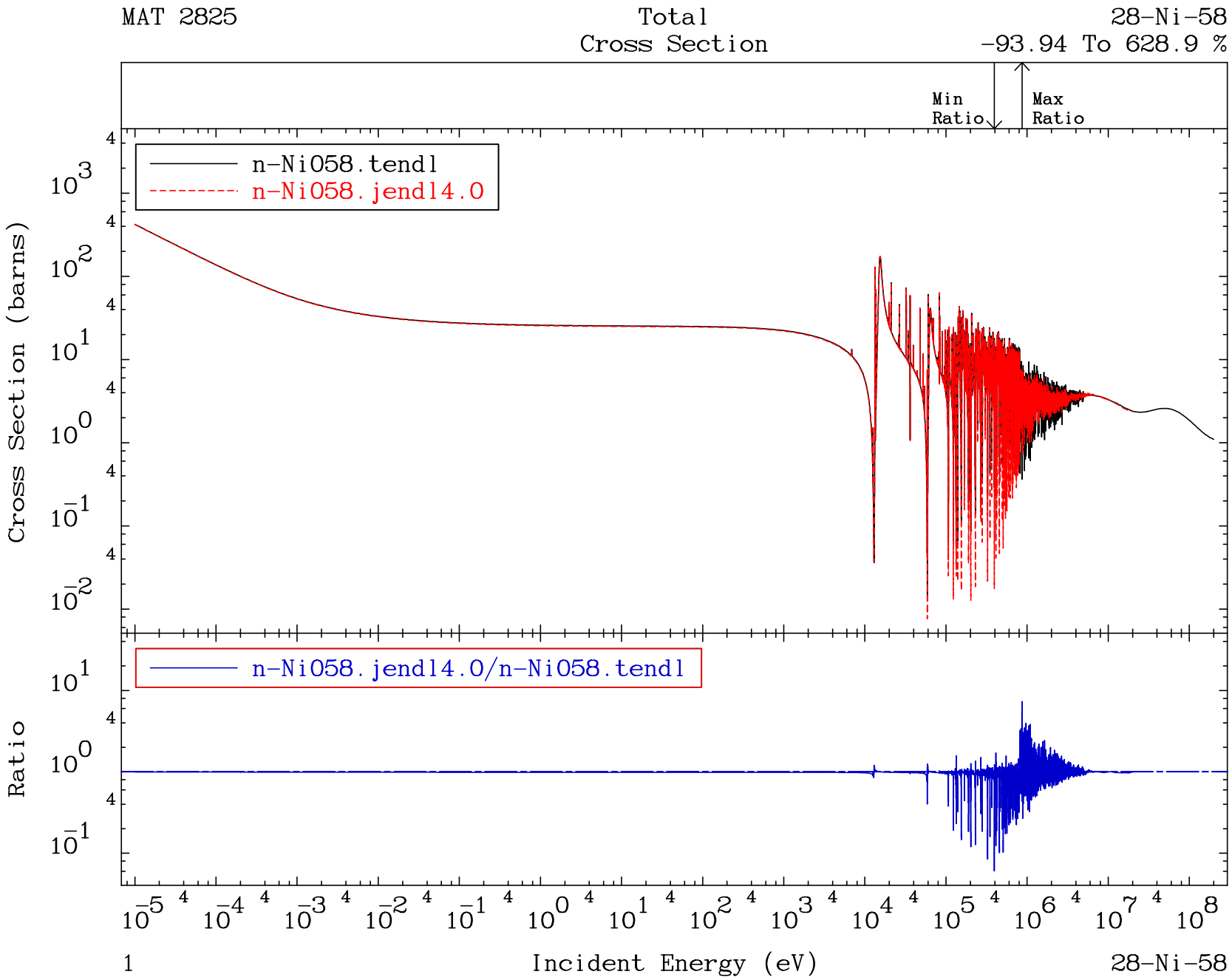
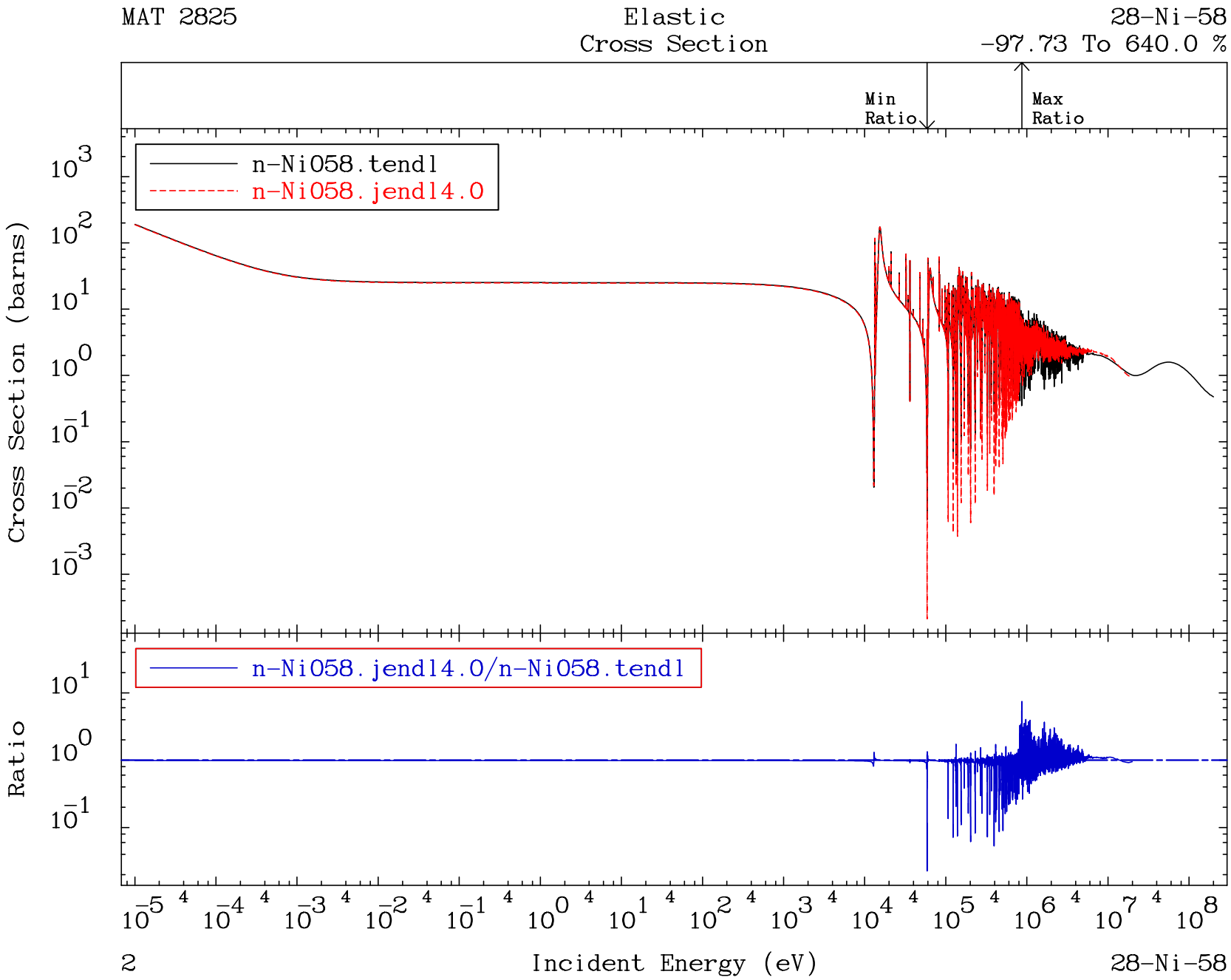
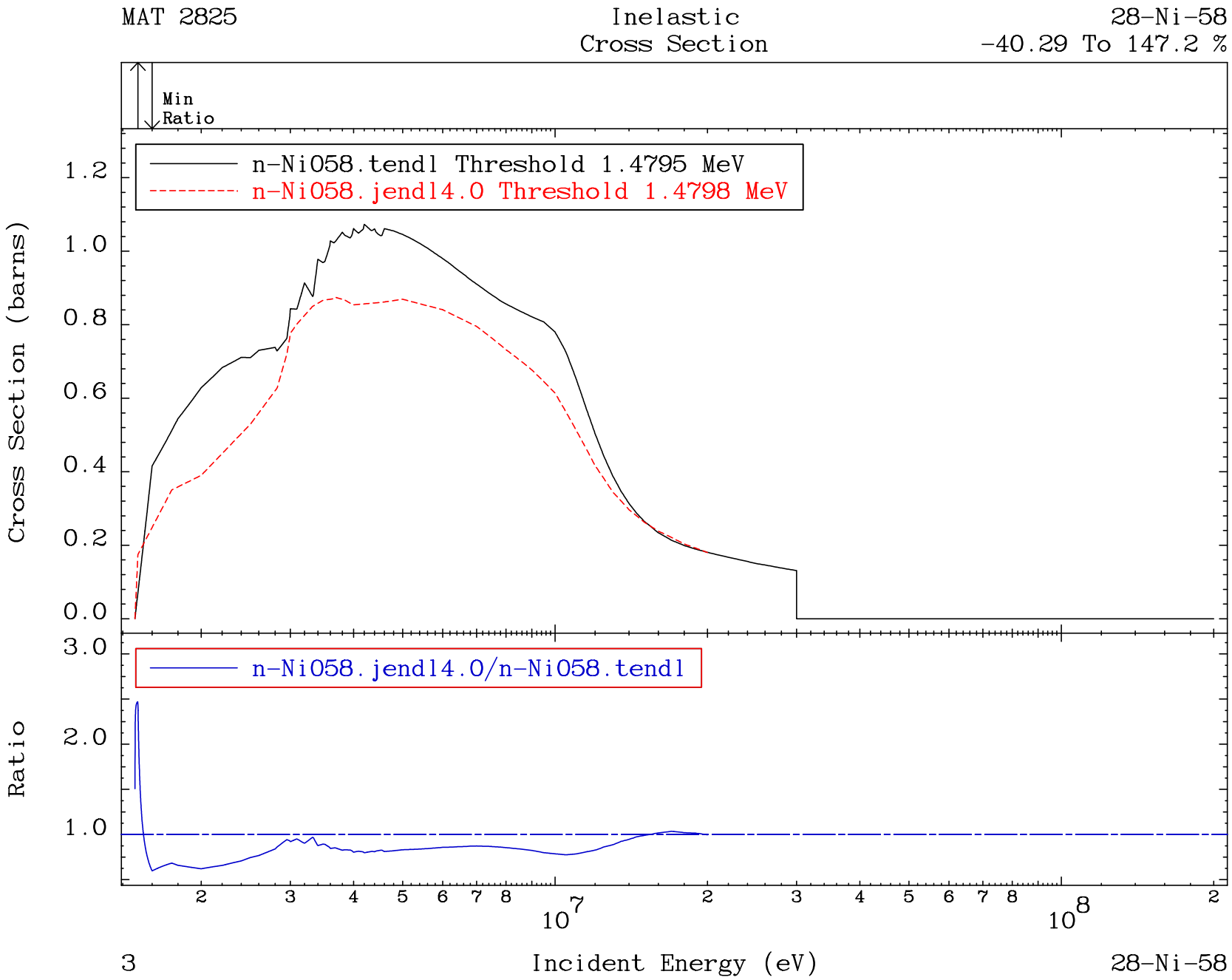
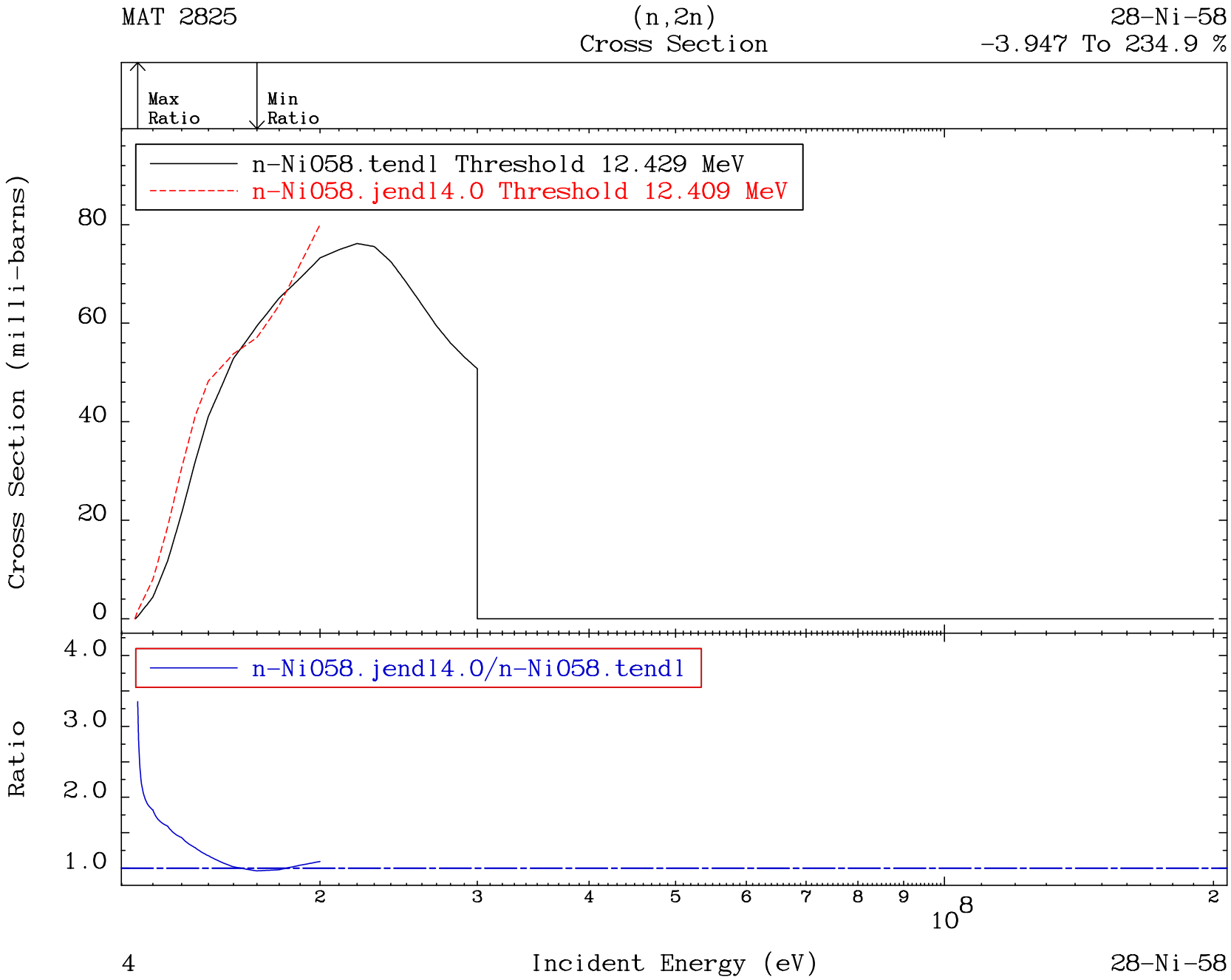
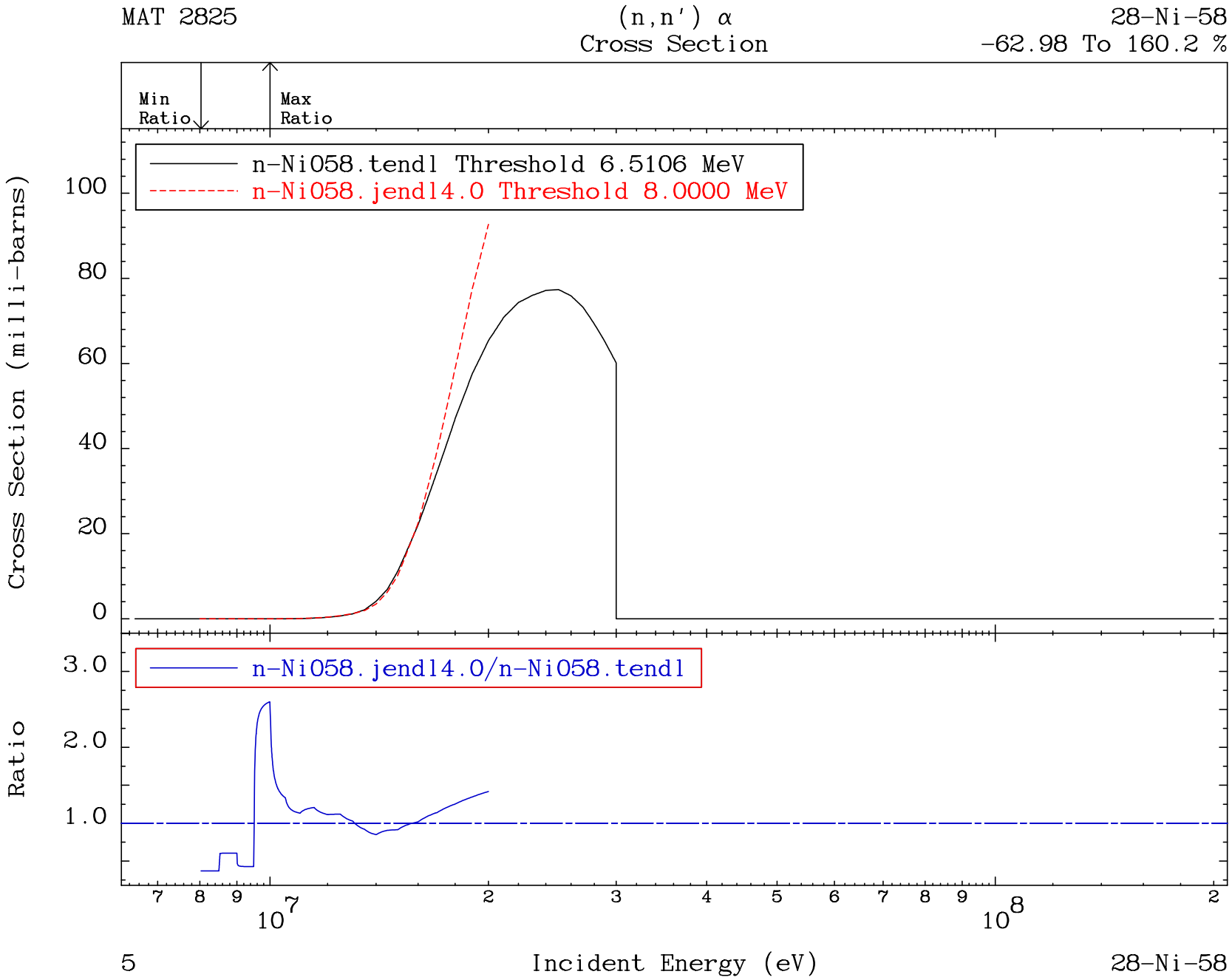
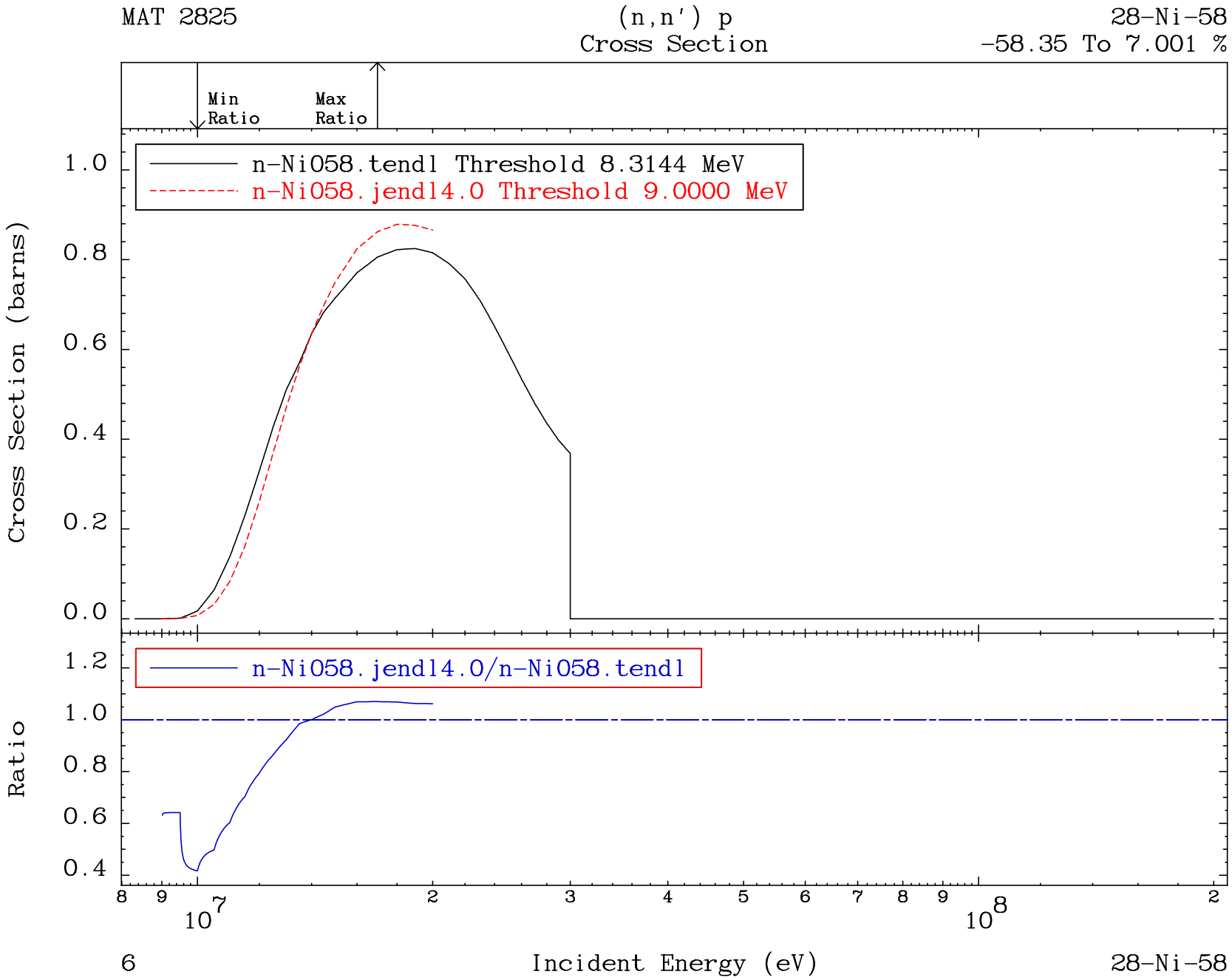

MAT 2825
Total
Cross Section
28-Ni-58
-93.94 To 628.9 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
1
28-Ni-58

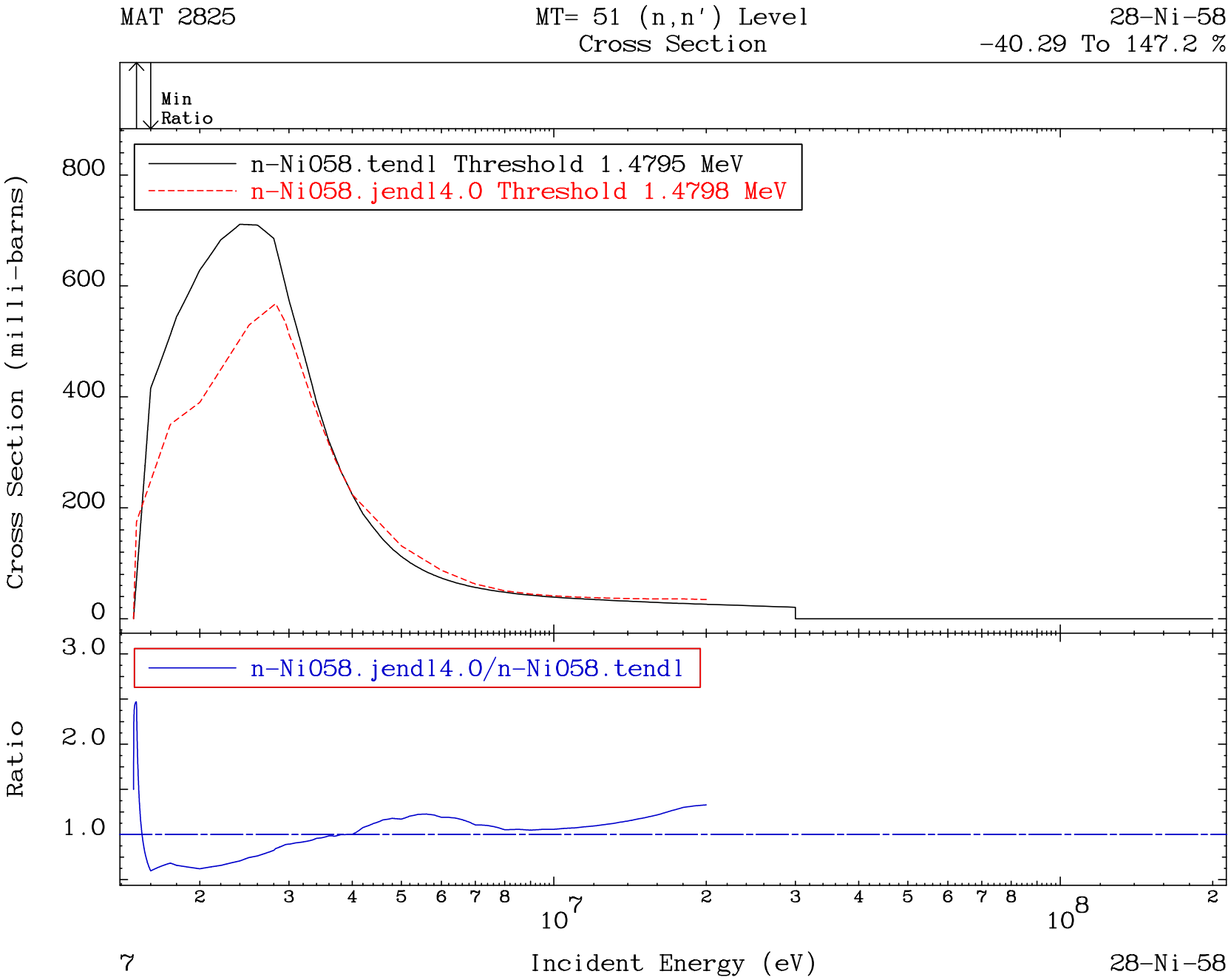

MAT 2825
Elastic
Cross Section
28-Ni-58
-97.73 To 640.0 %
Min
Ratio
Max
Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
2
28-Ni-58

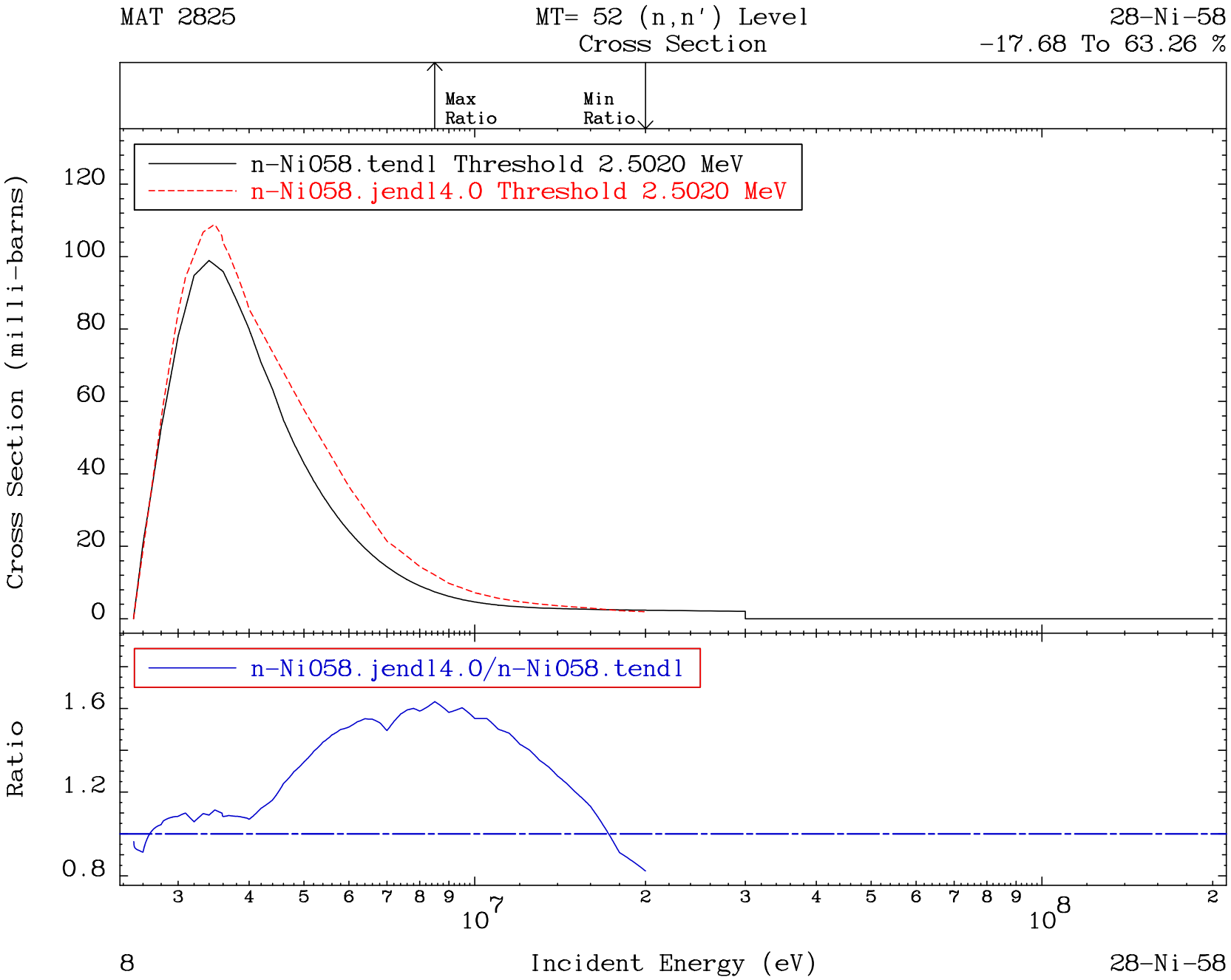

MAT 2825
Inelastic
Cross Section
28-Ni-58
-40.29 To 147.2 %
Min
Ratio
n-Ni058.tendl Threshold 1.4795 MeV
n-Ni058.jendl4.0 Threshold 1.4798 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
3.0
2.0
1.0
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
3
Incident Energy (eV)
28-Ni-58

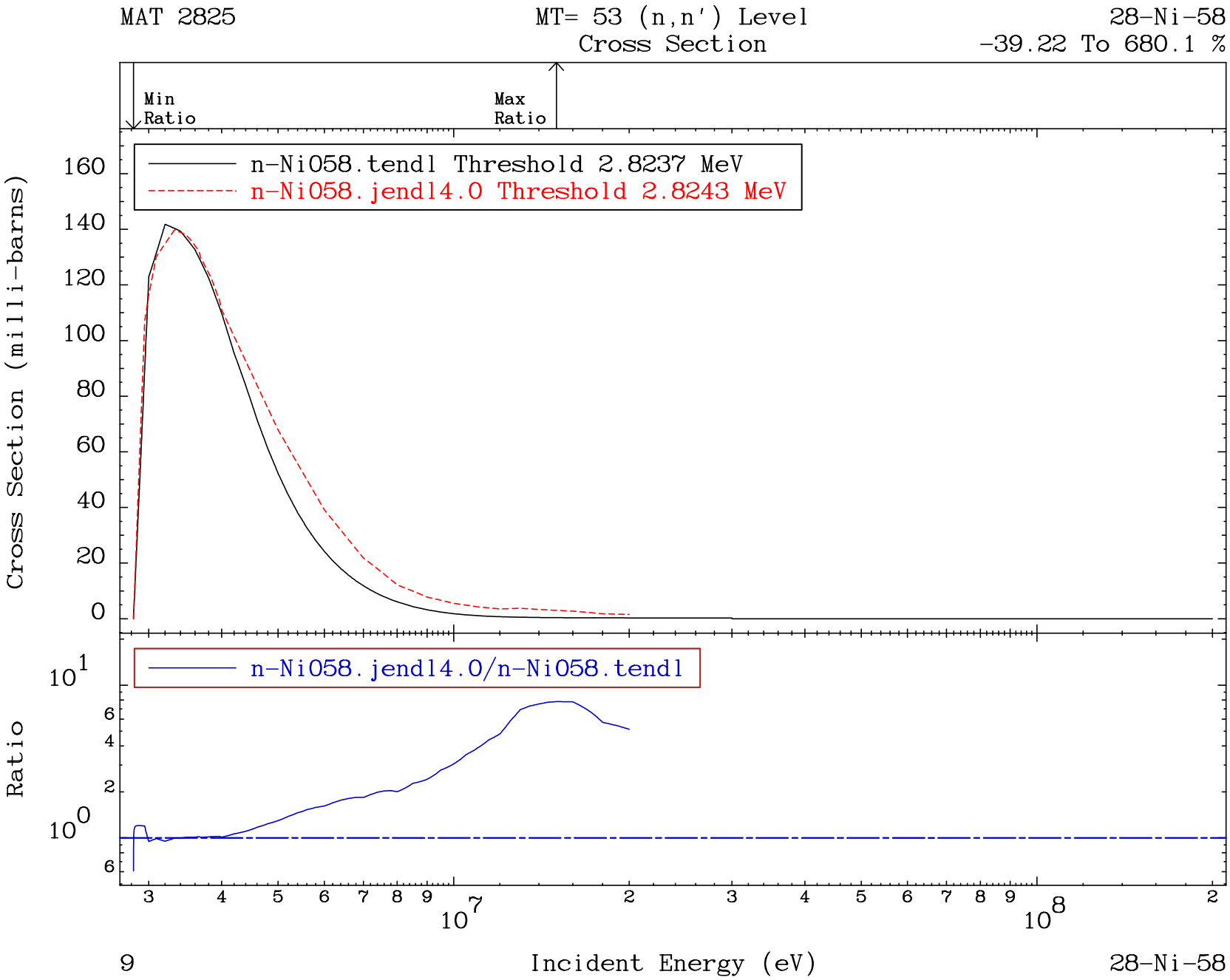

MAT 2825
(n,2n)
Cross Section
28-Ni-58
-3.947 To 234.9 %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 12.429 MeV
n-Ni058.jendl4.0 Threshold 12.409 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
4.0
3.0
2.0
1.0
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
28-Ni-58

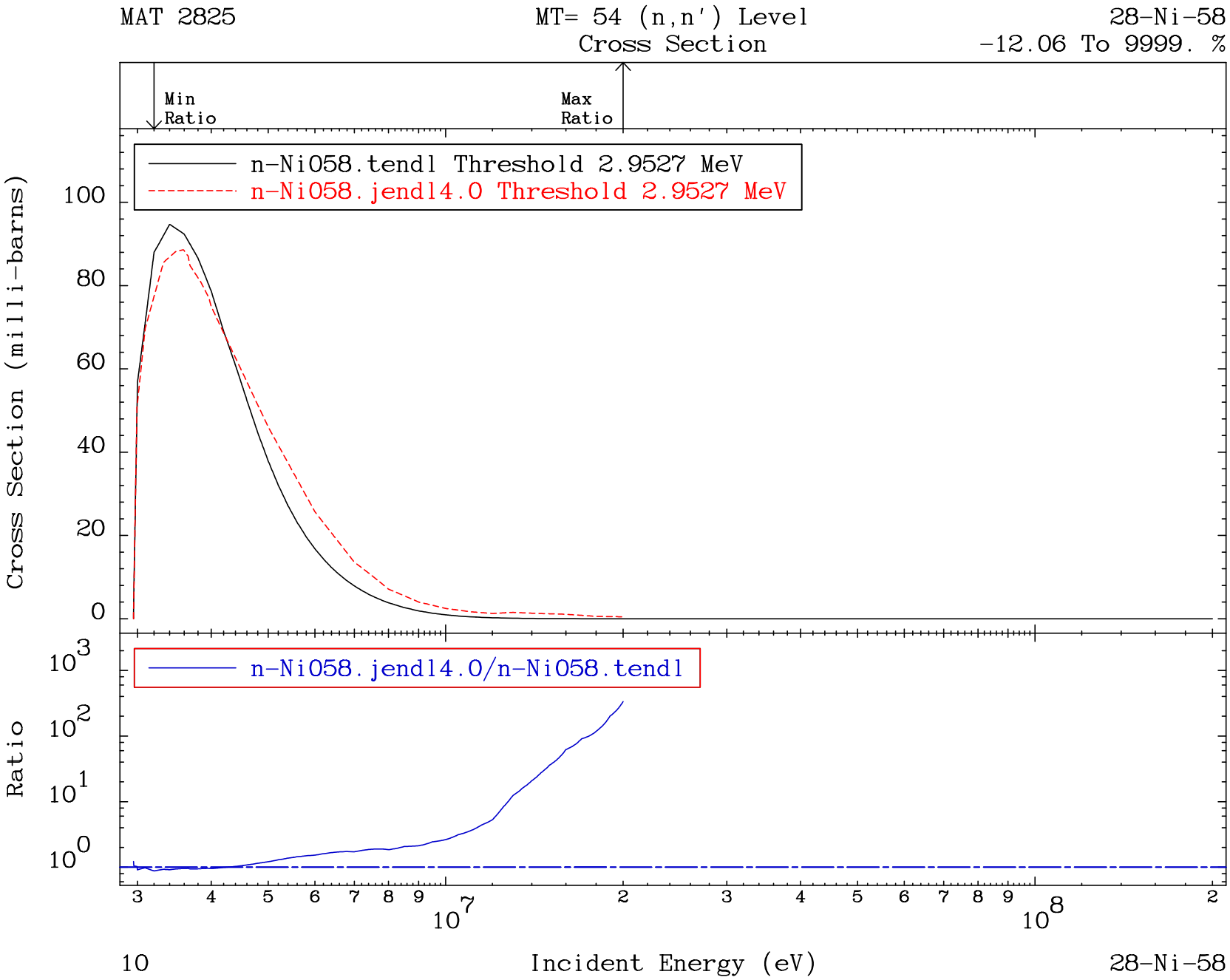

MAT 2825
(n,n') α
Cross Section
28-Ni-58
-62.98 To 160.2 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 6.5106 MeV
n-Ni058.jendl4.0 Threshold 8.0000 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
3.0
2.0
1.0
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
Incident Energy (eV)
5
28-Ni-58

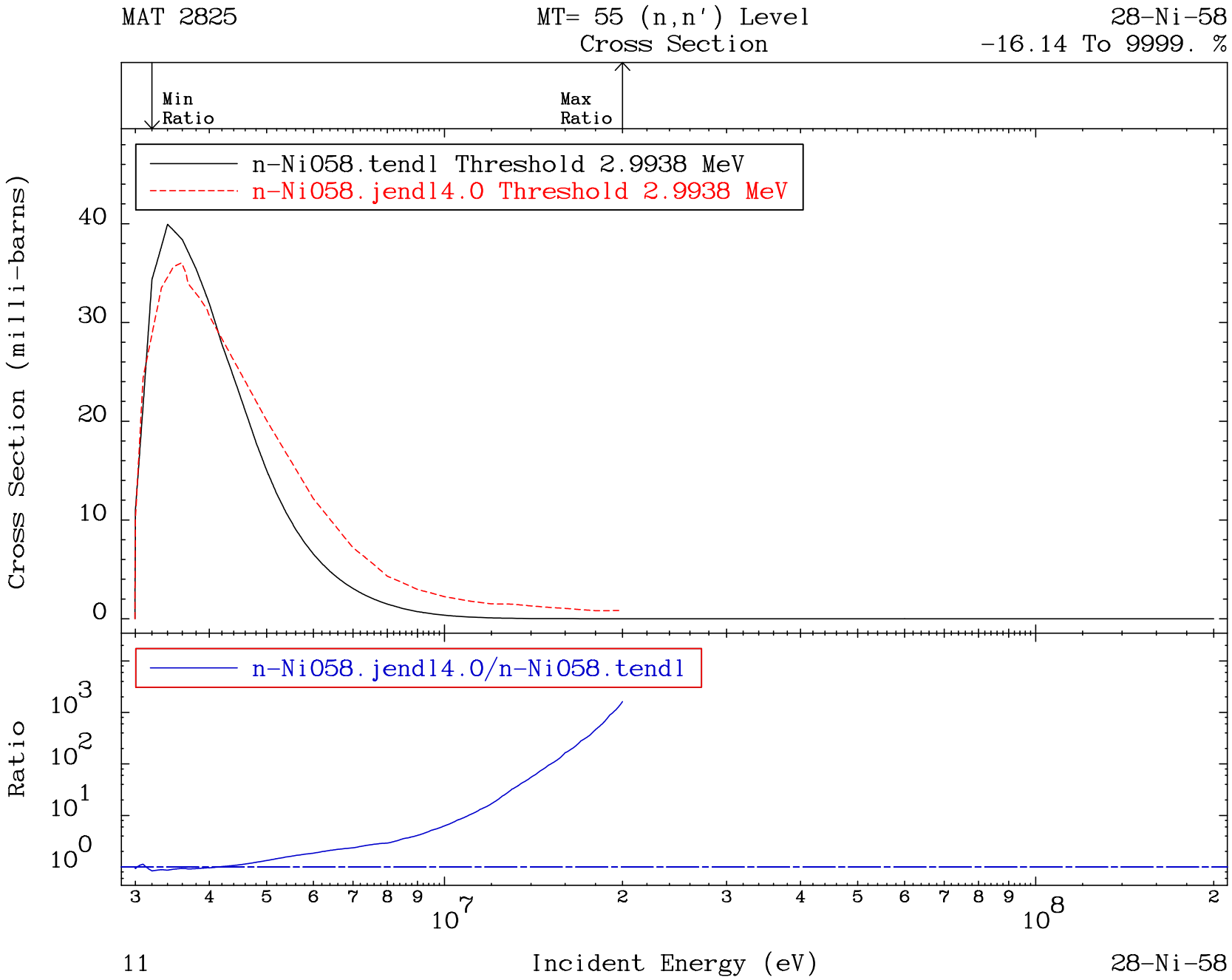

MAT 2825
(n,n') p
Cross Section
28-Ni-58
-58.35 To 7.001 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 8.3144 MeV
n-Ni058.jendl4.0 Threshold 9.0000 MeV
Cross Section (barns)
1.0
0.8
0.6
0.4
0.2
0.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
1.2
1.0
0.8
0.6
0.4
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
6
Incident Energy (eV)
28-Ni-58

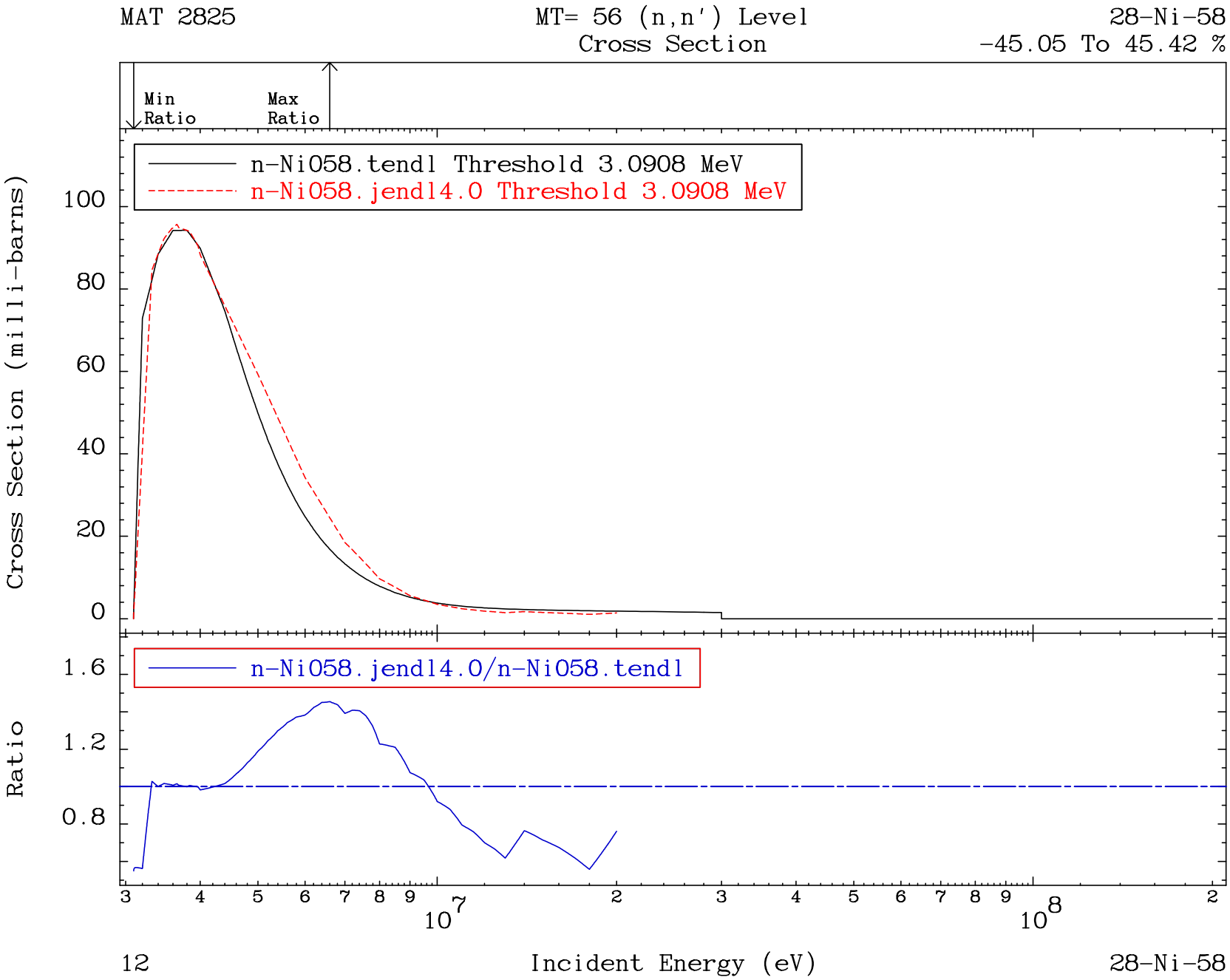

MAT 2825
MT= 51 (n,n') Level
Cross Section
28-Ni-58
-40.29 To 147.2 %
Min
Ratio
n-Ni058.tendl Threshold 1.4795 MeV
n-Ni058.jendl4.0 Threshold 1.4798 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
3.0
2.0
1.0
2
3
4
5
6
7
8
10^7
10^8
7
Incident Energy (eV)
28-Ni-58

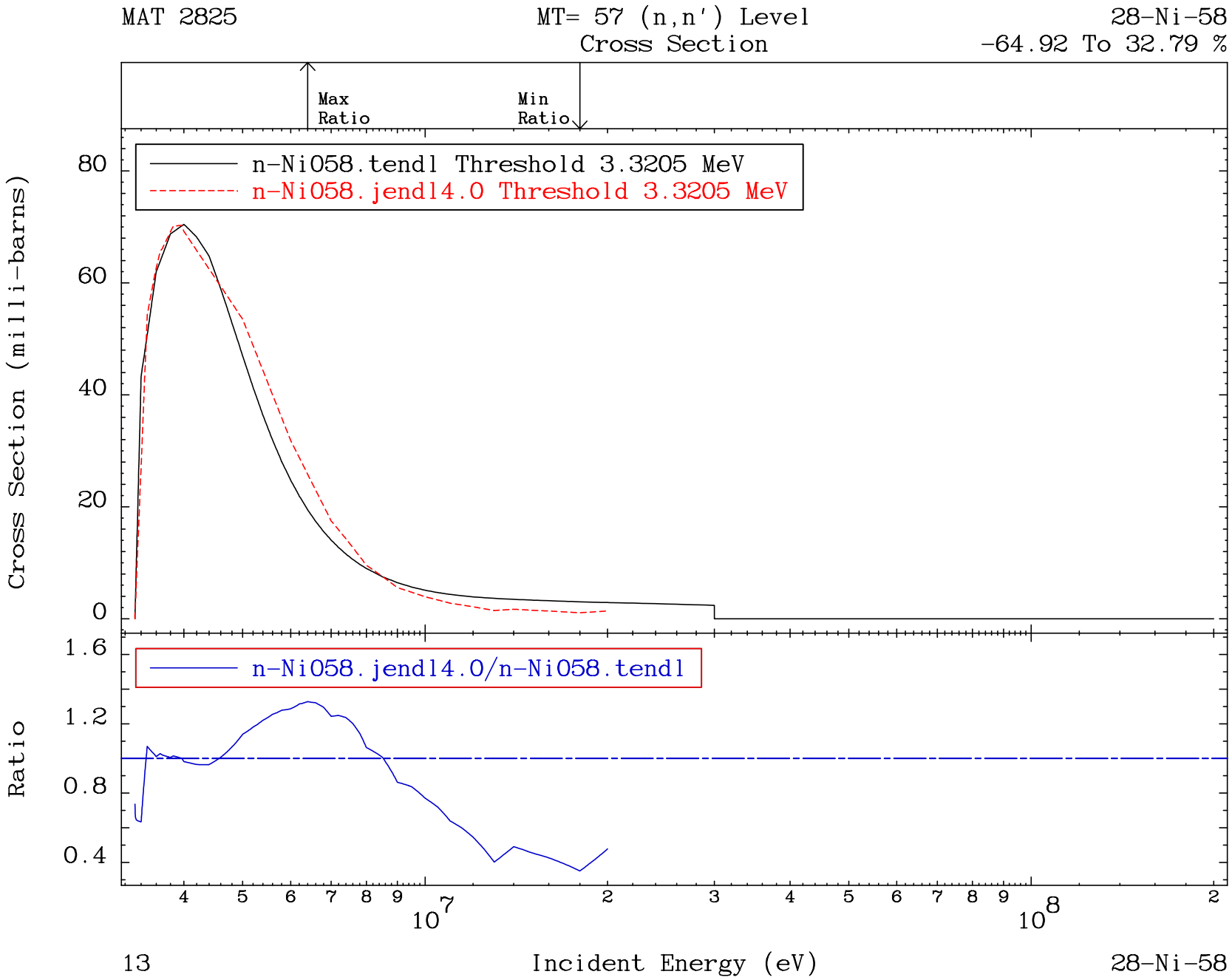

MAT 2825
MT= 52 (n,n') Level
Cross Section
28-Ni-58
-17.68 To 63.26 %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 2.5020 MeV
n-Ni058.jendl4.0 Threshold 2.5020 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
1.6
1.2
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
8
Incident Energy (eV)
28-Ni-58

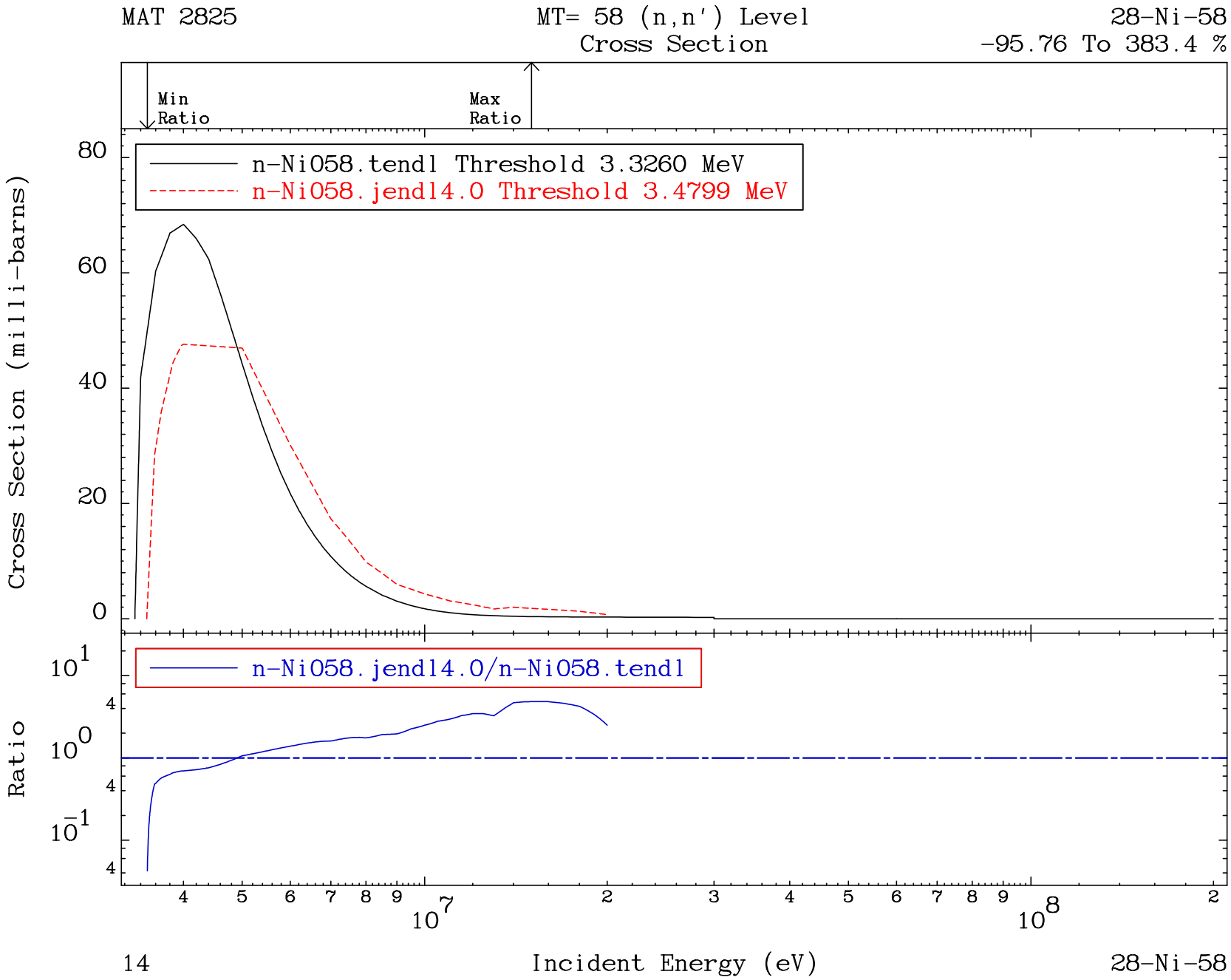

MAT 2825
MT= 53 (n,n') Level
Cross Section
28-Ni-58
-39.22 To 680.1 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 2.8237 MeV
n-Ni058.jendl4.0 Threshold 2.8243 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
6
4
2
6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
9
Incident Energy (eV)
28-Ni-58

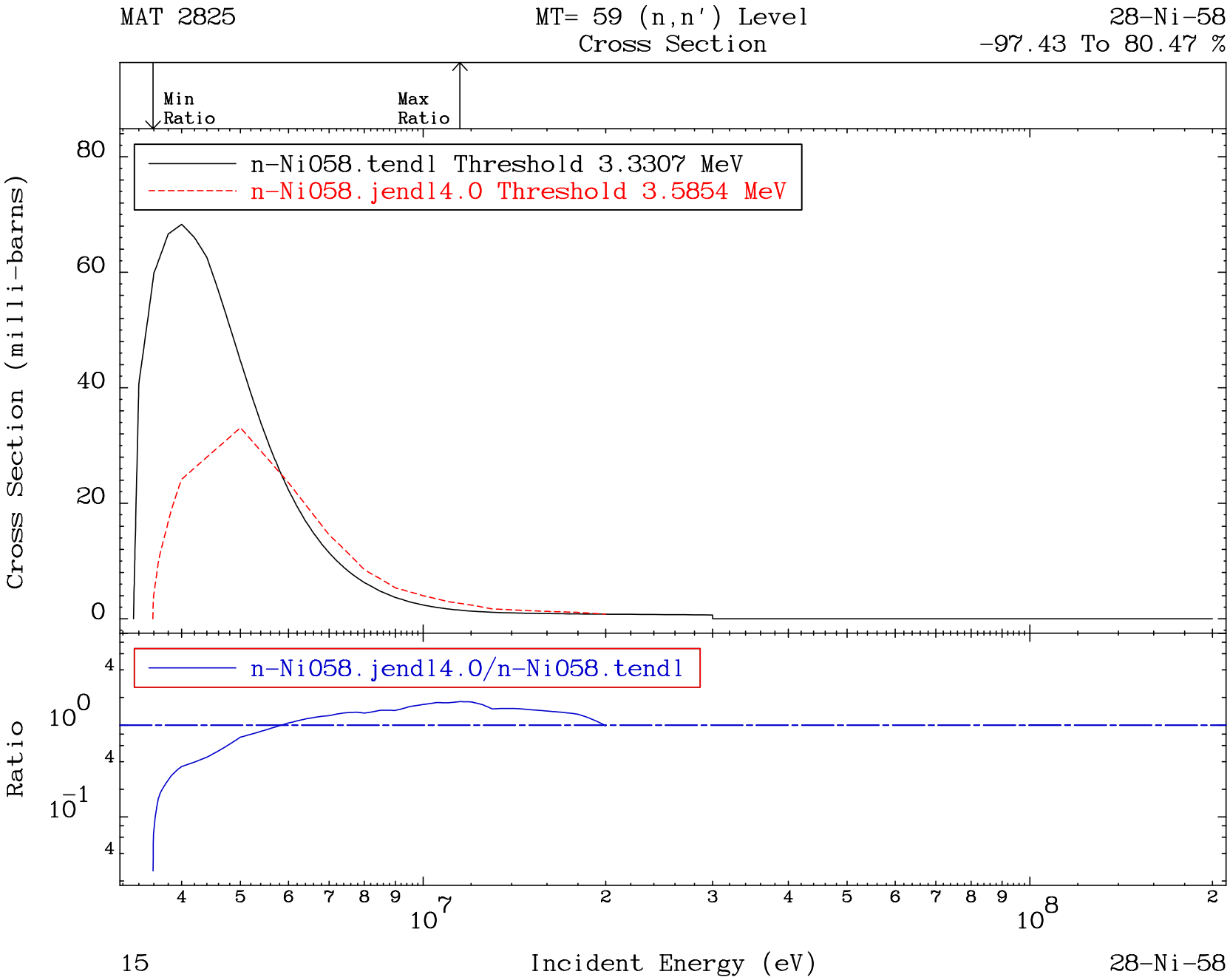

MAT 2825
MT= 54 (n,n') Level
Cross Section
28-Ni-58
-12.06 To 9999. %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 2.9527 MeV
n-Ni058.jendl4.0 Threshold 2.9527 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^3
10^2
10^1
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
28-Ni-58

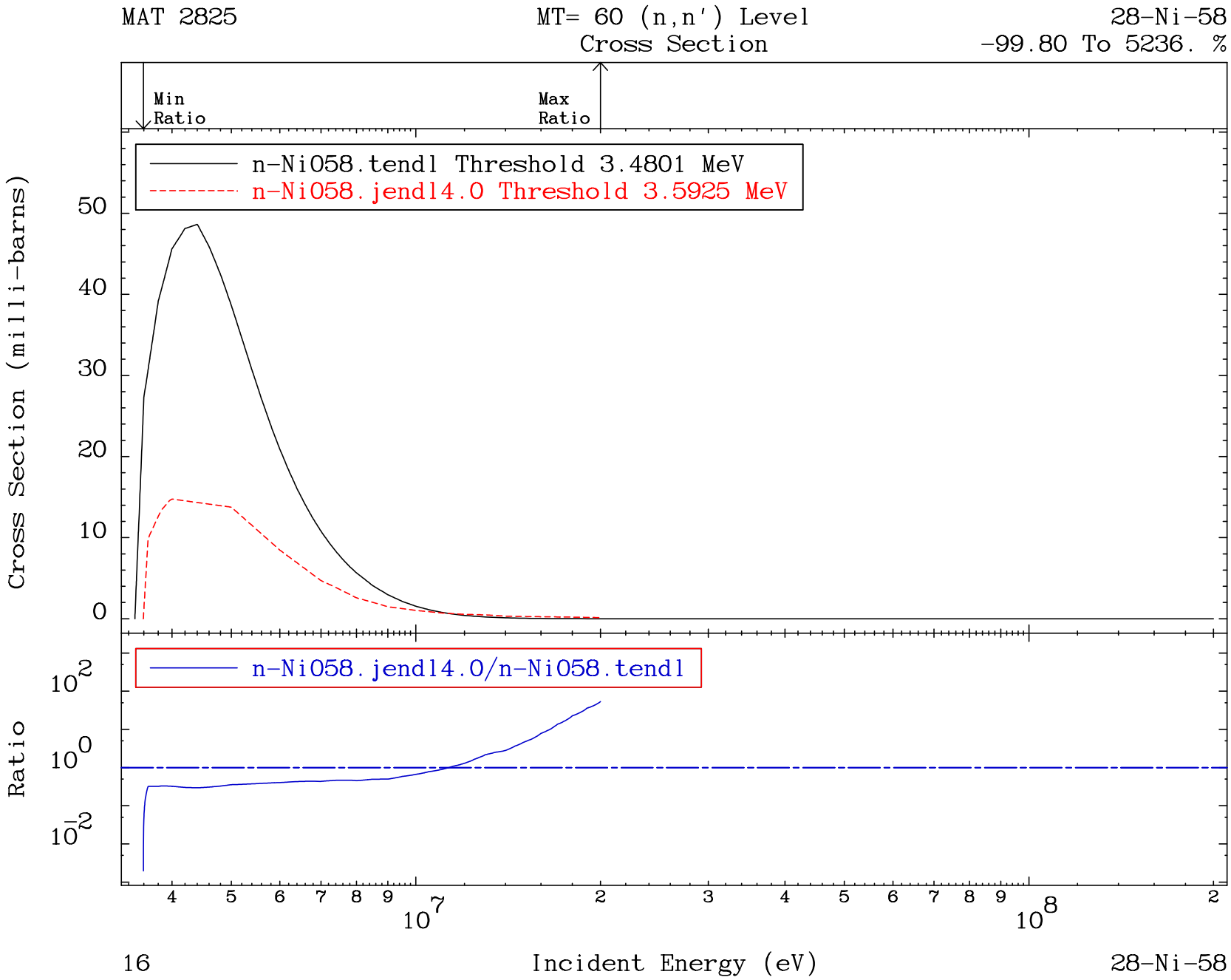

MAT 2825
MT= 55 (n,n') Level
Cross Section
28-Ni-58
-16.14 To 9999. %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 2.9938 MeV
n-Ni058.jendl4.0 Threshold 2.9938 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^3
10^2
10^1
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
11
Incident Energy (eV)
28-Ni-58

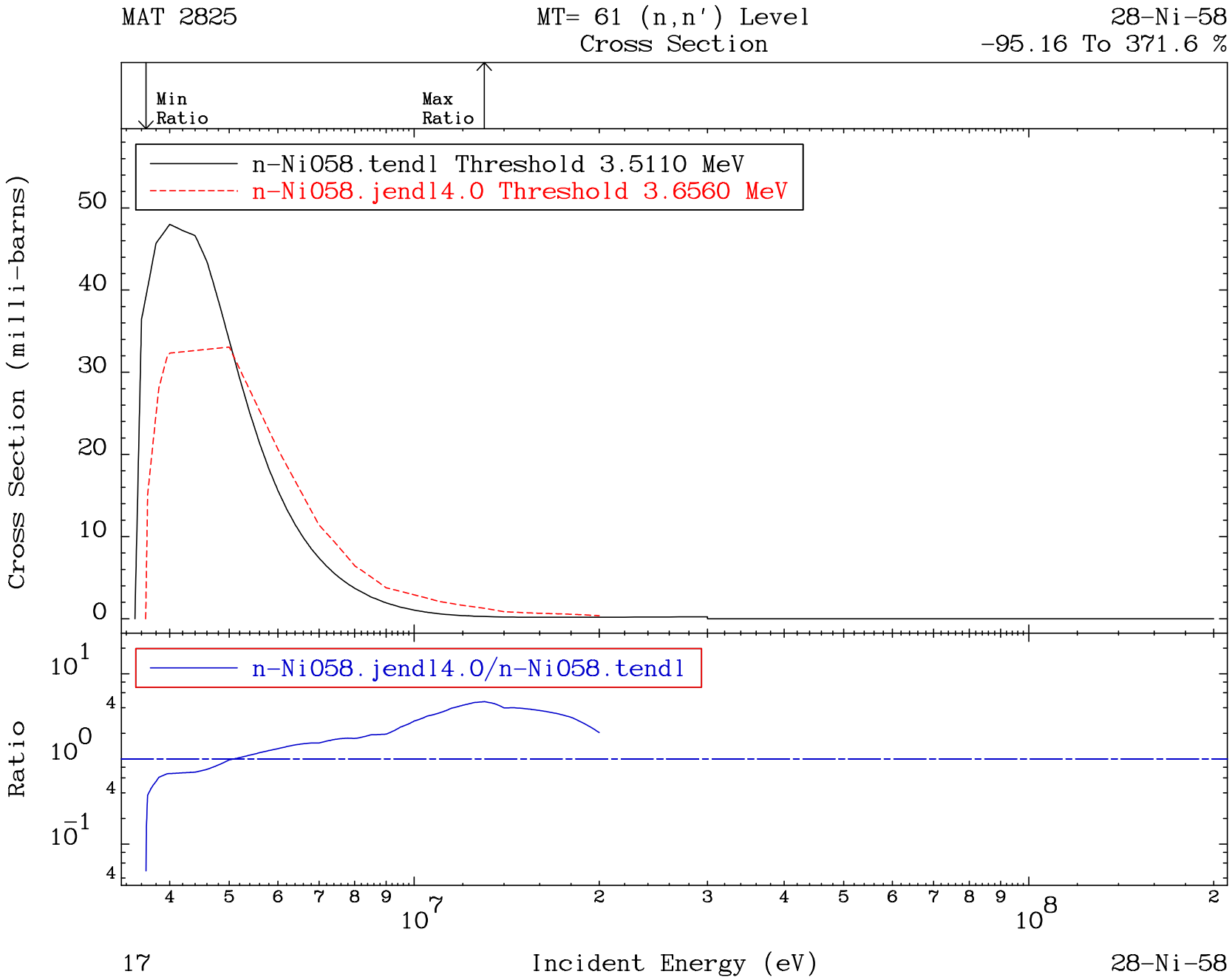

MAT 2825
MT= 56 (n,n') Level
Cross Section
28-Ni-58
-45.05 To 45.42 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.0908 MeV
n-Ni058.jendl4.0 Threshold 3.0908 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
1.6
1.2
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
28-Ni-58

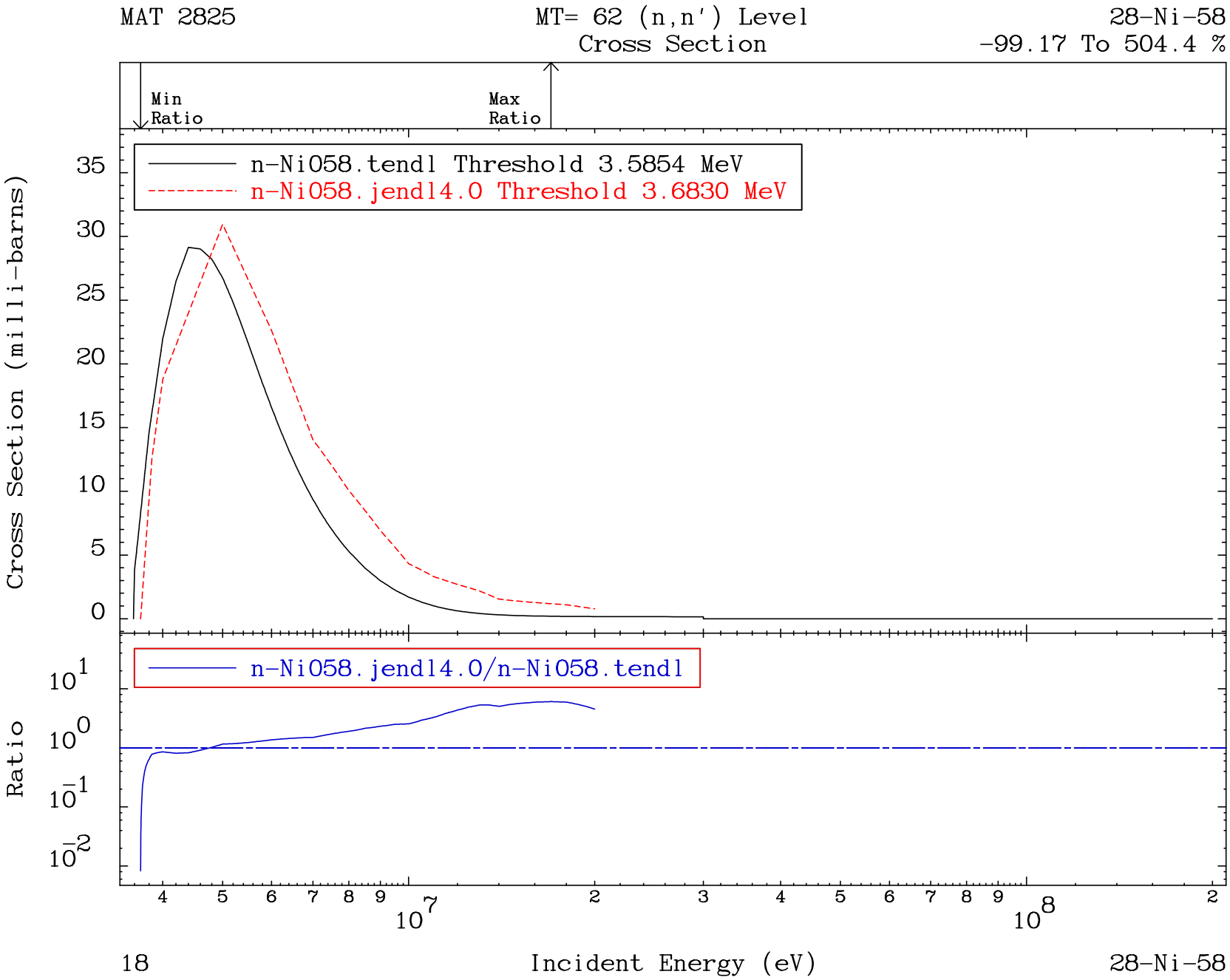

MAT 2825
MT= 57 (n,n') Level
Cross Section
28-Ni-58
-64.92 To 32.79 %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 3.3205 MeV
n-Ni058.jendl4.0 Threshold 3.3205 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
1.6
1.2
0.8
0.4
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
28-Ni-58

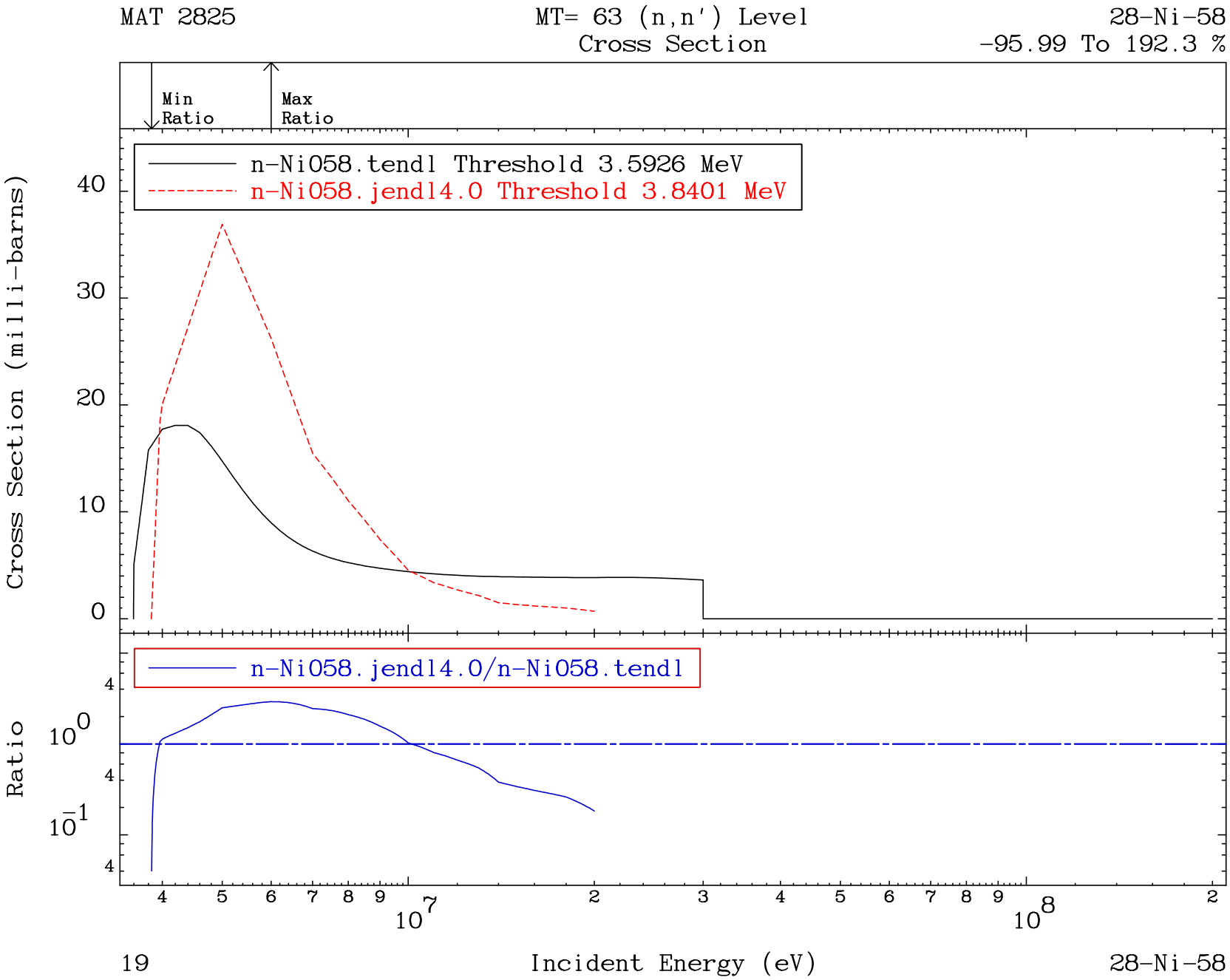

MAT 2825
MT= 58 (n,n') Level
Cross Section
28-Ni-58
-95.76 To 383.4 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.3260 MeV
n-Ni058.jendl4.0 Threshold 3.4799 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
10^-1
4
4
4
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
14
Incident Energy (eV)
28-Ni-58

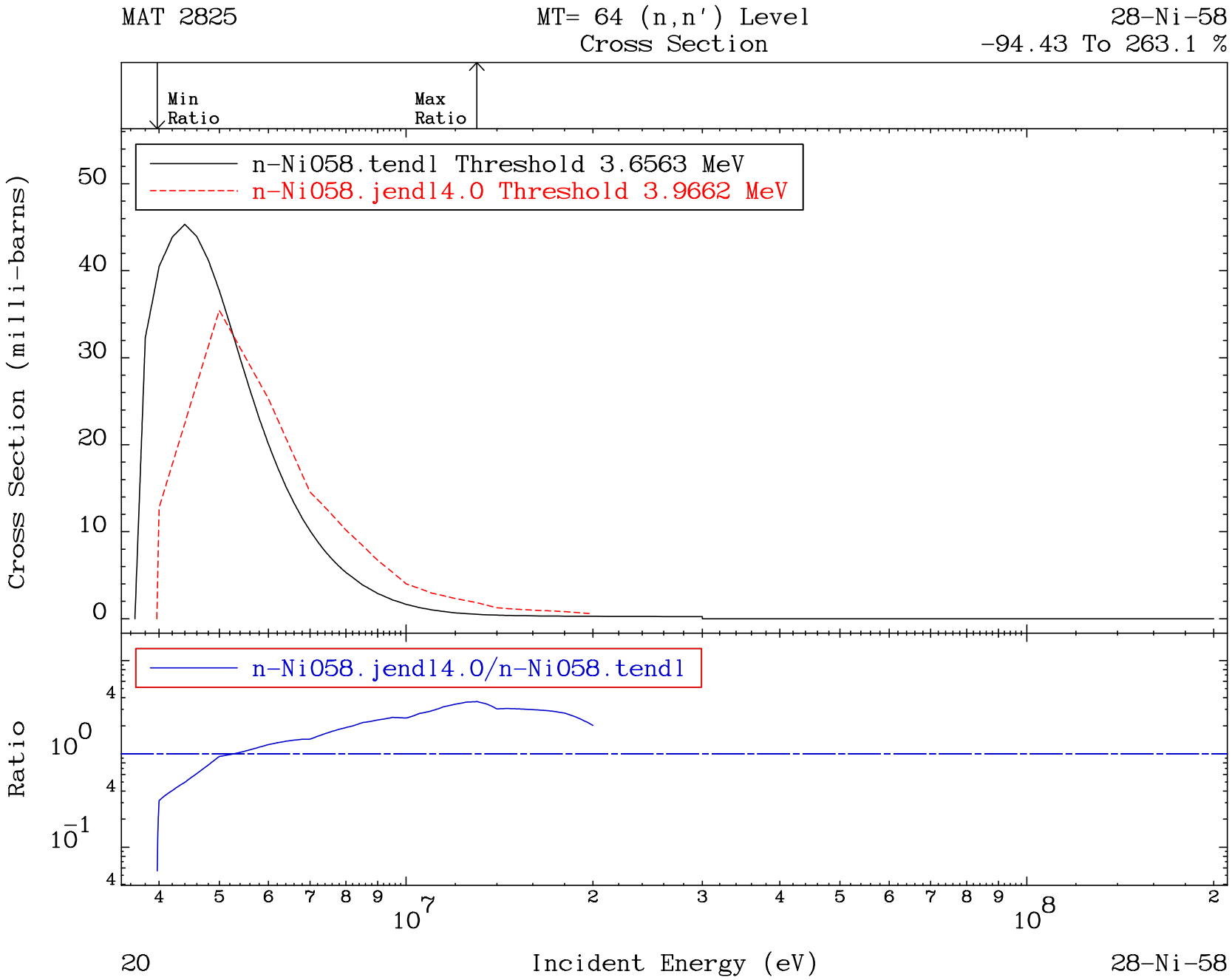

MAT 2825
MT= 59 (n,n') Level
Cross Section
28-Ni-58
-97.43 To 80.47 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.3307 MeV
n-Ni058.jendl4.0 Threshold 3.5854 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
4
4
4
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
28-Ni-58

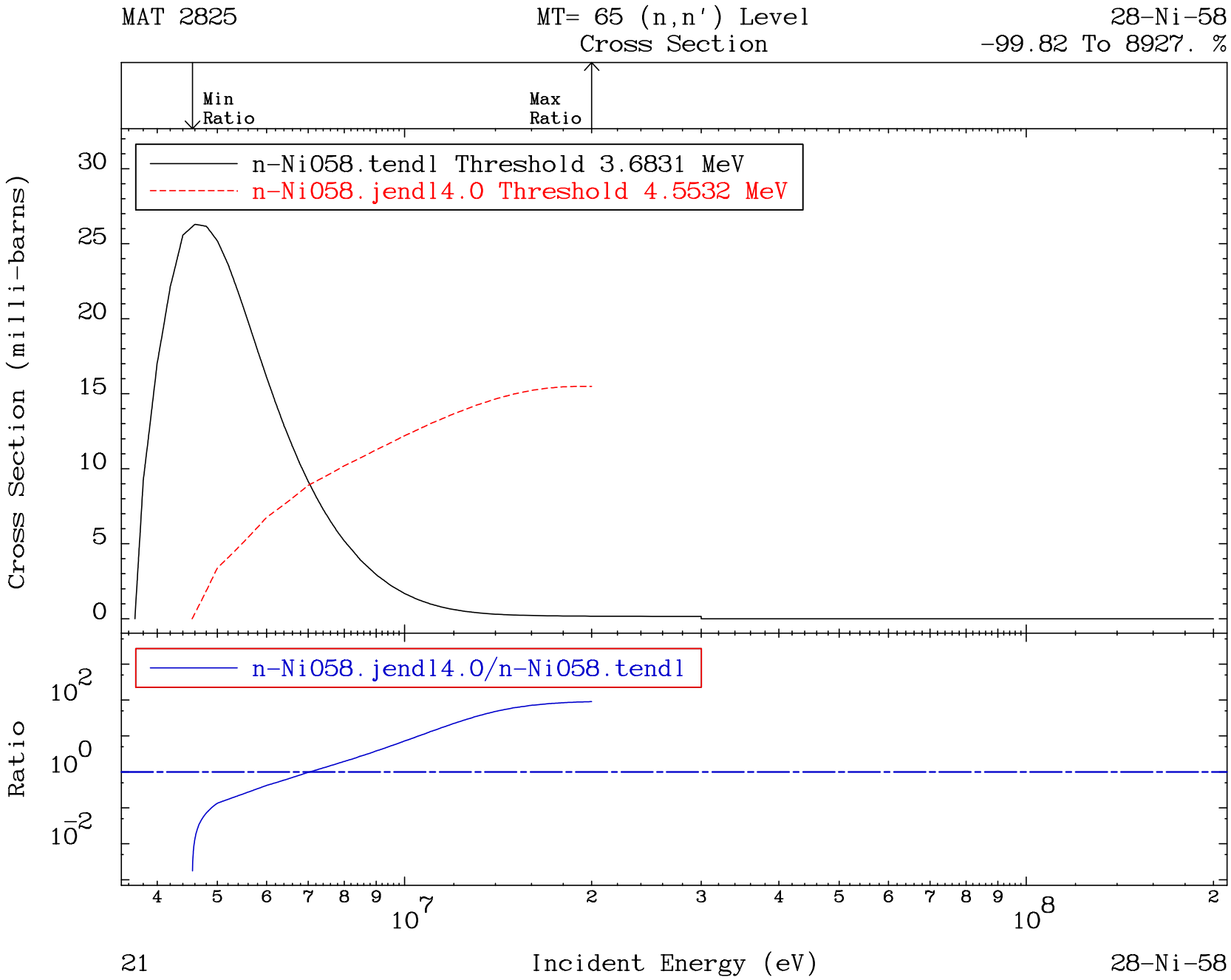

MAT 2825
MT= 60 (n,n') Level
Cross Section
28-Ni-58
-99.80 To 5236. %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.4801 MeV
n-Ni058.jendl4.0 Threshold 3.5925 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^2
10^0
10^-2
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
16
Incident Energy (eV)
28-Ni-58

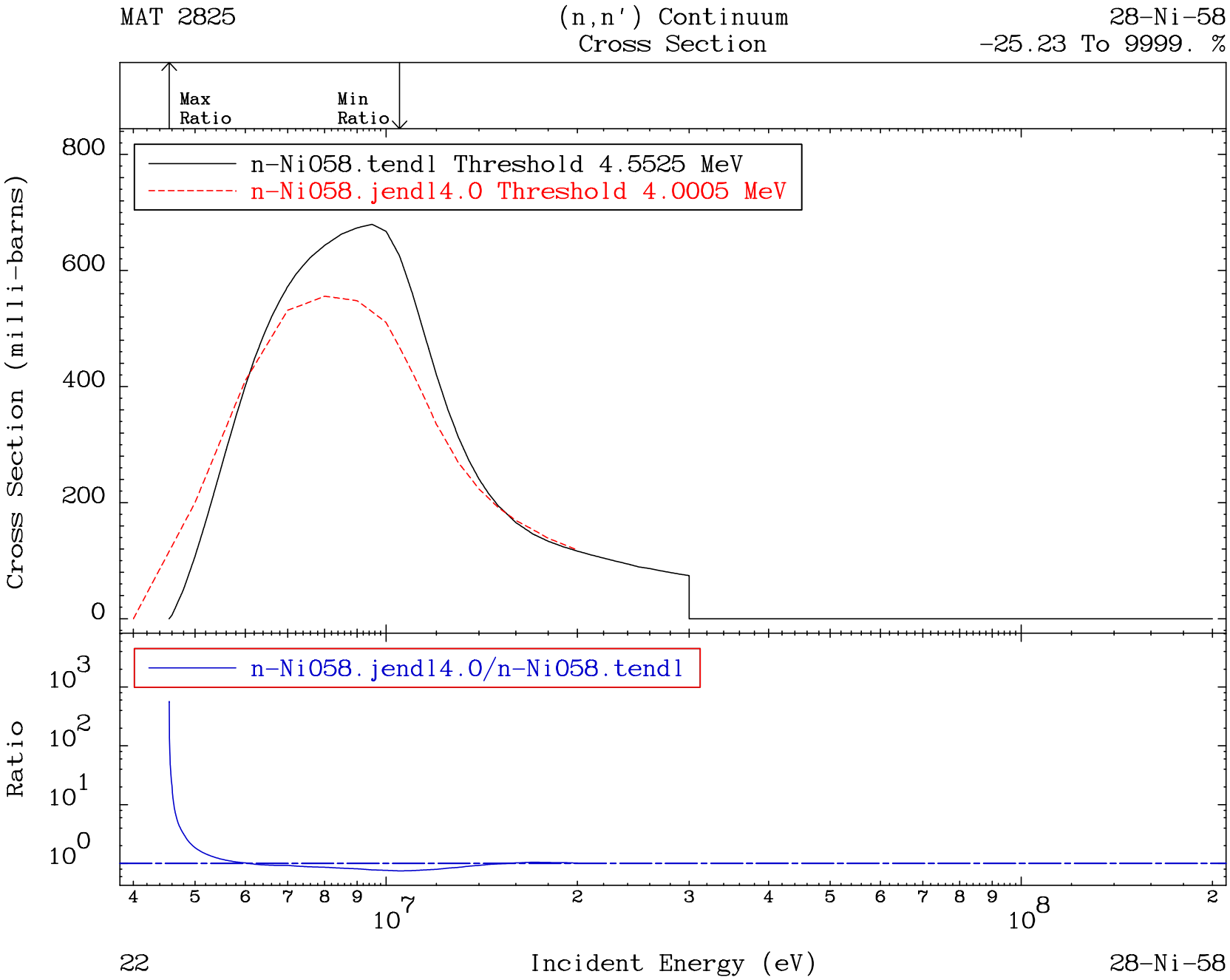

MAT 2825
MT= 61 (n,n') Level
Cross Section
28-Ni-58
-95.16 To 371.6 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.5110 MeV
n-Ni058.jendl4.0 Threshold 3.6560 MeV
Cross Section (milli-barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
17
28-Ni-58

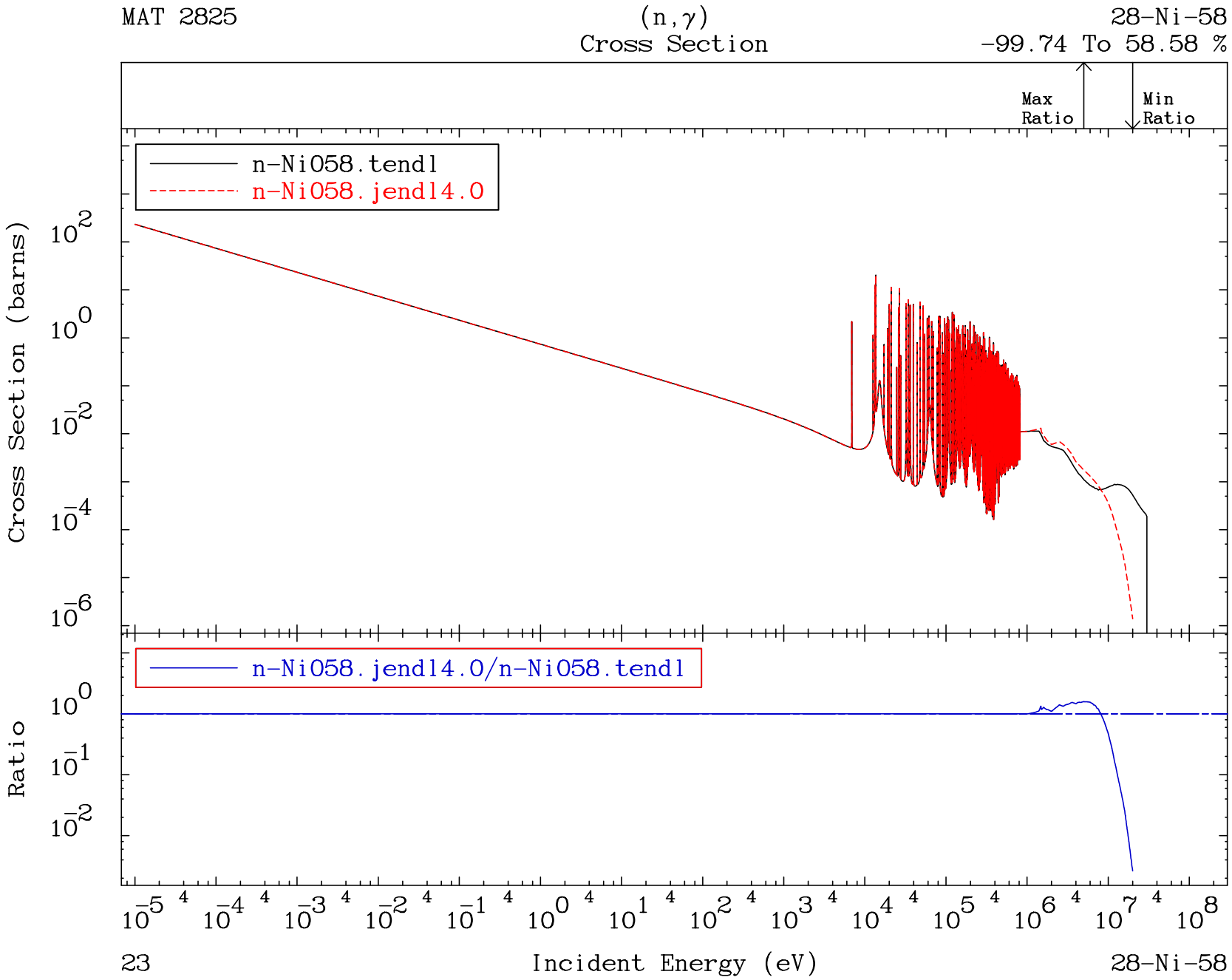

MAT 2825
MT= 62 (n,n') Level
Cross Section
28-Ni-58
-99.17 To 504.4 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.5854 MeV
n-Ni058.jendl4.0 Threshold 3.6830 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
10^-1
10^-2
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
18
Incident Energy (eV)
28-Ni-58

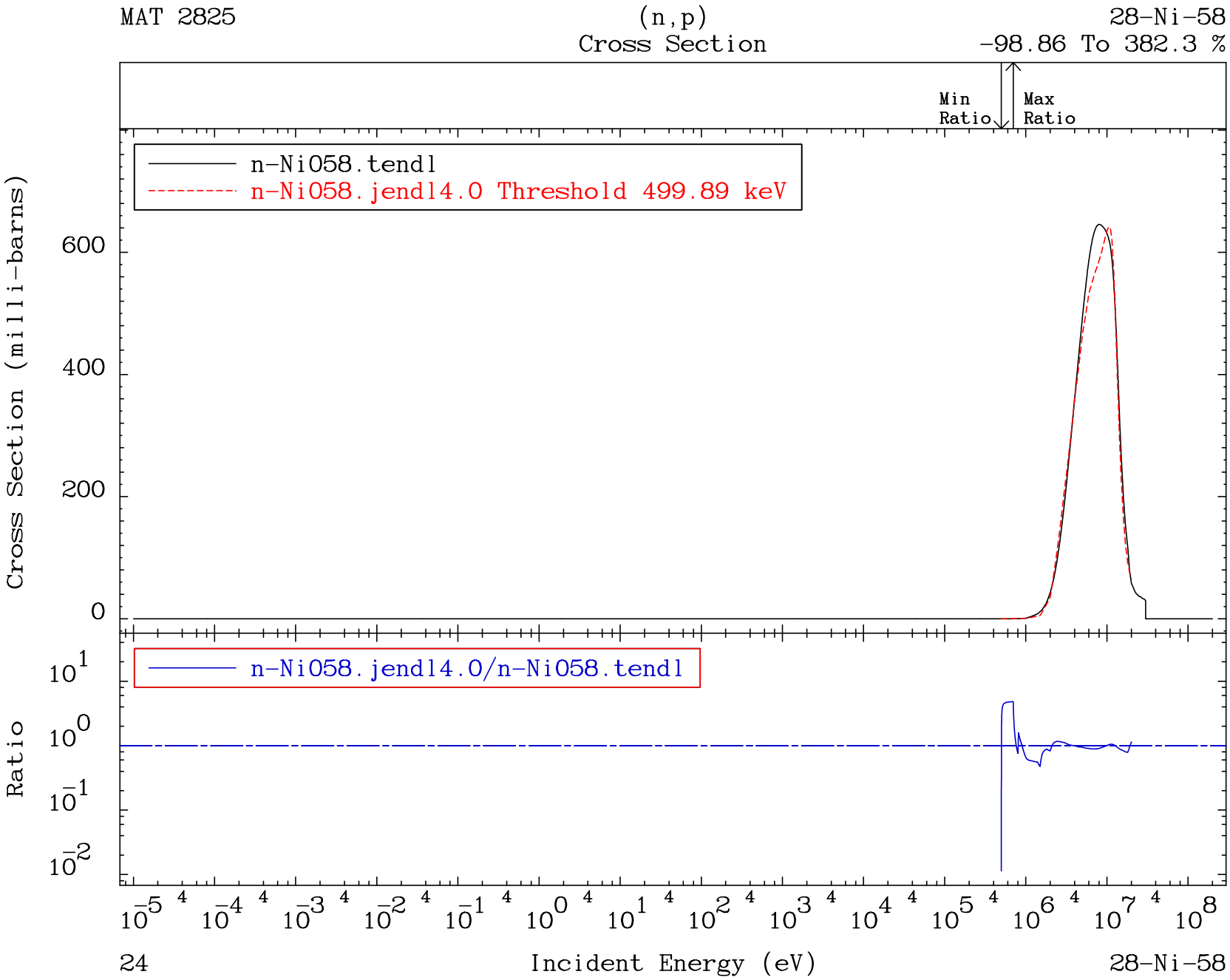

MAT 2825
MT= 63 (n,n') Level
Cross Section
28-Ni-58
-95.99 To 192.3 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.5926 MeV
n-Ni058.jendl4.0 Threshold 3.8401 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^{-1}
4
4
4
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
19
Incident Energy (eV)
28-Ni-58

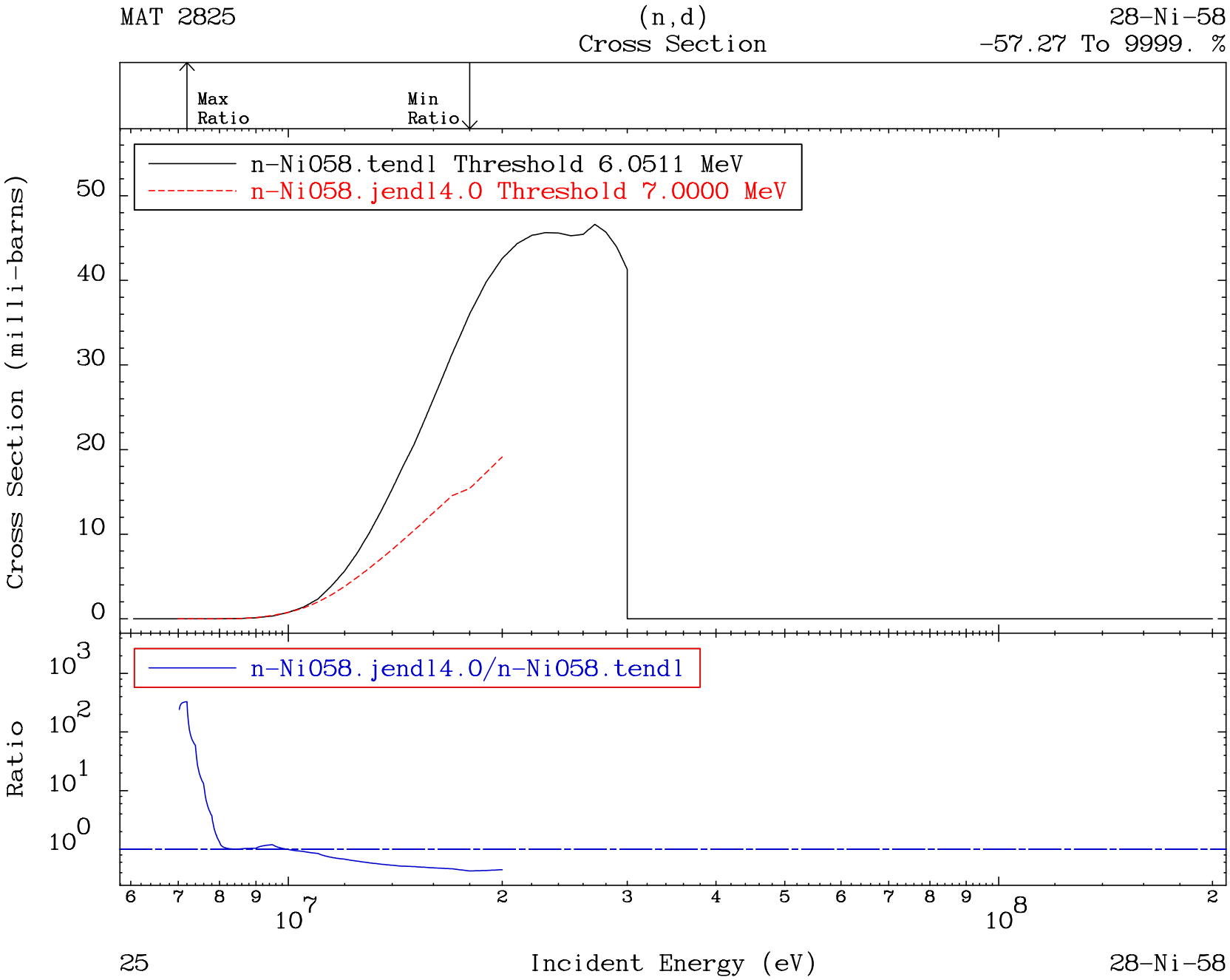

MAT 2825
MT= 64 (n,n') Level
Cross Section
28-Ni-58
-94.43 To 263.1 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.6563 MeV
n-Ni058.jendl4.0 Threshold 3.9662 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
20
Incident Energy (eV)
28-Ni-58

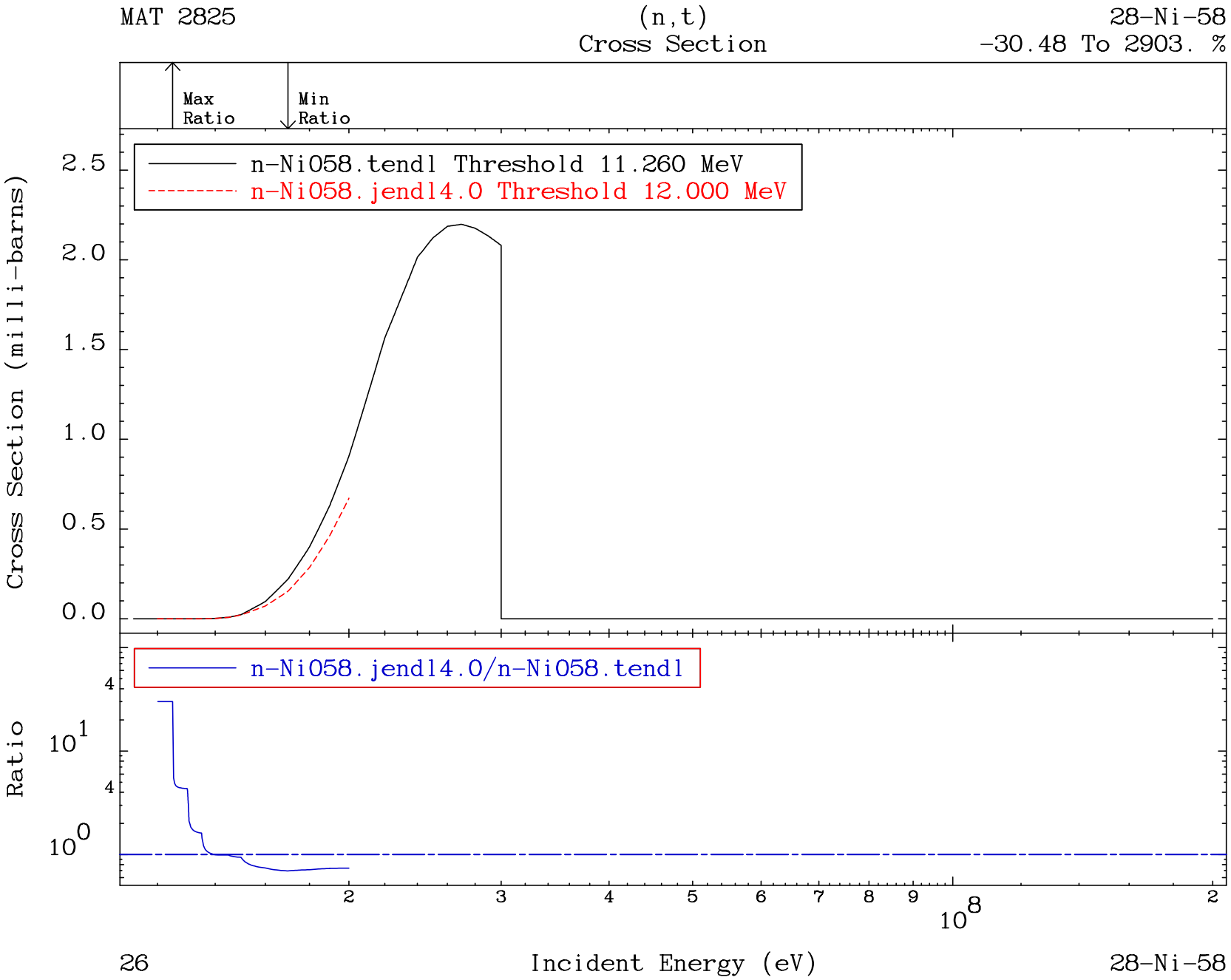

MAT 2825
MT= 65 (n,n') Level
Cross Section
28-Ni-58
-99.82 To 8927. %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 3.6831 MeV
n-Ni058.jendl4.0 Threshold 4.5532 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^2
10^0
10^-2
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
21
Incident Energy (eV)
28-Ni-58

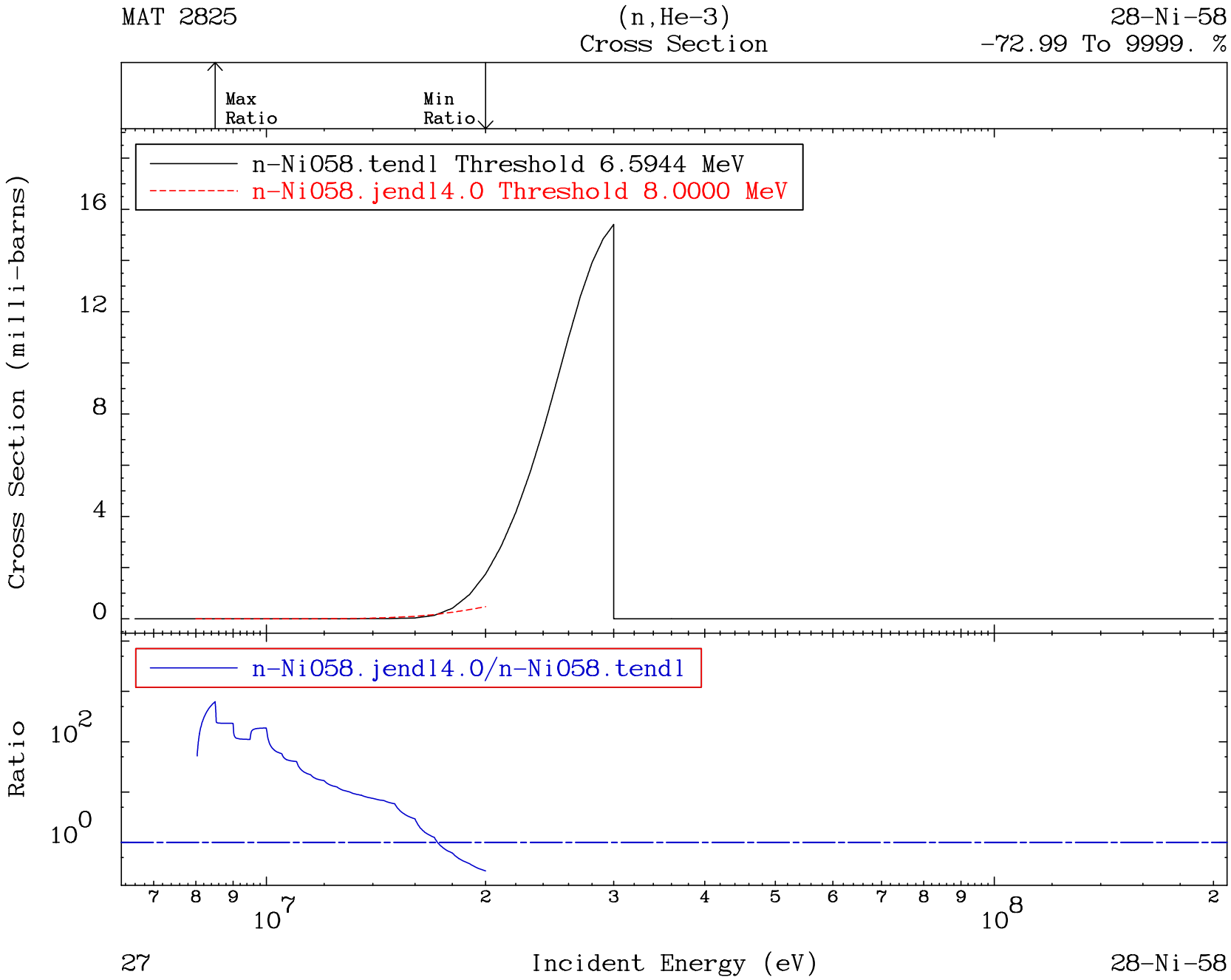

MAT 2825
(n,n') Continuum
Cross Section
28-Ni-58
-25.23 To 9999. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 4.5525 MeV
n-Ni058.jendl4.0 Threshold 4.0005 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^3
10^2
10^1
10^0
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
22
Incident Energy (eV)
28-Ni-58

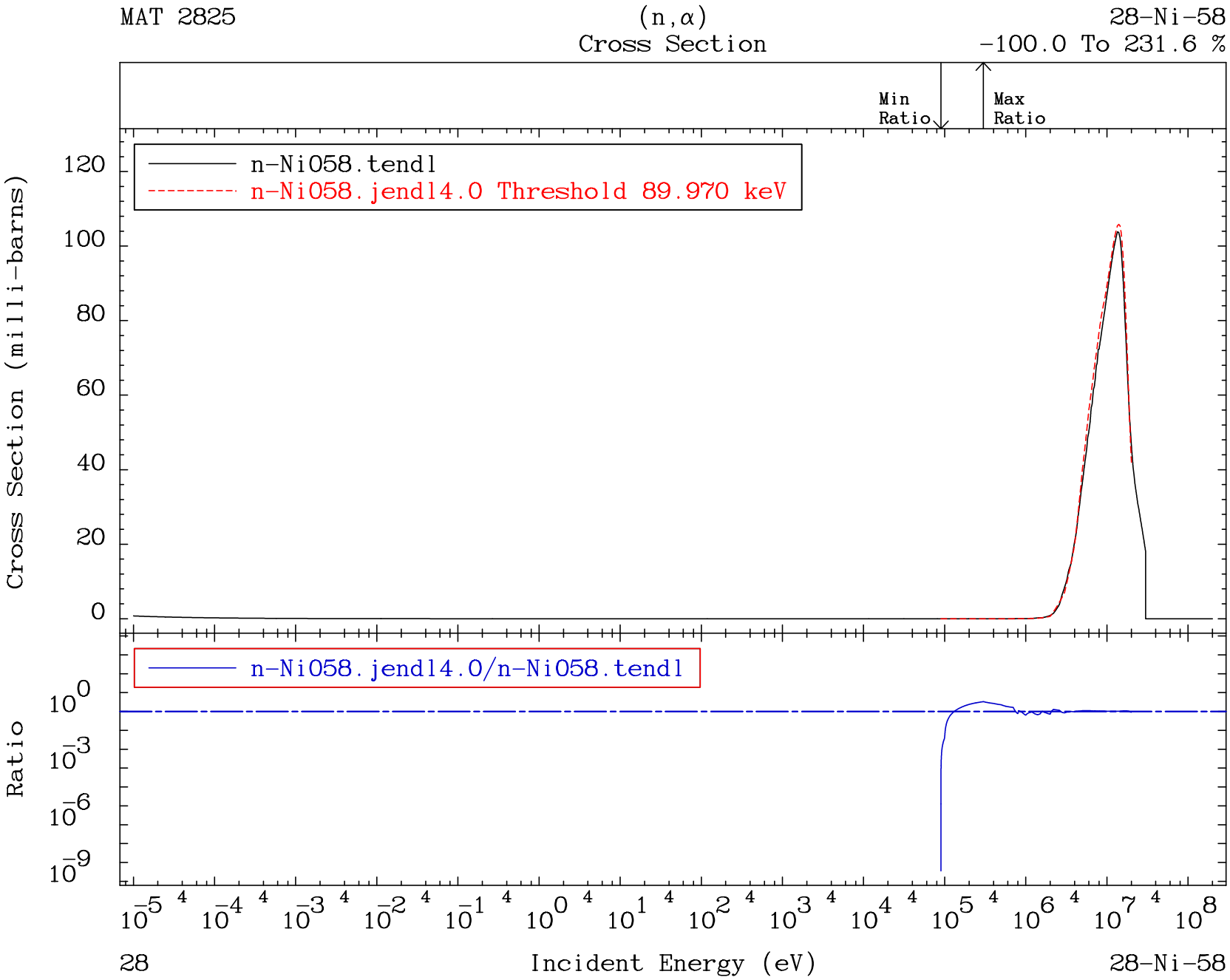

MAT 2825
(n,γ)
Cross Section
28-Ni-58
-99.74 To 58.58 %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-6
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
23
Incident Energy (eV)
28-Ni-58

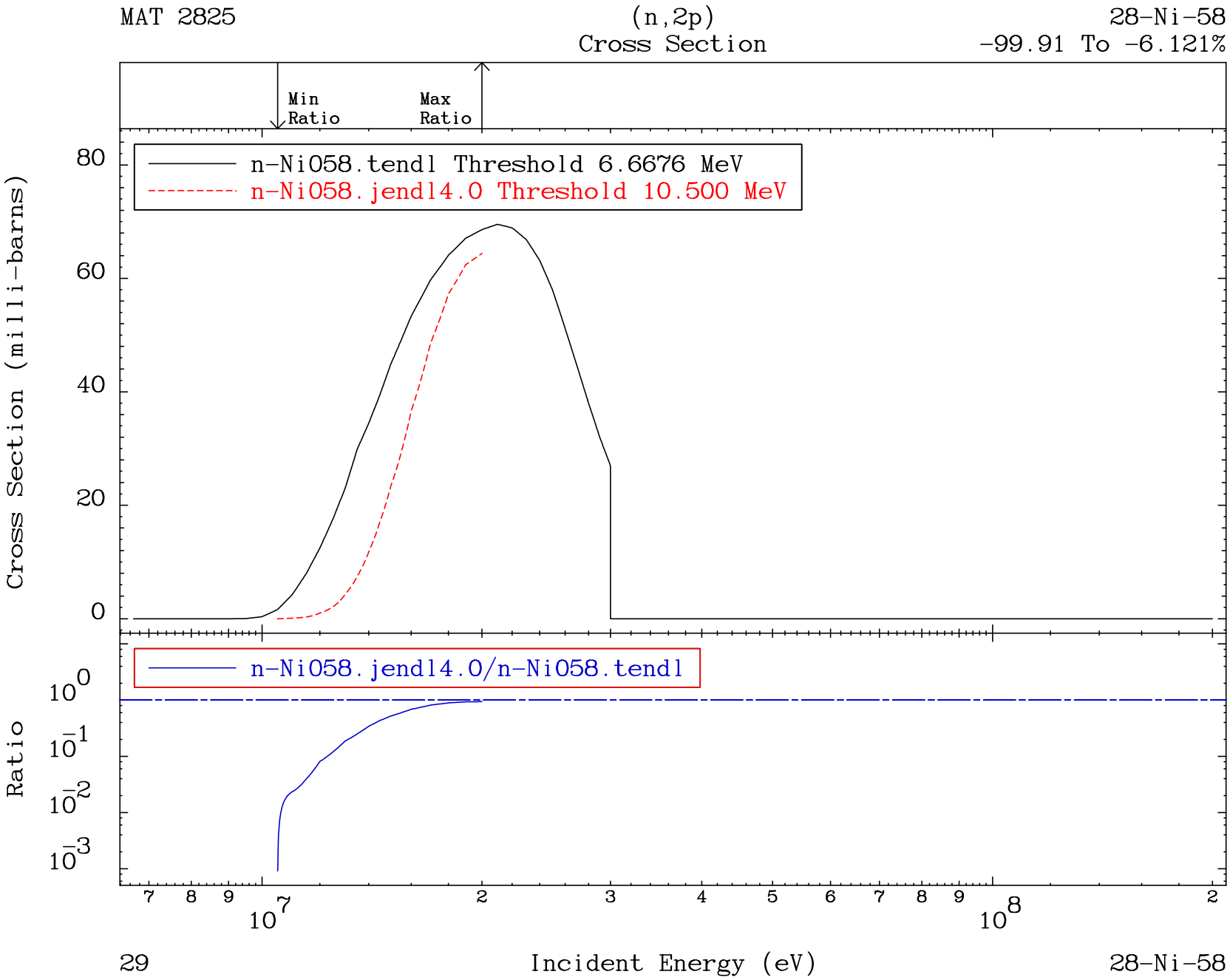

MAT 2825
(n,p)
Cross Section
28-Ni-58
-98.86 To 382.3 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0 Threshold 499.89 keV
Cross Section (milli-barns)
600
400
200
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
10^-1
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
24
Incident Energy (eV)
28-Ni-58

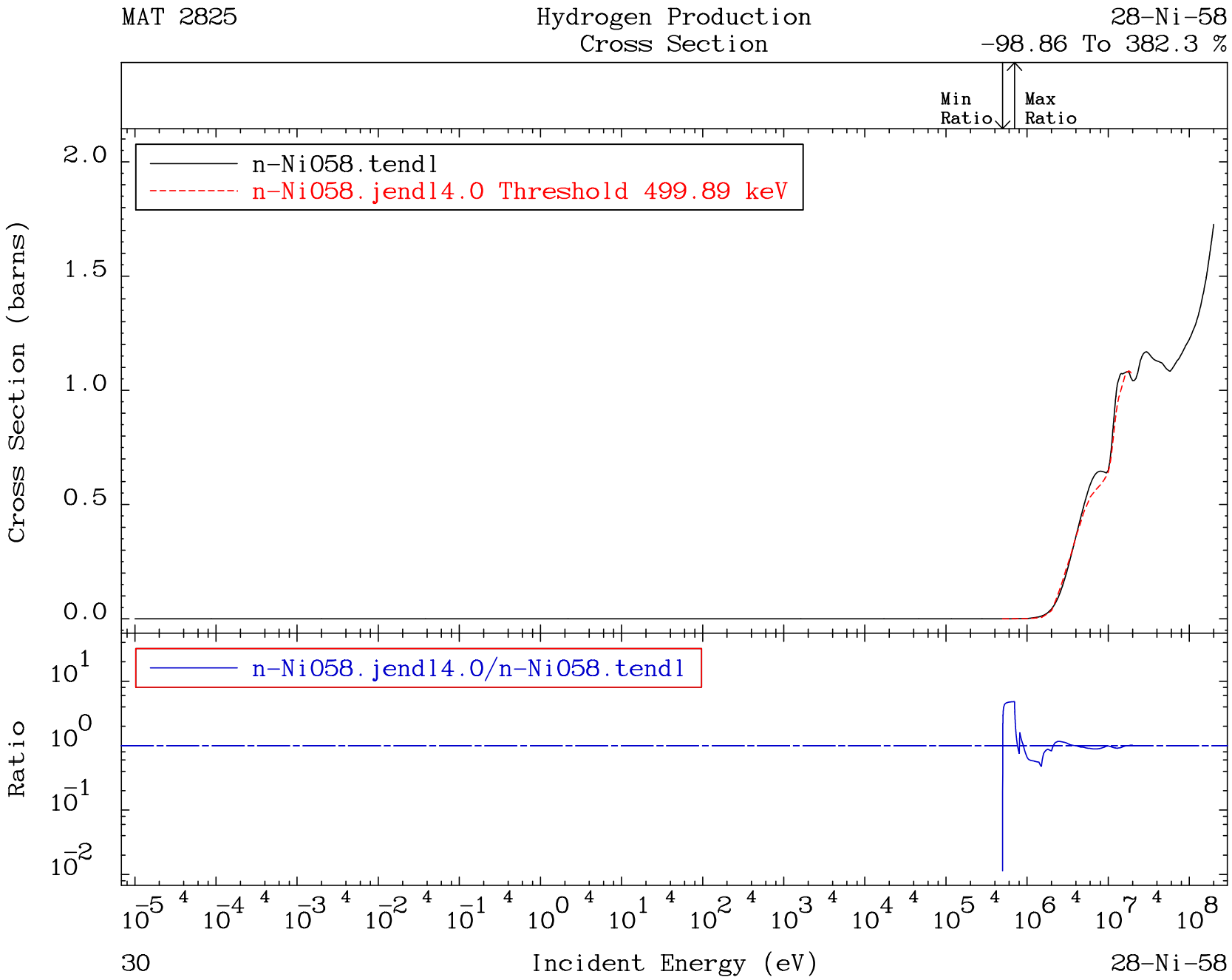

MAT 2825
(n,d)
Cross Section
28-Ni-58
-57.27 To 9999. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 6.0511 MeV
n-Ni058.jendl4.0 Threshold 7.0000 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^3
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
25
Incident Energy (eV)
28-Ni-58

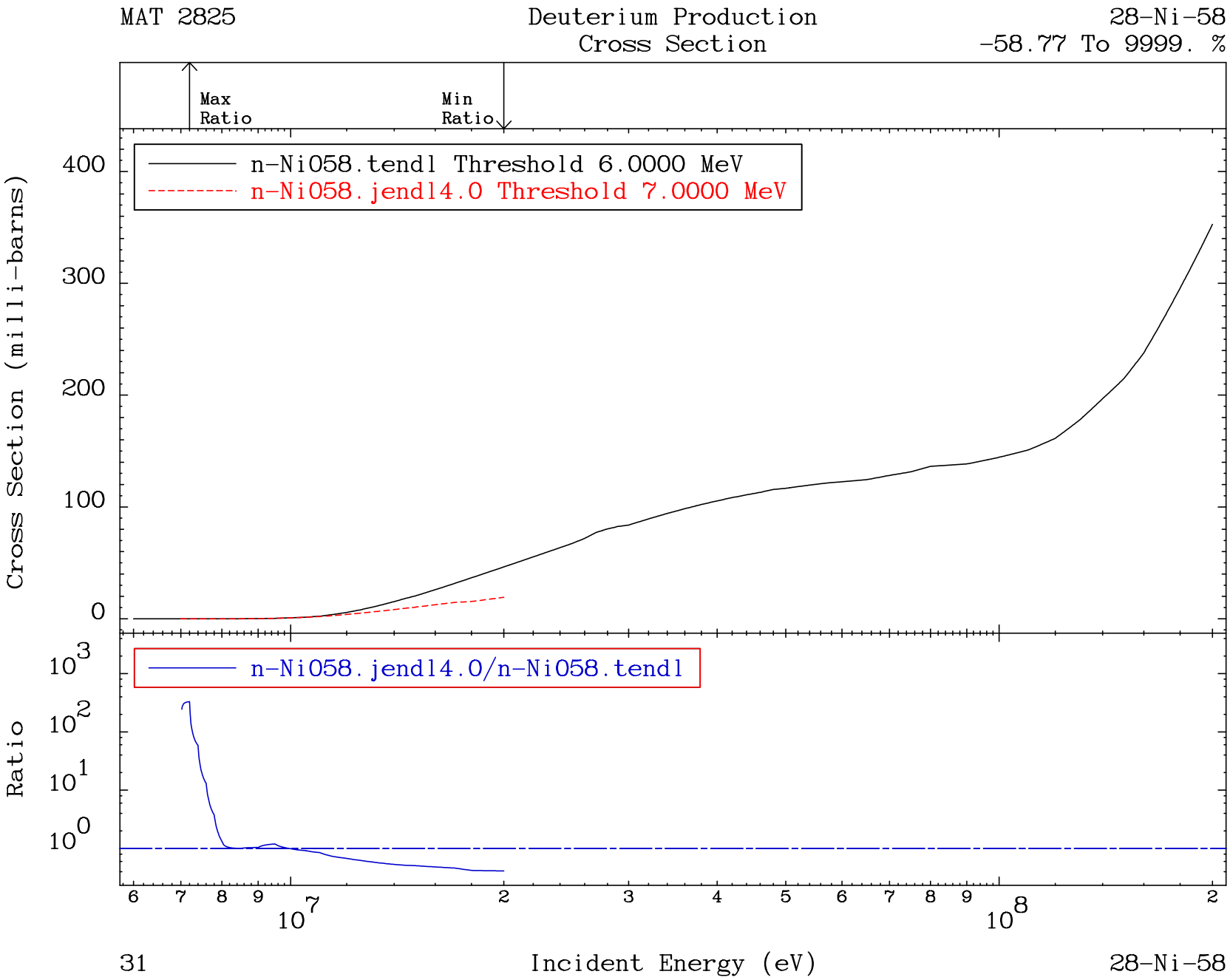

MAT 2825
(n,t)
Cross Section
28-Ni-58
-30.48 To 2903. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 11.260 MeV
n-Ni058.jendl4.0 Threshold 12.000 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
26
Incident Energy (eV)
28-Ni-58

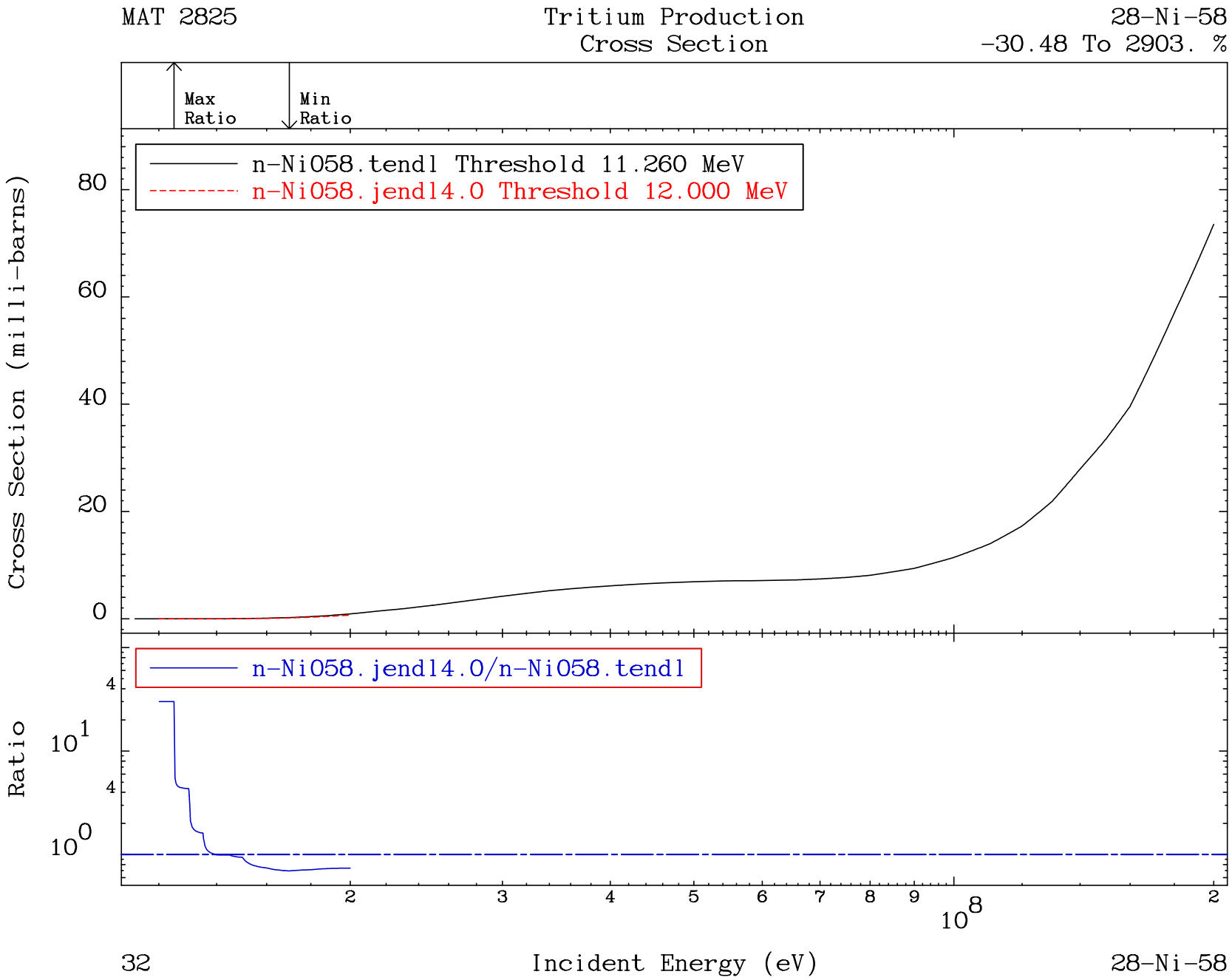

MAT 2825
(n,He-3)
Cross Section
28-Ni-58
-72.99 To 9999. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 6.5944 MeV
n-Ni058.jendl4.0 Threshold 8.0000 MeV
Cross Section (milli-barns)
16
12
8
4
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^2
10^0
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
27
Incident Energy (eV)
28-Ni-58

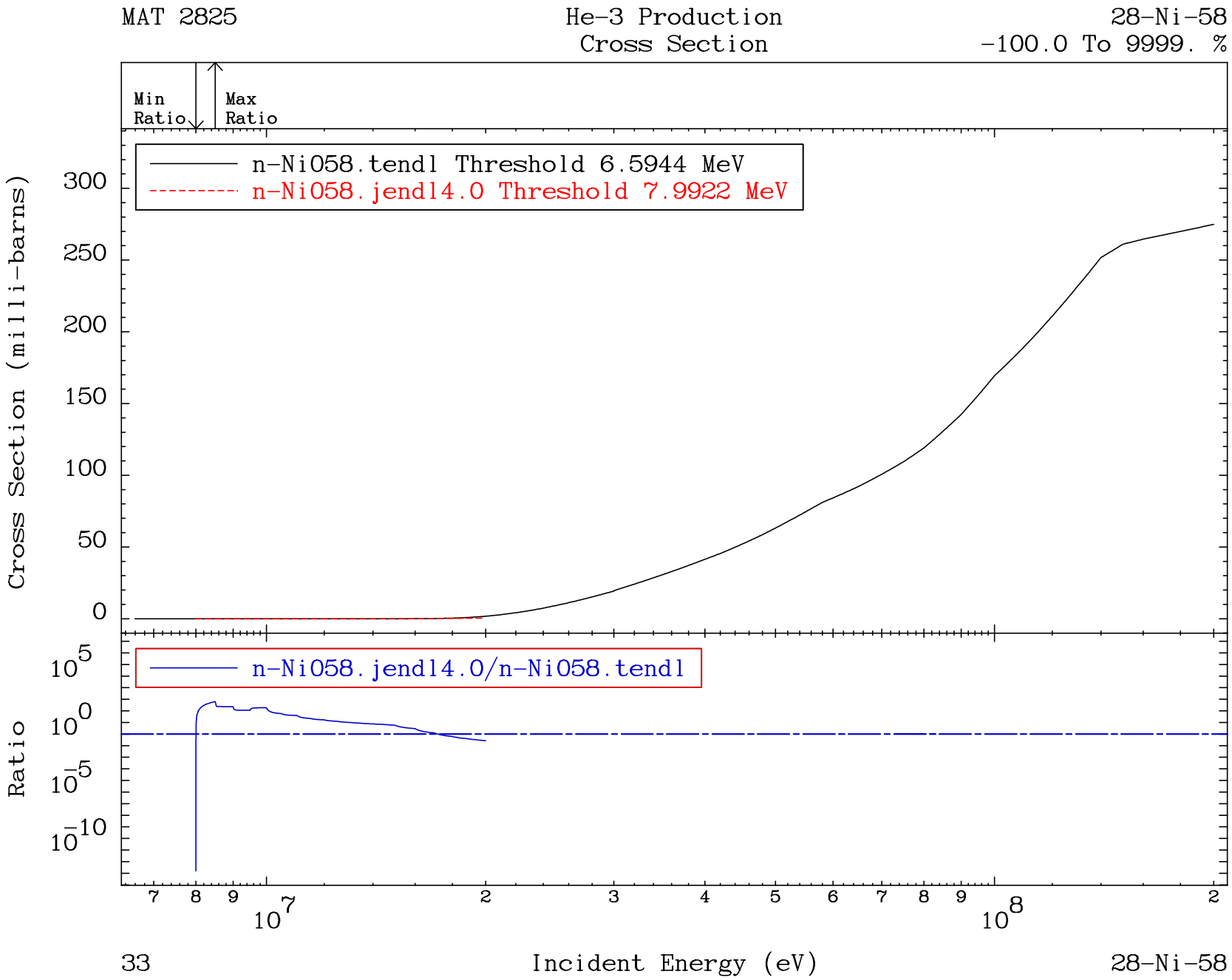

MAT 2825
(n,α)
Cross Section
28-Ni-58
-100.0 To 231.6 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0 Threshold 89.970 keV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-3
10^-6
10^-9
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
28
Incident Energy (eV)
28-Ni-58

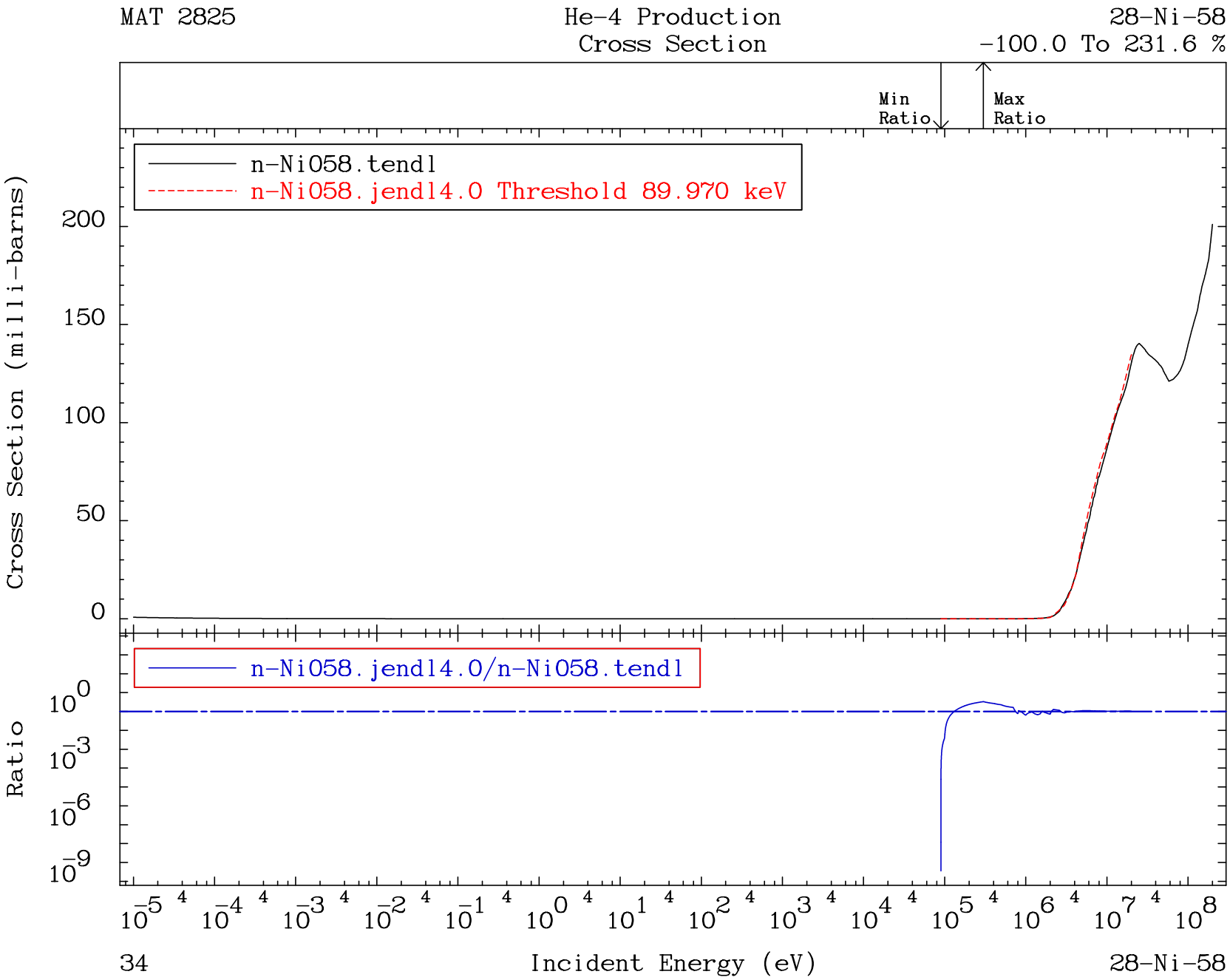

MAT 2825
(n,2p)
Cross Section
28-Ni-58
-99.91 To -6.121%
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 6.6676 MeV
n-Ni058.jendl4.0 Threshold 10.500 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
10^-2
10^-3
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
29
Incident Energy (eV)
28-Ni-58

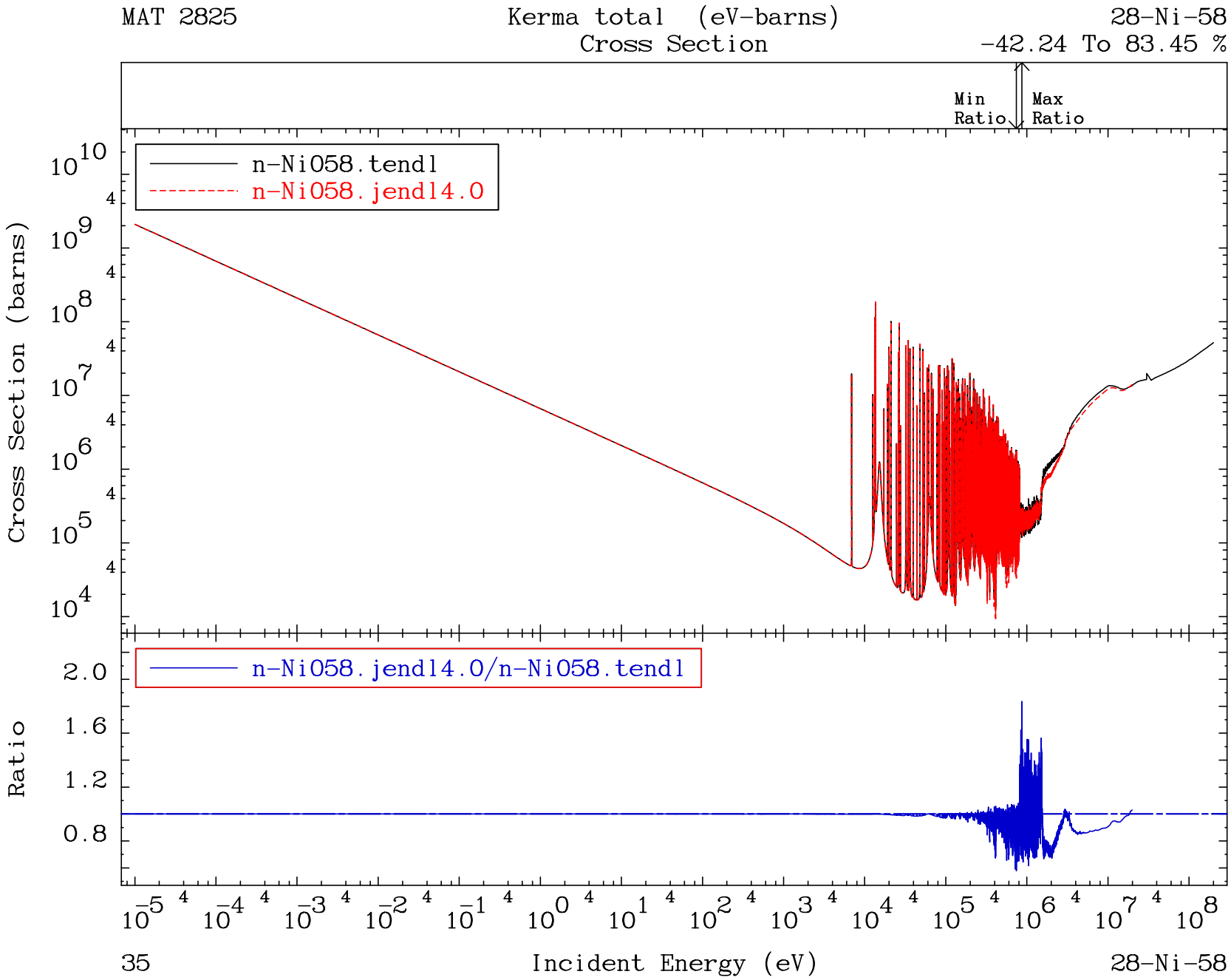

MAT 2825
Hydrogen Production
Cross Section
28-Ni-58
-98.86 To 382.3 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0 Threshold 499.89 keV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^1
10^0
10^-1
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
30
Incident Energy (eV)
28-Ni-58

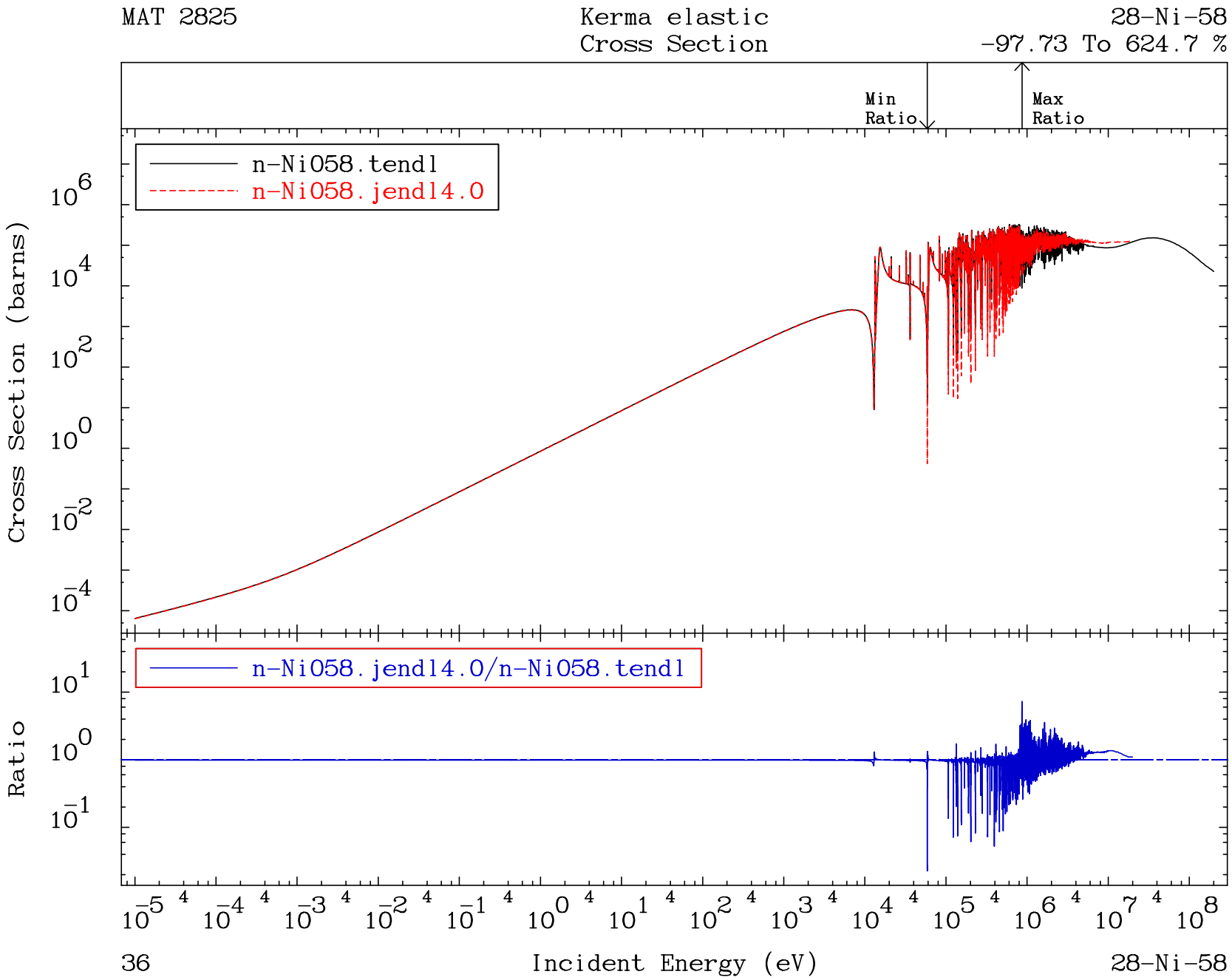

MAT 2825
Deuterium Production
Cross Section
28-Ni-58
-58.77 To 9999. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 6.0000 MeV
n-Ni058.jendl4.0 Threshold 7.0000 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^3
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
31
Incident Energy (eV)
28-Ni-58

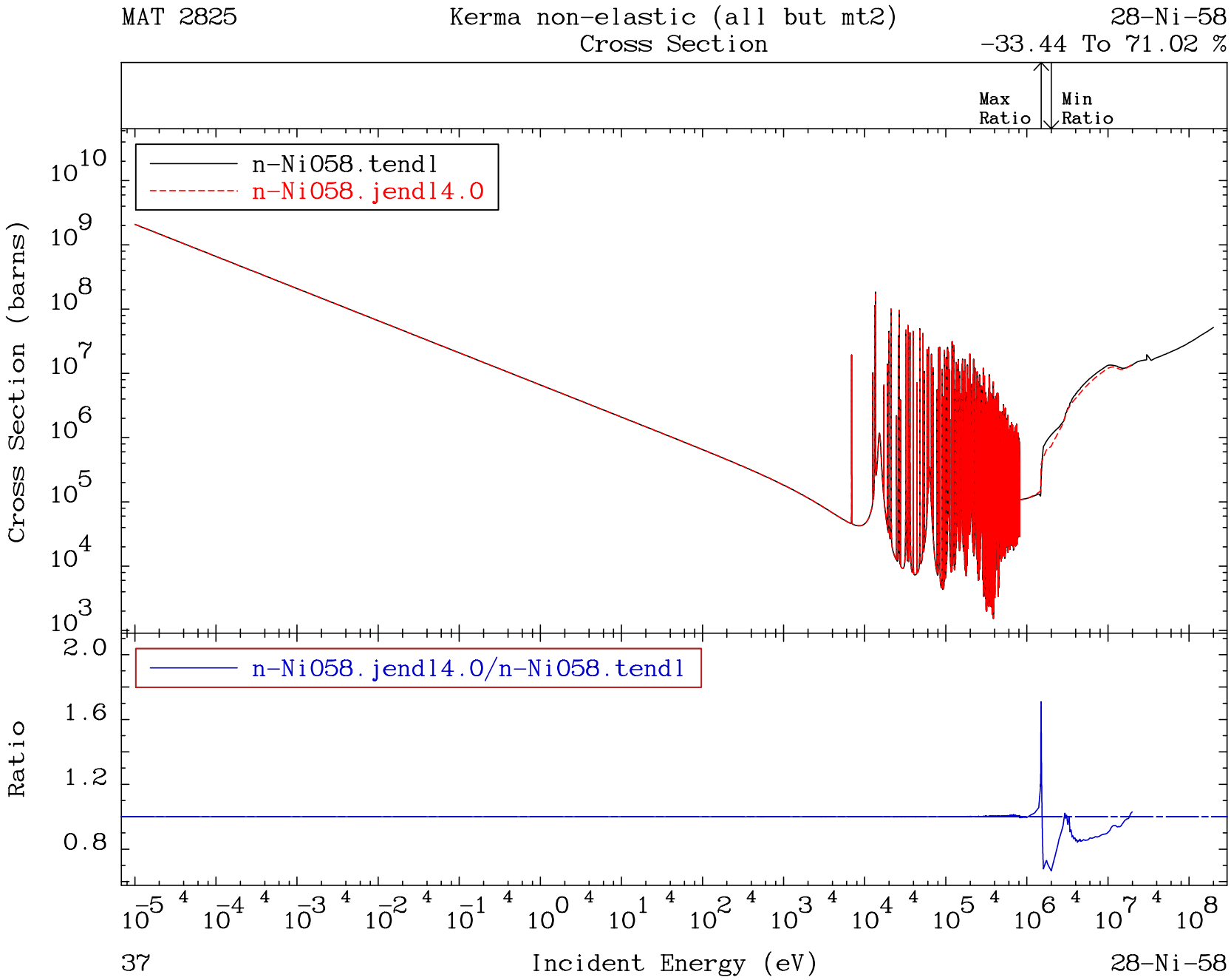

MAT 2825
Tritium Production
Cross Section
28-Ni-58
-30.48 To 2903. %
Max Ratio
Min Ratio
n-Ni058.tendl Threshold 11.260 MeV
n-Ni058.jendl4.0 Threshold 12.000 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
4
10^1
4
10^0
2
3
4
5
6
7
8
9
10^8
2
32
Incident Energy (eV)
28-Ni-58

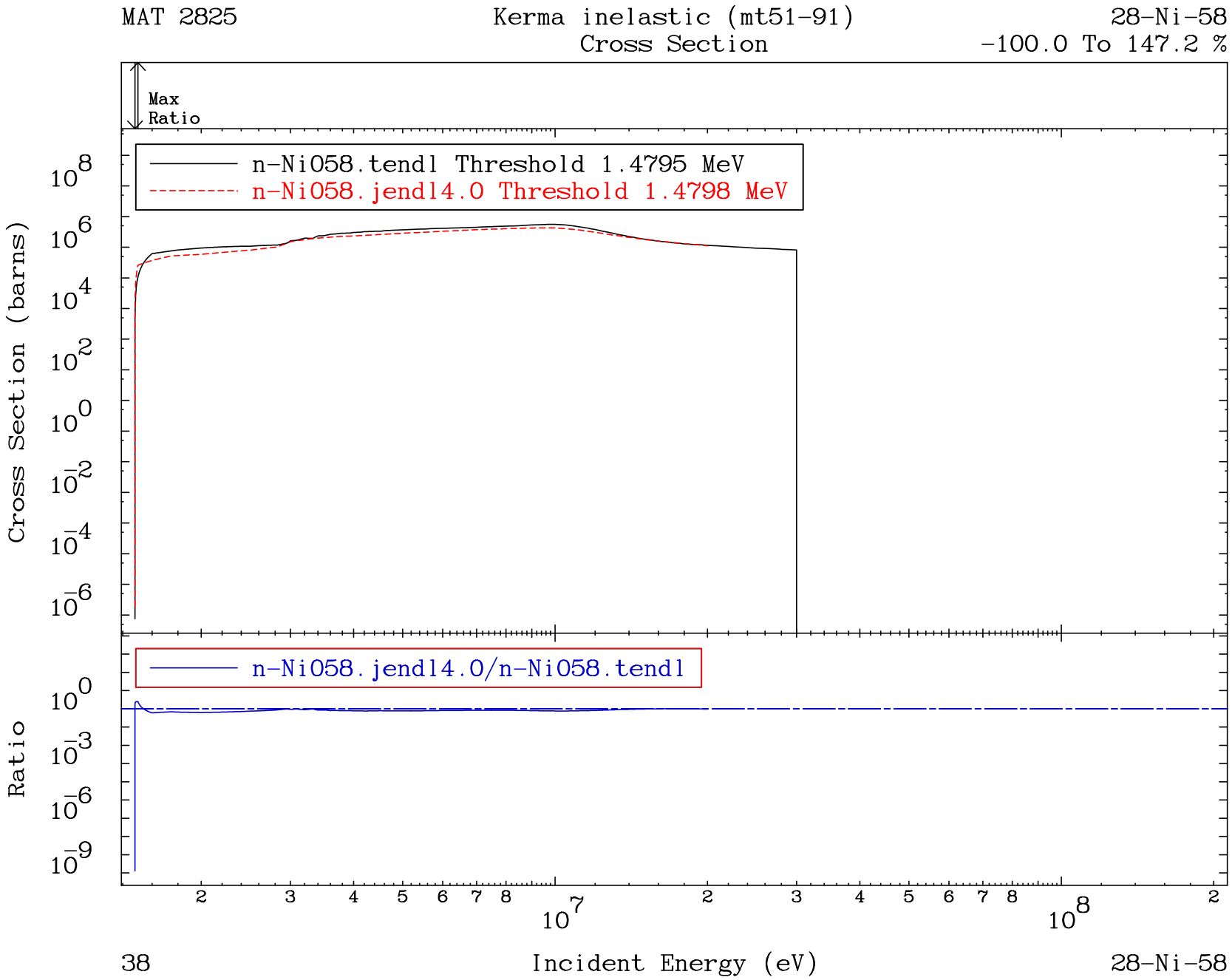

MAT 2825
He-3 Production
Cross Section
28-Ni-58
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 6.5944 MeV
n-Ni058.jendl4.0 Threshold 7.9922 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^5
10^0
10^-5
10^-10
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
33
Incident Energy (eV)
28-Ni-58

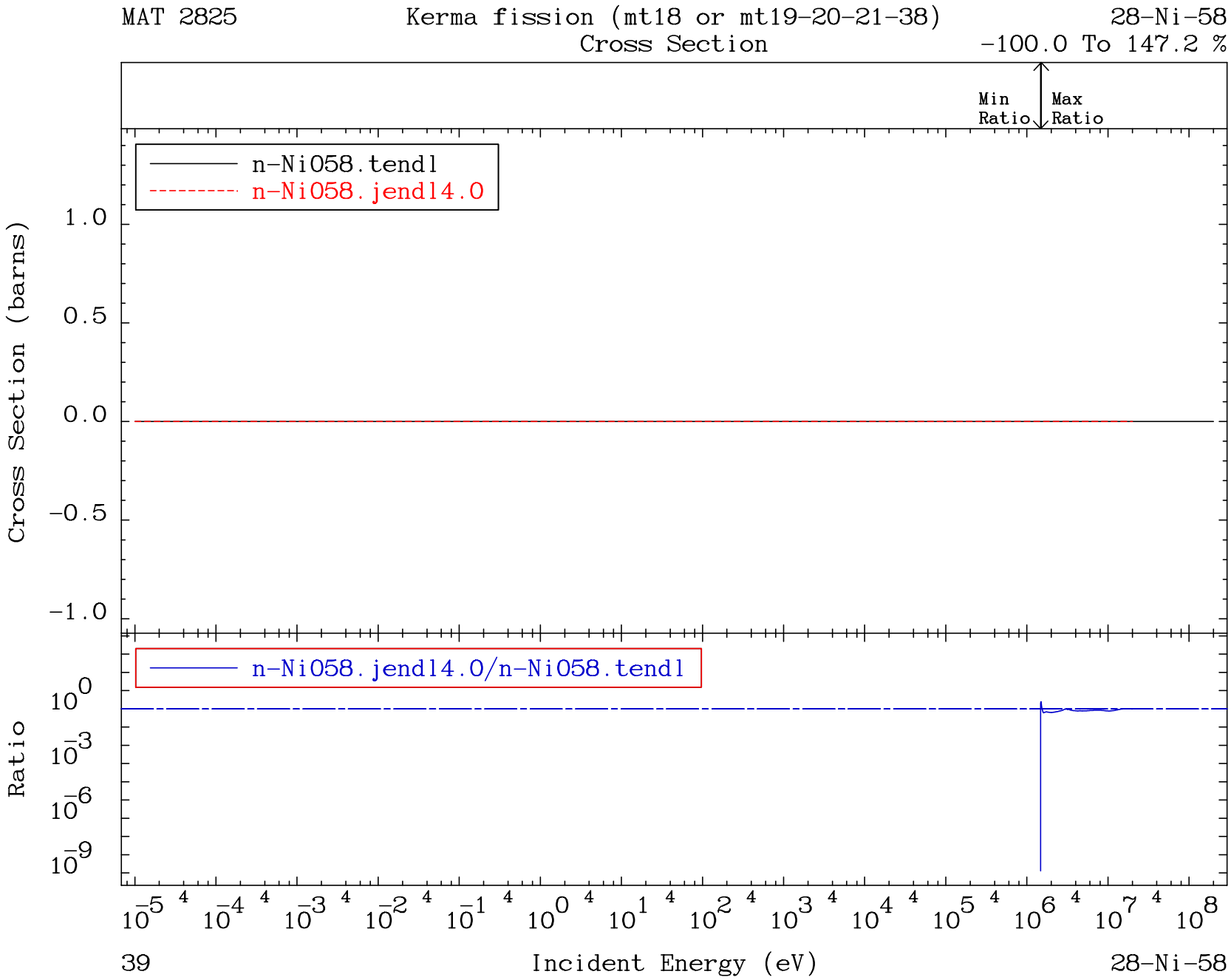

MAT 2825
He-4 Production
Cross Section
28-Ni-58
-100.0 To 231.6 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0 Threshold 89.970 keV
Cross Section (milli-barns)
200
150
100
50
0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-3
10^-6
10^-9
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
34
Incident Energy (eV)
28-Ni-58

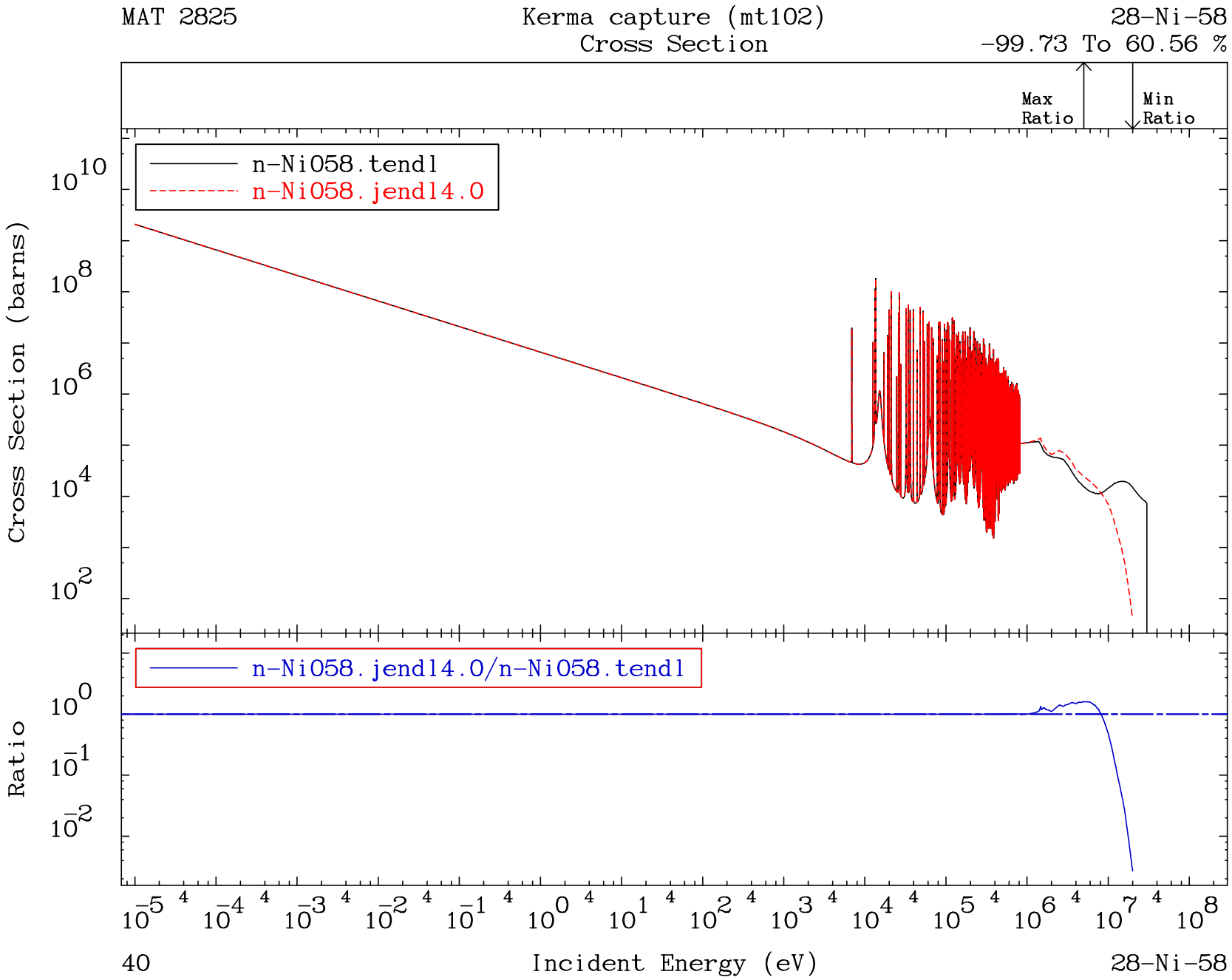

MAT 2825
Kerma total (eV-barns)
Cross Section
28-Ni-58
-42.24 To 83.45 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
35
28-Ni-58

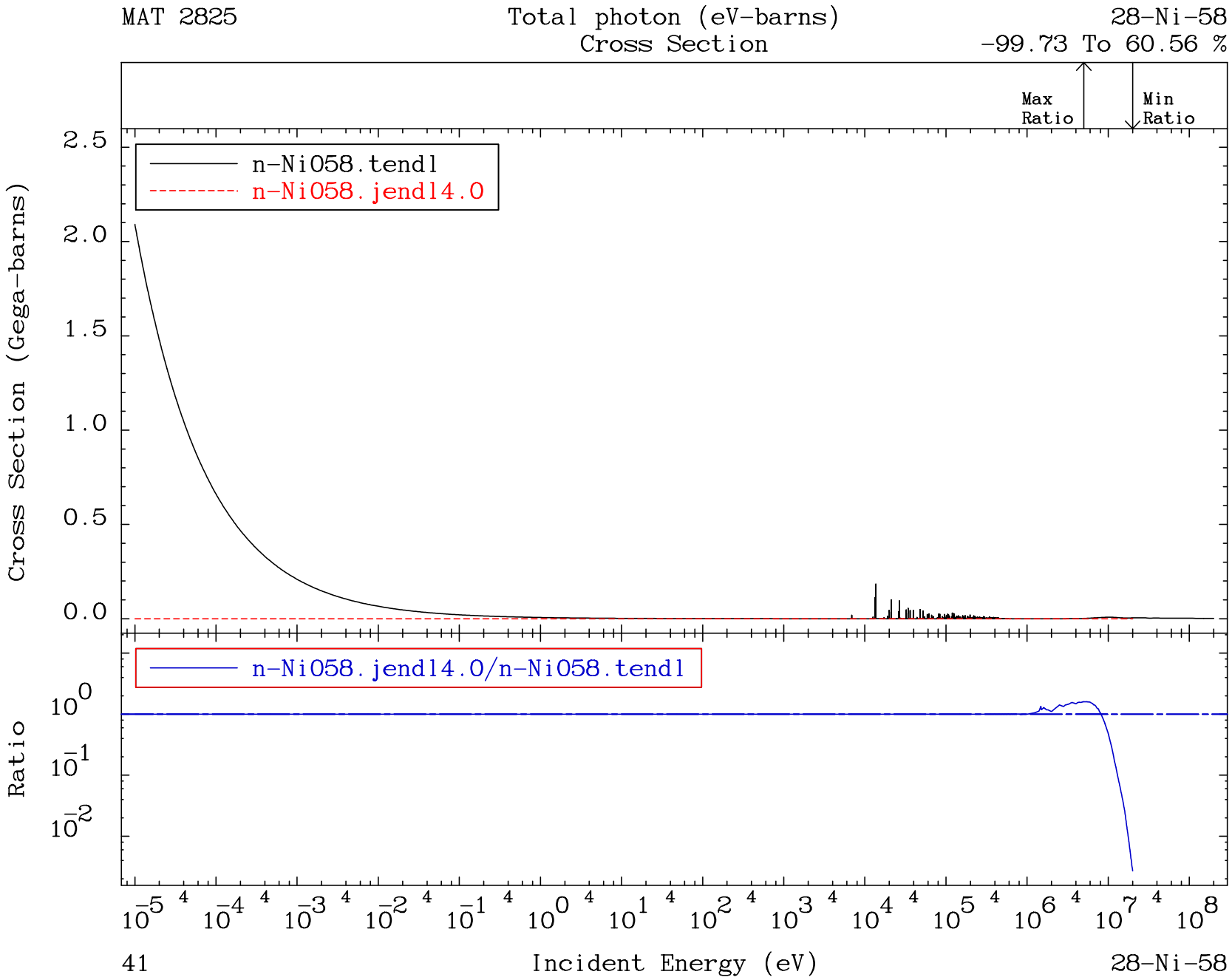

MAT 2825
Kerma elastic
Cross Section
28-Ni-58
-97.73 To 624.7 %
Min
Ratio
Max
Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
Ratio
n-Ni058.jendl4.0/n-Ni058.tendl
Incident Energy (eV)
36
28-Ni-58

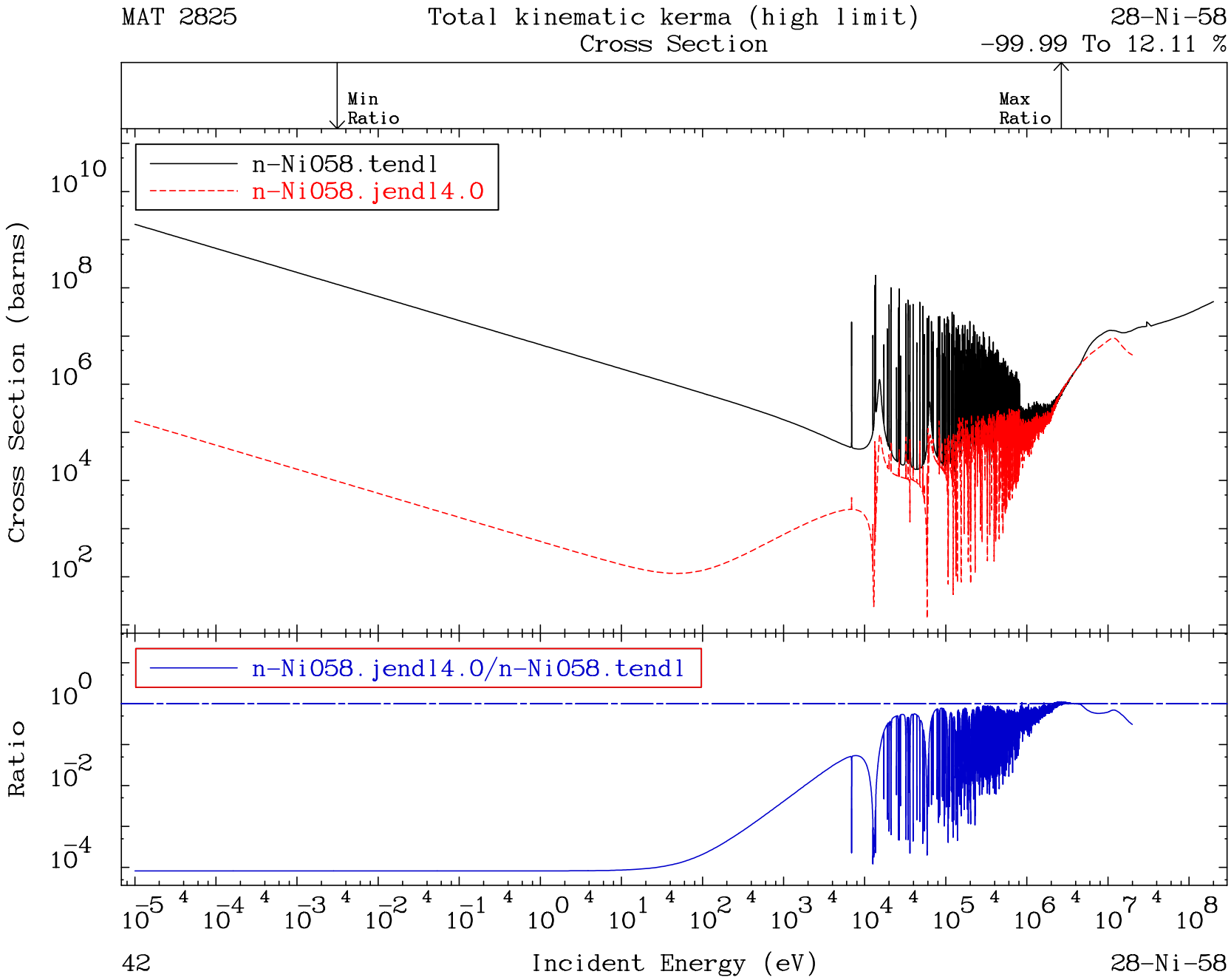

MAT 2825
Kerma non-elastic (all but mt2)
Cross Section
28-Ni-58
-33.44 To 71.02 %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
37
28-Ni-58

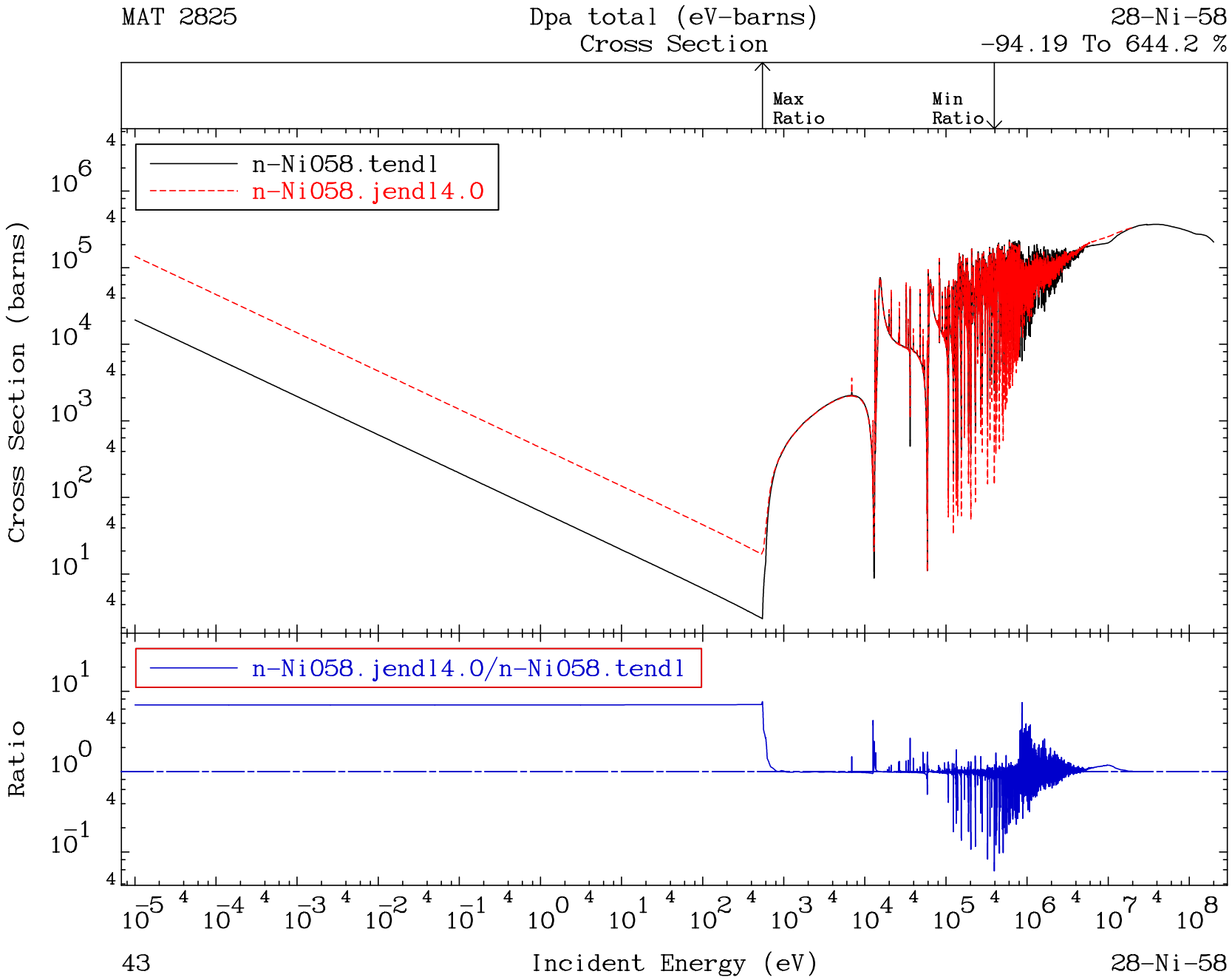

MAT 2825
Kerma inelastic (mt51-91)
Cross Section
28-Ni-58
-100.0 To 147.2 %
Max
Ratio
n-Ni058.tendl Threshold 1.4795 MeV
n-Ni058.jendl4.0 Threshold 1.4798 MeV
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
38
28-Ni-58

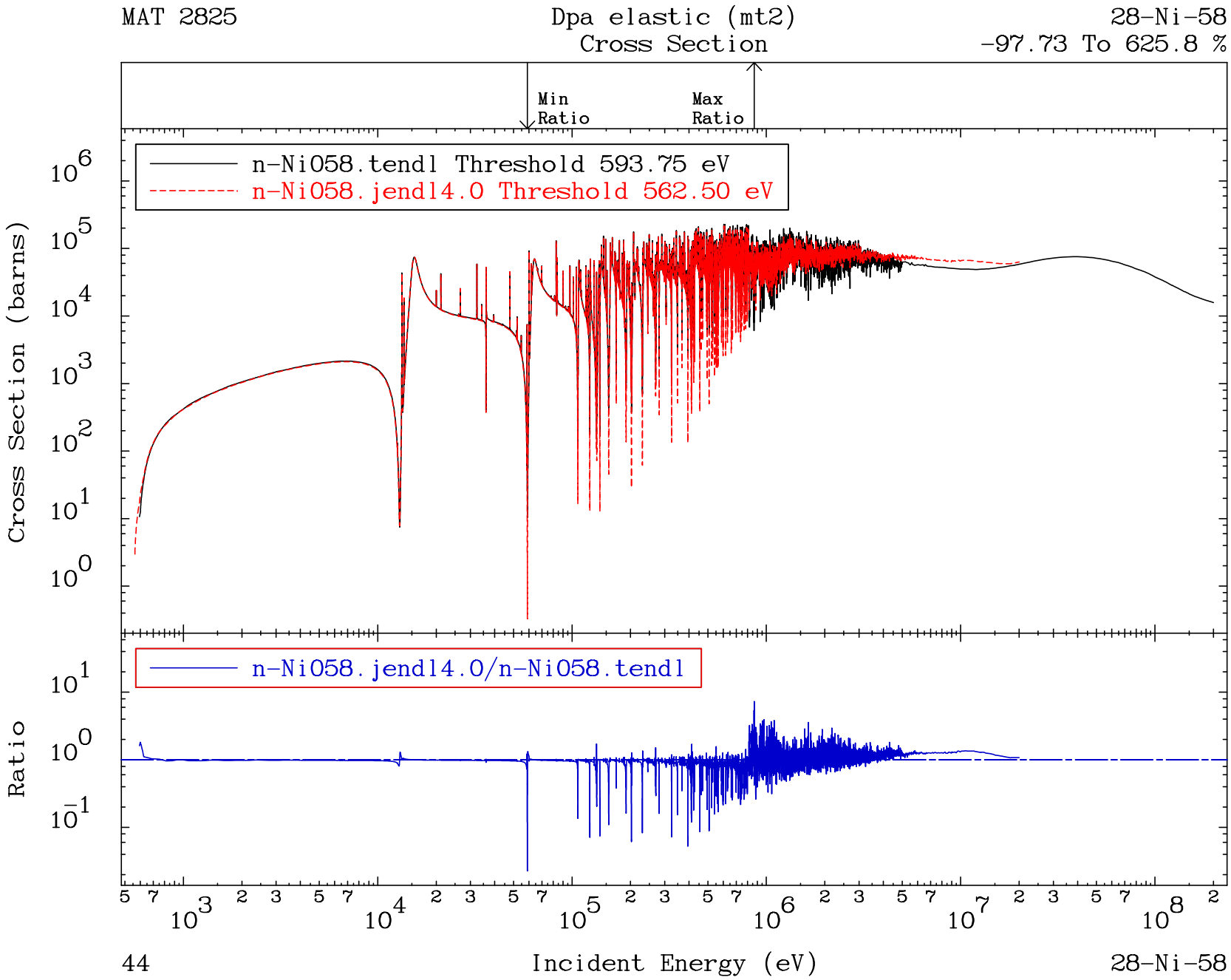

MAT 2825
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
28-Ni-58
-100.0 To 147.2 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-3
10^-6
10^-9
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
39
Incident Energy (eV)
28-Ni-58

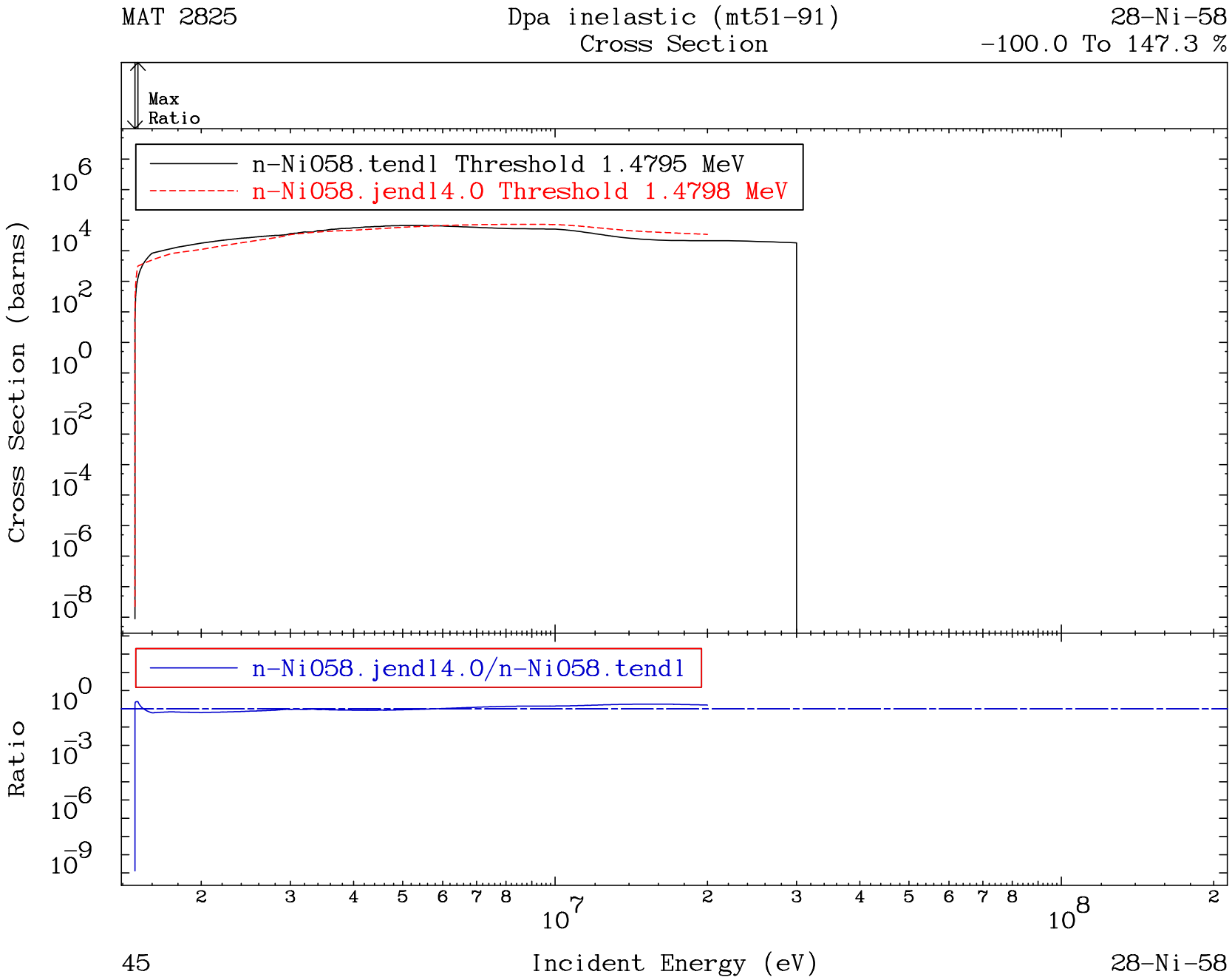

MAT 2825
Kerma capture (mt102)
Cross Section
28-Ni-58
-99.73 To 60.56 %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
10^10
10^8
10^6
10^4
10^2
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
40
Incident Energy (eV)
28-Ni-58

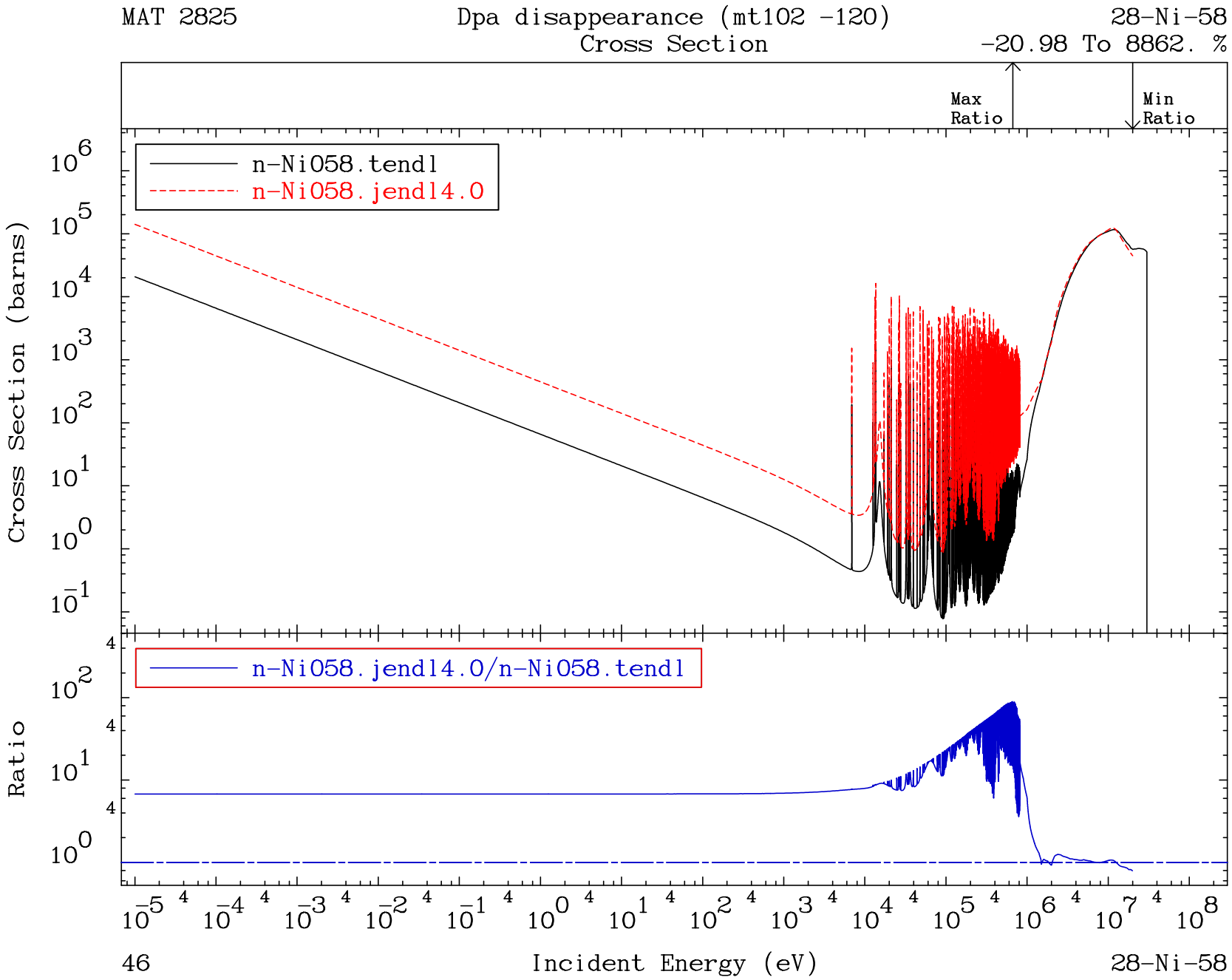

MAT 2825
Total photon (eV-barns)
Cross Section
28-Ni-58
-99.73 To 60.56 %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (Giga-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-1
10^-2
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
41
Incident Energy (eV)
28-Ni-58


MAT 2825
Total kinematic kerma (high limit)
Cross Section
28-Ni-58
-99.99 To 12.11 %
Min Ratio
Max Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
10^10
10^8
10^6
10^4
10^2
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
10^0
10^-2
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
42
Incident Energy (eV)
28-Ni-58


MAT 2825
Dpa total (eV-barns)
Cross Section
28-Ni-58
-94.19 To 644.2 %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
43
28-Ni-58


MAT 2825
Dpa elastic (mt2)
Cross Section
28-Ni-58
-97.73 To 625.8 %
Min Ratio
Max Ratio
n-Ni058.tendl Threshold 593.75 eV
n-Ni058.jendl4.0 Threshold 562.50 eV
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
44
28-Ni-58


MAT 2825
Dpa inelastic (mt51-91)
Cross Section
28-Ni-58
-100.0 To 147.3 %
Max
Ratio
n-Ni058.tendl Threshold 1.4795 MeV
n-Ni058.jendl4.0 Threshold 1.4798 MeV
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
45
28-Ni-58


MAT 2825
Dpa disappearance (mt102 -120)
Cross Section
28-Ni-58
-20.98 To 8862. %
Max Ratio
Min Ratio
n-Ni058.tendl
n-Ni058.jendl4.0
Cross Section (barns)
n-Ni058.jendl4.0/n-Ni058.tendl
Ratio
Incident Energy (eV)
46
28-Ni-58