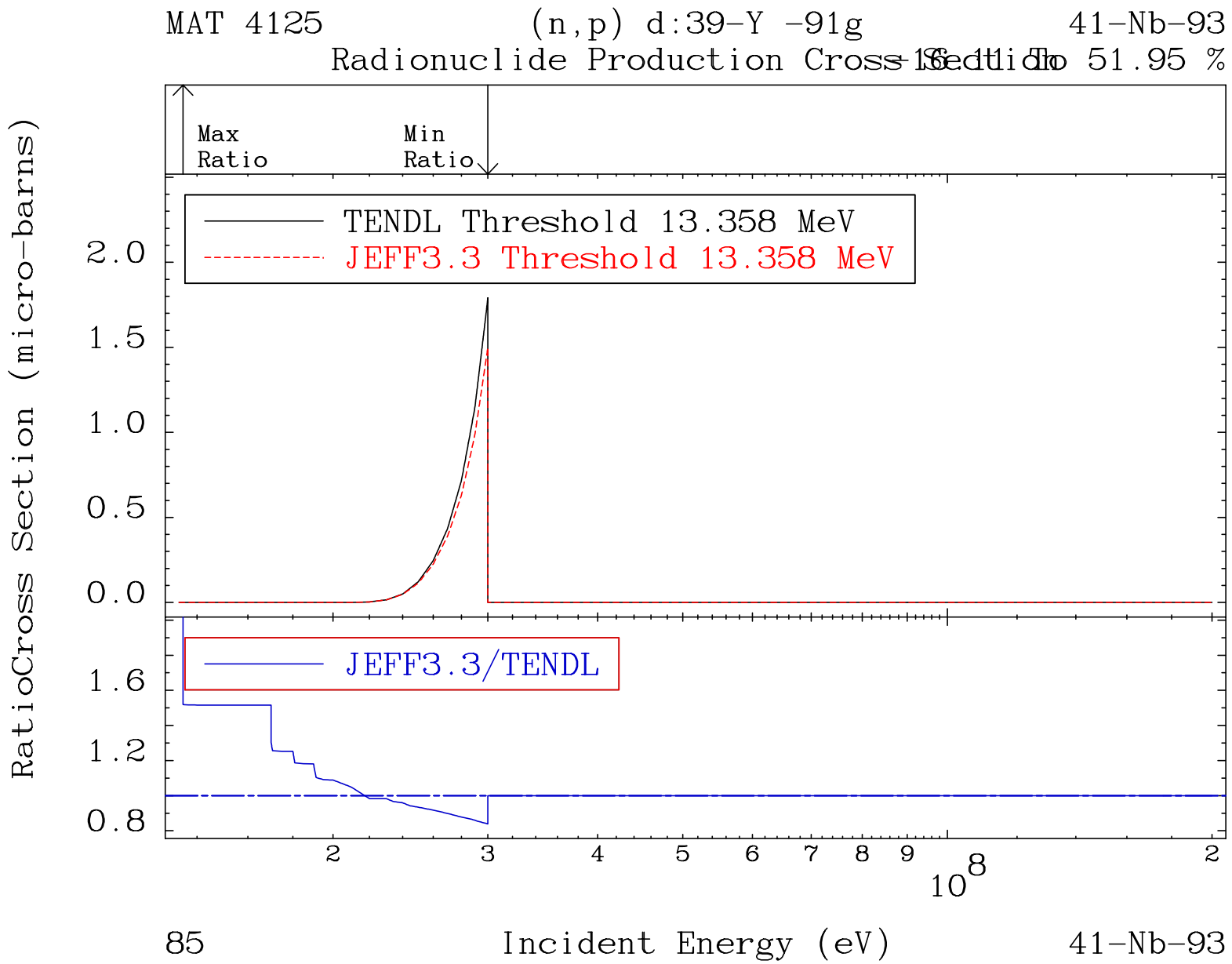

MAT 4125
(n,2n) p:39-Y -91m1
41-Nb-93
Radionuclide Production Cross Section To 1013. %
Max
Ratio
TENDL Threshold 16.169 MeV
JEFF3.3 Threshold 18.000 MeV
150
100
50
0
JEFF3.3/TENDL
12
6
0
2
3
4
5
6
7
8
9
2
10 8
RatioCross Section (micro-barns)
80
Incident Energy (eV)
41-Nb-93

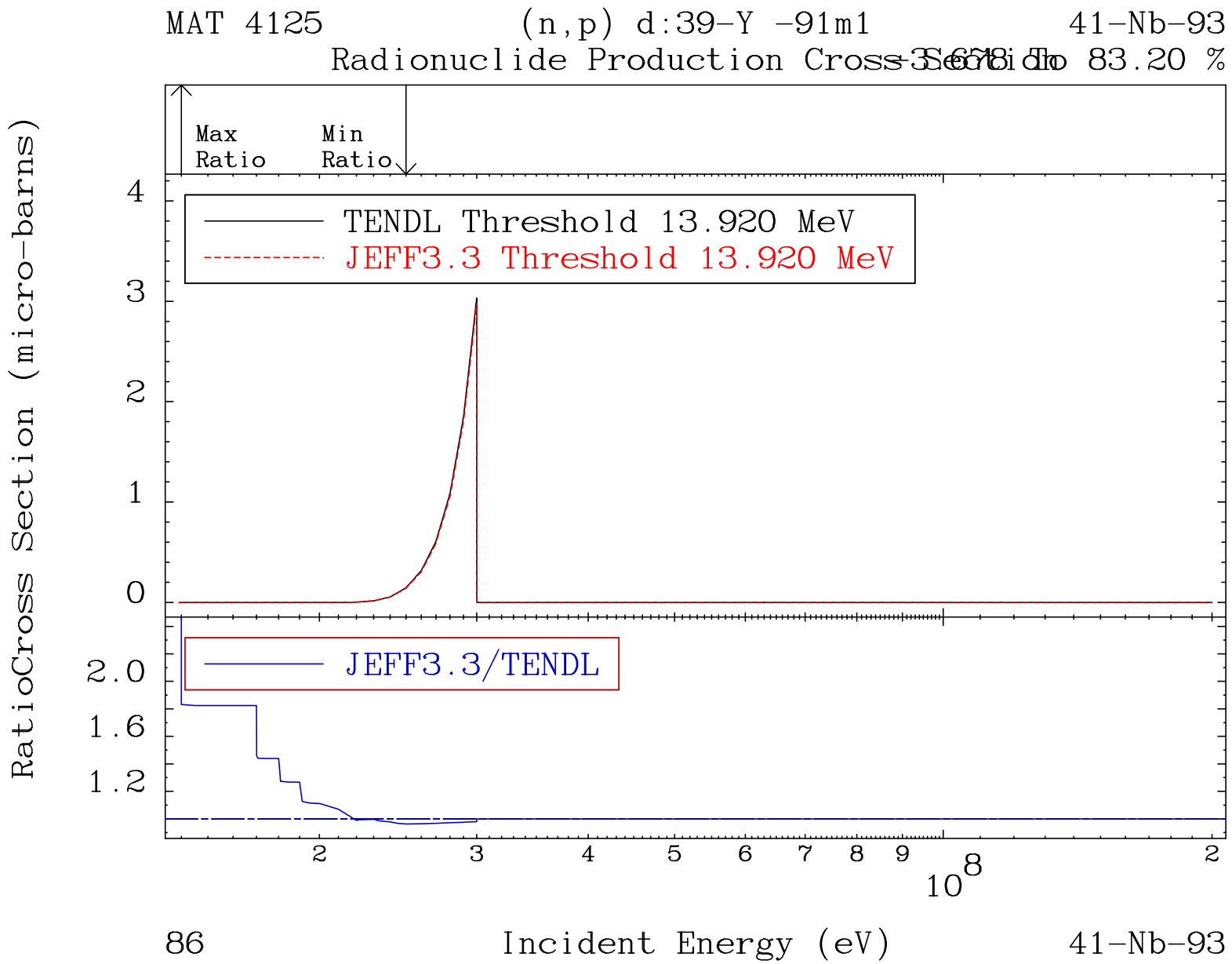

MAT 4125
(n,He-3):39-Y -91g
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 7.8052 MeV
JEFF3.3 Threshold 7.8052 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
81
41-Nb-93

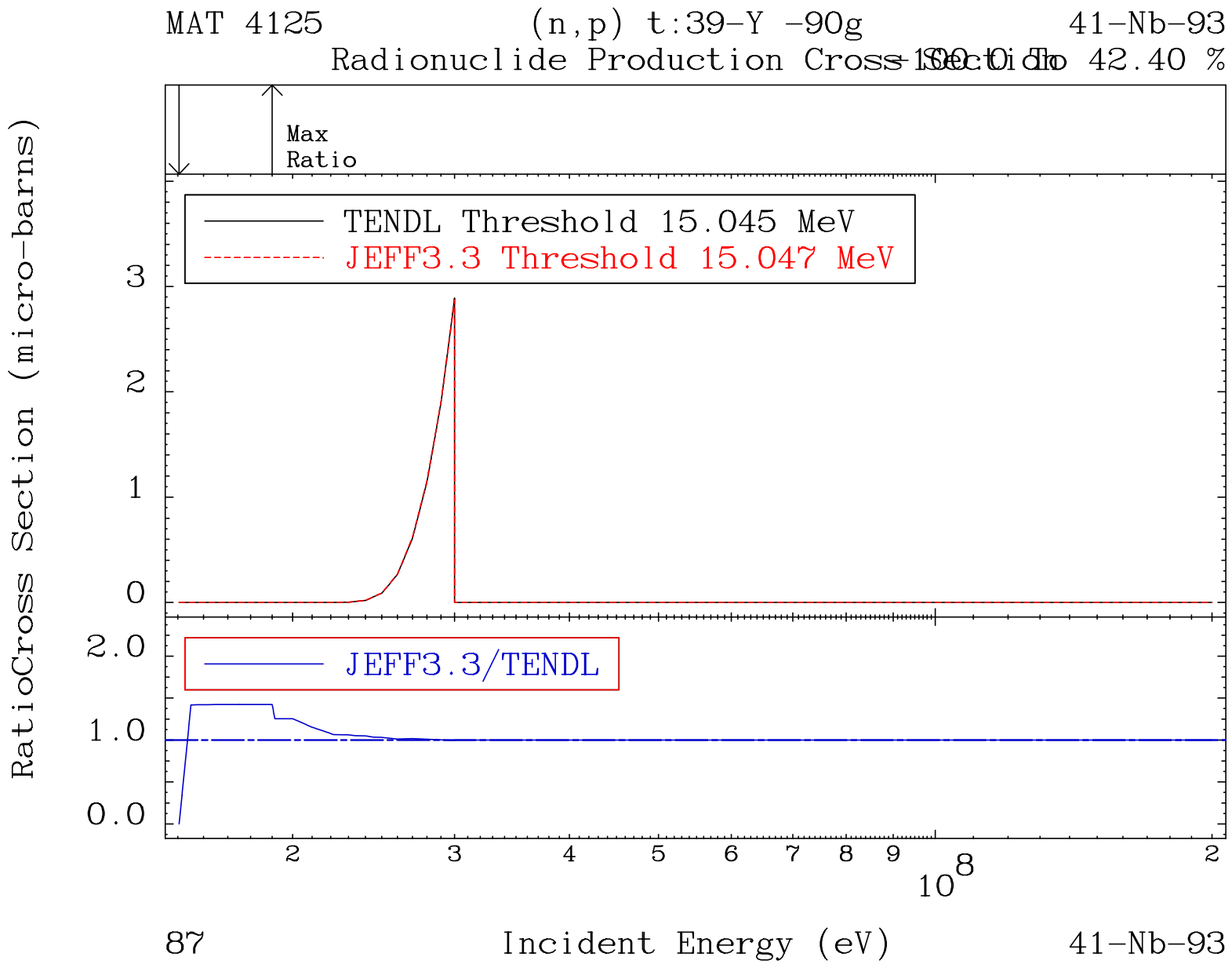

MAT 4125
(n,He-3):39-Y -91m1
41-Nb-93
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 11.000 MeV
JEFF3.3 Threshold 11.000 MeV
JEFF3.3/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
82
41-Nb-93

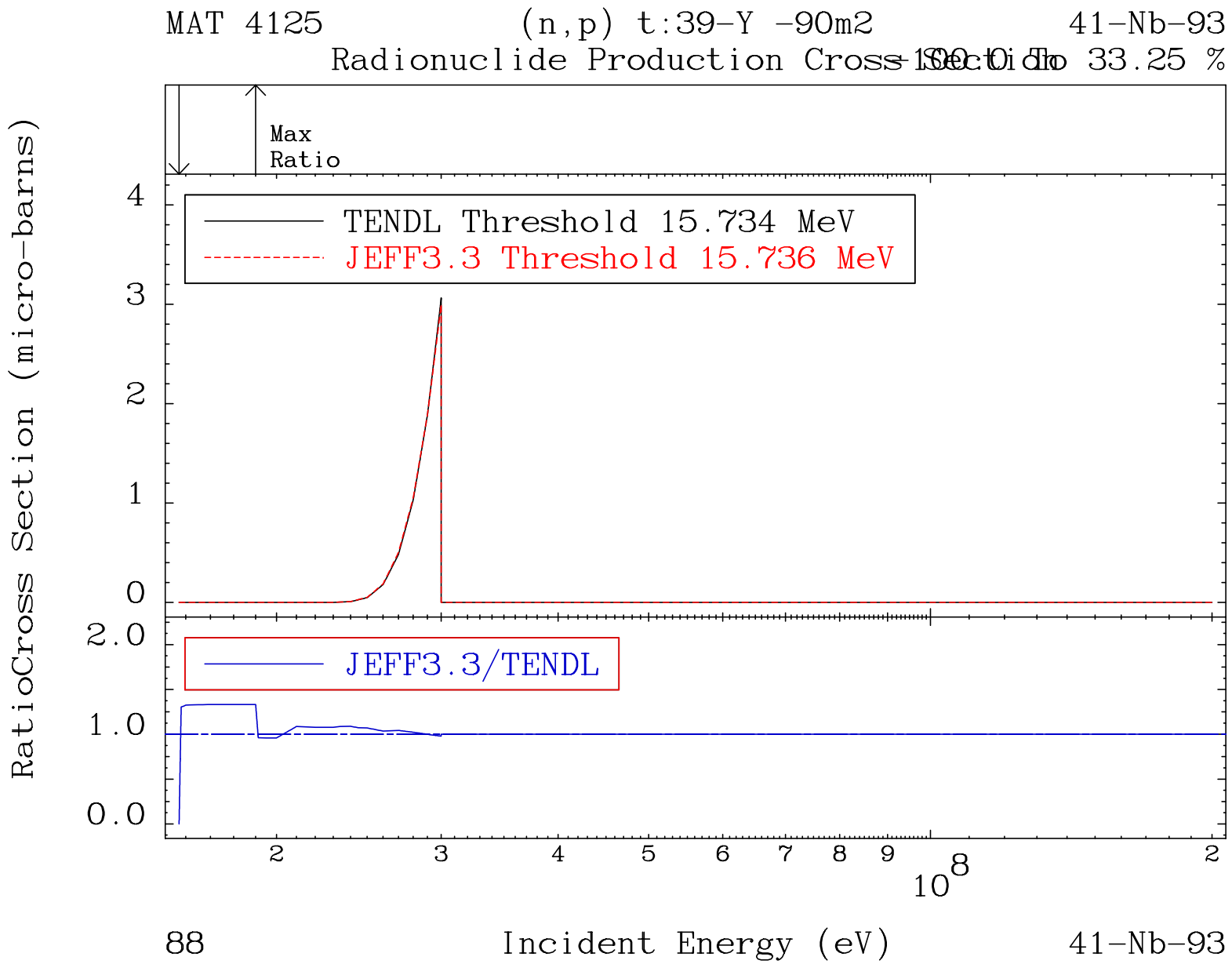

MAT 4125
(n,2α):37-Rb-86g
41-Nb-93
Radionuclide Production Cross Section To 7279. %
Min Ratio
Max Ratio
TENDL Threshold 1.2578 MeV
JEFF3.3 Threshold 1.2580 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
83
41-Nb-93


MAT 4125
(n,2α):37-Rb-86m2
41-Nb-93
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 11.000 MeV
JEFF3.3 Threshold 1.8201 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
84
41-Nb-93


MAT 4125
(n,p) d:39-Y -91g
41-Nb-93
Radionuclide Production Cross-Section To 51.95 %
Max Ratio
Min Ratio
TENDL Threshold 13.358 MeV
JEFF3.3 Threshold 13.358 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
2.0
1.5
1.0
0.5
0.0
1.6
1.2
0.8
2
3
4
5
6
7
8
9
2
10^8
85
Incident Energy (eV)
41-Nb-93


MAT 4125
(n,p) d:39-Y -91m1
41-Nb-93
Radionuclide Production Cross Section To 83.20 %
Max Ratio
Min Ratio
TENDL Threshold 13.920 MeV
JEFF3.3 Threshold 13.920 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
86
41-Nb-93


MAT 4125
(n,p) t:39-Y -90g
41-Nb-93
Radionuclide Production Cross Section To 42.40 %
Max
Ratio
TENDL Threshold 15.045 MeV
JEFF3.3 Threshold 15.047 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
87
41-Nb-93


MAT 4125
(n,p) t:39-Y -90m2
41-Nb-93
Radionuclide Production Cross Section To 33.25 %
Max
Ratio
TENDL Threshold 15.734 MeV
JEFF3.3 Threshold 15.736 MeV
JEFF3.3/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
88
41-Nb-93