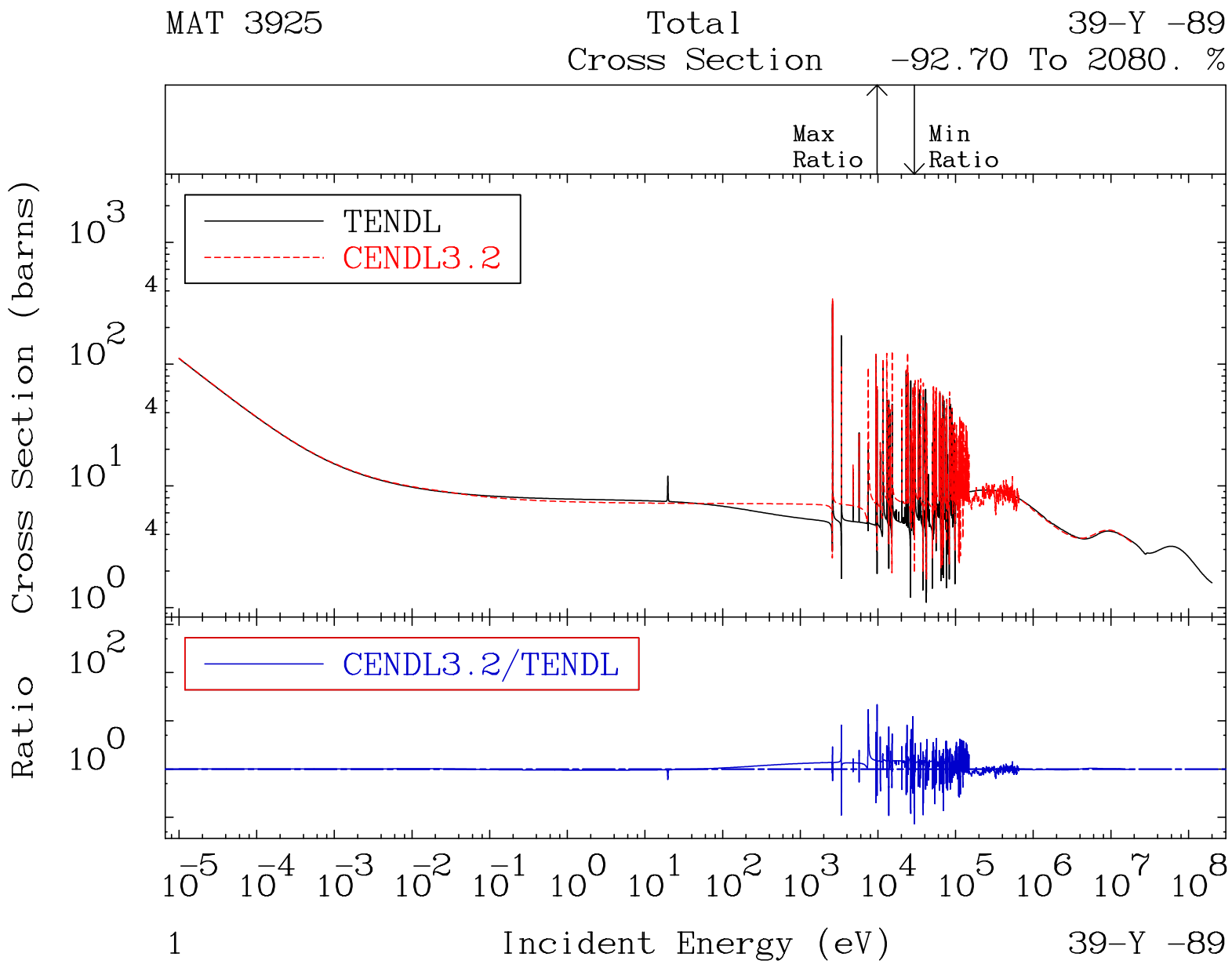
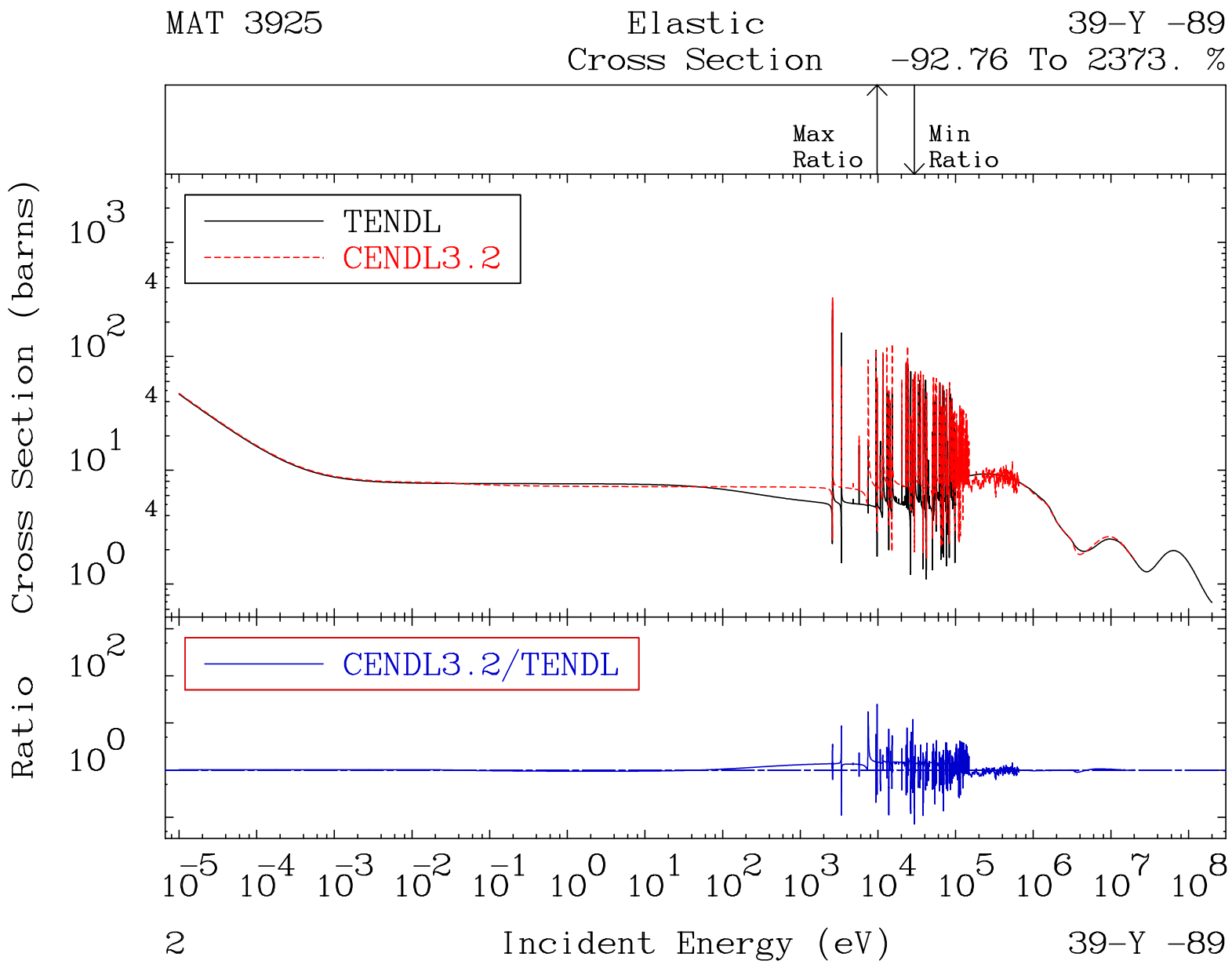
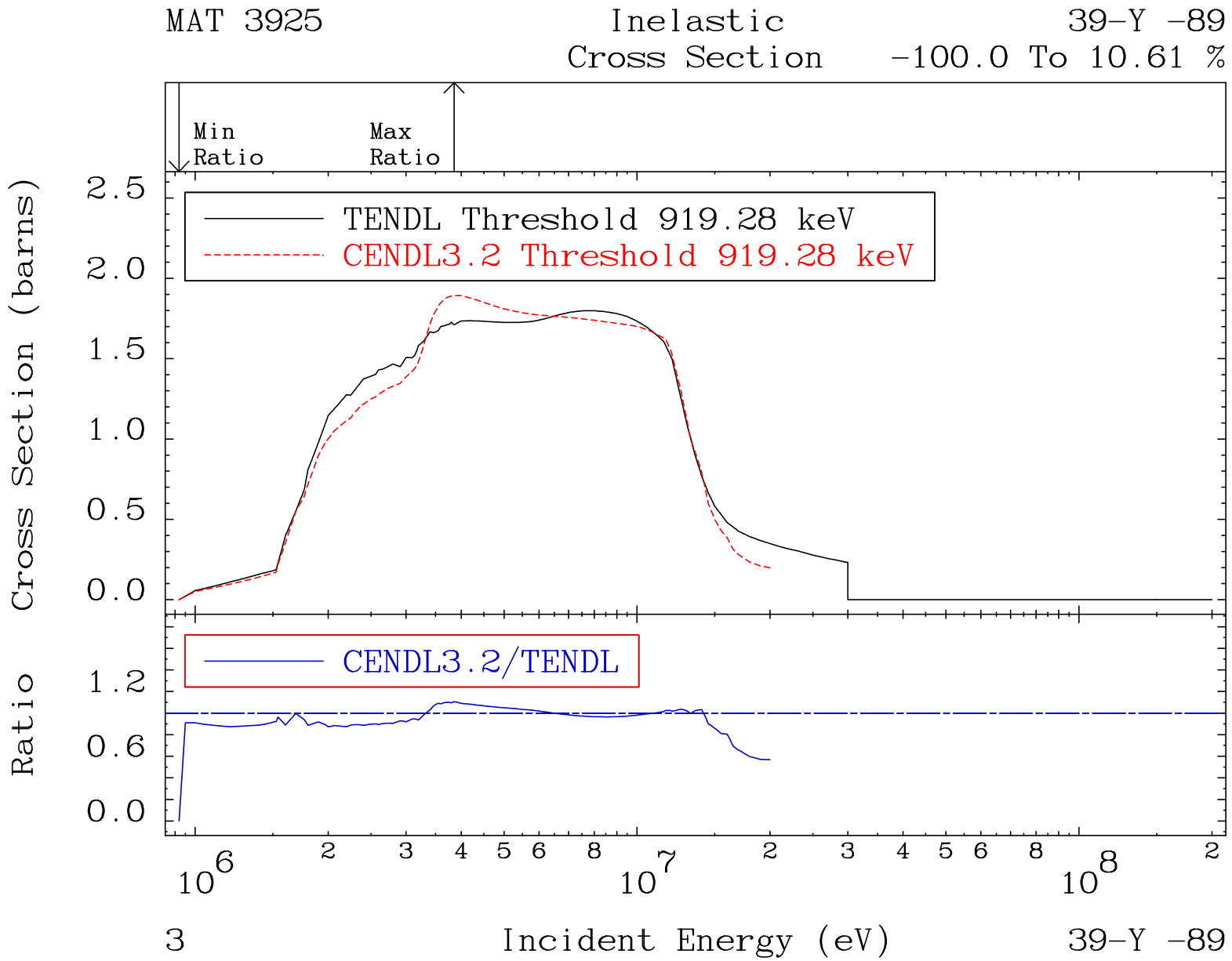
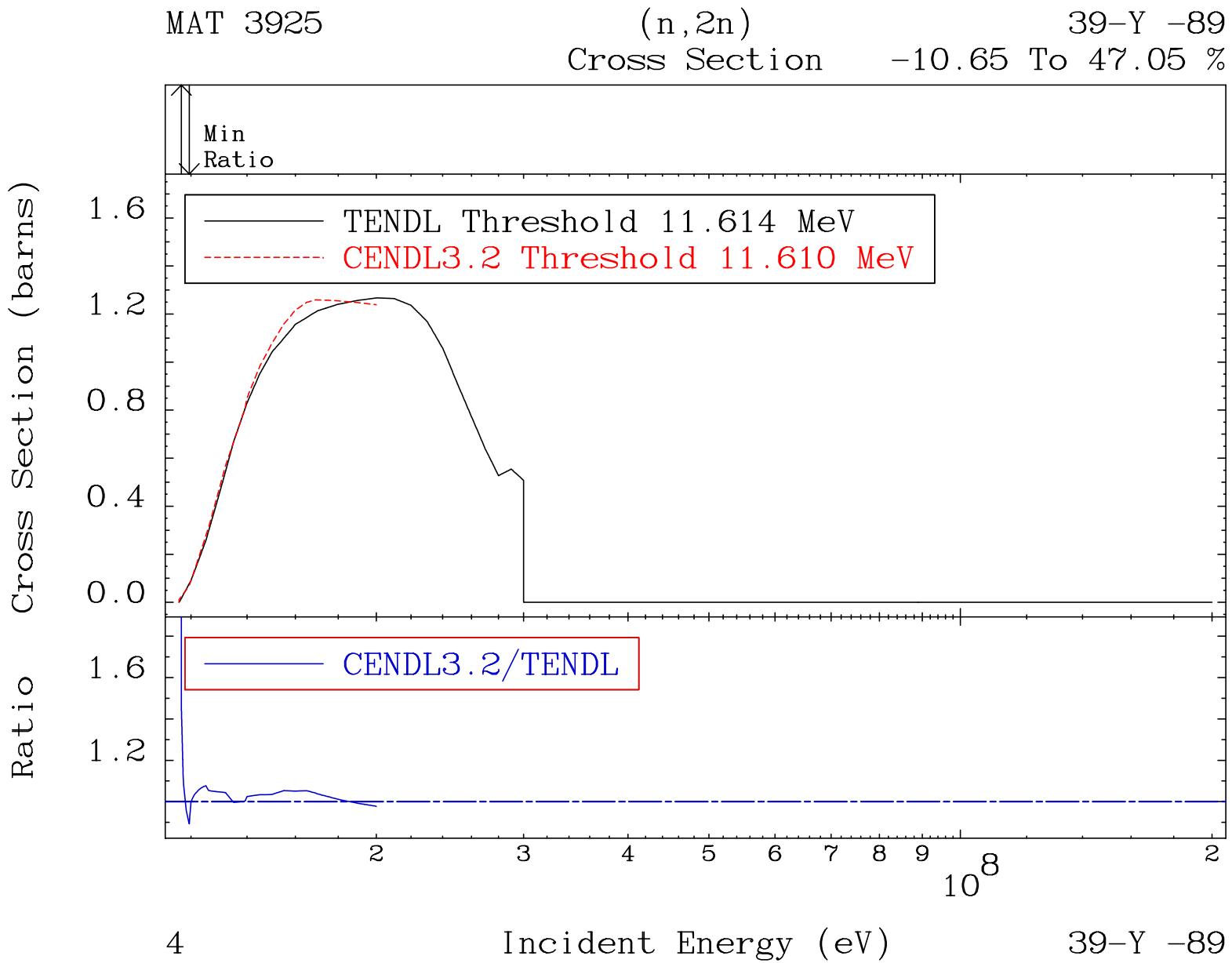
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

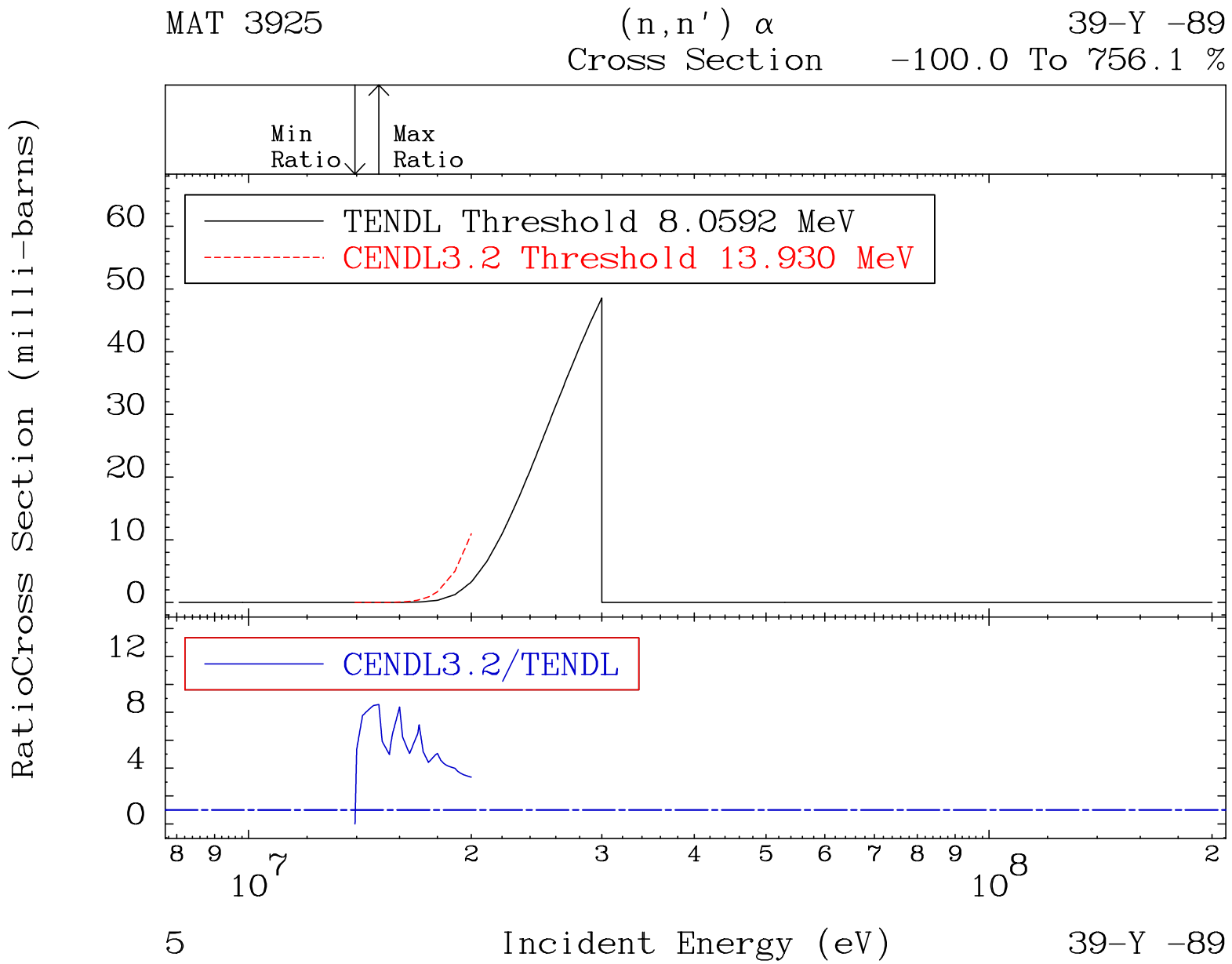
Press Mouse Button to Start

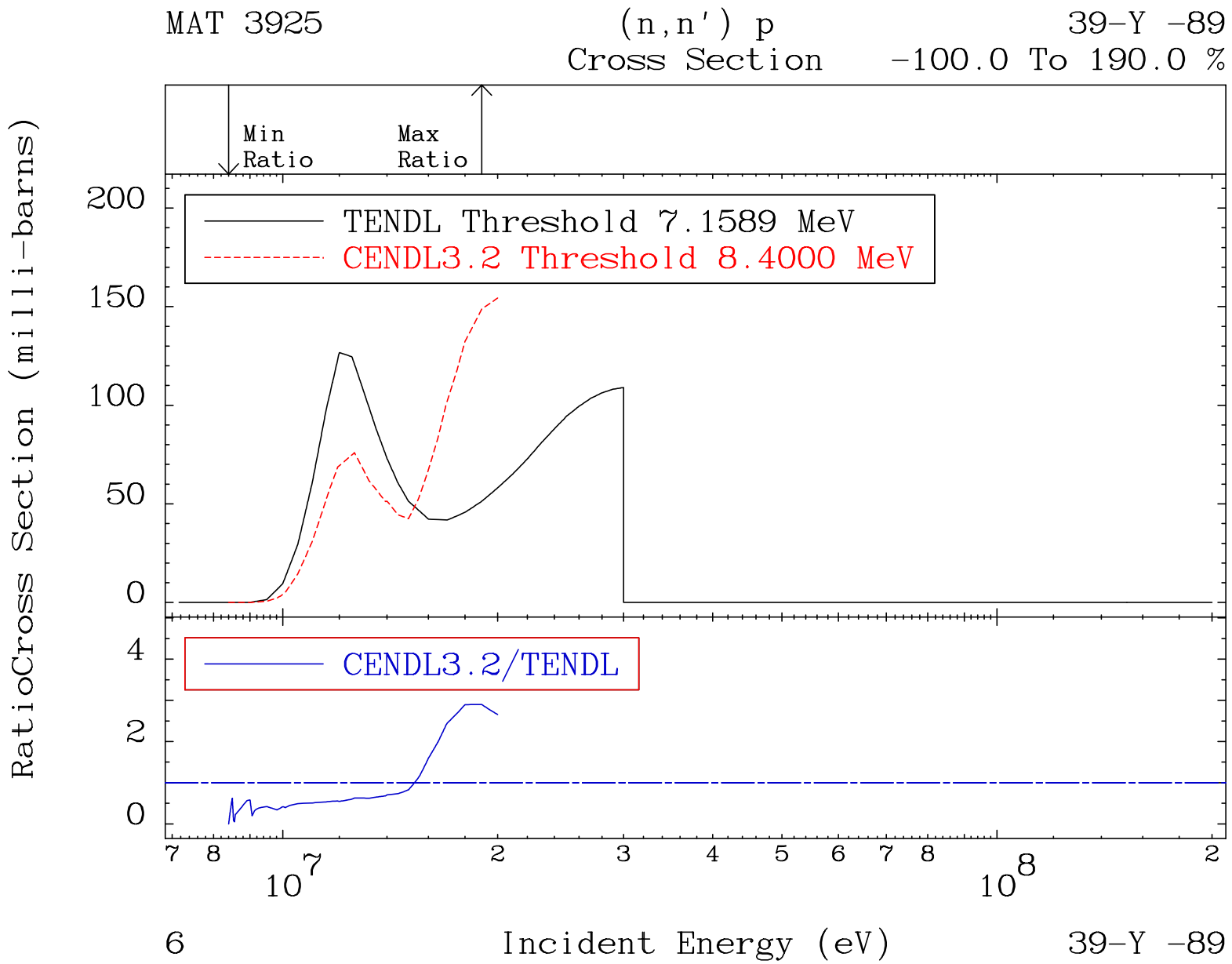

MAT 3925
Total
Cross Section
39-Y -89
-92.70 To 2080. %
Max
Ratio
Min
Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
1
39-Y -89

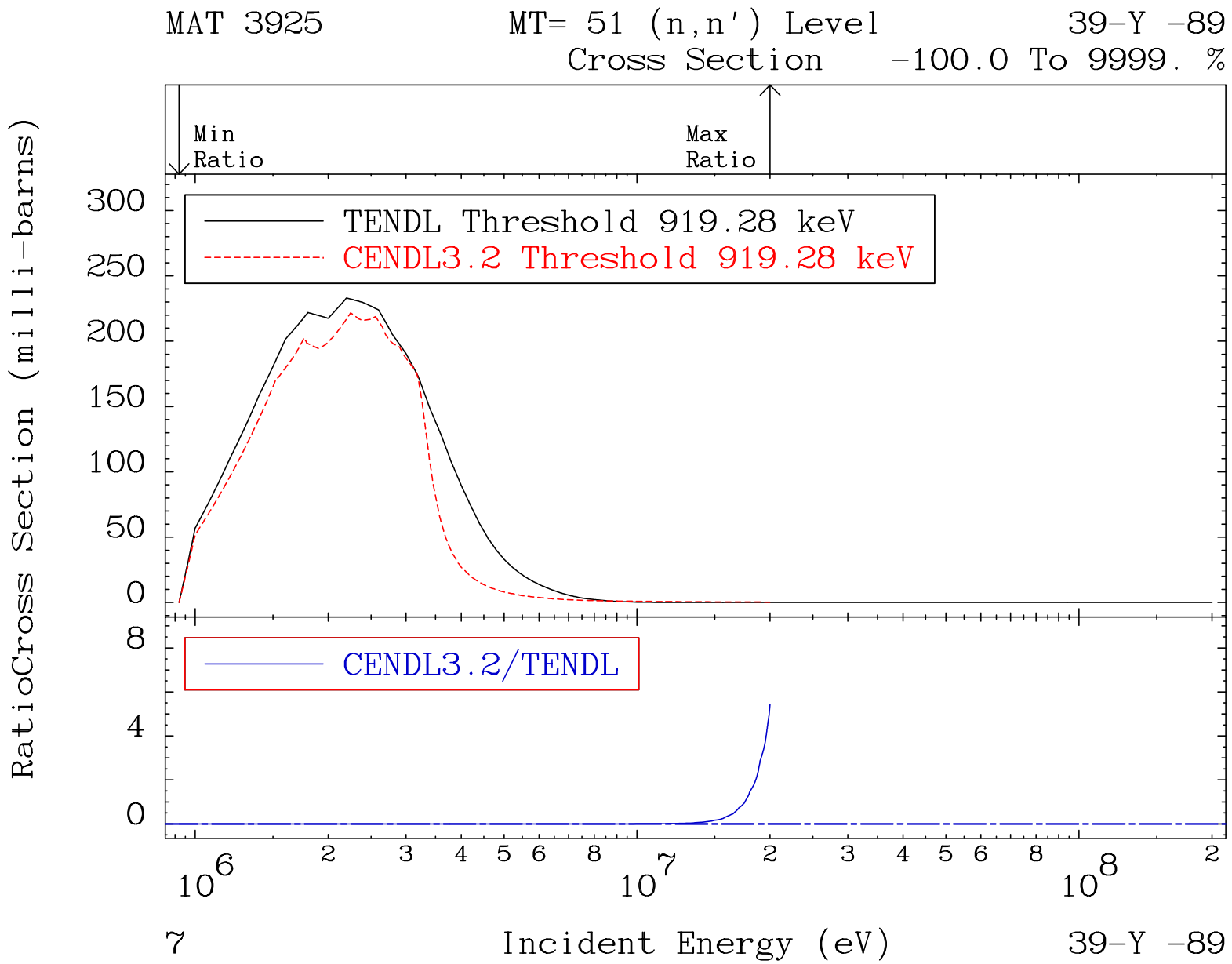

MAT 3925
Elastic
Cross Section
39-Y -89
-92.76 To 2373. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
39-Y -89
2

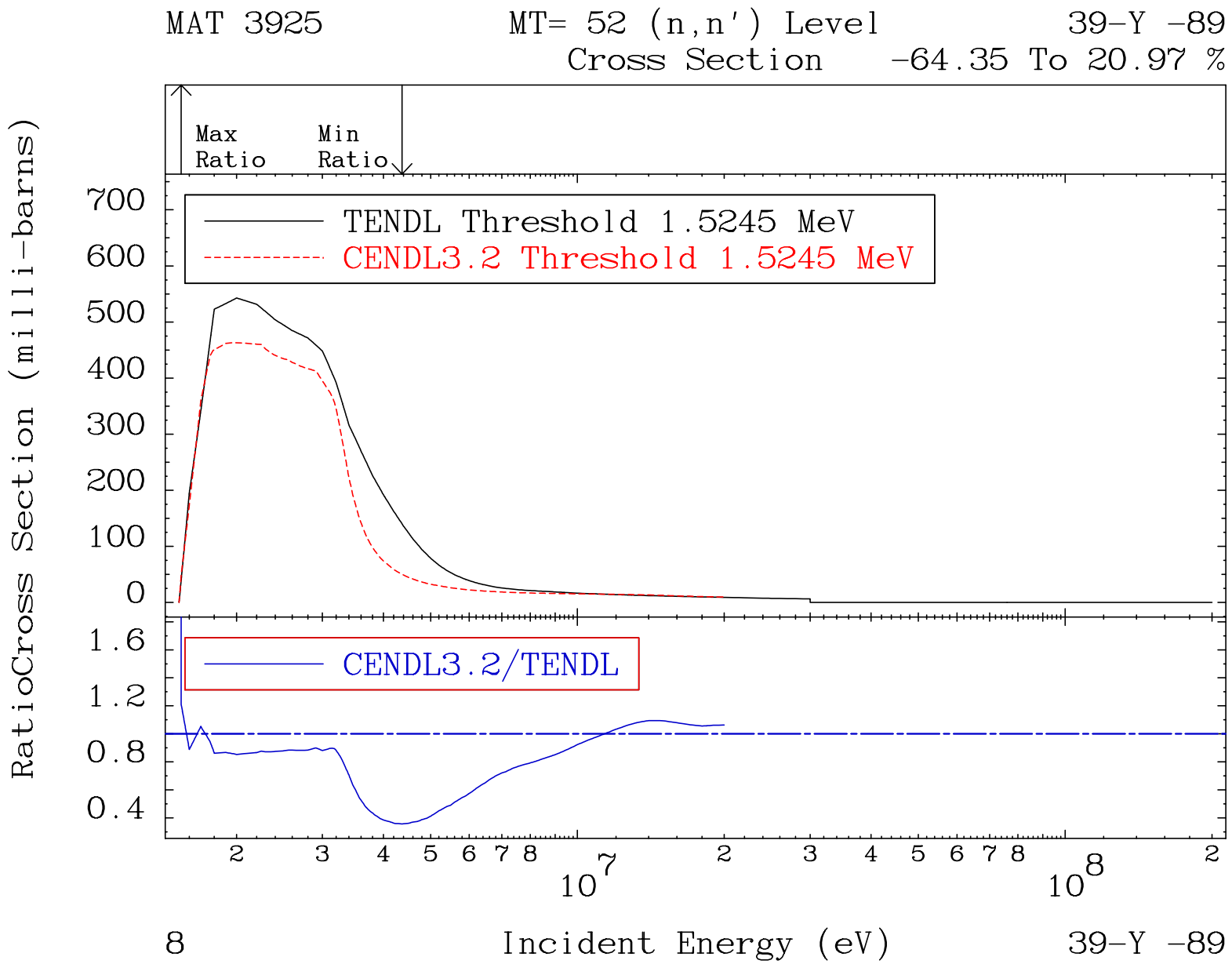

MAT 3925
Inelastic
Cross Section
39-Y -89
-100.0 To 10.61 %
Min Ratio
Max Ratio
TENDL Threshold 919.28 keV
CENDL3.2 Threshold 919.28 keV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
2.5
2.0
1.5
1.0
0.5
0.0
1.2
0.6
0.0
10^6
10^7
10^8
Incident Energy (eV)
3
39-Y -89

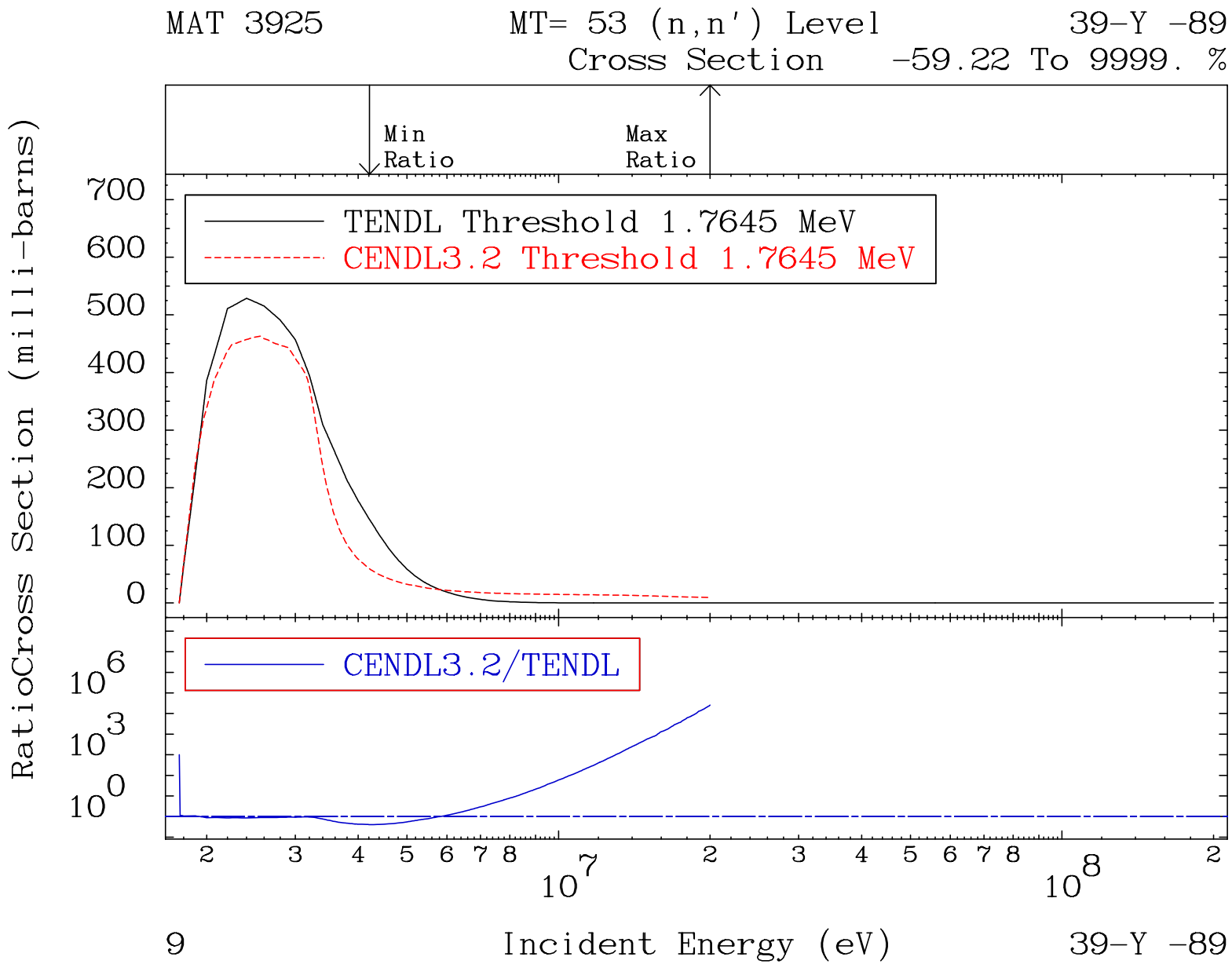

MAT 3925
(n,2n)
Cross Section
39-Y -89
-10.65 To 47.05 %
Min
Ratio
TENDL Threshold 11.614 MeV
CENDL3.2 Threshold 11.610 MeV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
2
3
4
5
6
7
8
9
10^8
Incident Energy (eV)
4
39-Y -89

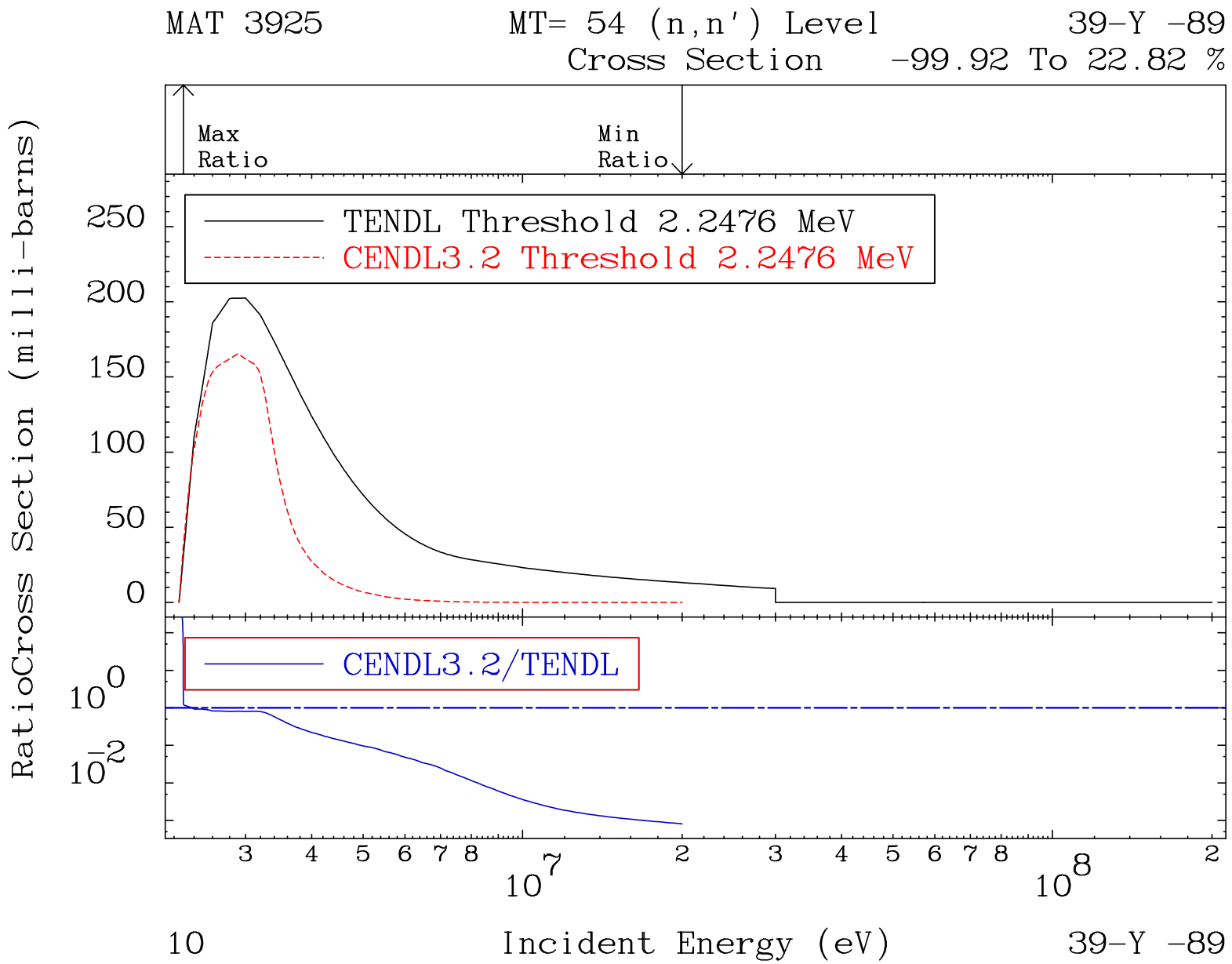

MAT 3925
(n,n') α
Cross Section
39-Y -89
-100.0 To 756.1 %
Min Ratio
Max Ratio
TENDL Threshold 8.0592 MeV
CENDL3.2 Threshold 13.930 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
60
50
40
30
20
10
0
12
8
4
0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
5
Incident Energy (eV)
39-Y -89

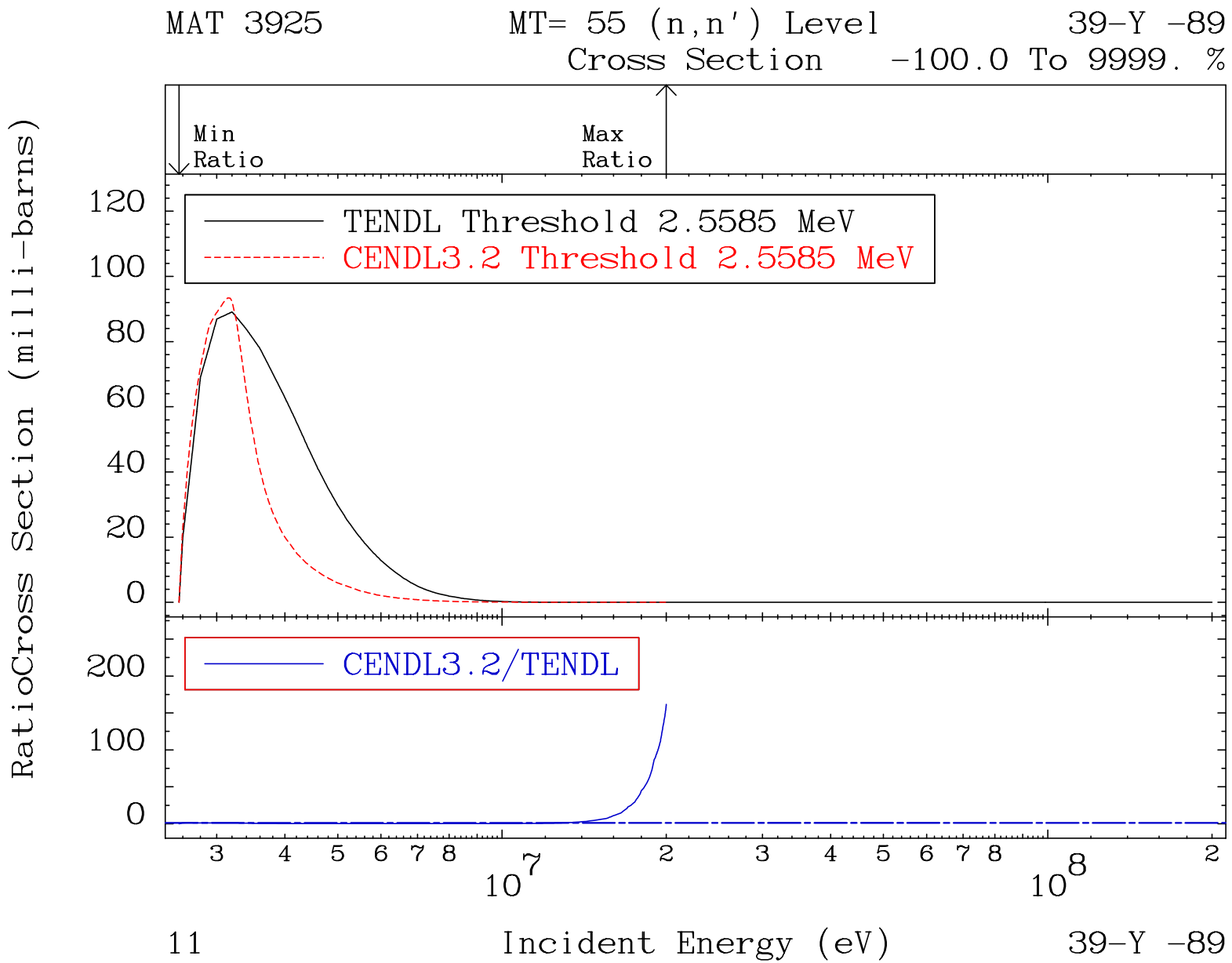

MAT 3925
(n,n') p
Cross Section
39-Y -89
-100.0 To 190.0 %
Min Ratio
Max Ratio
TENDL Threshold 7.1589 MeV
CENDL3.2 Threshold 8.4000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
4
2
0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
6
39-Y -89

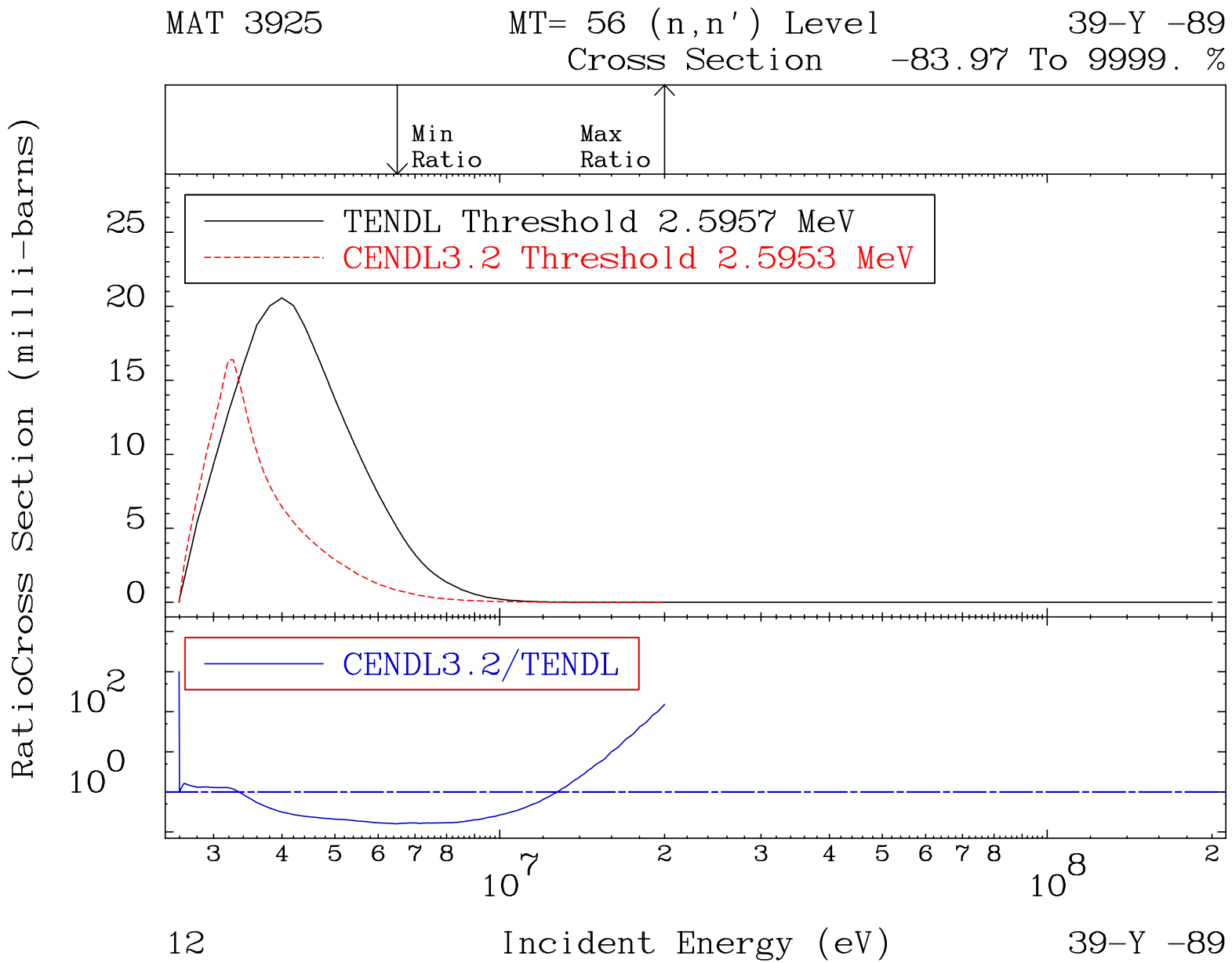

MAT 3925
MT= 51 (n,n') Level
39-Y -89
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 919.28 keV
CENDL3.2 Threshold 919.28 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
8
4
0
10^6
10^7
10^8
Incident Energy (eV)
39-Y -89

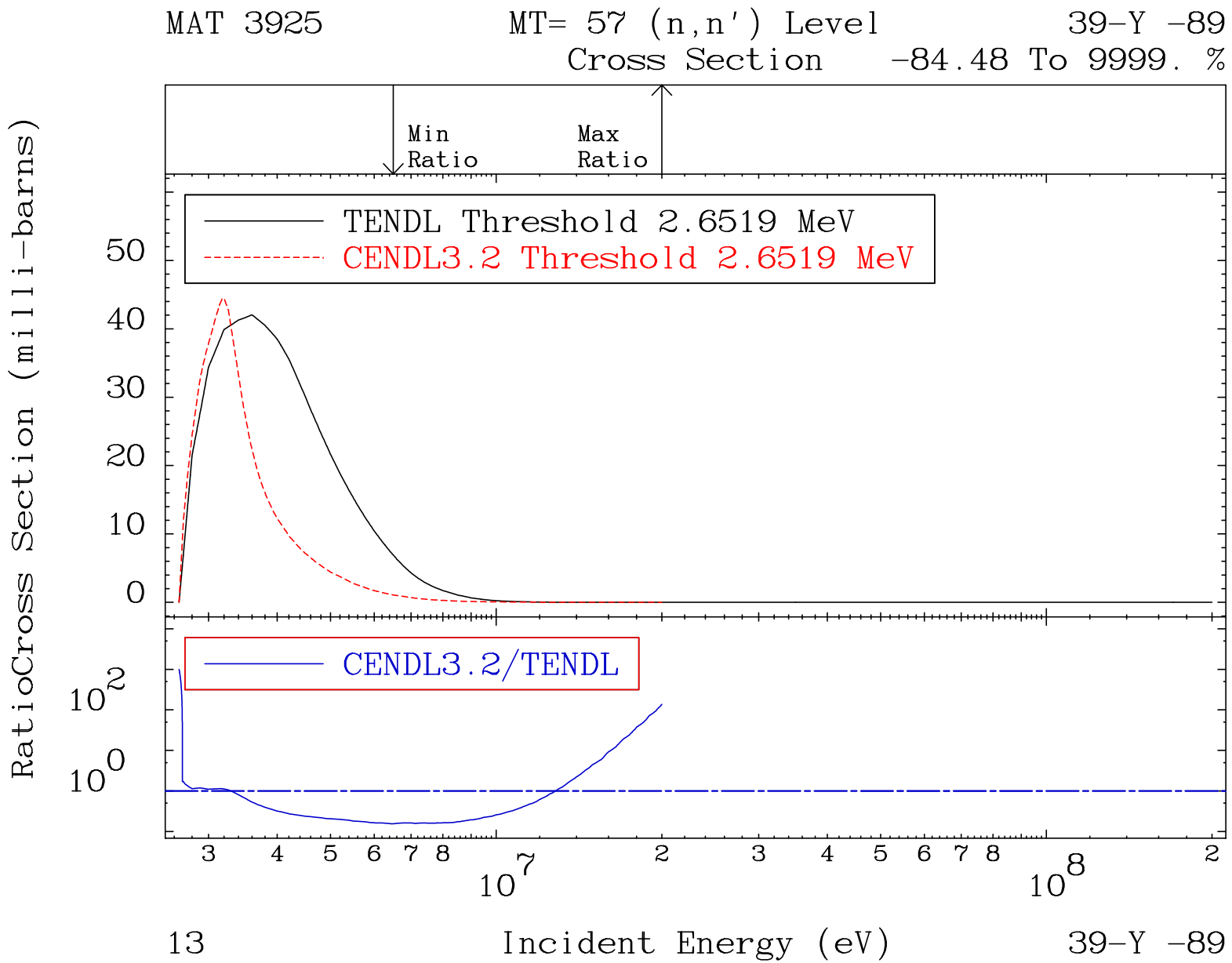

MAT 3925
MT= 52 (n,n') Level
39-Y -89
Cross Section -64.35 To 20.97 %
Max Ratio
Min Ratio
TENDL Threshold 1.5245 MeV
CENDL3.2 Threshold 1.5245 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
1.6
1.2
0.8
0.4
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
39-Y -89

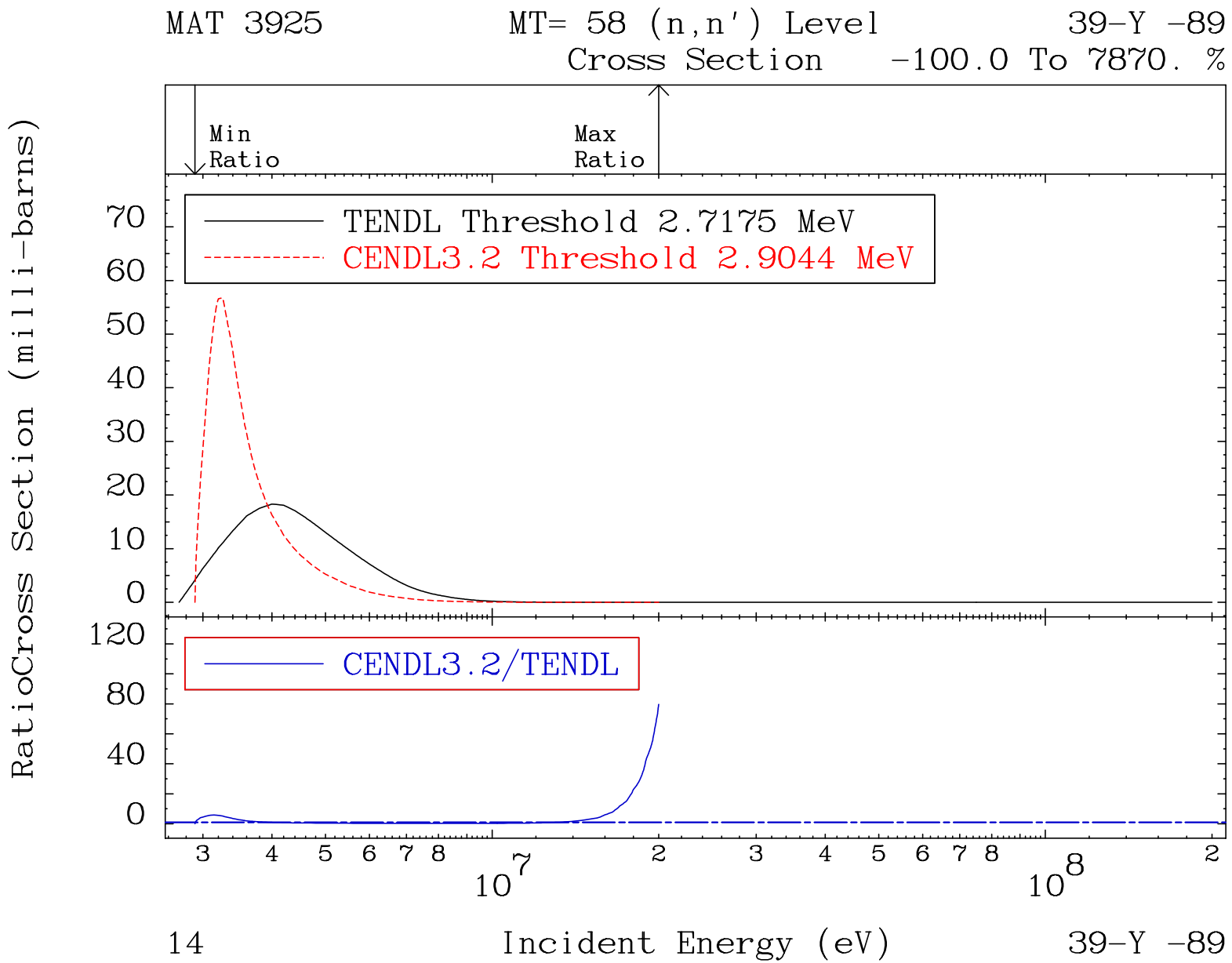

MAT 3925
MT= 53 (n,n') Level
39-Y -89
Cross Section -59.22 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 1.7645 MeV
CENDL3.2 Threshold 1.7645 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
10^6
10^3
10^0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
9
Incident Energy (eV)
39-Y -89

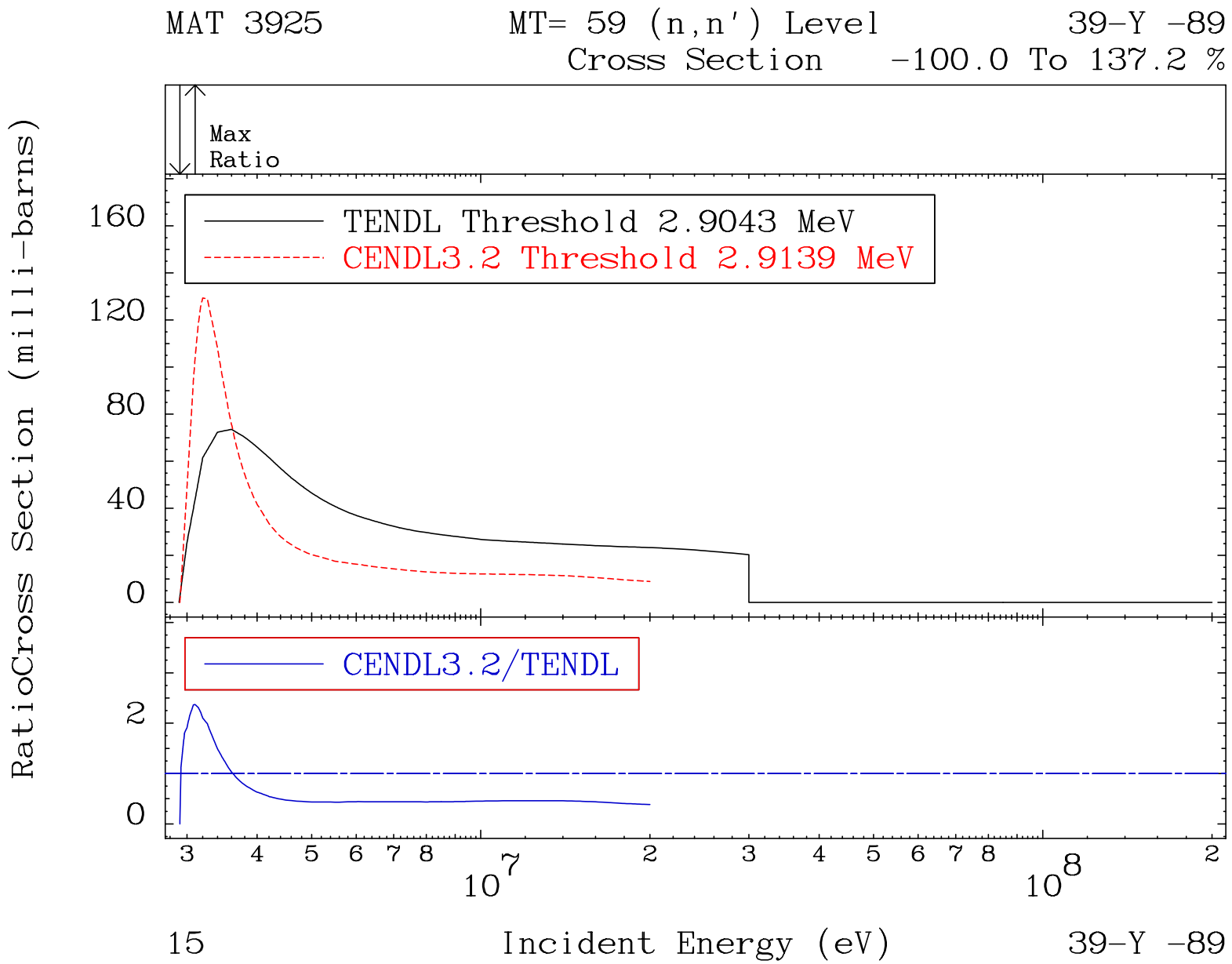

MAT 3925
MT= 54 (n,n') Level
39-Y -89
Cross Section -99.92 To 22.82 %
Max Ratio
Min Ratio
TENDL Threshold 2.2476 MeV
CENDL3.2 Threshold 2.2476 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^{0}
10^{-2}
3 4 5 6 7 8 10^{7} 2 3 4 5 6 7 8 10^{8} 2
10
Incident Energy (eV)
39-Y -89

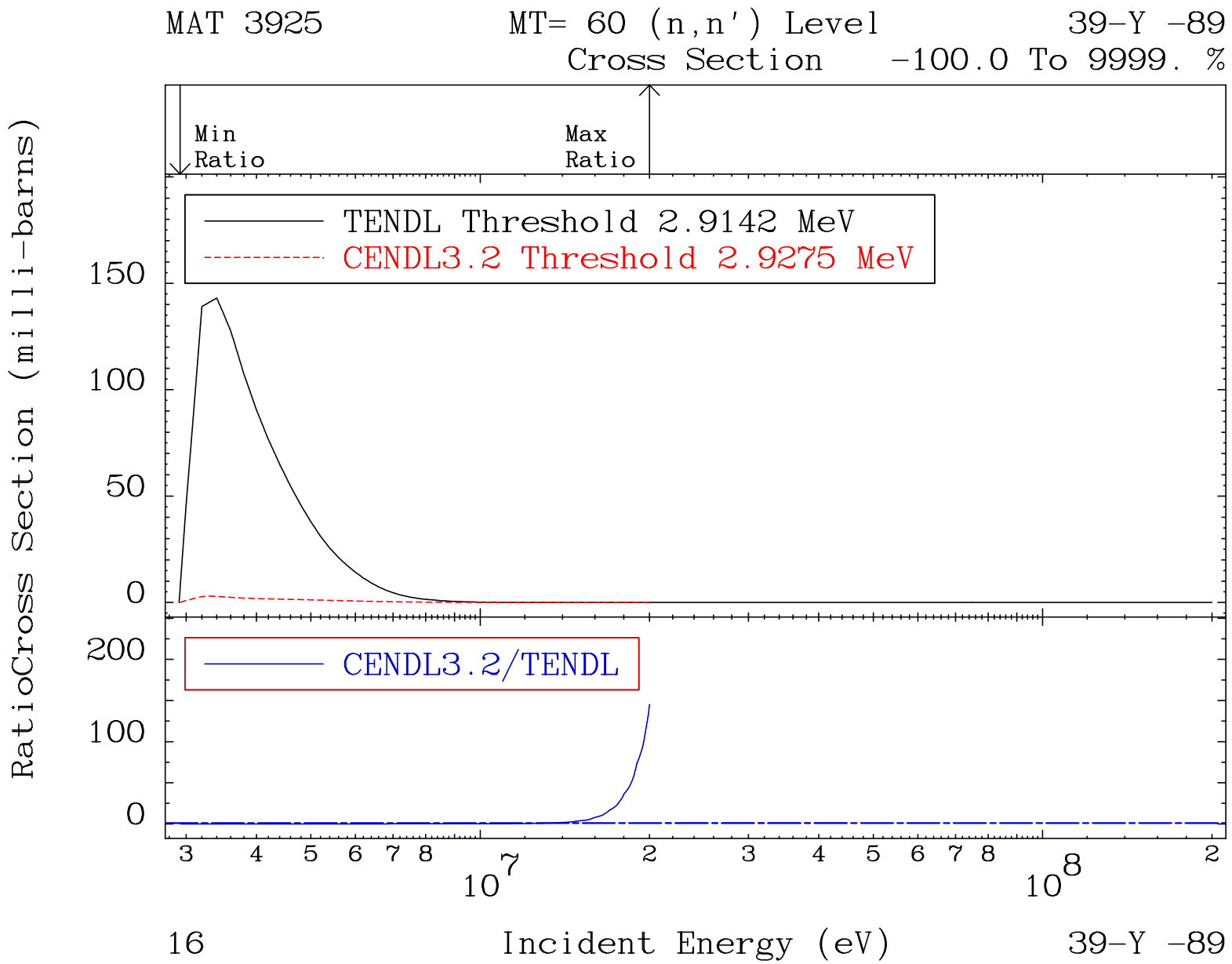

MAT 3925
MT= 55 (n,n') Level
39-Y -89
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.5585 MeV
CENDL3.2 Threshold 2.5585 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
200
100
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
11
Incident Energy (eV)
39-Y -89

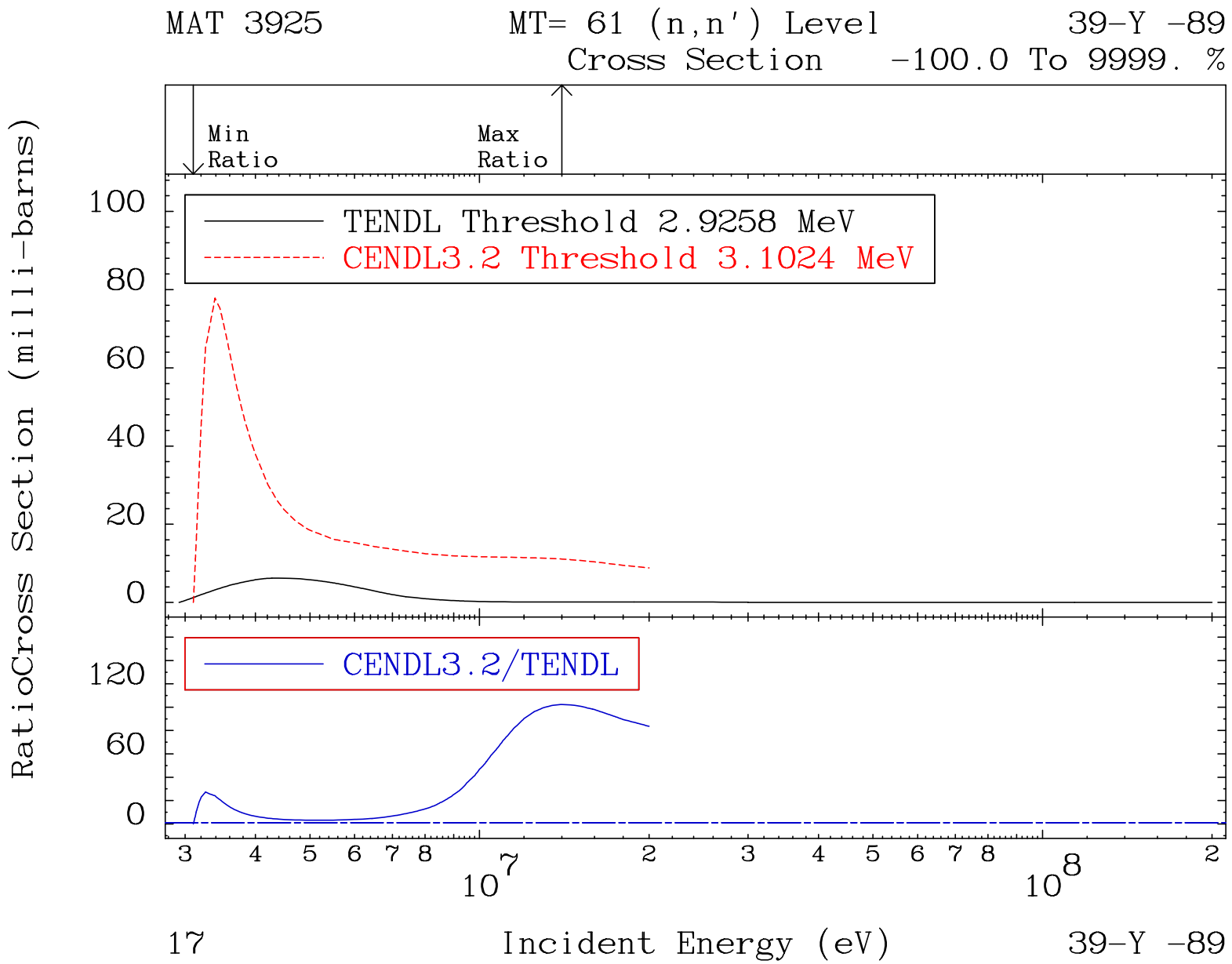

MAT 3925
MT= 56 (n,n') Level
39-Y -89
Cross Section -83.97 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.5957 MeV
CENDL3.2 Threshold 2.5953 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
10^2
10^0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
12
Incident Energy (eV)
39-Y -89

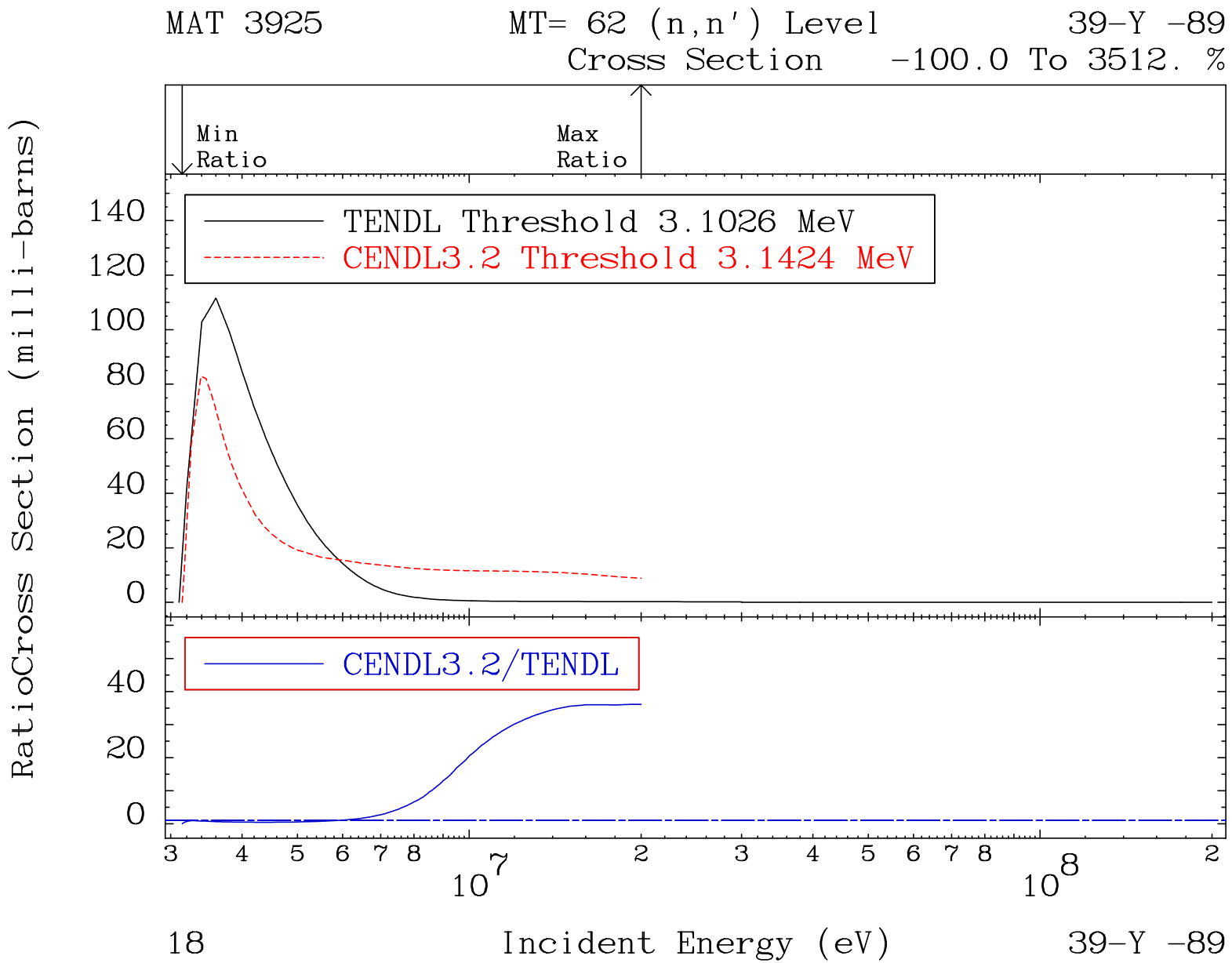

MAT 3925
MT= 57 (n,n') Level
39-Y -89
Cross Section -84.48 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.6519 MeV
CENDL3.2 Threshold 2.6519 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
10^2
10^0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
13
Incident Energy (eV)
39-Y -89

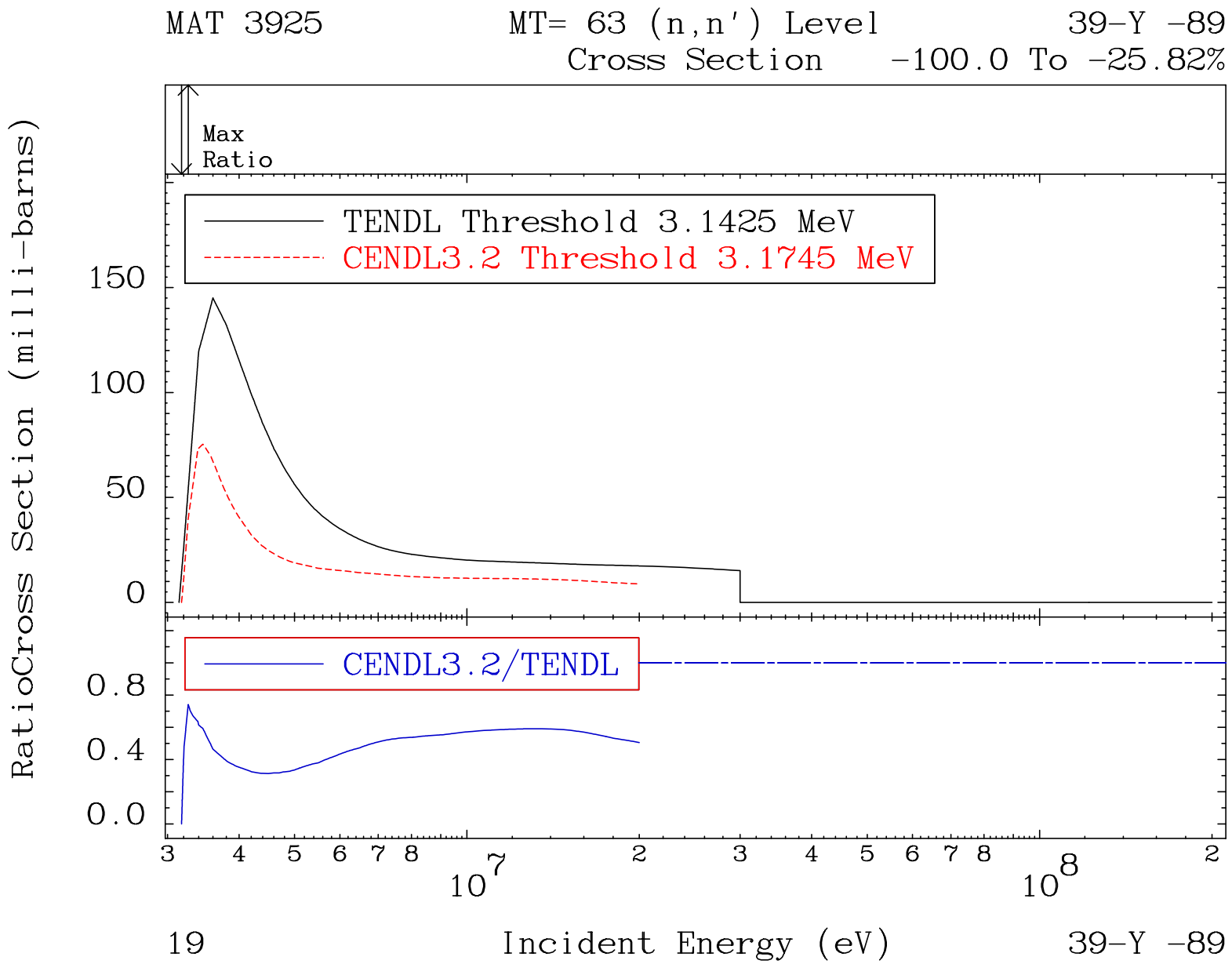

MAT 3925
MT= 58 (n,n') Level
39-Y -89
Cross Section -100.0 To 7870. %
Min Ratio
Max Ratio
TENDL Threshold 2.7175 MeV
CENDL3.2 Threshold 2.9044 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
120
80
40
0
3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
14
Incident Energy (eV)
39-Y -89

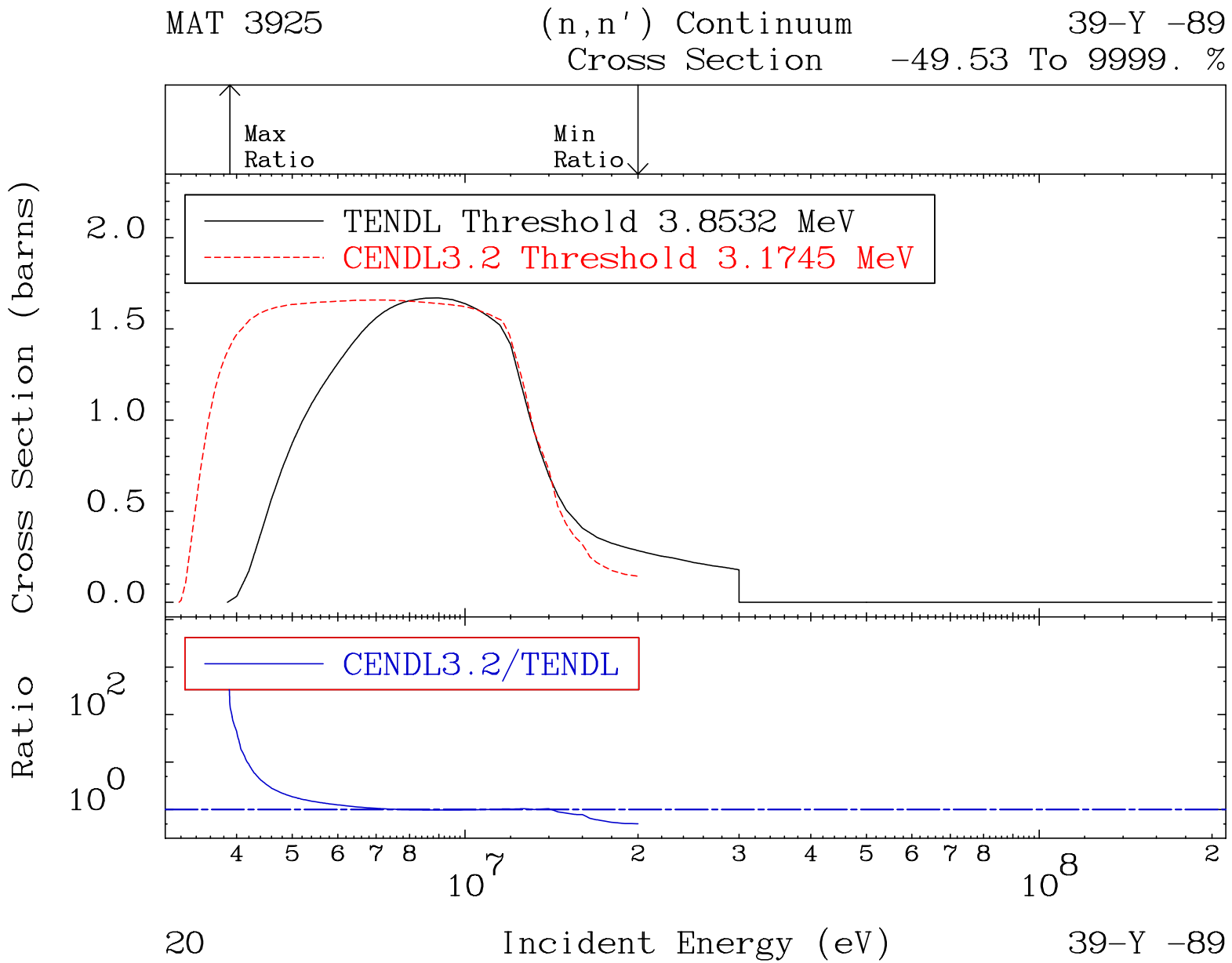

MAT 3925
MT= 59 (n,n') Level
39-Y -89
Cross Section -100.0 To 137.2 %
Max
Ratio
TENDL Threshold 2.9043 MeV
CENDL3.2 Threshold 2.9139 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
2
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
Incident Energy (eV)
15
39-Y -89

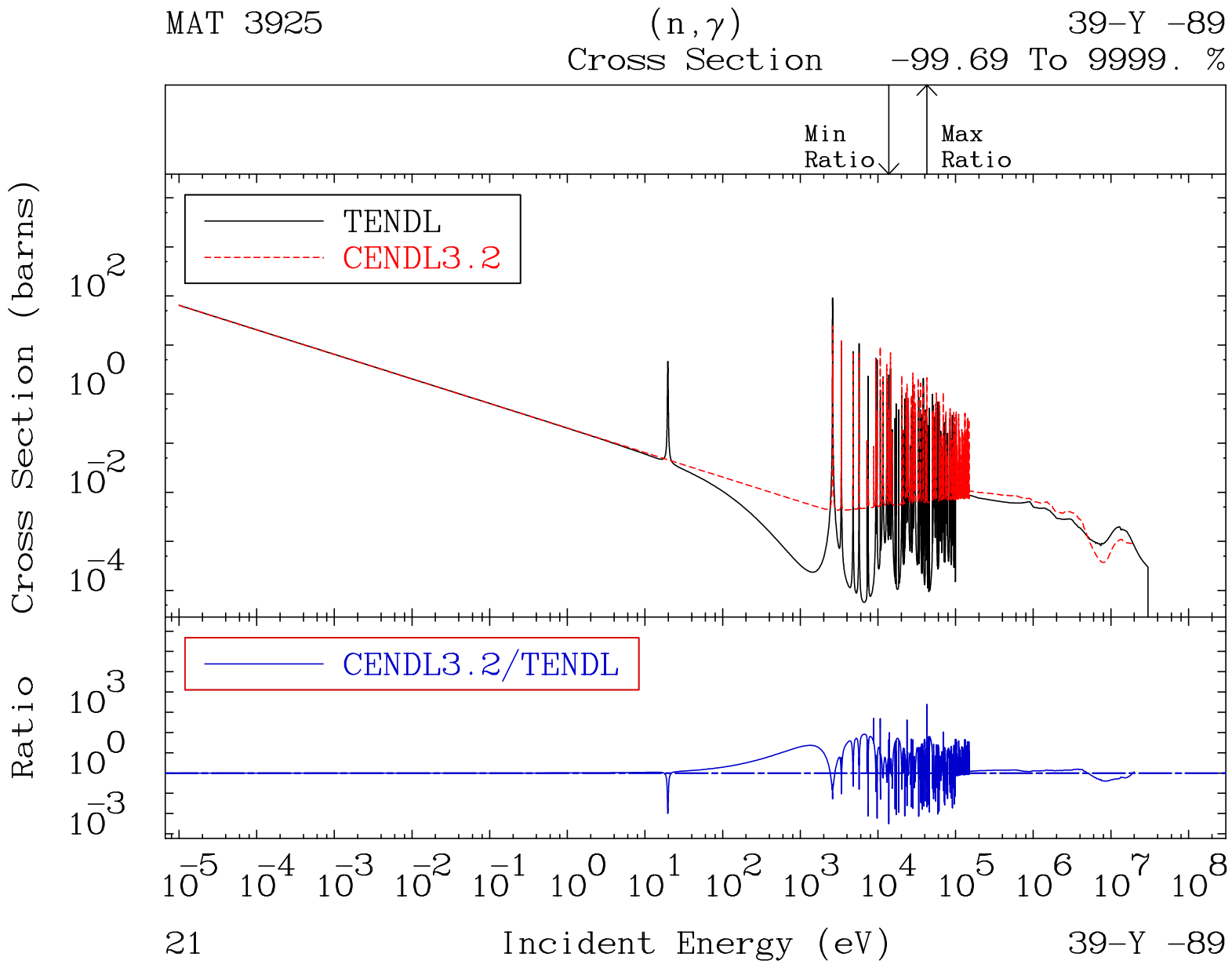

MAT 3925
MT= 60 (n,n') Level
39-Y -89
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.9142 MeV
CENDL3.2 Threshold 2.9275 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
150
100
50
0
200
100
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
16
Incident Energy (eV)
39-Y -89

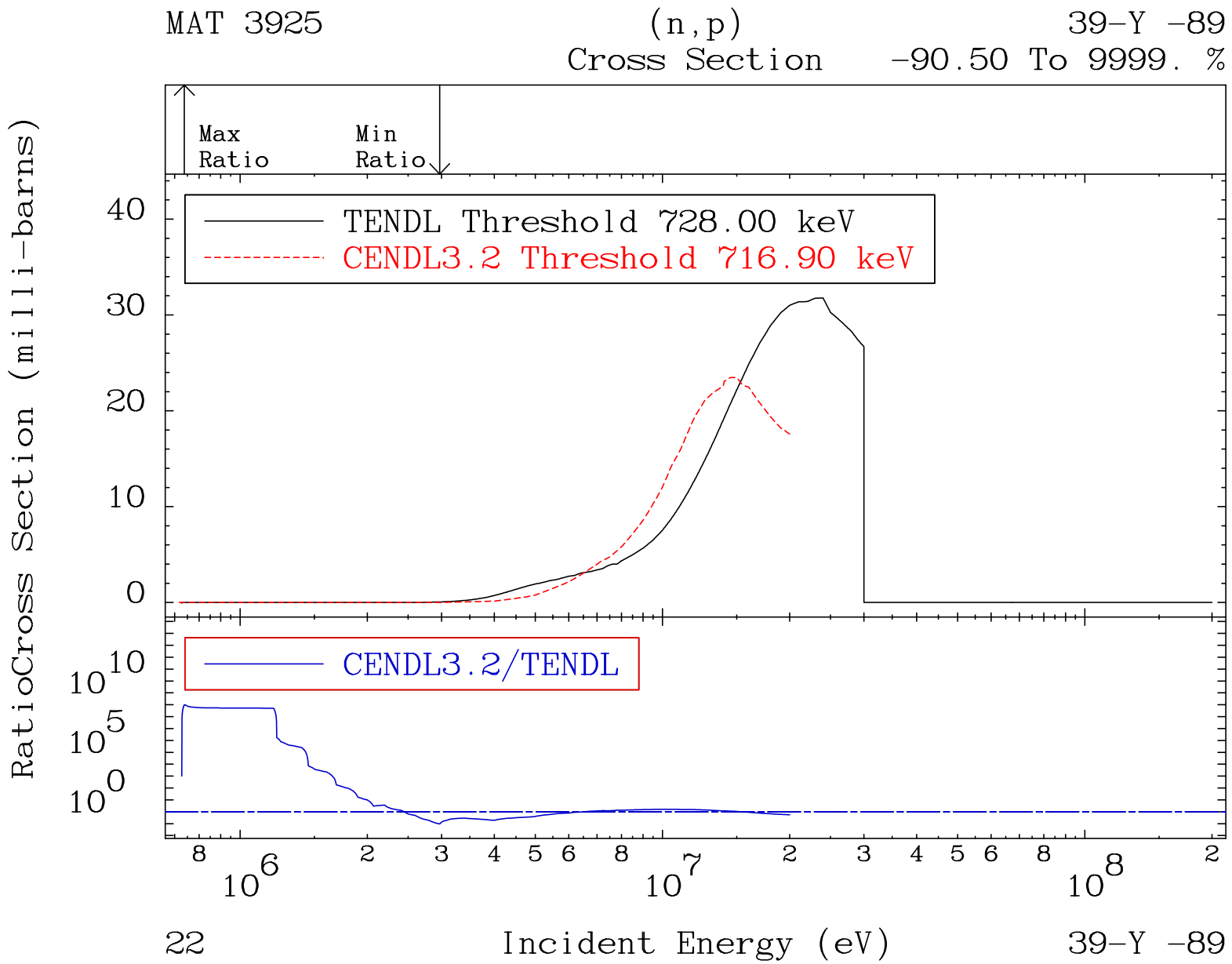

MAT 3925
MT= 61 (n,n') Level
39-Y -89
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 2.9258 MeV
CENDL3.2 Threshold 3.1024 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
120
60
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
17
Incident Energy (eV)
39-Y -89

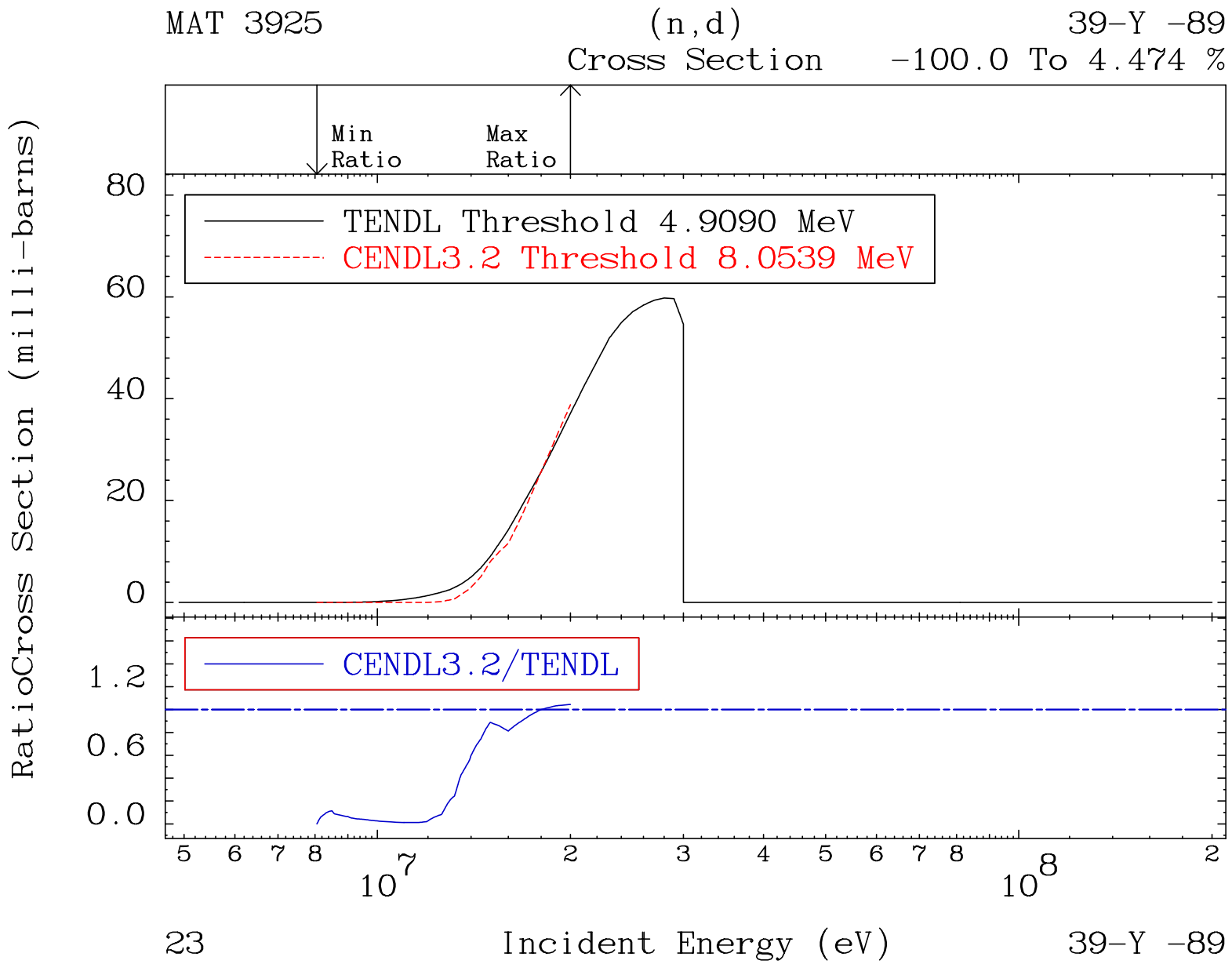

MAT 3925
MT= 62 (n,n') Level
39-Y -89
Cross Section -100.0 To 3512. %
Min Ratio
Max Ratio
TENDL Threshold 3.1026 MeV
CENDL3.2 Threshold 3.1424 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
140
120
100
80
60
40
20
0
40
20
0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
18
Incident Energy (eV)
39-Y -89

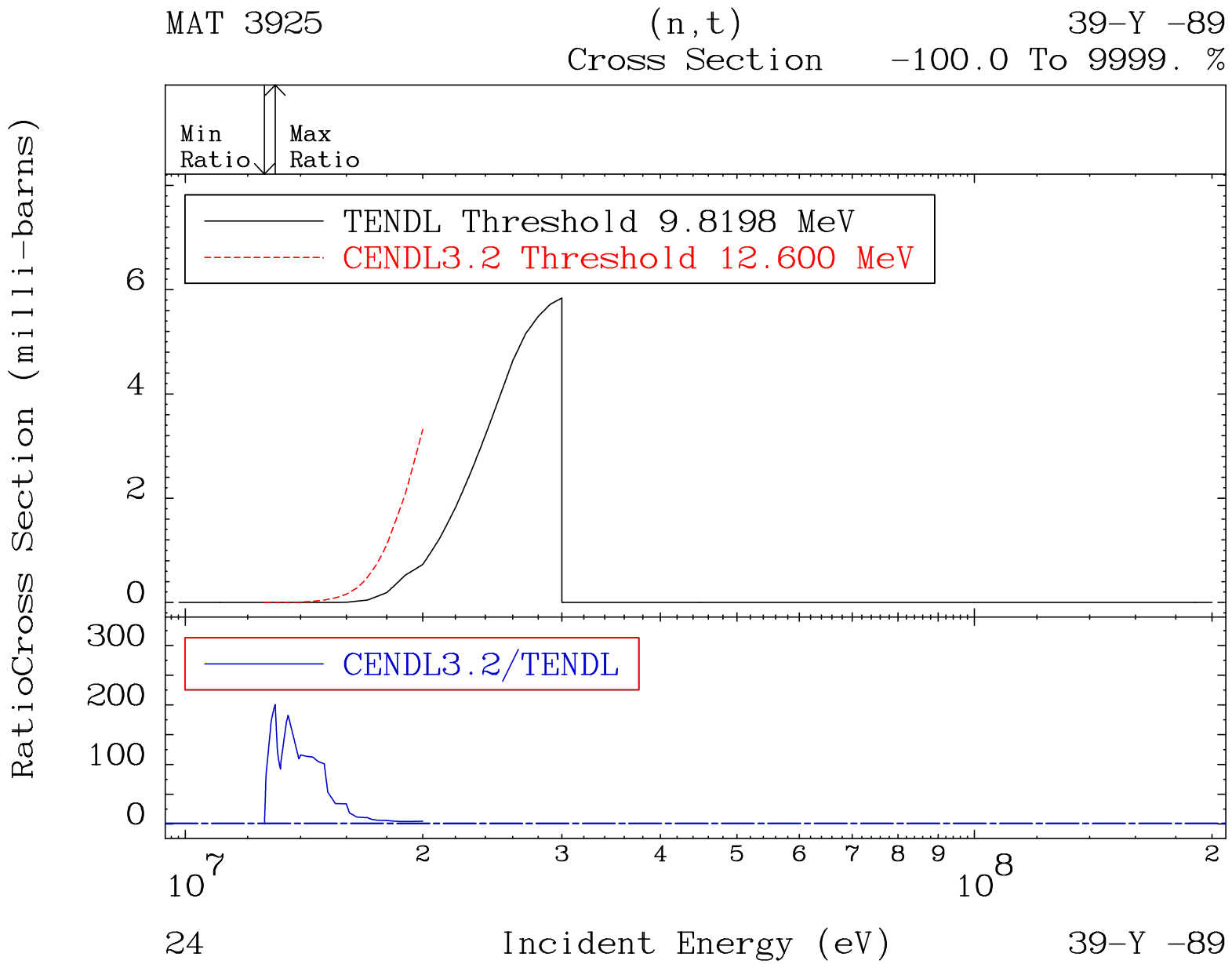

MAT 3925
MT= 63 (n,n') Level
39-Y -89
Cross Section -100.0 To -25.82%
Max
Ratio
TENDL Threshold 3.1425 MeV
CENDL3.2 Threshold 3.1745 MeV
150
100
50
0
CENDL3.2/TENDL
0.8
0.4
0.0
3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
RatioCross Section (milli-barns)
19
Incident Energy (eV)
39-Y -89

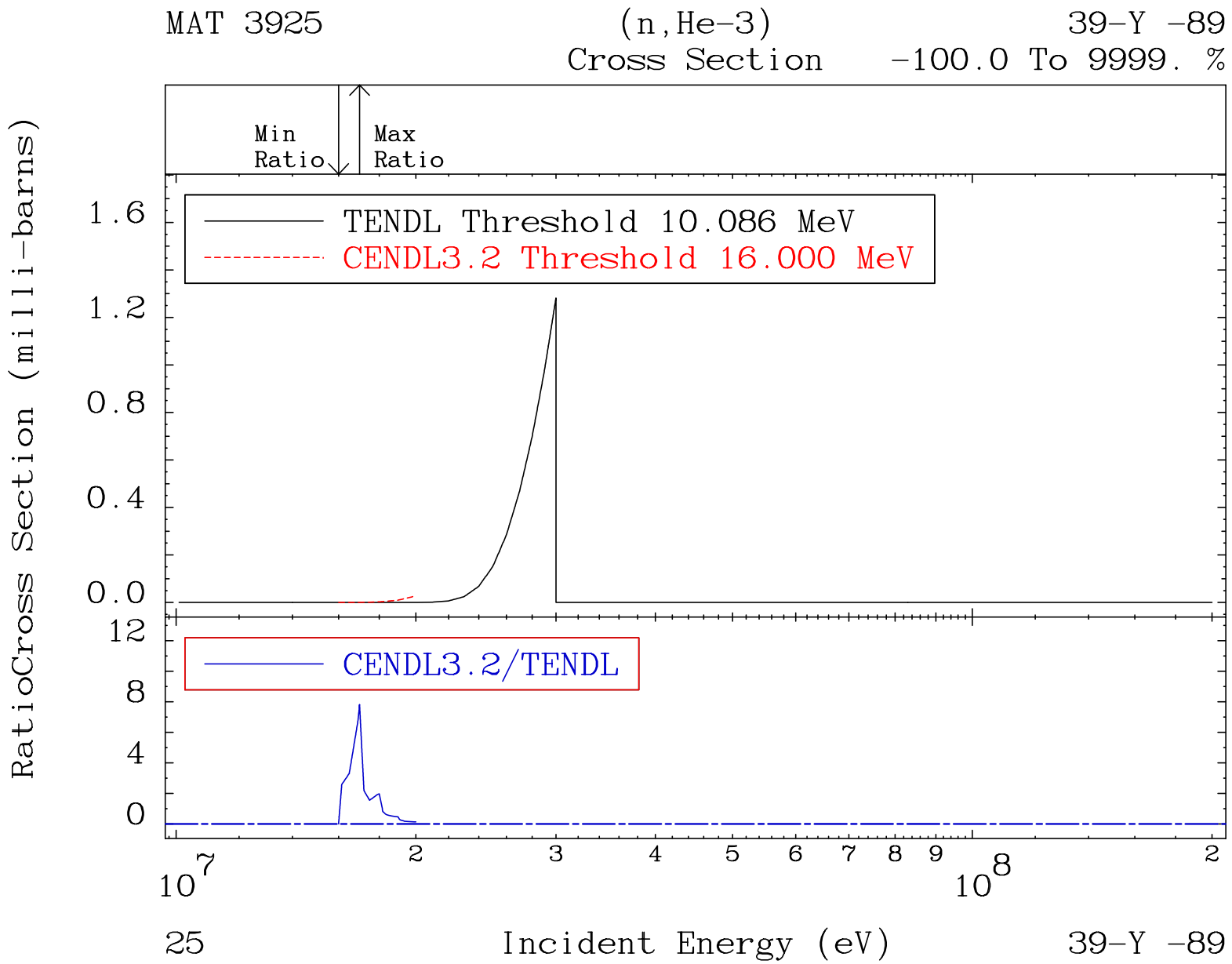

MAT 3925
(n,n') Continuum
Cross Section
39-Y -89
-49.53 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.8532 MeV
CENDL3.2 Threshold 3.1745 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
CENDL3.2/TENDL
Ratio
10^2
10^0
4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
20
Incident Energy (eV)
39-Y -89

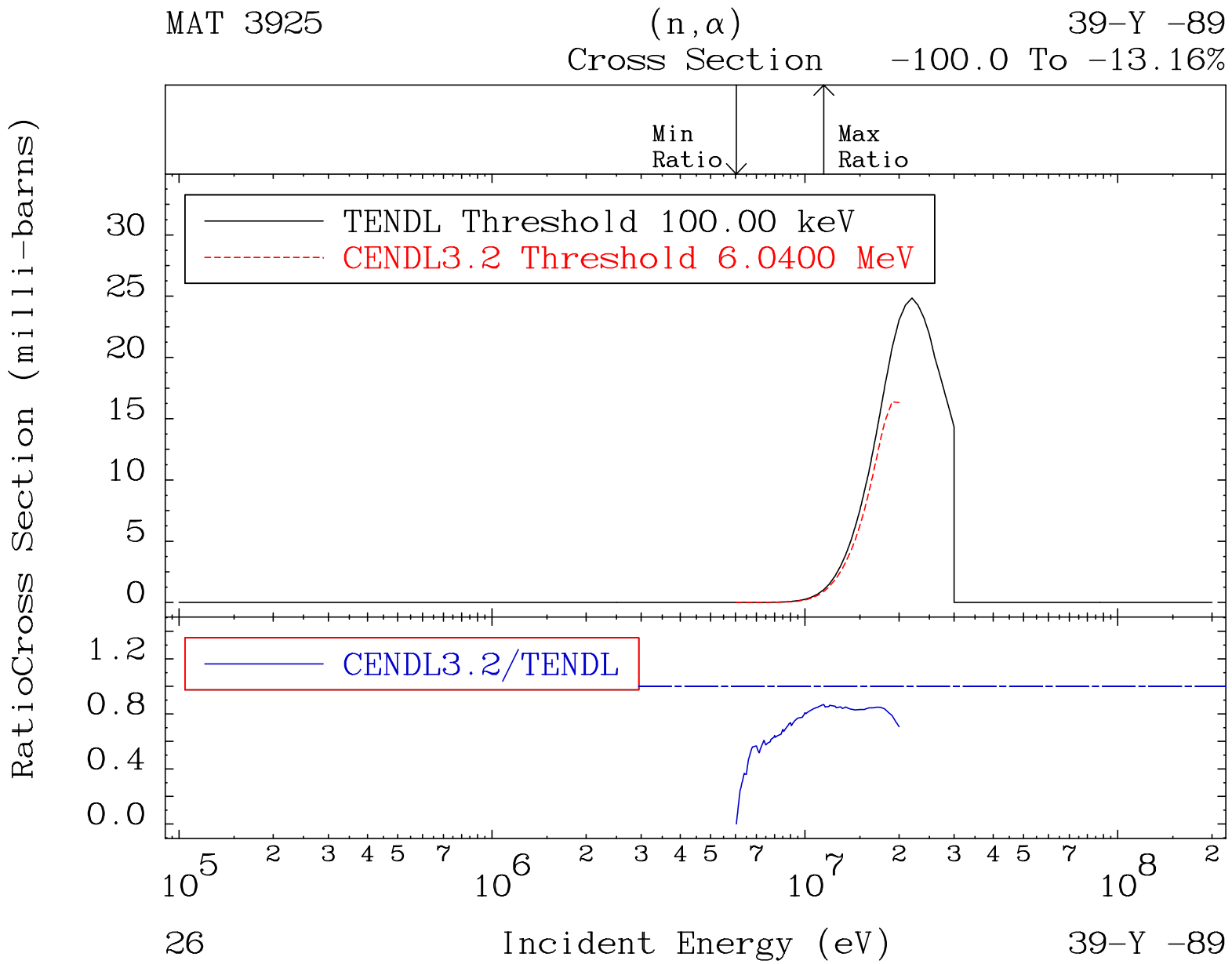

MAT 3925
(n,γ)
Cross Section
39-Y -89
-99.69 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
21
39-Y -89

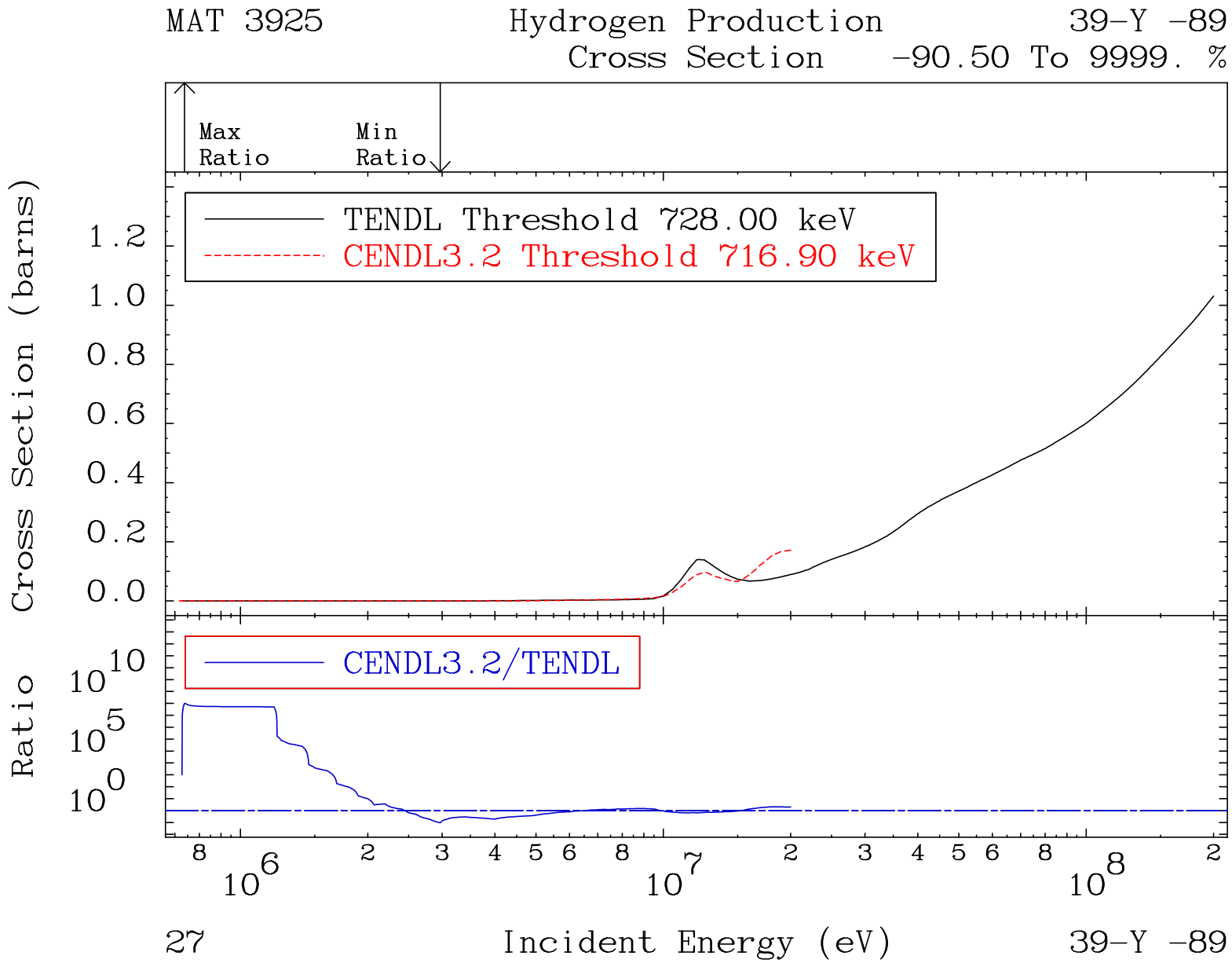

MAT 3925
(n,p)
39-Y -89
Cross Section
-90.50 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 728.00 keV
CENDL3.2 Threshold 716.90 keV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
10^{10}
10^{5}
10^{0}
8
10^{6}
2
3
4
5
6
8
10^{7}
2
3
4
5
6
8
10^{8}
2
22
Incident Energy (eV)
39-Y -89

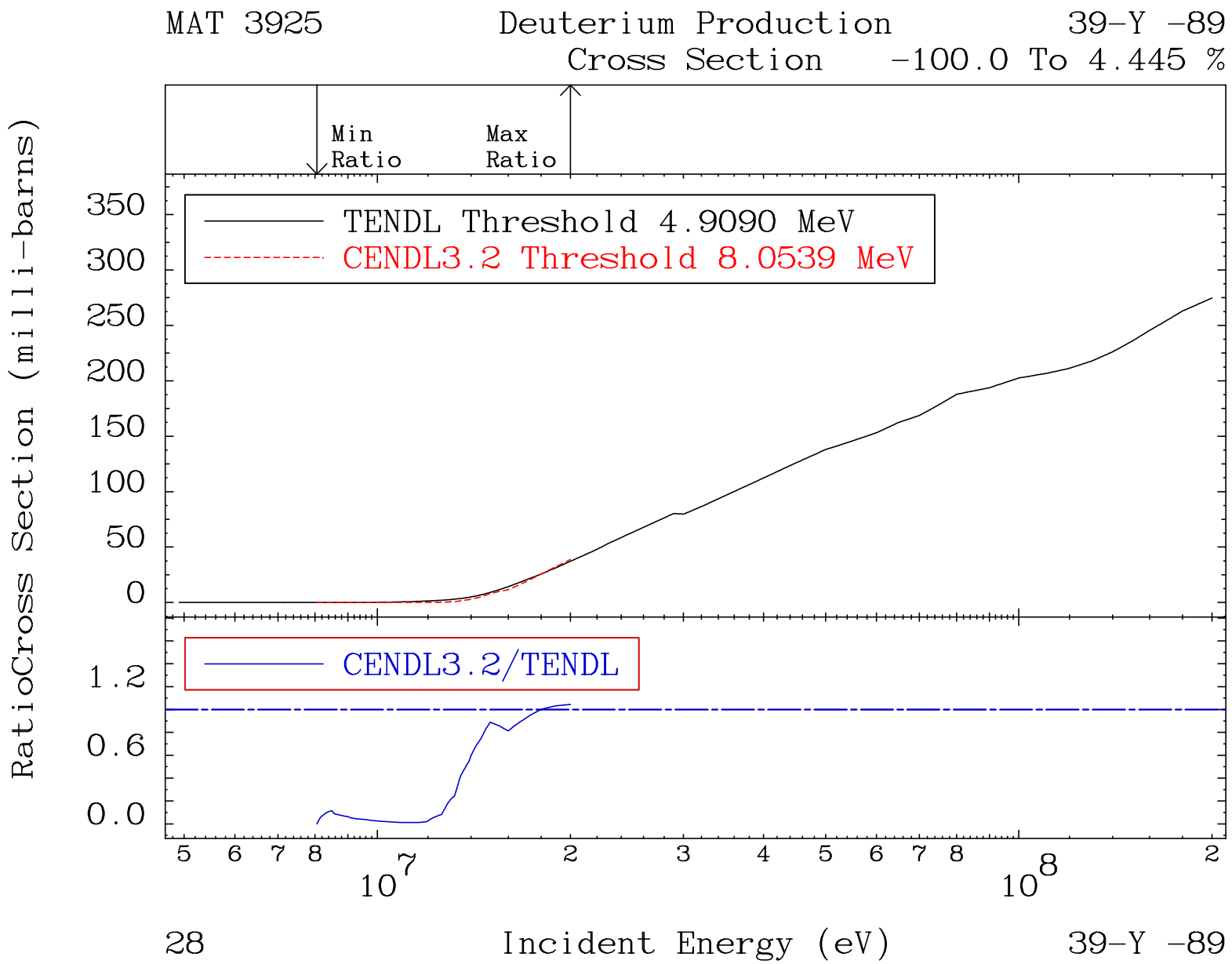

MAT 3925
(n,d)
39-Y -89
Cross Section
-100.0 To 4.474 %
Min Ratio
Max Ratio
TENDL Threshold 4.9090 MeV
CENDL3.2 Threshold 8.0539 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
1.2
0.6
0.0
5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
23
Incident Energy (eV)
39-Y -89

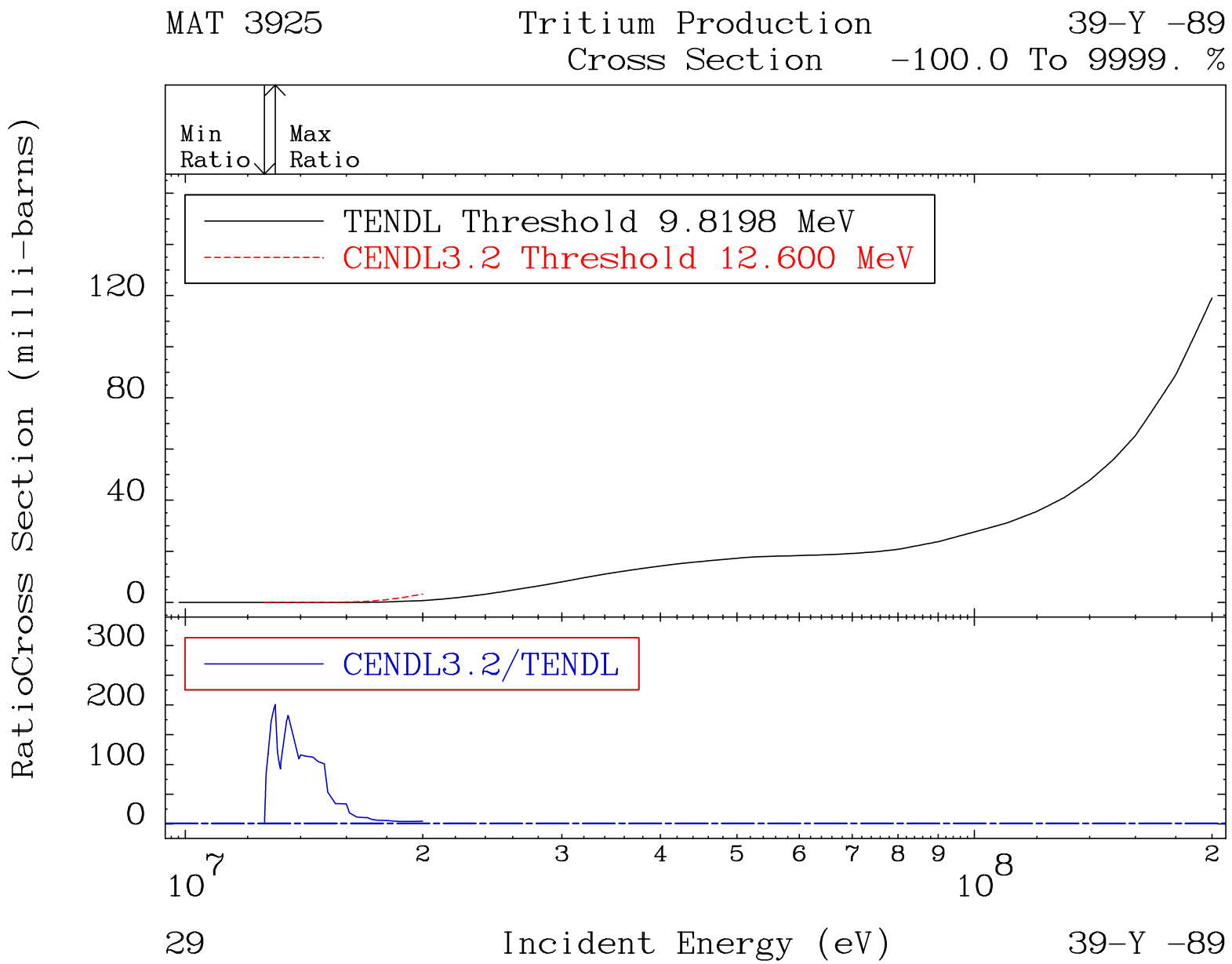

MAT 3925
(n,t)
39-Y -89
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 9.8198 MeV
CENDL3.2 Threshold 12.600 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
24
39-Y -89

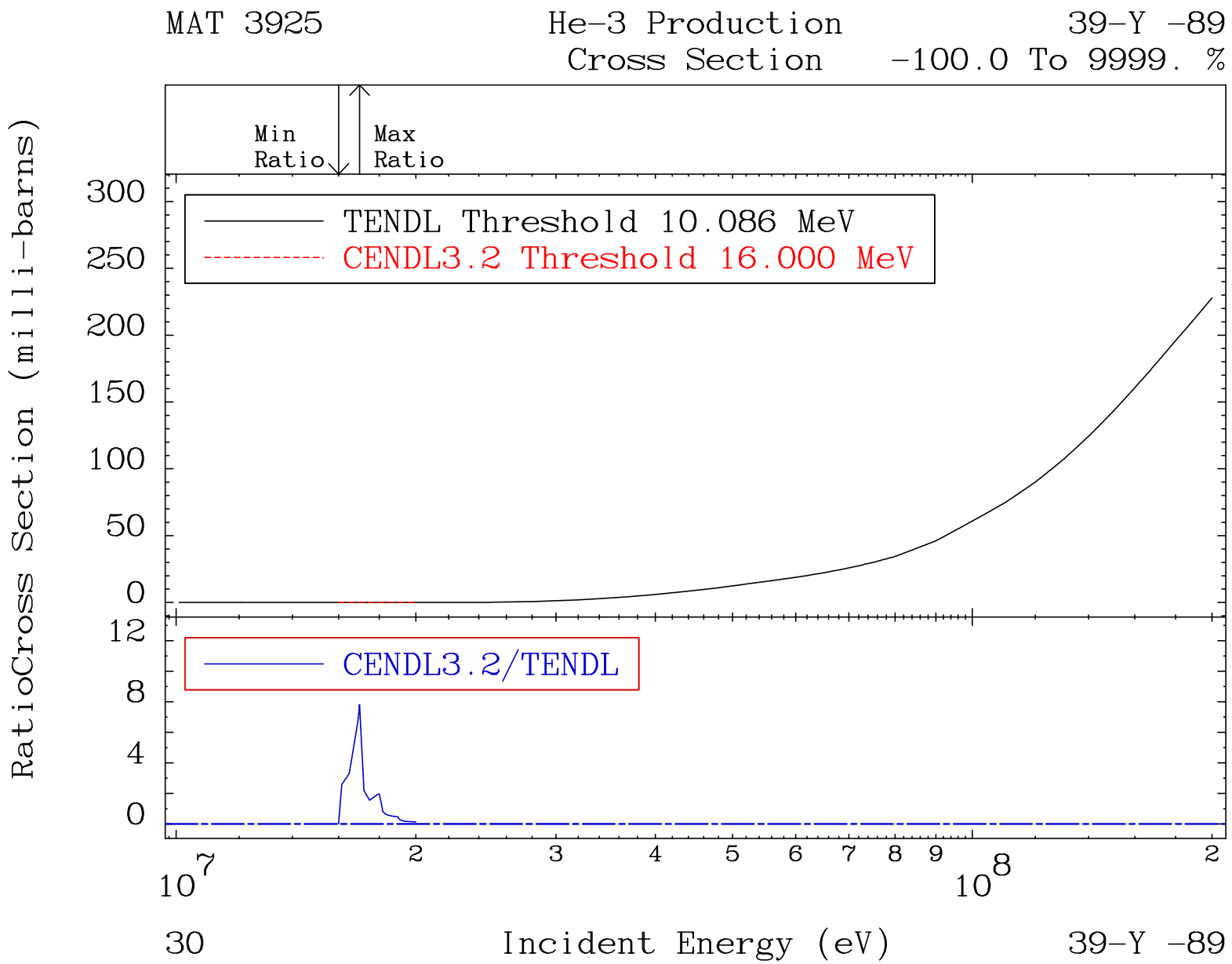

MAT 3925
(n,He-3)
Cross Section
39-Y -89
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.086 MeV
CENDL3.2 Threshold 16.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
12
8
4
0
10^7
2
3
4
5
6
7
8
9
10^8
2
25
Incident Energy (eV)
39-Y -89

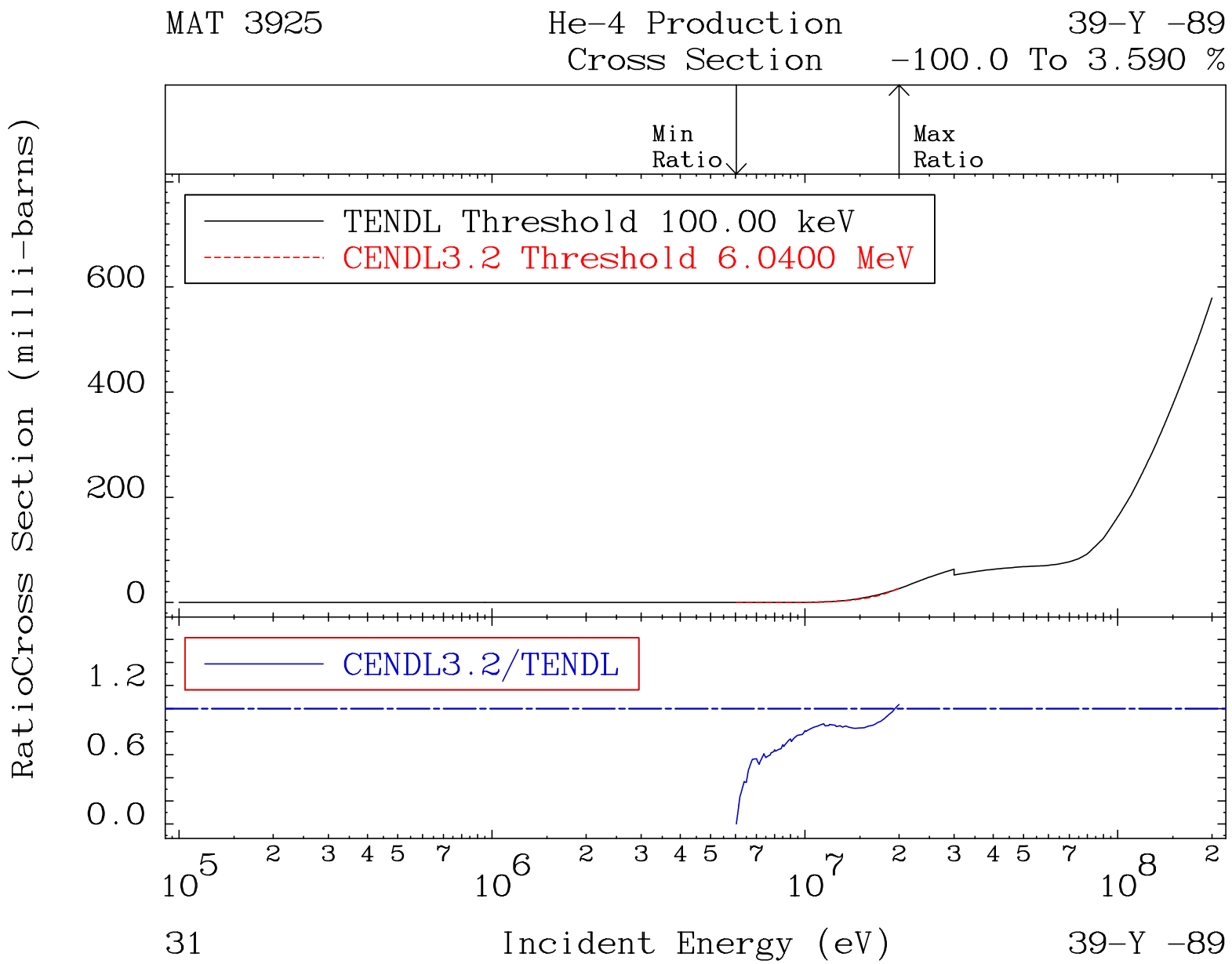

MAT 3925
(n,α)
Cross Section
39-Y -89
-100.0 To -13.16%
Min Ratio
Max Ratio
TENDL Threshold 100.00 keV
CENDL3.2 Threshold 6.0400 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
1.2
0.8
0.4
0.0
10^5
10^6
10^7
10^8
Incident Energy (eV)
26
39-Y -89

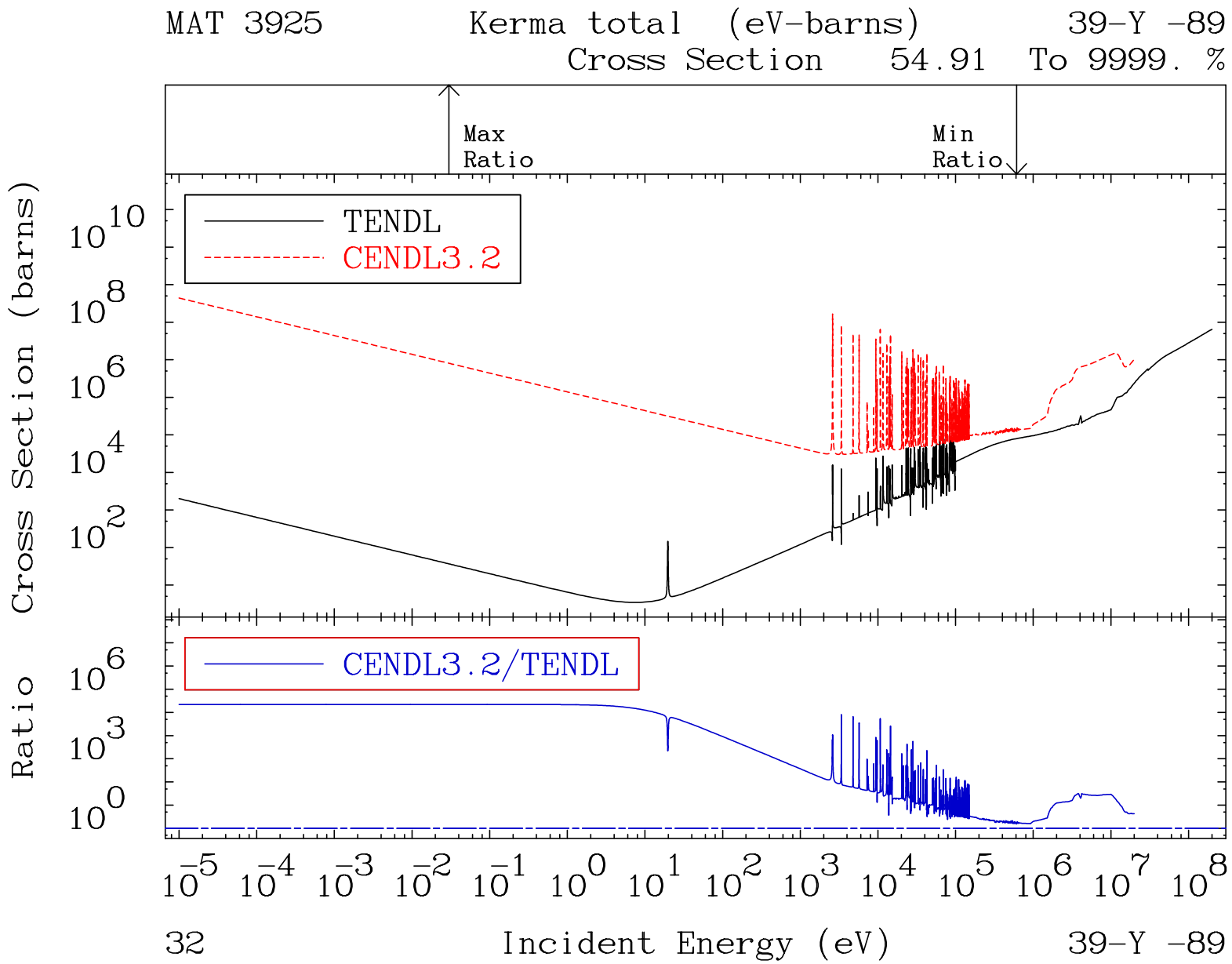

MAT 3925
Hydrogen Production
39-Y -89
Cross Section
-90.50 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 728.00 keV
CENDL3.2 Threshold 716.90 keV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
CENDL3.2/TENDL
Ratio
10^10
10^5
10^0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
27
Incident Energy (eV)
39-Y -89

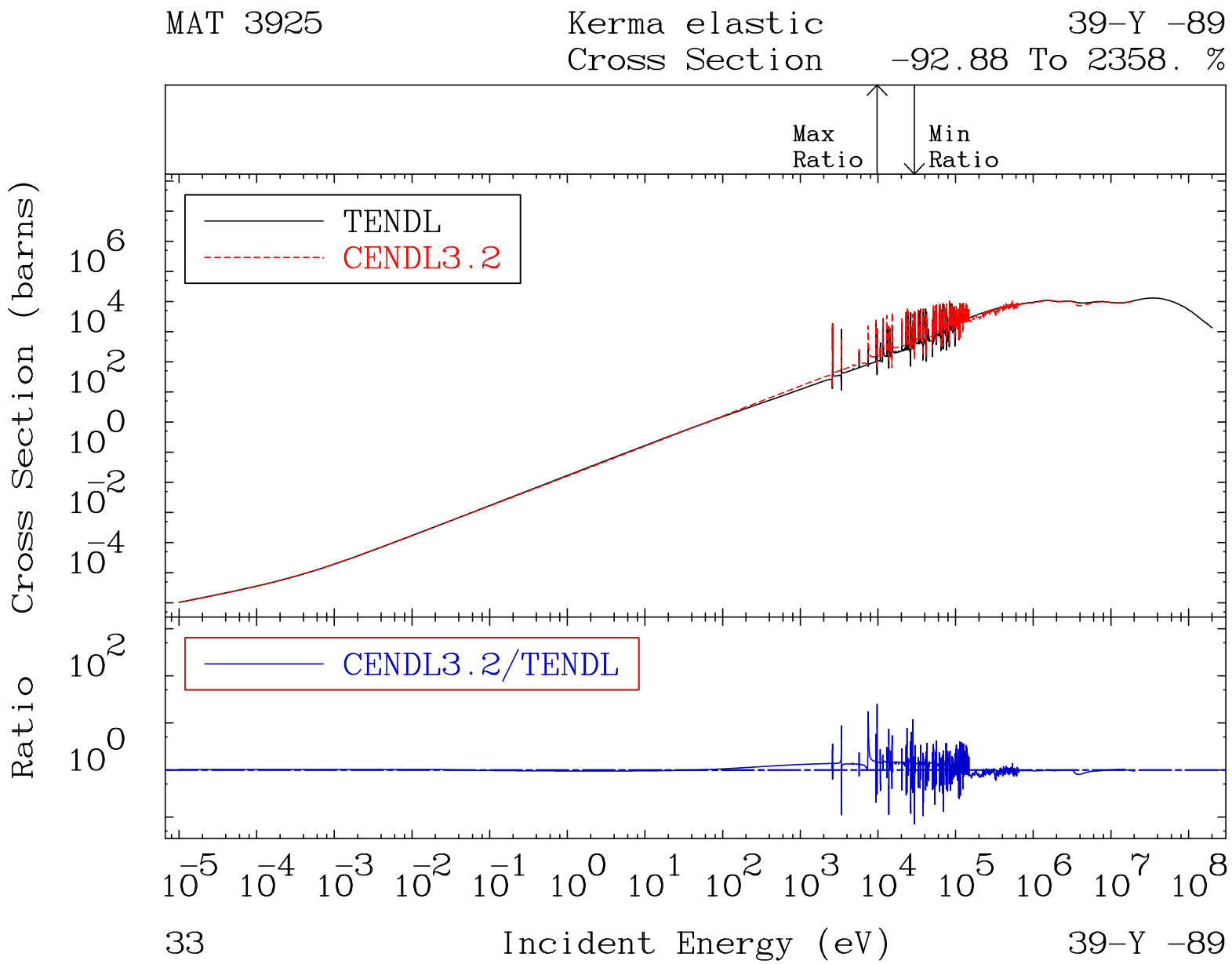

MAT 3925
Deuterium Production
39-Y -89
Cross Section -100.0 To 4.445 %
Min Ratio
Max Ratio
TENDL Threshold 4.9090 MeV
CENDL3.2 Threshold 8.0539 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
1.2
0.6
0.0
5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
28
Incident Energy (eV)
39-Y -89

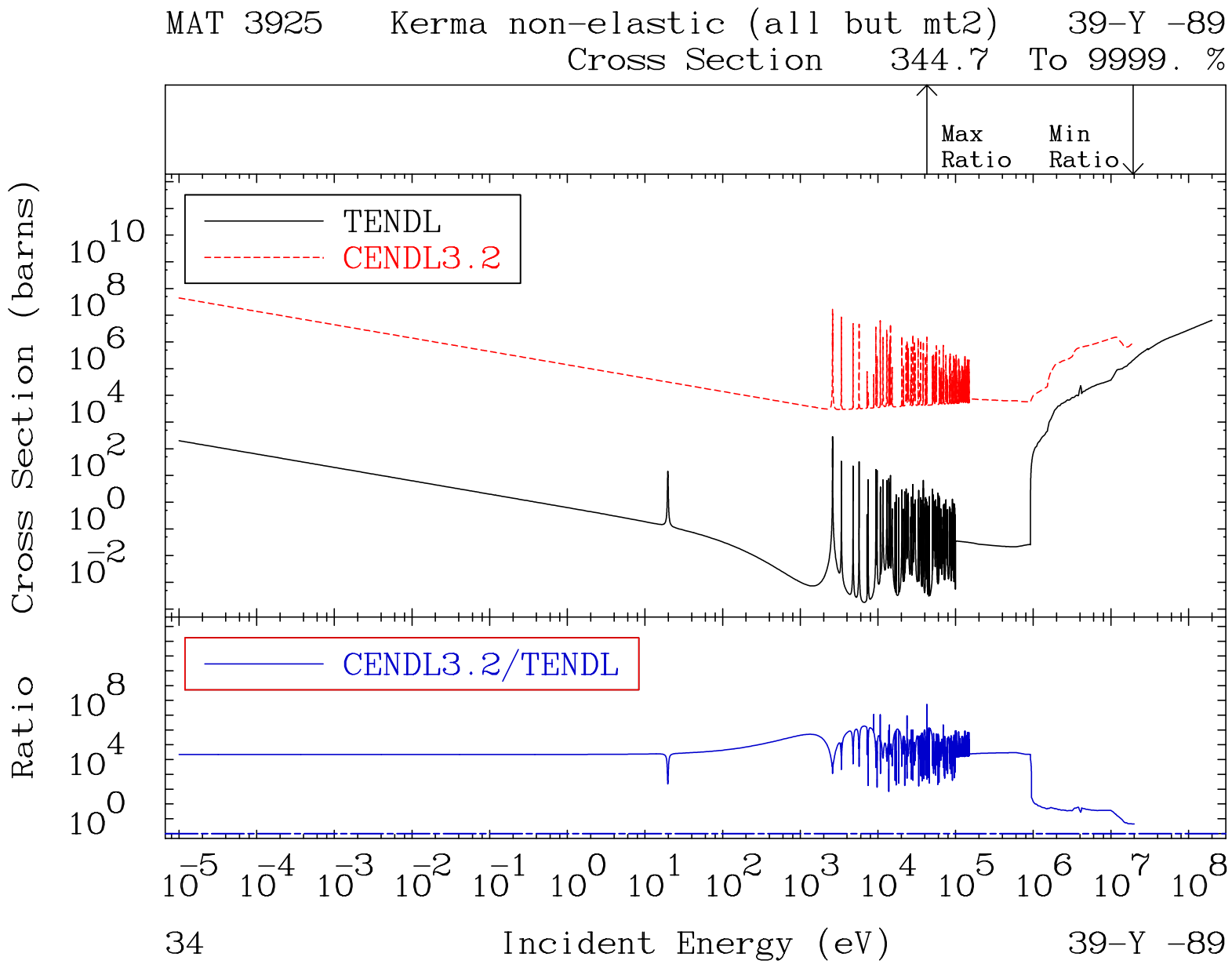

MAT 3925
Tritium Production
39-Y -89
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 9.8198 MeV
CENDL3.2 Threshold 12.600 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
120
80
40
0
300
200
100
0
10^7
2
3
4
5
6
7
8
9
10^8
2
29
Incident Energy (eV)
39-Y -89

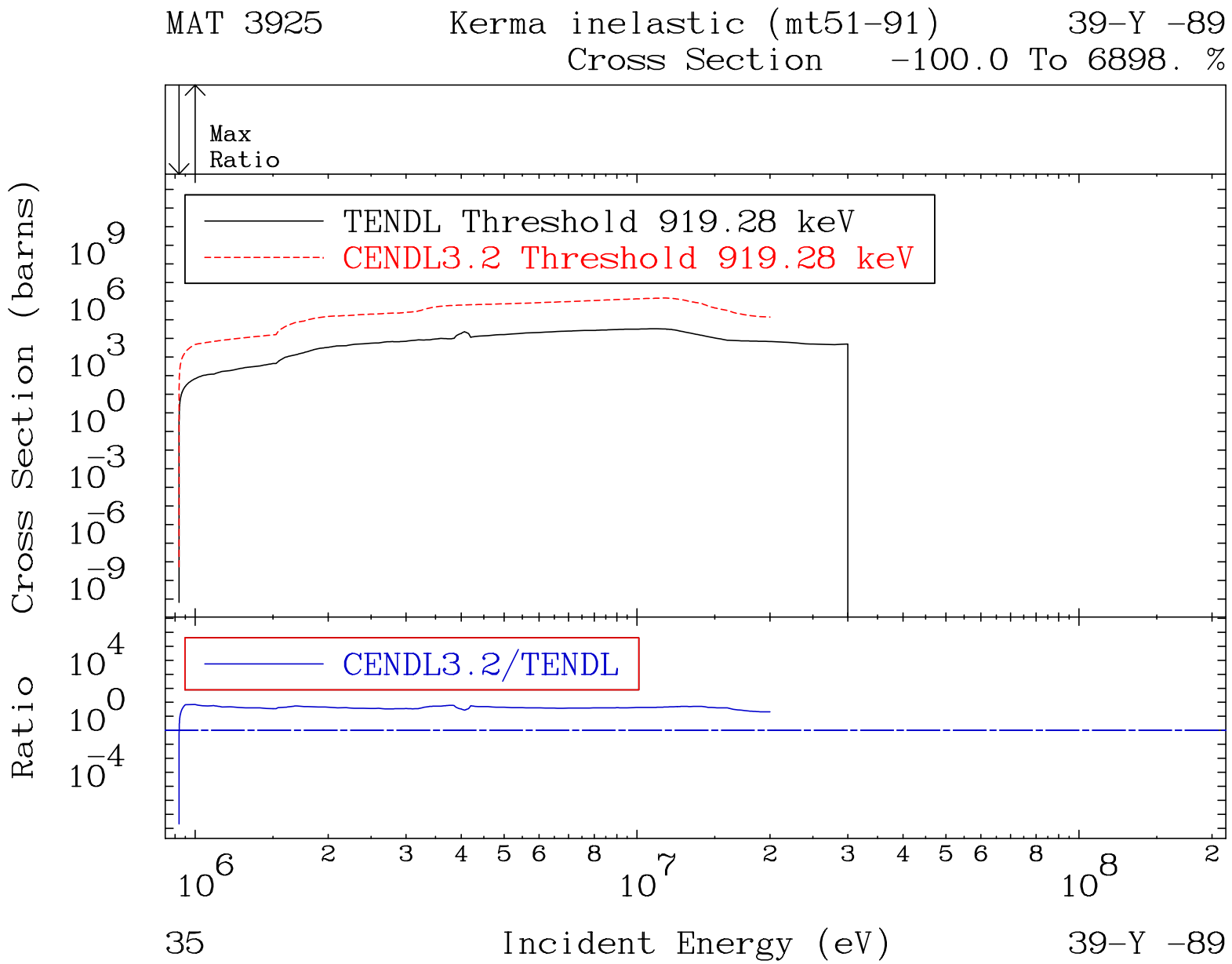

MAT 3925
He-3 Production
Cross Section
39-Y -89
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.086 MeV
CENDL3.2 Threshold 16.000 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
12
8
4
0
10^7
2
3
4
5
6
7
8
9
10^8
2
30
Incident Energy (eV)
39-Y -89

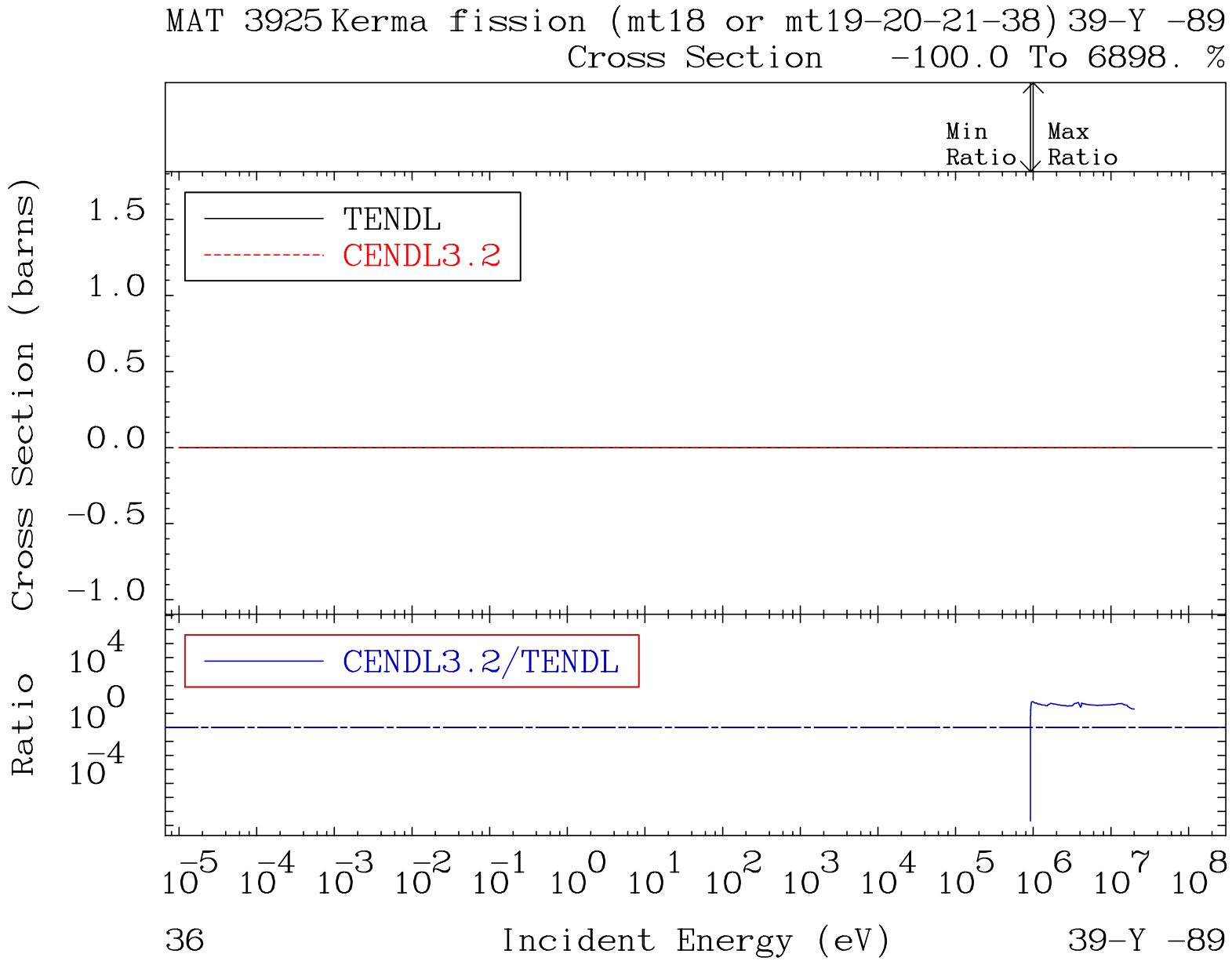

MAT 3925
He-4 Production
Cross Section
39-Y -89
-100.0 To 3.590 %
Min Ratio
Max Ratio
TENDL Threshold 100.00 keV
CENDL3.2 Threshold 6.0400 MeV
CENDL3.2/TENDL
RatioCross Section (milli-barns)
600
400
200
0
1.2
0.6
0.0
10^5
10^6
10^7
10^8
31
Incident Energy (eV)
39-Y -89

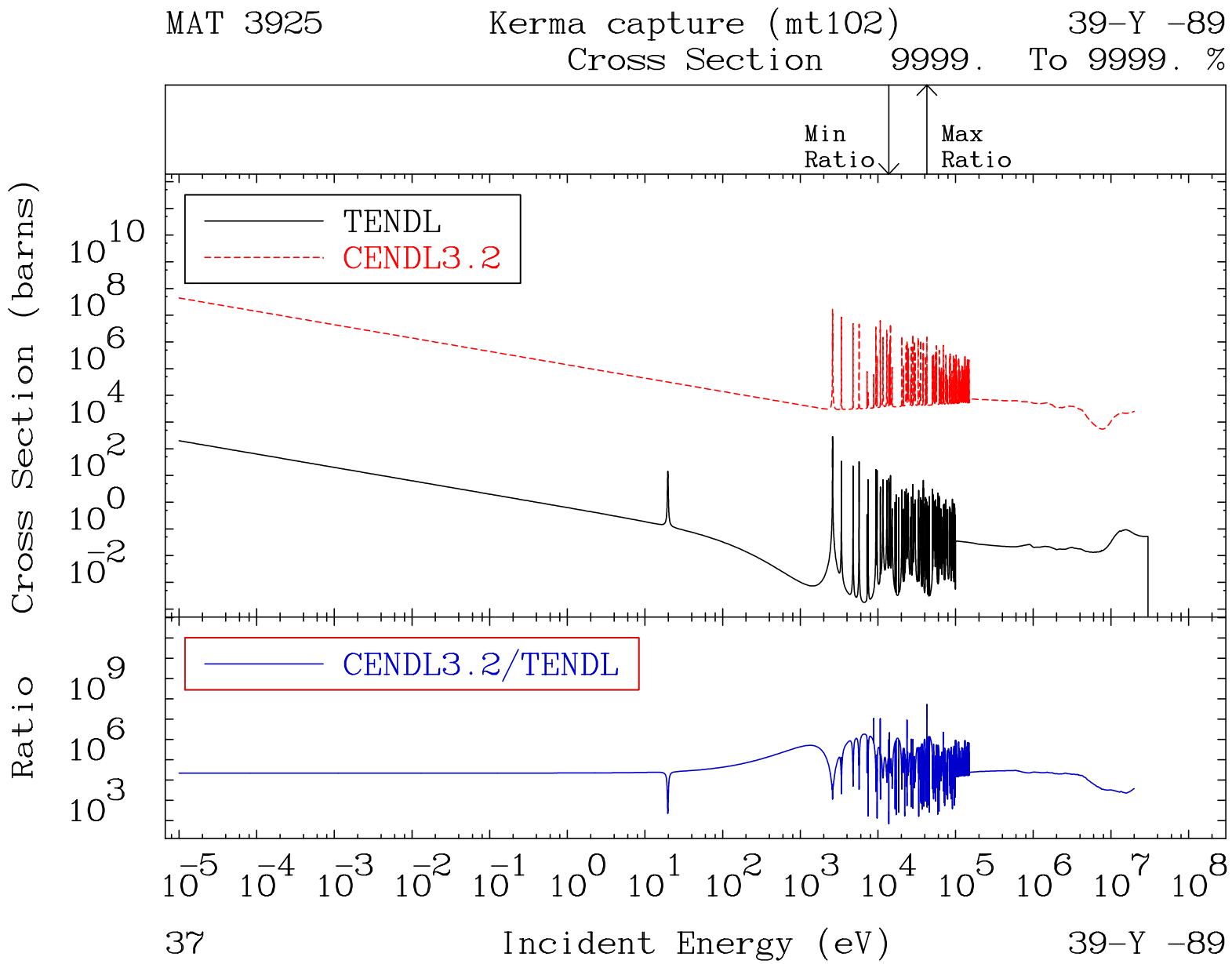

MAT 3925
Kerma total (eV-barns)
39-Y -89
Cross Section 54.91 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
10^{10}
10^{8}
10^{6}
10^{4}
10^{2}
CENDL3.2/TENDL
Ratio
10^{6}
10^{3}
10^{0}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
32
Incident Energy (eV)
39-Y -89

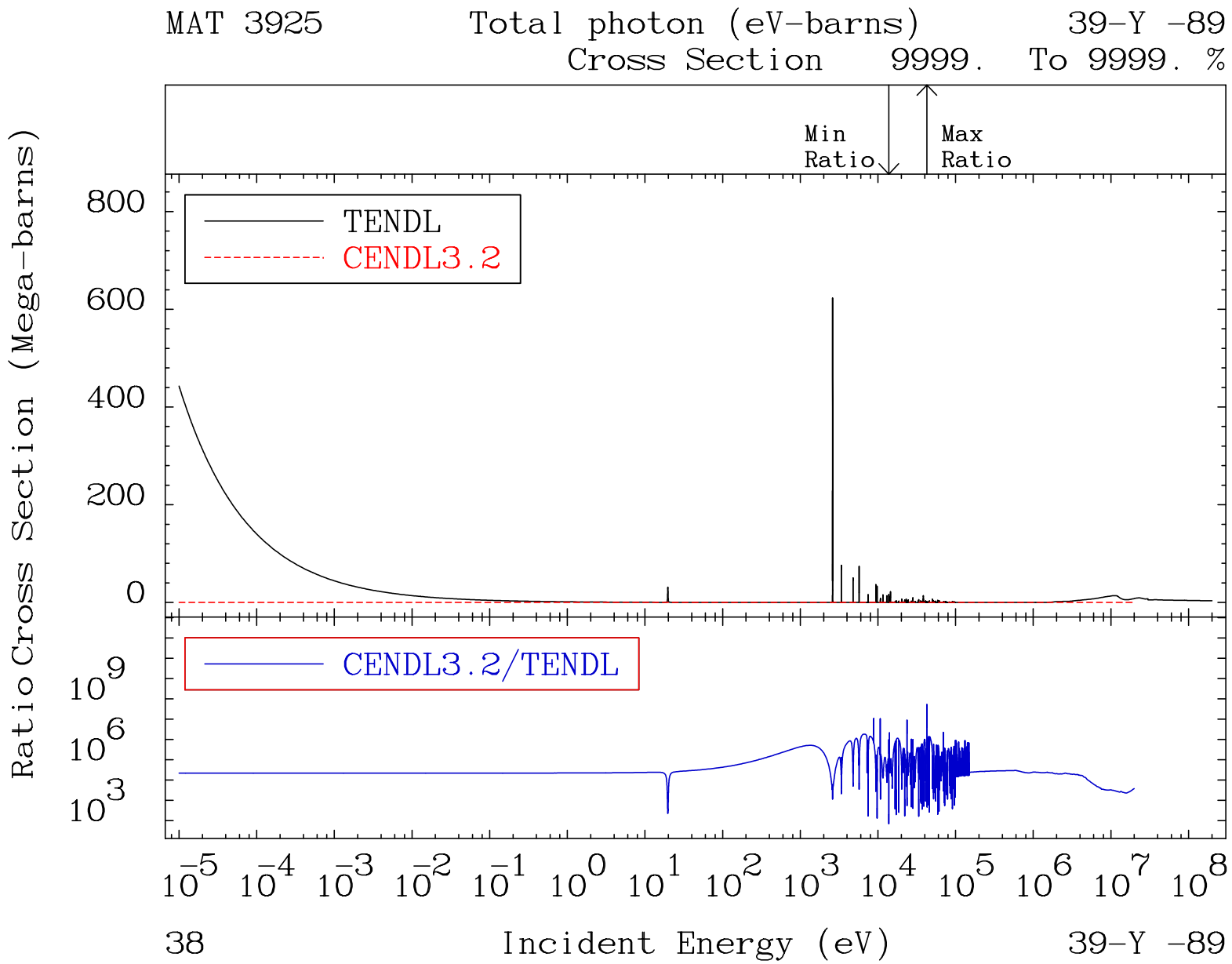

MAT 3925
Kerma elastic
Cross Section
39-Y -89
-92.88 To 2358. %
Max
Ratio
Min
Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
33
39-Y -89

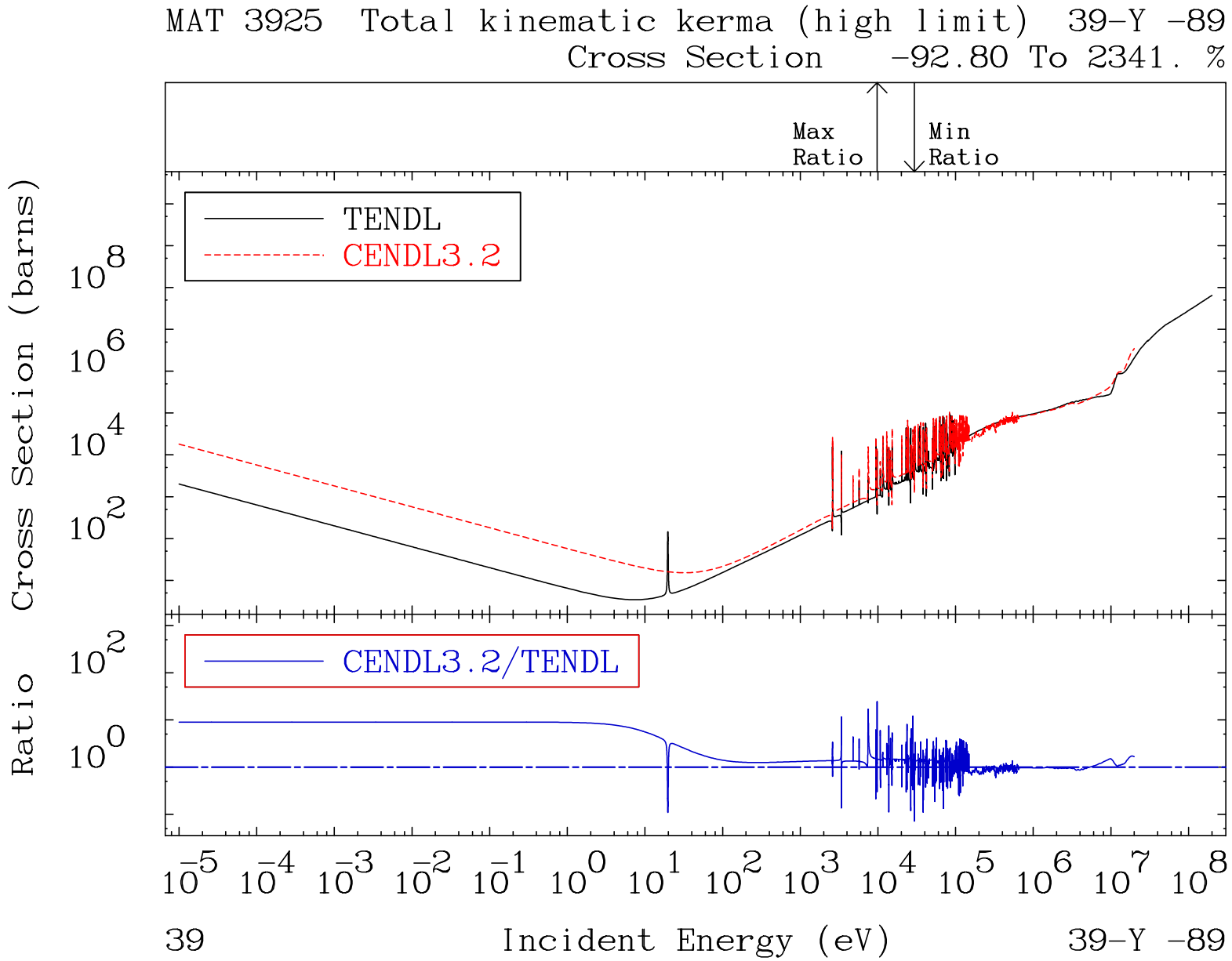

MAT 3925 Kerma non-elastic (all but mt2) 39-Y -89
Cross Section 344.7 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
34
39-Y -89

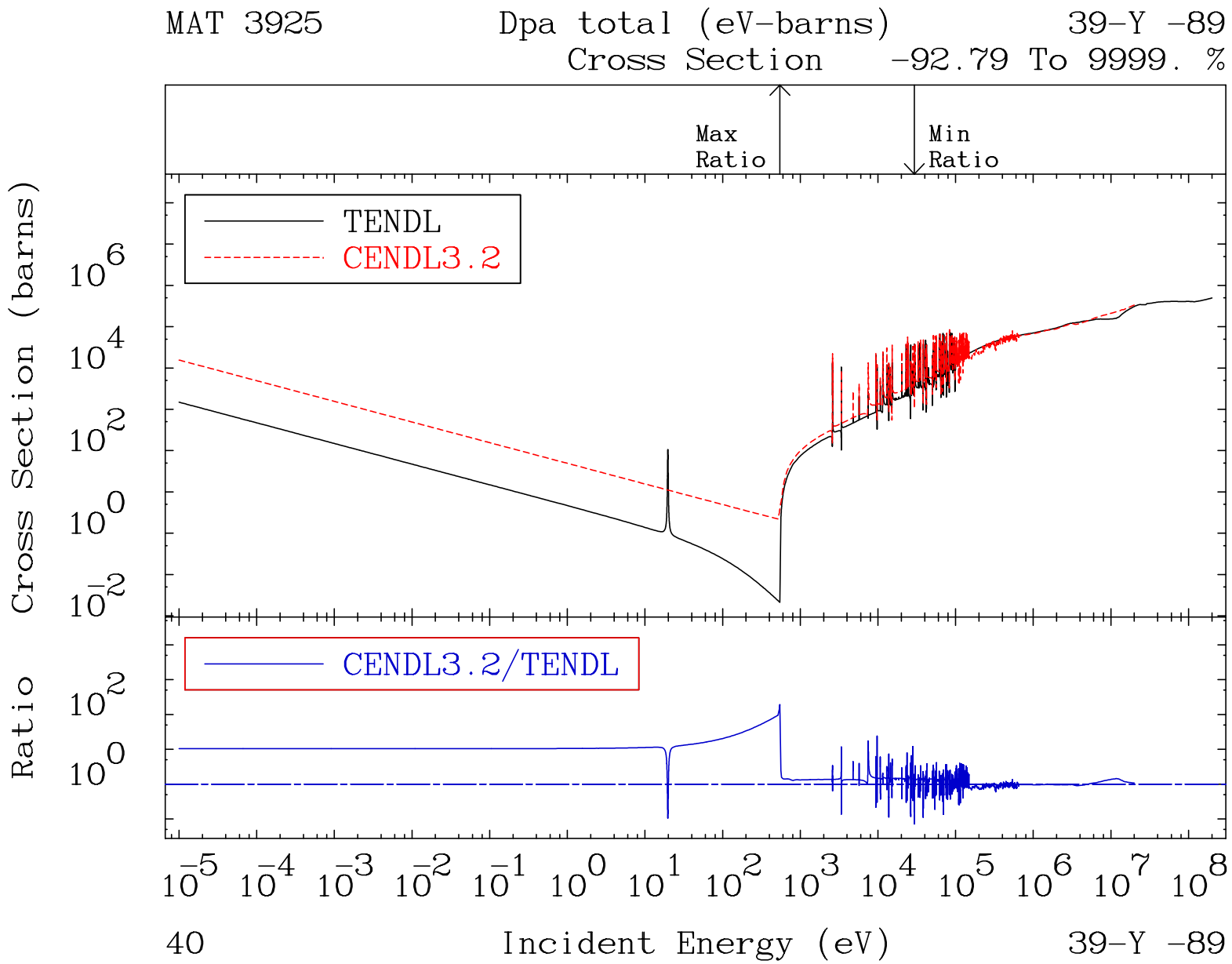

MAT 3925
Kerma inelastic (mt51-91)
39-Y -89
Cross Section -100.0 To 6898. %
Max
Ratio
TENDL Threshold 919.28 keV
CENDL3.2 Threshold 919.28 keV
Cross Section (barns)
10^9
10^6
10^3
10^0
10^-3
10^-6
10^-9
CENDL3.2/TENDL
Ratio
10^4
10^0
10^-4
2 3 4 5 6 8
10^6
10^7
10^8
35
Incident Energy (eV)
39-Y -89

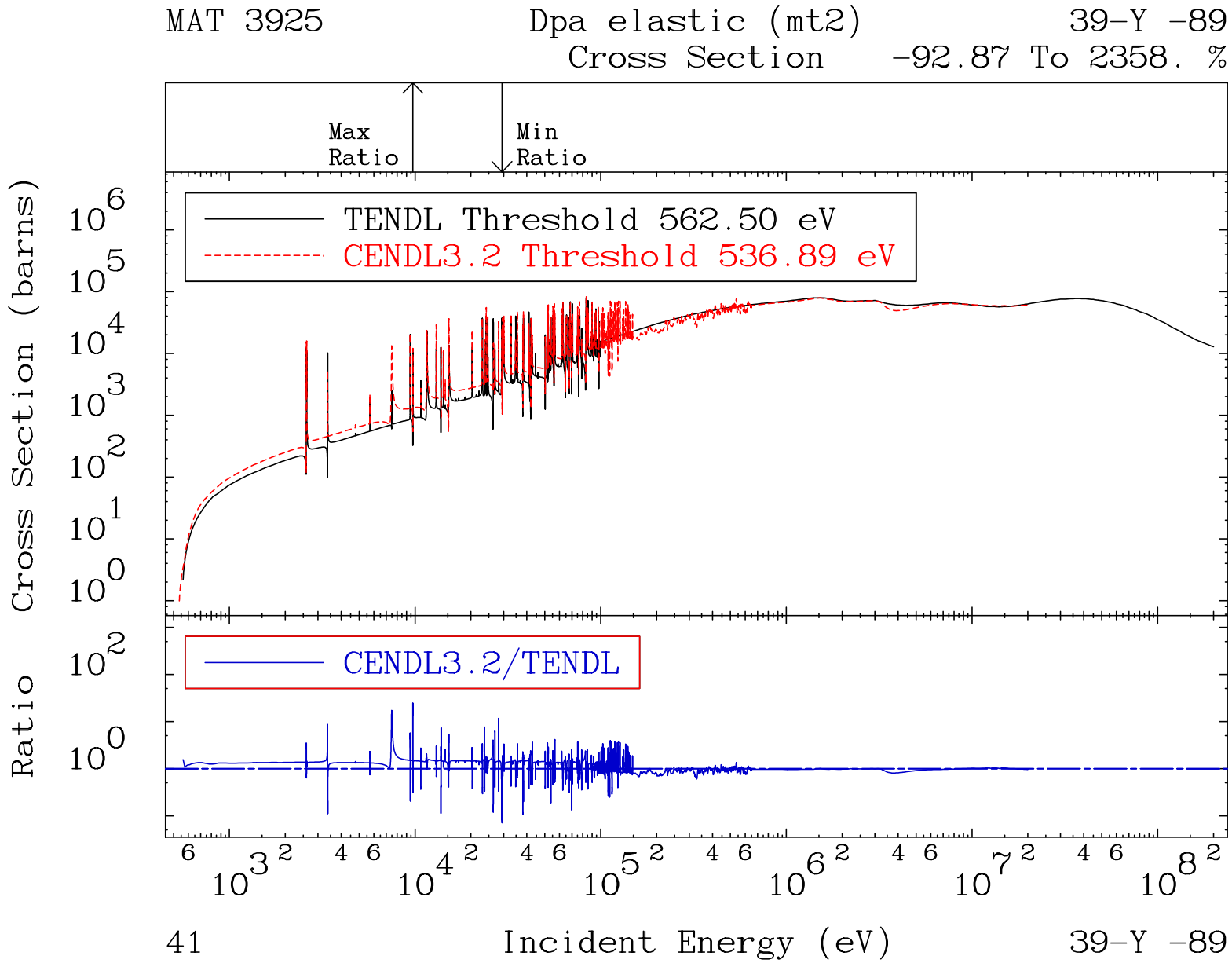

MAT 3925 Kerma fission (mt18 or mt19-20-21-38) 39-Y -89
Cross Section -100.0 To 6898. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
10^{4}
10^{0}
10^{-4}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
36
Incident Energy (eV)
39-Y -89

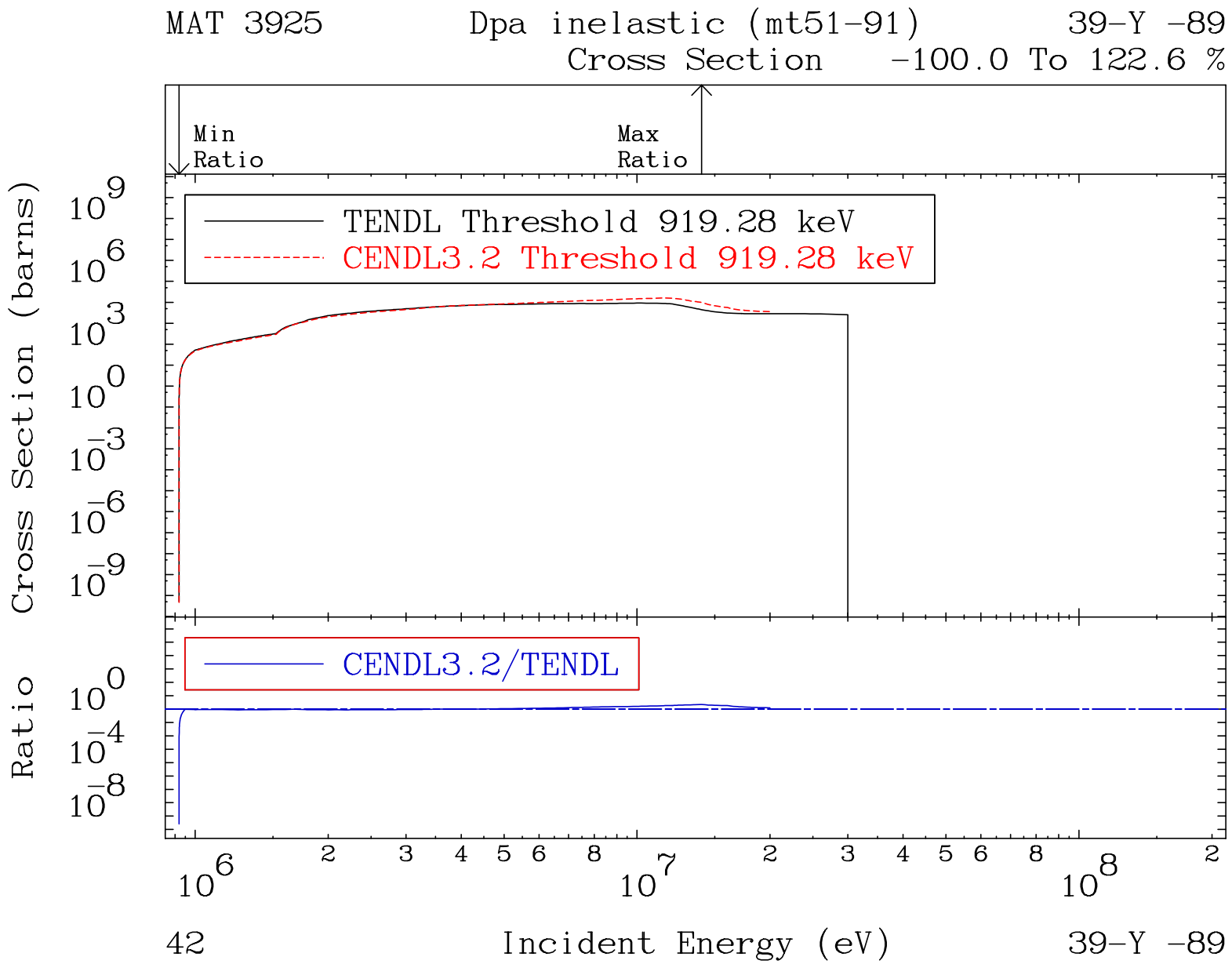

MAT 3925
Kerma capture (mt102)
39-Y -89
Cross Section 9999. To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
37
39-Y -89

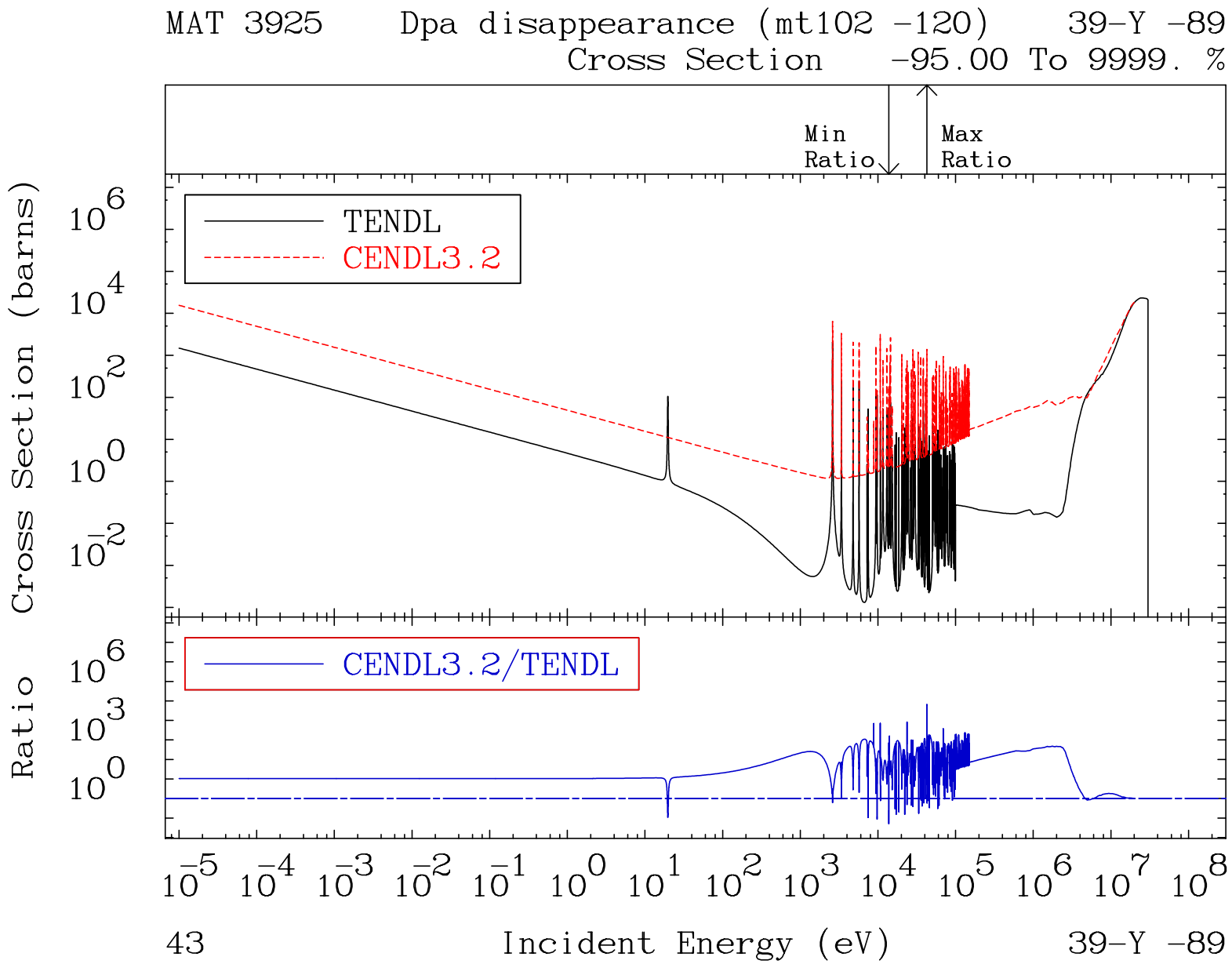

MAT 3925
Total photon (eV-barns)
39-Y -89
Cross Section 9999. To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Ratio Cross Section (Mega-barns)
800
600
400
200
0
10^9
10^6
10^3
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
38
Incident Energy (eV)
39-Y -89

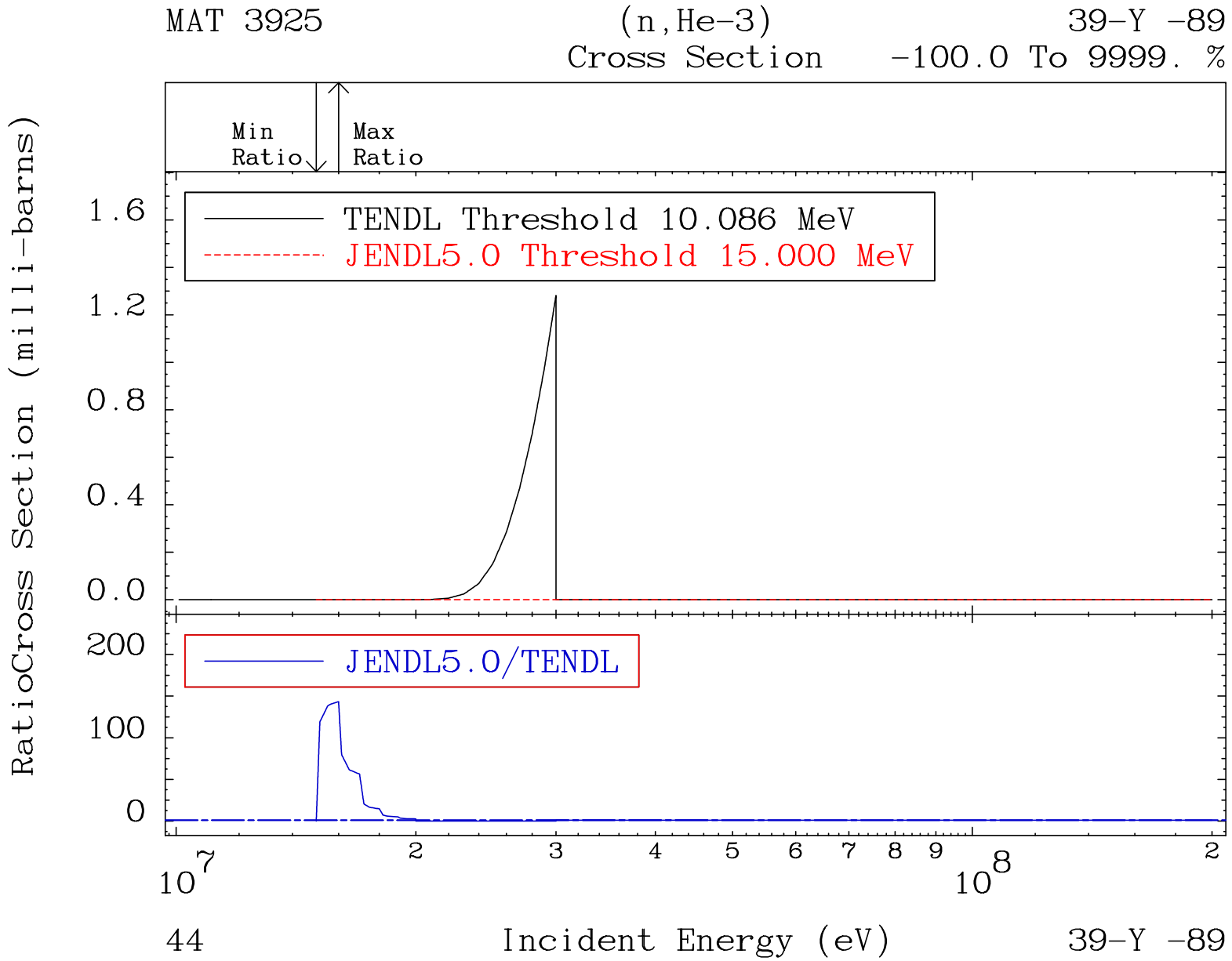

MAT 3925 Total kinematic kerma (high limit) 39-Y -89
Cross Section -92.80 To 2341. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
Cross Section (barns)
CENDL3.2/TENDL
Ratio
Incident Energy (eV)
39
39-Y -89

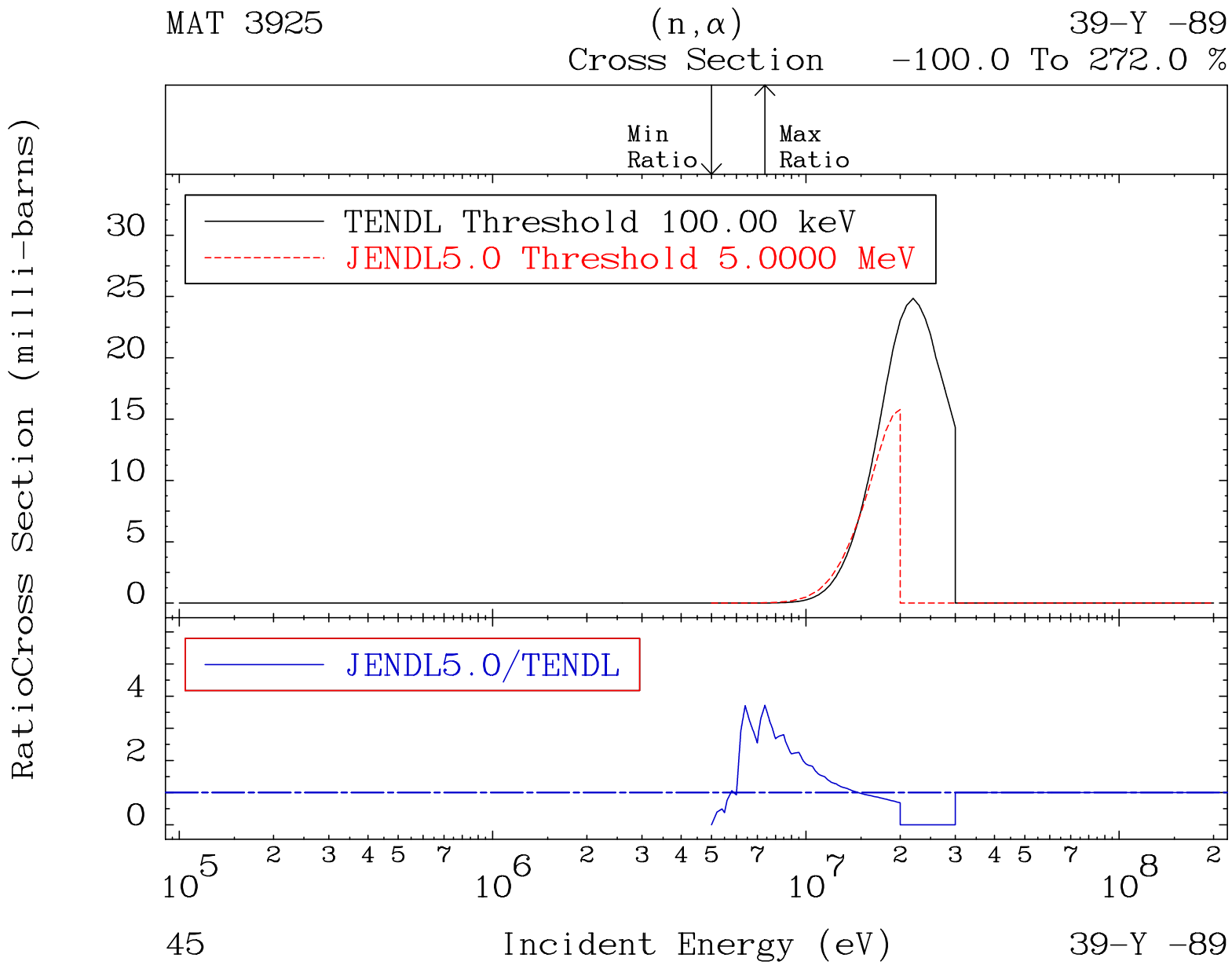

MAT 3925
Dpa total (eV-barns)
39-Y -89
Cross Section
-92.79 To 9999. %
Max Ratio
Min Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
40
39-Y -89

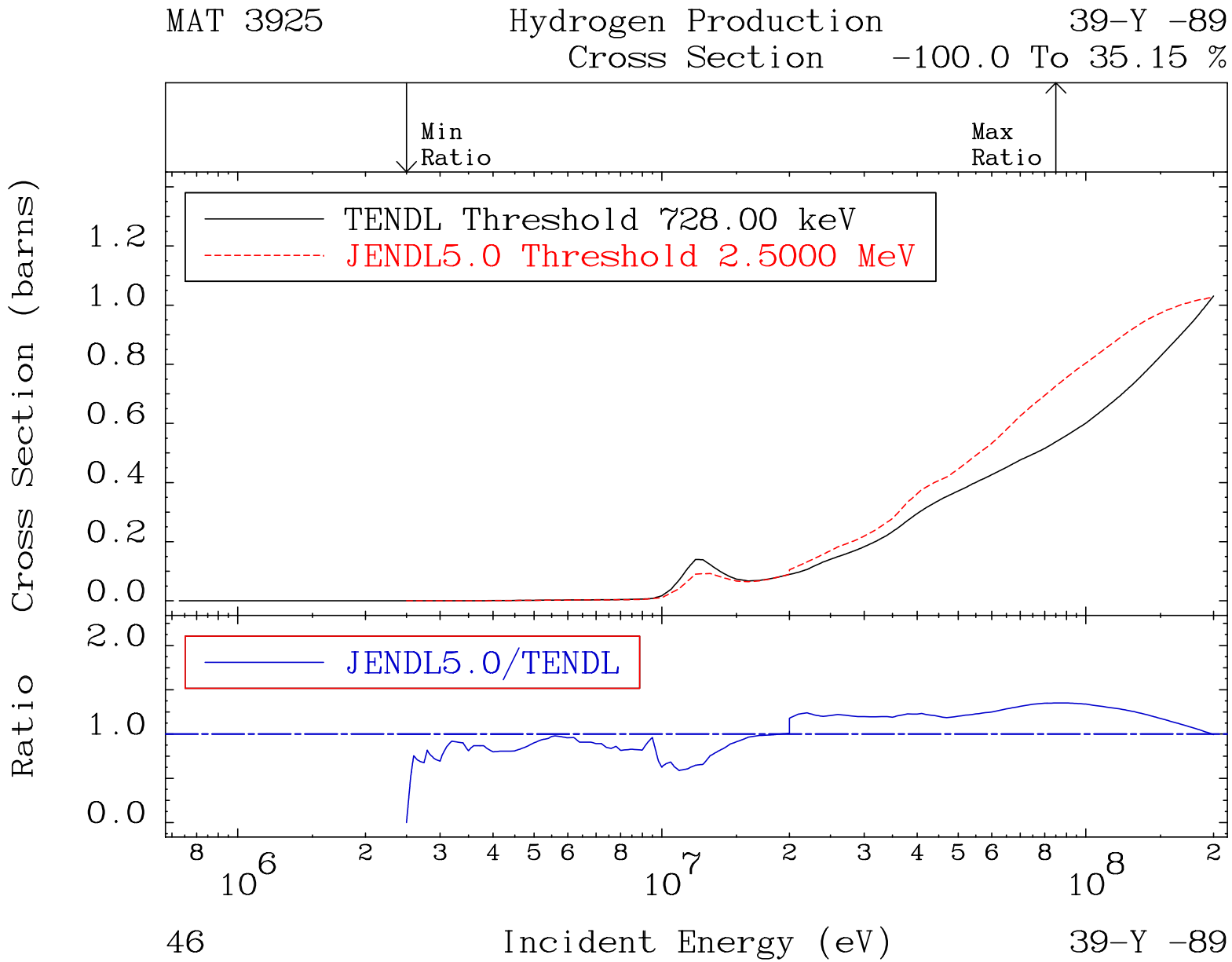

MAT 3925
Dpa elastic (mt2)
Cross Section
39-Y -89
-92.87 To 2358. %
Max Ratio
Min Ratio
TENDL Threshold 562.50 eV
CENDL3.2 Threshold 536.89 eV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
41
39-Y -89

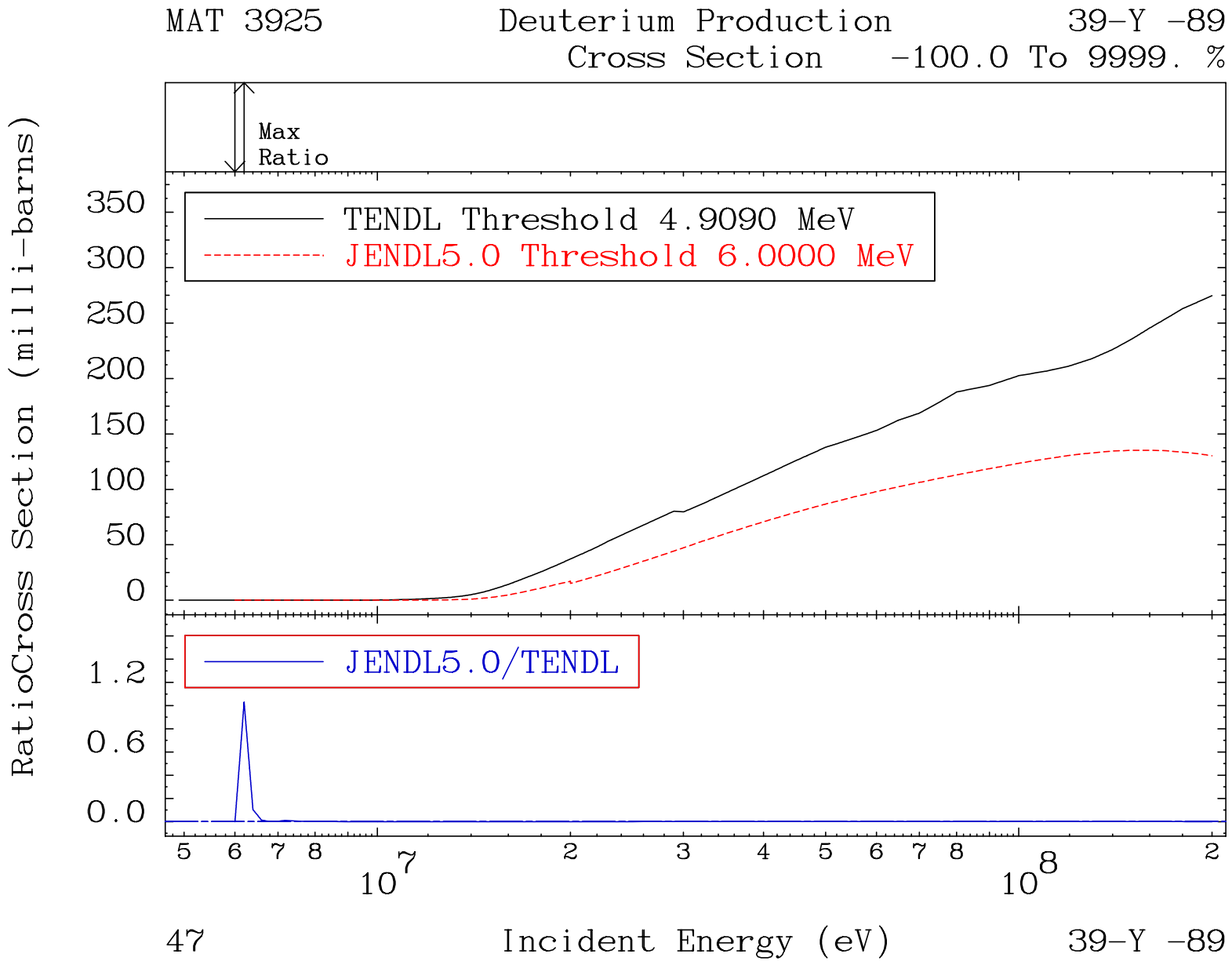

MAT 3925
Dpa inelastic (mt51-91)
39-Y -89
Cross Section -100.0 To 122.6 %
Min Ratio
Max Ratio
TENDL Threshold 919.28 keV
CENDL3.2 Threshold 919.28 keV
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
42
39-Y -89

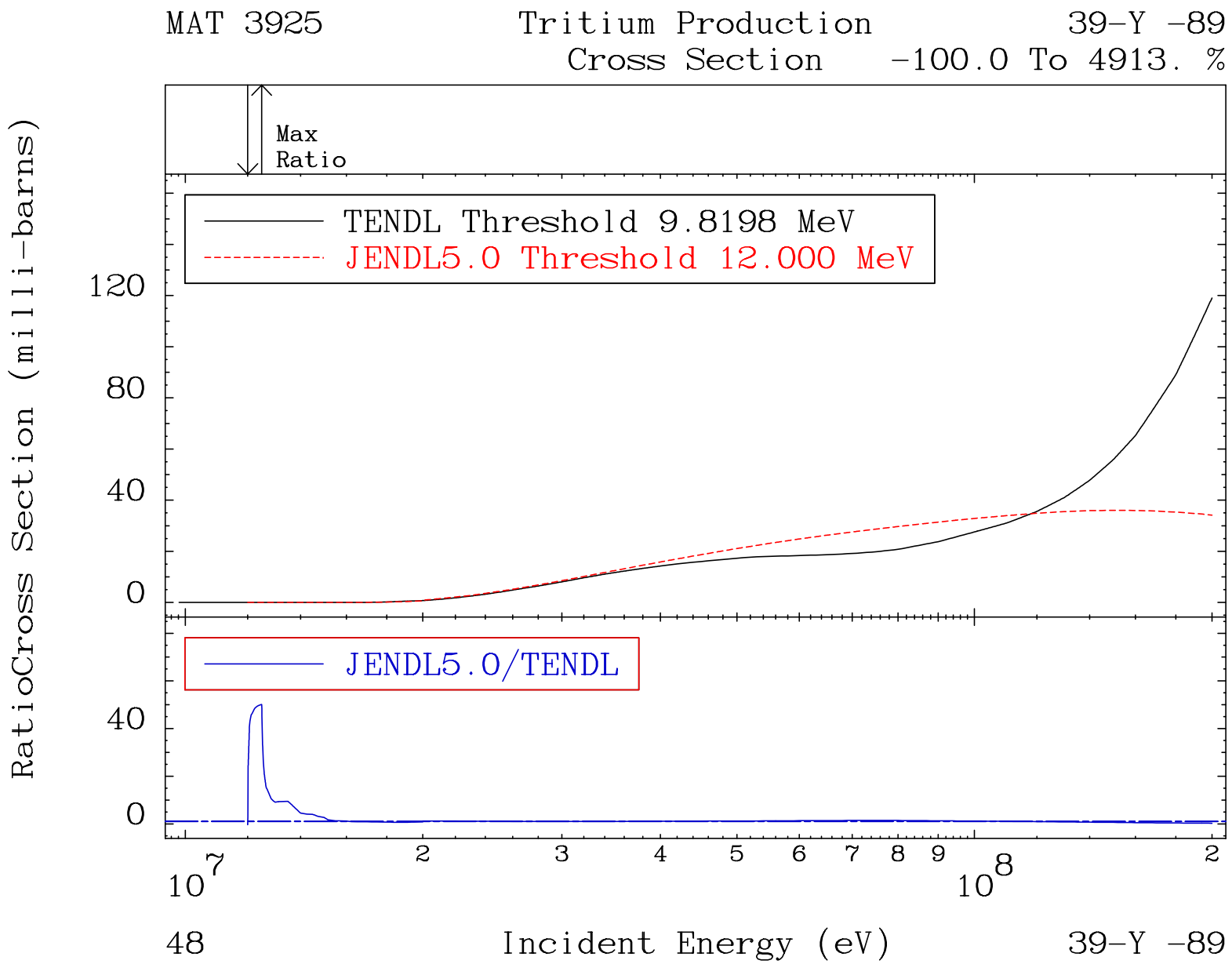

MAT 3925 Dpa disappearance (mt102 -120) 39-Y -89
Cross Section -95.00 To 9999. %
Min Ratio
Max Ratio
TENDL
CENDL3.2
CENDL3.2/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
39-Y -89

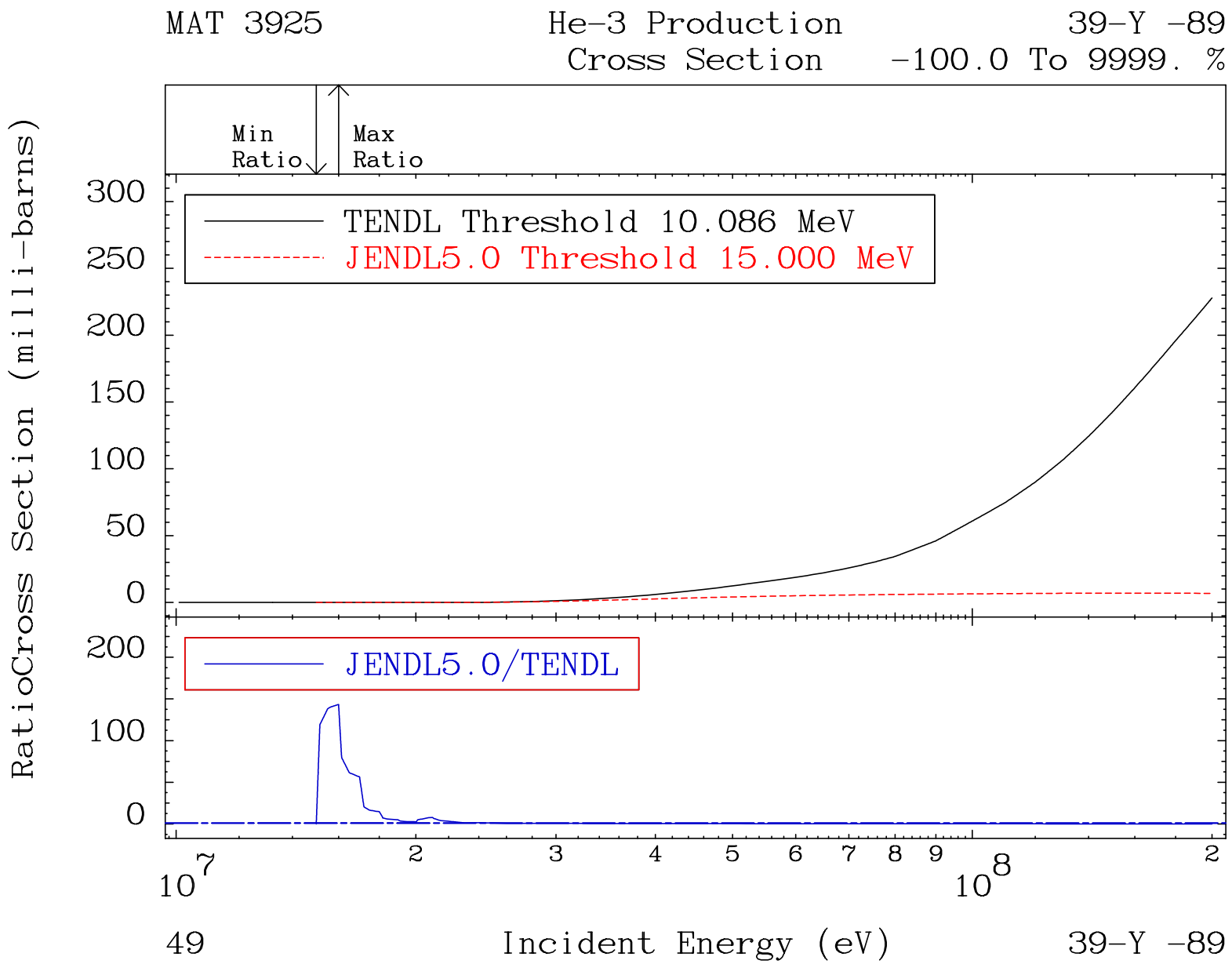

MAT 3925
(n,He-3)
39-Y -89
Cross Section
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.086 MeV
JENDL5.0 Threshold 15.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
200
100
0
10^7
2
3
4
5
6
7
8
9
10^8
2
44
Incident Energy (eV)
39-Y -89

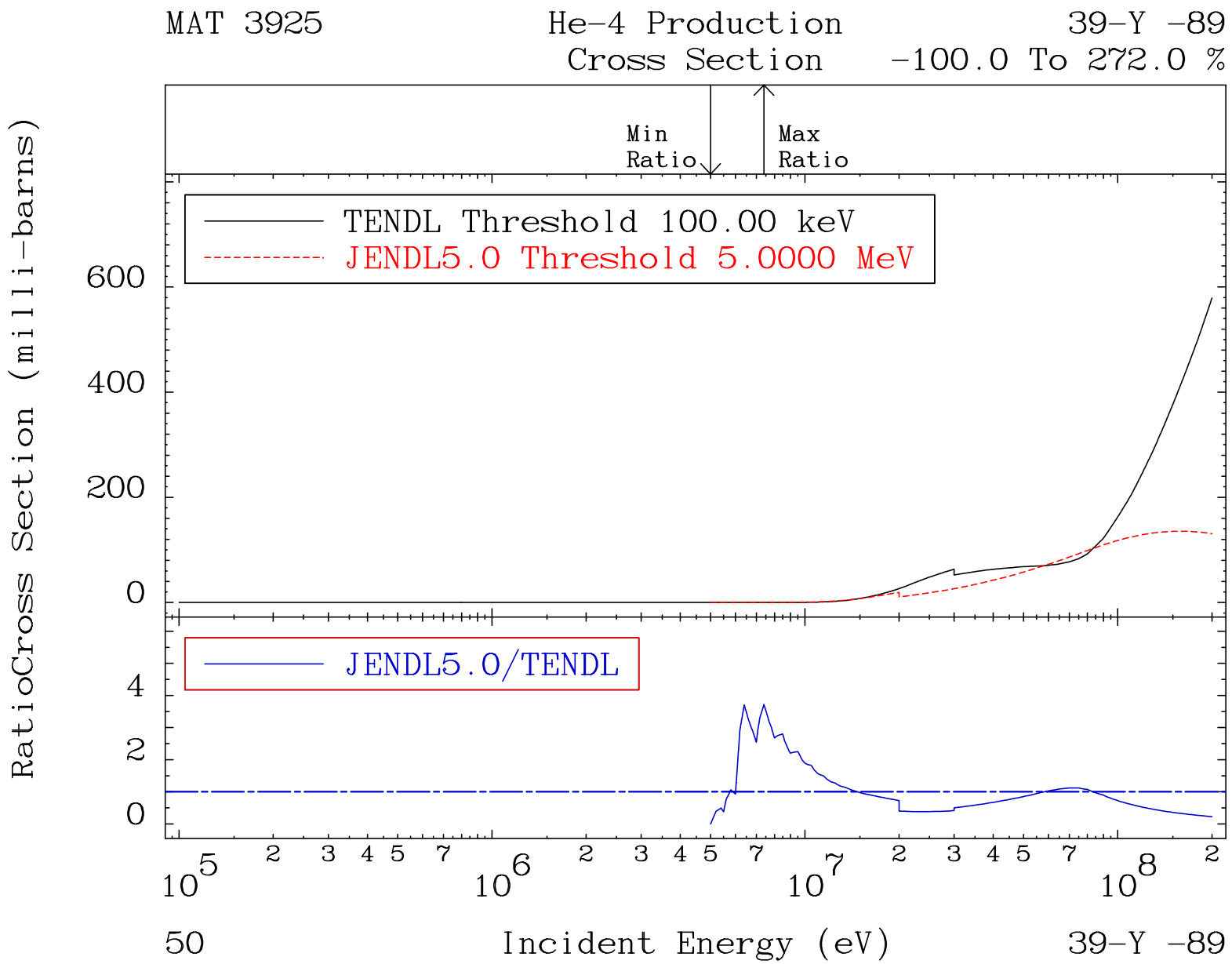

MAT 3925
(n,α)
Cross Section
39-Y -89
-100.0 To 272.0 %
Min Ratio
Max Ratio
TENDL Threshold 100.00 keV
JENDL5.0 Threshold 5.0000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
4
2
0
10^5
2 3 4 5 7
10^6
2 3 4 5 7
10^7
2 3 4 5 7
10^8
2
45
Incident Energy (eV)
39-Y -89

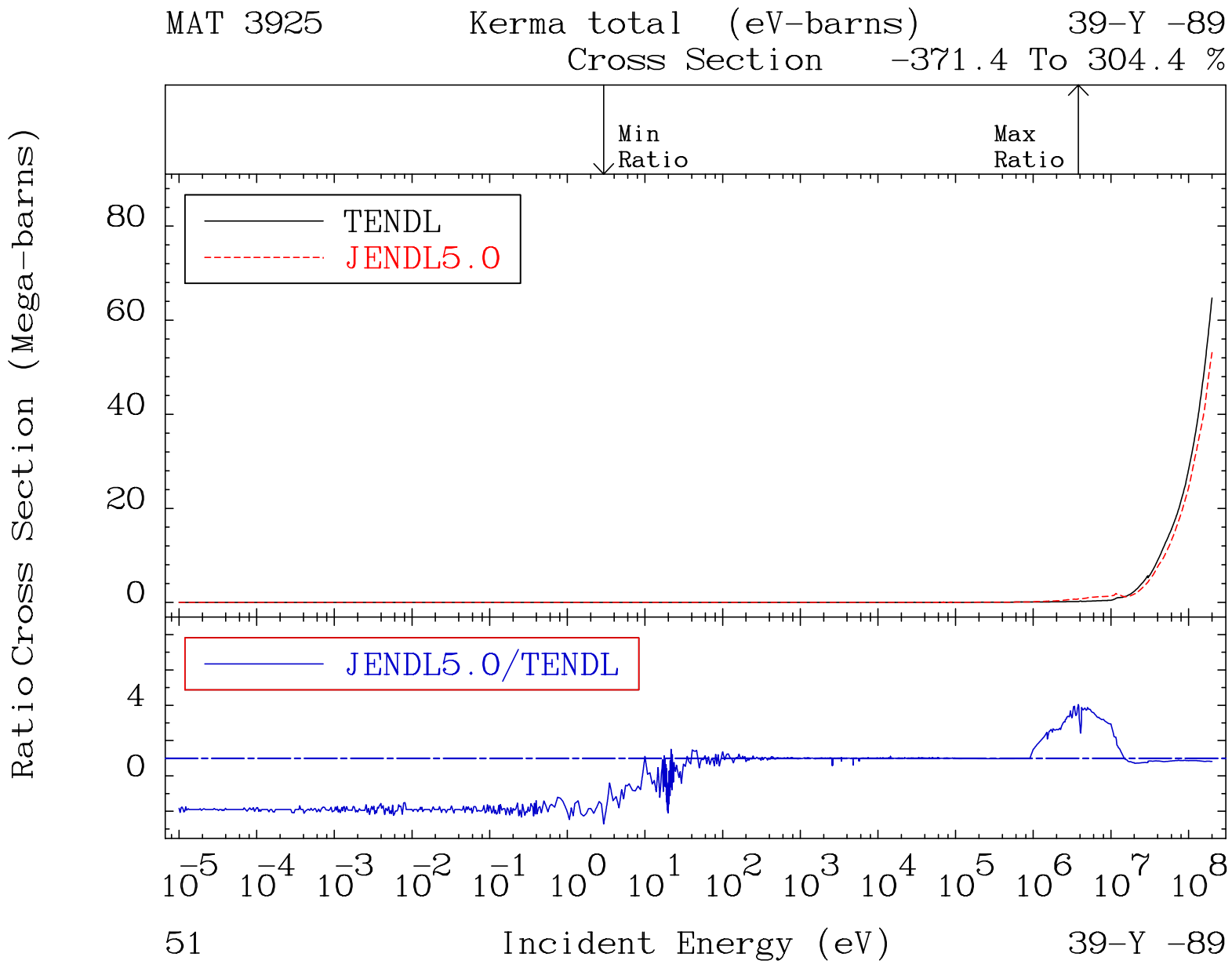

MAT 3925
Hydrogen Production
39-Y -89
Cross Section
-100.0 To 35.15 %
Min Ratio
Max Ratio
TENDL Threshold 728.00 keV
JENDL5.0 Threshold 2.5000 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
JENDL5.0/TENDL
Ratio
2.0
1.0
0.0
8
2
3
4
5
6
8
10^6
10^7
10^8
46
Incident Energy (eV)
39-Y -89

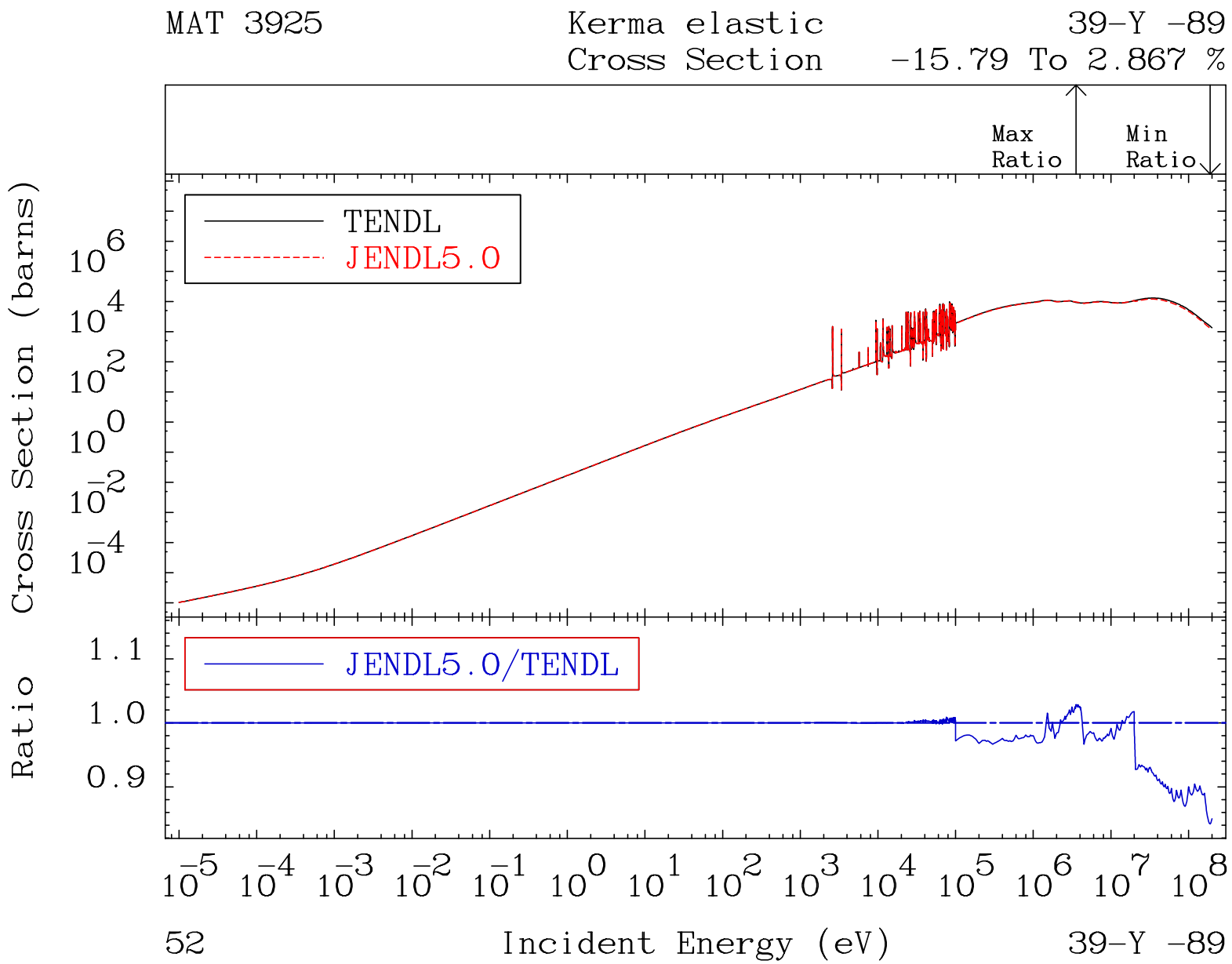

MAT 3925
Deuterium Production
39-Y -89
Cross Section -100.0 To 9999. %
Max
Ratio
TENDL Threshold 4.9090 MeV
JENDL5.0 Threshold 6.0000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
1.2
0.6
0.0
5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
47
Incident Energy (eV)
39-Y -89

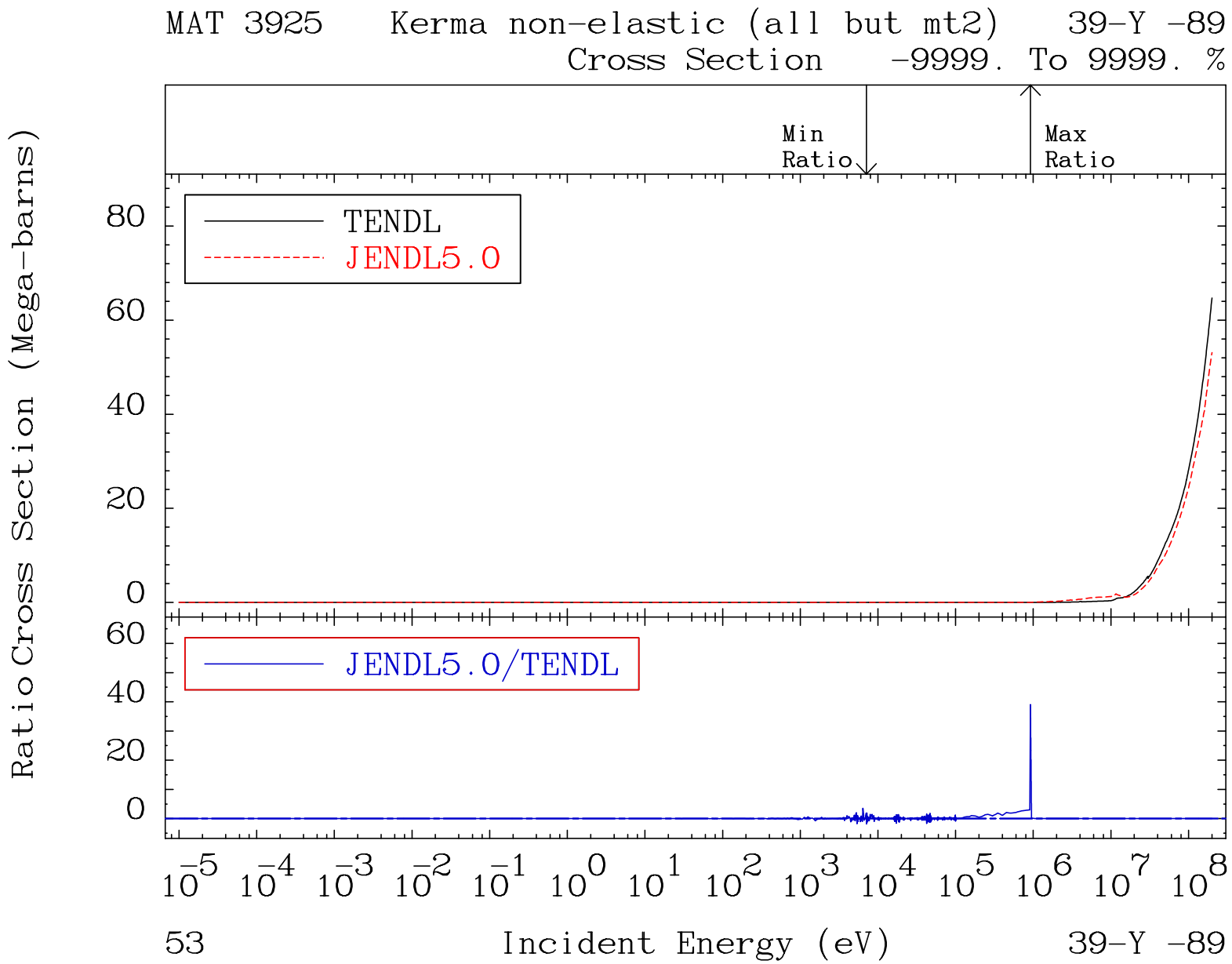

MAT 3925
Tritium Production
39-Y -89
Cross Section
-100.0 To 4913. %
Max
Ratio
TENDL Threshold 9.8198 MeV
JENDL5.0 Threshold 12.000 MeV
120
80
40
0
JENDL5.0/TENDL
40
0
RatioCross Section (milli-barns)
10^7
2
3
4
5
6
7
8
9
10^8
2
48
Incident Energy (eV)
39-Y -89

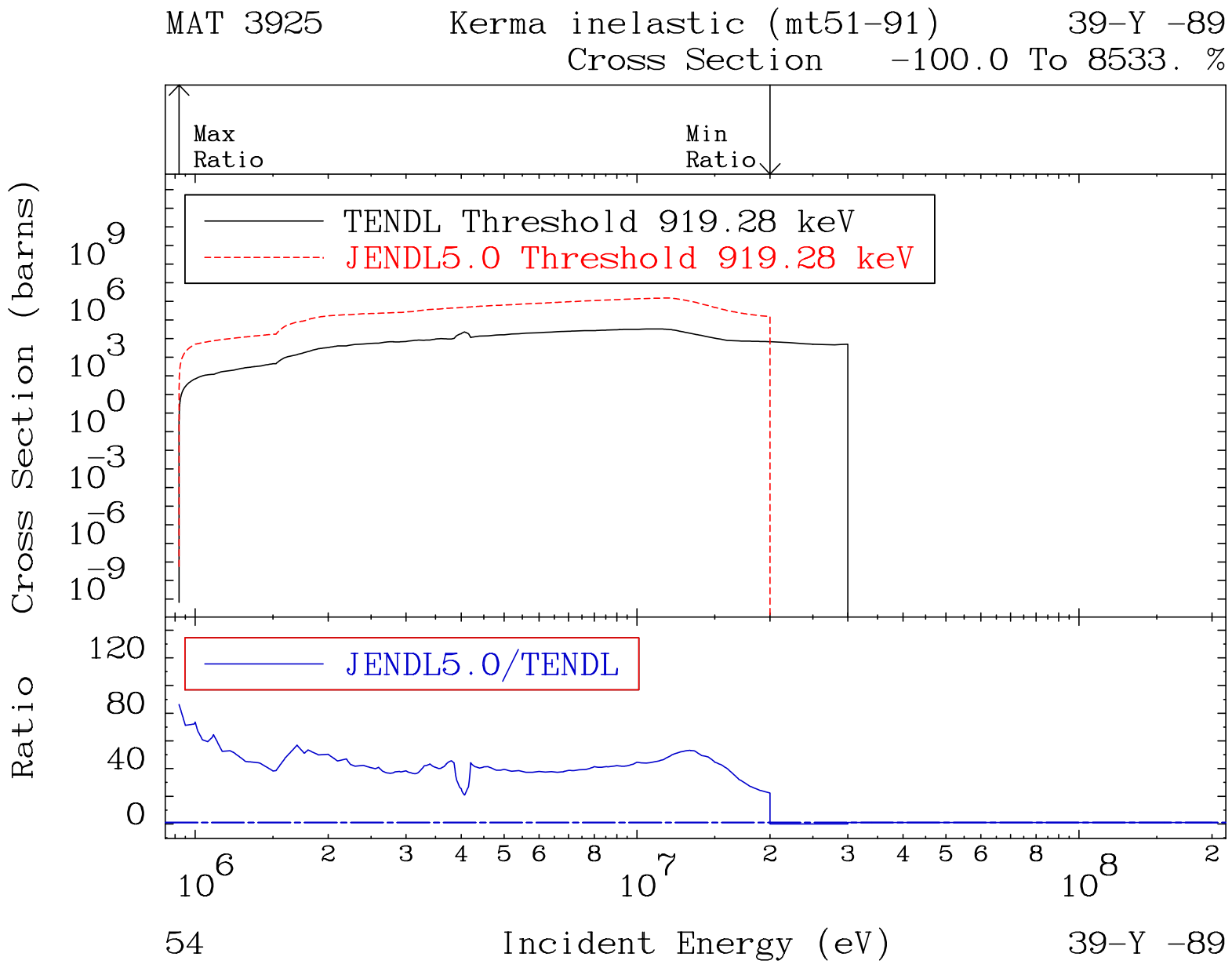

MAT 3925
He-3 Production
Cross Section
39-Y -89
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 10.086 MeV
JENDL5.0 Threshold 15.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
300
250
200
150
100
50
0
200
100
0
10^7
2
3
4
5
6
7
8
9
10^8
2
49
Incident Energy (eV)
39-Y -89

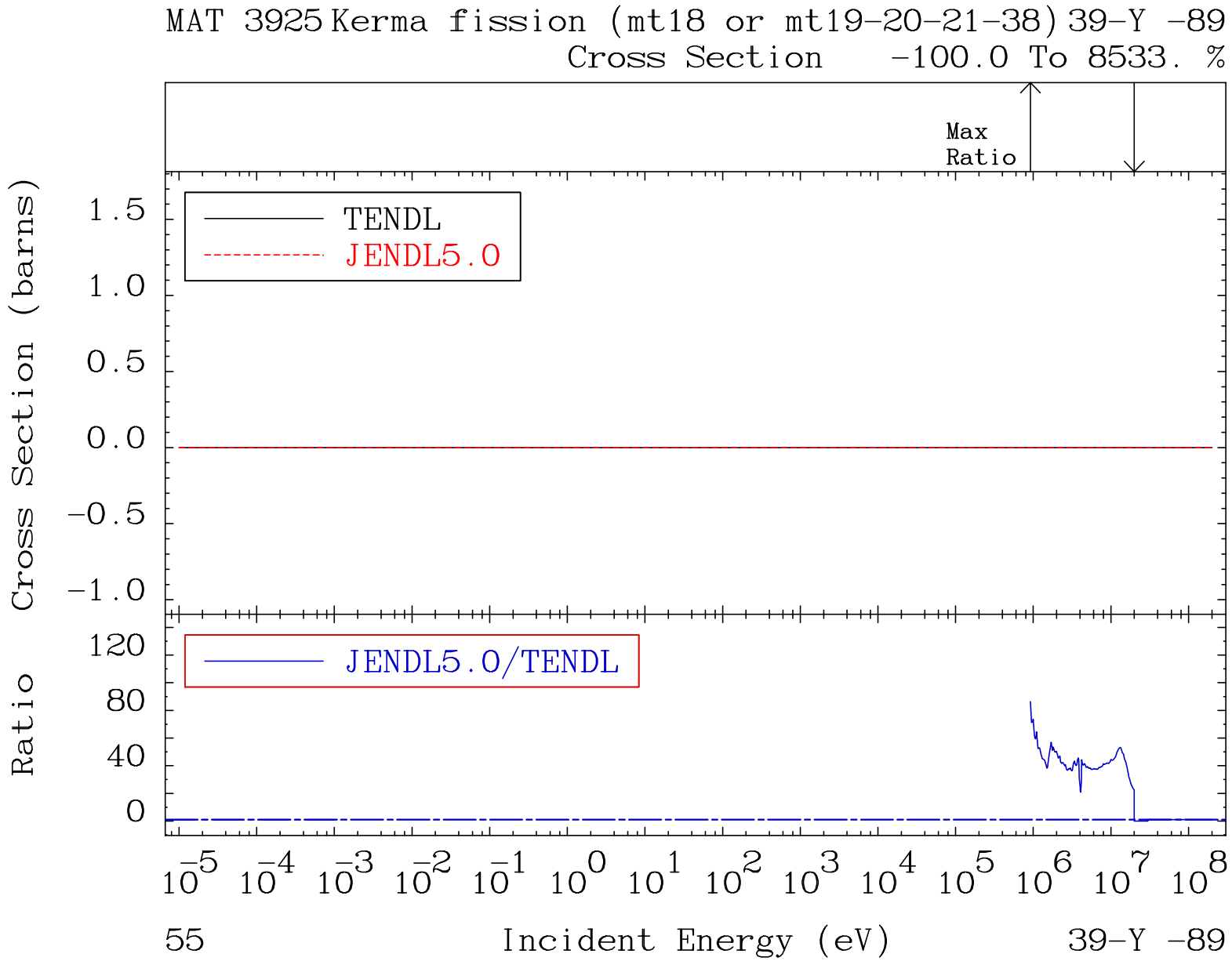

MAT 3925
He-4 Production
Cross Section
39-Y -89
-100.0 To 272.0 %
Min Ratio
Max Ratio
TENDL Threshold 100.00 keV
JENDL5.0 Threshold 5.0000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
600
400
200
0
4
2
0
10^5
10^6
10^7
10^8
50
Incident Energy (eV)
39-Y -89

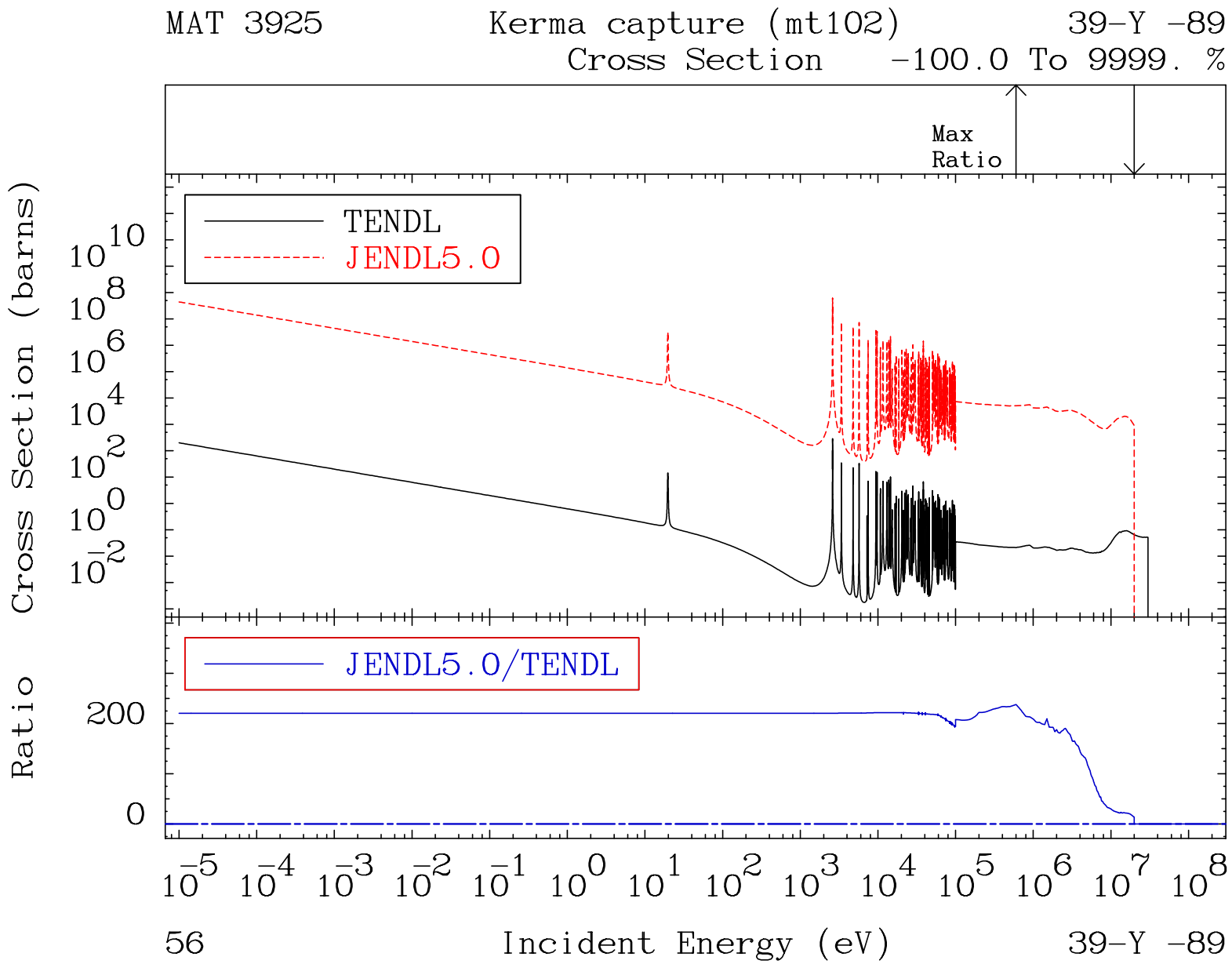

MAT 3925
Kerma total (eV-barns)
39-Y -89
Cross Section -371.4 To 304.4 %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Ratio Cross Section (Mega-barns)
80
60
40
20
0
4
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
51
Incident Energy (eV)
39-Y -89

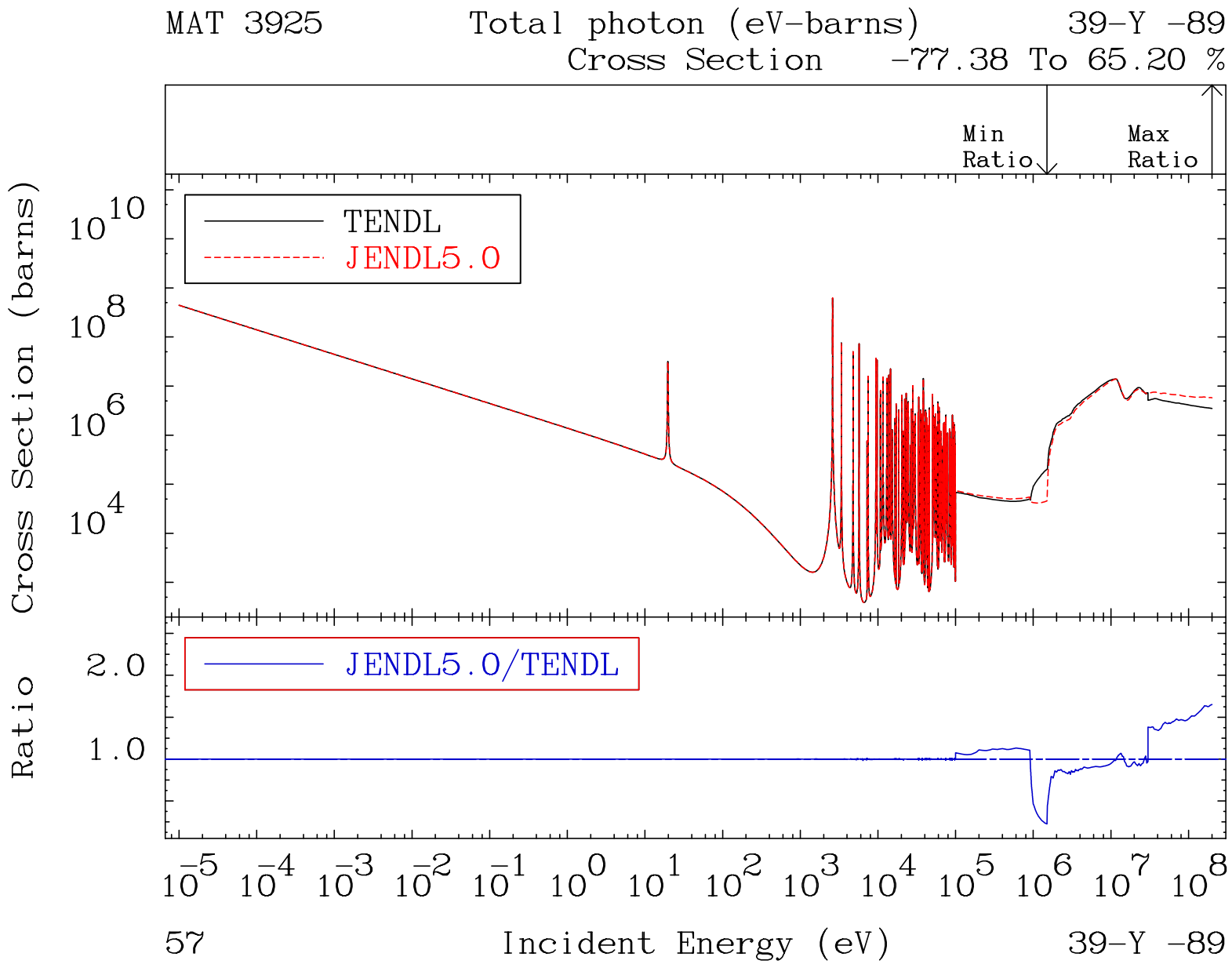

MAT 3925
Kerma elastic
Cross Section
39-Y -89
-15.79 To 2.867 %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
52
39-Y -89

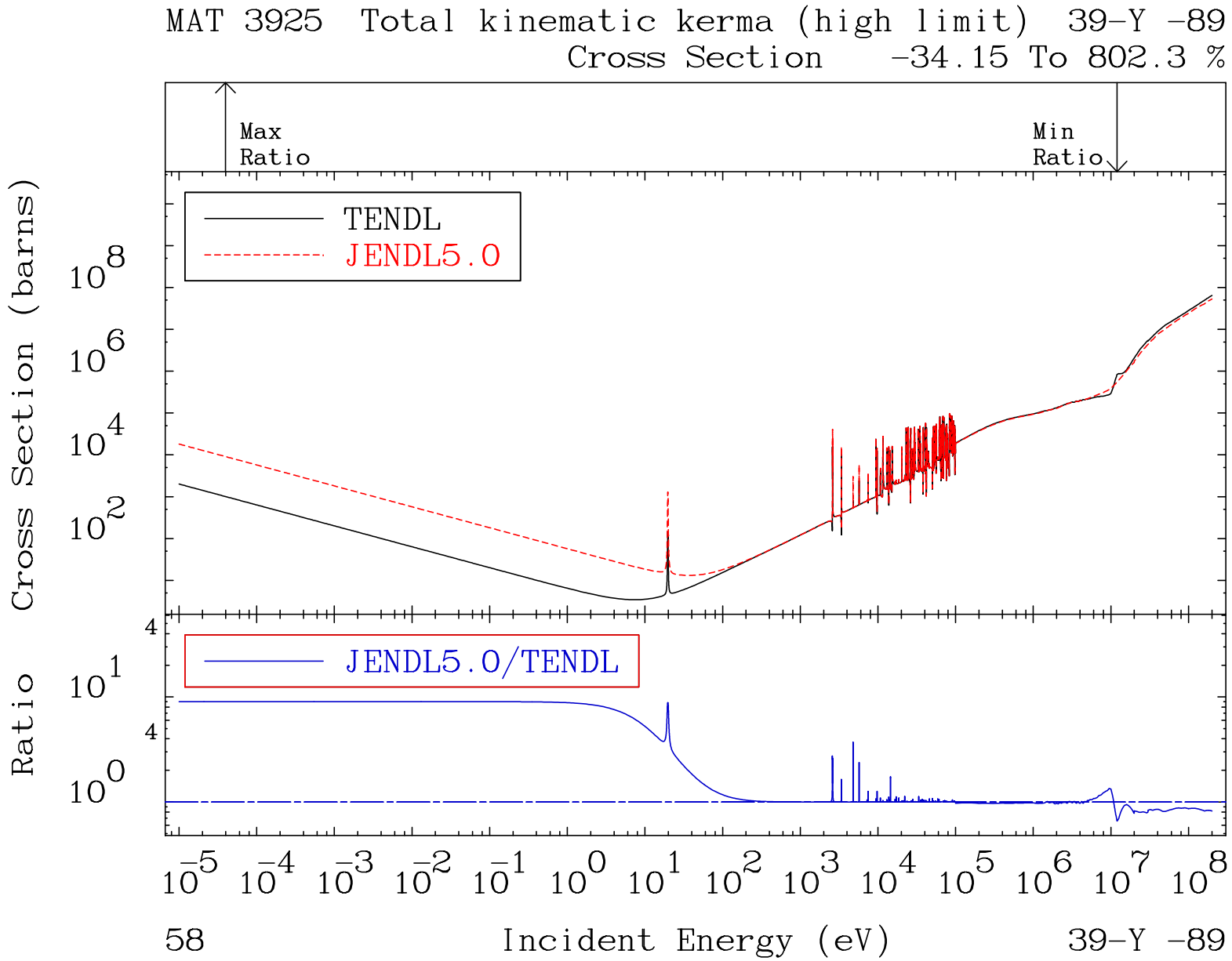

MAT 3925 Kerma non-elastic (all but mt2) 39-Y -89
Cross Section -9999. To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Ratio Cross Section (Mega-barns)
Incident Energy (eV)
53
39-Y -89

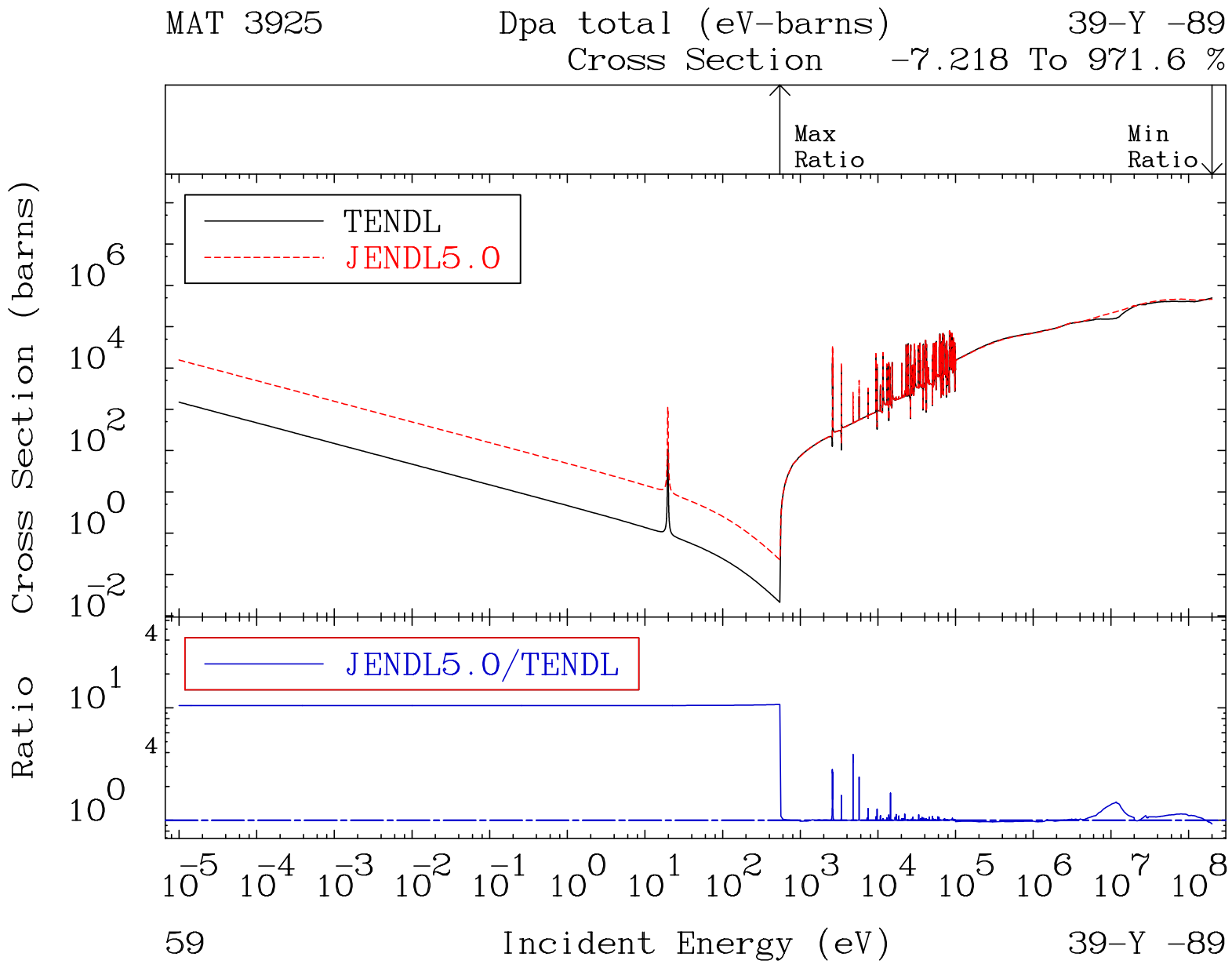

MAT 3925
Kerma inelastic (mt51-91)
39-Y -89
Cross Section -100.0 To 8533. %
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JENDL5.0 Threshold 919.28 keV
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
54
39-Y -89

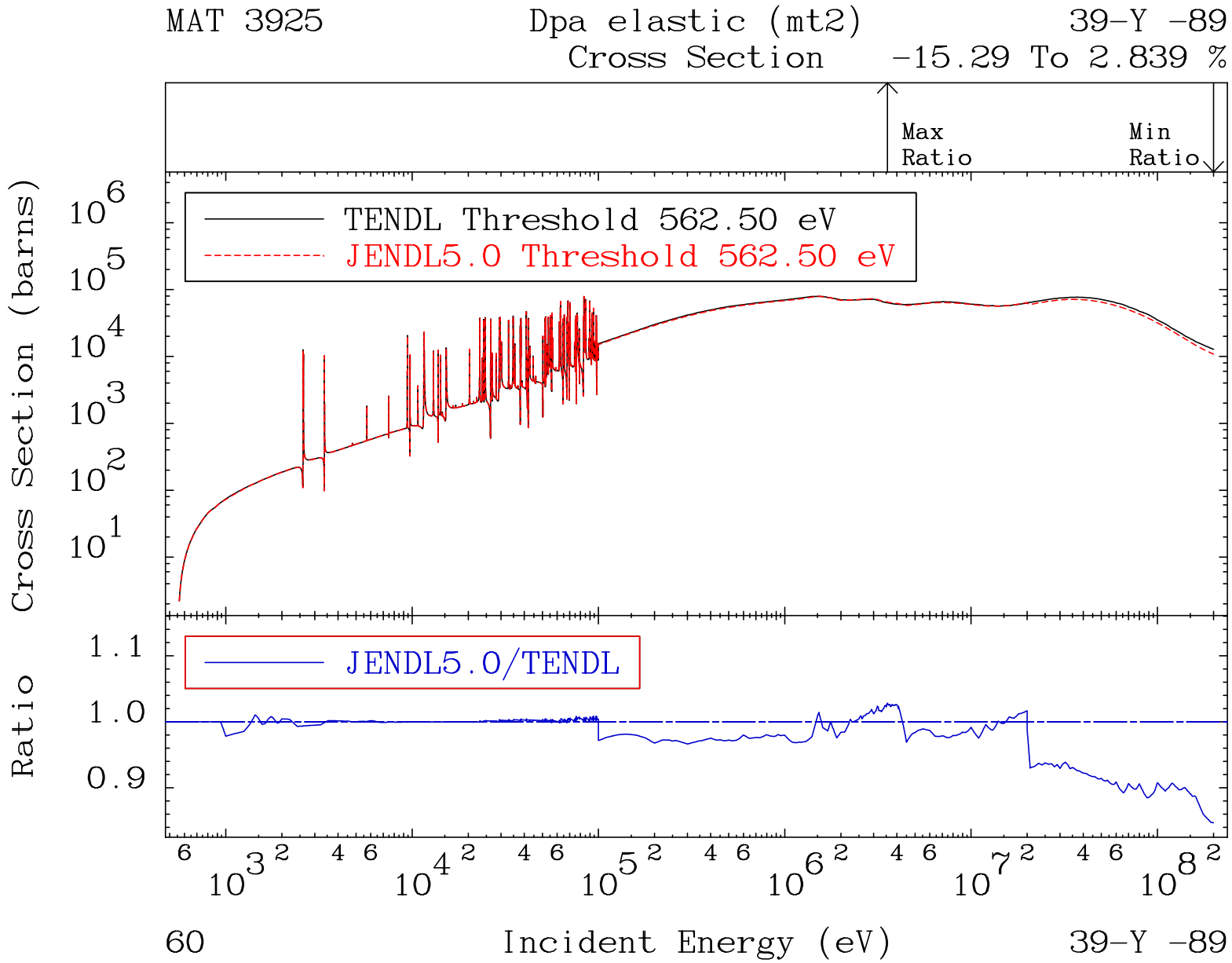

MAT 3925 Kerma fission (mt18 or mt19-20-21-38) 39-Y -89
Cross Section -100.0 To 8533. %
Max
Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
120
80
40
0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
55
Incident Energy (eV)
39-Y -89

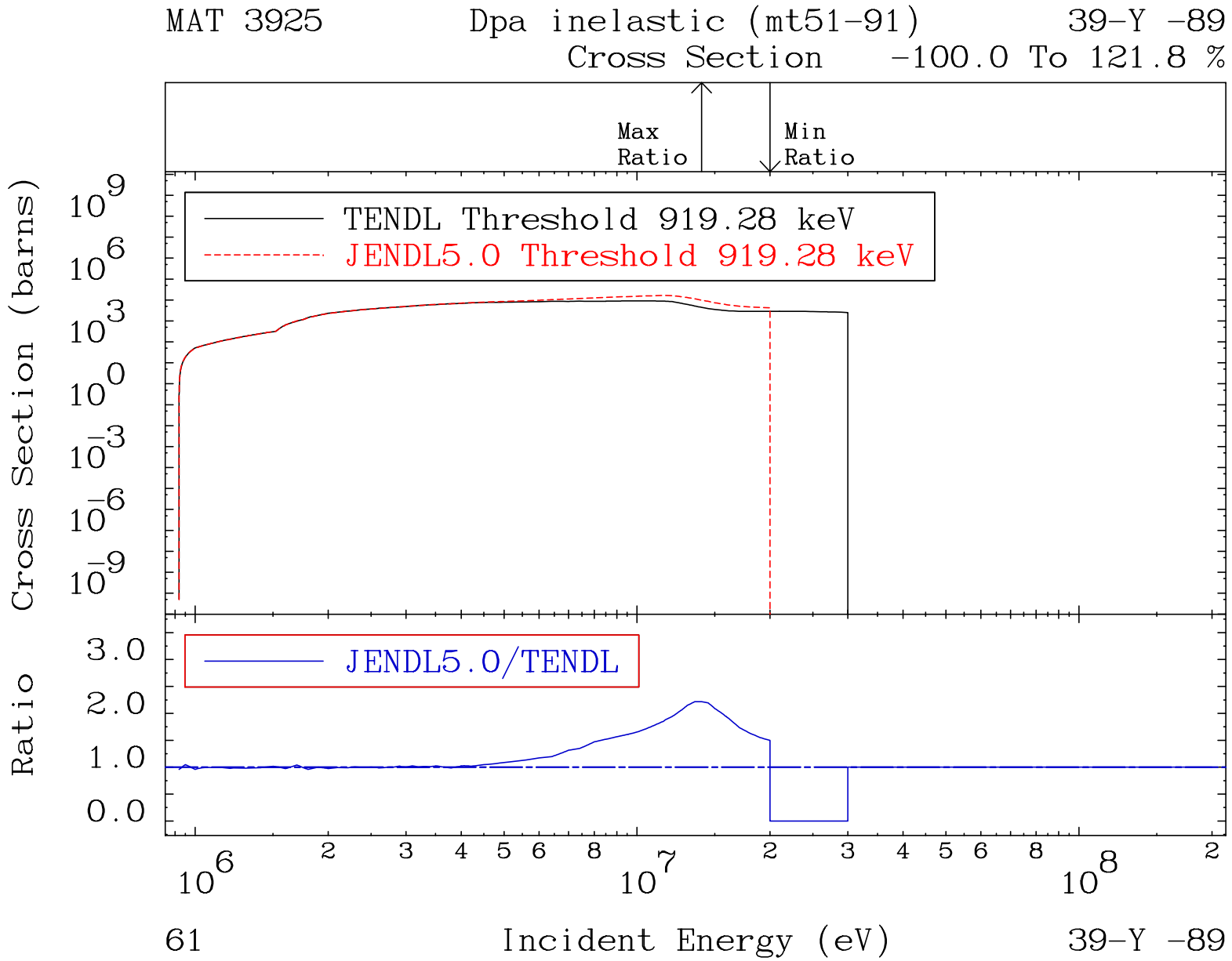

MAT 3925
Kerma capture (mt102)
39-Y -89
Cross Section -100.0 To 9999. %
Max
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
200
0
Incident Energy (eV)
56
39-Y -89

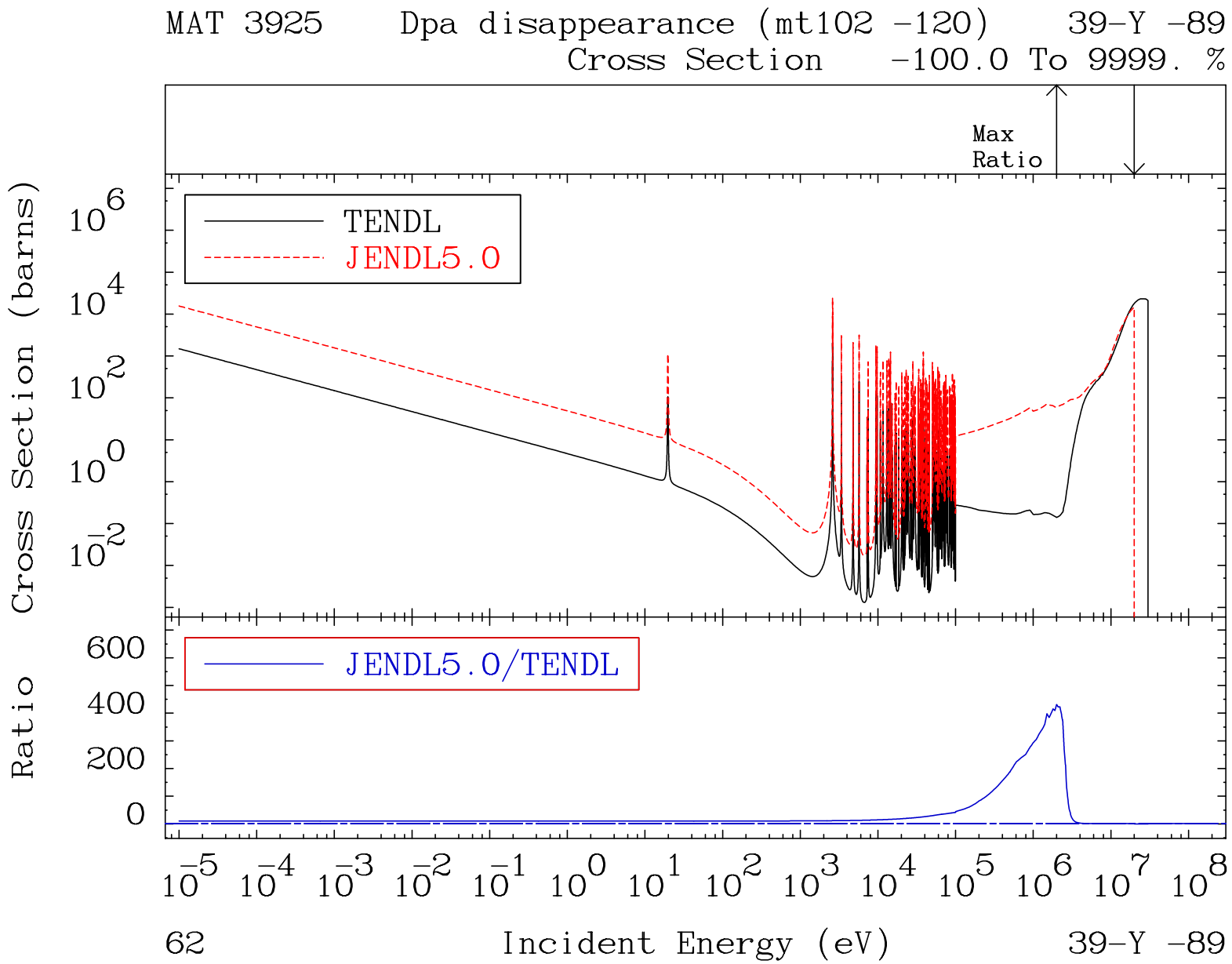

MAT 3925
Total photon (eV-barns)
39-Y -89
Cross Section -77.38 To 65.20 %
Min Ratio
Max Ratio
TENDL
JENDL5.0
Cross Section (barns)
10^{10}
10^{8}
10^{6}
10^{4}
JENDL5.0/TENDL
Ratio
2.0
1.0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
57
Incident Energy (eV)
39-Y -89

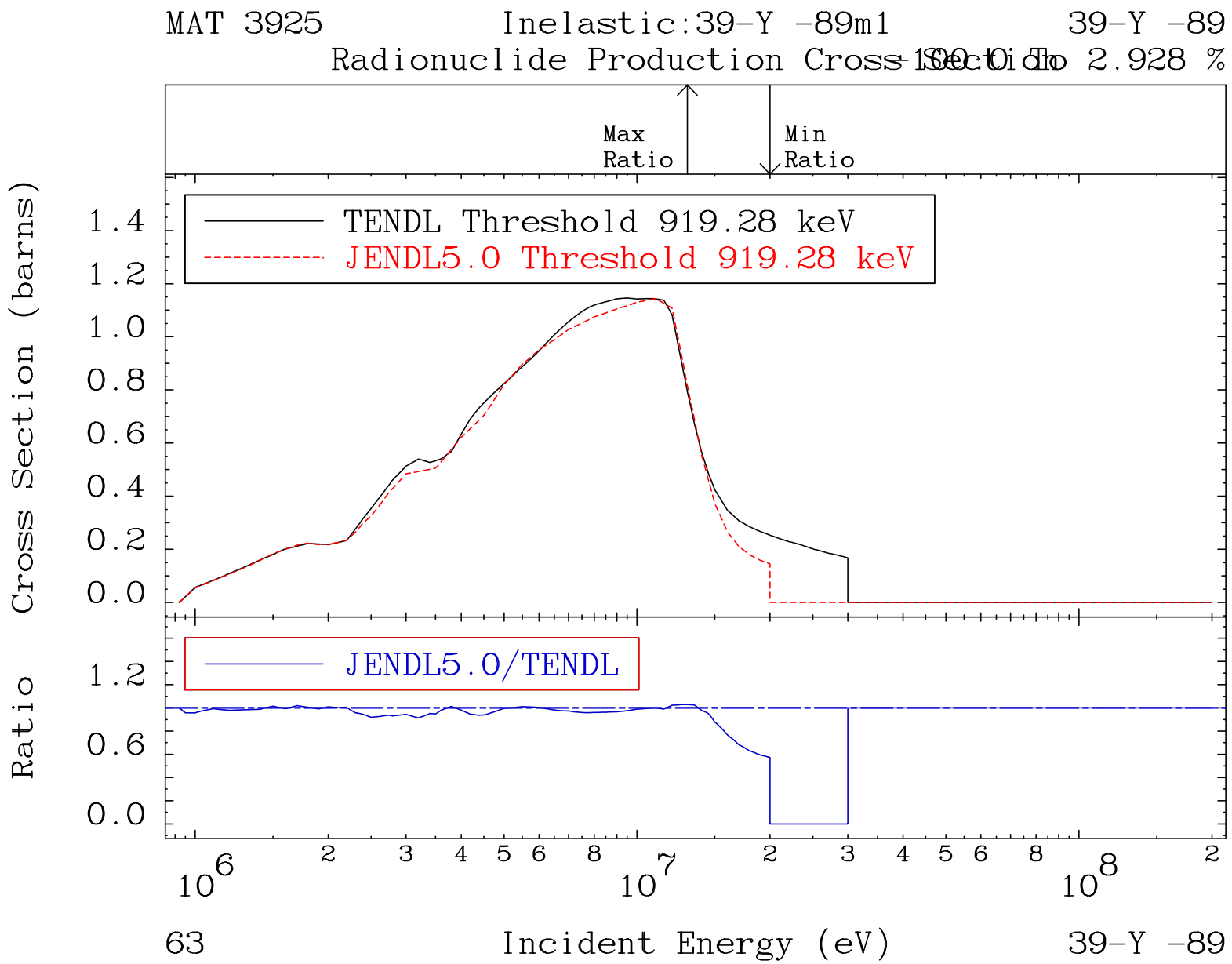

MAT 3925 Total kinematic kerma (high limit) 39-Y -89
Cross Section -34.15 To 802.3 %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
58
39-Y -89

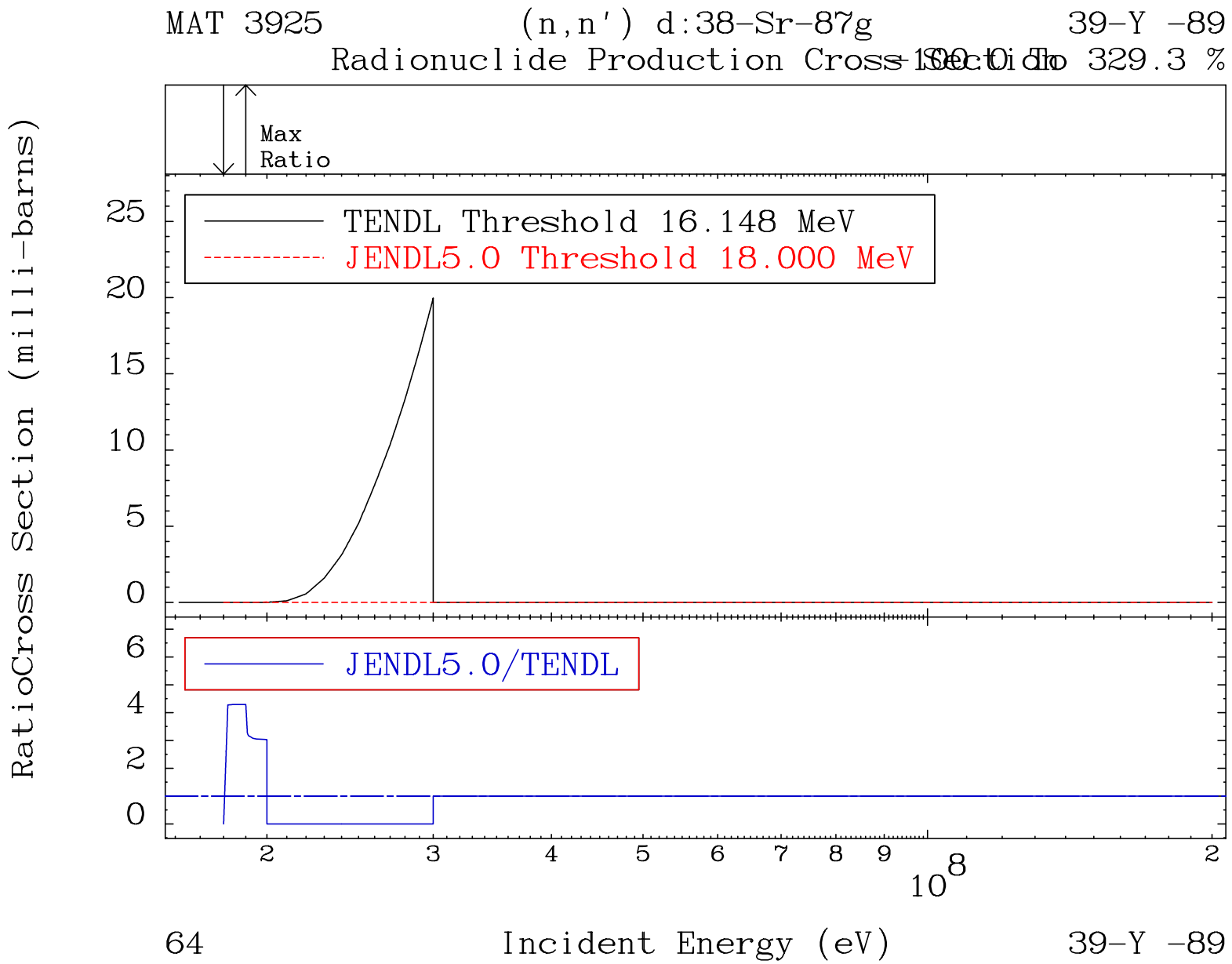

MAT 3925
Dpa total (eV-barns)
39-Y -89
Cross Section -7.218 To 971.6 %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
59
39-Y -89

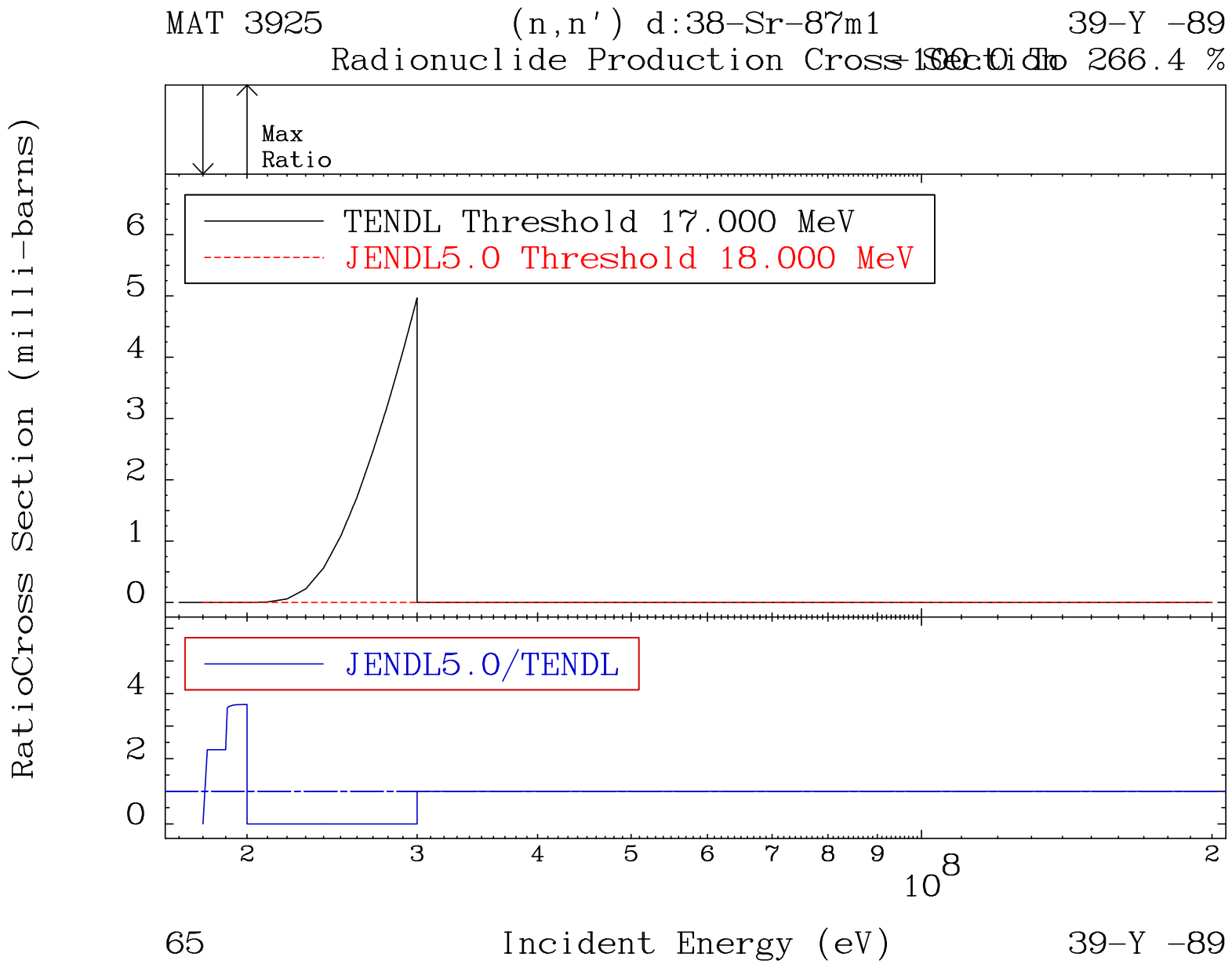

MAT 3925
Dpa elastic (mt2)
Cross Section
39-Y -89
-15.29 To 2.839 %
Max Ratio
Min Ratio
TENDL Threshold 562.50 eV
JENDL5.0 Threshold 562.50 eV
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
60
39-Y -89

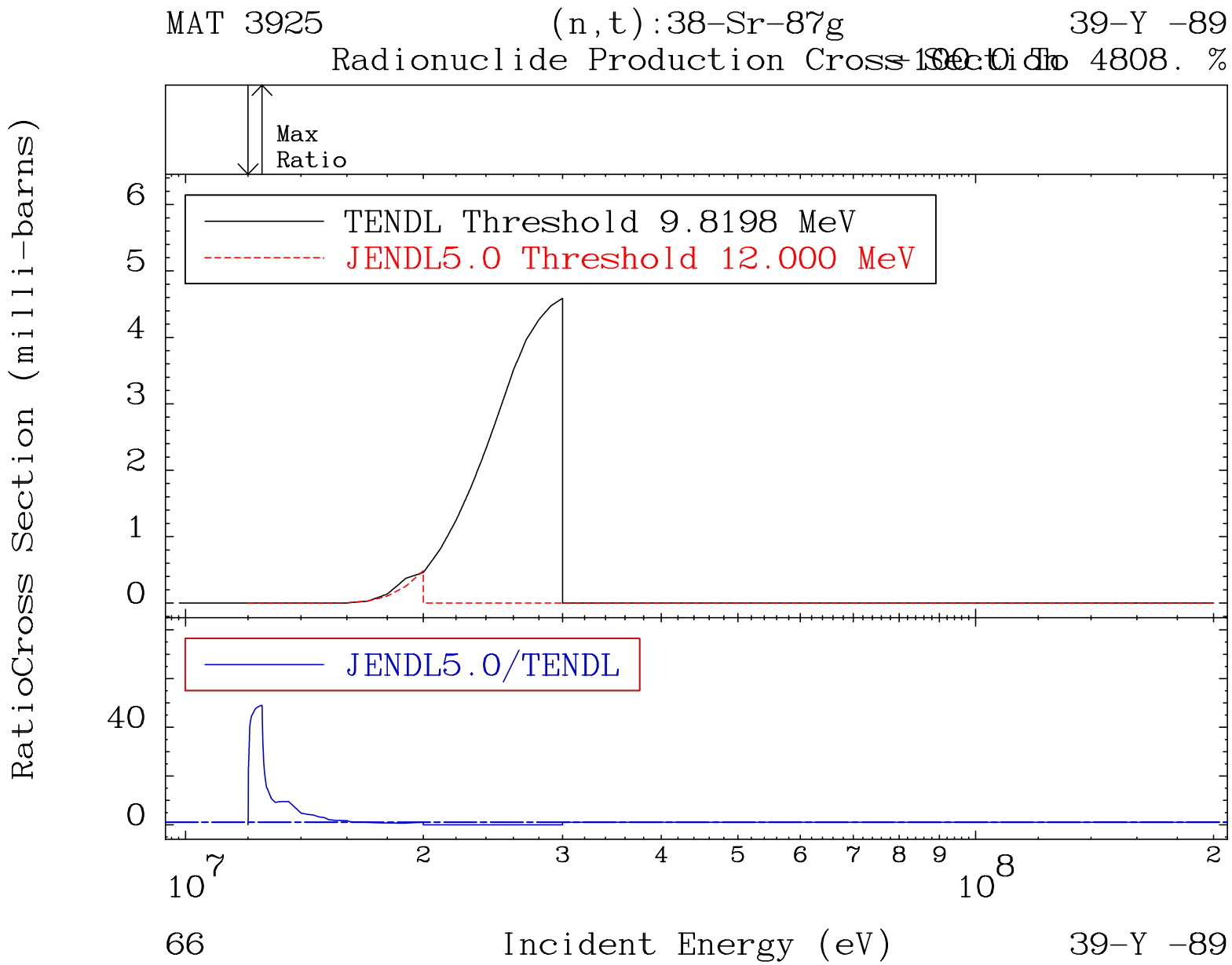

MAT 3925
Dpa inelastic (mt51-91)
39-Y -89
Cross Section -100.0 To 121.8 %
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JENDL5.0 Threshold 919.28 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
61
39-Y -89

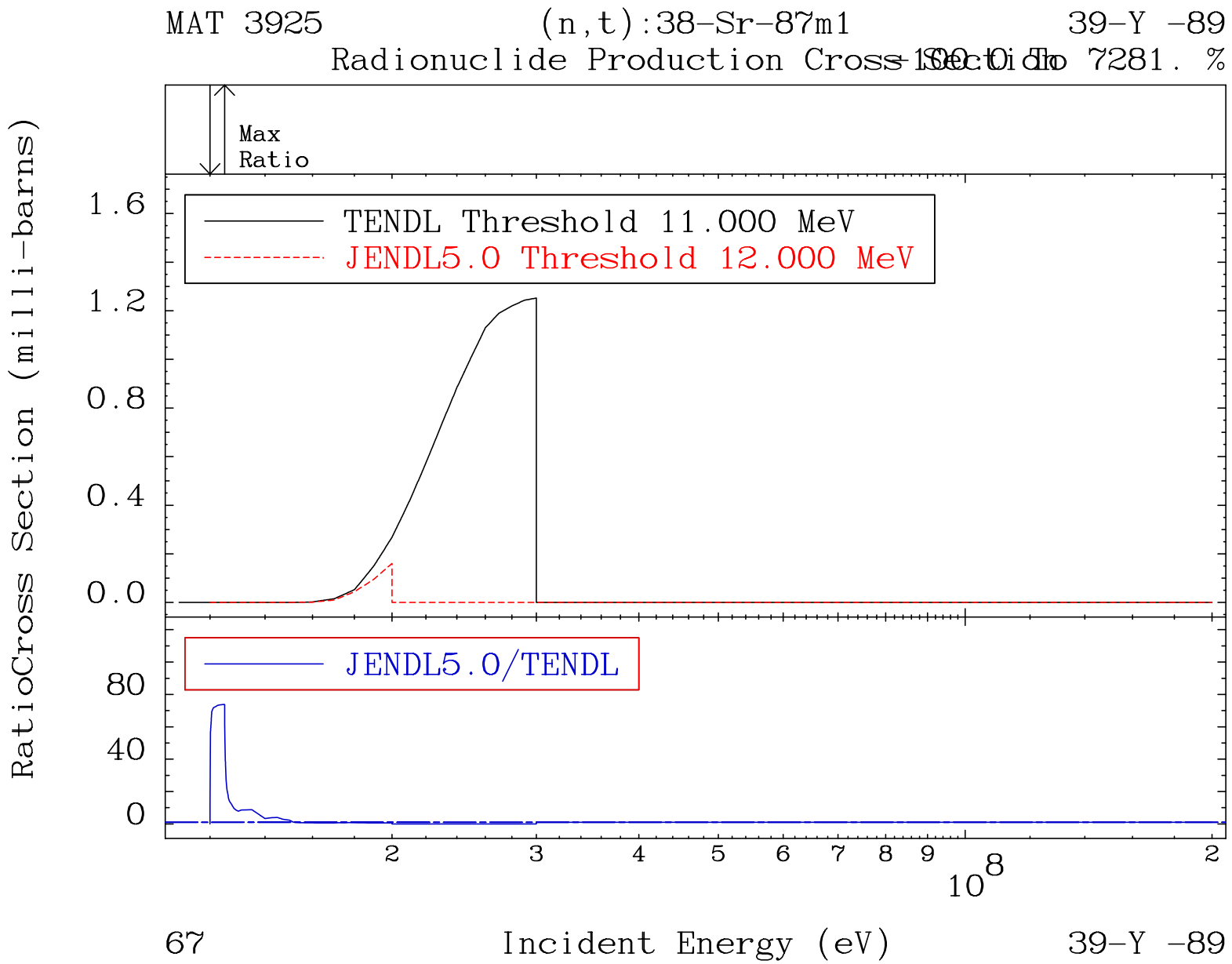

MAT 3925 Dpa disappearance (mt102 -120) 39-Y -89
Cross Section -100.0 To 9999. %
Max
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
62
39-Y -89

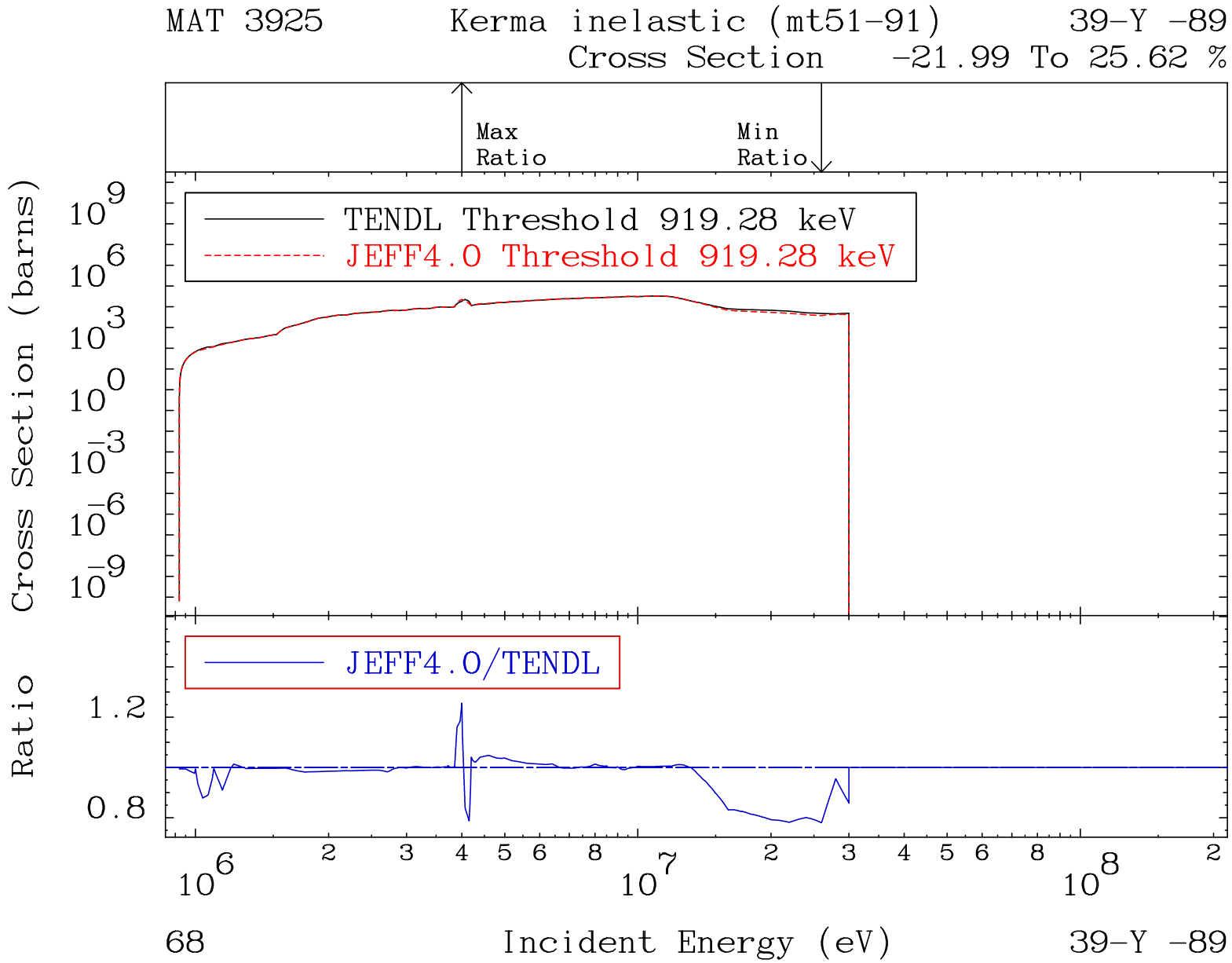

MAT 3925
Inelastic:39-Y -89m1
39-Y -89
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JENDL5.0 Threshold 919.28 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10^6
10^7
10^8
Incident Energy (eV)
63
39-Y -89

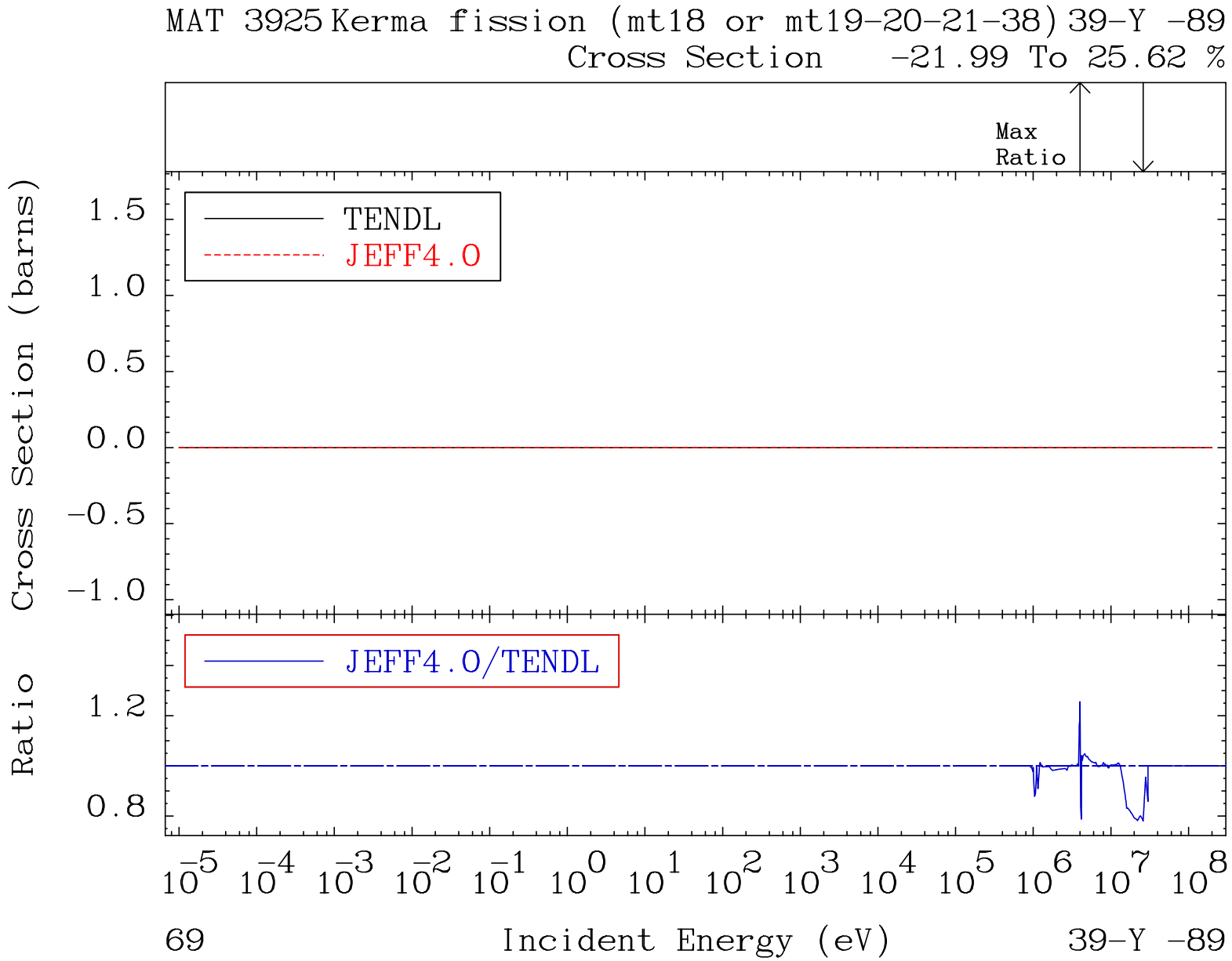

MAT 3925
(n,n') d:38-Sr-87g
39-Y -89
Radionuclide Production Cross Section To 329.3 %
Max
Ratio
TENDL Threshold 16.148 MeV
JENDL5.0 Threshold 18.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
6
4
2
0
2
3
4
5
6
7
8
9
2
10^8
64
Incident Energy (eV)
39-Y -89

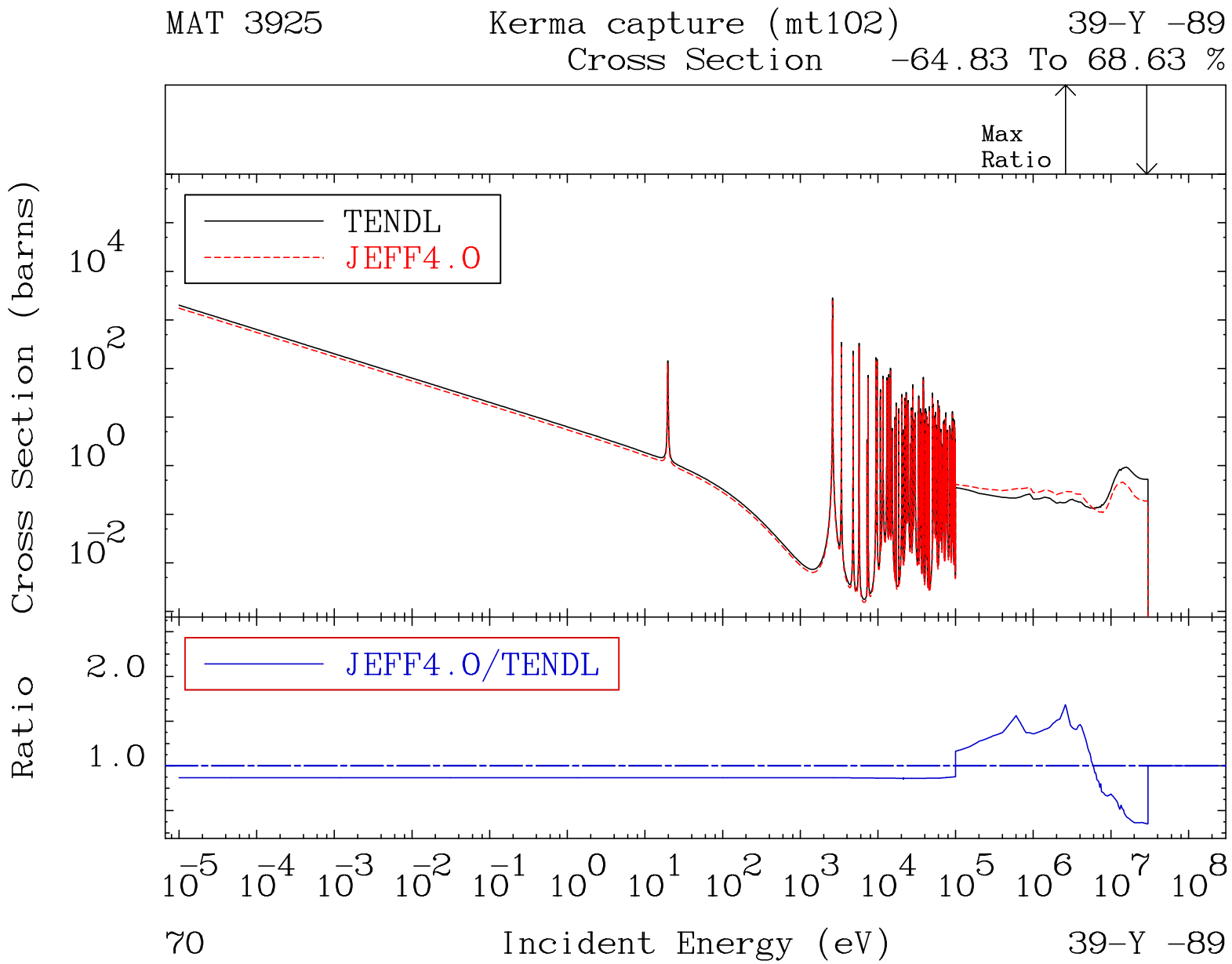

MAT 3925
(n,n') d:38-Sr-87m1
39-Y -89
Radionuclide Production Cross Section To 266.4 %
Max
Ratio
TENDL Threshold 17.000 MeV
JENDL5.0 Threshold 18.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
65
39-Y -89

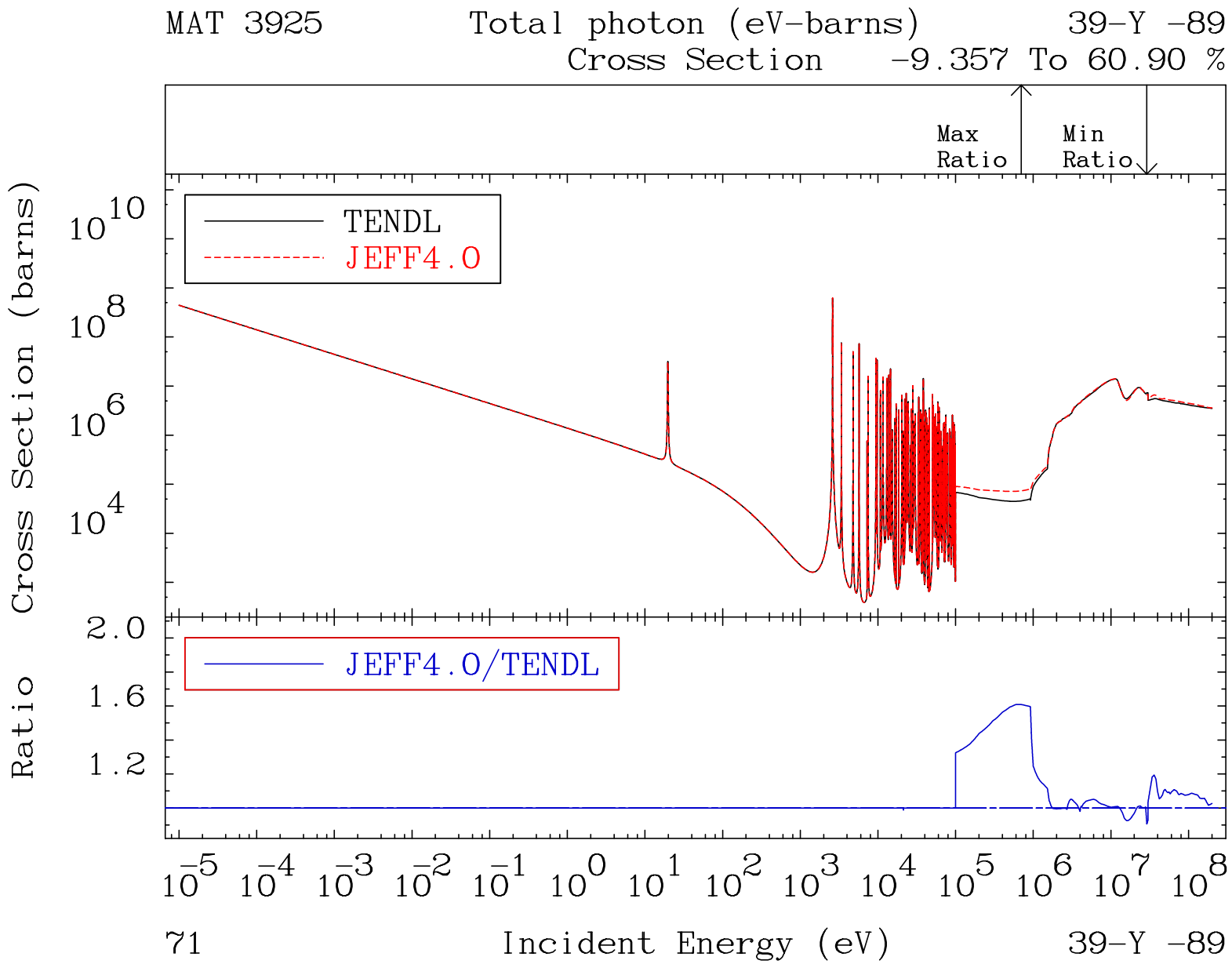

MAT 3925
(n,t):38-Sr-87g
39-Y -89
Radionuclide Production Cross Section To 4808. %
Max
Ratio
TENDL Threshold 9.8198 MeV
JENDL5.0 Threshold 12.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
66
39-Y -89

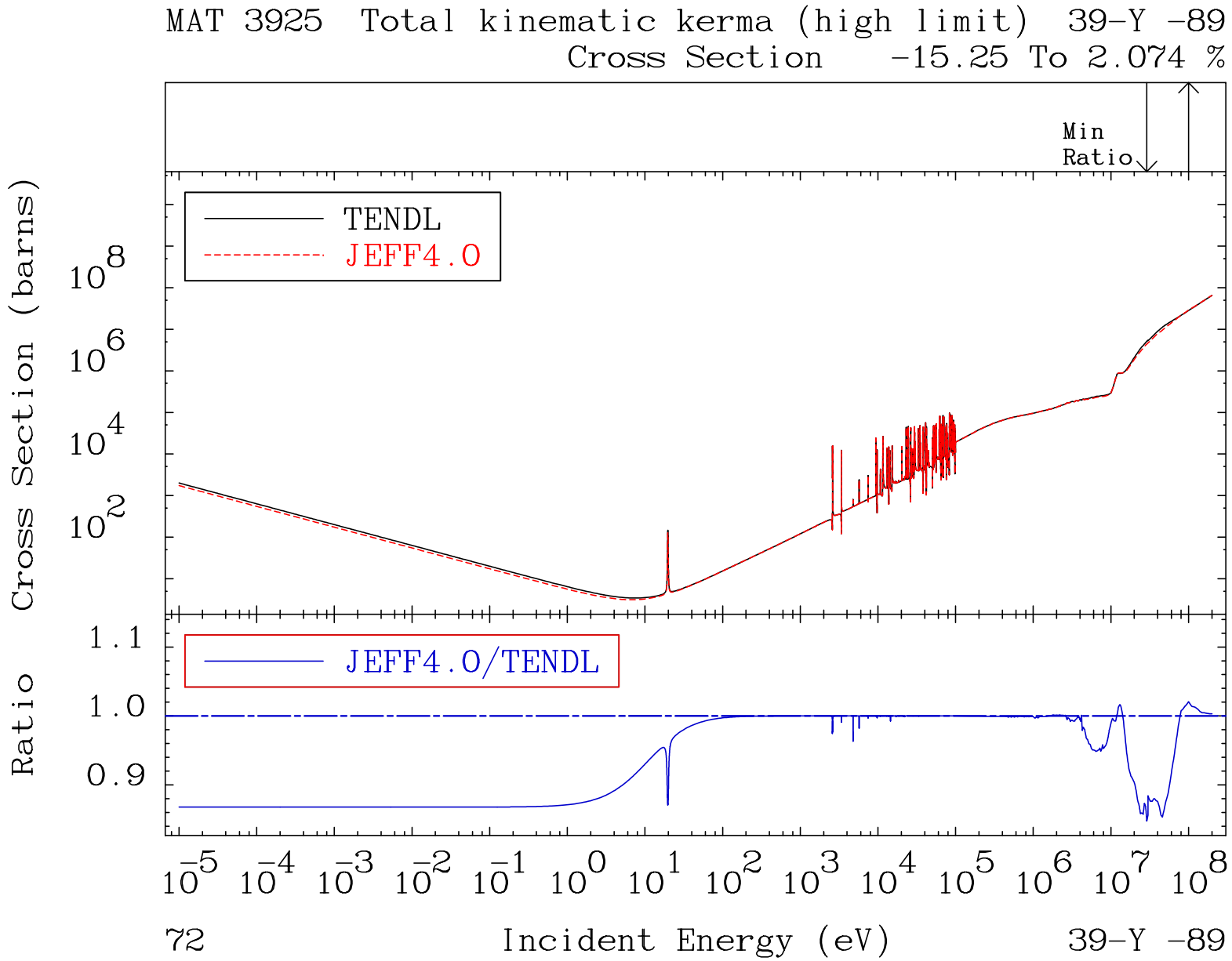

MAT 3925
(n,t):38-Sr-87m1
39-Y -89
Radionuclide Production Cross Section To 7281. %
Max
Ratio
TENDL Threshold 11.000 MeV
JENDL5.0 Threshold 12.000 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
1.6
1.2
0.8
0.4
0.0
80
40
0
2
3
4
5
6
7
8
9
2
10^8
67
Incident Energy (eV)
39-Y -89

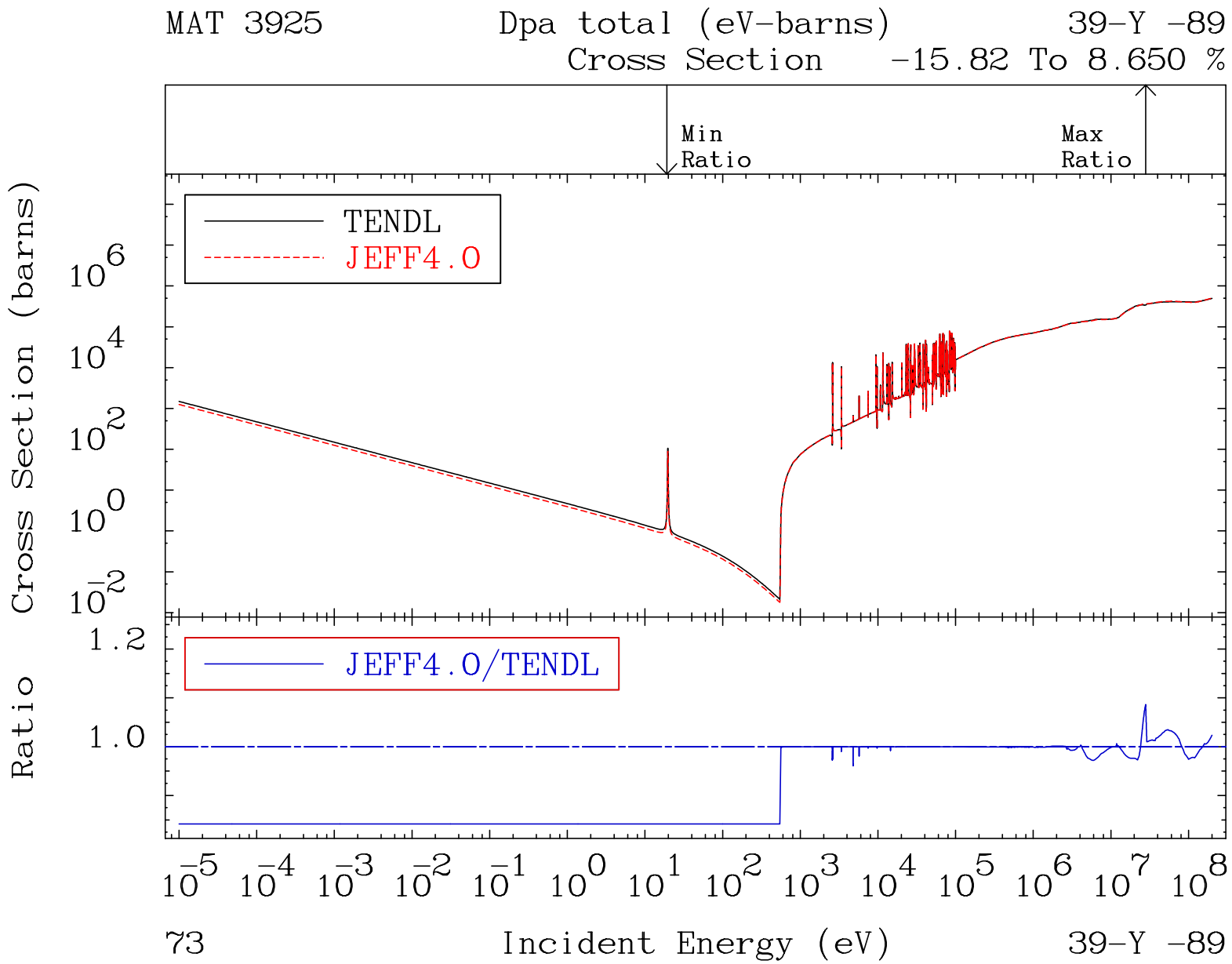

MAT 3925
Kerma inelastic (mt51-91)
39-Y -89
Cross Section -21.99 To 25.62 %
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JEFF4.0 Threshold 919.28 keV
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
68
39-Y -89

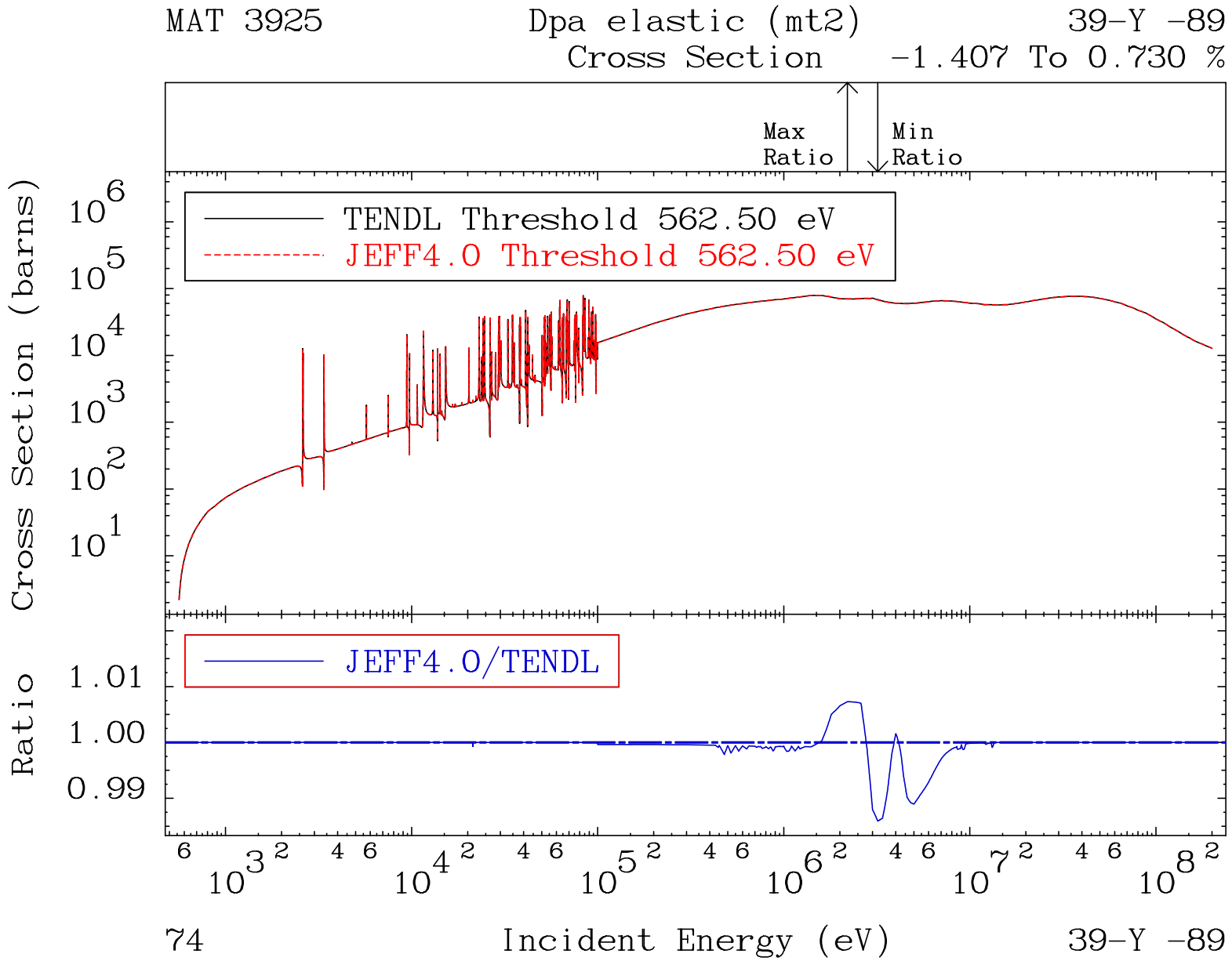

MAT 3925 Kerma fission (mt18 or mt19-20-21-38) 39-Y -89
Cross Section -21.99 To 25.62 %
Max
Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
1.2
0.8
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
69
Incident Energy (eV)
39-Y -89

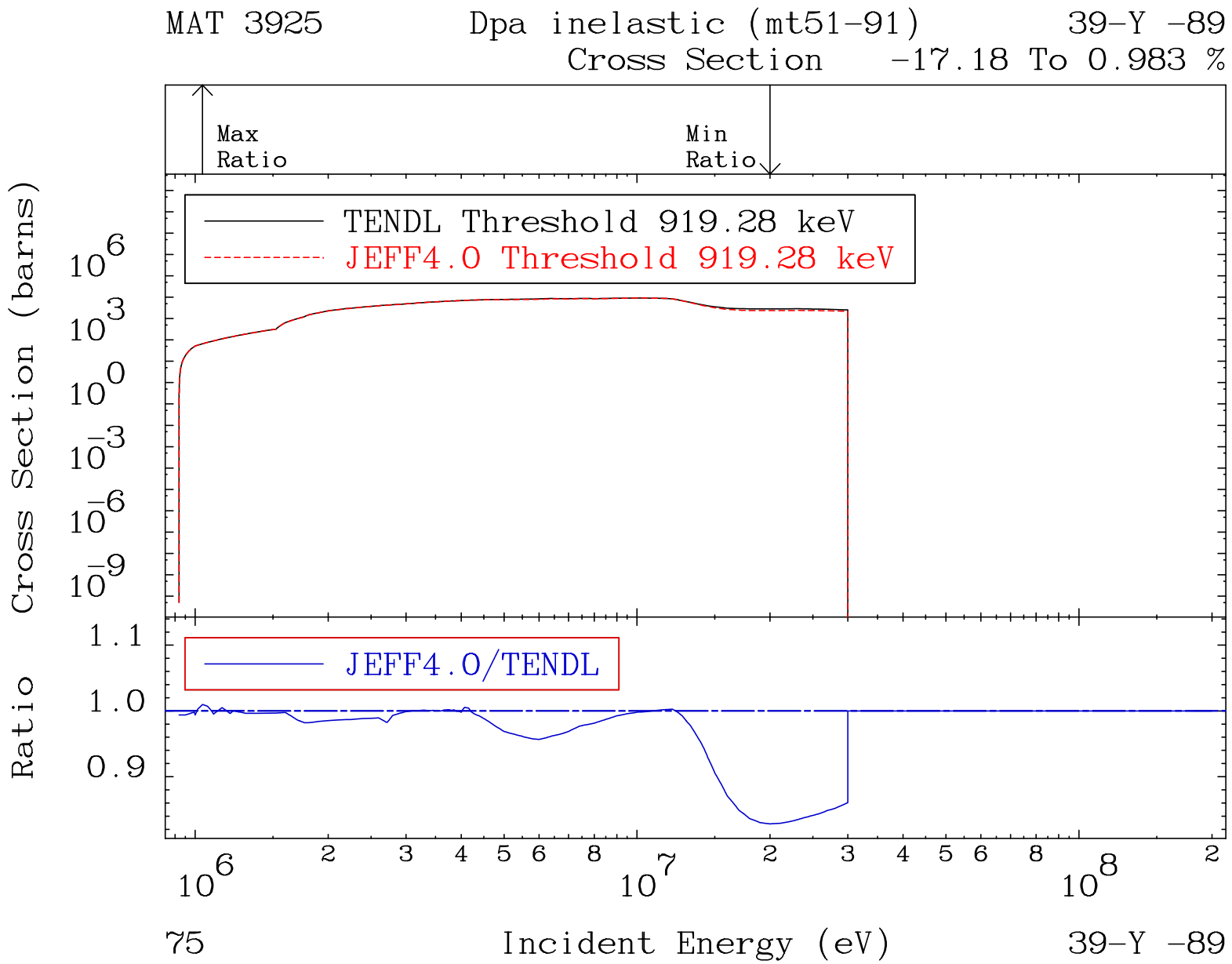

MAT 3925
Kerma capture (mt102)
39-Y -89
Cross Section -64.83 To 68.63 %
Max
Ratio
TENDL
JEFF4.0
Cross Section (barns)
10^{4}
10^{2}
10^{0}
10^{-2}
JEFF4.0/TENDL
Ratio
2.0
1.0
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7} 10^{8}
70
Incident Energy (eV)
39-Y -89

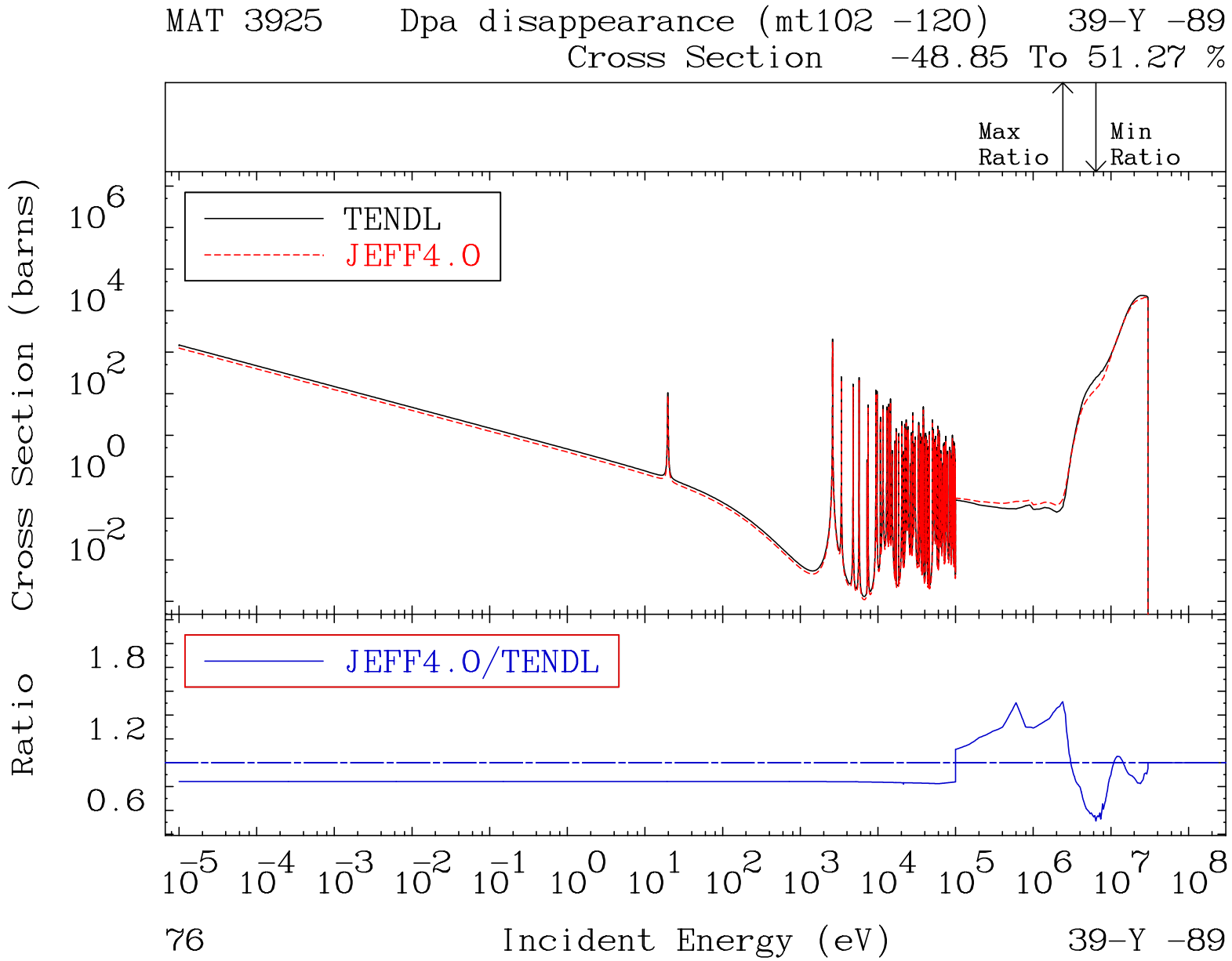

MAT 3925
Total photon (eV-barns)
39-Y -89
Cross Section -9.357 To 60.90 %
Max Ratio
Min Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
71
39-Y -89

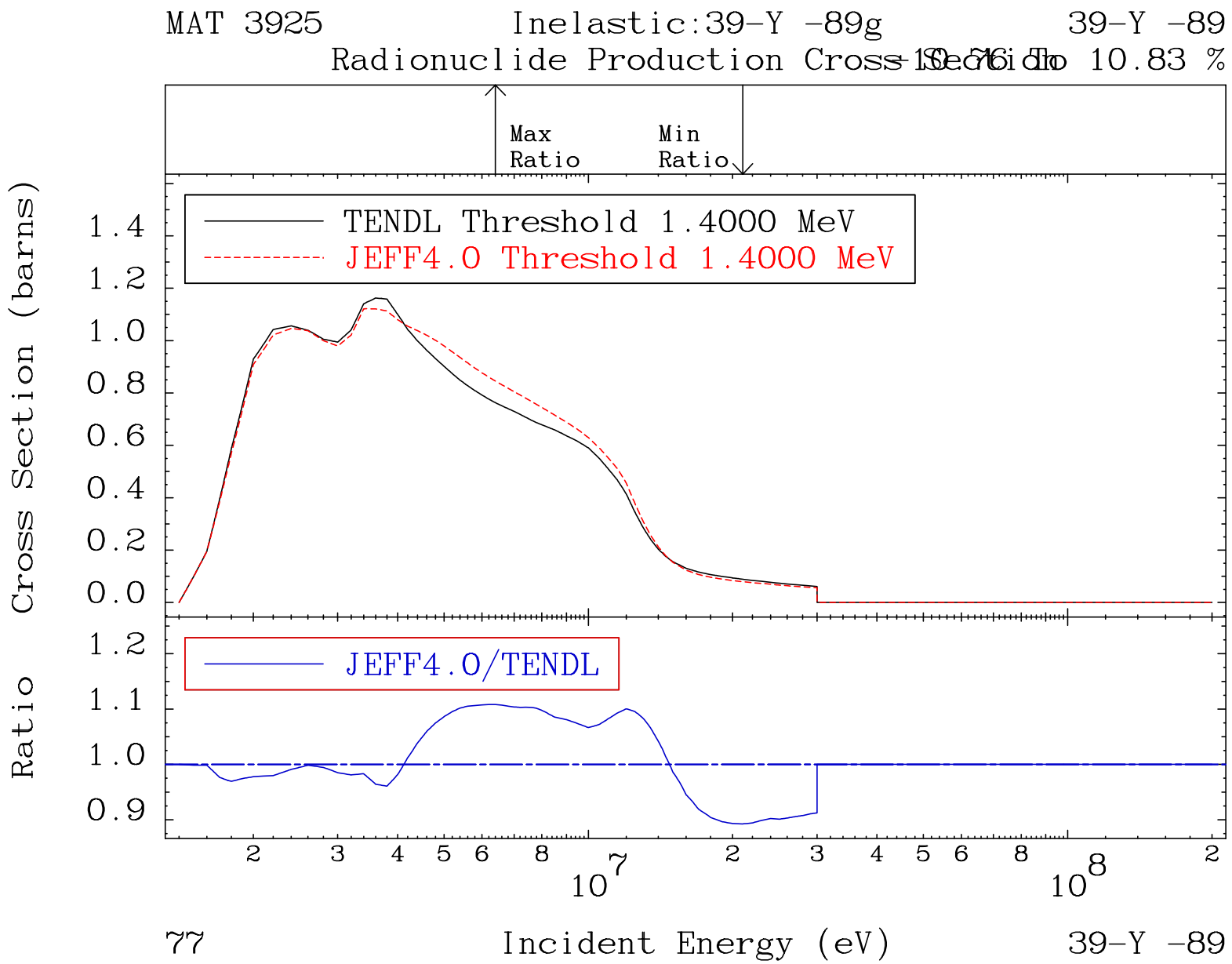

MAT 3925 Total kinematic kerma (high limit) 39-Y -89
Cross Section -15.25 To 2.074 %
Min
Ratio
TENDL
JEFF4.0
Cross Section (barns)
10^8
10^6
10^4
10^2
JEFF4.0/TENDL
Ratio
1.1
1.0
0.9
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
72
Incident Energy (eV)
39-Y -89

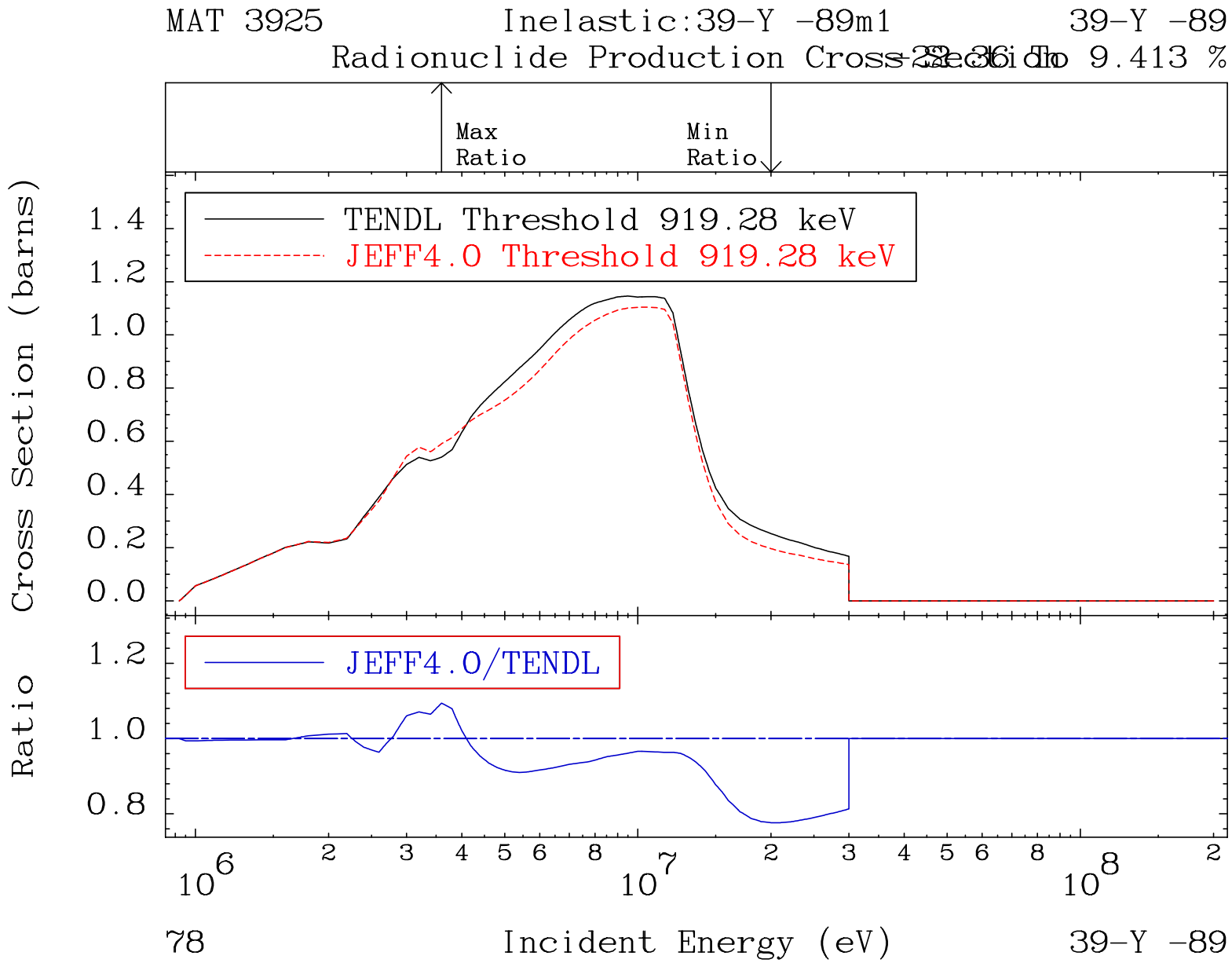

MAT 3925
Dpa total (eV-barns)
39-Y -89
Cross Section -15.82 To 8.650 %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
73
39-Y -89

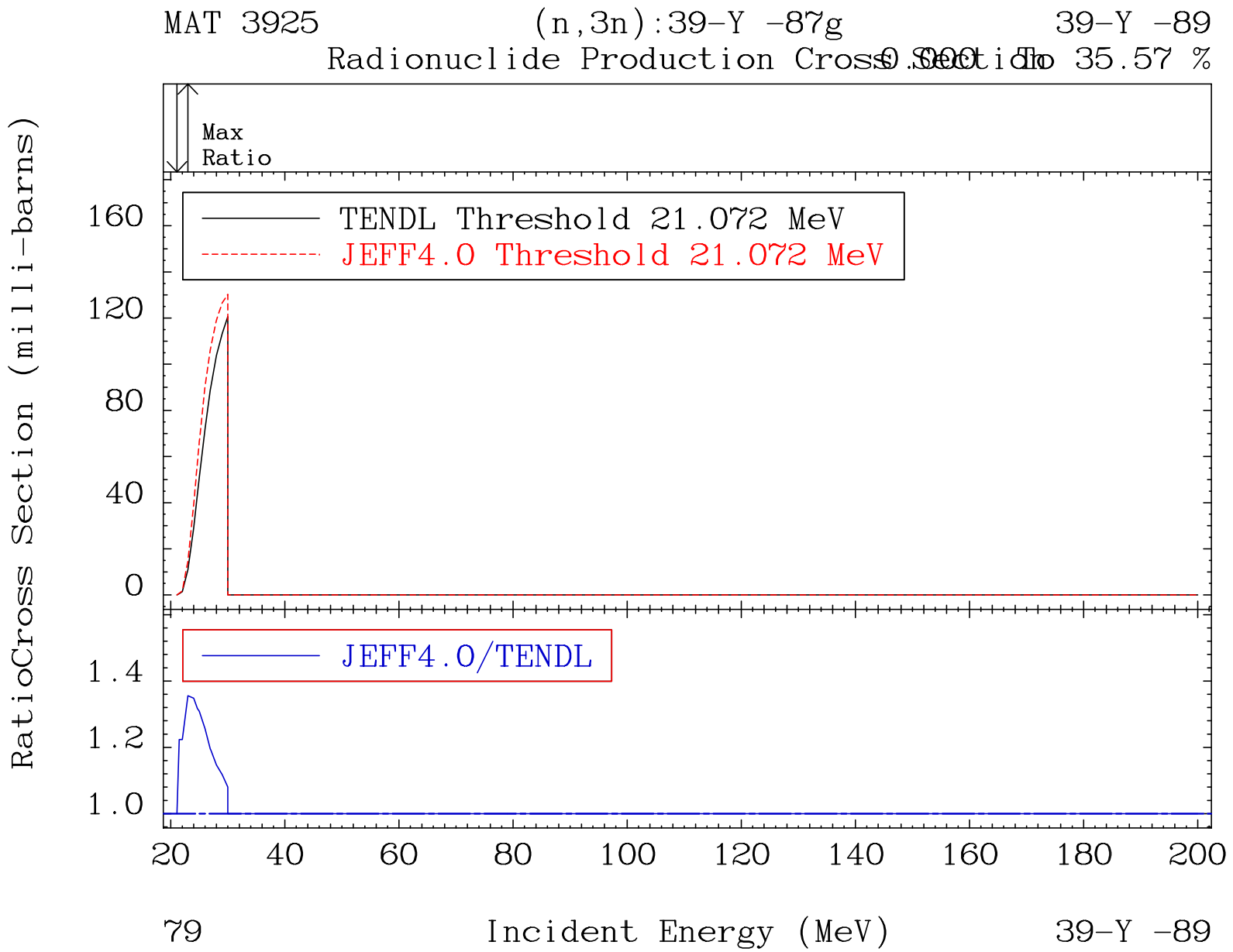

MAT 3925
Dpa elastic (mt2)
Cross Section
39-Y -89
-1.407 To 0.730 %
Max Ratio
Min Ratio
TENDL Threshold 562.50 eV
JEFF4.0 Threshold 562.50 eV
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
74
39-Y -89

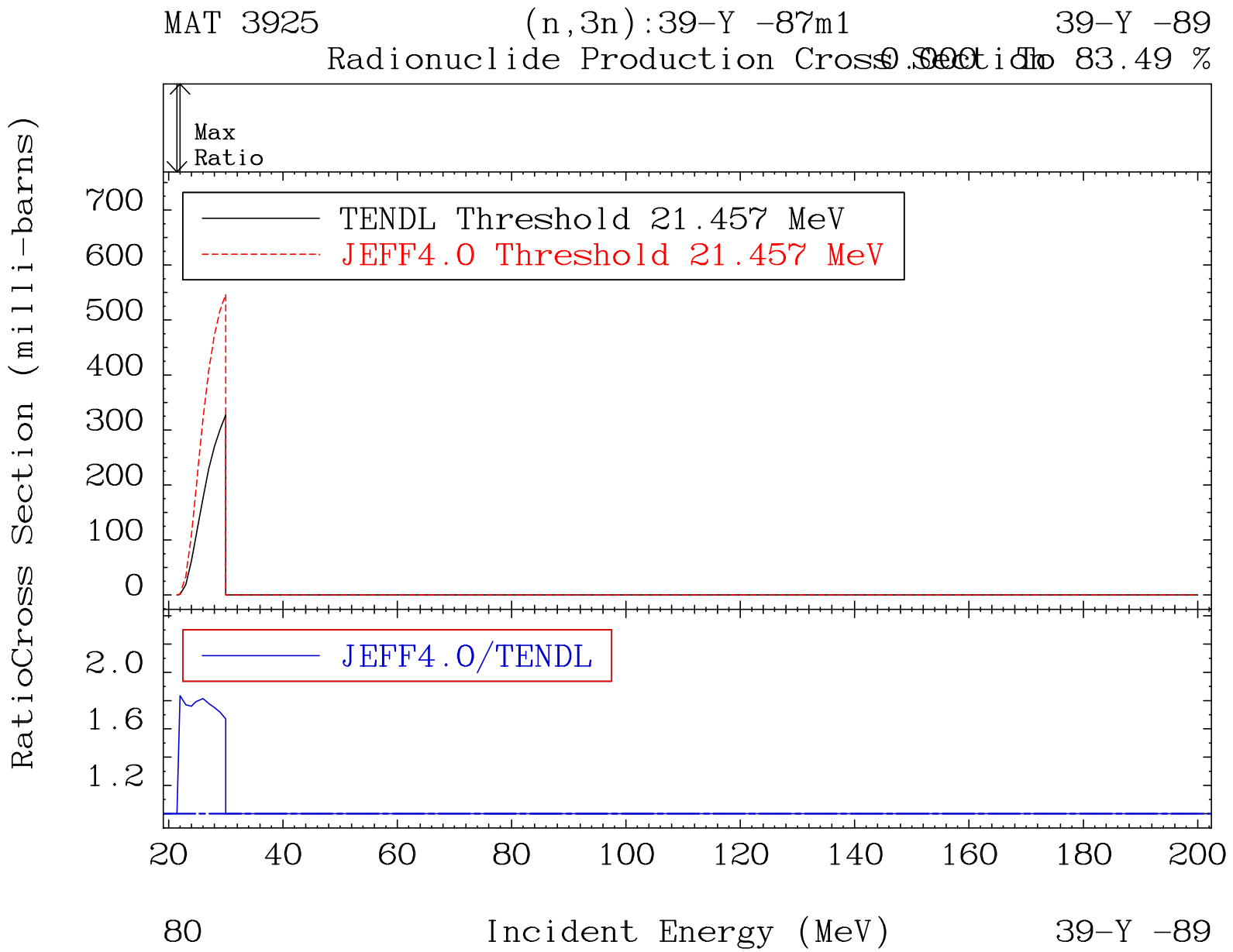

MAT 3925
Dpa inelastic (mt51-91)
39-Y -89
Cross Section -17.18 To 0.983 %
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JEFF4.0 Threshold 919.28 keV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
75
39-Y -89

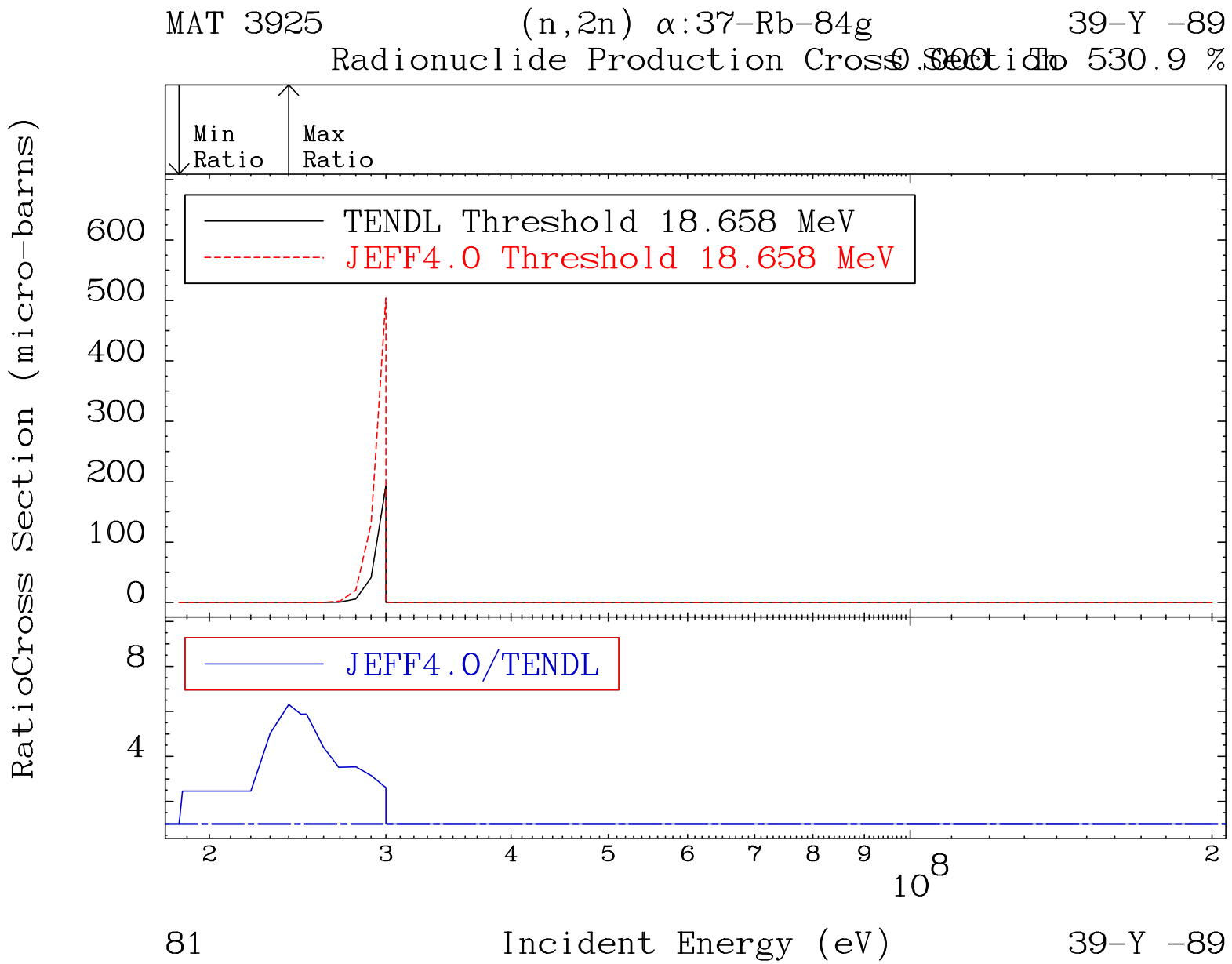

MAT 3925 Dpa disappearance (mt102 -120) 39-Y -89
Cross Section -48.85 To 51.27 %
Max Ratio
Min Ratio
TENDL
JEFF4.0
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
76
39-Y -89

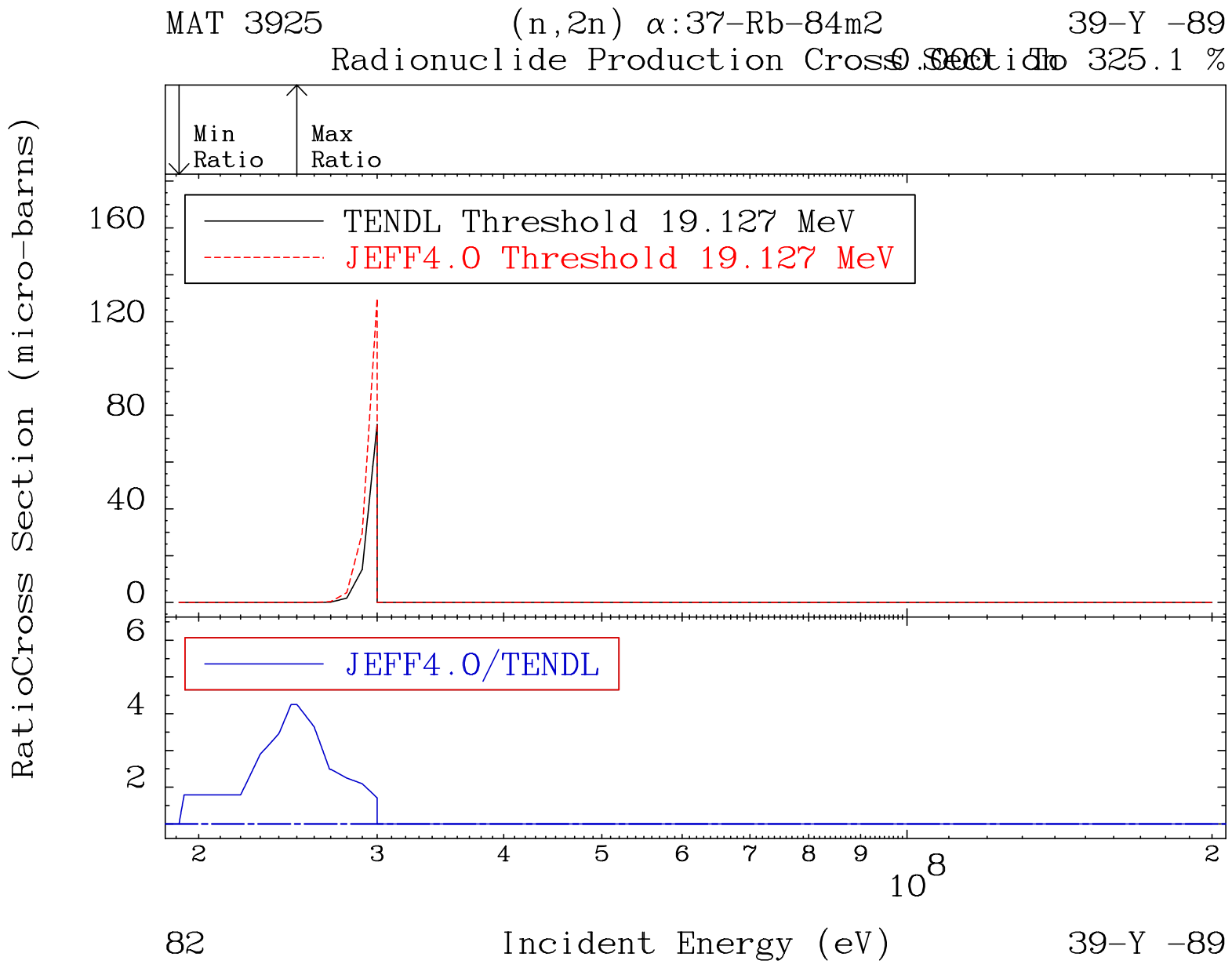

MAT 3925
Inelastic:39-Y -89g
39-Y -89
Radionuclide Production Cross Section To 10.83 %
Max Ratio
Min Ratio
TENDL Threshold 1.4000 MeV
JEFF4.0 Threshold 1.4000 MeV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1.2
1.1
1.0
0.9
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
77
Incident Energy (eV)
39-Y -89

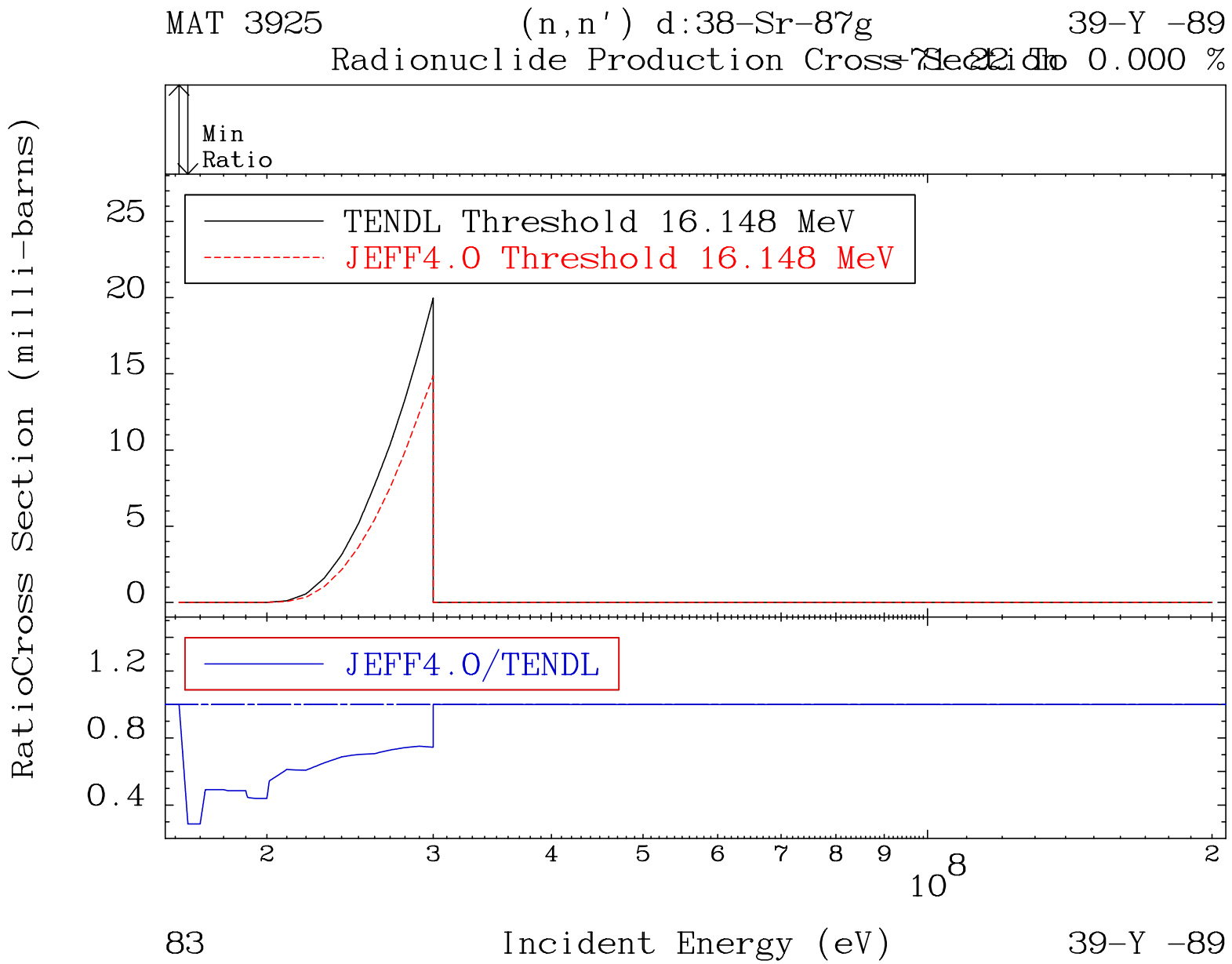

MAT 3925
Inelastic:39-Y -89m1
39-Y -89
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 919.28 keV
JEFF4.0 Threshold 919.28 keV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
78
39-Y -89

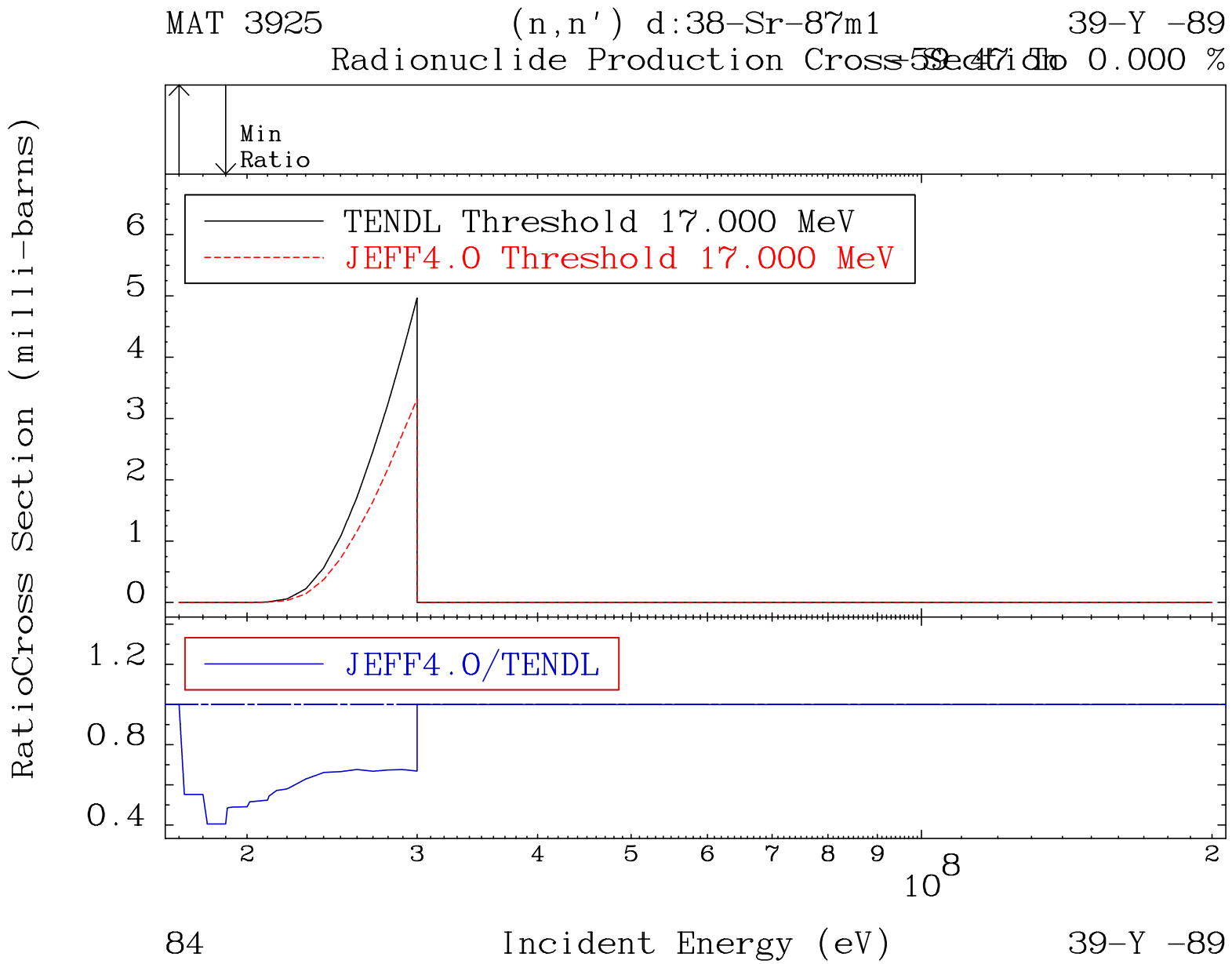

MAT 3925
(n,3n):39-Y -87g
39-Y -89
Radionuclide Production Cross Section
0.000 To 35.57 %
Max
Ratio
TENDL Threshold 21.072 MeV
JEFF4.0 Threshold 21.072 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.4
1.2
1.0
20
40
60
80
100
120
140
160
180
200
79
Incident Energy (MeV)
39-Y -89

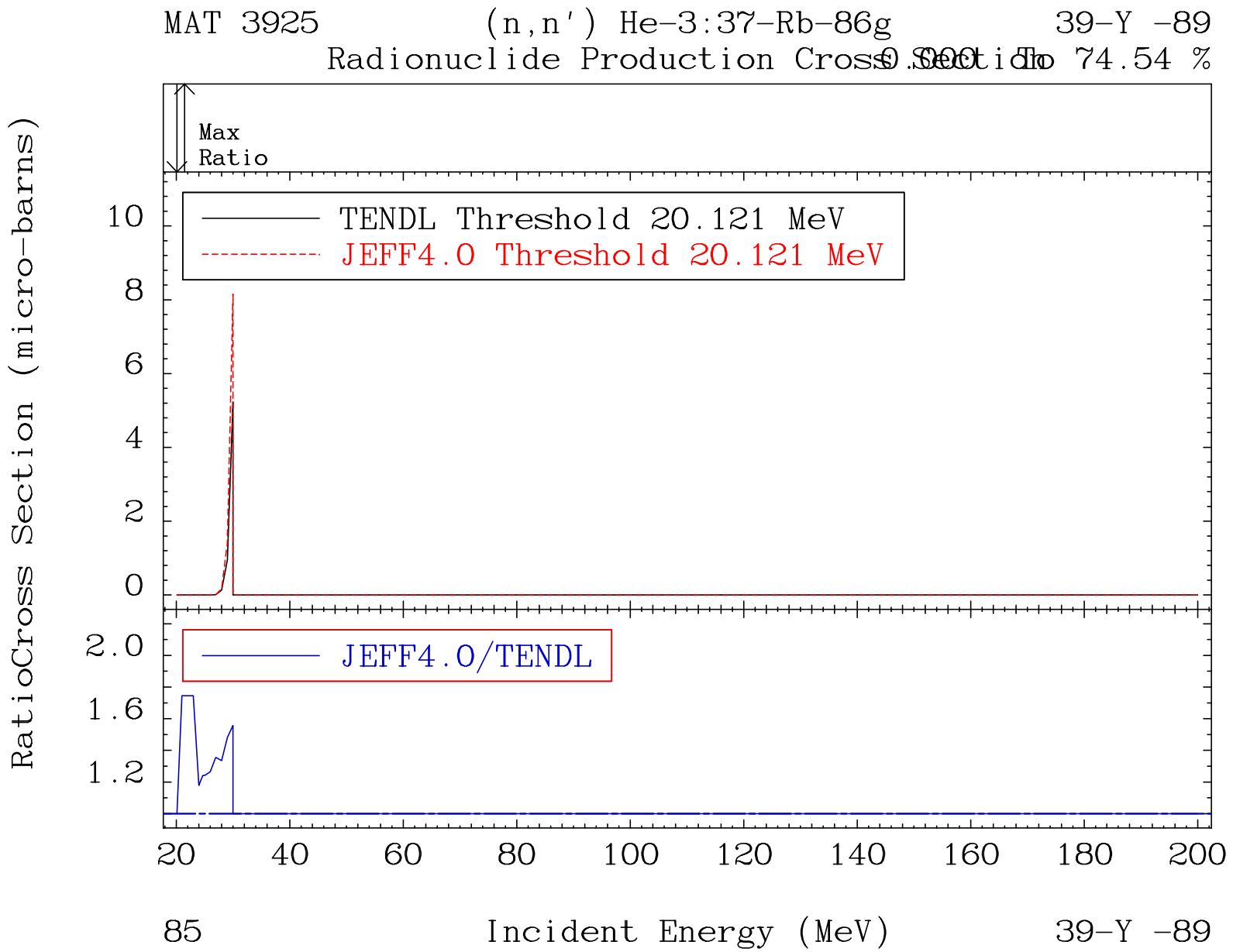

MAT 3925
(n,3n):39-Y -87m1
39-Y -89
Radionuclide Production Cross Section
0.000 To 83.49 %
Max
Ratio
TENDL Threshold 21.457 MeV
JEFF4.0 Threshold 21.457 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
2.0
1.6
1.2
20
40
60
80
100
120
140
160
180
200
80
Incident Energy (MeV)
39-Y -89

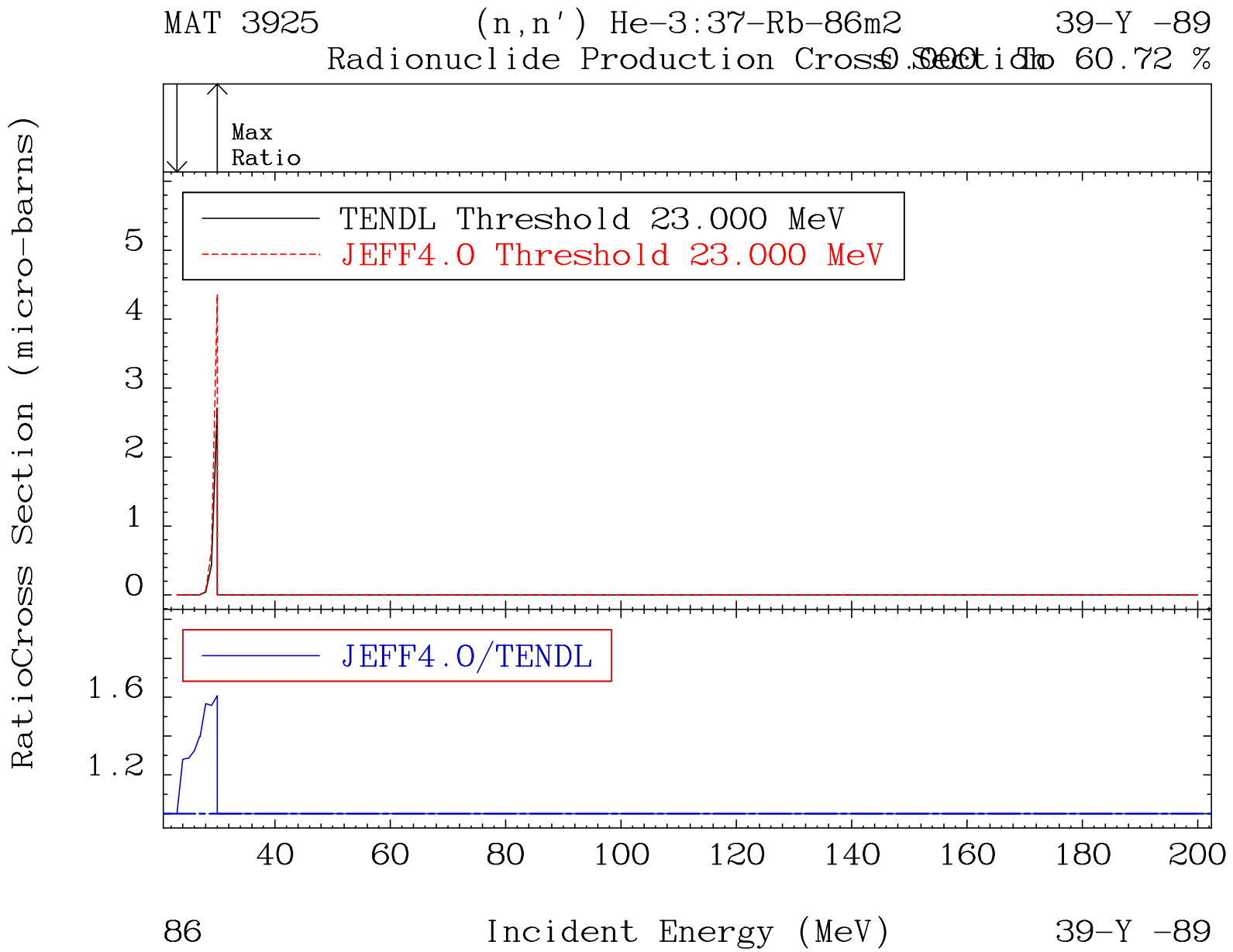

MAT 3925
(n,2n) α:37-Rb-84g
39-Y -89
Radionuclide Production Cross Section
0.000 To 530.9 %
Min Ratio
Max Ratio
TENDL Threshold 18.658 MeV
JEFF4.0 Threshold 18.658 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
600
500
400
300
200
100
0
8
4
2
3
4
5
6
7
8
9
10^8
2
81
Incident Energy (eV)
39-Y -89

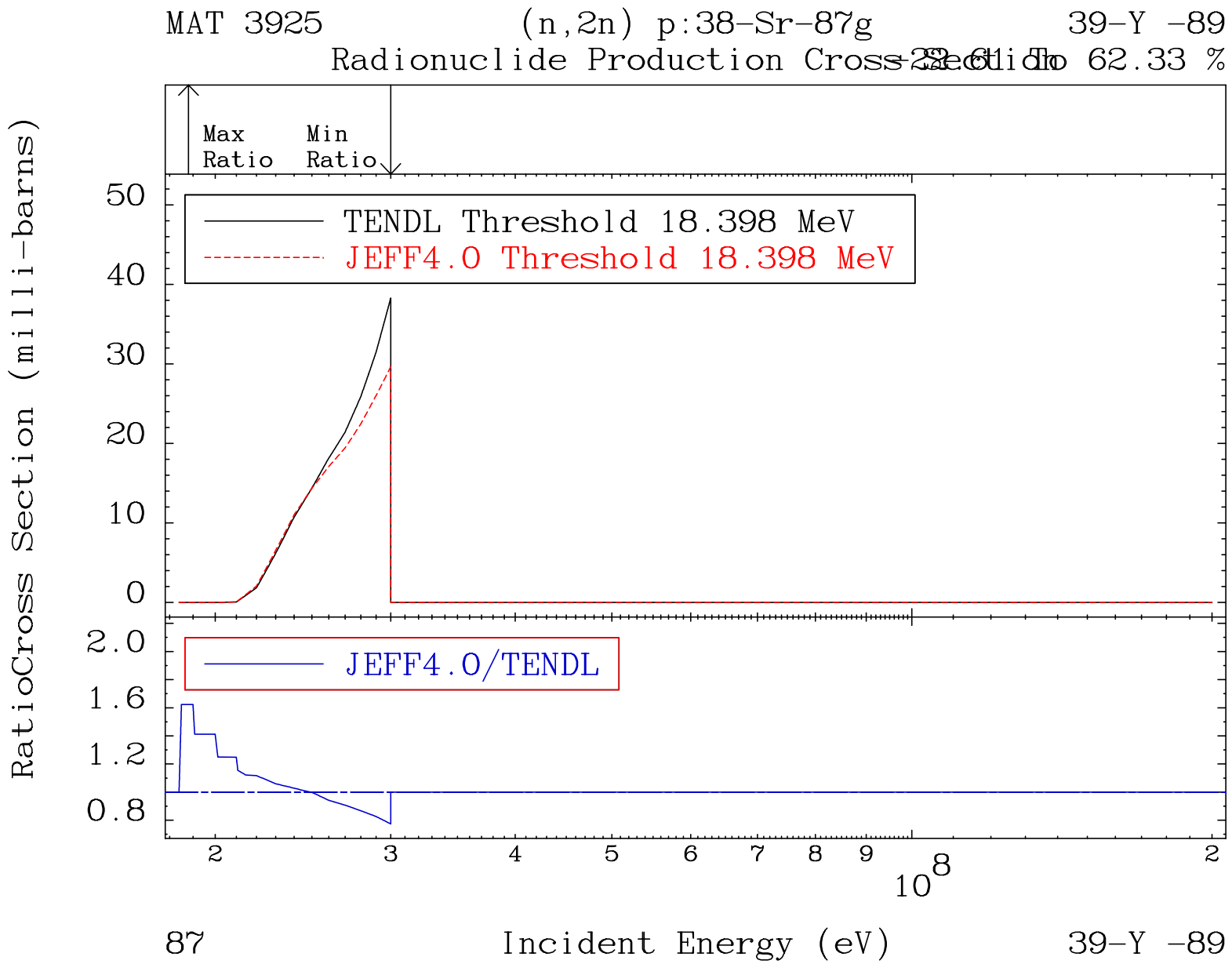

MAT 3925
(n,2n) α:37-Rb-84m2
39-Y -89
Radionuclide Production Cross Section To 325.1 %
Min Ratio
Max Ratio
TENDL Threshold 19.127 MeV
JEFF4.0 Threshold 19.127 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
160
120
80
40
0
6
4
2
2
3
4
5
6
7
8
9
2
10^8
82
Incident Energy (eV)
39-Y -89

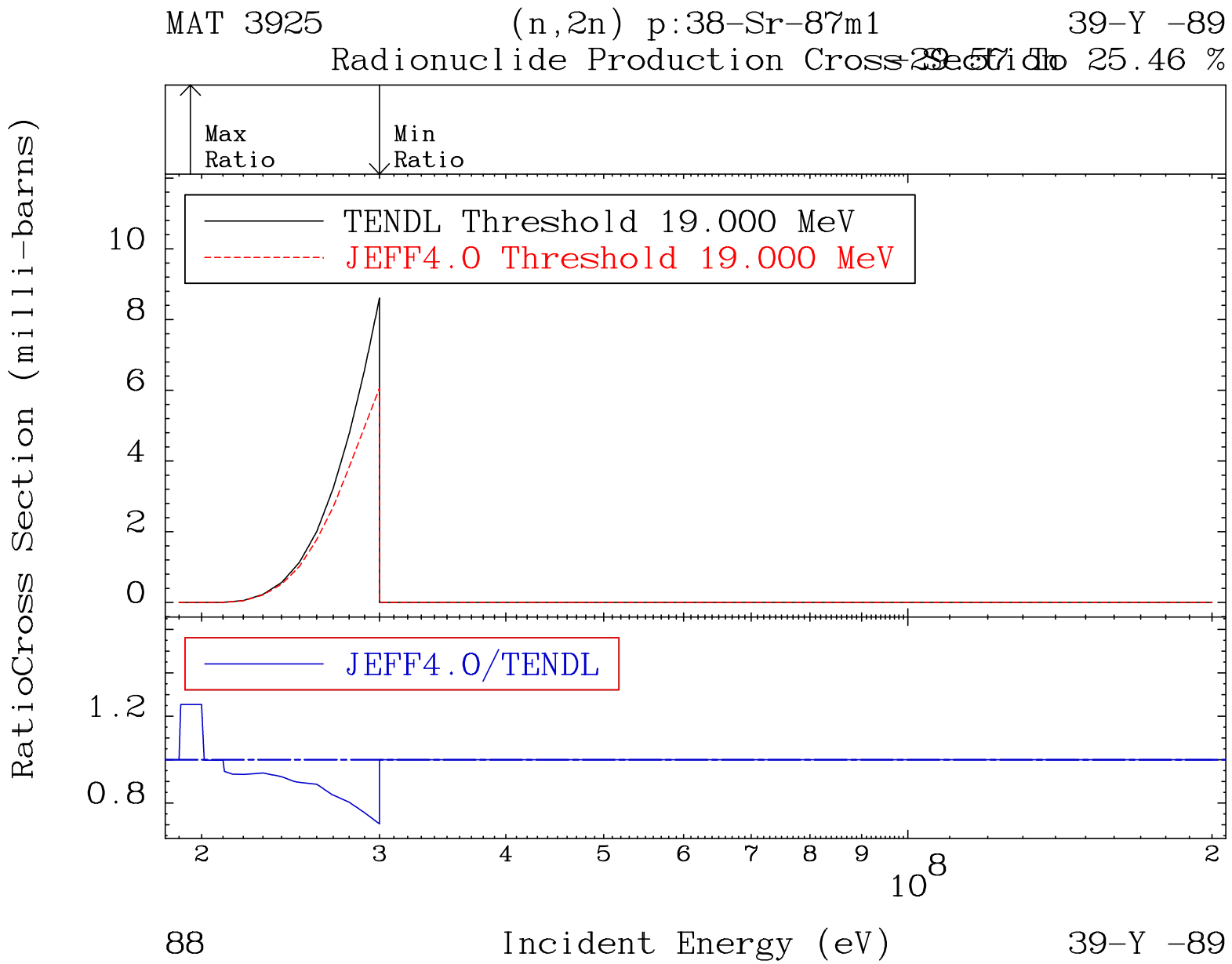

MAT 3925
(n,n') d:38-Sr-87g
39-Y -89
Radionuclide Production Cross Section To 0.000 %
Min
Ratio
TENDL Threshold 16.148 MeV
JEFF4.0 Threshold 16.148 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
25
20
15
10
5
0
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
83
Incident Energy (eV)
39-Y -89

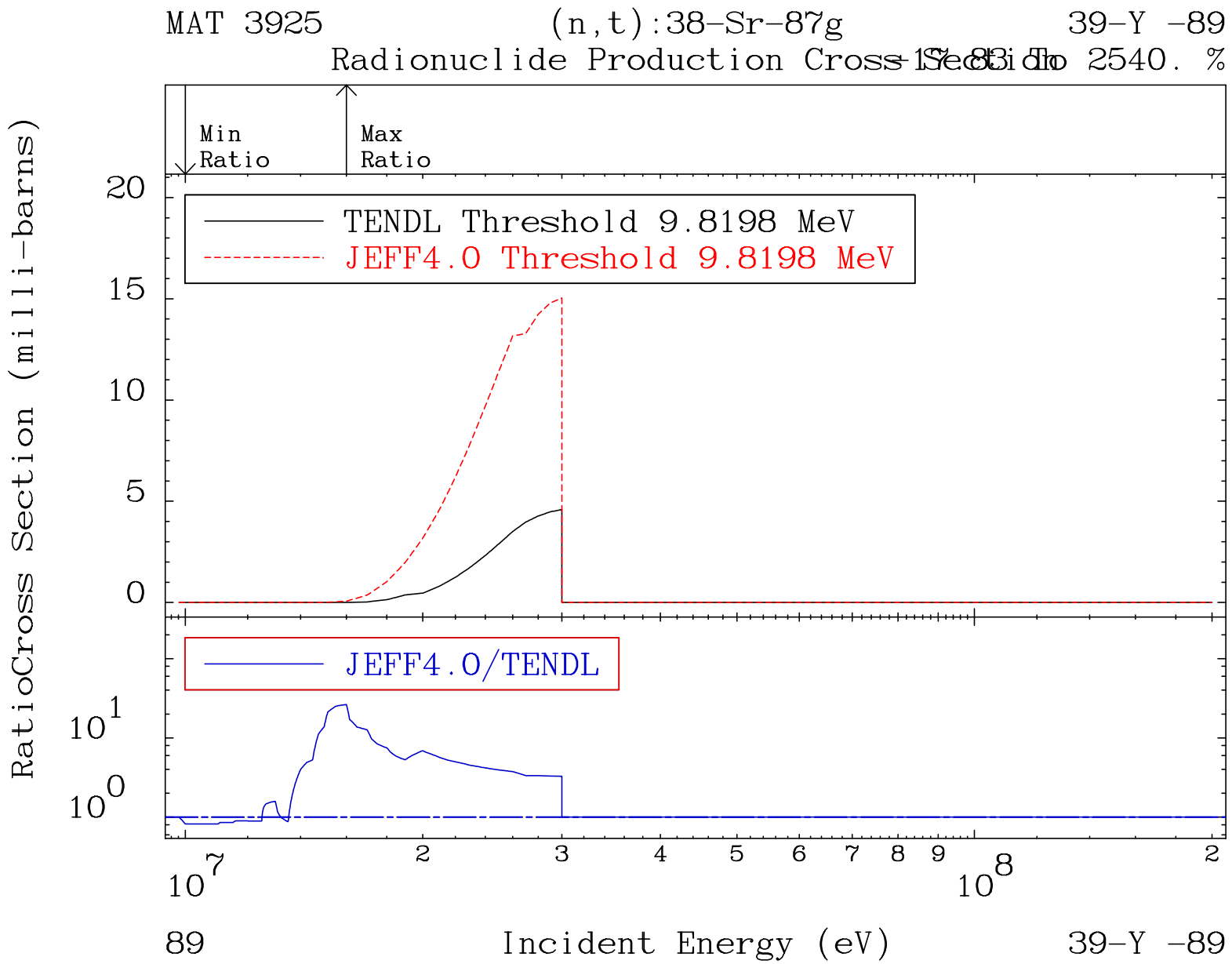

MAT 3925
(n,n') d:38-Sr-87m1
39-Y -89
Radionuclide Production Cross Section To 0.000 %
Min
Ratio
TENDL Threshold 17.000 MeV
JEFF4.0 Threshold 17.000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
84
39-Y -89

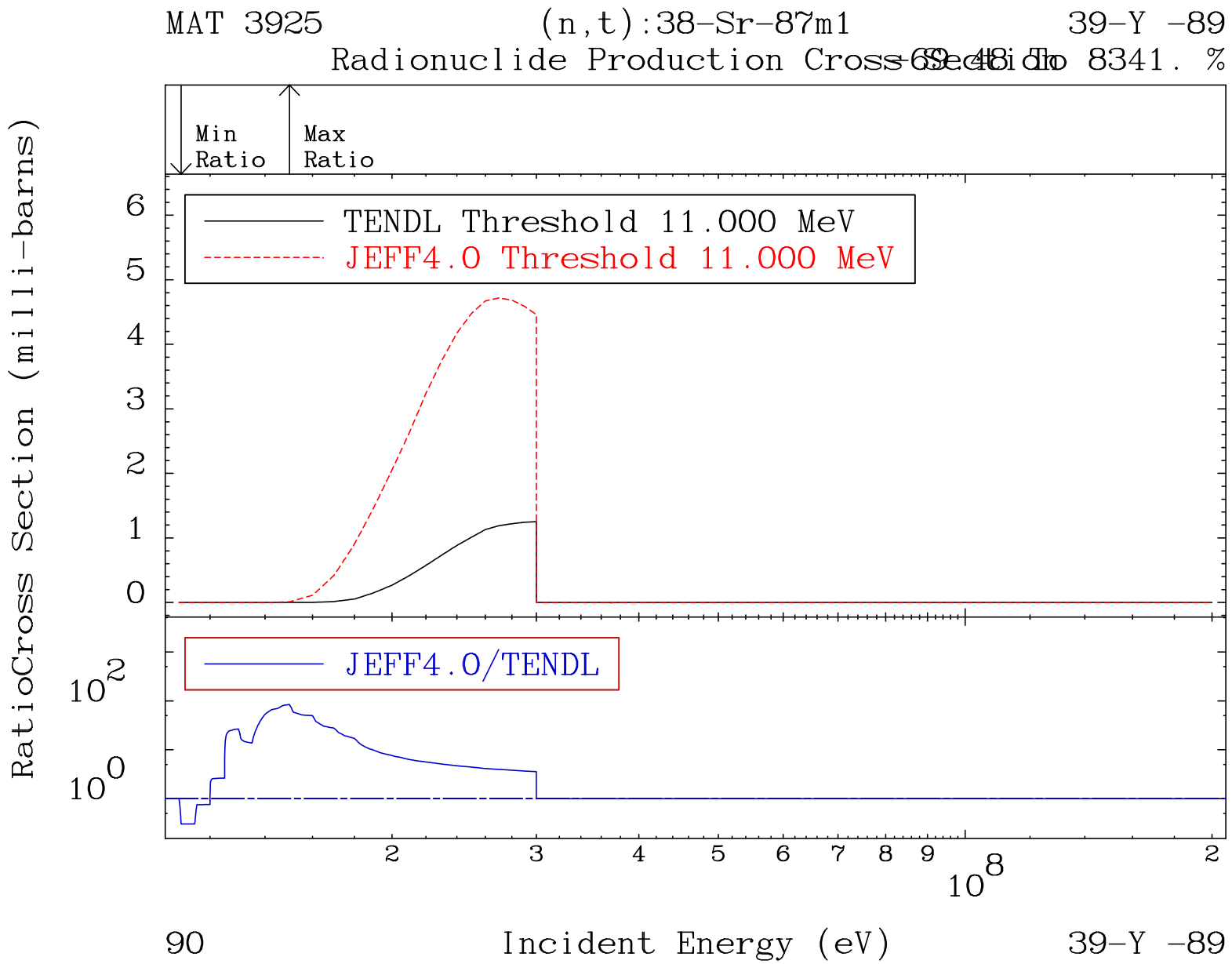

MAT 3925
(n,n') He-3:37-Rb-86g
39-Y -89
Radionuclide Production Cross Section
0.000 To 74.54 %
Max
Ratio
TENDL Threshold 20.121 MeV
JEFF4.0 Threshold 20.121 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
10
8
6
4
2
0
2.0
1.6
1.2
20
40
60
80
100
120
140
160
180
200
85
Incident Energy (MeV)
39-Y -89

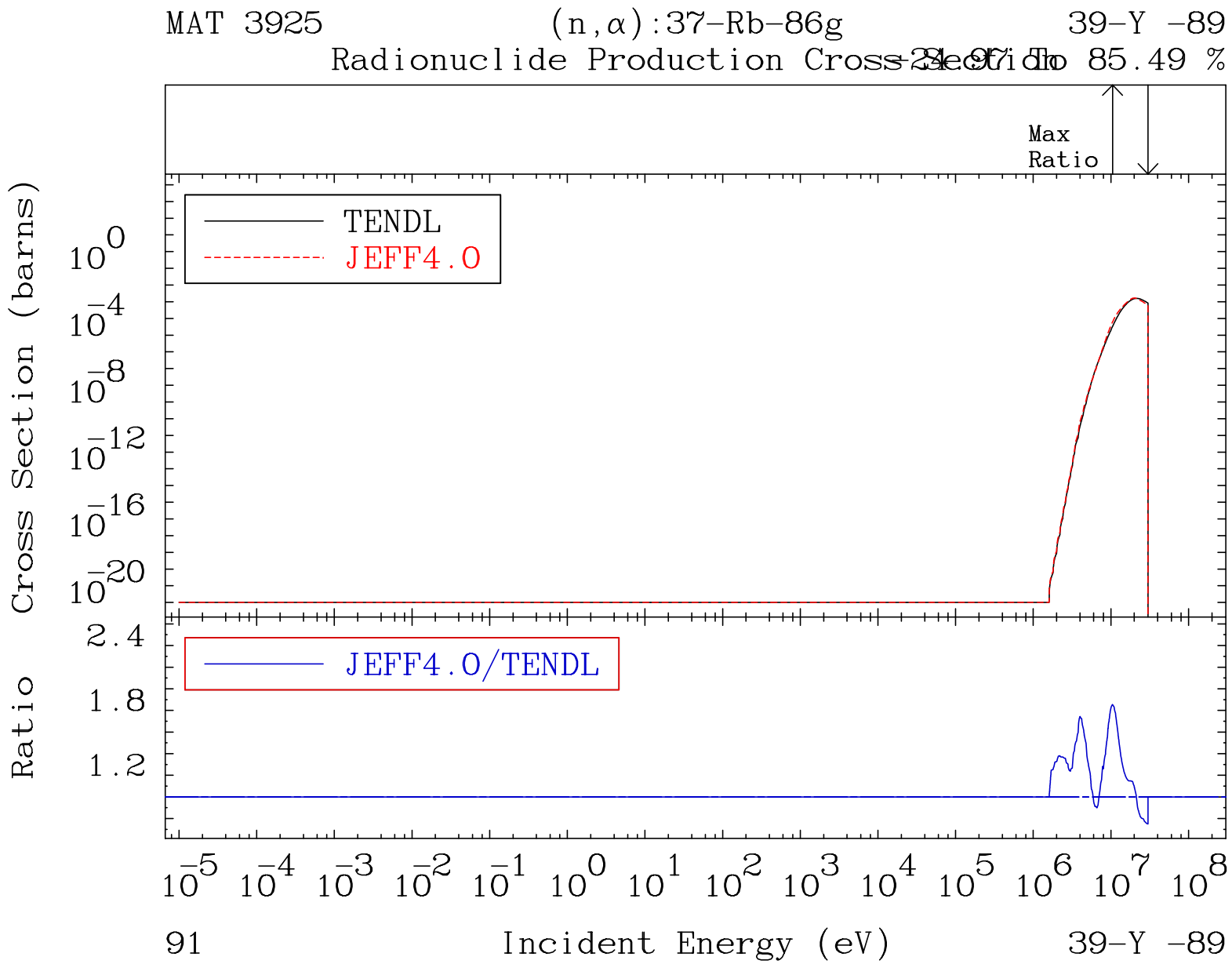

MAT 3925 (n,n') He-3:37-Rb-86m2 39-Y -89
Radionuclide Production Cross Section To 60.72 %
Max
Ratio
TENDL Threshold 23.000 MeV
JEFF4.0 Threshold 23.000 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
0
1
2
3
4
5
1.2
1.6
40
60
80
100
120
140
160
180
200
86
Incident Energy (MeV)
39-Y -89

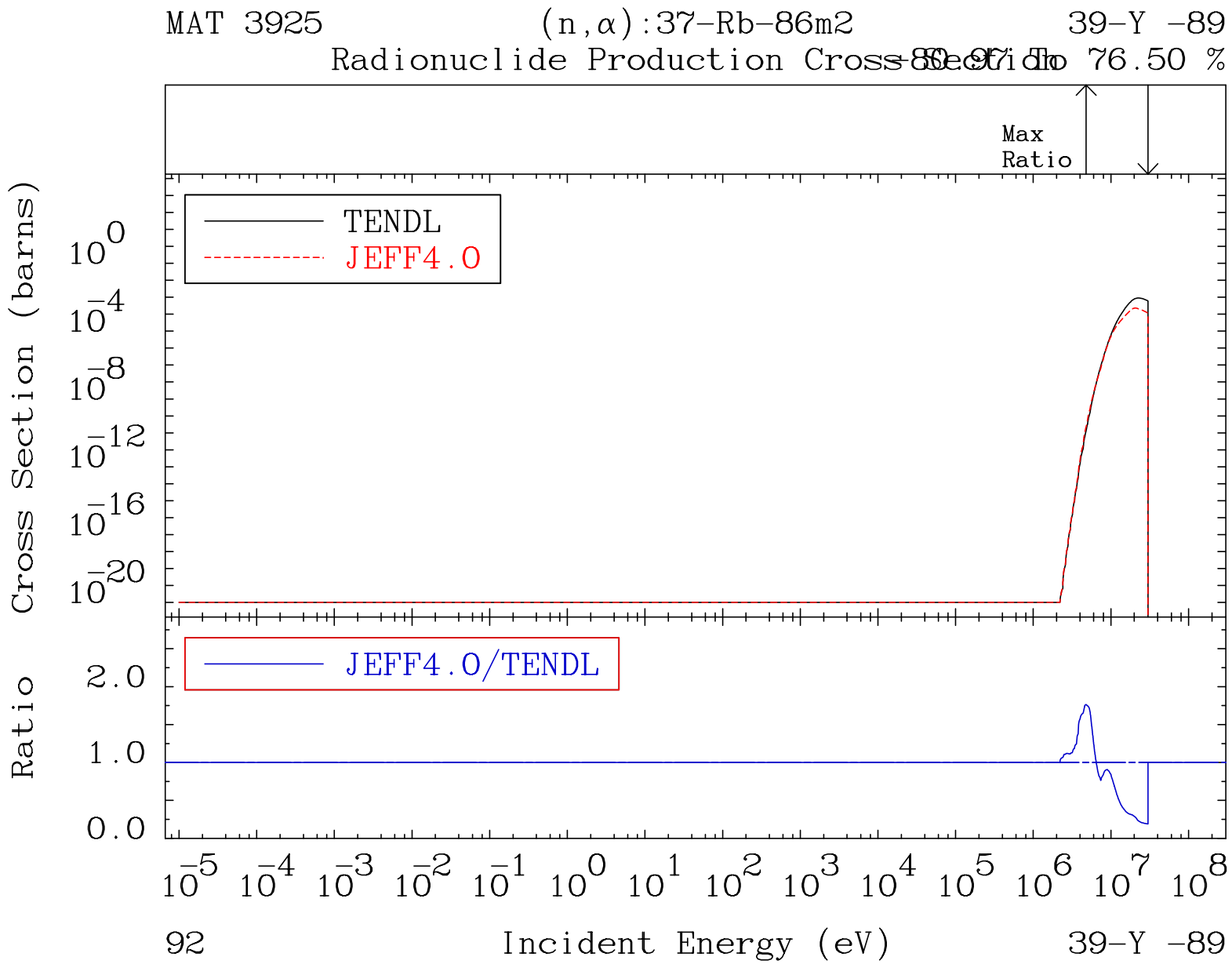

MAT 3925
(n,2n) p:38-Sr-87g
39-Y -89
Radionuclide Production Cross Section To 62.33 %
Max Ratio
Min Ratio
TENDL Threshold 18.398 MeV
JEFF4.0 Threshold 18.398 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
50
40
30
20
10
0
2.0
1.6
1.2
0.8
2
3
4
5
6
7
8
9
2
10^8
87
Incident Energy (eV)
39-Y -89

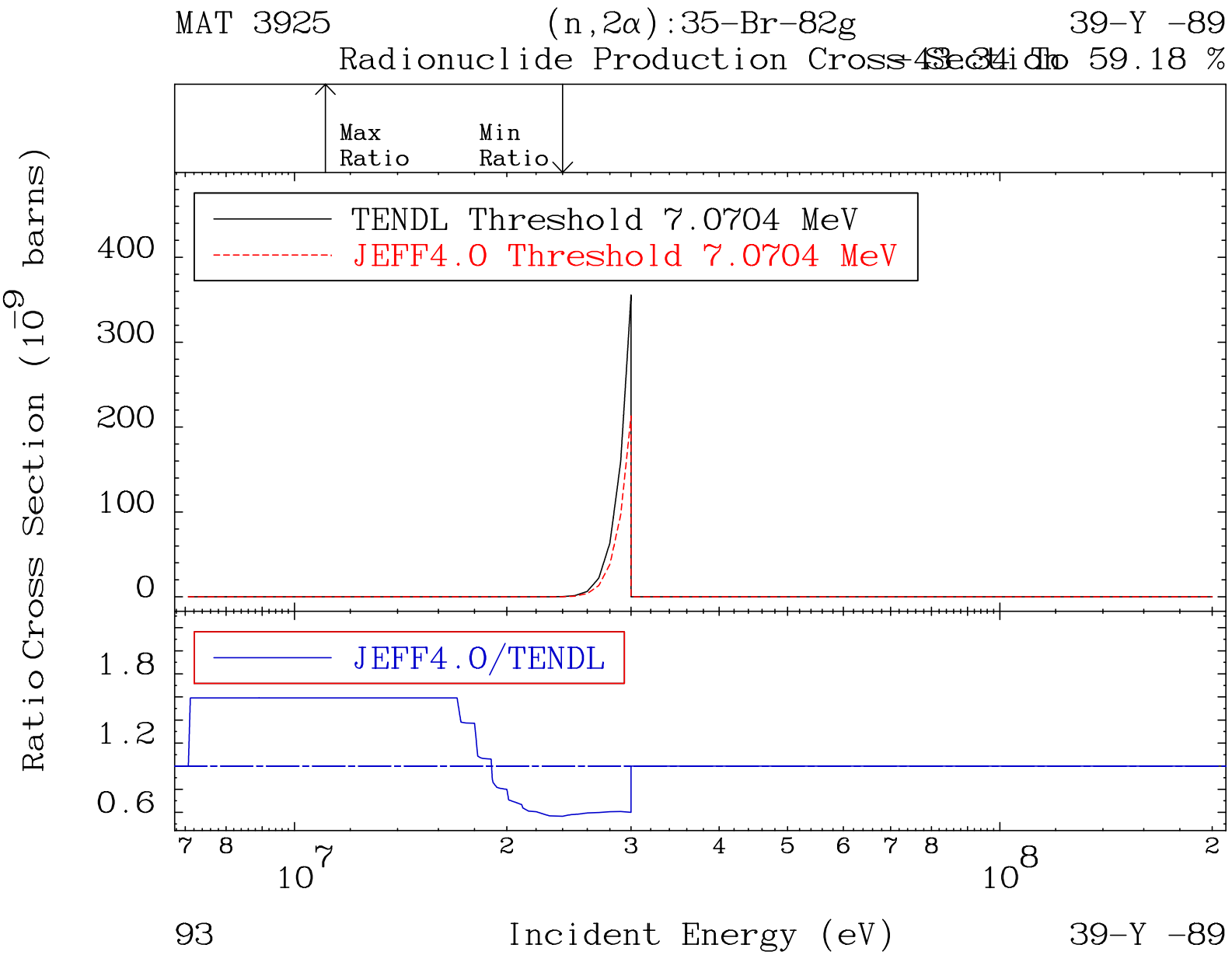

MAT 3925
(n,2n) p:38-Sr-87m1
39-Y -89
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 19.000 MeV
JEFF4.0 Threshold 19.000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
88
39-Y -89

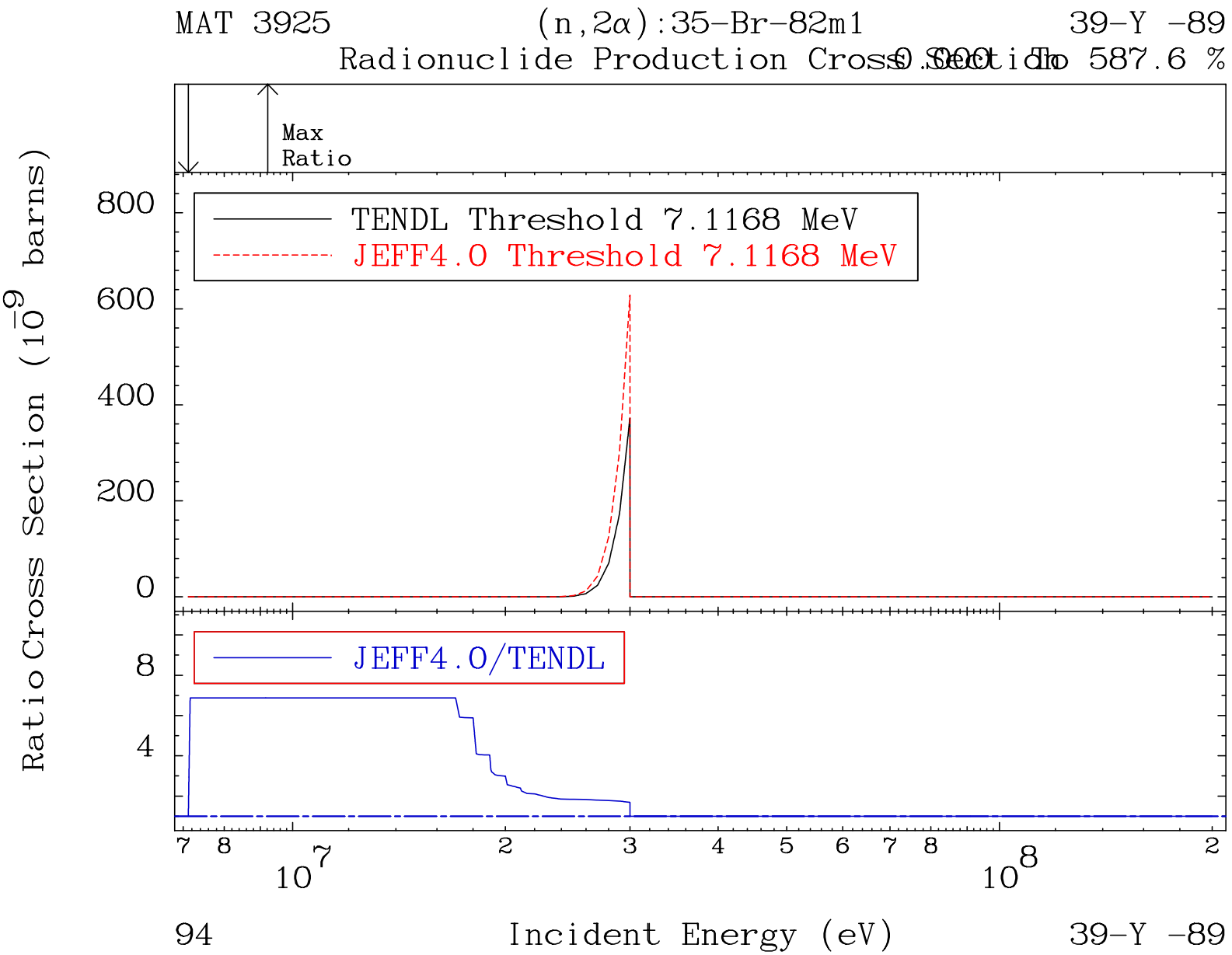

MAT 3925
(n,t):38-Sr-87g
39-Y -89
Radionuclide Production Cross Section To 2540. %
Min Ratio
Max Ratio
TENDL Threshold 9.8198 MeV
JEFF4.0 Threshold 9.8198 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
20
15
10
5
0
10^1
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
89
Incident Energy (eV)
39-Y -89

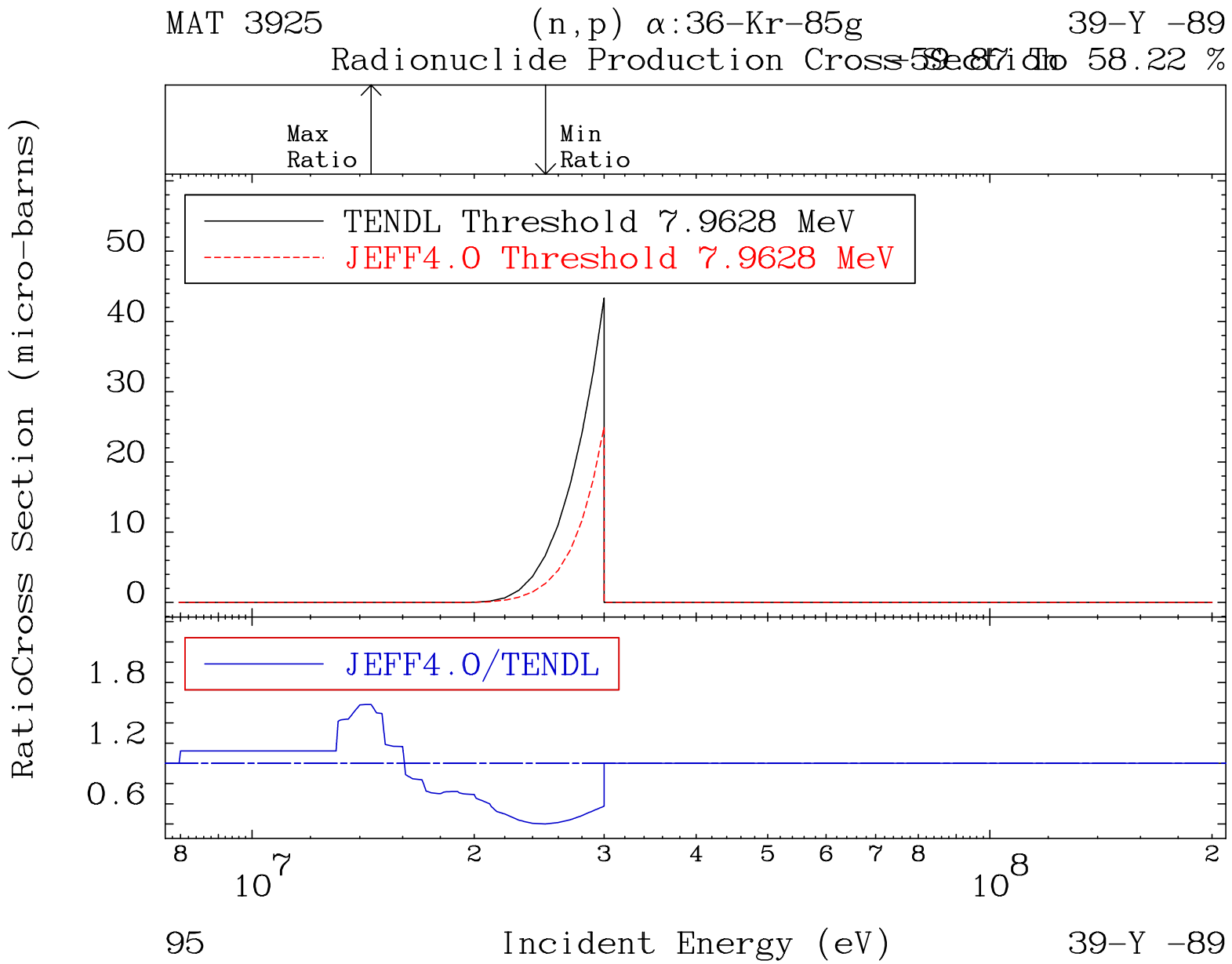

MAT 3925
(n,t):38-Sr-87m1
39-Y -89
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 11.000 MeV
JEFF4.0 Threshold 11.000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
90
39-Y -89

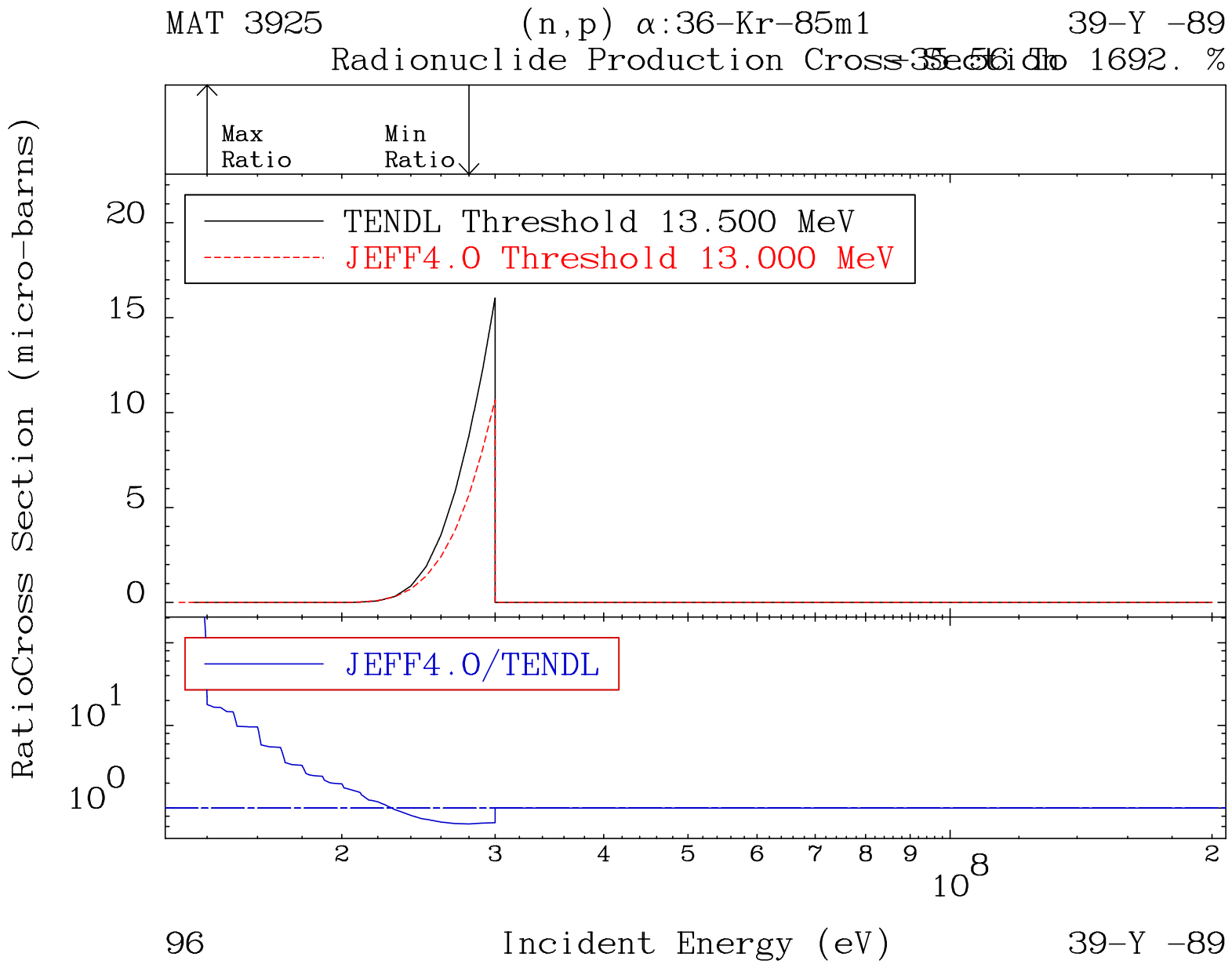

MAT 3925
(n,α):37-Rb-86g
39-Y -89
Radionuclide Production Cross Section
Max
Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
91
39-Y -89

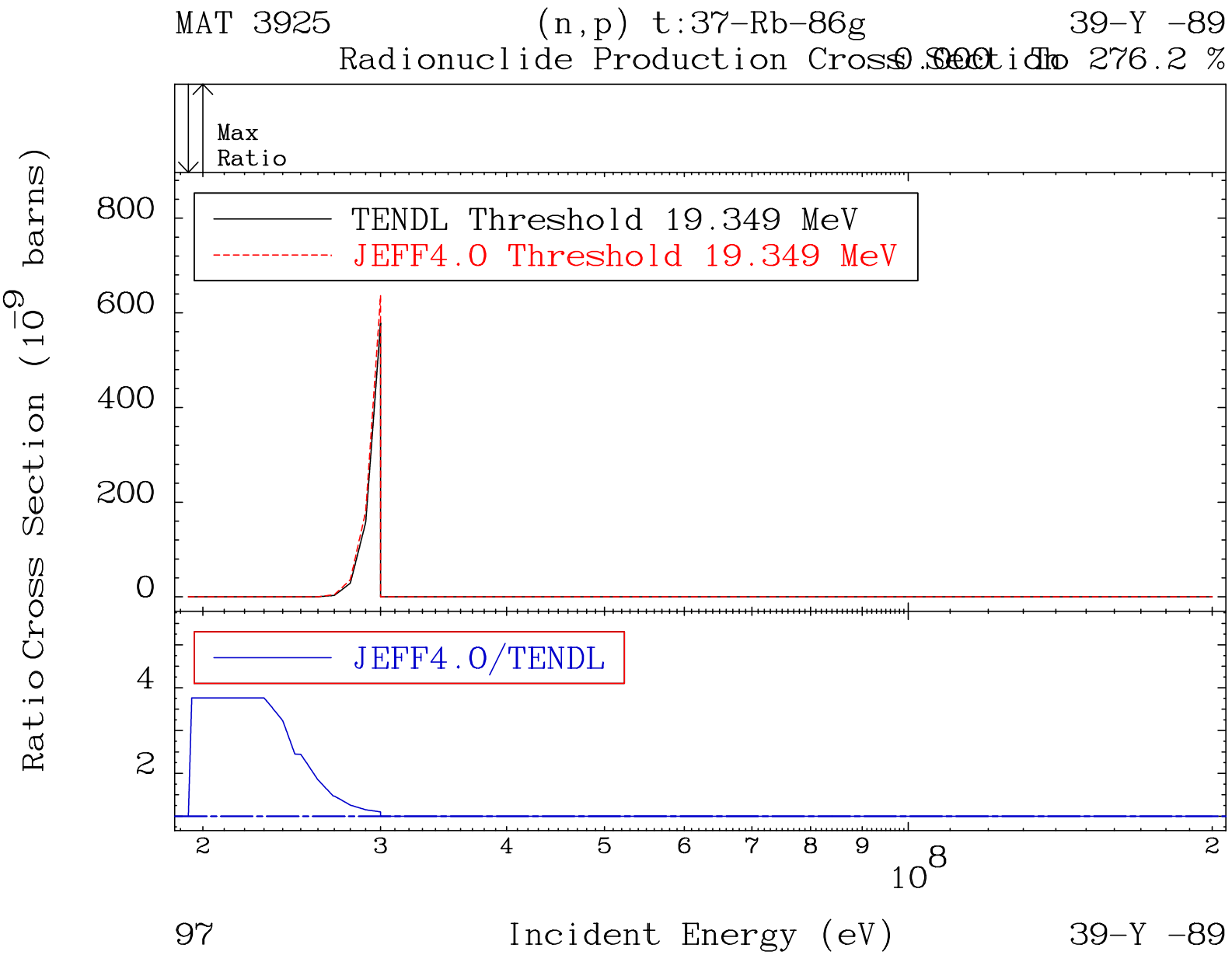

MAT 3925
(n,α):37-Rb-86m2
39-Y -89
Radionuclide Production Cross Section
Max
Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
92
39-Y -89

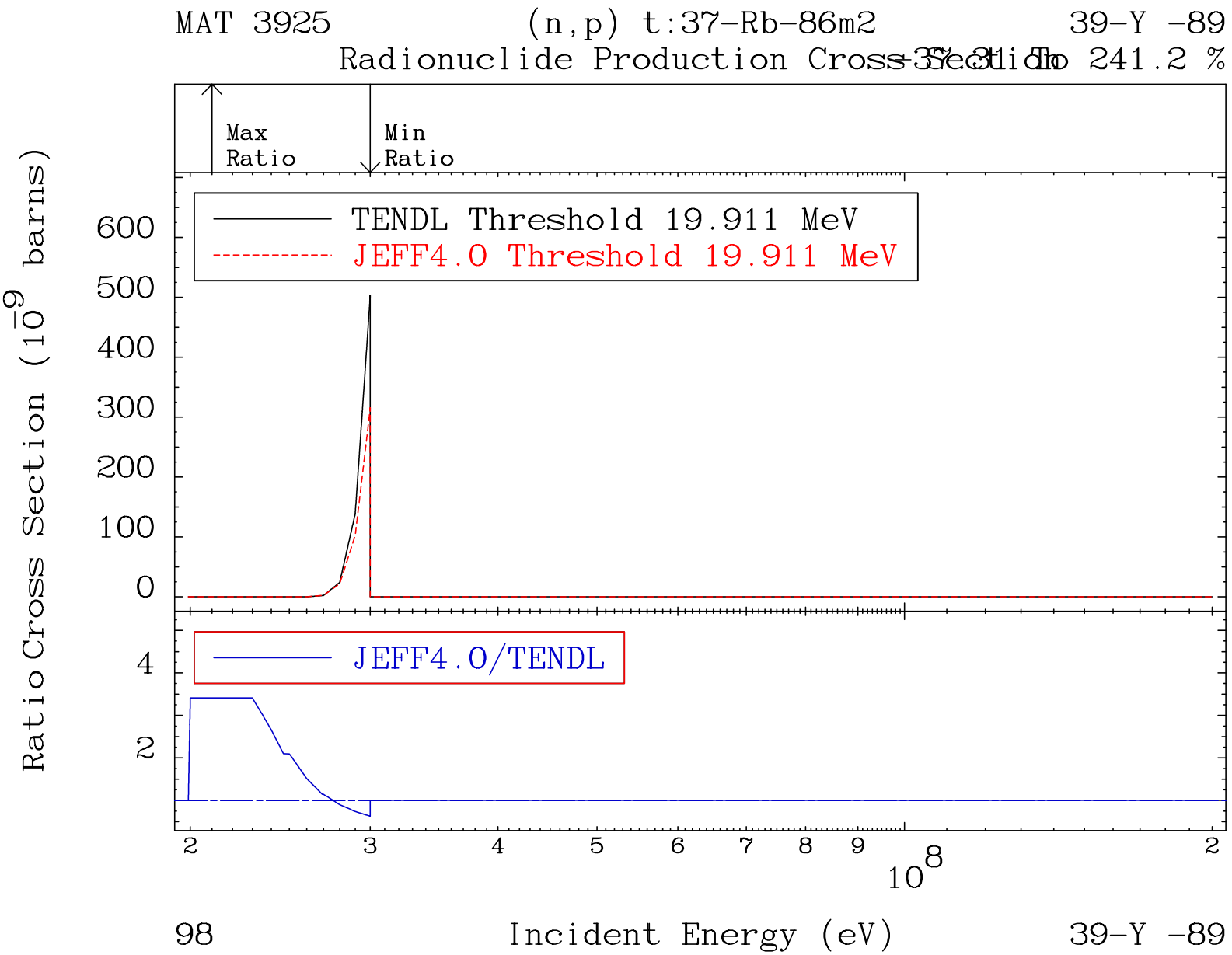

MAT 3925
(n,2α):35-Br-82g
39-Y -89
Radionuclide Production Cross Section To 59.18 %
Max Ratio
Min Ratio
TENDL Threshold 7.0704 MeV
JEFF4.0 Threshold 7.0704 MeV
JEFF4.0/TENDL
Ratio Cross Section (10^-9 barns)
400
300
200
100
0
1.8
1.2
0.6
7 8 10^7 2 3 4 5 6 7 8 10^8 2
93
Incident Energy (eV)
39-Y -89


MAT 3925
(n,2α):35-Br-82m1
39-Y -89
Radionuclide Production Cross Section
0.000 To 587.6 %
Max
Ratio
800
600
400
200
0
TENDL Threshold 7.1168 MeV
JEFF4.0 Threshold 7.1168 MeV
Ratio Cross Section (10^-9 barns)
8
4
JEFF4.0/TENDL
7 8 10^7 2 3 4 5 6 7 8 10^8 2
94
Incident Energy (eV)
39-Y -89


MAT 3925
(n,p) α:36-Kr-85g
39-Y -89
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 7.9628 MeV
JEFF4.0 Threshold 7.9628 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
95
39-Y -89


MAT 3925
(n,p) α:36-Kr-85m1
39-Y -89
Radionuclide Production Cross Section To 1692. %
Max Ratio
Min Ratio
TENDL Threshold 13.500 MeV
JEFF4.0 Threshold 13.000 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
96
39-Y -89


MAT 3925
(n,p) t:37-Rb-86g
39-Y -89
Radionuclide Production Cross Section
0.000 To 276.2 %
Max
Ratio
800
600
400
200
0
TENDL Threshold 19.349 MeV
JEFF4.0 Threshold 19.349 MeV
Ratio Cross Section (10^{-9} barns)
4
2
JEFF4.0/TENDL
2
3
4
5
6
7
8
9
10^8
2
97
Incident Energy (eV)
39-Y -89


MAT 3925
(n,p) t:37-Rb-86m2
39-Y -89
Radionuclide Production Cross Section To 241.2 %
Max Ratio
Min Ratio
TENDL Threshold 19.911 MeV
JEFF4.0 Threshold 19.911 MeV
JEFF4.0/TENDL
Ratio Cross Section (10^{-9} barns)
600
500
400
300
200
100
0
4
2
2
3
4
5
6
7
8
9
10^8
2
98
Incident Energy (eV)
39-Y -89