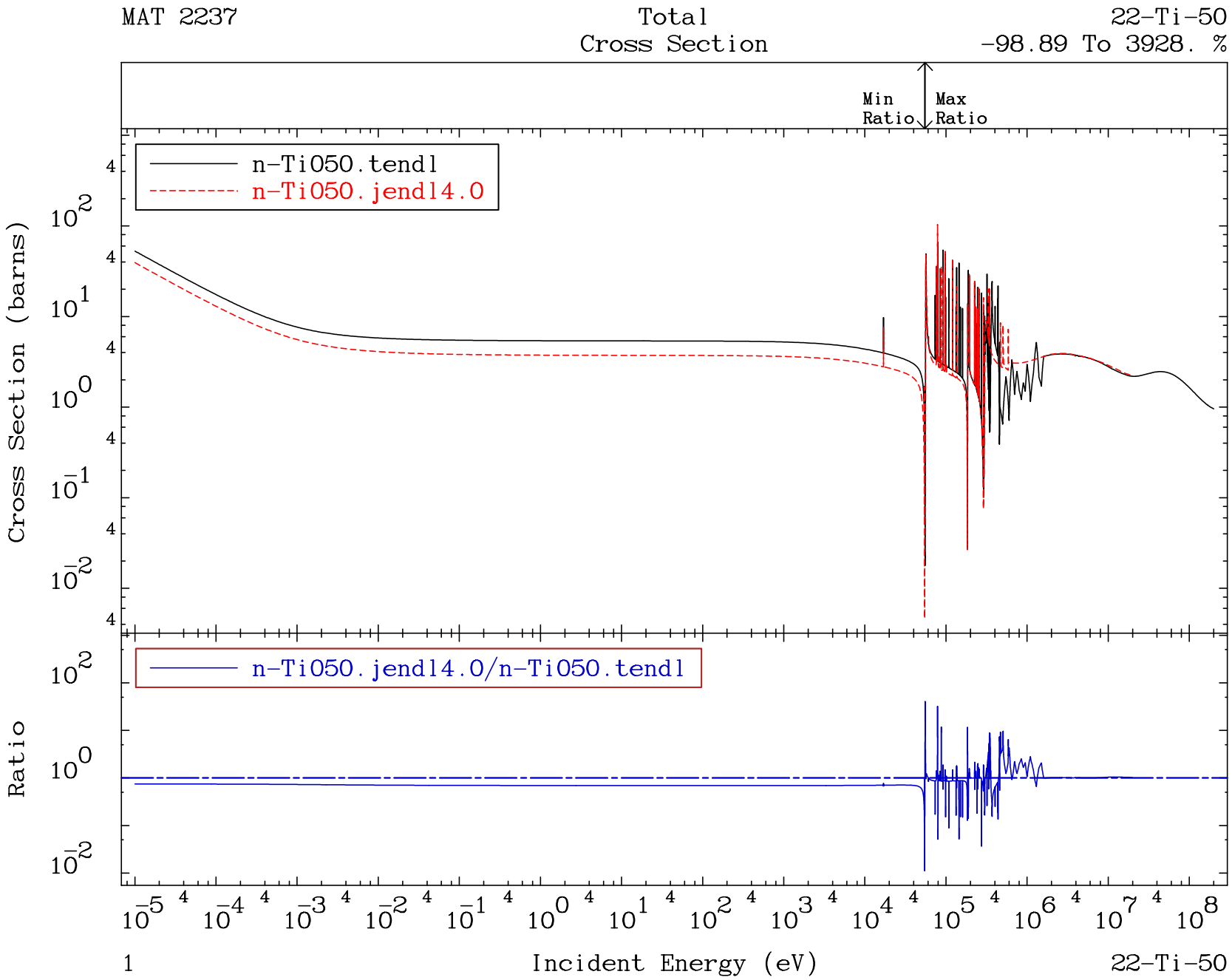
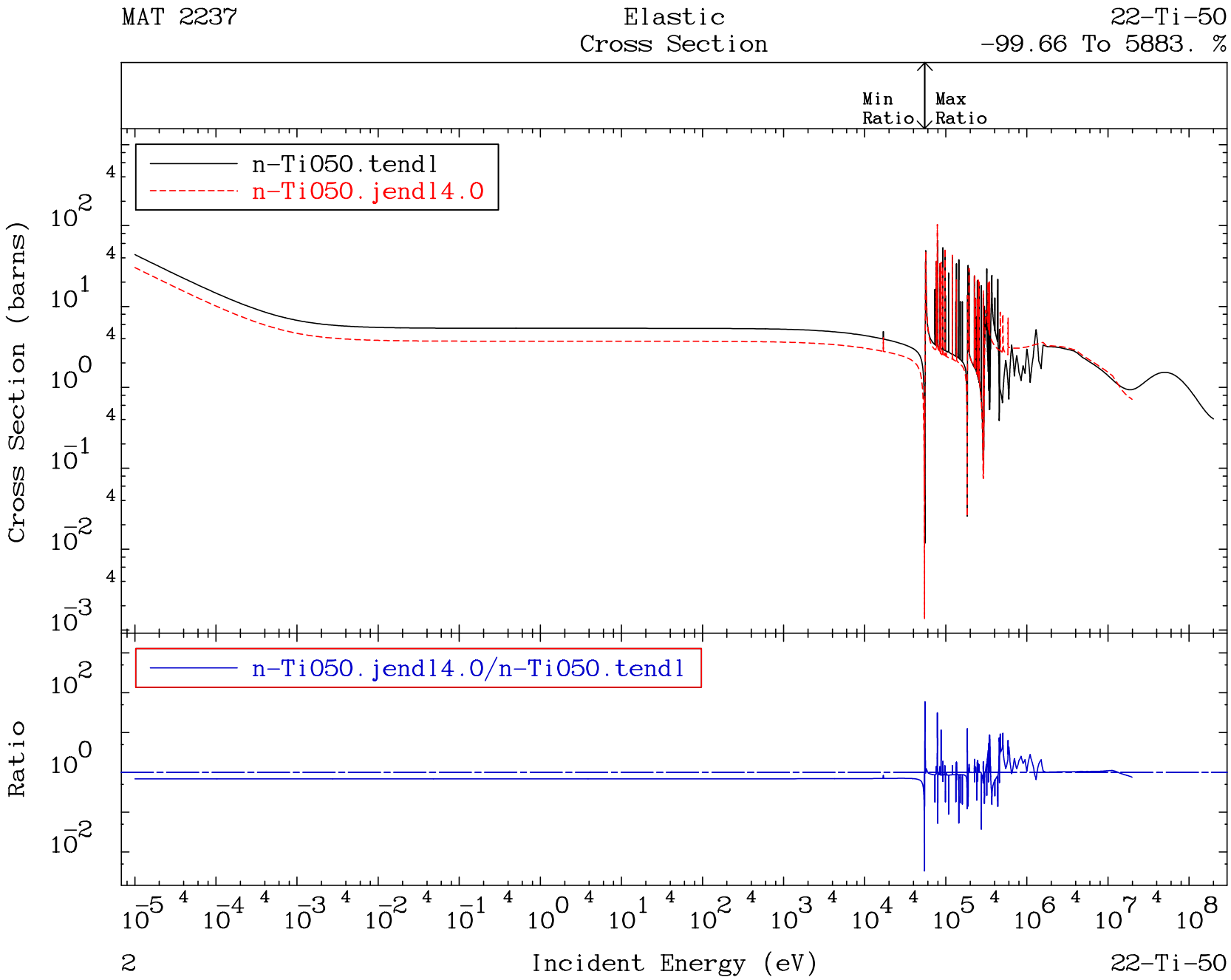
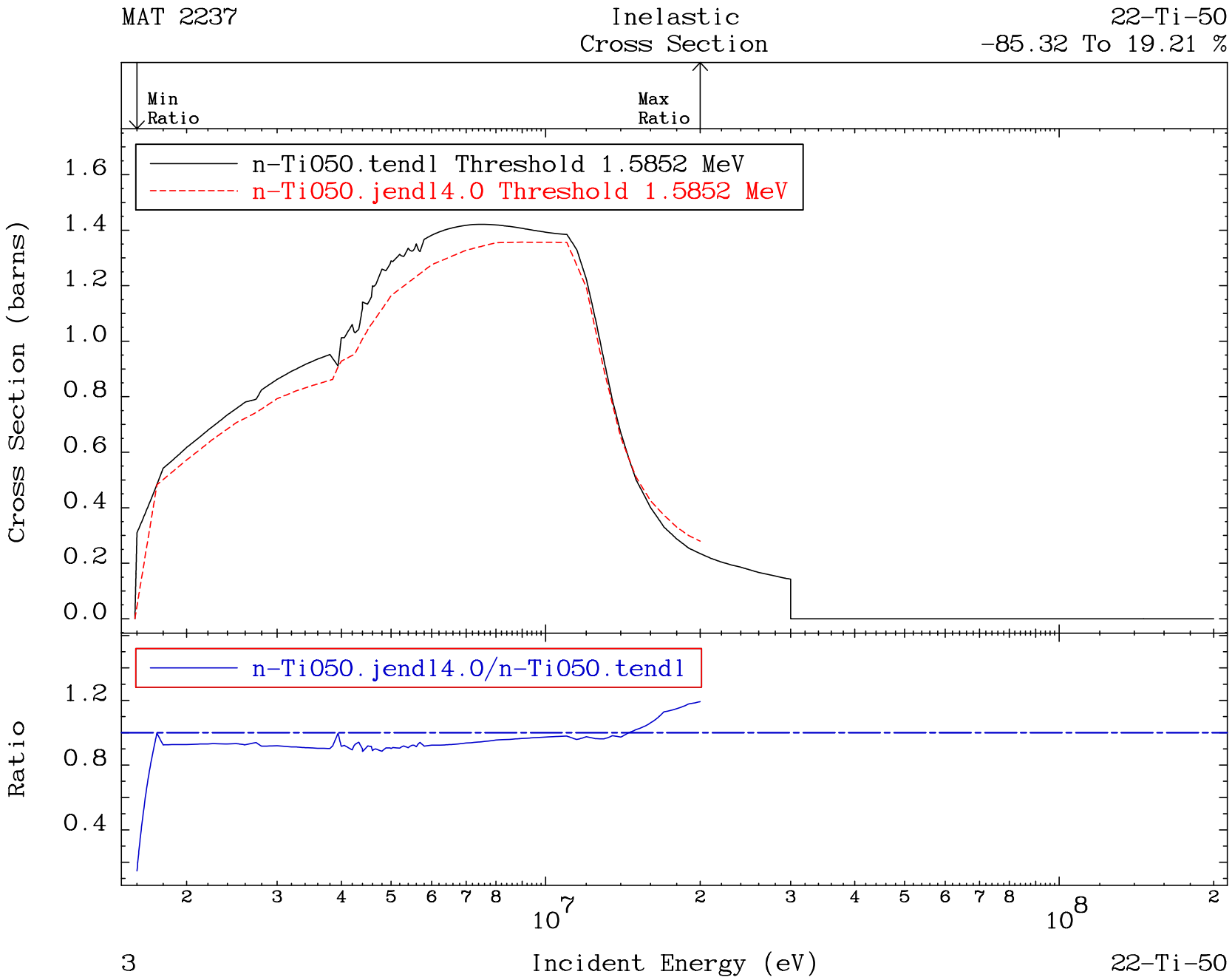
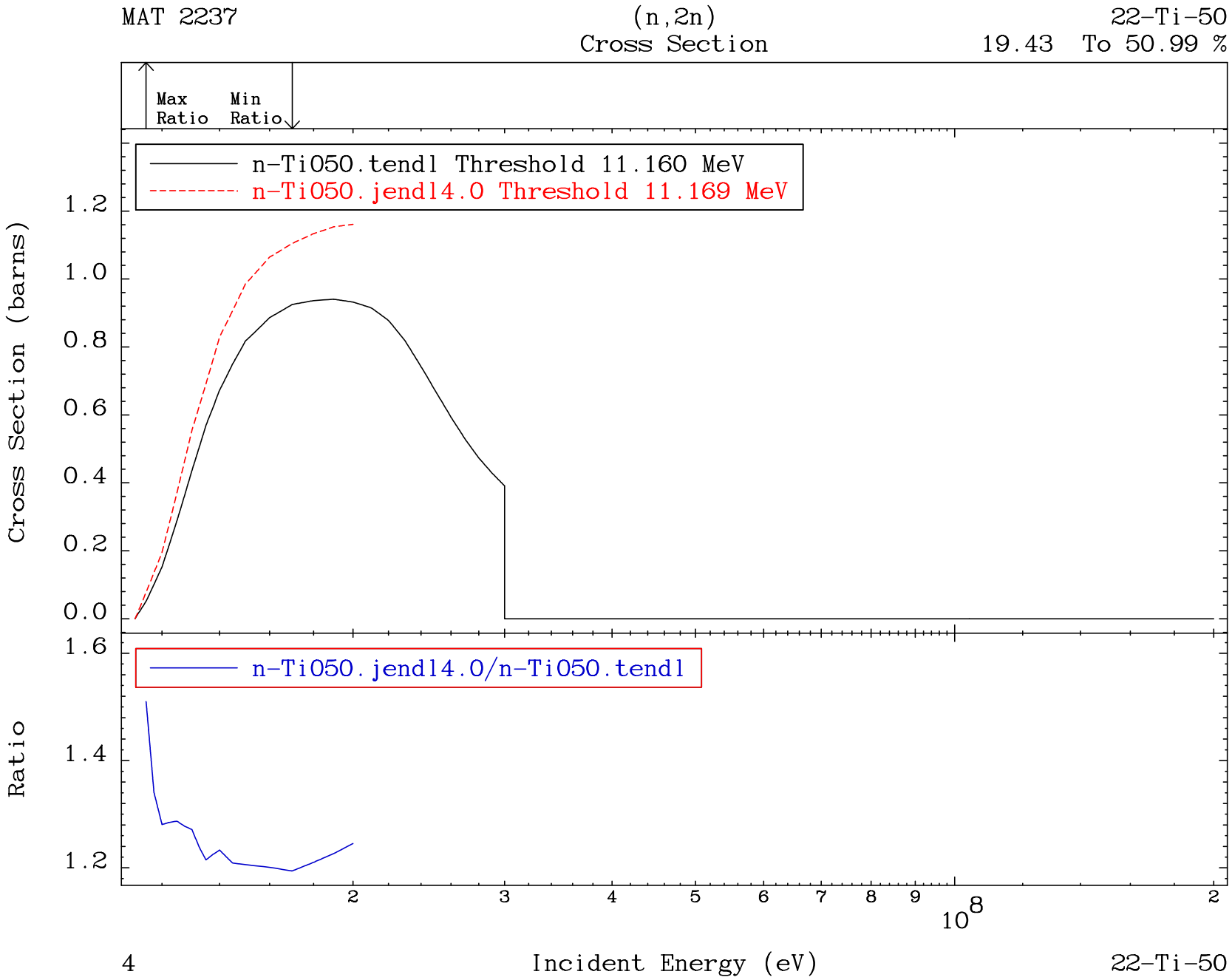
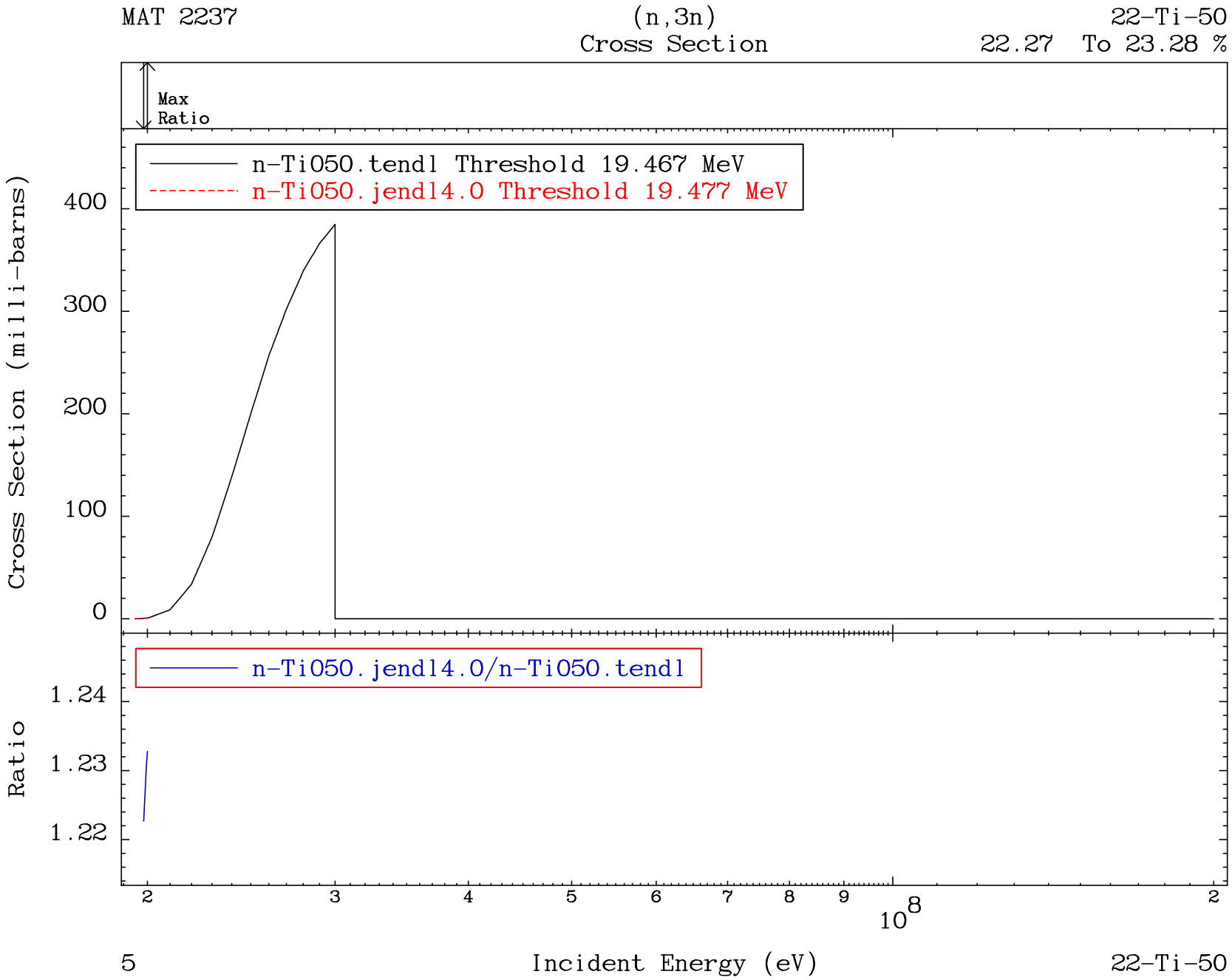
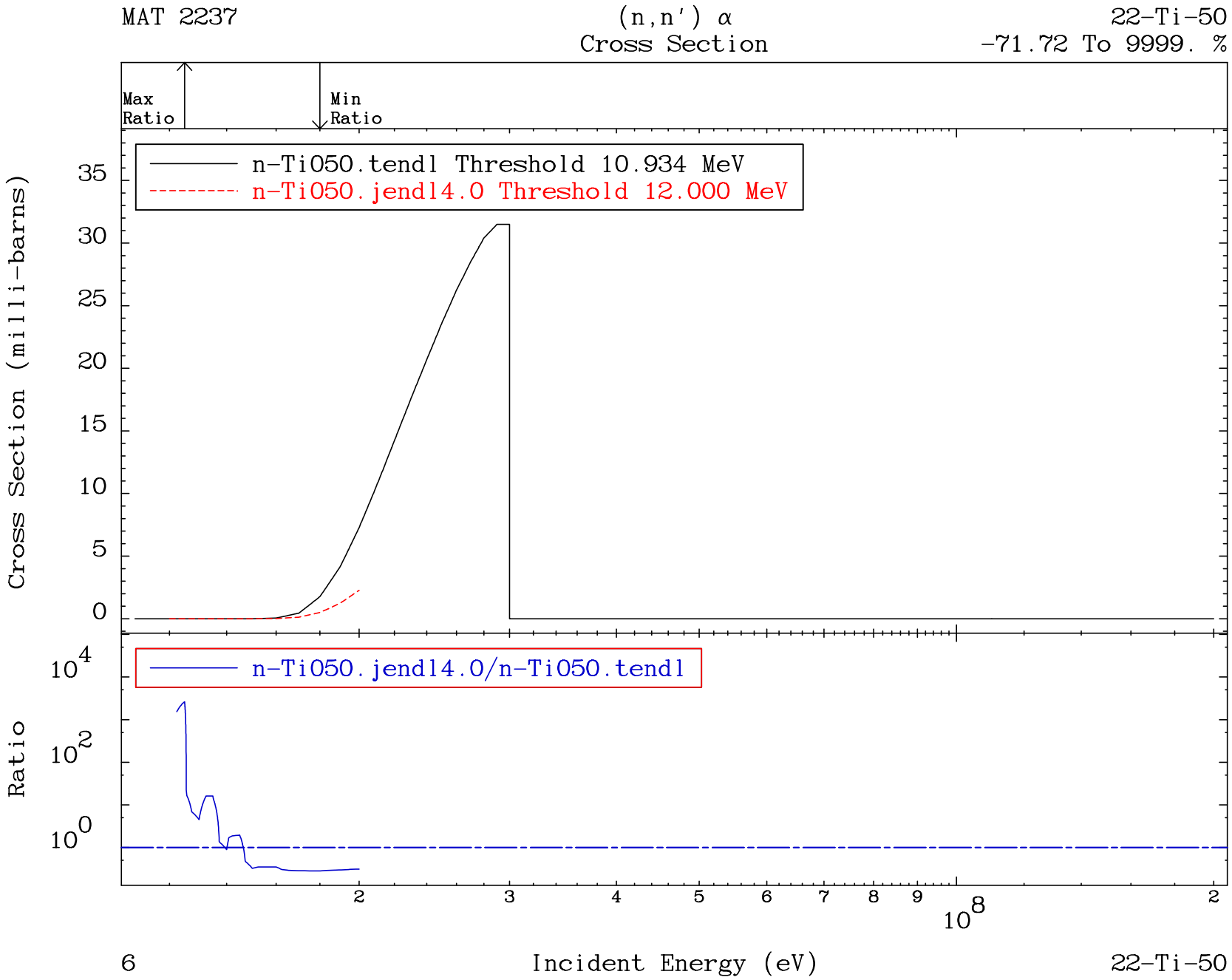

MAT 2237
Total
Cross Section
22-Ti-50
-98.89 To 3928. %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
1
22-Ti-50

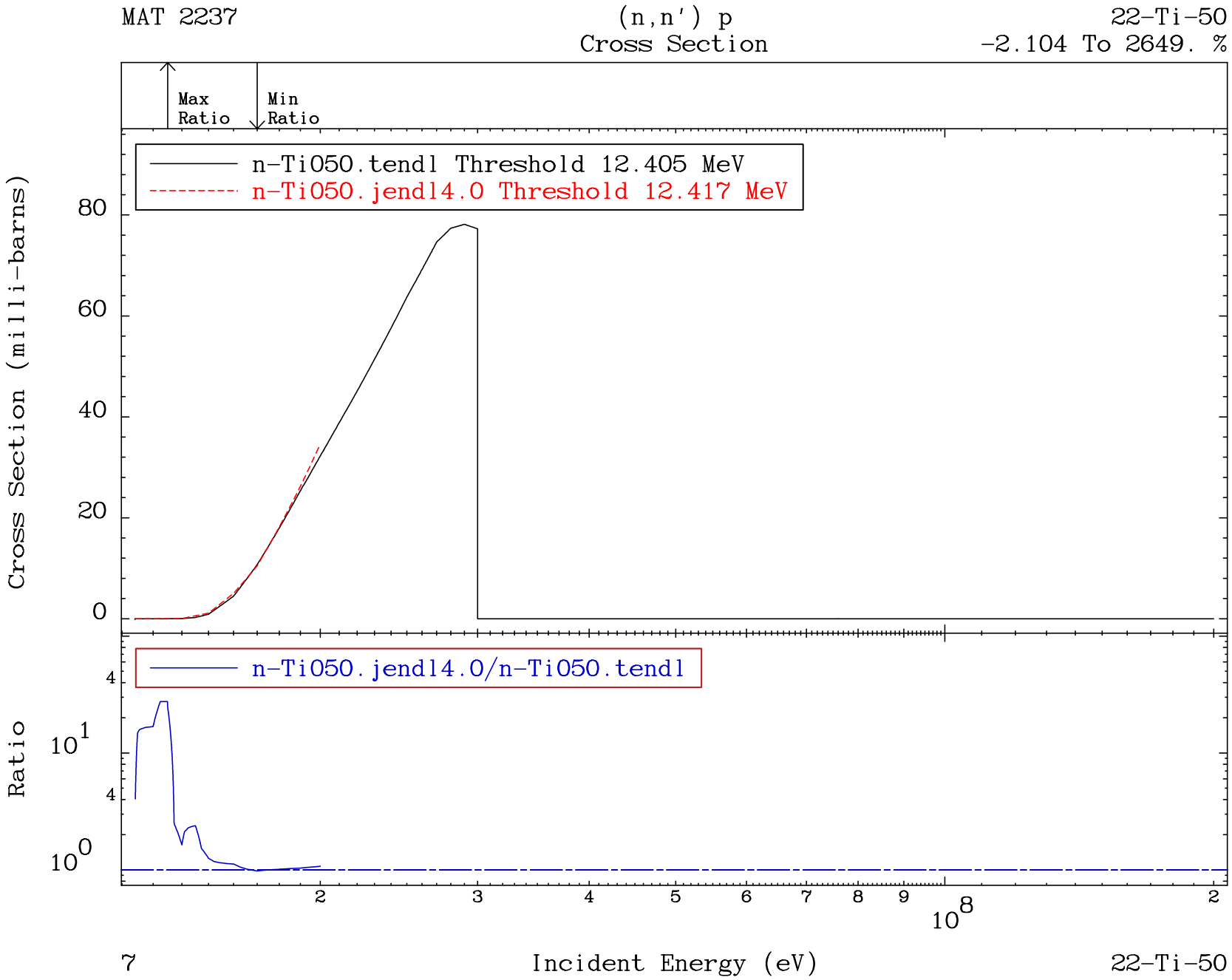

MAT 2237
Elastic
Cross Section
22-Ti-50
-99.66 To 5883. %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
2
22-Ti-50

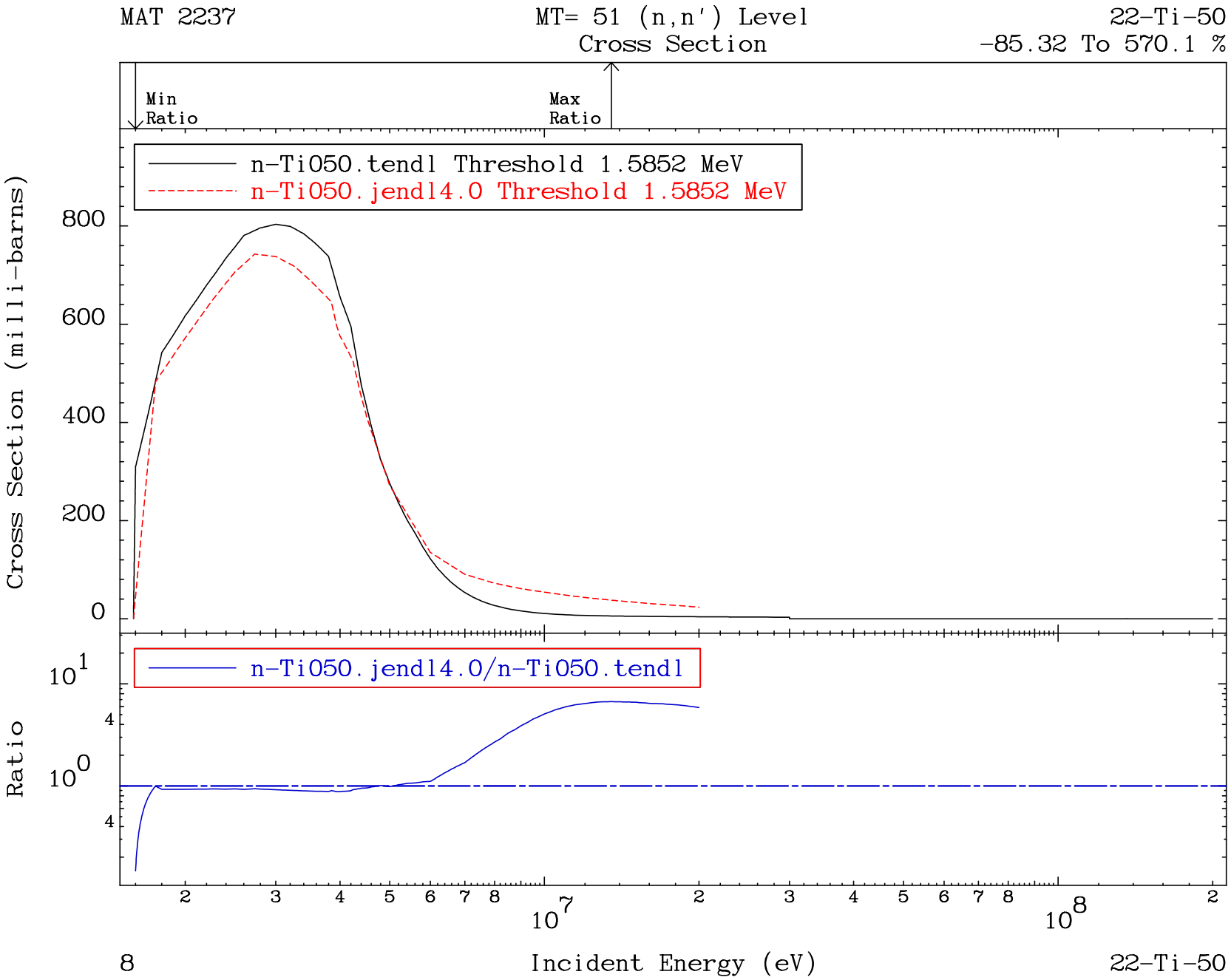

MAT 2237
Inelastic
Cross Section
22-Ti-50
-85.32 To 19.21 %
Min
Ratio
Max
Ratio
n-Ti050.tendl Threshold 1.5852 MeV
n-Ti050.jendl4.0 Threshold 1.5852 MeV
Cross Section (barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
3
Incident Energy (eV)
22-Ti-50

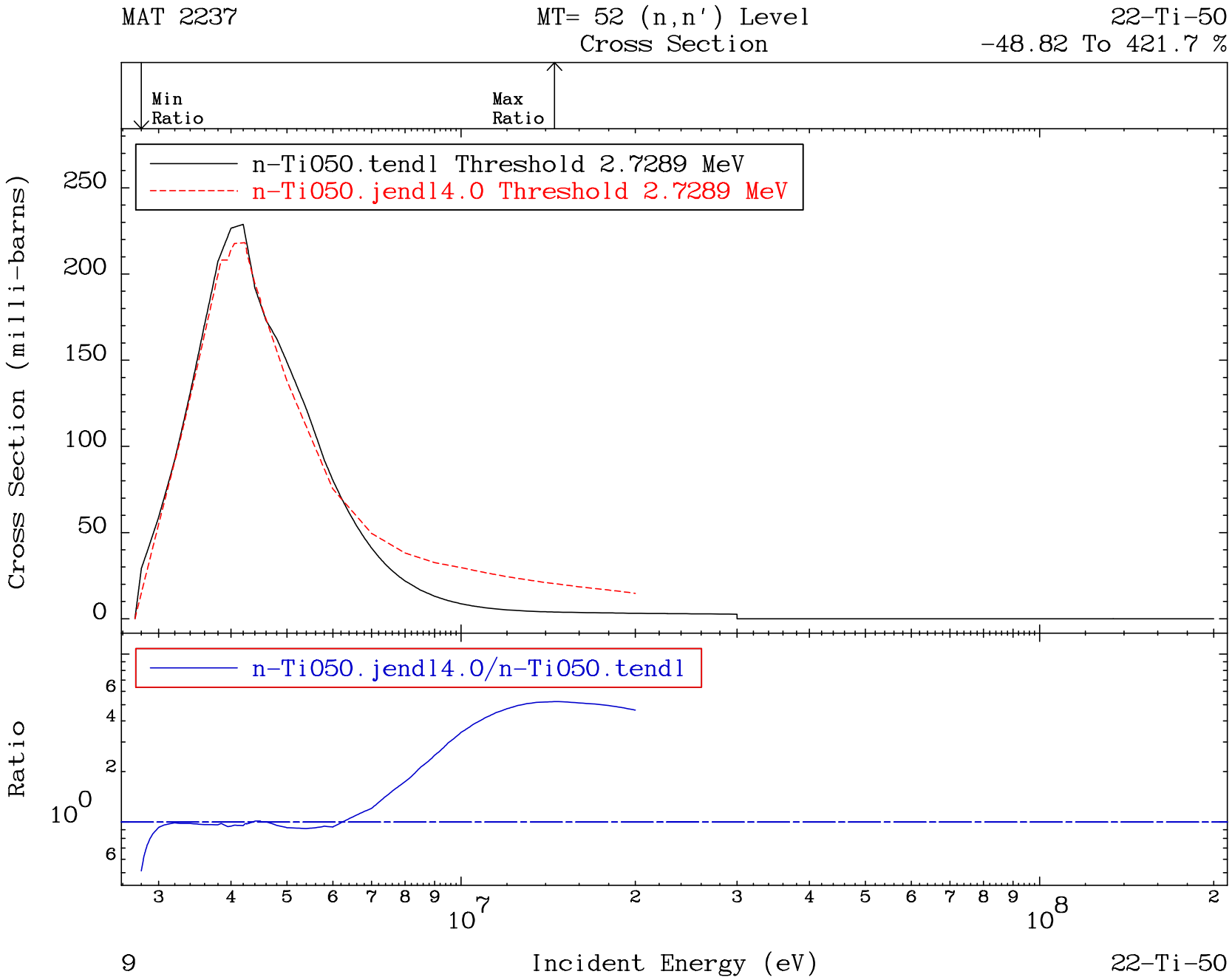

MAT 2237
(n,2n)
Cross Section
22-Ti-50
19.43 To 50.99 %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 11.160 MeV
n-Ti050.jendl4.0 Threshold 11.169 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
1.6
1.4
1.2
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
22-Ti-50

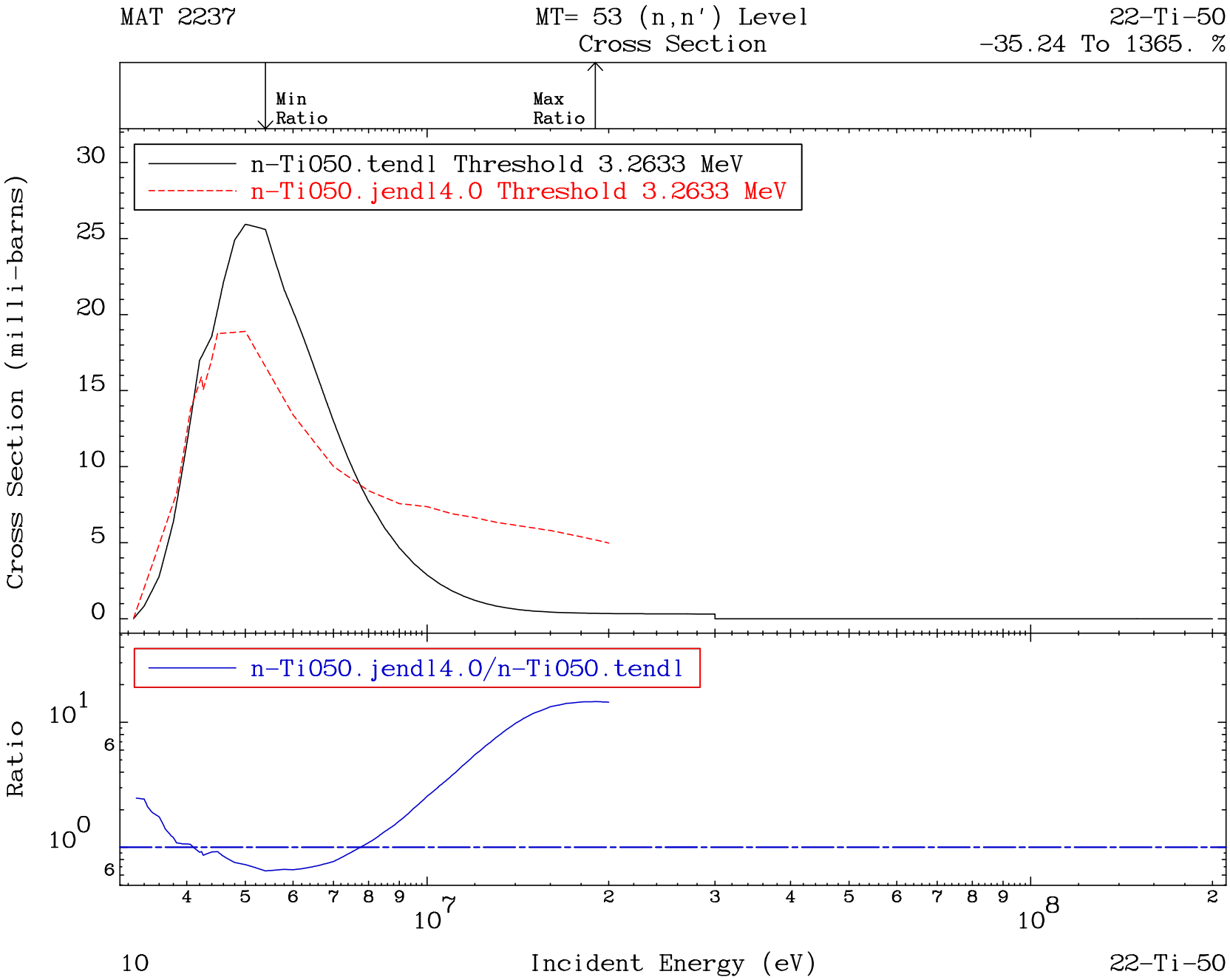

MAT 2237
(n,3n)
Cross Section
22-Ti-50
22.27 To 23.28 %
Max
Ratio
n-Ti050.tendl Threshold 19.467 MeV
n-Ti050.jendl4.0 Threshold 19.477 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
1.24
1.23
1.22
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
22-Ti-50

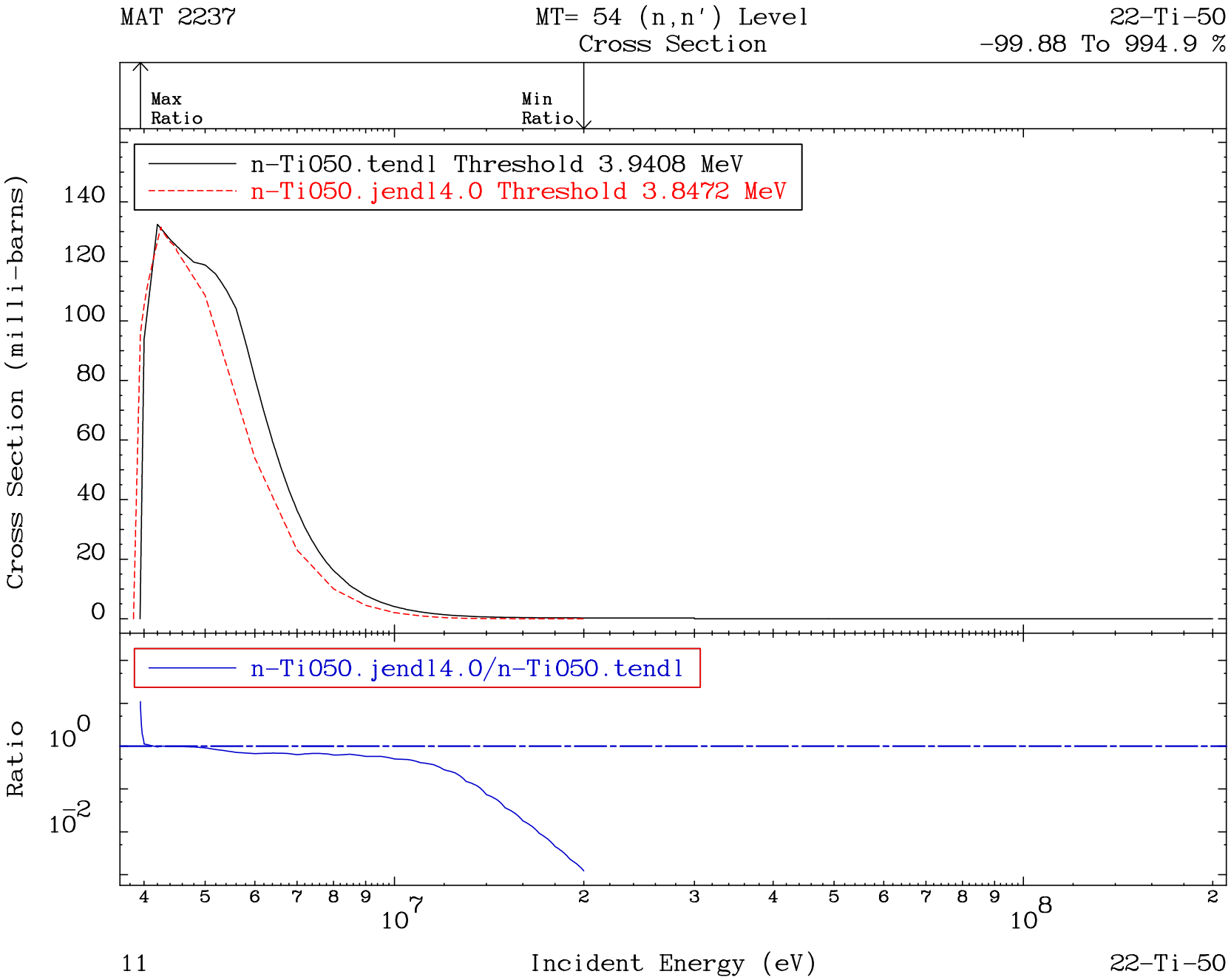

MAT 2237
(n,n') α
Cross Section
22-Ti-50
-71.72 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 10.934 MeV
n-Ti050.jendl4.0 Threshold 12.000 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
22-Ti-50

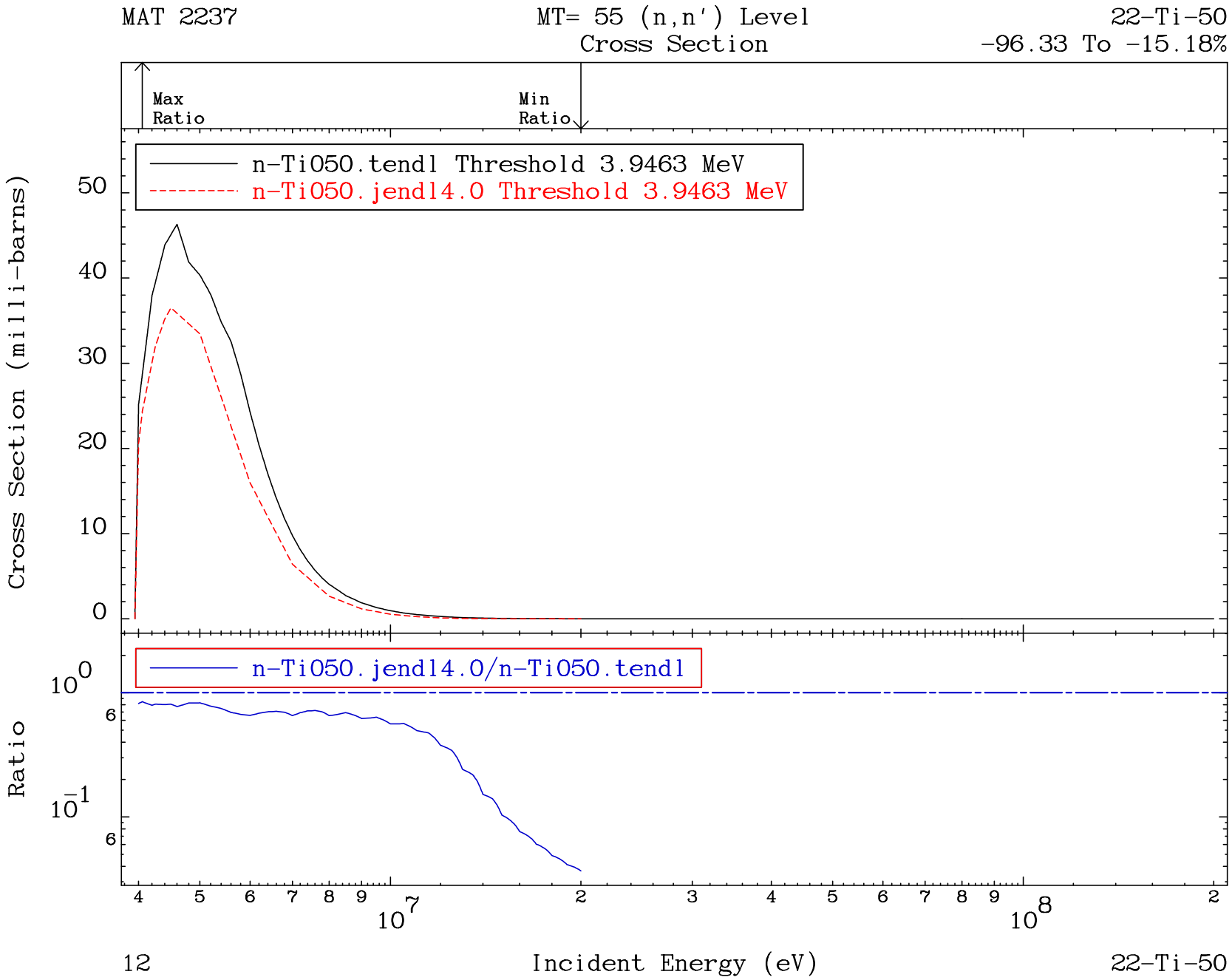

MAT 2237
(n,n') p
Cross Section
22-Ti-50
-2.104 To 2649. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 12.405 MeV
n-Ti050.jendl4.0 Threshold 12.417 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
4
10^1
4
10^0
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
22-Ti-50

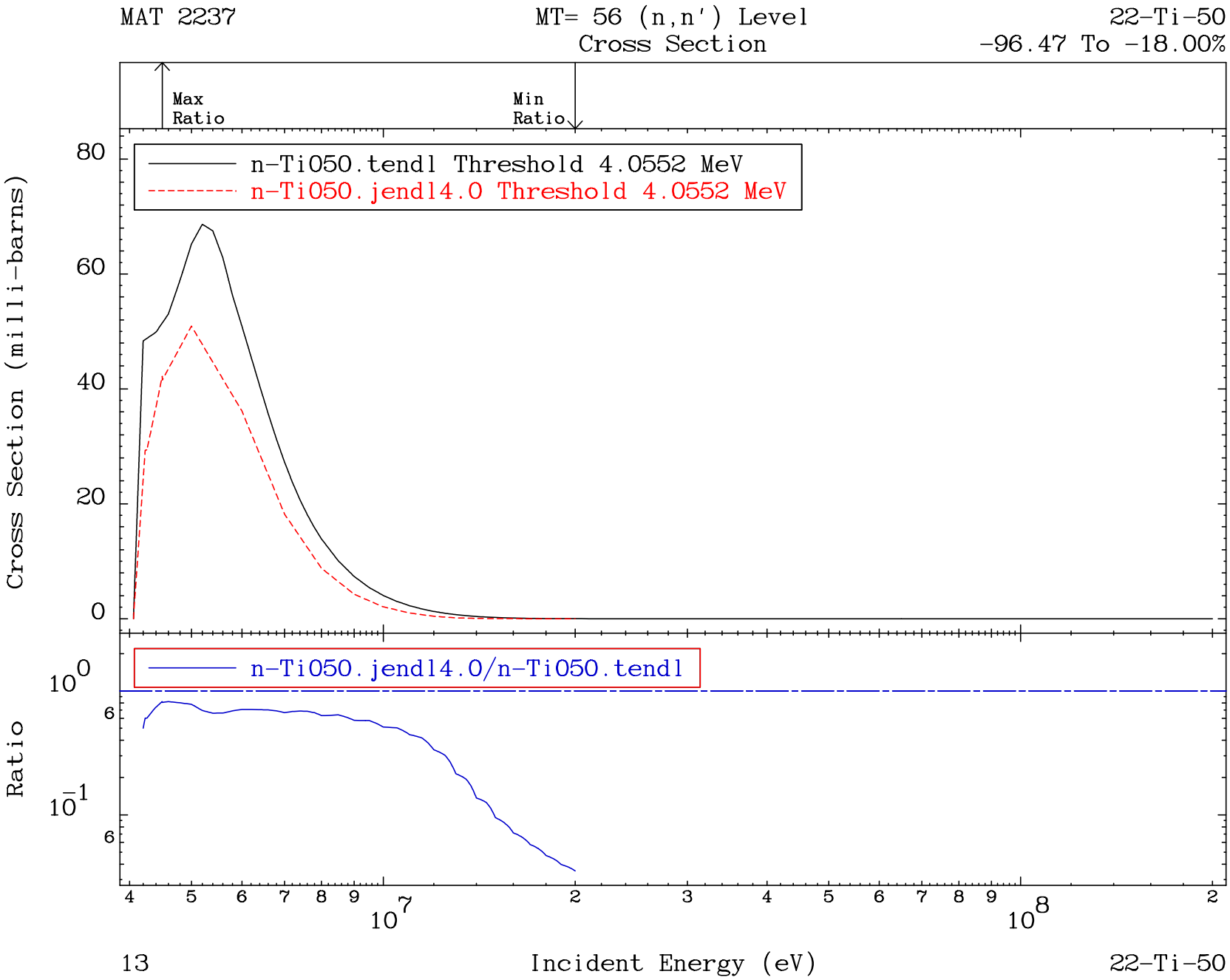

MAT 2237
MT= 51 (n,n') Level
Cross Section
22-Ti-50
-85.32 To 570.1 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 1.5852 MeV
n-Ti050.jendl4.0 Threshold 1.5852 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^1
10^0
4
4
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
22-Ti-50

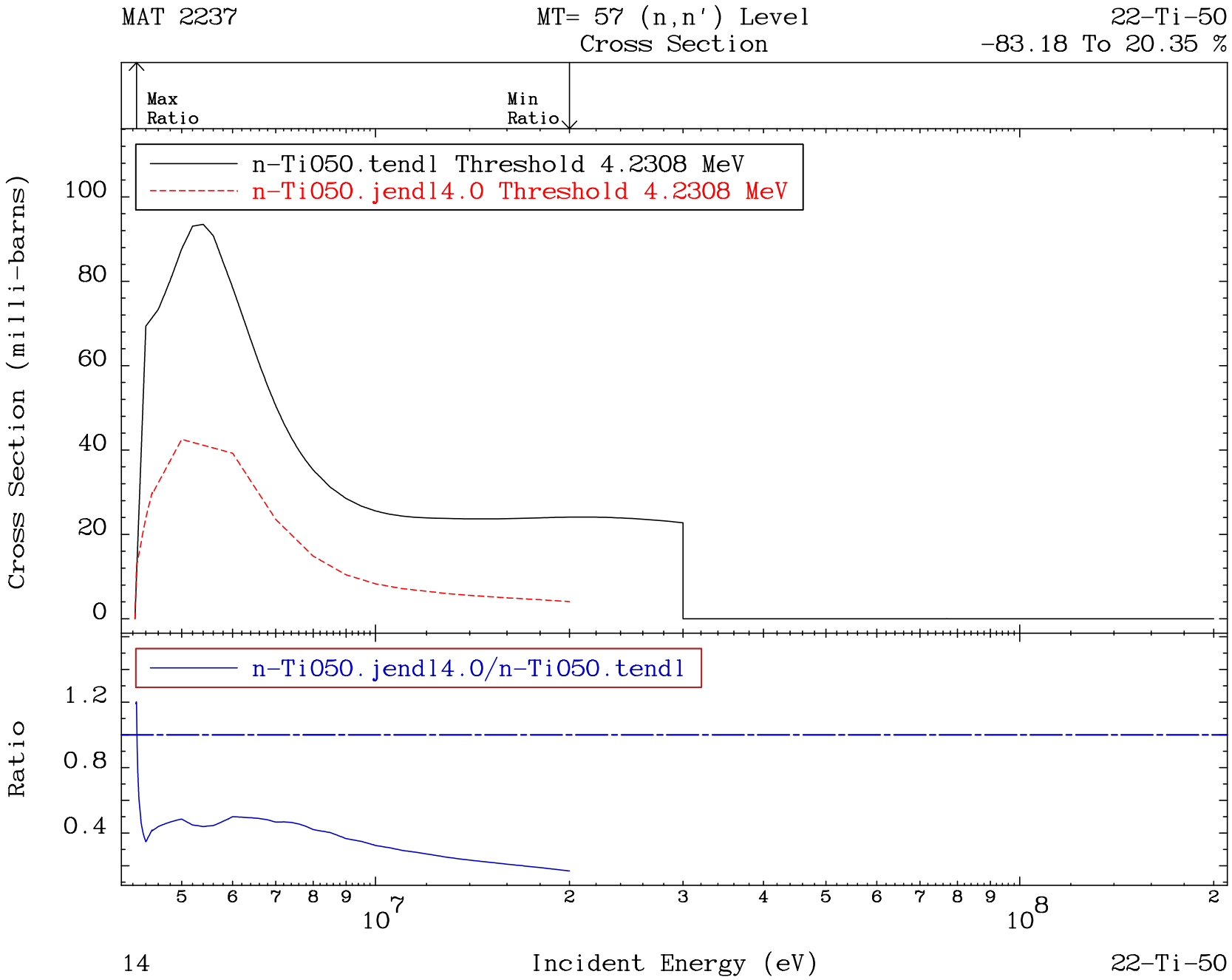

MAT 2237
MT= 52 (n,n') Level
Cross Section
22-Ti-50
-48.82 To 421.7 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 2.7289 MeV
n-Ti050.jendl4.0 Threshold 2.7289 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
6
4
2
10^0
6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
9
Incident Energy (eV)
22-Ti-50

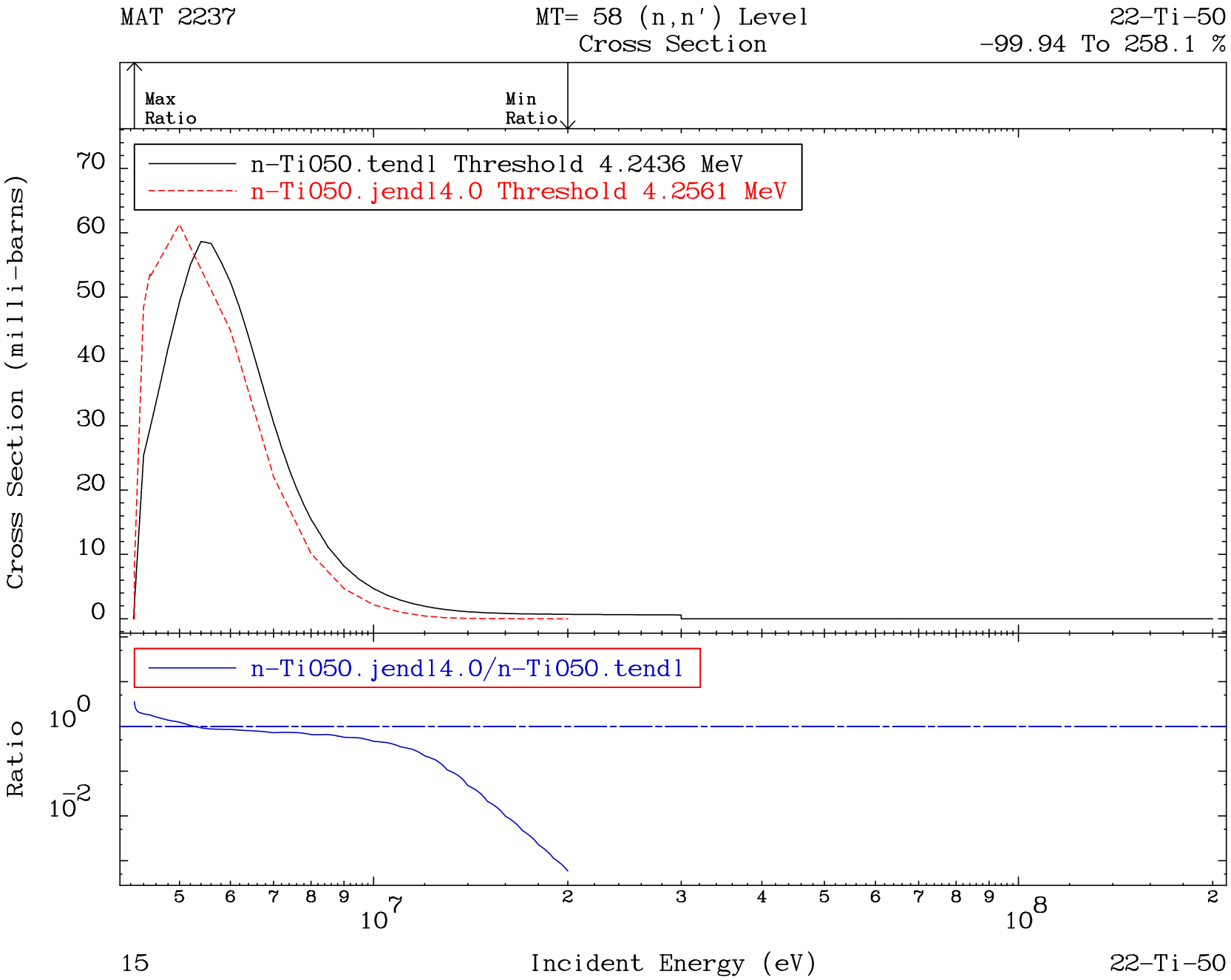

MAT 2237
MT= 53 (n,n') Level
Cross Section
22-Ti-50
-35.24 To 1365. %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 3.2633 MeV
n-Ti050.jendl4.0 Threshold 3.2633 MeV
Cross Section (milli-barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
10
22-Ti-50

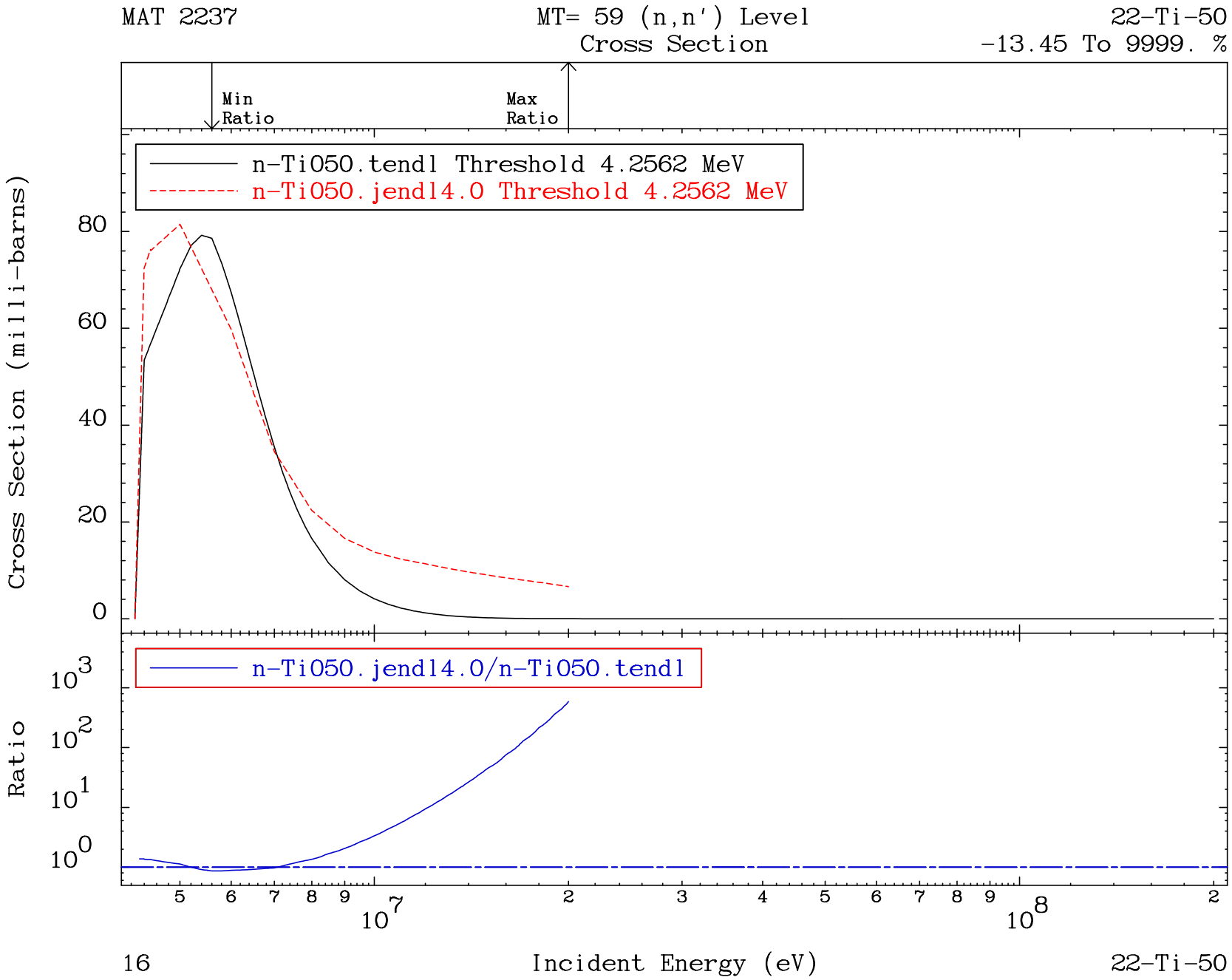

MAT 2237
MT= 54 (n,n') Level
Cross Section
22-Ti-50
-99.88 To 994.9 %
Max
Ratio
Min
Ratio
n-Ti050.tendl Threshold 3.9408 MeV
n-Ti050.jendl4.0 Threshold 3.8472 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
10^-2
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
11
Incident Energy (eV)
22-Ti-50

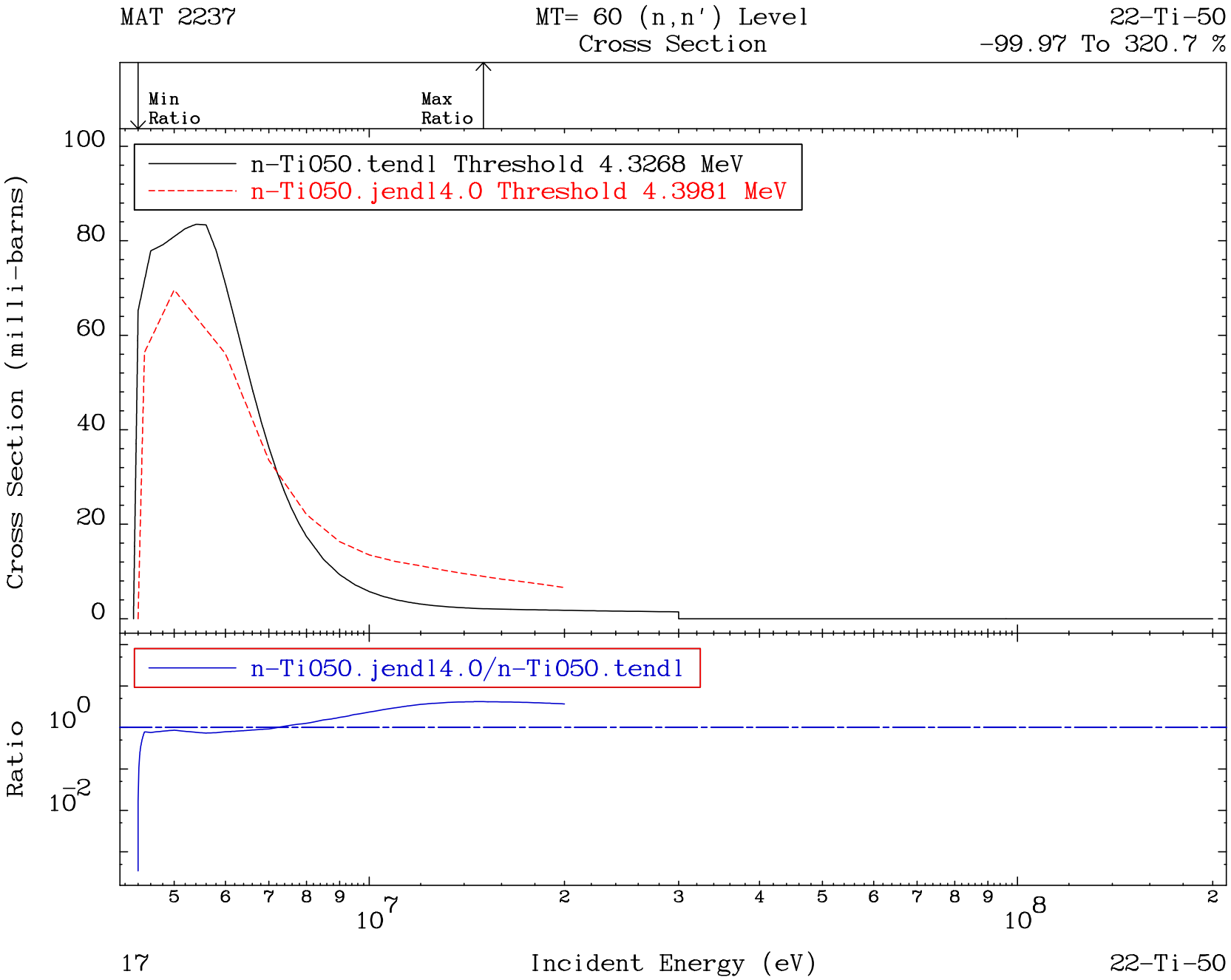

MAT 2237
MT= 55 (n,n') Level
Cross Section
22-Ti-50
-96.33 To -15.18%
Max
Ratio
Min
Ratio
n-Ti050.tendl Threshold 3.9463 MeV
n-Ti050.jendl4.0 Threshold 3.9463 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
6
10^-1
6
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
22-Ti-50

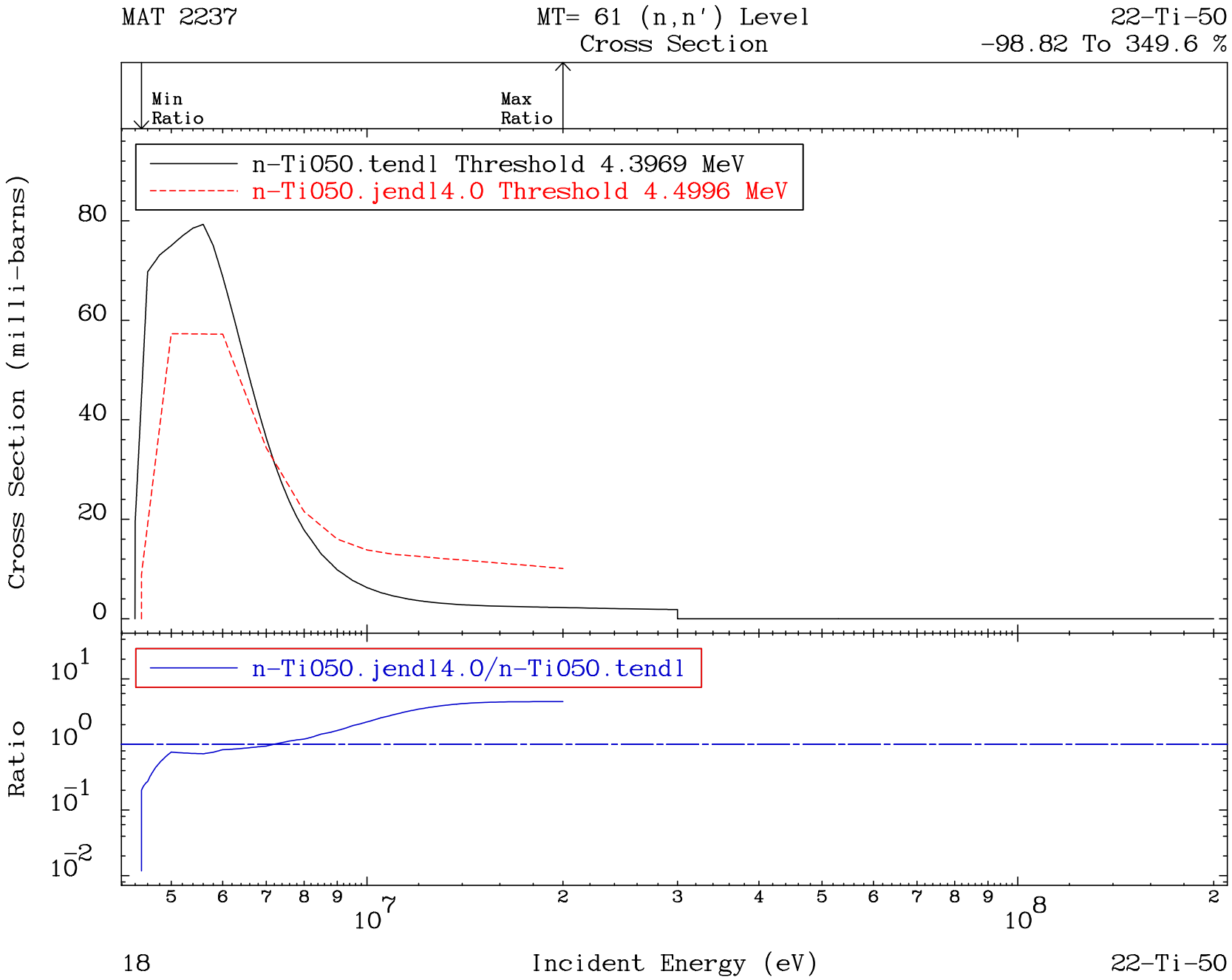

MAT 2237
MT= 56 (n,n') Level
Cross Section
22-Ti-50
-96.47 To -18.00%
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 4.0552 MeV
n-Ti050.jendl4.0 Threshold 4.0552 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
10^-1
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
22-Ti-50

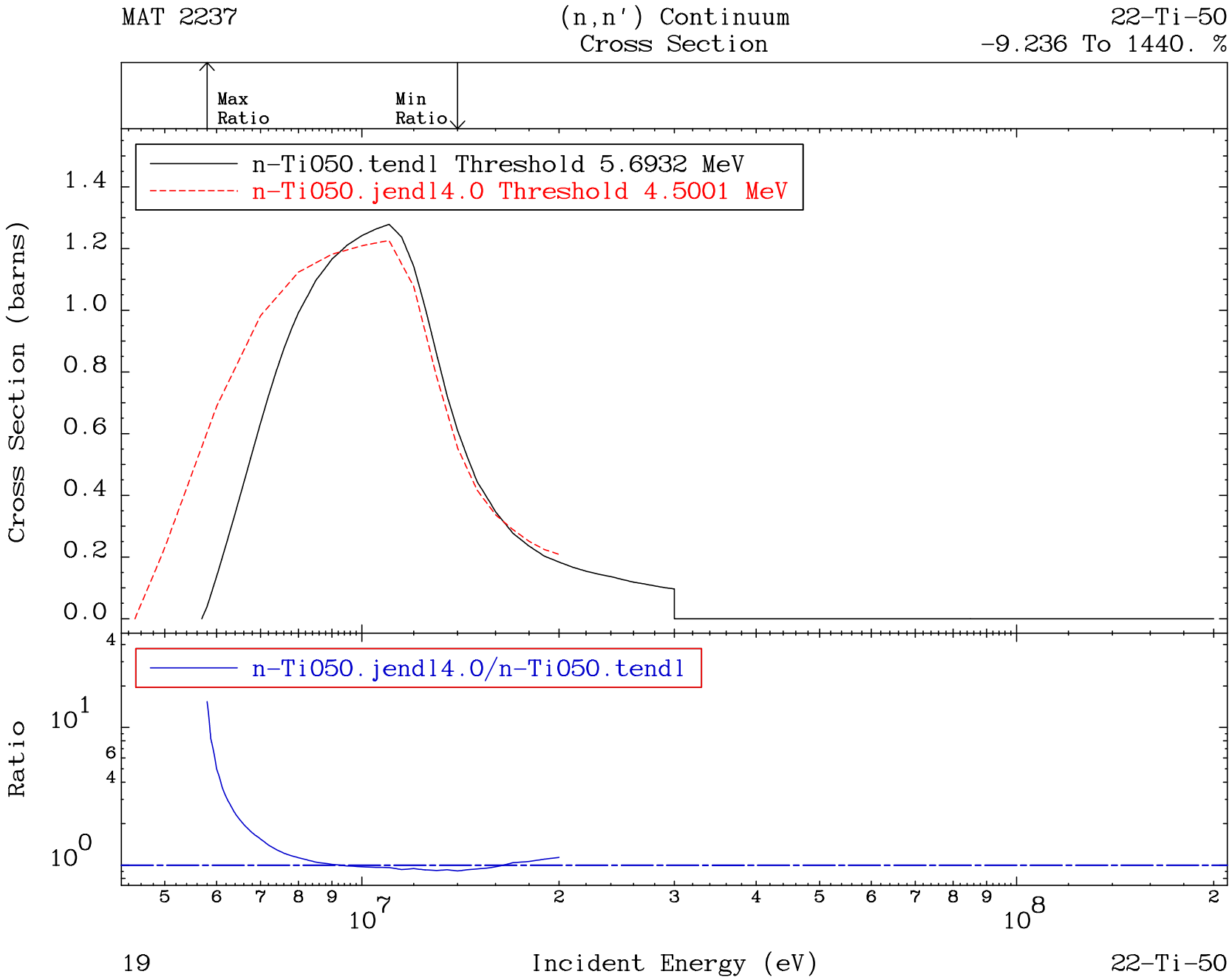

MAT 2237
MT= 57 (n,n') Level
Cross Section
22-Ti-50
-83.18 To 20.35 %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 4.2308 MeV
n-Ti050.jendl4.0 Threshold 4.2308 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
1.2
0.8
0.4
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
14
Incident Energy (eV)
22-Ti-50

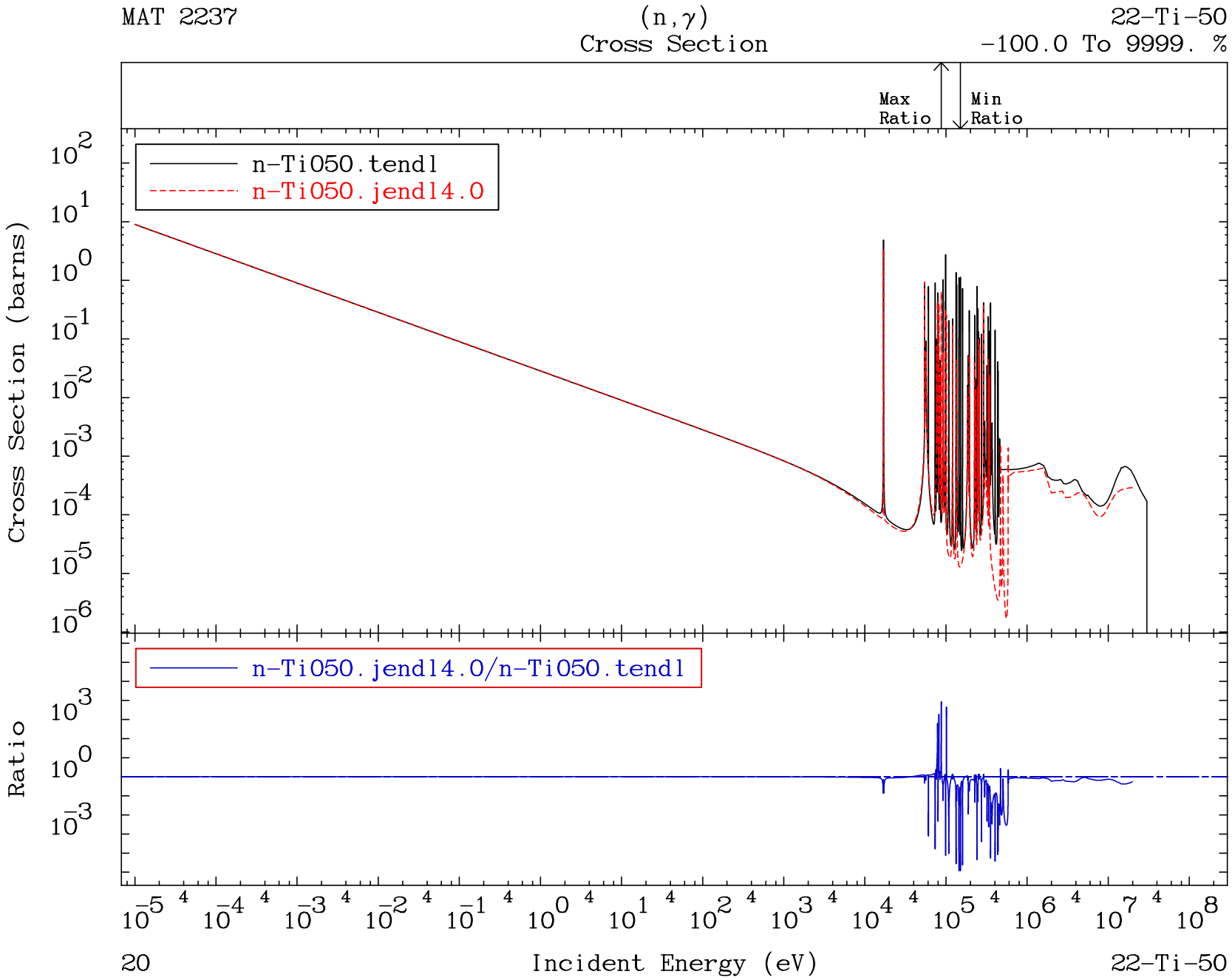

MAT 2237
MT= 58 (n,n') Level
Cross Section
22-Ti-50
-99.94 To 258.1 %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 4.2436 MeV
n-Ti050.jendl4.0 Threshold 4.2561 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
10^-2
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
22-Ti-50

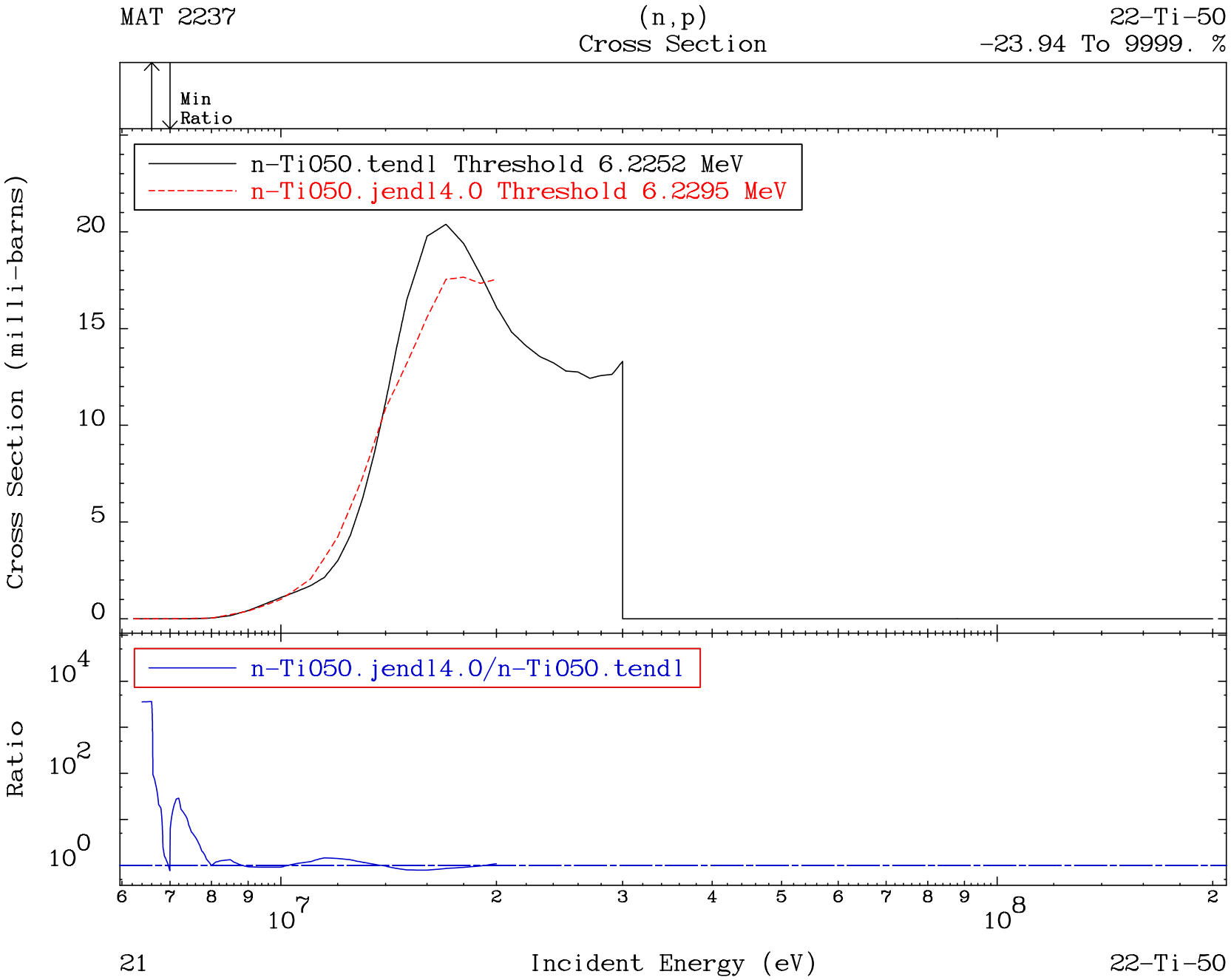

MAT 2237
MT= 59 (n,n') Level
Cross Section
22-Ti-50
-13.45 To 9999. %
Min
Ratio
Max
Ratio
n-Ti050.tendl Threshold 4.2562 MeV
n-Ti050.jendl4.0 Threshold 4.2562 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^3
10^2
10^1
10^0
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
16
Incident Energy (eV)
22-Ti-50

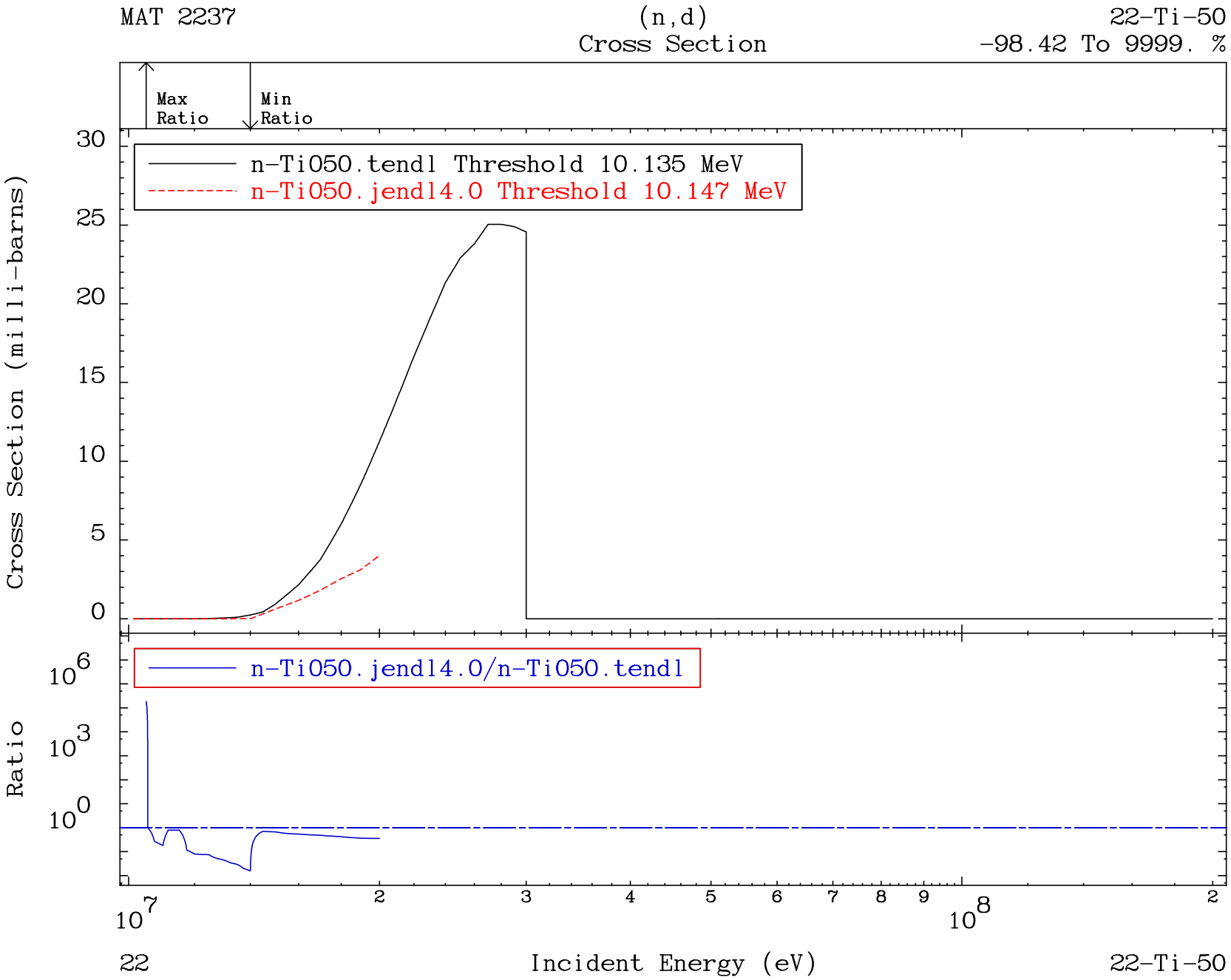

MAT 2237
MT= 60 (n,n') Level
Cross Section
22-Ti-50
-99.97 To 320.7 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 4.3268 MeV
n-Ti050.jendl4.0 Threshold 4.3981 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
10^-2
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
17
Incident Energy (eV)
22-Ti-50

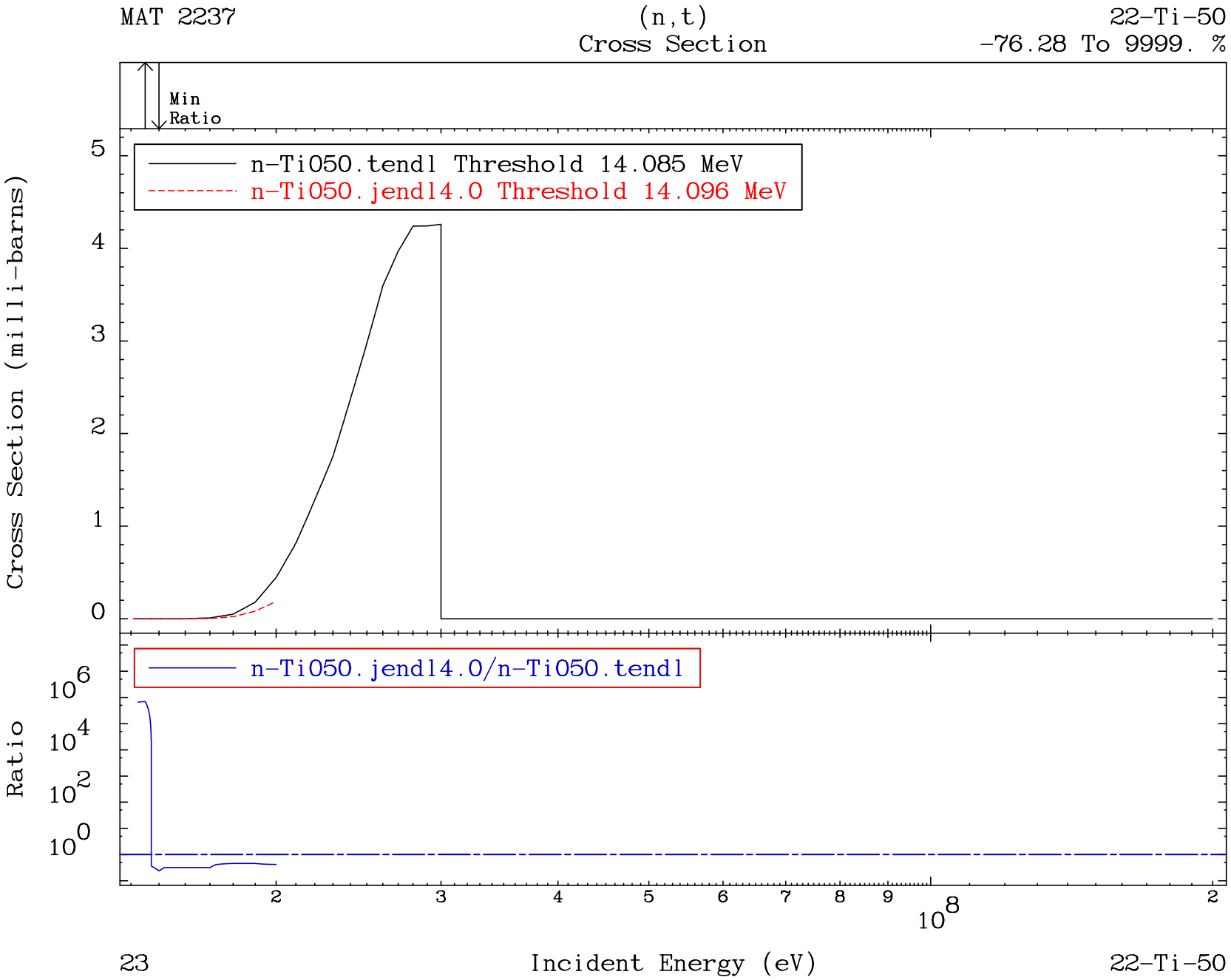

MAT 2237
MT= 61 (n,n') Level
Cross Section
22-Ti-50
-98.82 To 349.6 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 4.3969 MeV
n-Ti050.jendl4.0 Threshold 4.4996 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^1
10^0
10^-1
10^-2
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
18
Incident Energy (eV)
22-Ti-50

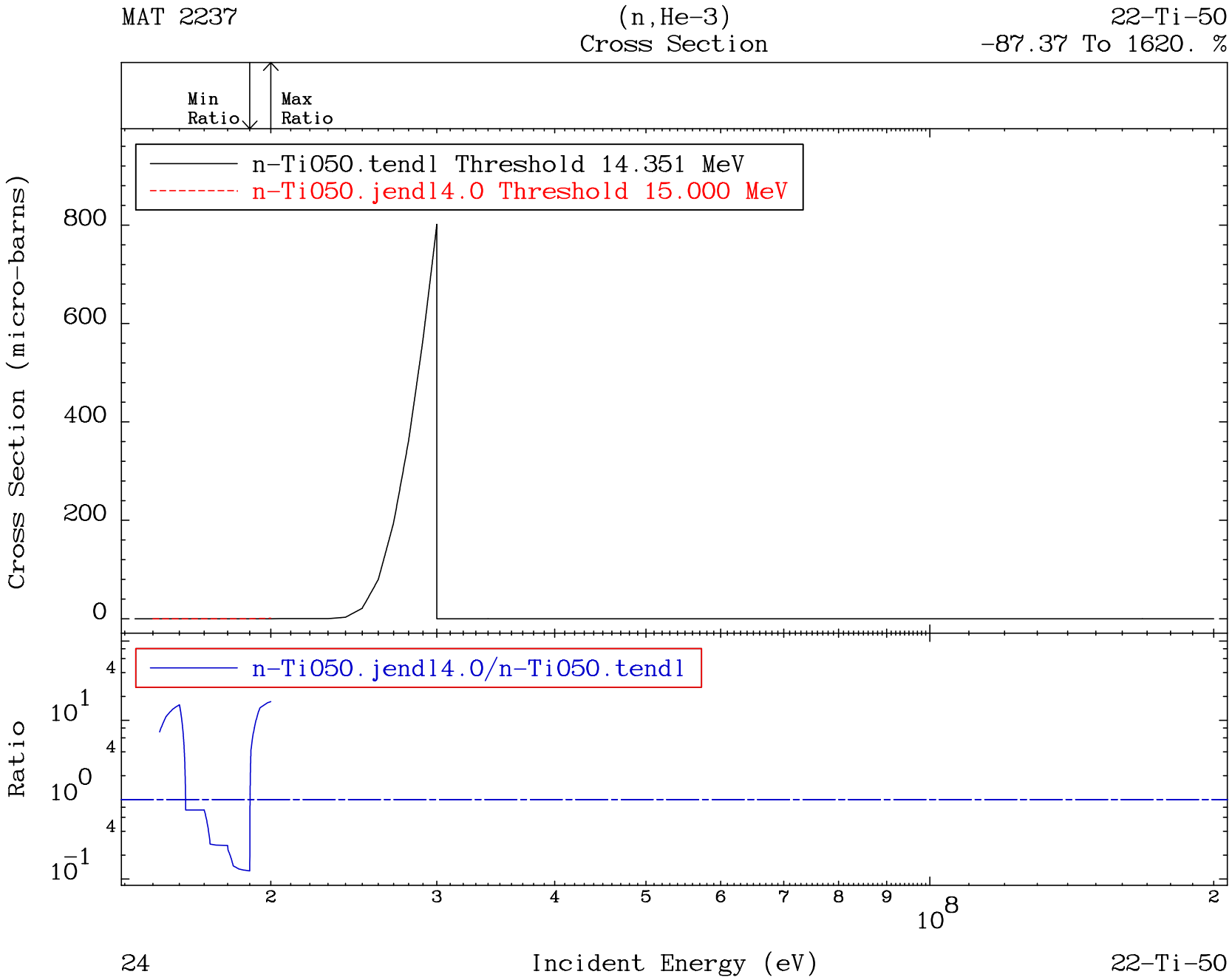

MAT 2237
(n,n') Continuum
Cross Section
22-Ti-50
-9.236 To 1440. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 5.6932 MeV
n-Ti050.jendl4.0 Threshold 4.5001 MeV
Cross Section (barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
4
10^1
6
4
10^0
5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
19
Incident Energy (eV)
22-Ti-50

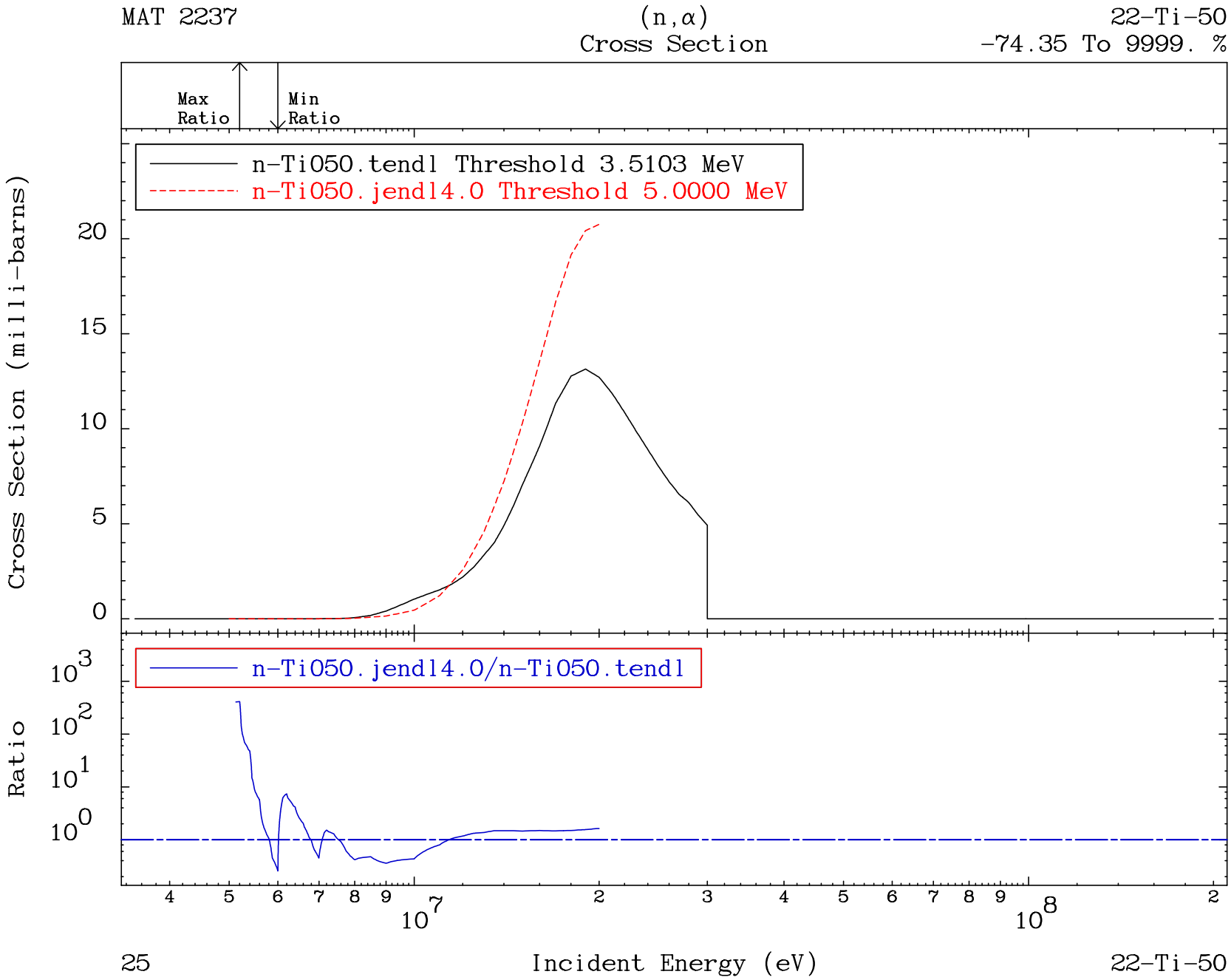

MAT 2237
(n,γ)
Cross Section
22-Ti-50
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
20
22-Ti-50

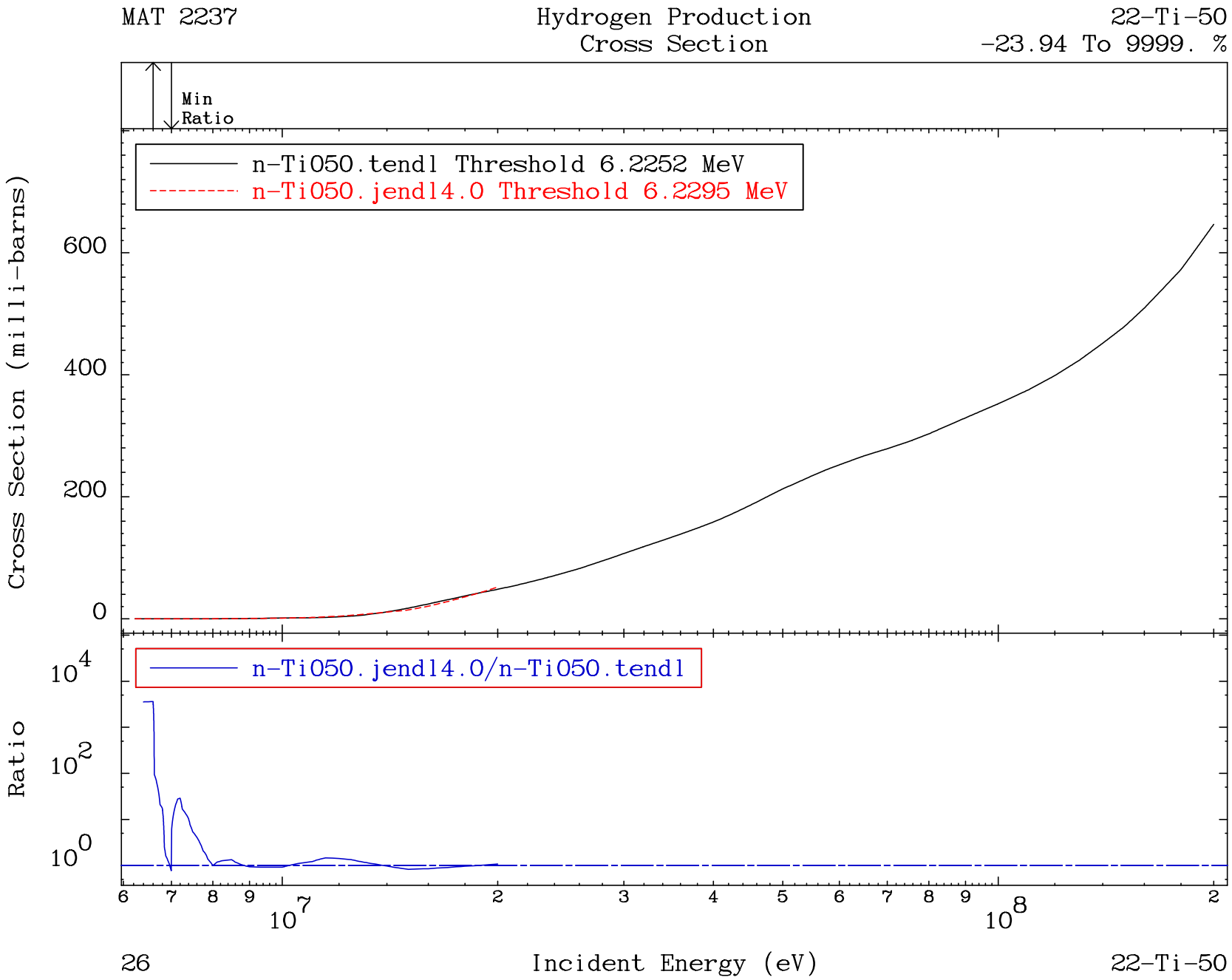

MAT 2237
(n,p)
Cross Section
22-Ti-50
-23.94 To 9999. %
Min
Ratio
n-Ti050.tendl Threshold 6.2252 MeV
n-Ti050.jendl4.0 Threshold 6.2295 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^4
10^2
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
21
Incident Energy (eV)
22-Ti-50

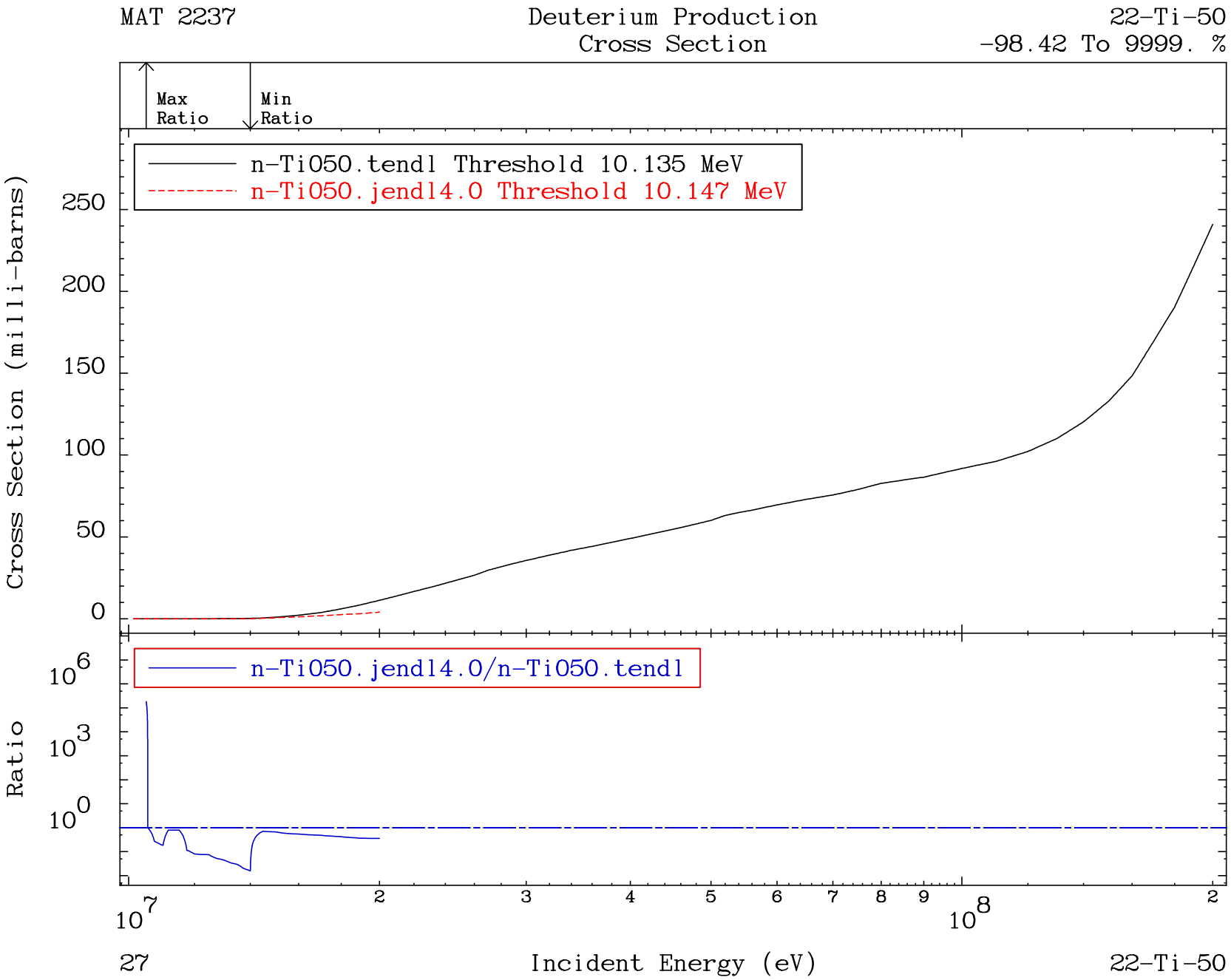

MAT 2237
(n,d)
Cross Section
22-Ti-50
-98.42 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 10.135 MeV
n-Ti050.jendl4.0 Threshold 10.147 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^6
10^3
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
22
Incident Energy (eV)
22-Ti-50

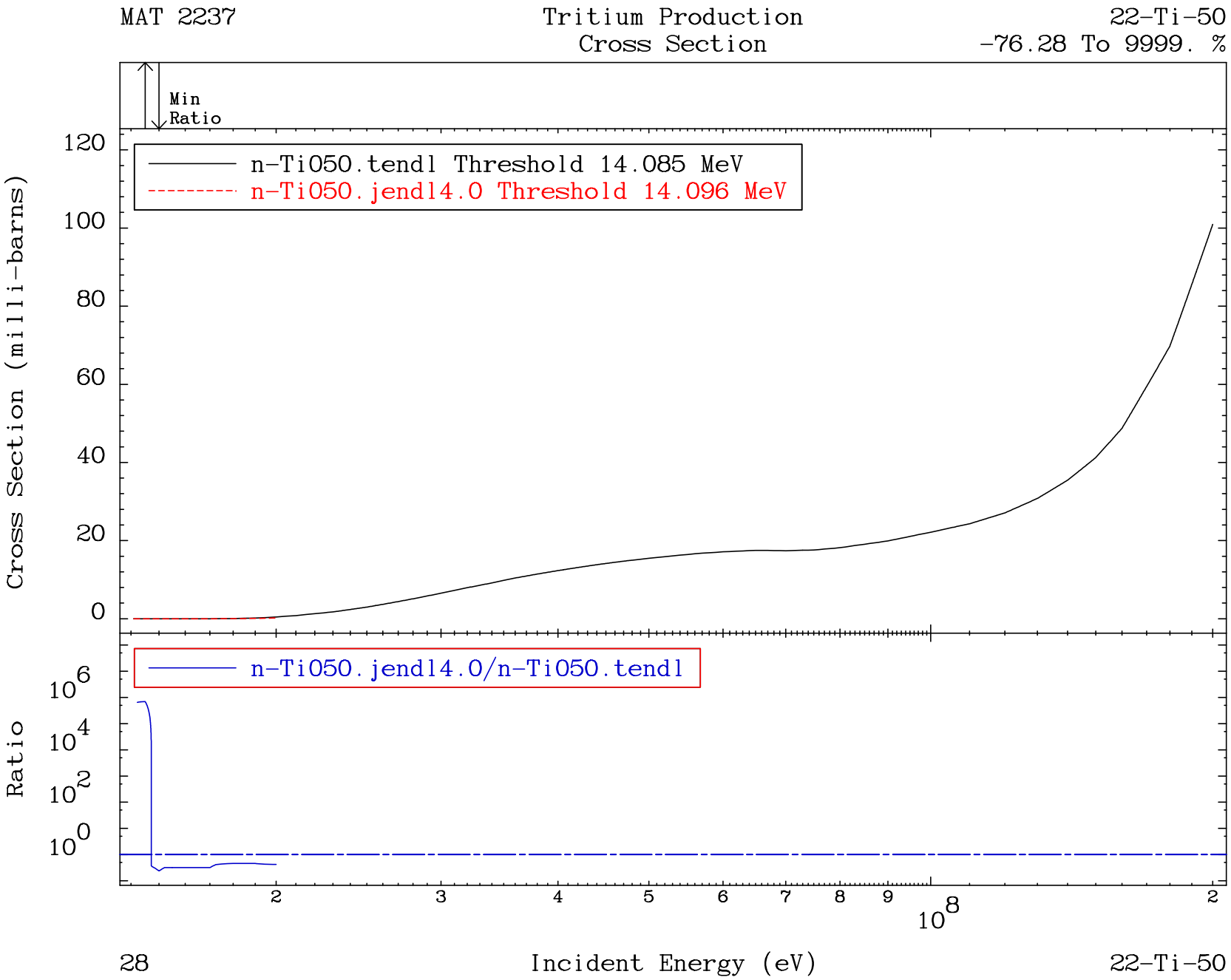

MAT 2237
(n,t)
Cross Section
22-Ti-50
-76.28 To 9999. %
Min
Ratio
n-Ti050.tendl Threshold 14.085 MeV
n-Ti050.jendl4.0 Threshold 14.096 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^6
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
23
Incident Energy (eV)
22-Ti-50

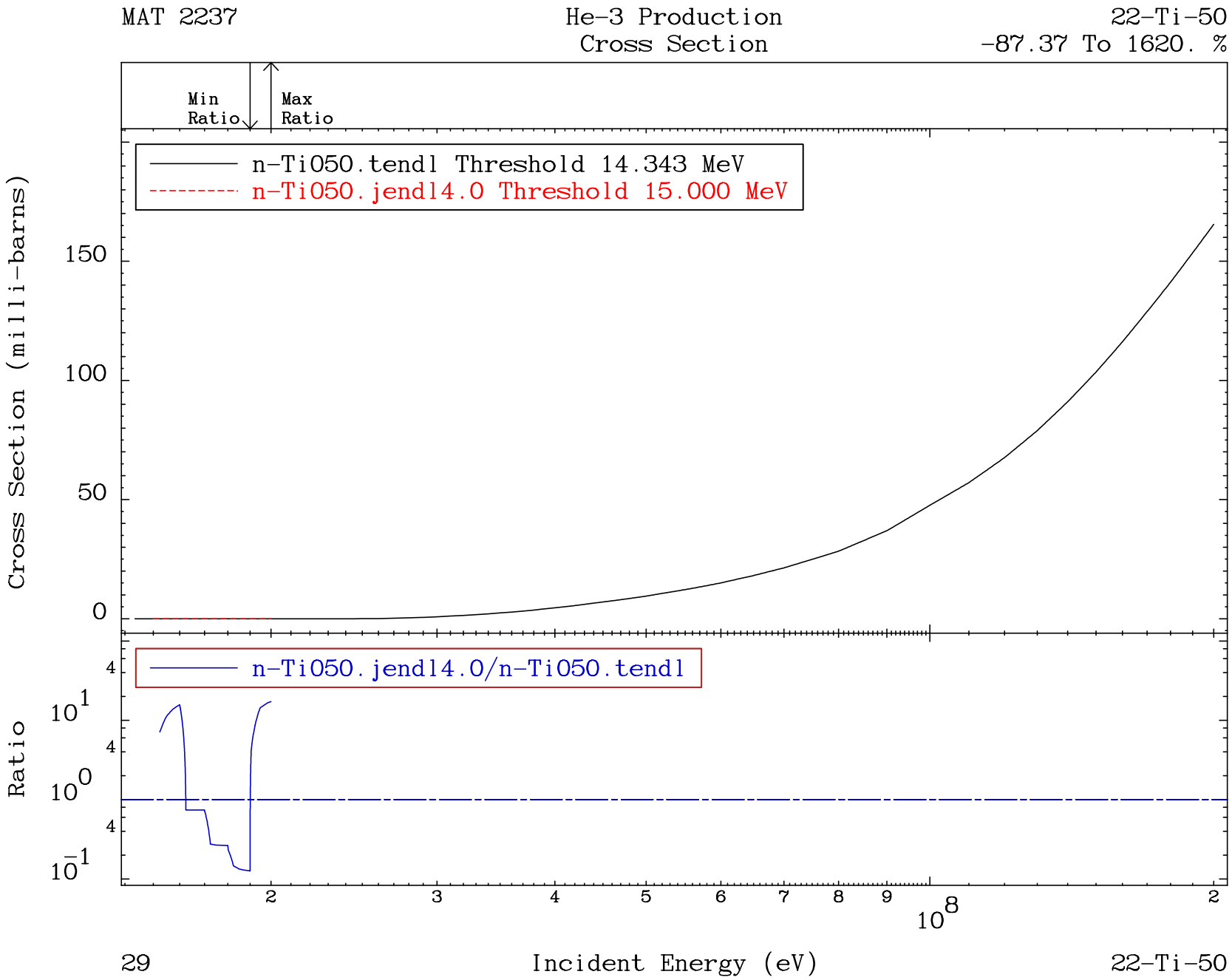

MAT 2237
(n,He-3)
Cross Section
22-Ti-50
-87.37 To 1620. %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 14.351 MeV
n-Ti050.jendl4.0 Threshold 15.000 MeV
Cross Section (micro-barns)
800
600
400
200
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^{1}
10^{0}
10^{-1}
2
3
4
5
6
7
8
9
10^{8}
24
Incident Energy (eV)
22-Ti-50

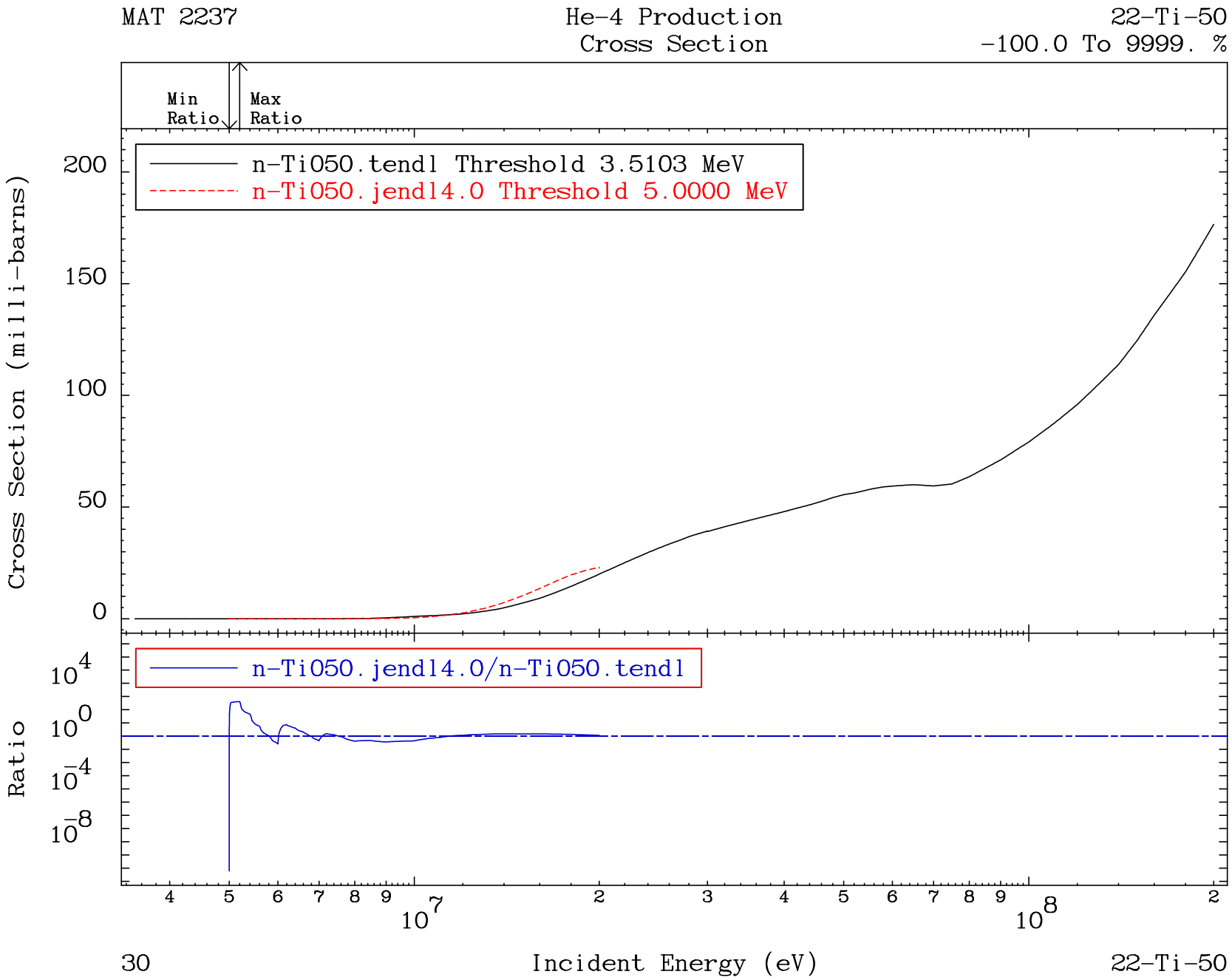

MAT 2237
(n,α)
Cross Section
22-Ti-50
-74.35 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 3.5103 MeV
n-Ti050.jendl4.0 Threshold 5.0000 MeV
Cross Section (milli-barns)
0
5
10
15
20
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^0
10^1
10^2
10^3
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
25
Incident Energy (eV)
22-Ti-50

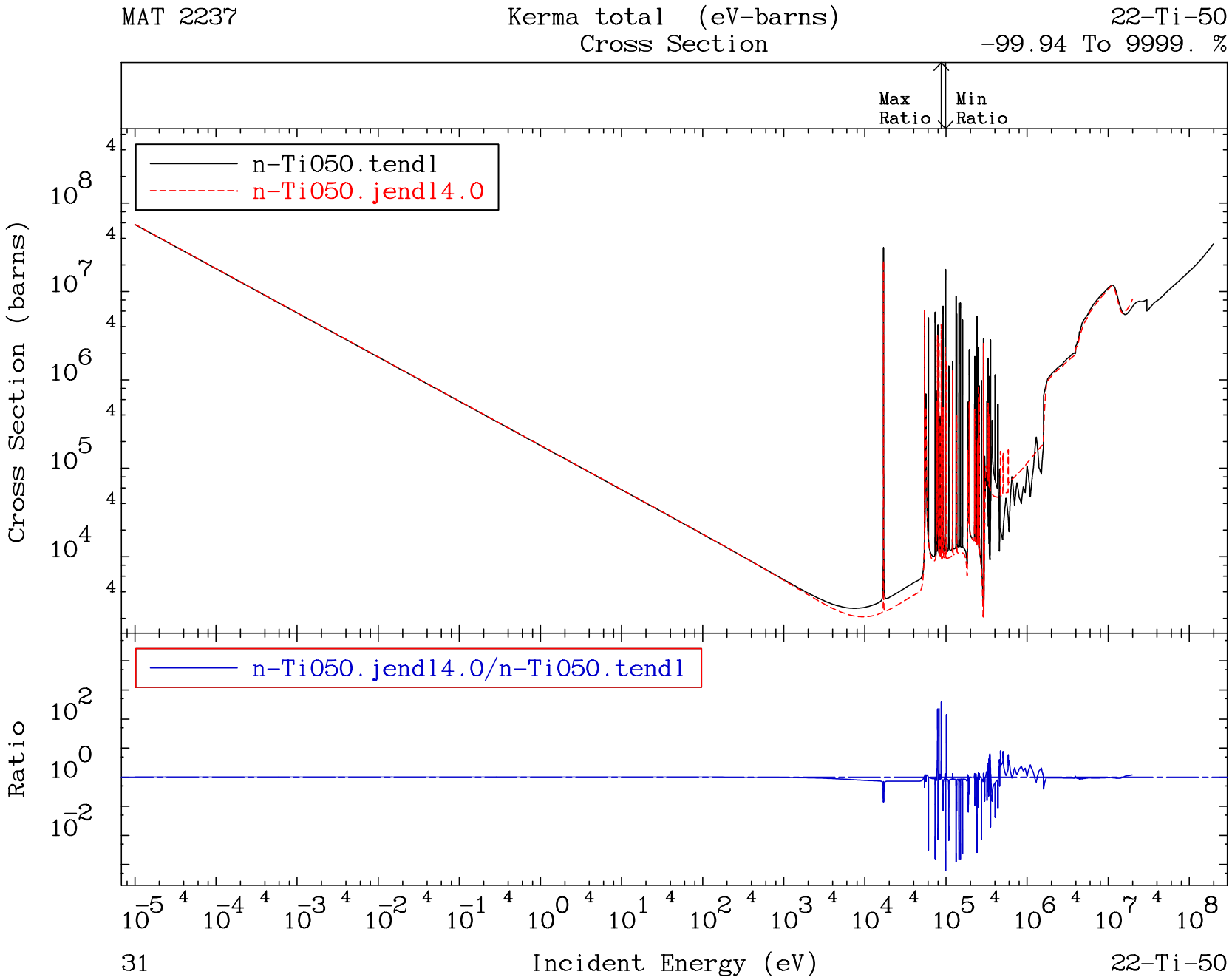

MAT 2237
Hydrogen Production
Cross Section
22-Ti-50
-23.94 To 9999. %
Min
Ratio
n-Ti050.tendl Threshold 6.2252 MeV
n-Ti050.jendl4.0 Threshold 6.2295 MeV
Cross Section (milli-barns)
600
400
200
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^4
10^2
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
26
Incident Energy (eV)
22-Ti-50

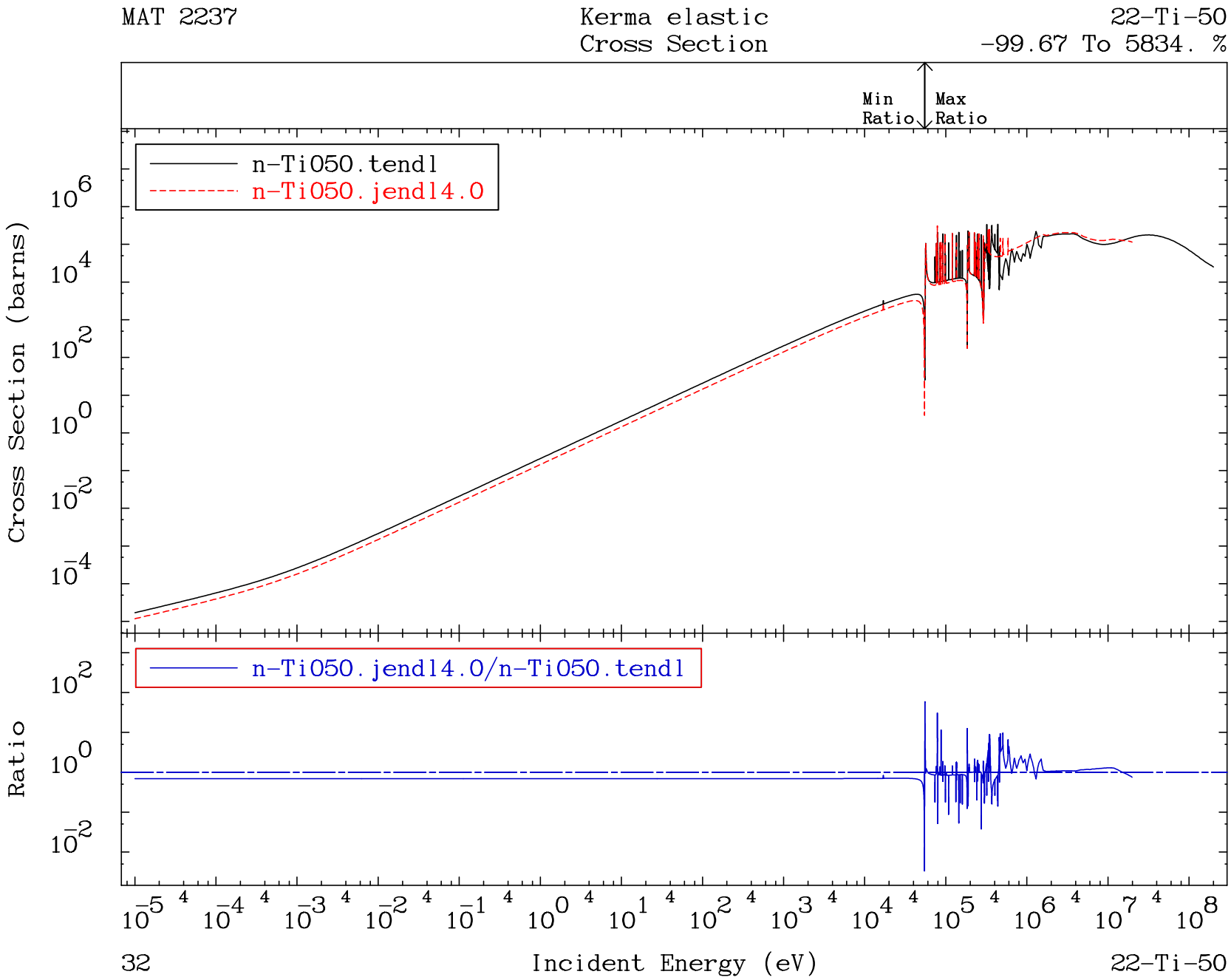

MAT 2237
Deuterium Production
Cross Section
22-Ti-50
-98.42 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl Threshold 10.135 MeV
n-Ti050.jendl4.0 Threshold 10.147 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^6
10^3
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
27
Incident Energy (eV)
22-Ti-50

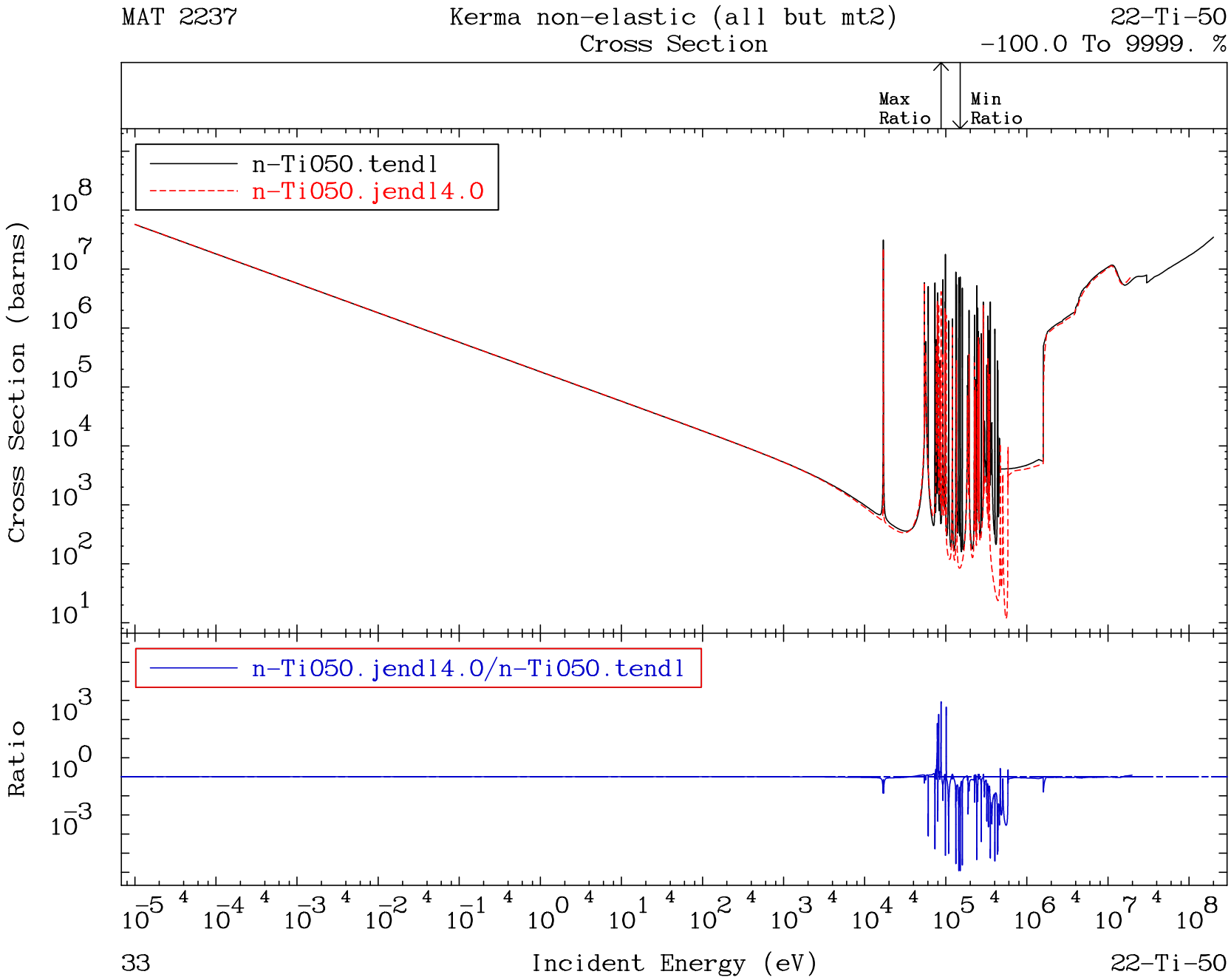

MAT 2237
Tritium Production
Cross Section
22-Ti-50
-76.28 To 9999. %
Min
Ratio
n-Ti050.tendl Threshold 14.085 MeV
n-Ti050.jendl4.0 Threshold 14.096 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^6
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
28
Incident Energy (eV)
22-Ti-50

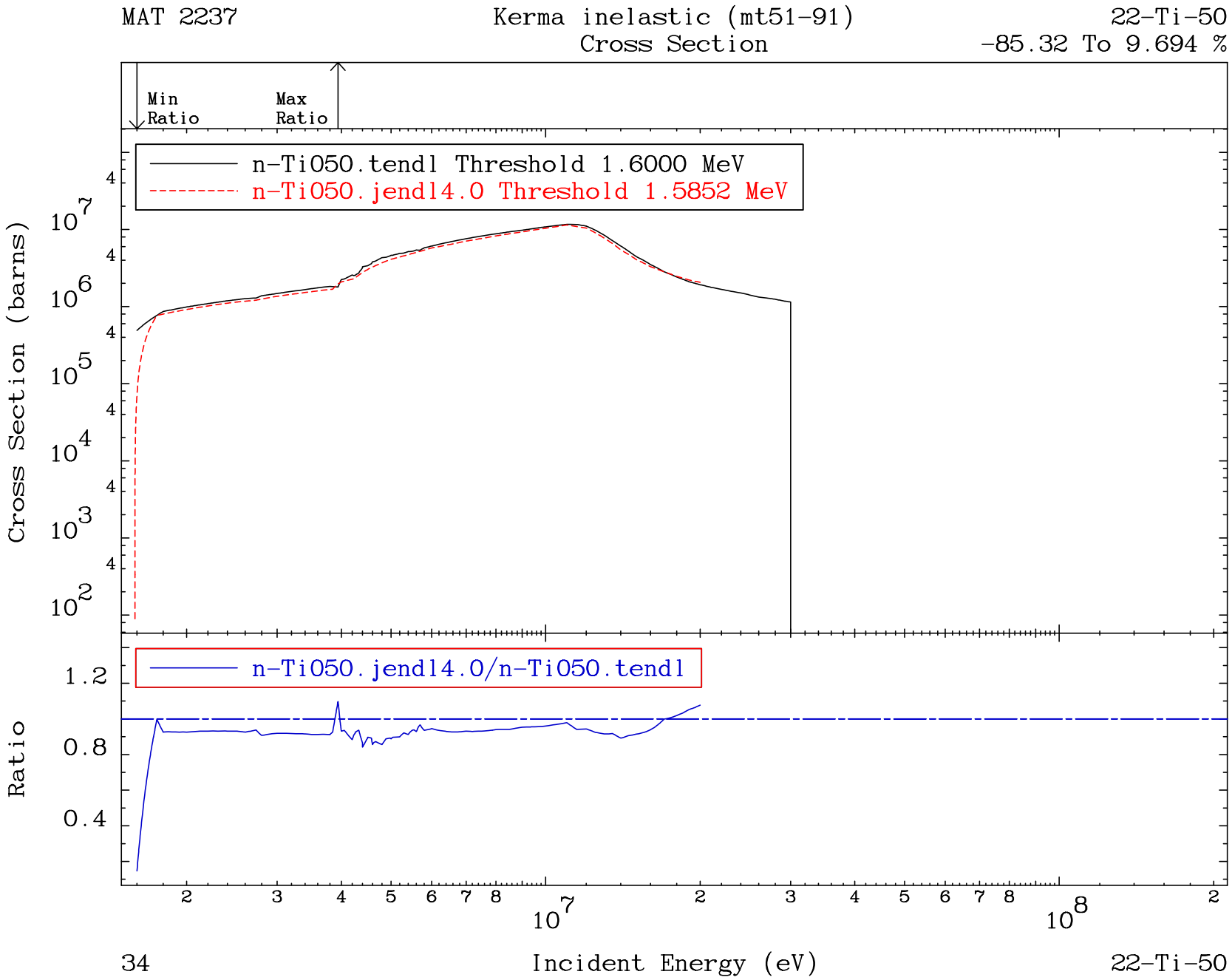

MAT 2237
He-3 Production
Cross Section
22-Ti-50
-87.37 To 1620. %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 14.343 MeV
n-Ti050.jendl4.0 Threshold 15.000 MeV
Cross Section (milli-barns)
150
100
50
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^{1}
10^{0}
10^{-1}
4
2
3
4
5
6
7
8
9
10^{8}
2
29
Incident Energy (eV)
22-Ti-50

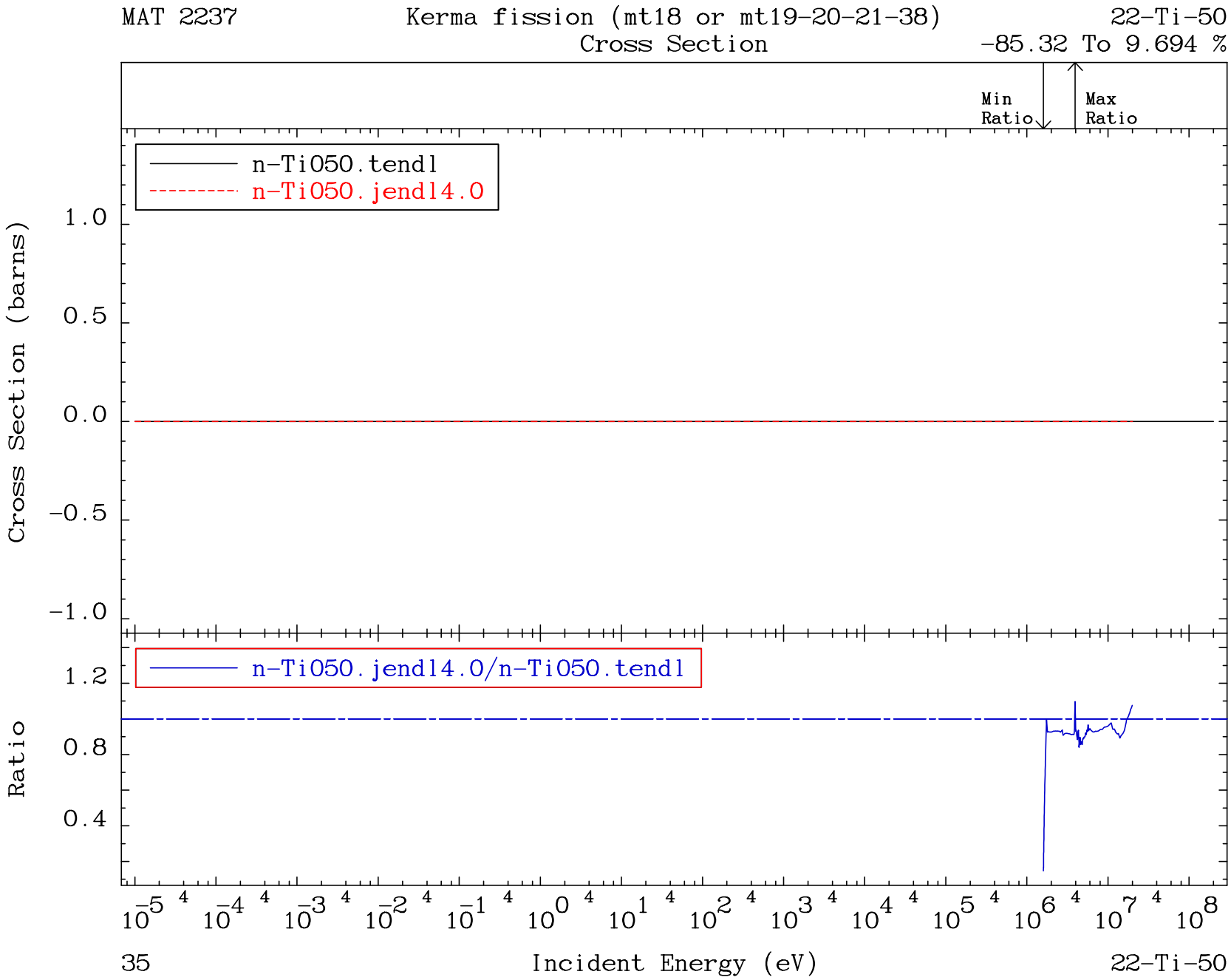

MAT 2237
He-4 Production
Cross Section
22-Ti-50
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 3.5103 MeV
n-Ti050.jendl4.0 Threshold 5.0000 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^4
10^0
10^-4
10^-8
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
30
Incident Energy (eV)
22-Ti-50

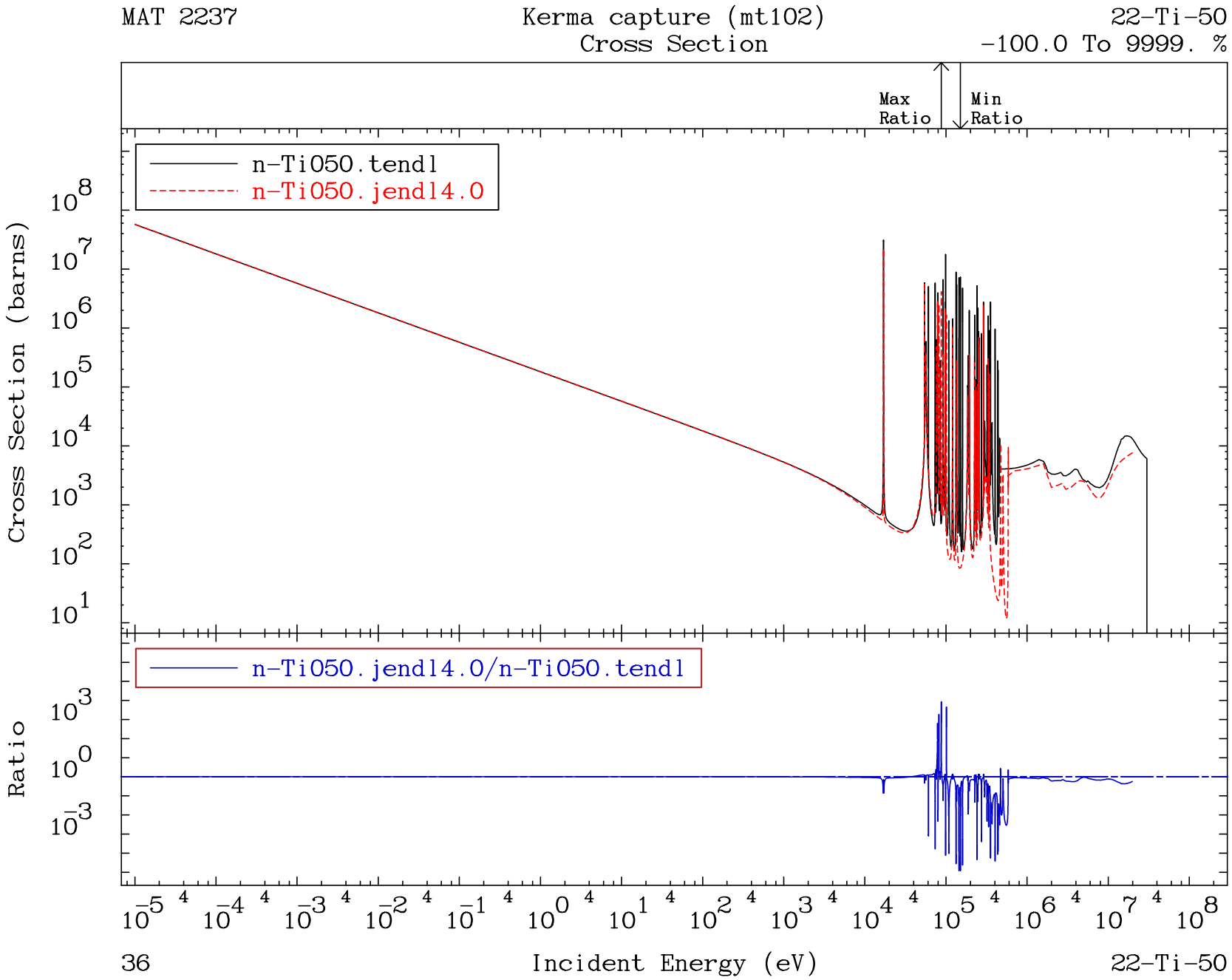

MAT 2237
Kerma total (eV-barns)
Cross Section
22-Ti-50
-99.94 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
Ratio
n-Ti050.jendl4.0/n-Ti050.tendl
Incident Energy (eV)
31
22-Ti-50

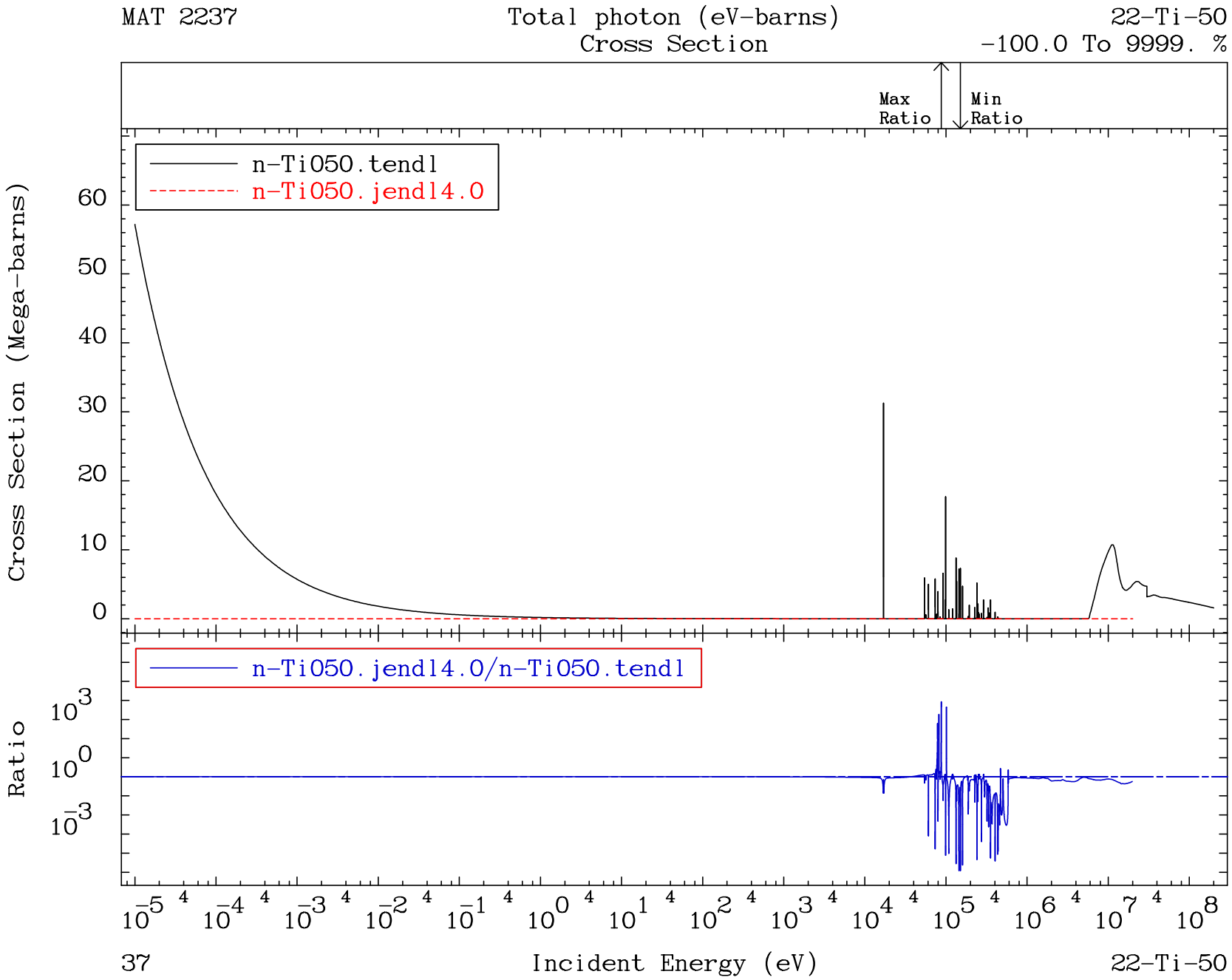

MAT 2237
Kerma elastic
Cross Section
22-Ti-50
-99.67 To 5834. %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
32
22-Ti-50

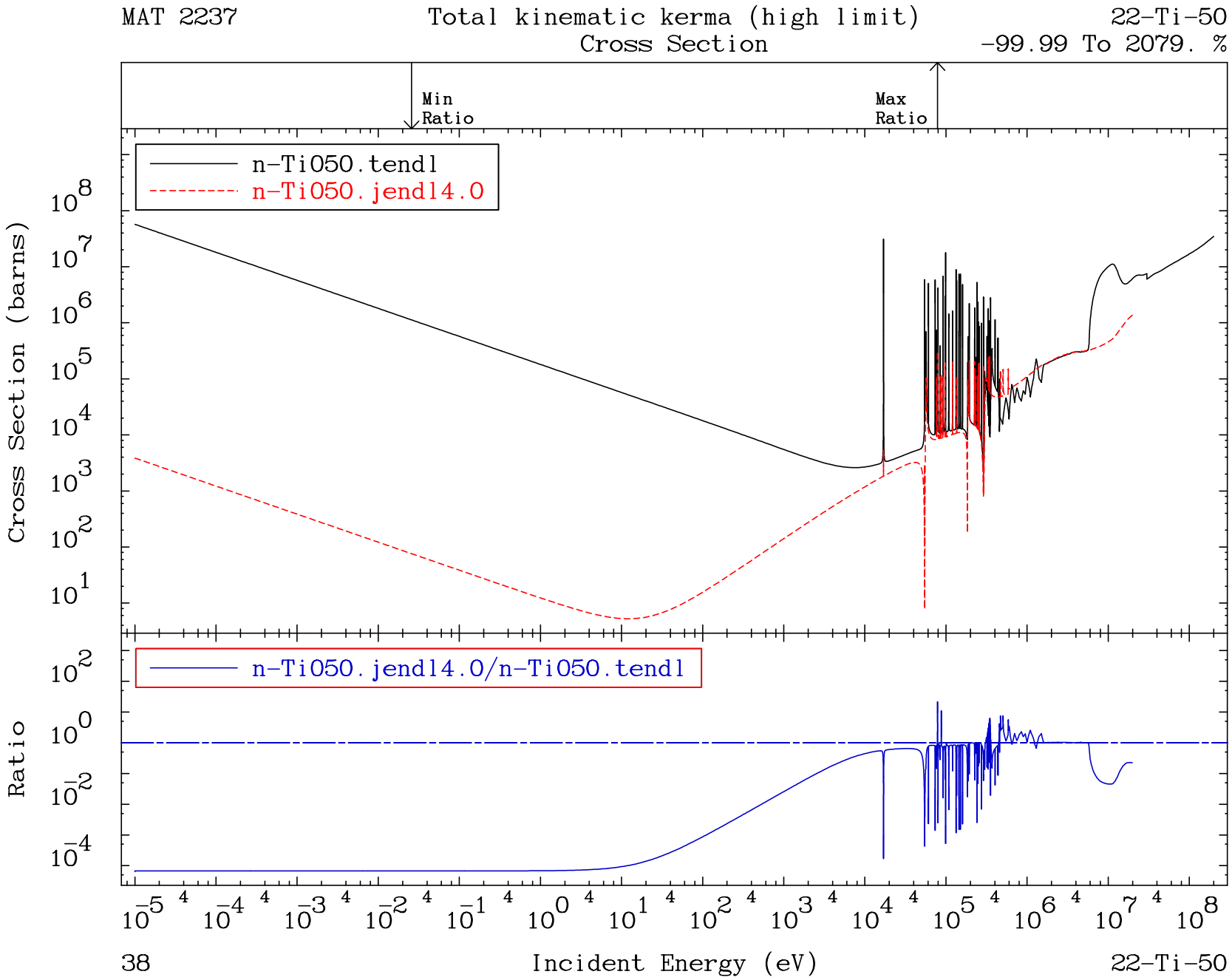

MAT 2237
Kerma non-elastic (all but mt2)
Cross Section
22-Ti-50
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
33
Incident Energy (eV)
22-Ti-50

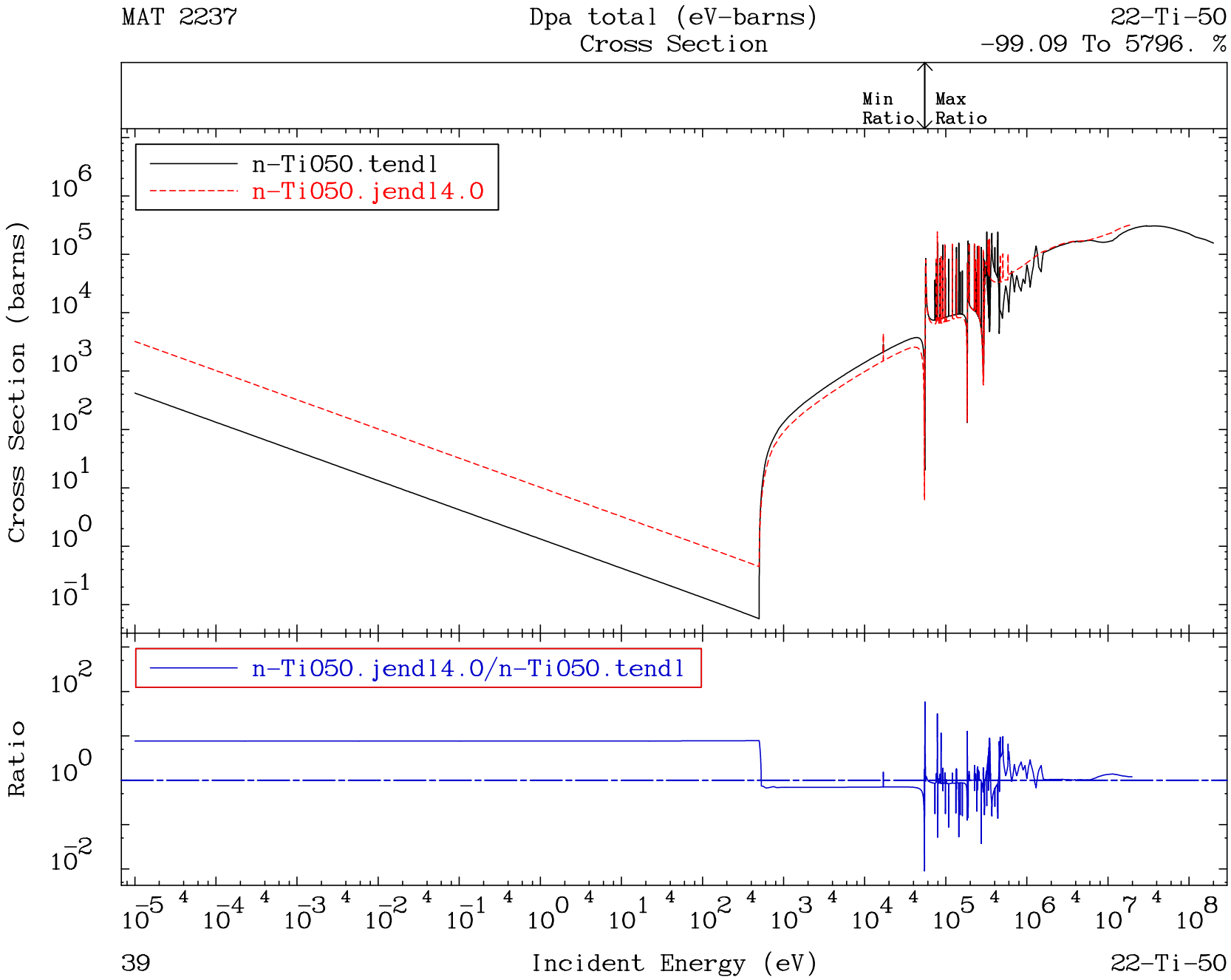

MAT 2237
Kerma inelastic (mt51-91)
Cross Section
22-Ti-50
-85.32 To 9.694 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 1.6000 MeV
n-Ti050.jendl4.0 Threshold 1.5852 MeV
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
34
22-Ti-50

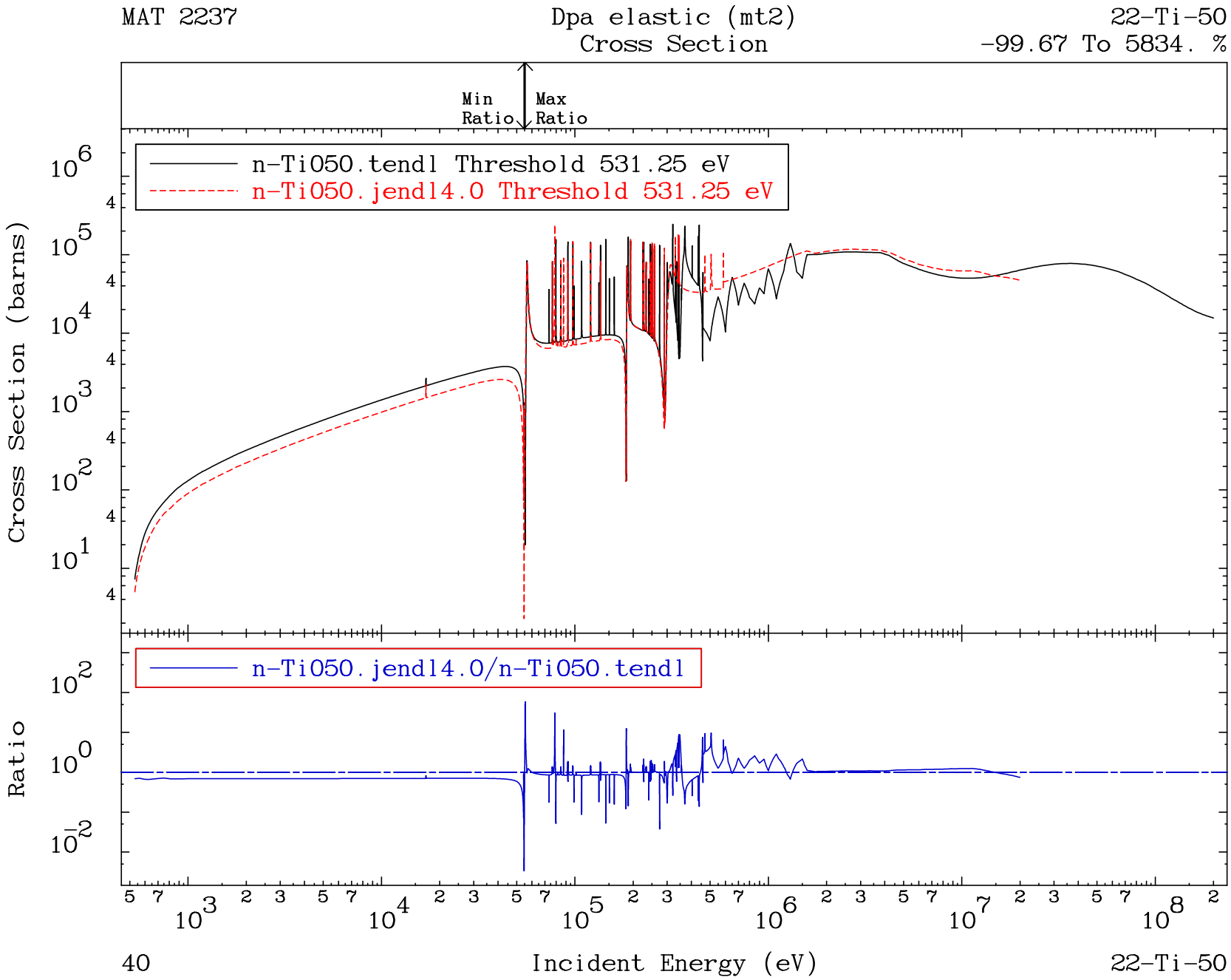

MAT 2237
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
22-Ti-50
-85.32 To 9.694 %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
1.2
0.8
0.4
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
35
Incident Energy (eV)
22-Ti-50

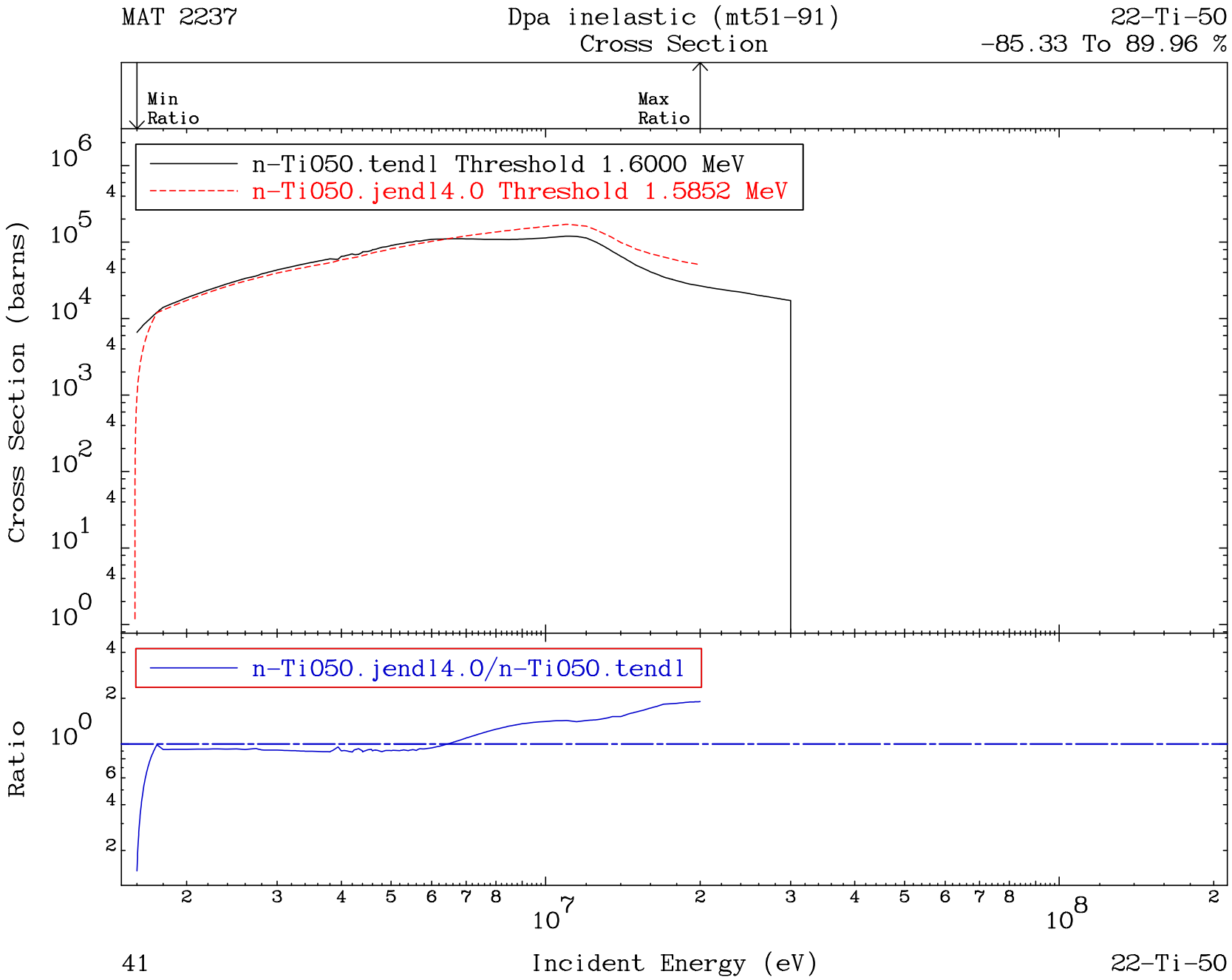

MAT 2237
Kerma capture (mt102)
Cross Section
22-Ti-50
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
36
22-Ti-50

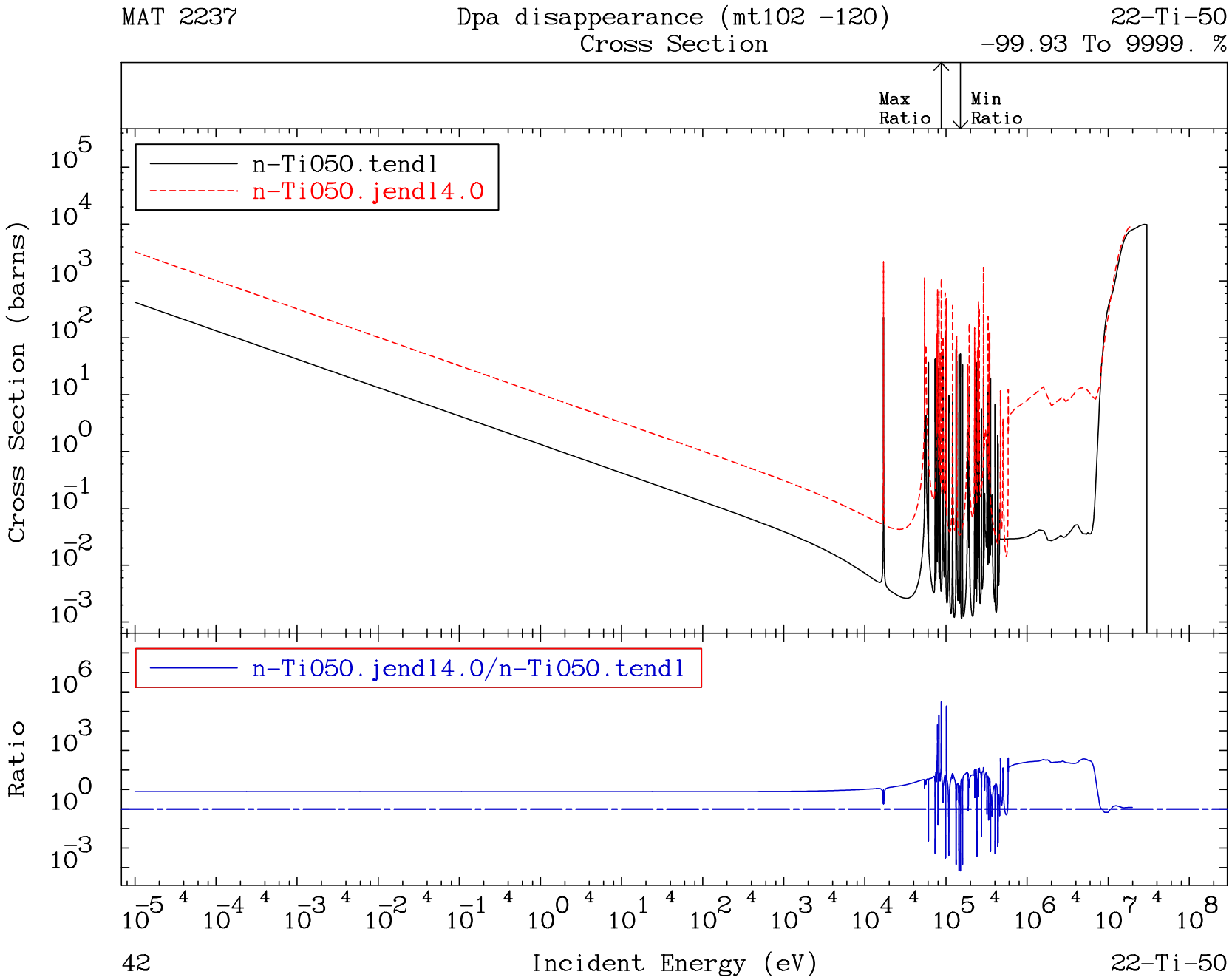

MAT 2237
Total photon (eV-barns)
Cross Section
22-Ti-50
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (Mega-barns)
60
50
40
30
20
10
0
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
10^3
10^0
10^-3
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
37
Incident Energy (eV)
22-Ti-50


MAT 2237
Total kinematic kerma (high limit)
Cross Section
22-Ti-50
-99.99 To 2079. %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
38
22-Ti-50


MAT 2237
Dpa total (eV-barns)
Cross Section
22-Ti-50
-99.09 To 5796. %
Min Ratio
Max Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
39
Incident Energy (eV)
22-Ti-50


MAT 2237
Dpa elastic (mt2)
Cross Section
22-Ti-50
-99.67 To 5834. %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 531.25 eV
n-Ti050.jendl4.0 Threshold 531.25 eV
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
40
22-Ti-50


MAT 2237
Dpa inelastic (mt51-91)
Cross Section
22-Ti-50
-85.33 To 89.96 %
Min Ratio
Max Ratio
n-Ti050.tendl Threshold 1.6000 MeV
n-Ti050.jendl4.0 Threshold 1.5852 MeV
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
Incident Energy (eV)
41
22-Ti-50


MAT 2237
Dpa disappearance (mt102 -120)
Cross Section
22-Ti-50
-99.93 To 9999. %
Max Ratio
Min Ratio
n-Ti050.tendl
n-Ti050.jendl4.0
Cross Section (barns)
n-Ti050.jendl4.0/n-Ti050.tendl
Ratio
42
Incident Energy (eV)
22-Ti-50