Program EVALPLOT
(Version 2015-2)
by
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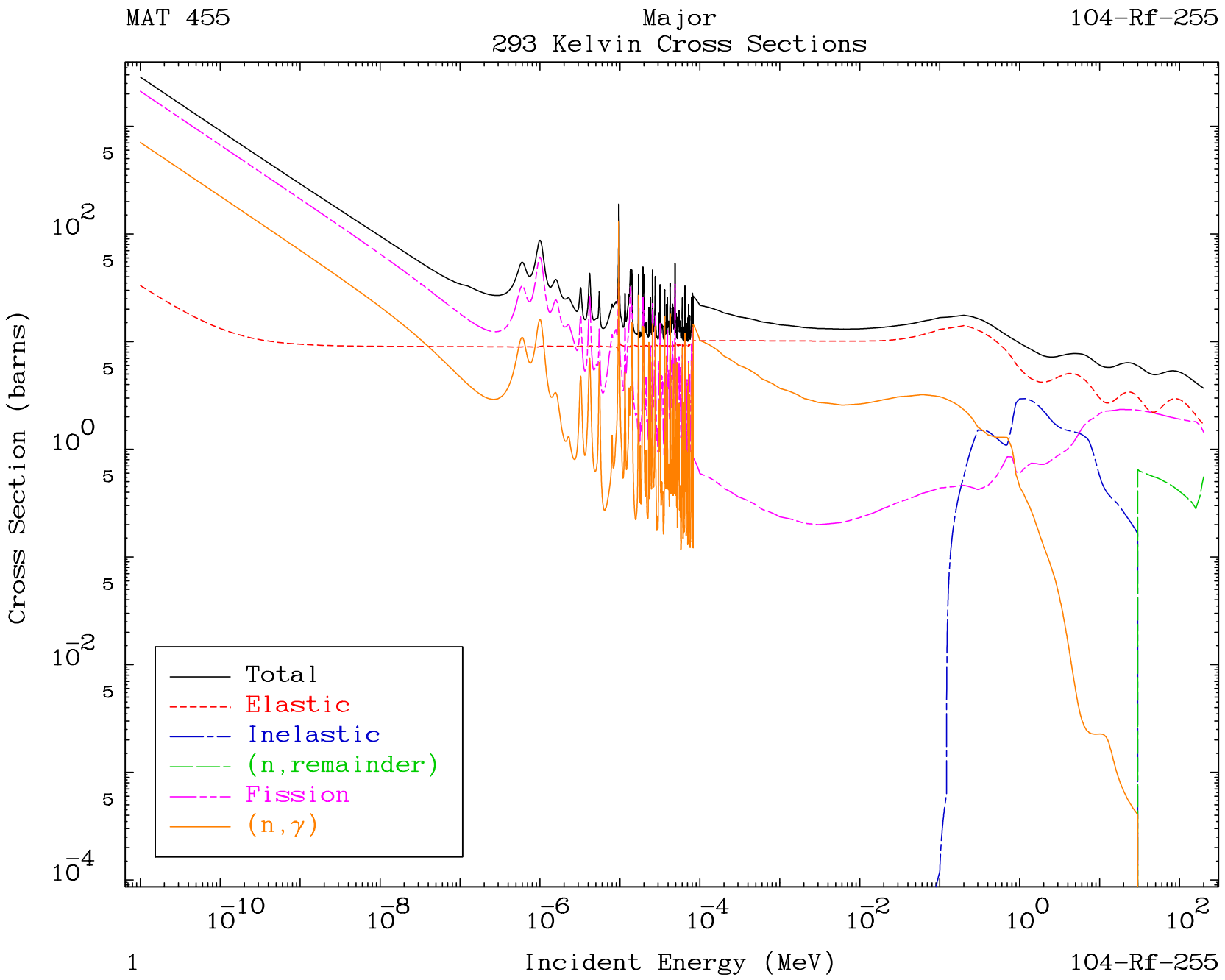
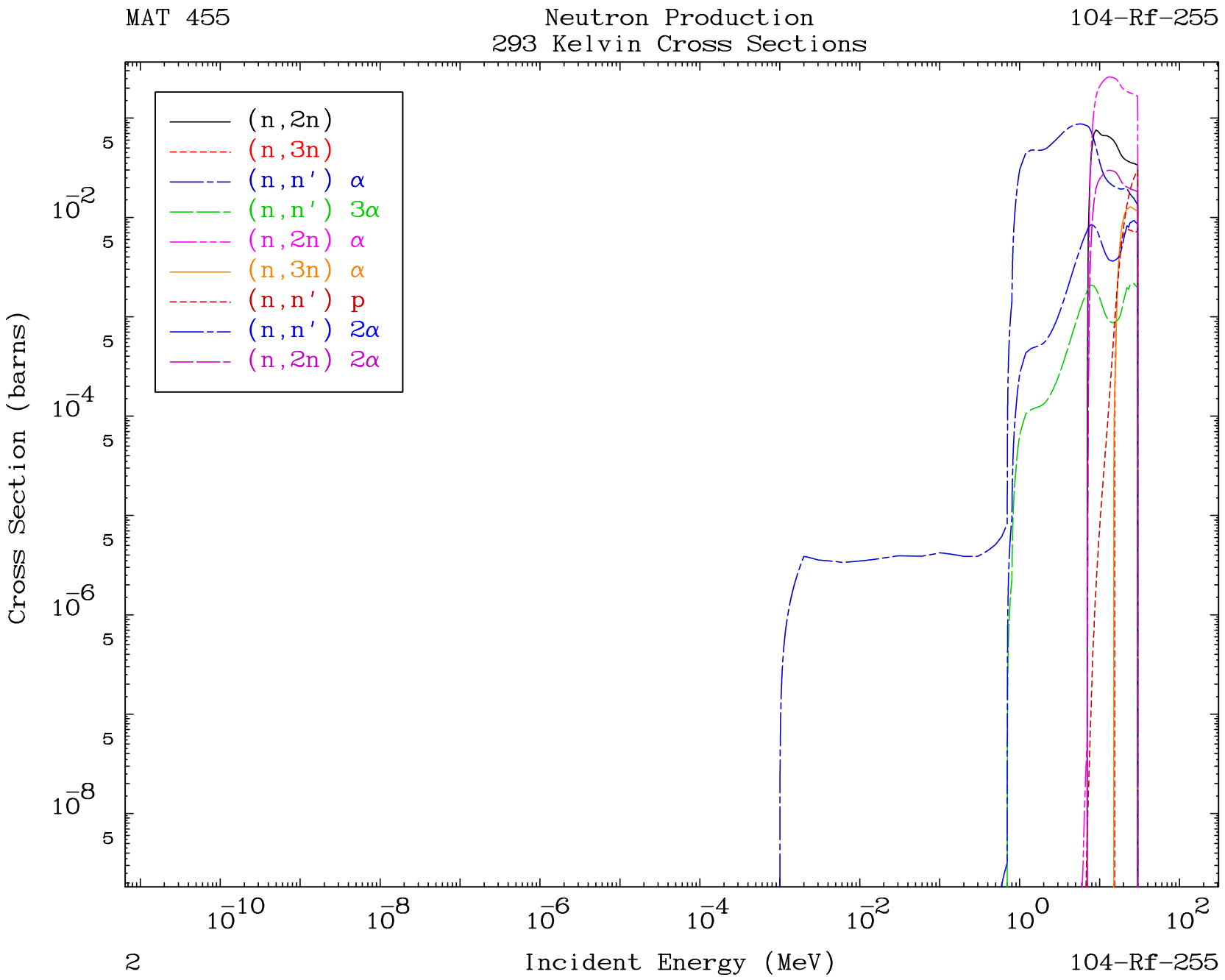
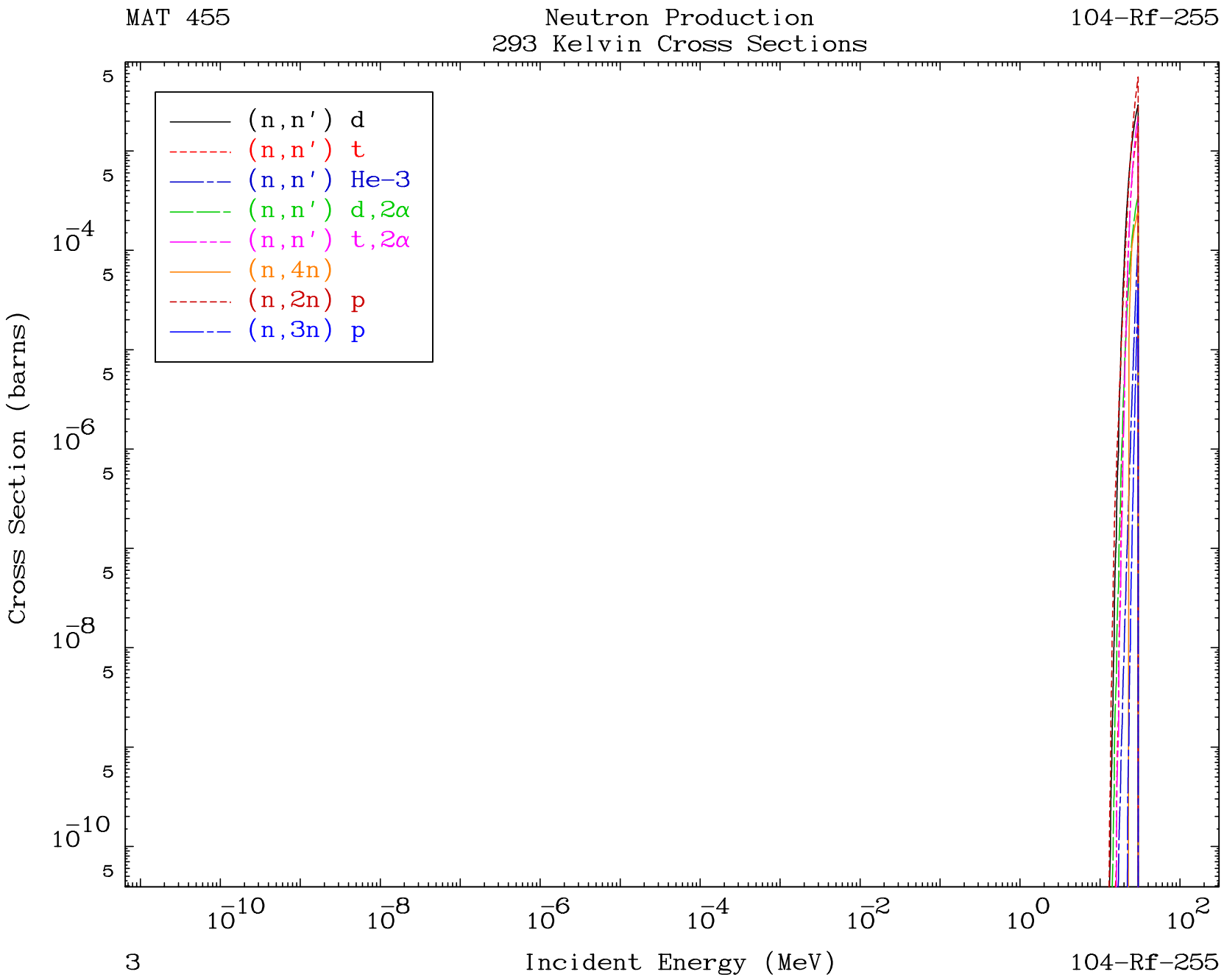
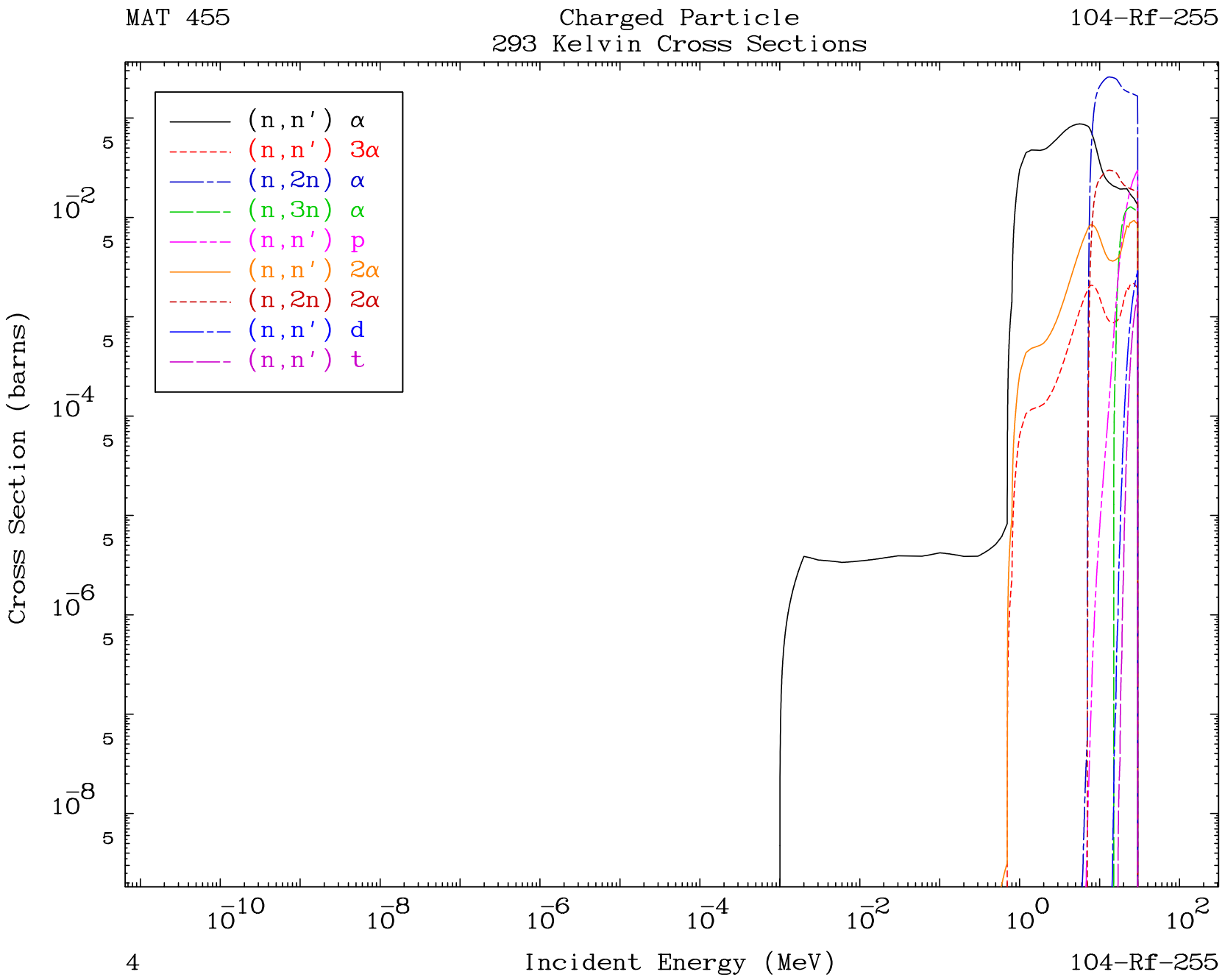
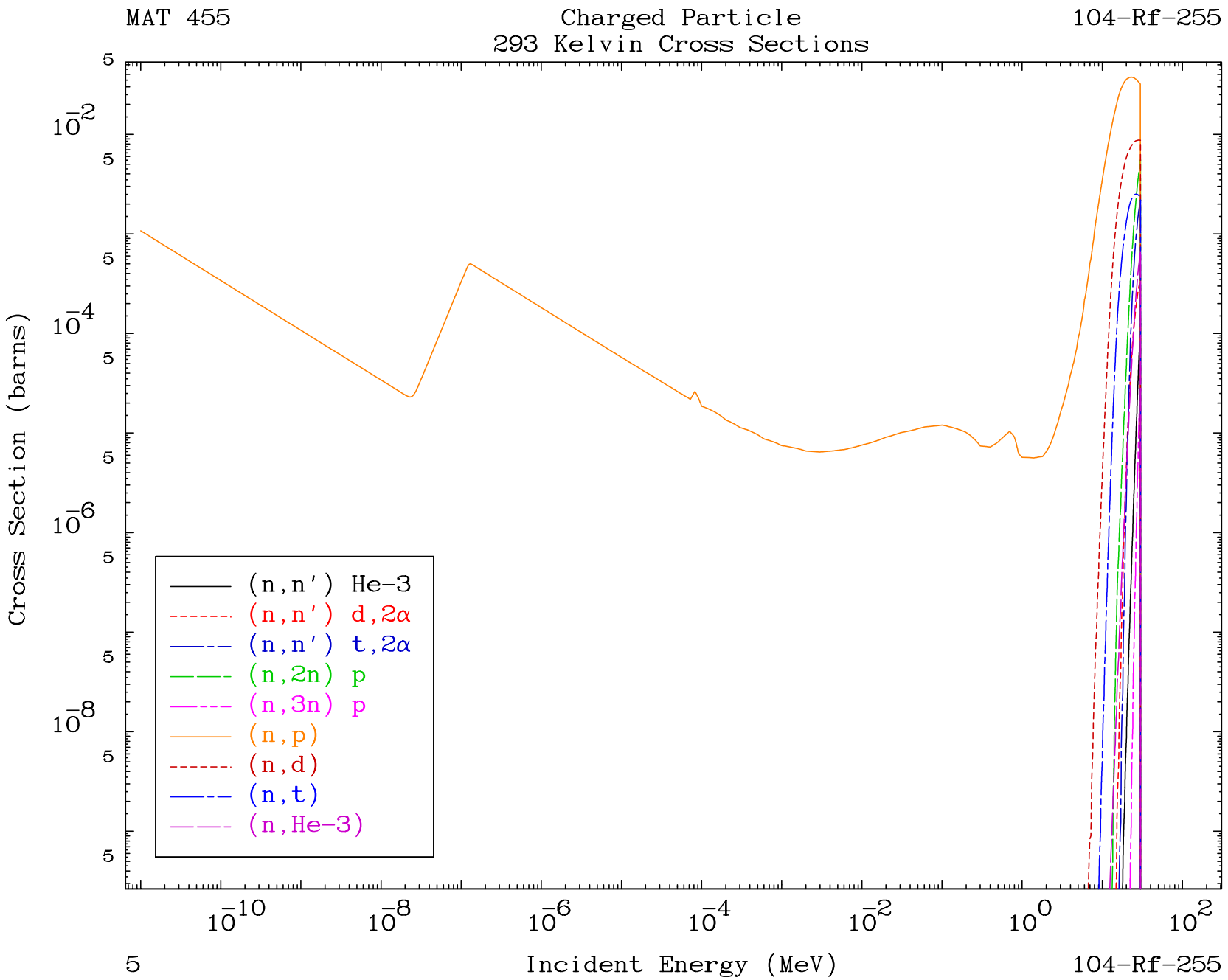
Press Mouse Button to Start

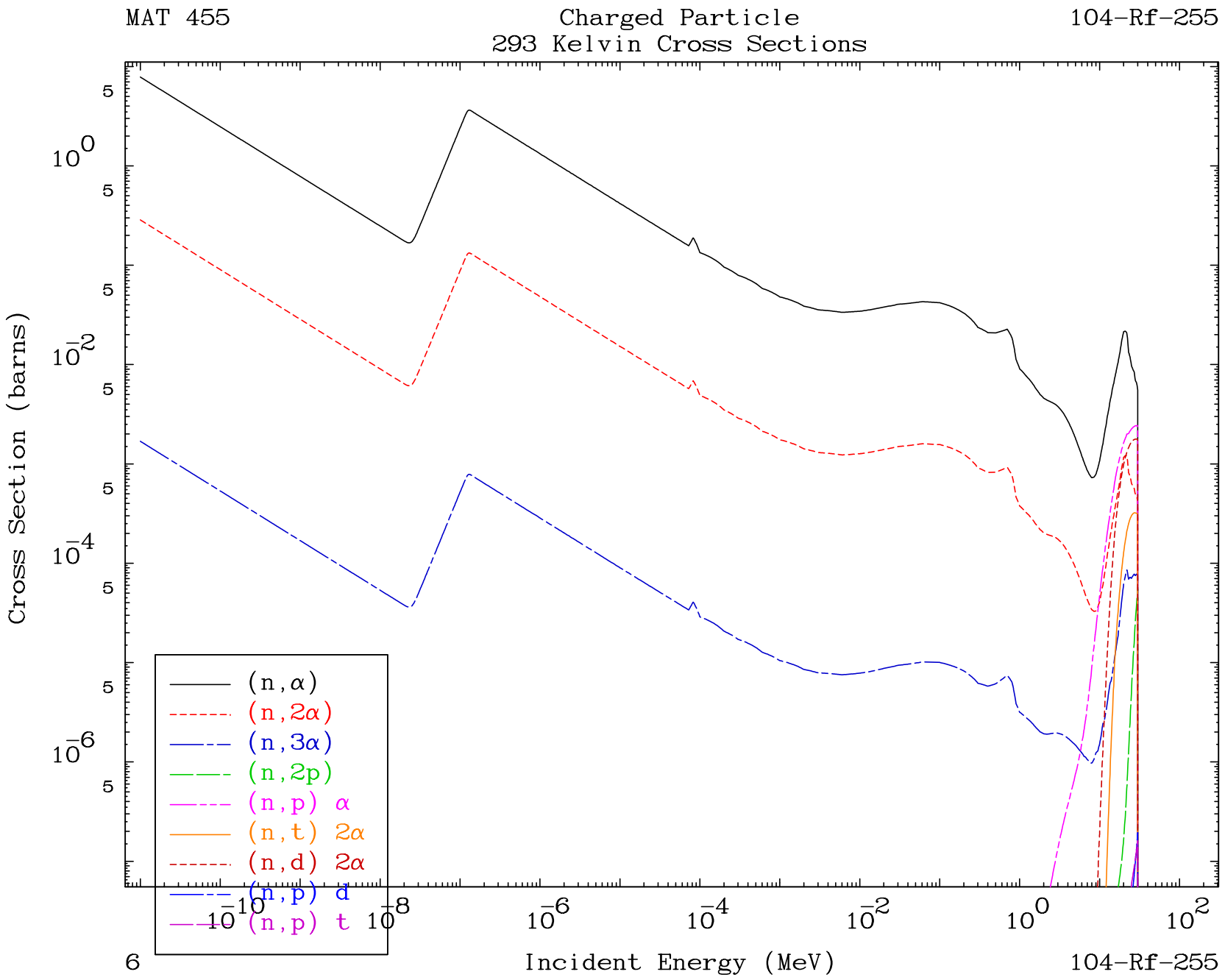

MAT 455
Major
104-Rf-255
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
Fission
(n,γ)
1
104-Rf-255

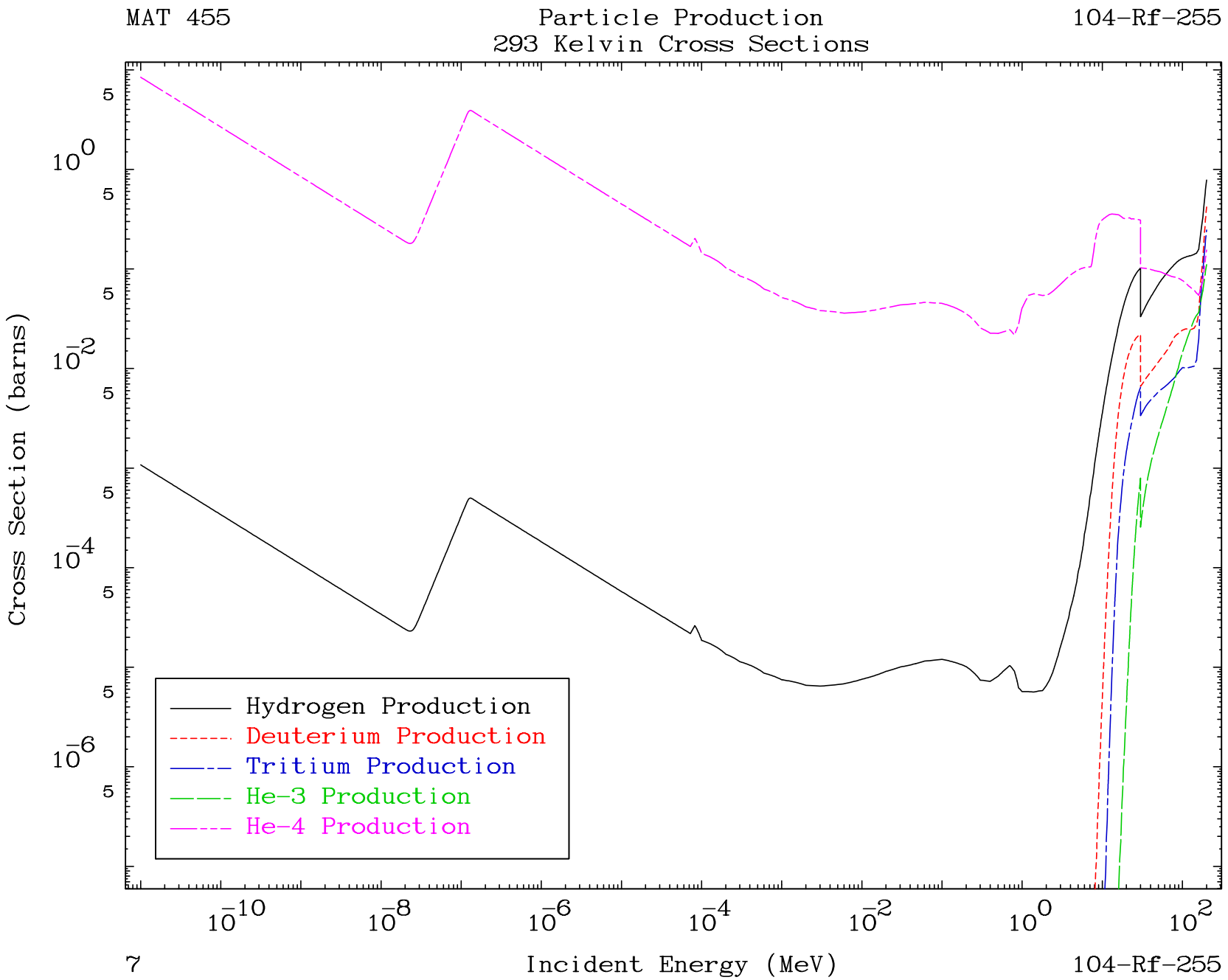

MAT 455
Neutron Production
293 Kelvin Cross Sections
104-Rf-255
(n,2n)
(n,3n)
(n,n') α
(n,n') 3α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
Cross Section (barns)
Incident Energy (MeV)
2
104-Rf-255

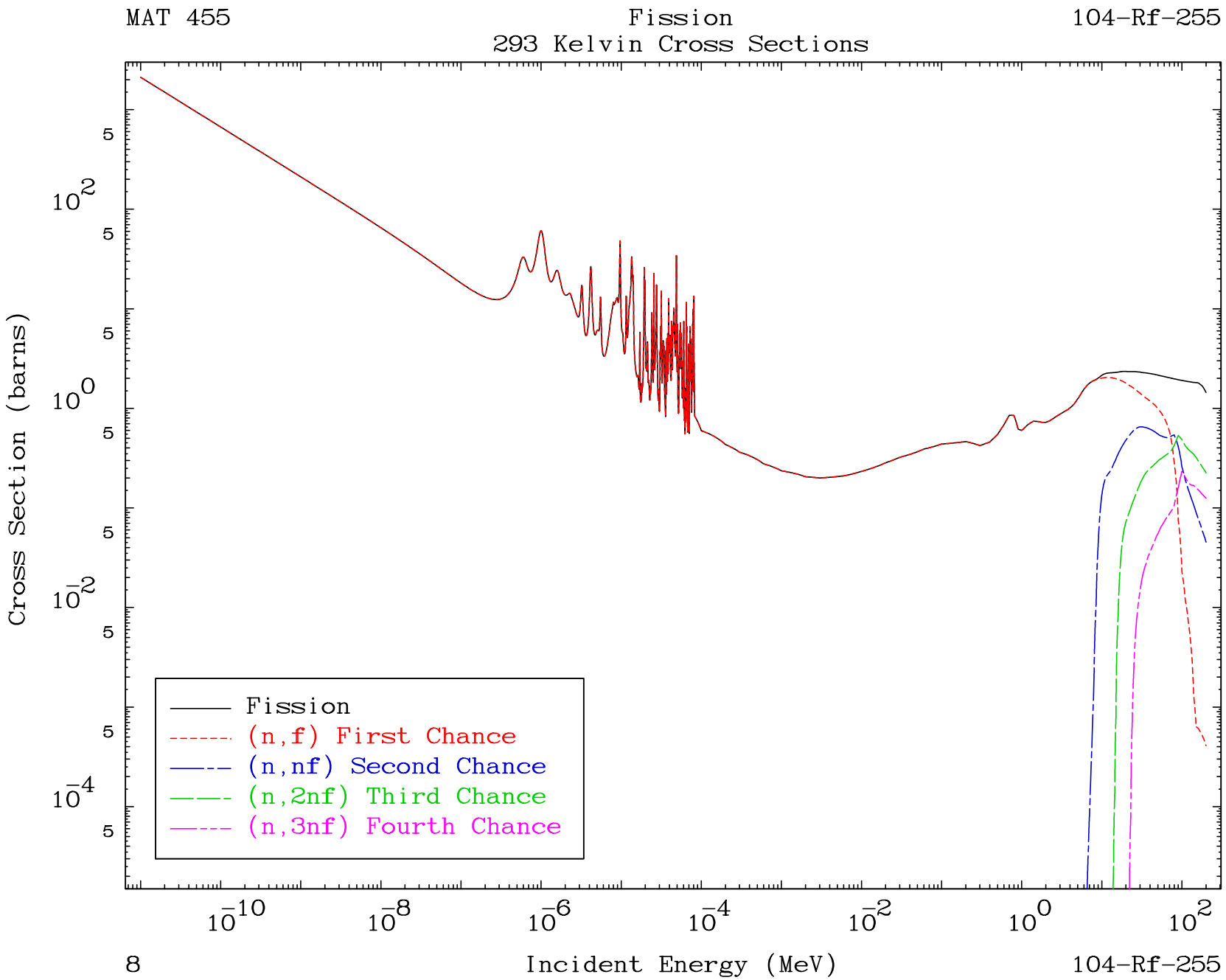

MAT 455
Neutron Production
293 Kelvin Cross Sections
104-Rf-255
(n,n') d
(n,n') t
(n,n') He-3
(n,n') d,2α
(n,n') t,2α
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
3
104-Rf-255

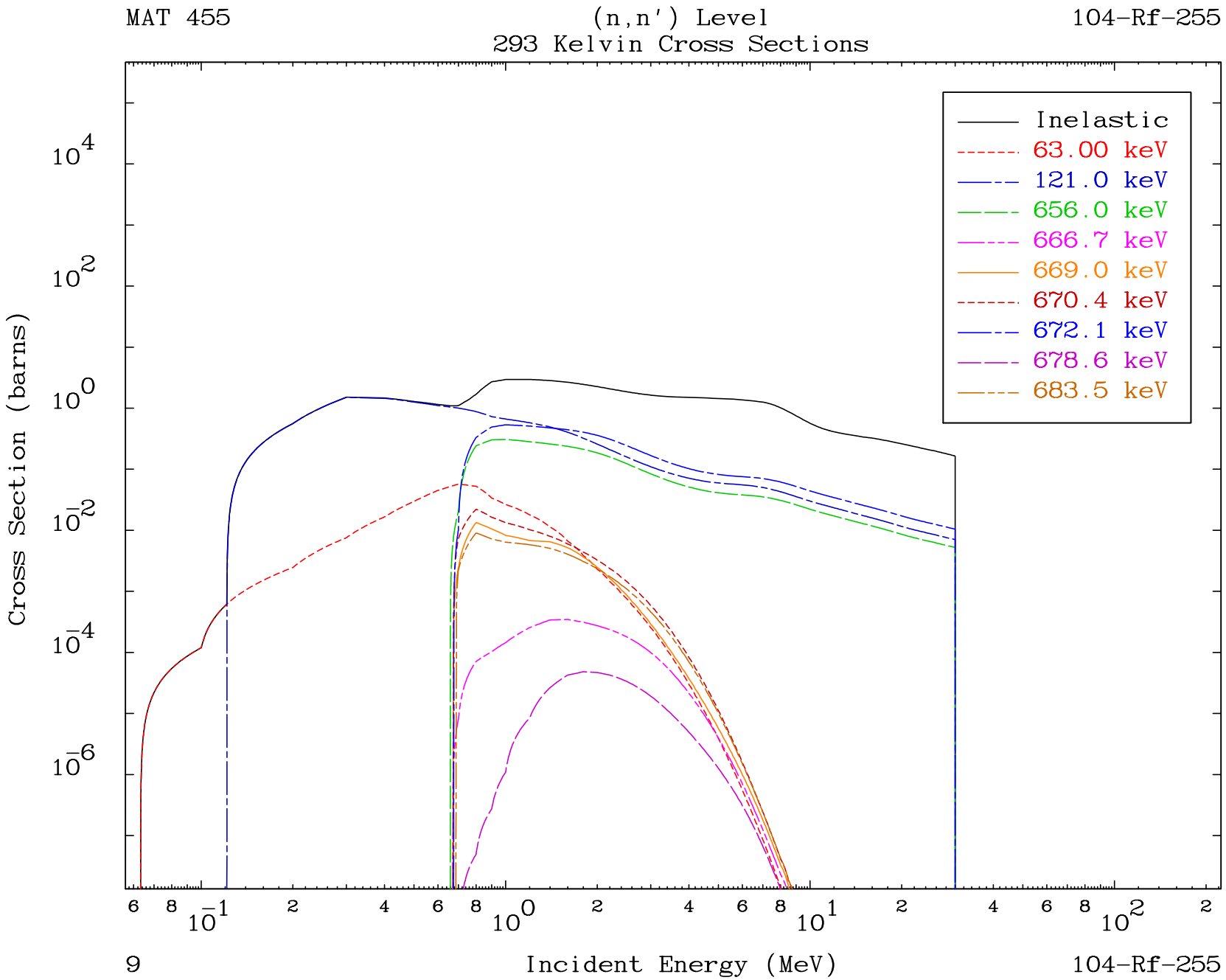

MAT 455
Charged Particle
104-Rf-255
293 Kelvin Cross Sections
(n,n') α
(n,n') 3α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
Cross Section (barns)
Incident Energy (MeV)
4
104-Rf-255

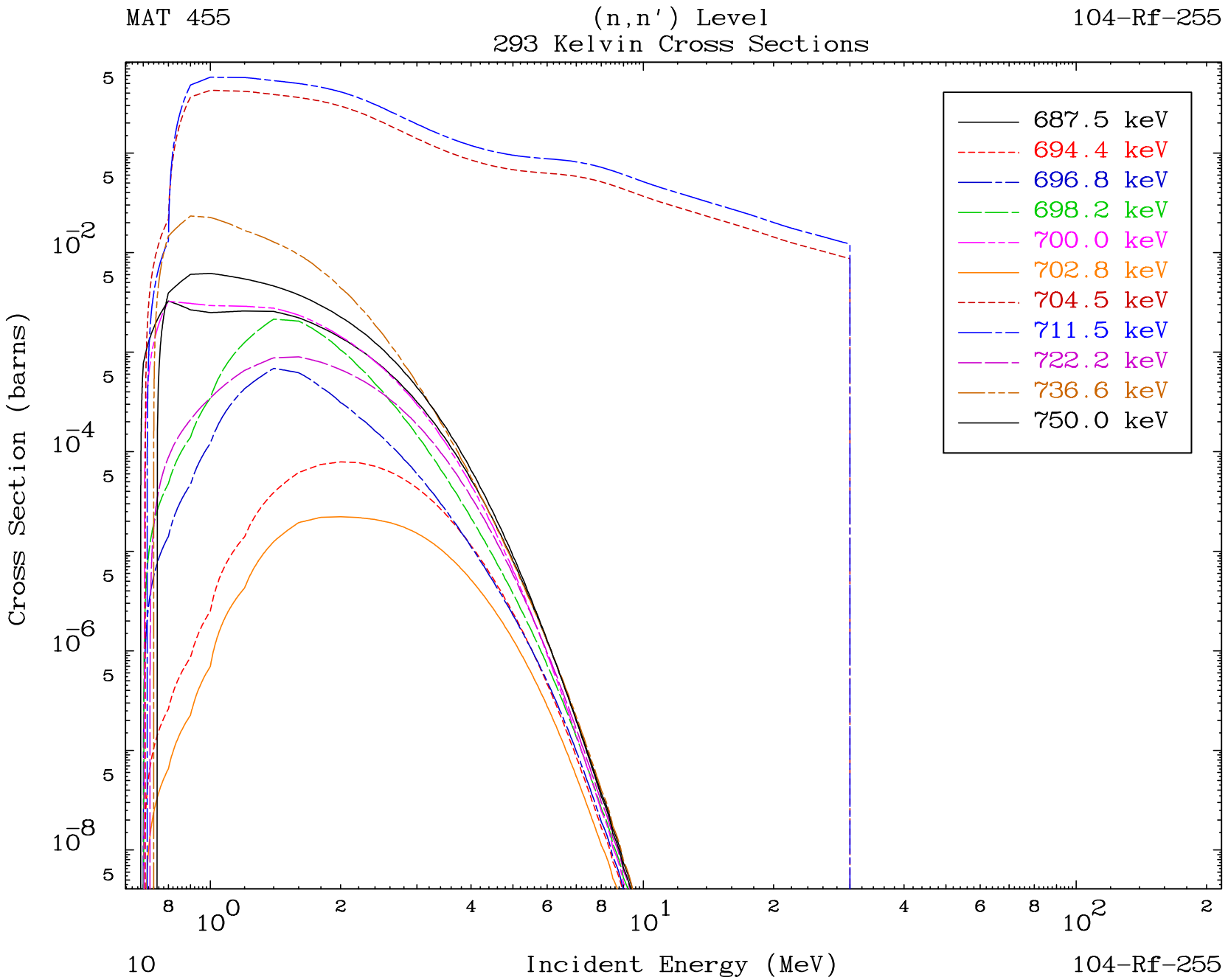

MAT 455
Charged Particle
104-Rf-255
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
104-Rf-255
(n,n') He-3
(n,n') d,2α
(n,n') t,2α
(n,2n) p
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)

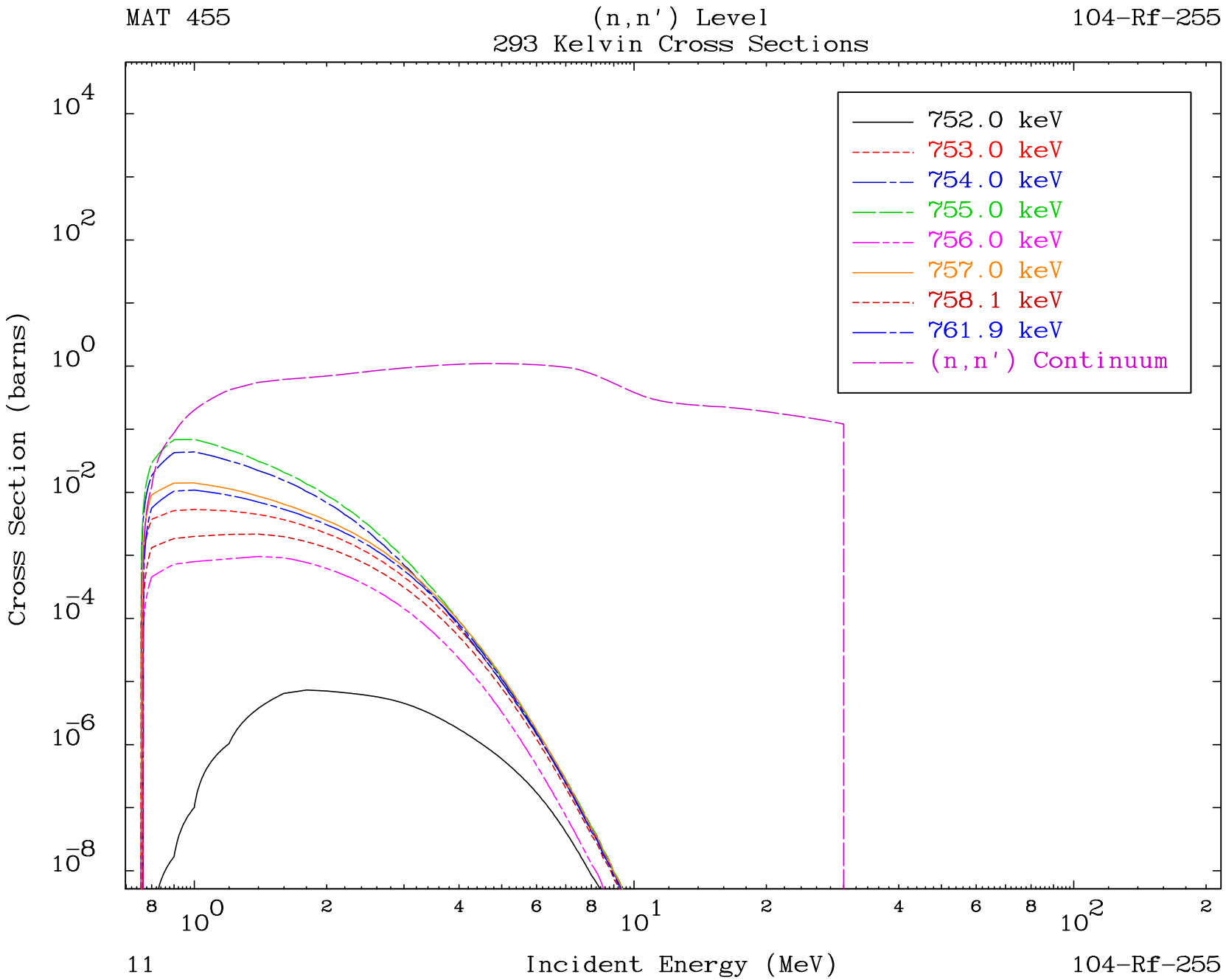

MAT 455
Charged Particle
293 Kelvin Cross Sections
104-Rf-255
Cross Section (barns)
Incident Energy (MeV)
104-Rf-255
(n,α)
(n,2α)
(n,3α)
(n,2p)
(n,p) α
(n,t) 2α
(n,d) 2α
(n,p) d
(n,p) t

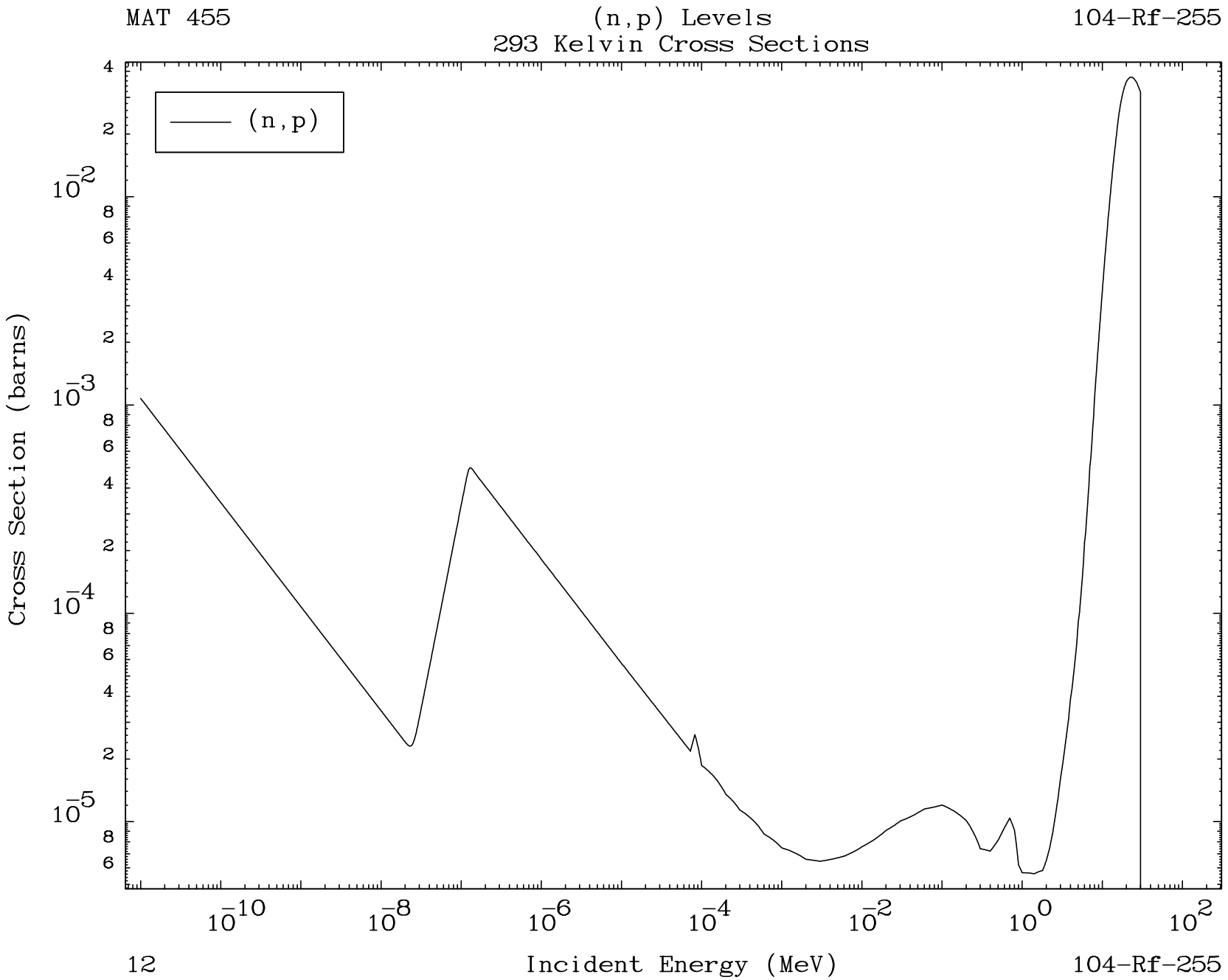

MAT 455
Particle Production
293 Kelvin Cross Sections
104-Rf-255
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
7
104-Rf-255

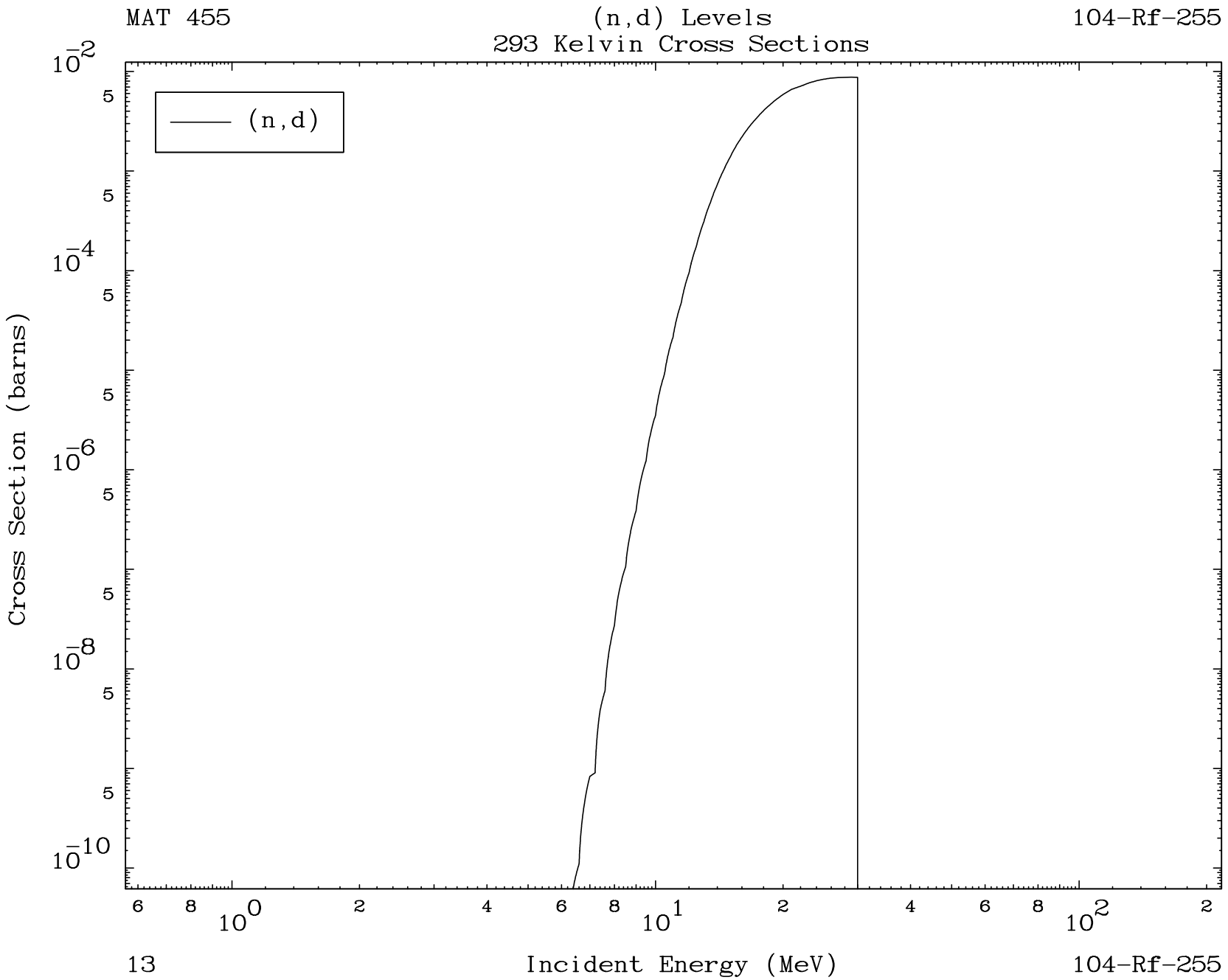

MAT 455
Fission
104-Rf-255
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Fission
(n,f) First Chance
(n,nf) Second Chance
(n,2nf) Third Chance
(n,3nf) Fourth Chance
8
104-Rf-255


MAT 455
(n,n') Level
293 Kelvin Cross Sections
104-Rf-255
Inelastic
63.00 keV
121.0 keV
656.0 keV
666.7 keV
669.0 keV
670.4 keV
672.1 keV
678.6 keV
683.5 keV
Cross Section (barns)
Incident Energy (MeV)
9
104-Rf-255

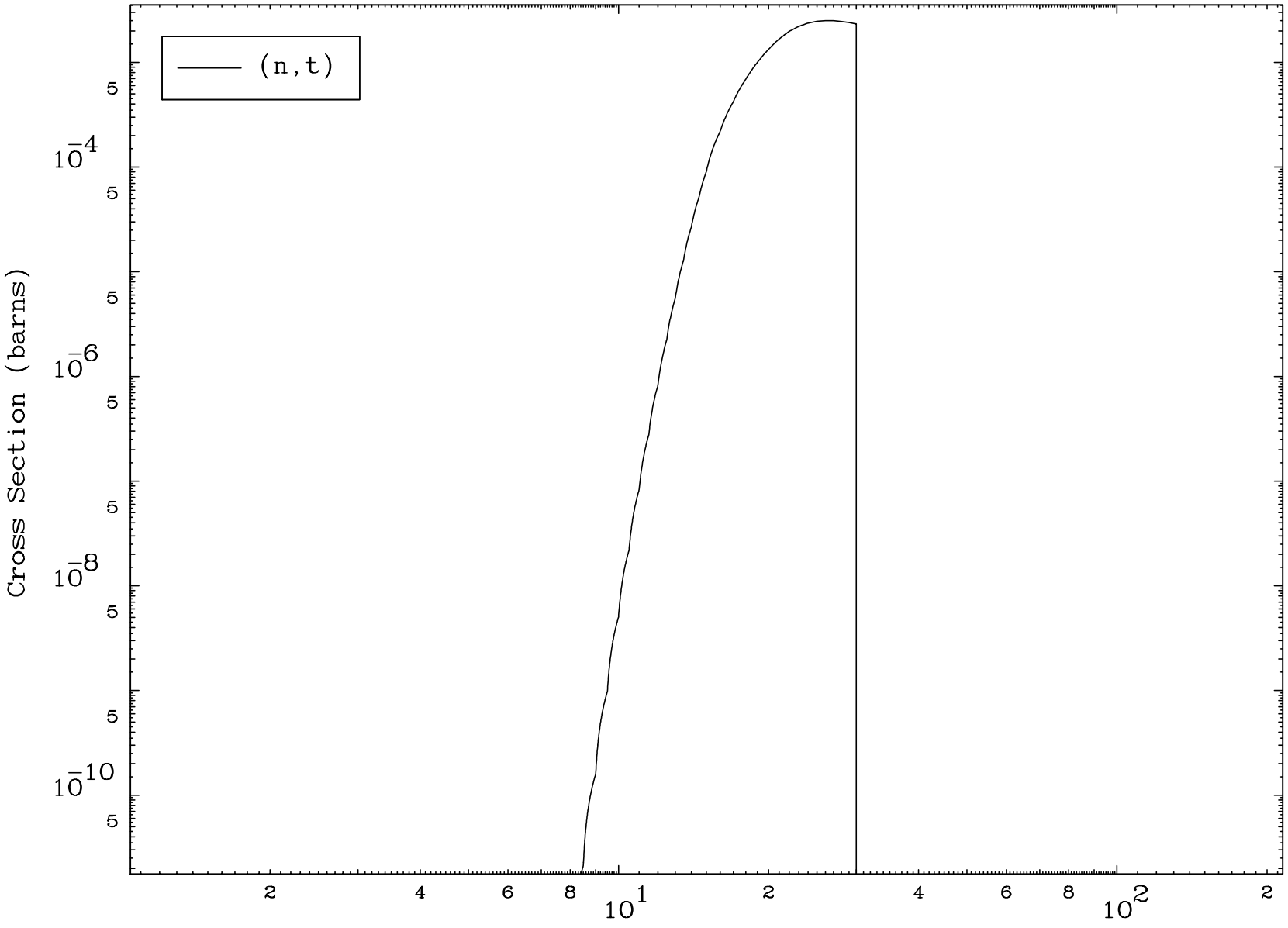

MAT 455
(n,n') Level
104-Rf-255
293 Kelvin Cross Sections
687.5 keV
694.4 keV
696.8 keV
698.2 keV
700.0 keV
702.8 keV
704.5 keV
711.5 keV
722.2 keV
736.6 keV
750.0 keV
Cross Section (barns)
Incident Energy (MeV)
104-Rf-255

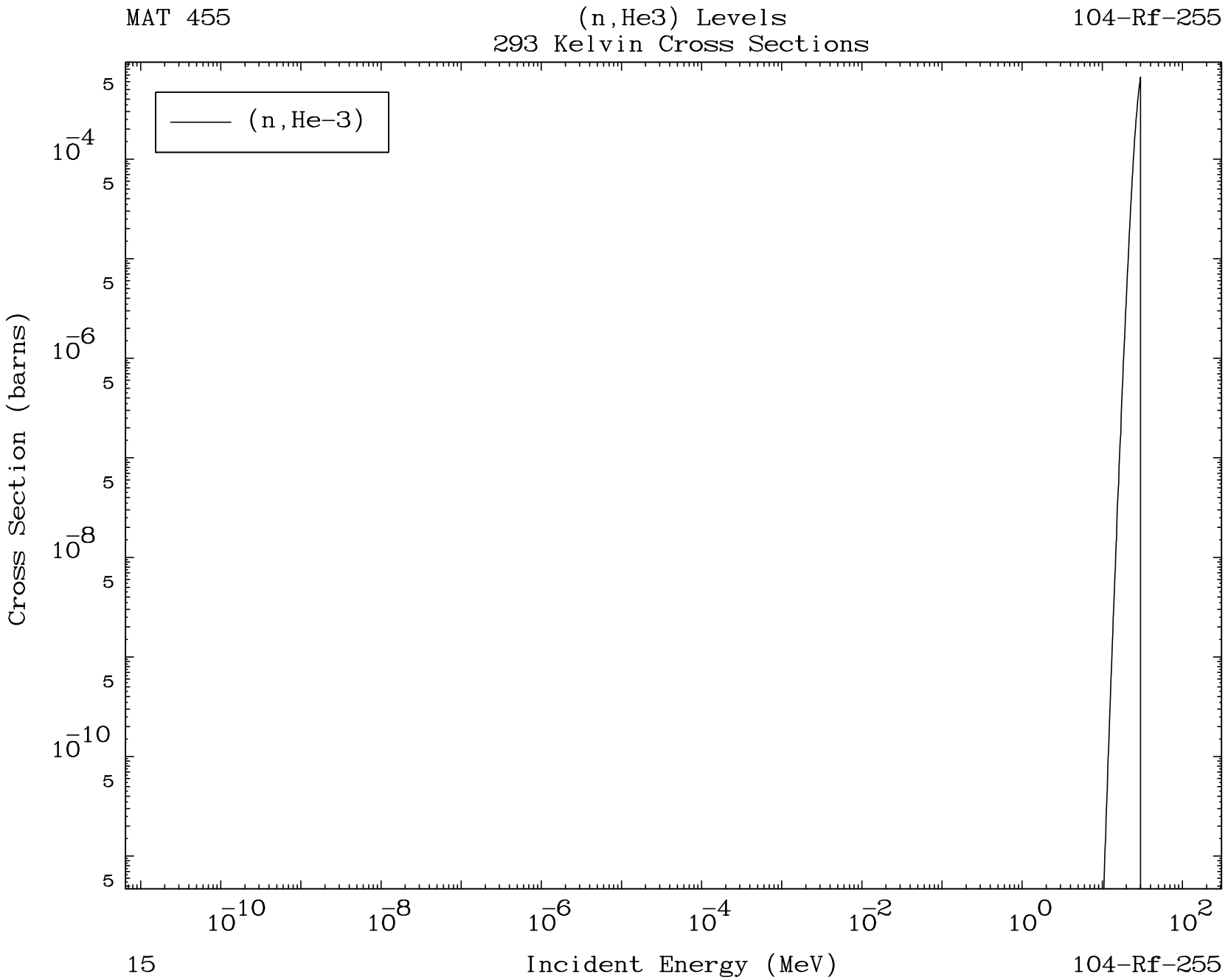

MAT 455
(n,n') Level
104-Rf-255
293 Kelvin Cross Sections
752.0 keV
753.0 keV
754.0 keV
755.0 keV
756.0 keV
757.0 keV
758.1 keV
761.9 keV
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
11
104-Rf-255

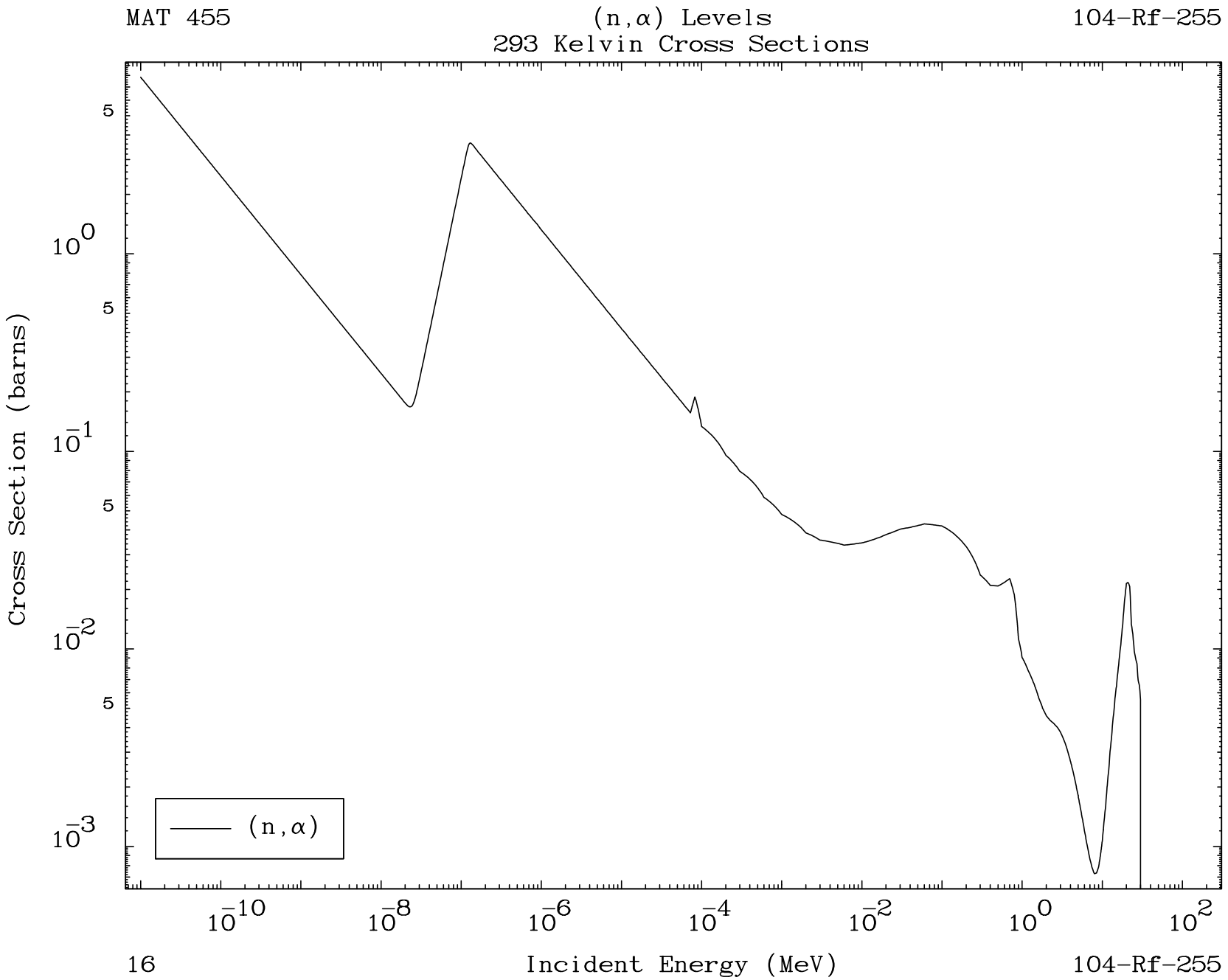

MAT 455
(n,p) Levels
104-Rf-255
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
12
104-Rf-255

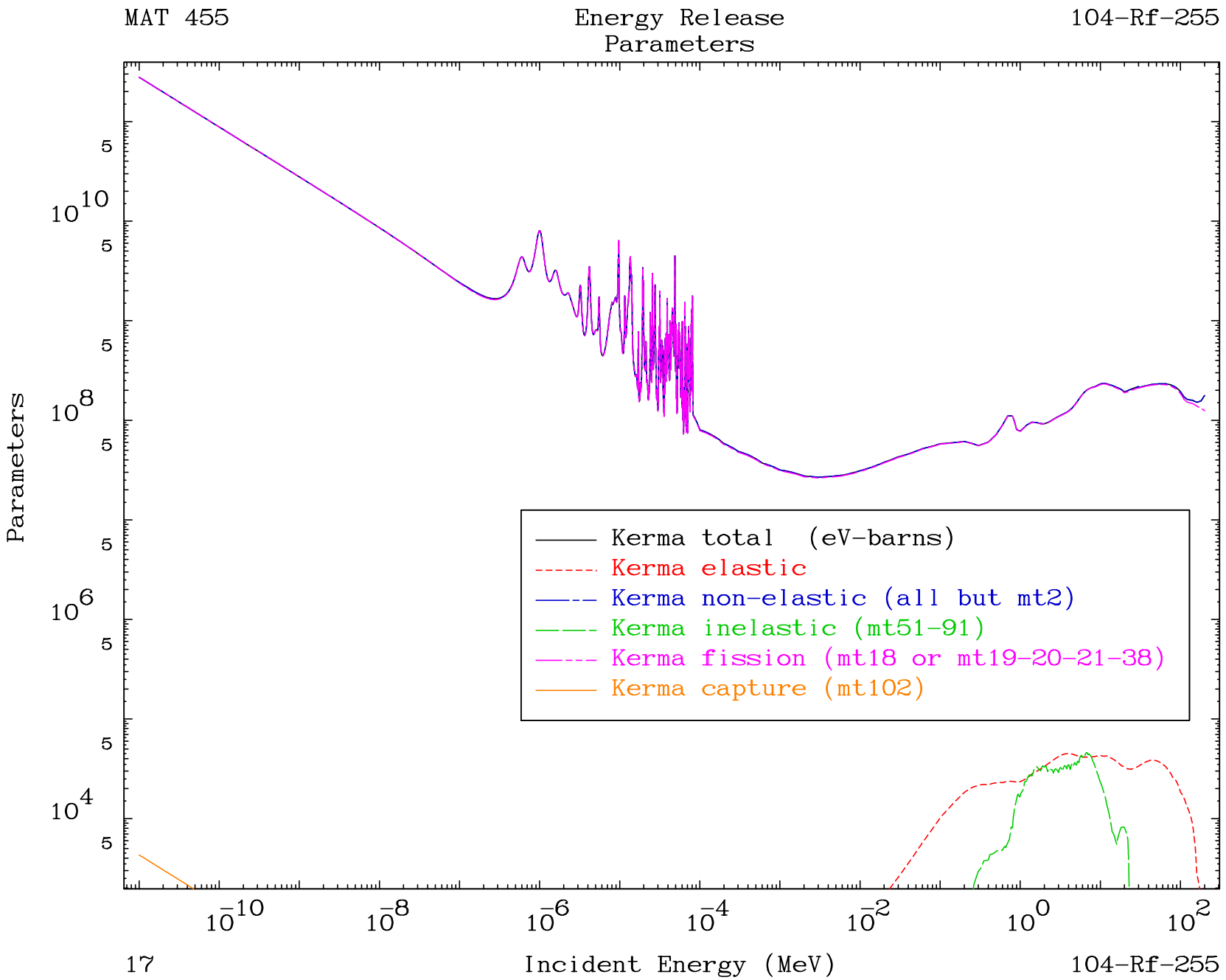

MAT 455
(n,d) Levels
104-Rf-255
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
13
104-Rf-255

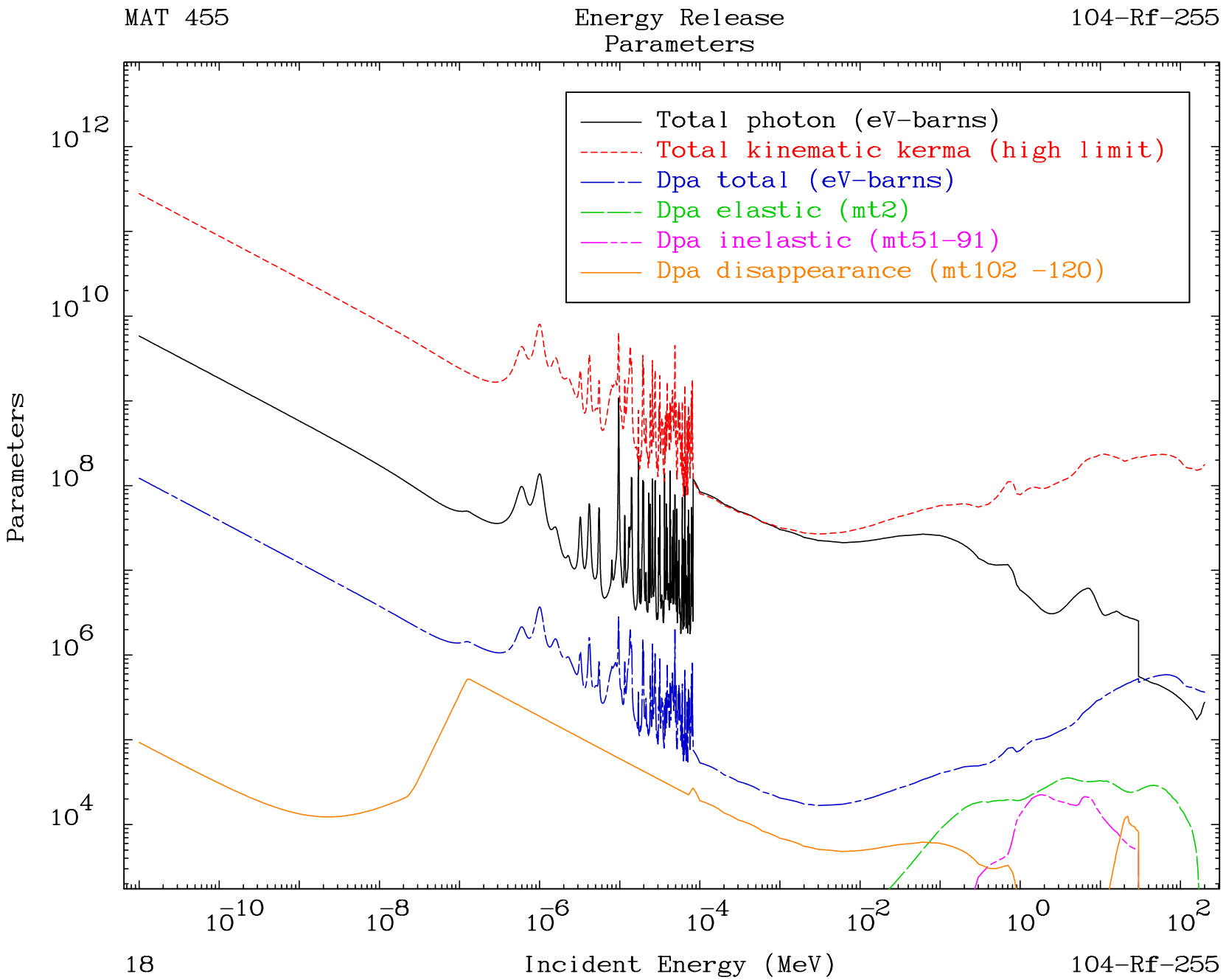
293 Kelvin Cross Sections

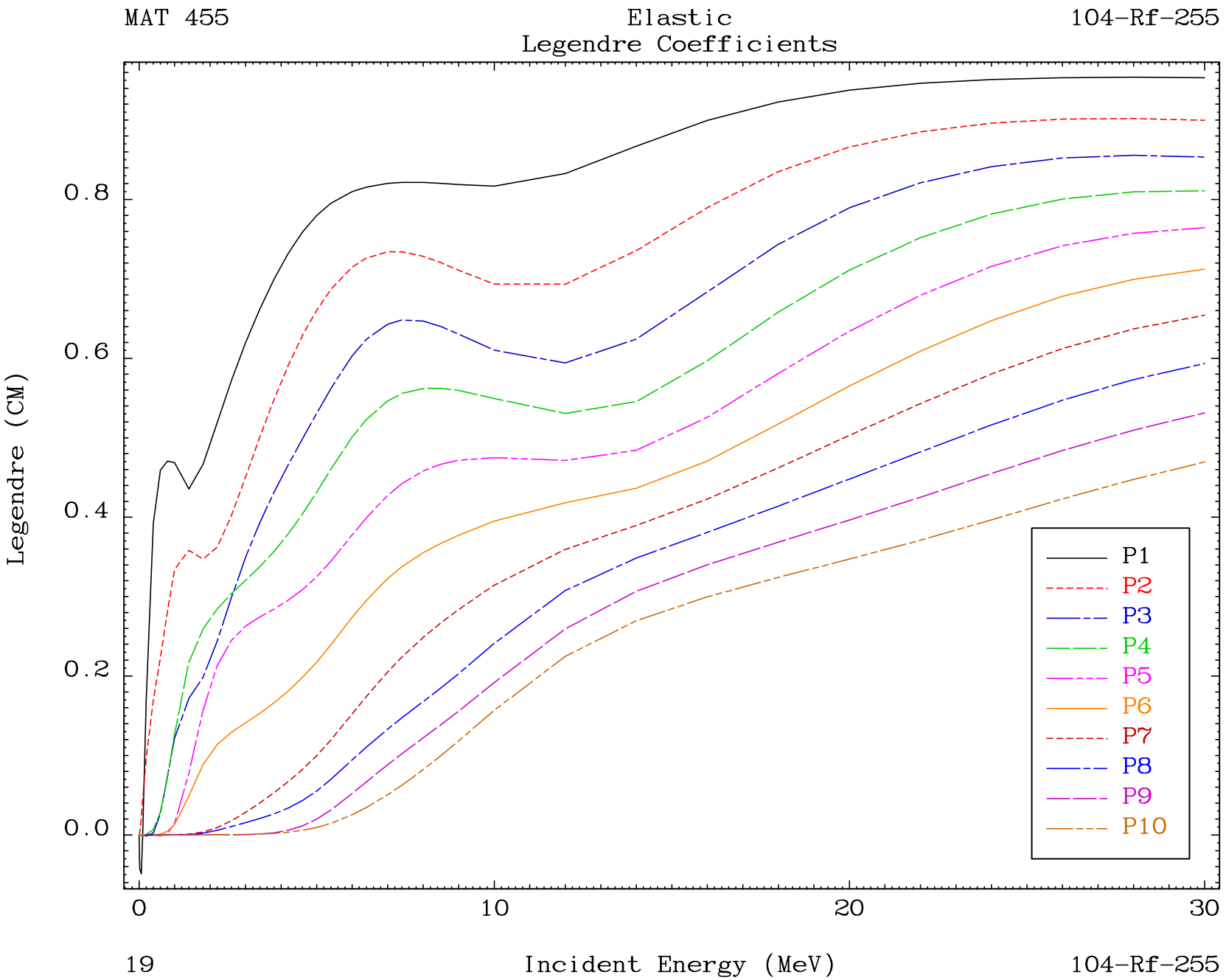


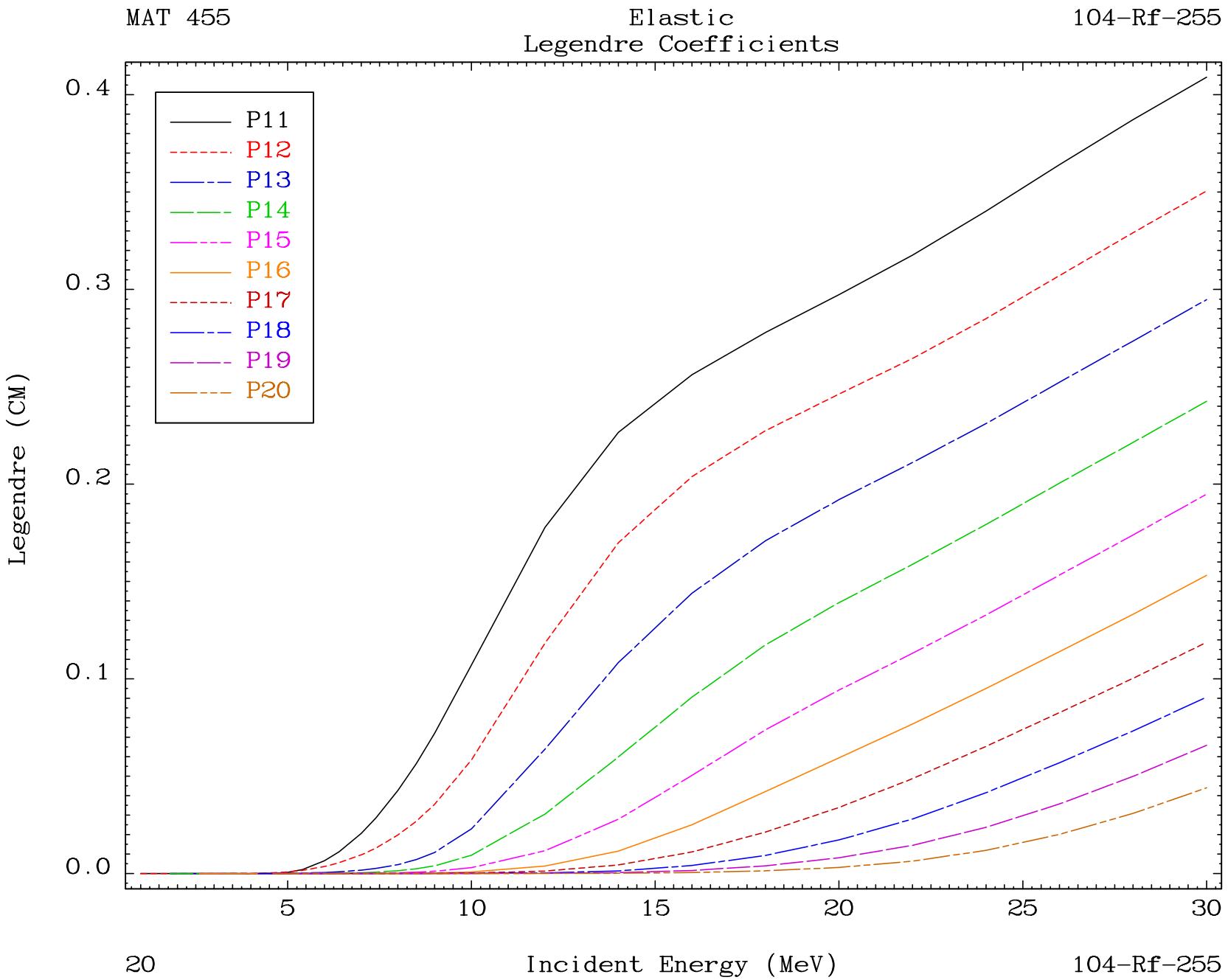

MAT 455
(n,He3) Levels
104-Rf-255
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
15
104-Rf-255

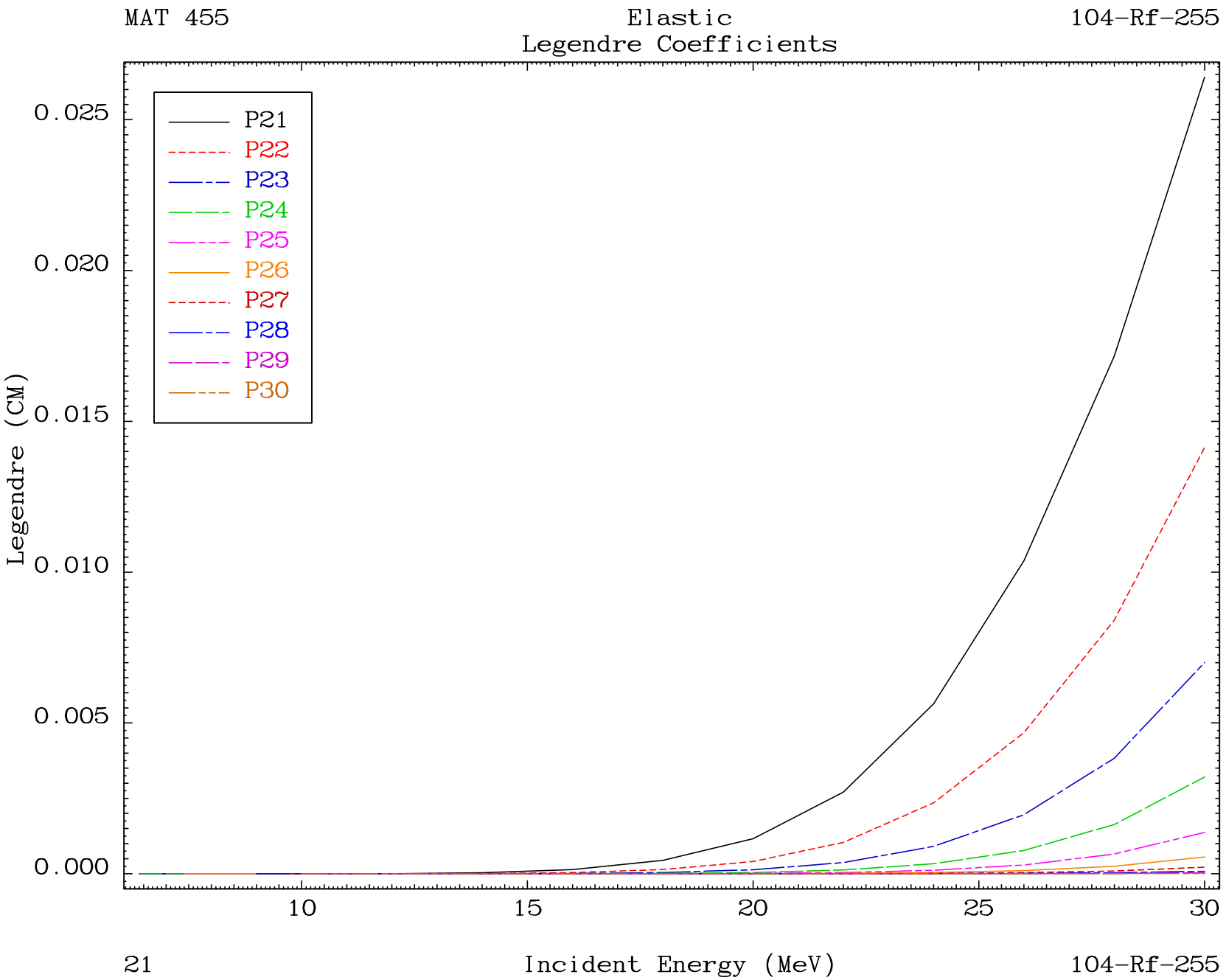

MAT 455
(n,α) Levels
104-Rf-255
293 Kelvin Cross Sections
Cross Section (barns)
10^0
10^-1
10^-2
10^-3
5
(n,α)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
16
104-Rf-255

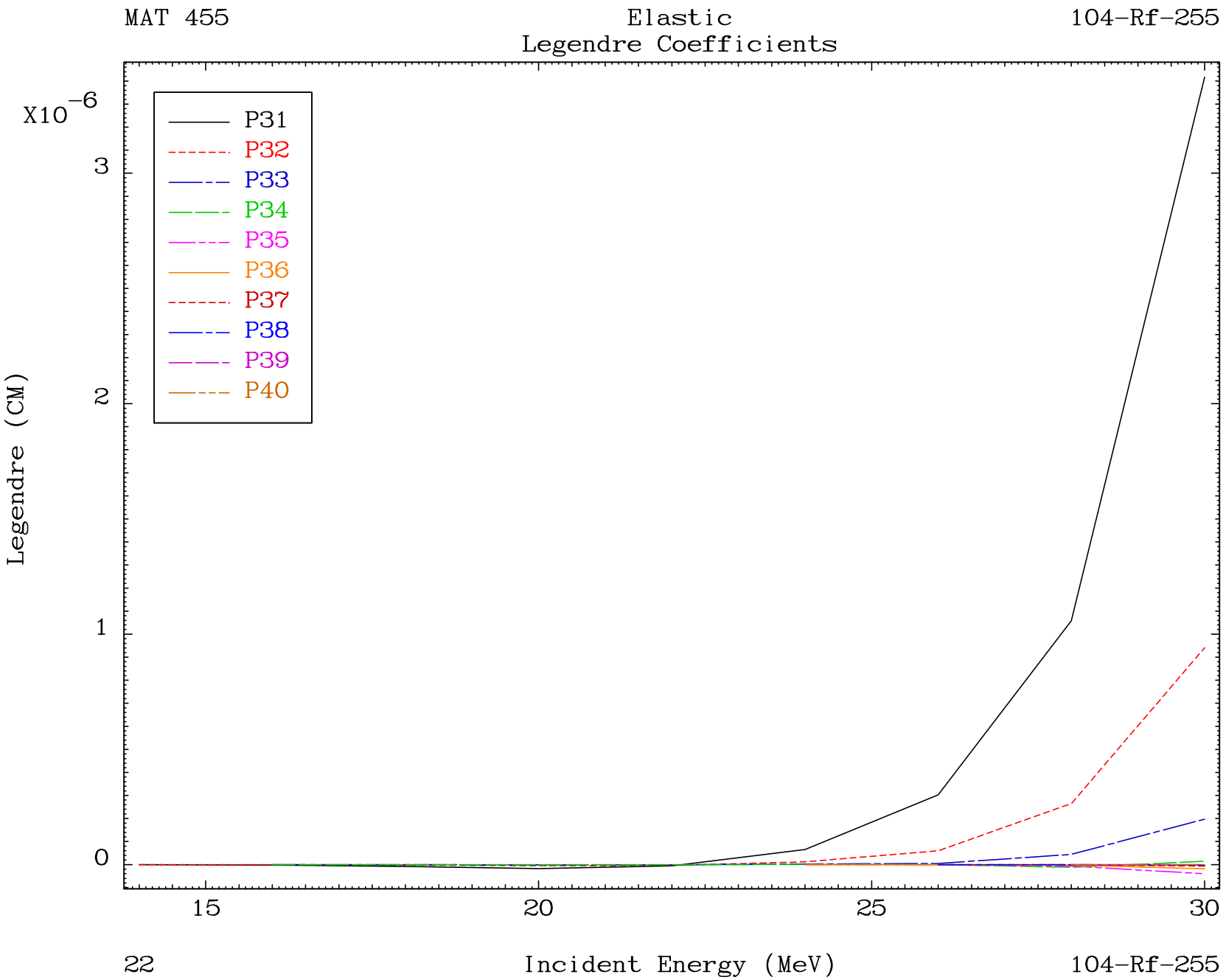

MAT 455
Energy Release
Parameters
104-Rf-255
Parameters
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma fission (mt18 or mt19-20-21-38)
Kerma capture (mt102)
Incident Energy (MeV)
17
104-Rf-255

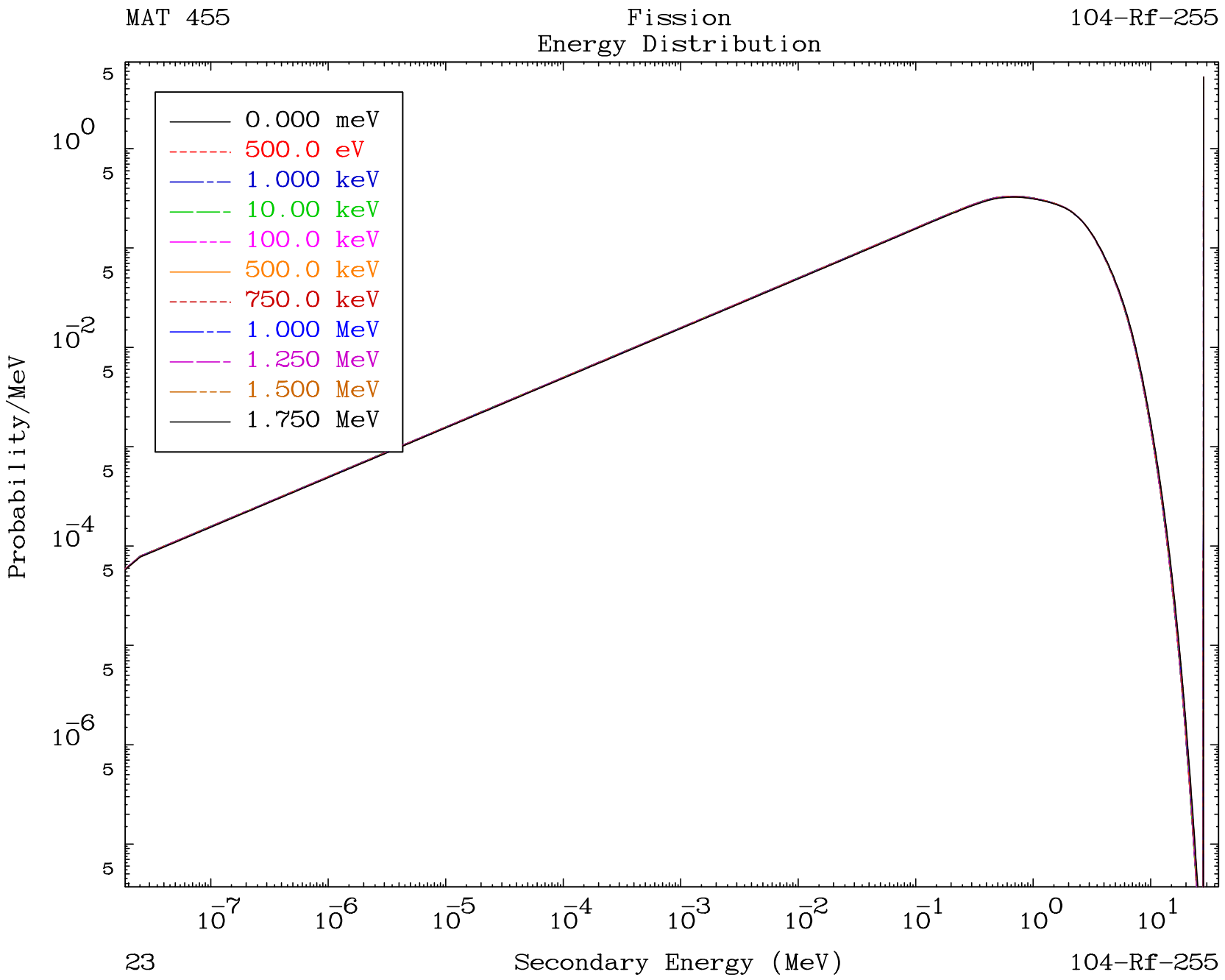

MAT 455
Energy Release Parameters
104-Rf-255
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{12}
10^{10}
10^{8}
10^{6}
10^{4}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
18
Incident Energy (MeV)
104-Rf-255

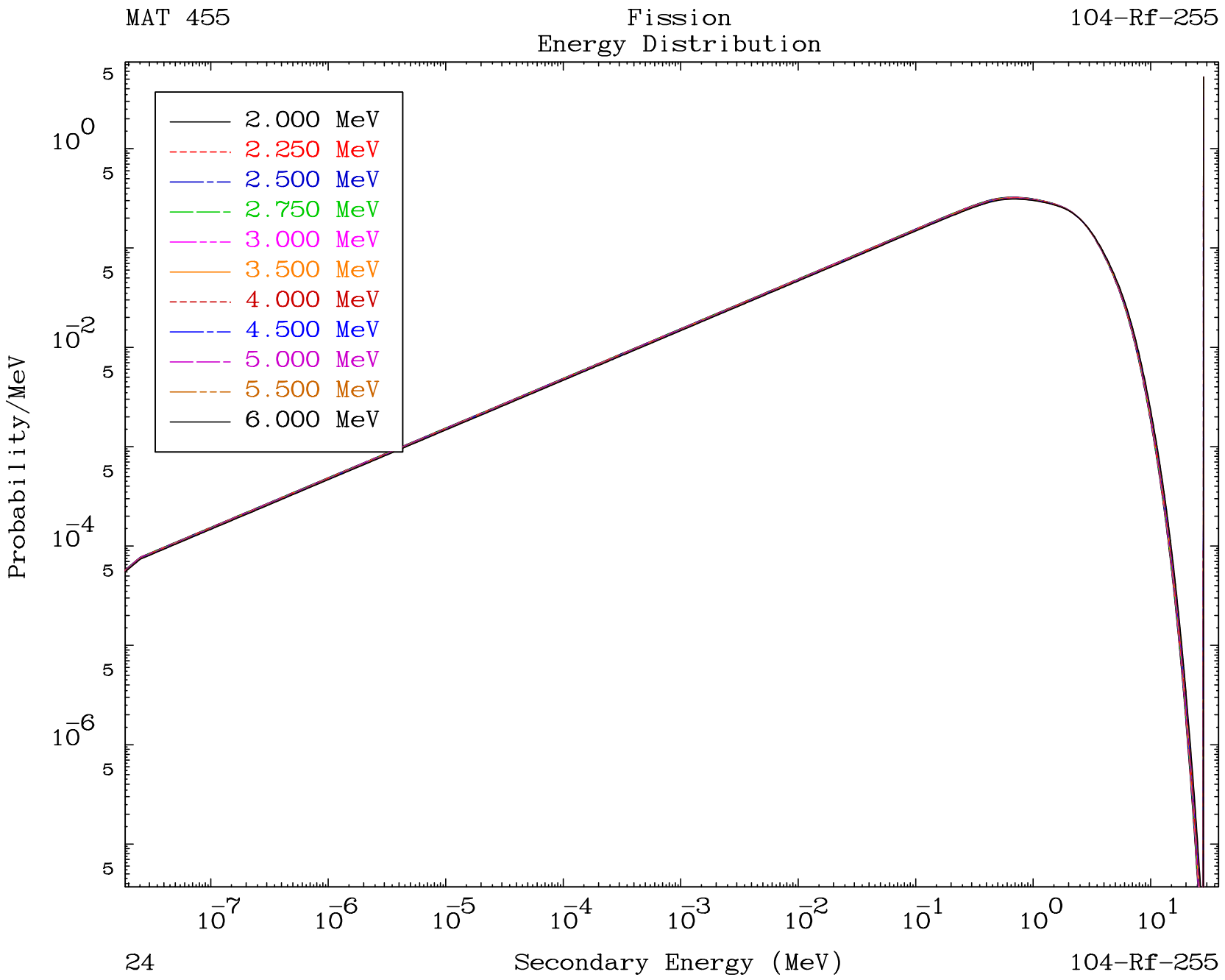

MAT 455
Elastic
Legendre Coefficients
104-Rf-255
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
19
Incident Energy (MeV)
104-Rf-255
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

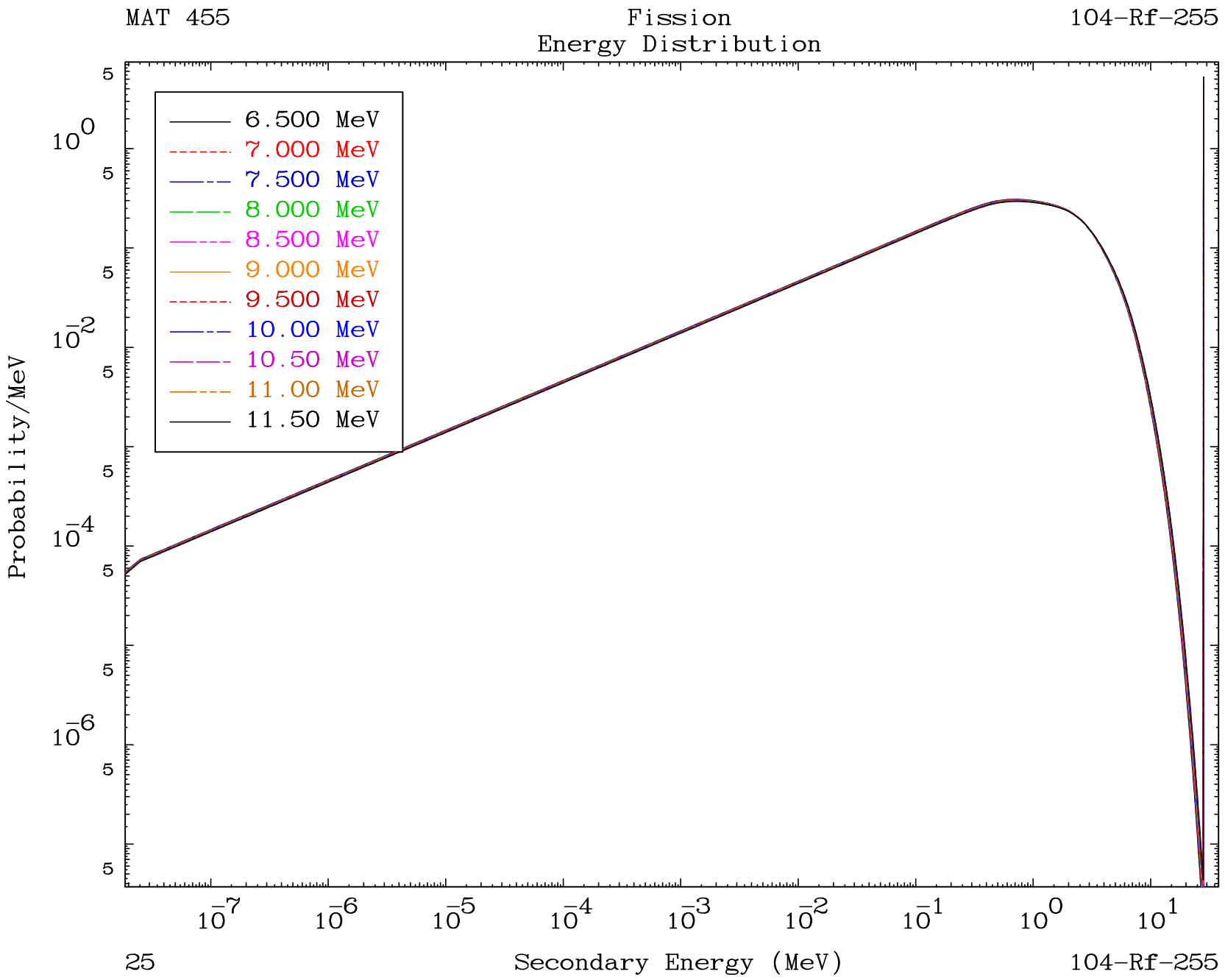

MAT 455
Elastic
Legendre Coefficients
104-Rf-255
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
20
Incident Energy (MeV)
104-Rf-255

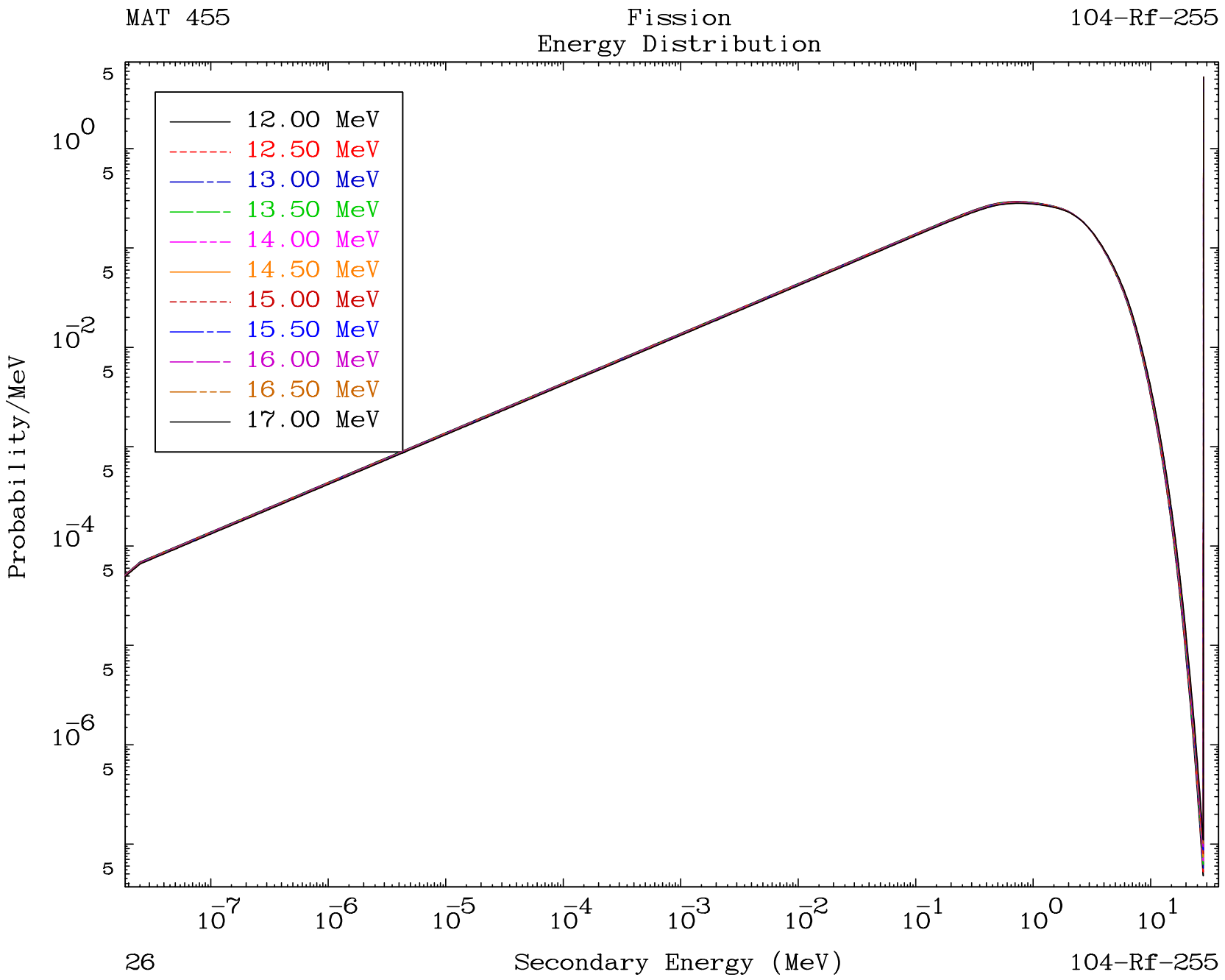

MAT 455
Elastic
Legendre Coefficients
104-Rf-255
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.025
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
10
15
20
25
30
21
Incident Energy (MeV)
104-Rf-255

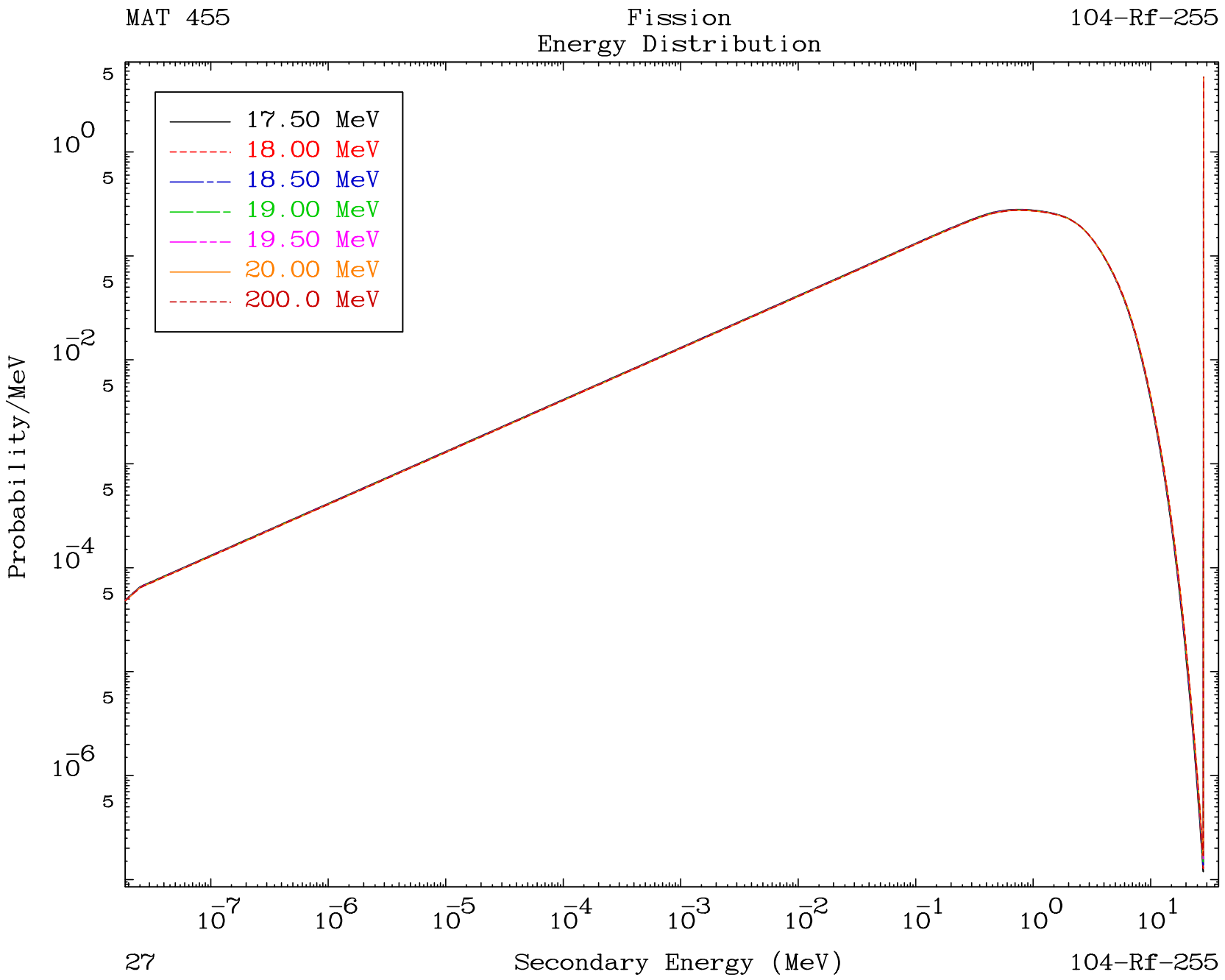

MAT 455
Elastic
Legendre Coefficients
104-Rf-255
X10 −6
3
2
1
0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
P39
P40
15
20
25
30
22
Incident Energy (MeV)
104-Rf-255

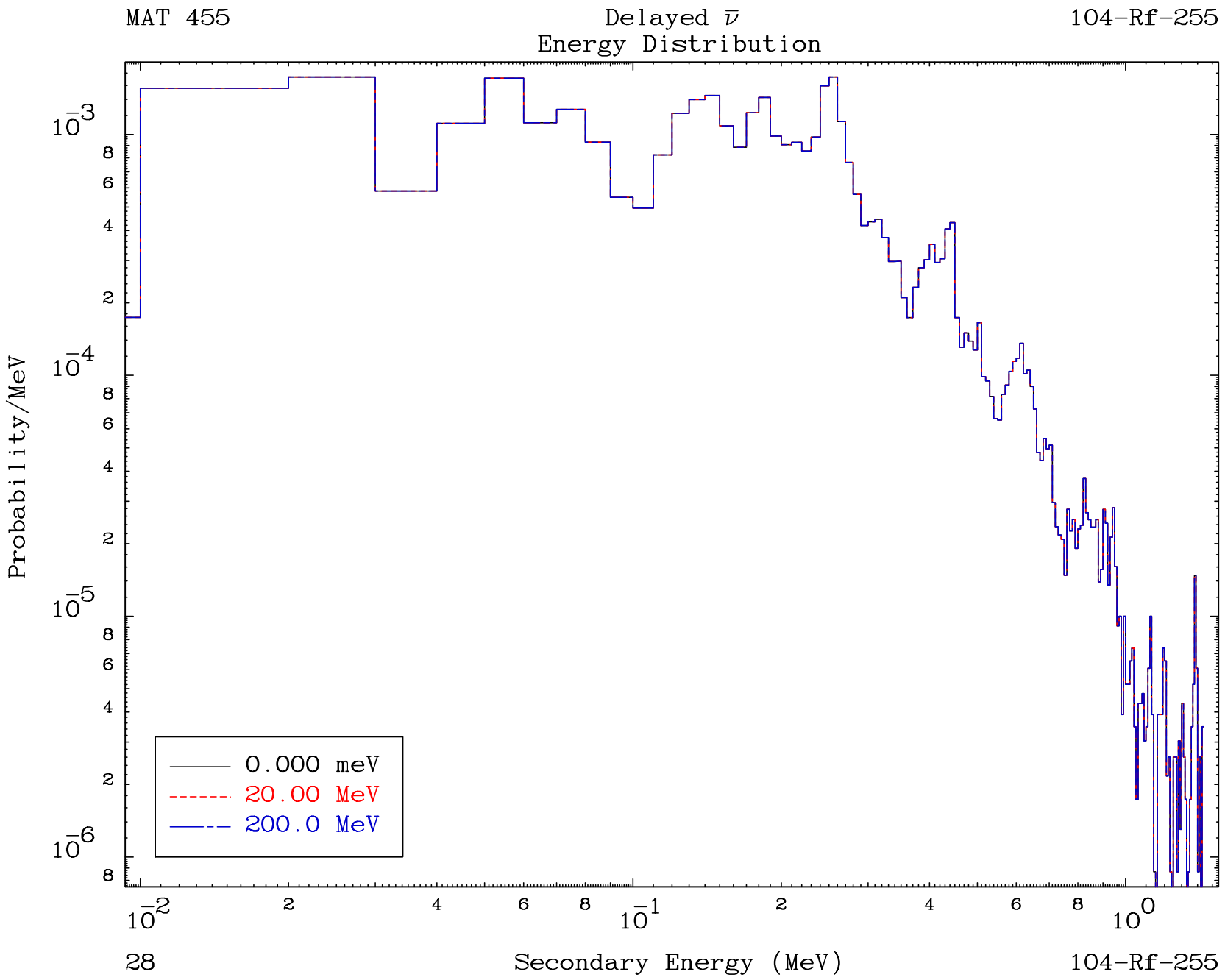

MAT 455
Fission
Energy Distribution
104-Rf-255
0.000 meV
500.0 eV
1.000 keV
10.00 keV
100.0 keV
500.0 keV
750.0 keV
1.000 MeV
1.250 MeV
1.500 MeV
1.750 MeV
Probability/MeV
Secondary Energy (MeV)
23
104-Rf-255

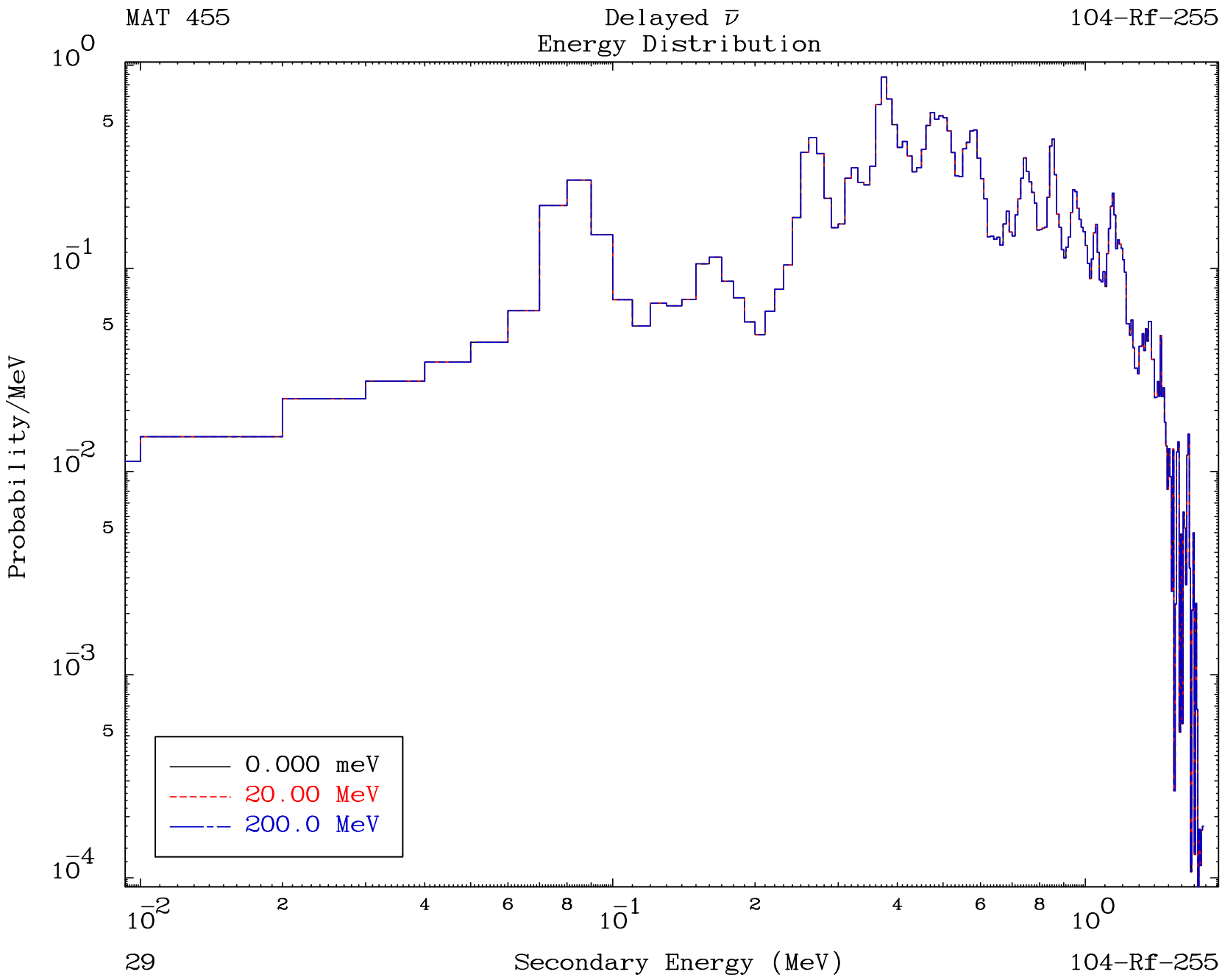

MAT 455
Fission
Energy Distribution
104-Rf-255
2.000 MeV
2.250 MeV
2.500 MeV
2.750 MeV
3.000 MeV
3.500 MeV
4.000 MeV
4.500 MeV
5.000 MeV
5.500 MeV
6.000 MeV
Probability/MeV
Secondary Energy (MeV)
24
104-Rf-255

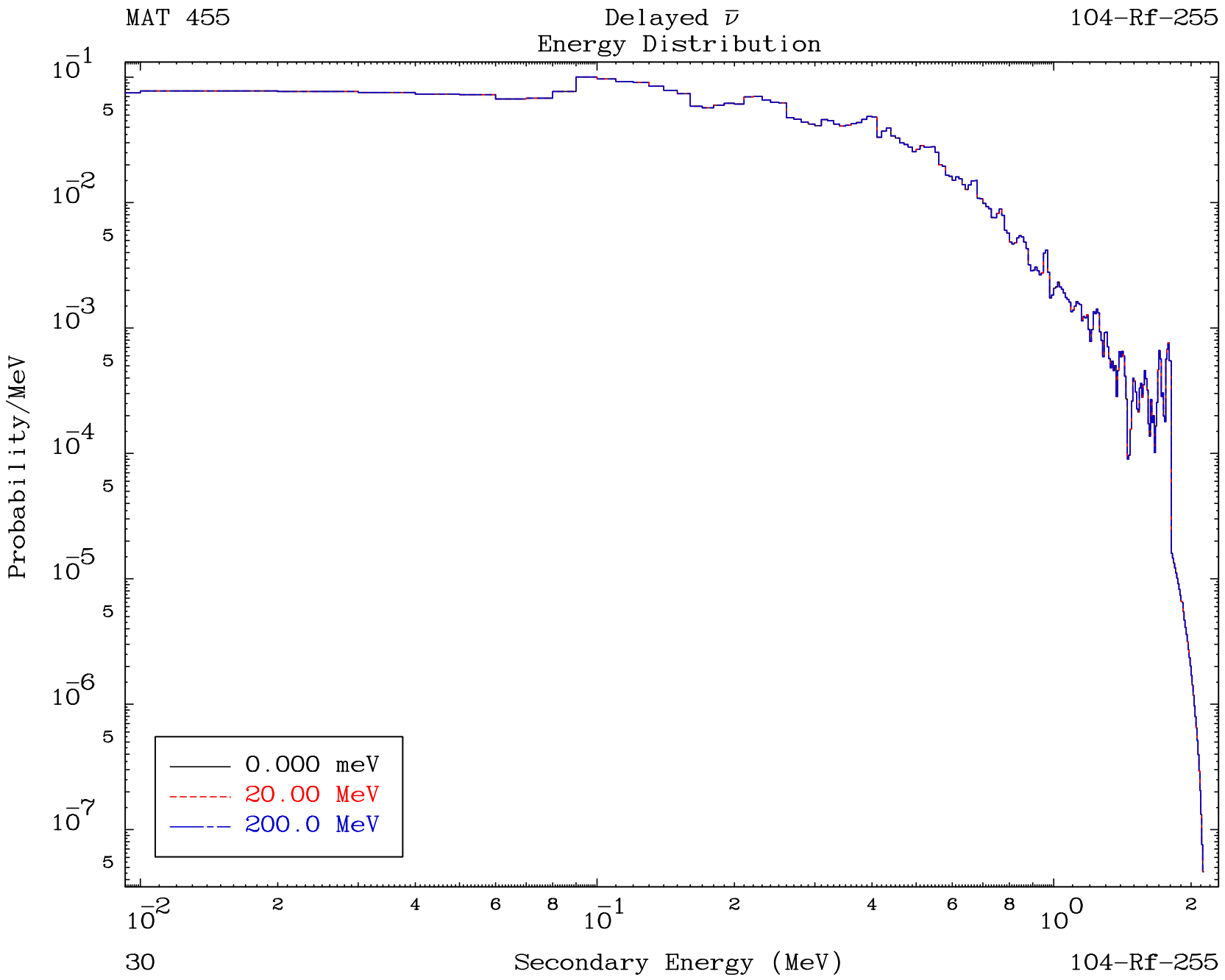

MAT 455
Fission
Energy Distribution
104-Rf-255
6.500 MeV
7.000 MeV
7.500 MeV
8.000 MeV
8.500 MeV
9.000 MeV
9.500 MeV
10.00 MeV
10.50 MeV
11.00 MeV
11.50 MeV
Probability/MeV
Secondary Energy (MeV)
25
104-Rf-255

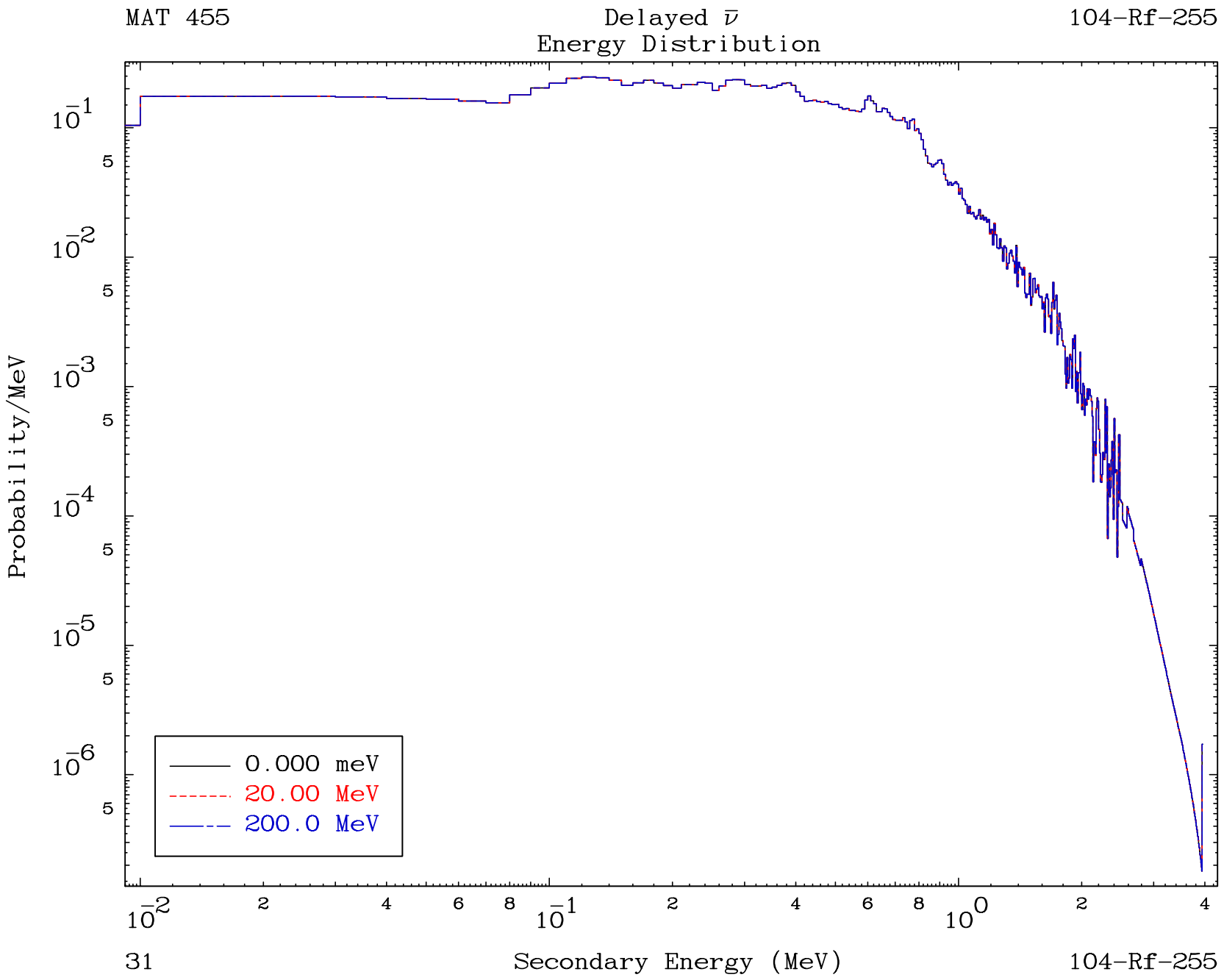

MAT 455
Fission
Energy Distribution
104-Rf-255
12.00 MeV
12.50 MeV
13.00 MeV
13.50 MeV
14.00 MeV
14.50 MeV
15.00 MeV
15.50 MeV
16.00 MeV
16.50 MeV
17.00 MeV
Probability/MeV
Secondary Energy (MeV)
26
104-Rf-255

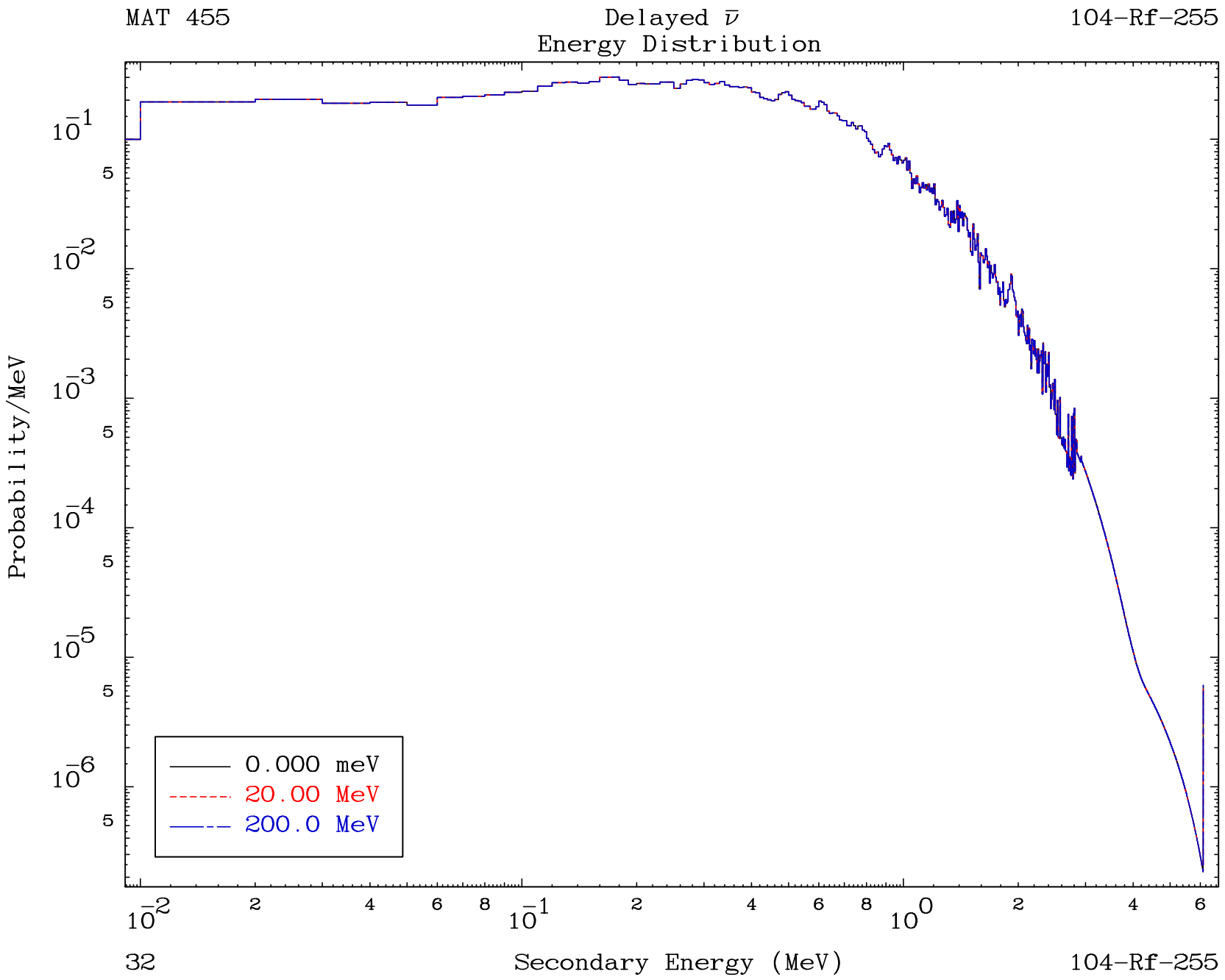

MAT 455
Fission
Energy Distribution
104-Rf-255
17.50 MeV
18.00 MeV
18.50 MeV
19.00 MeV
19.50 MeV
20.00 MeV
200.0 MeV
Probability/MeV
Secondary Energy (MeV)
27
104-Rf-255

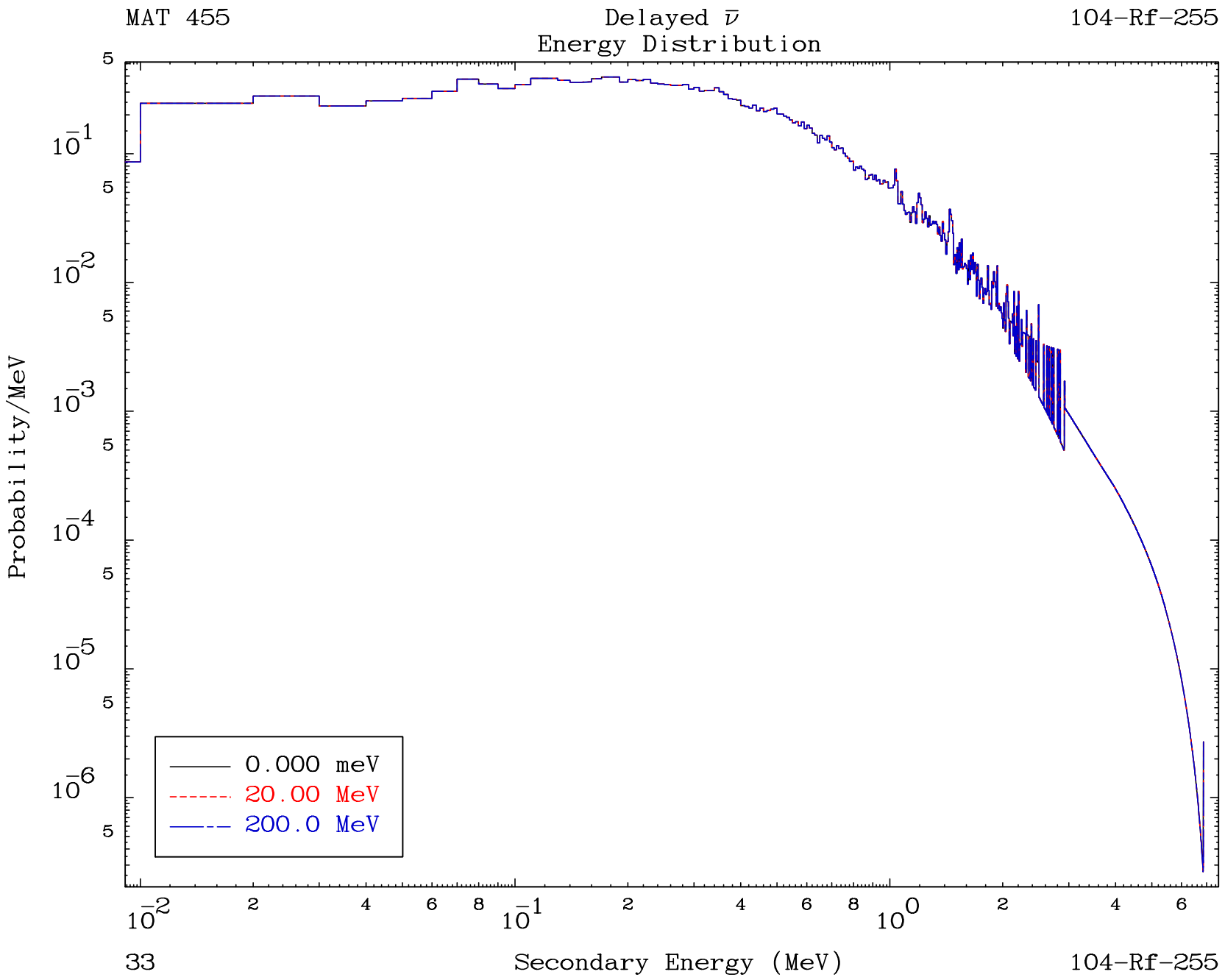

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
10^{-3}
10^{-4}
10^{-5}
10^{-6}
8
6
4
2
10^{-2}
10^{-1}
10^{0}
0.000 meV
20.00 MeV
200.0 MeV
28
Secondary Energy (MeV)
104-Rf-255

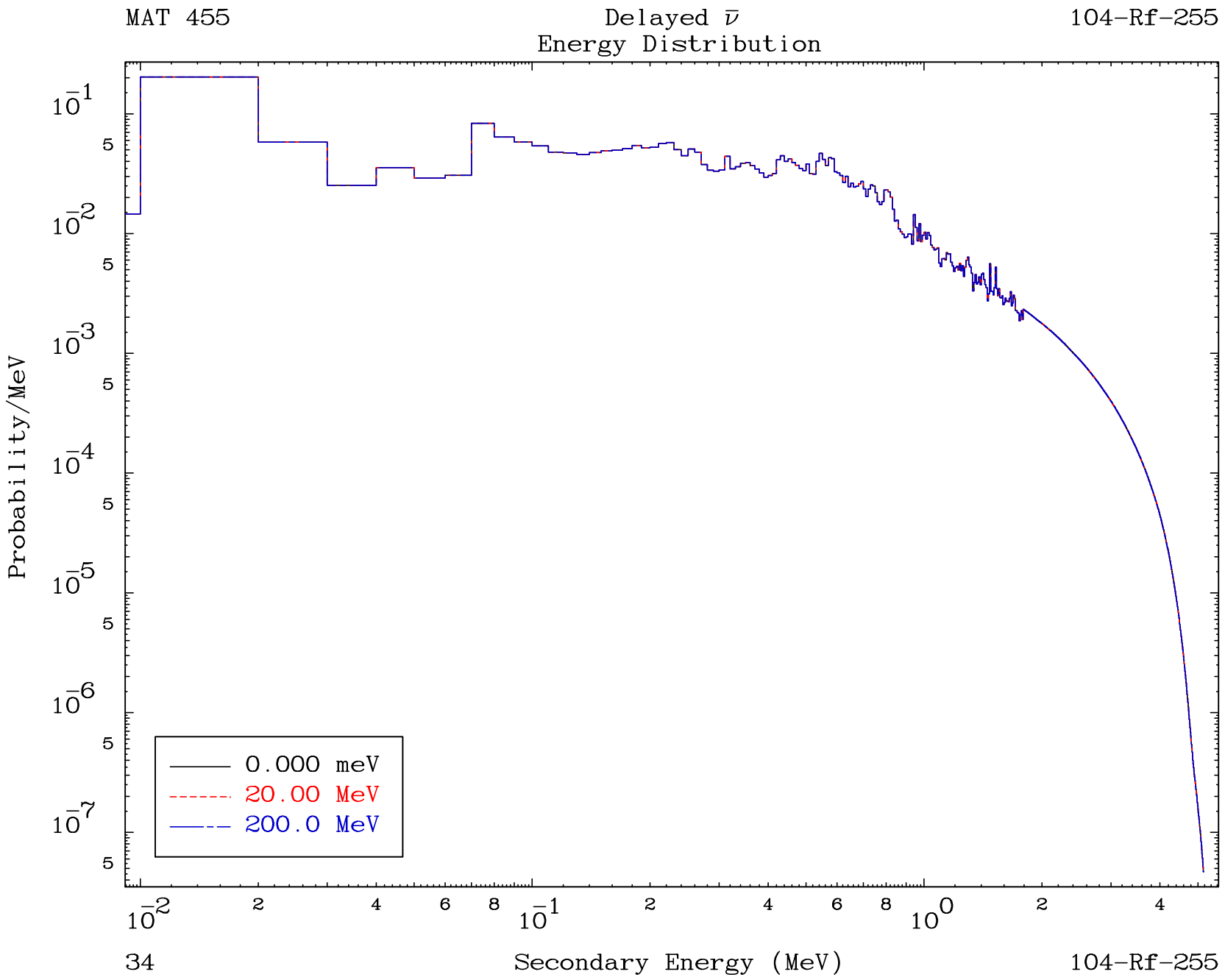

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
Secondary Energy (MeV)
0.000 meV
20.00 MeV
200.0 MeV
29
104-Rf-255

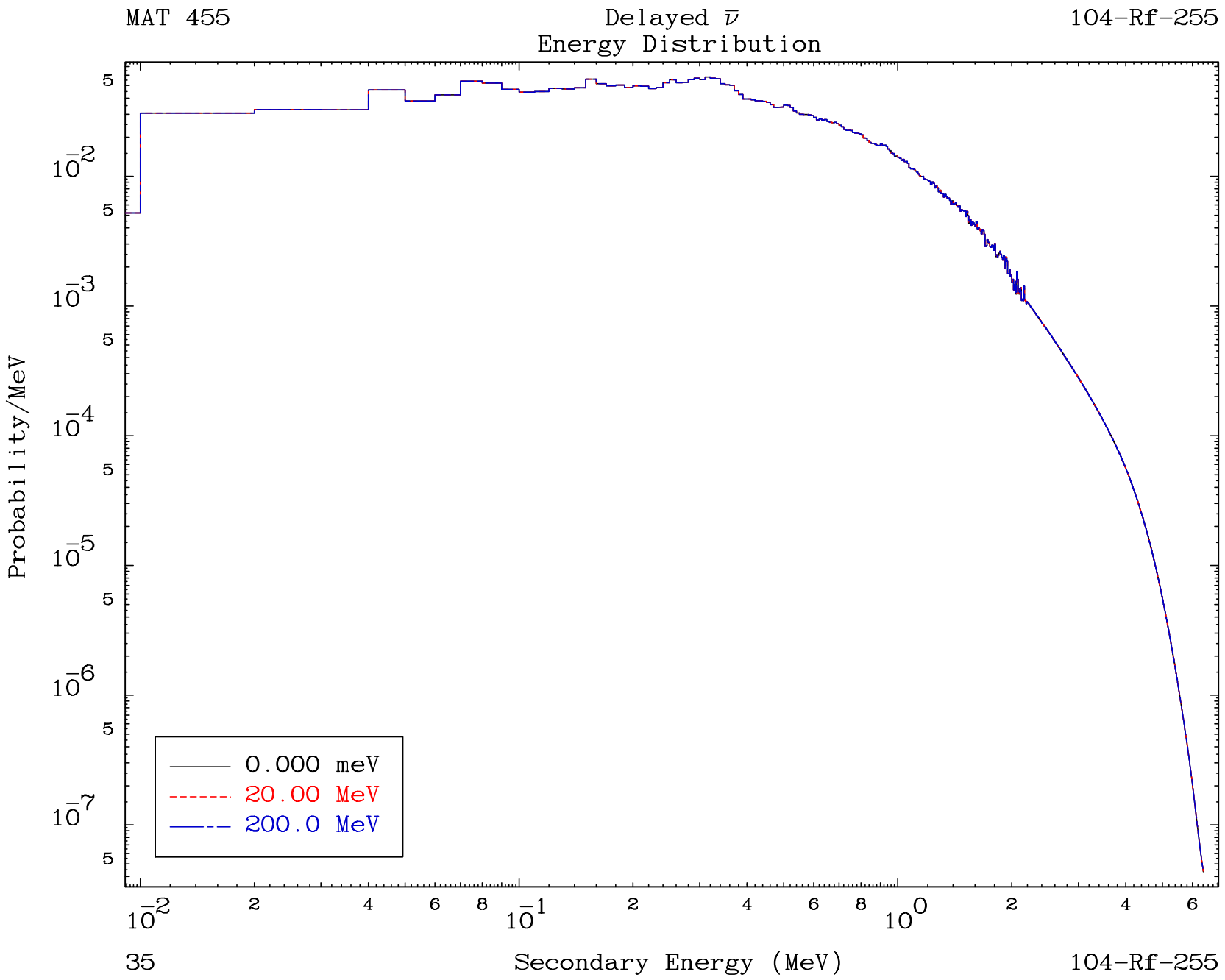

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
0.000 meV
20.00 MeV
200.0 MeV
Secondary Energy (MeV)
104-Rf-255

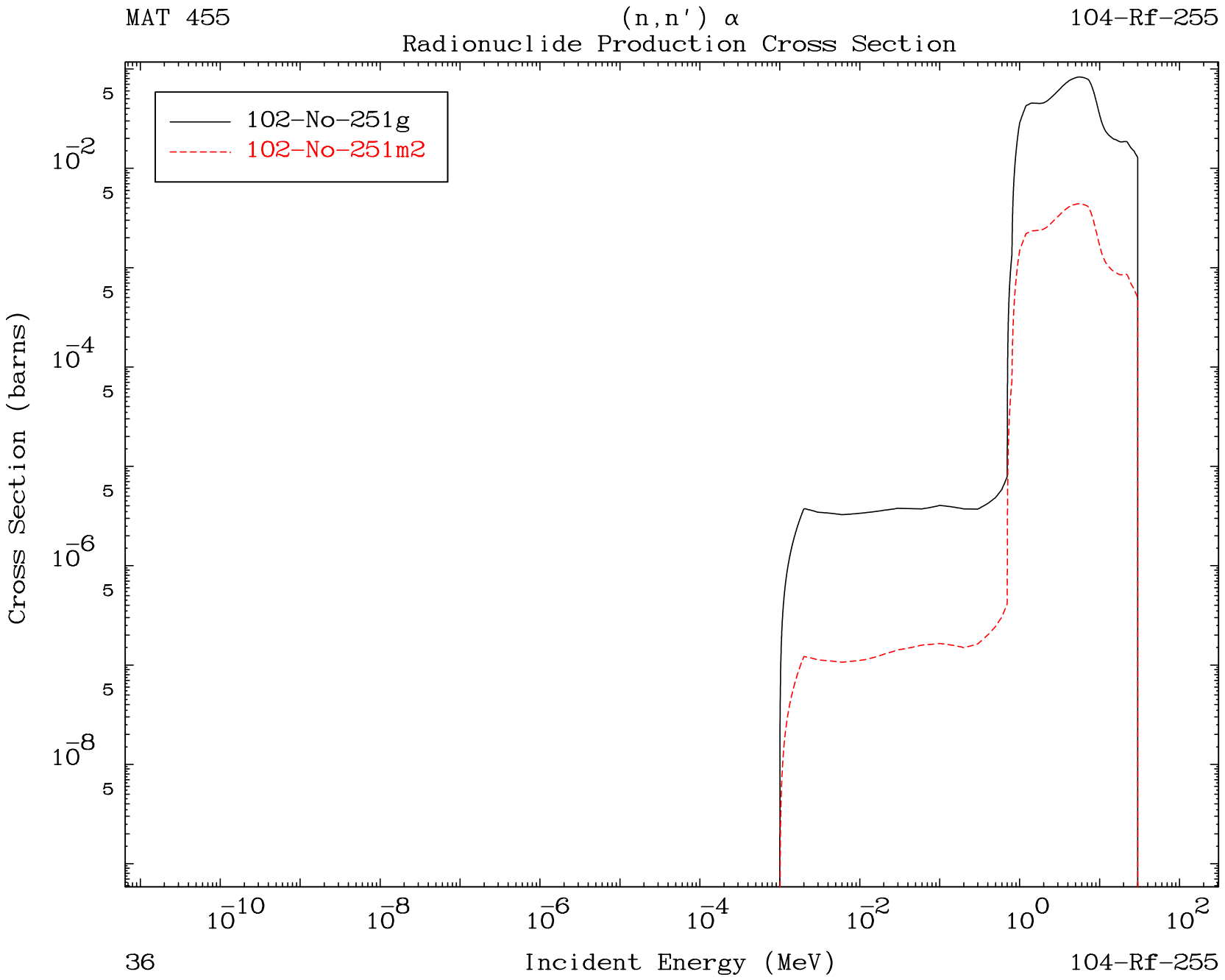

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
0.000 meV
20.00 MeV
200.0 MeV
Secondary Energy (MeV)
31
104-Rf-255

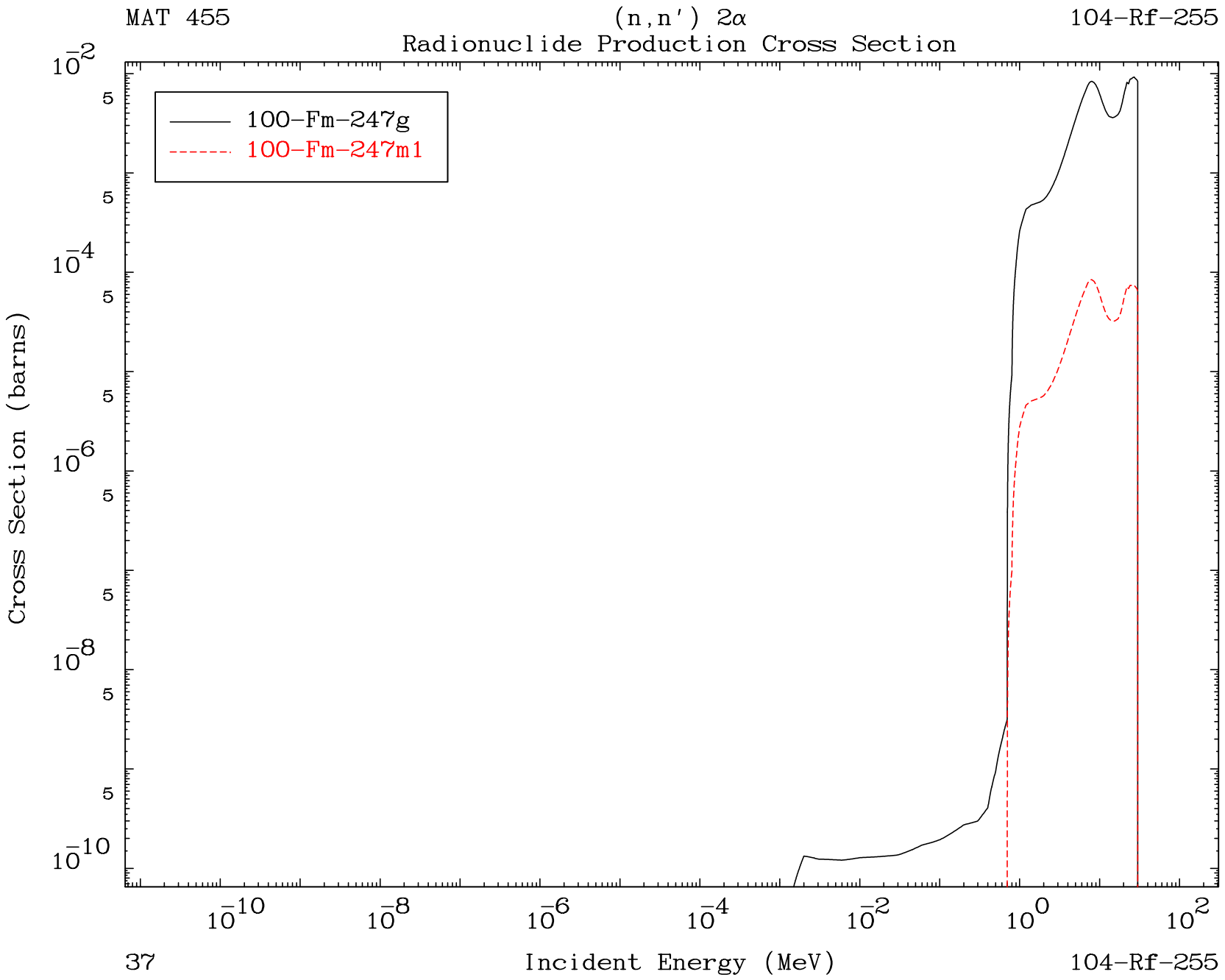

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
5
0.000 meV
20.00 MeV
200.0 MeV
10^{-2}
2
4
6
8
10^{-1}
10^{0}
Secondary Energy (MeV)
32
104-Rf-255

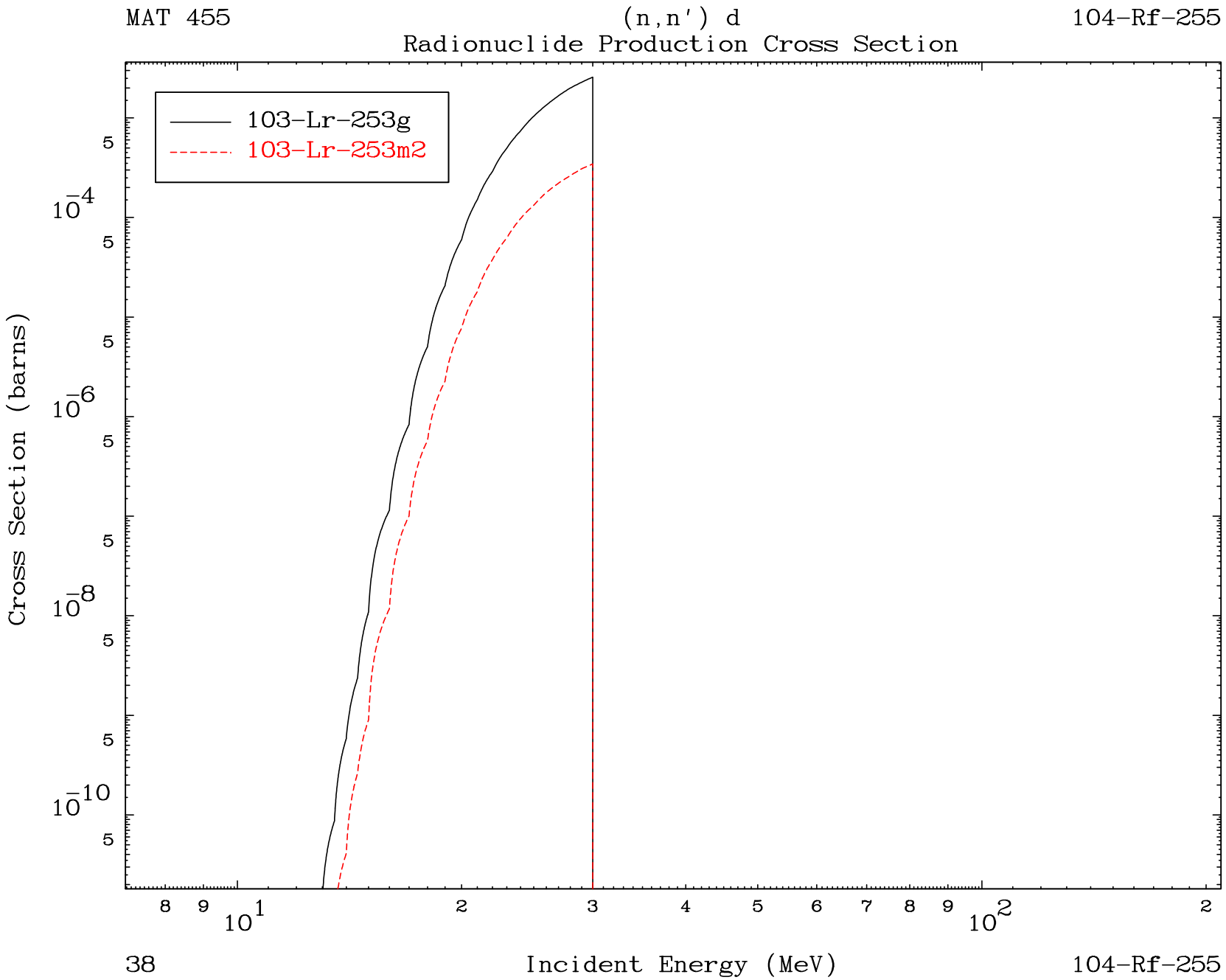

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
0.000 meV
20.00 MeV
200.0 MeV
Secondary Energy (MeV)
33
104-Rf-255

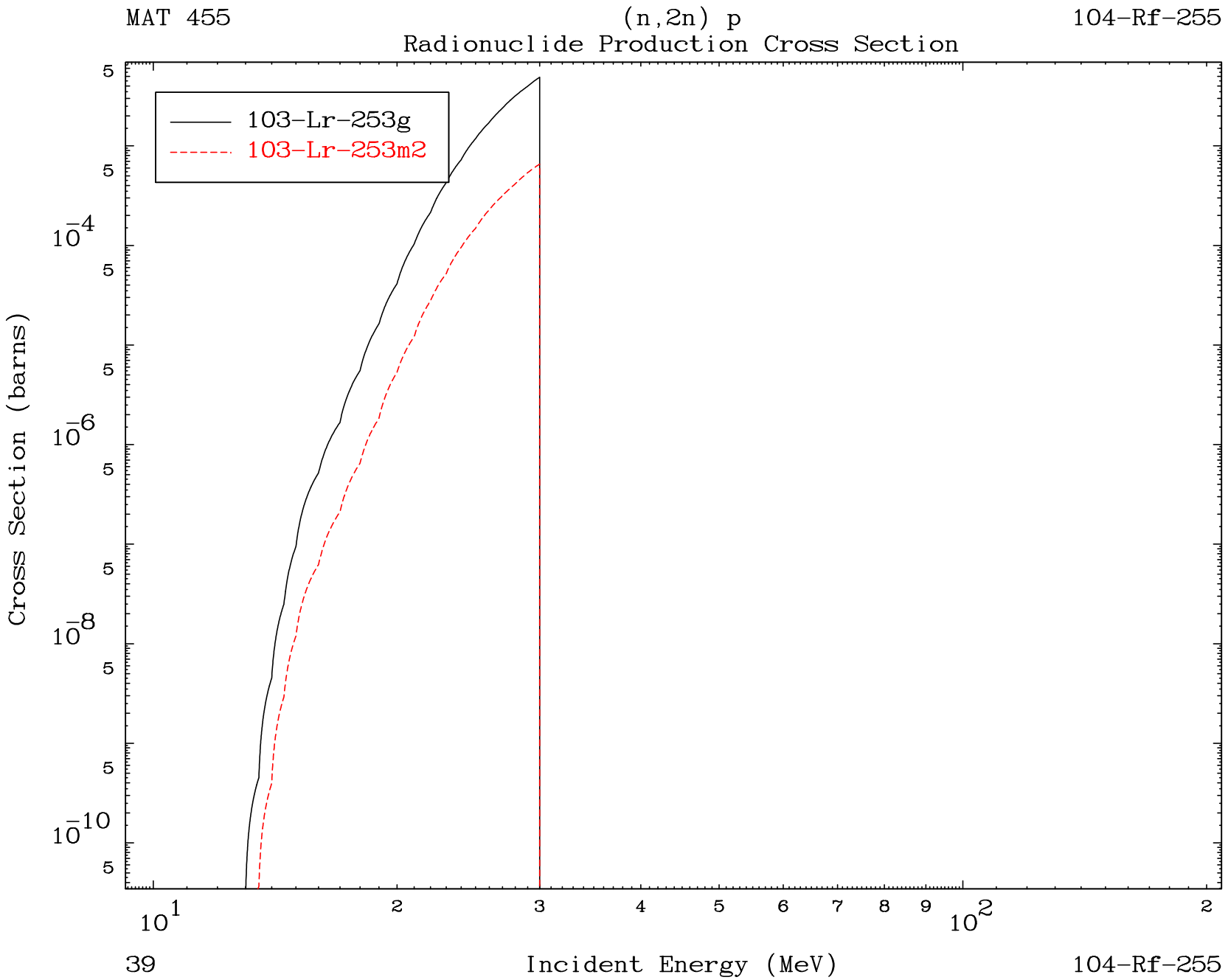

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
5
10^{-2}
2
4
6
8
10^{-1}
10^{0}
0.000 meV
20.00 MeV
200.0 MeV
34
Secondary Energy (MeV)
104-Rf-255

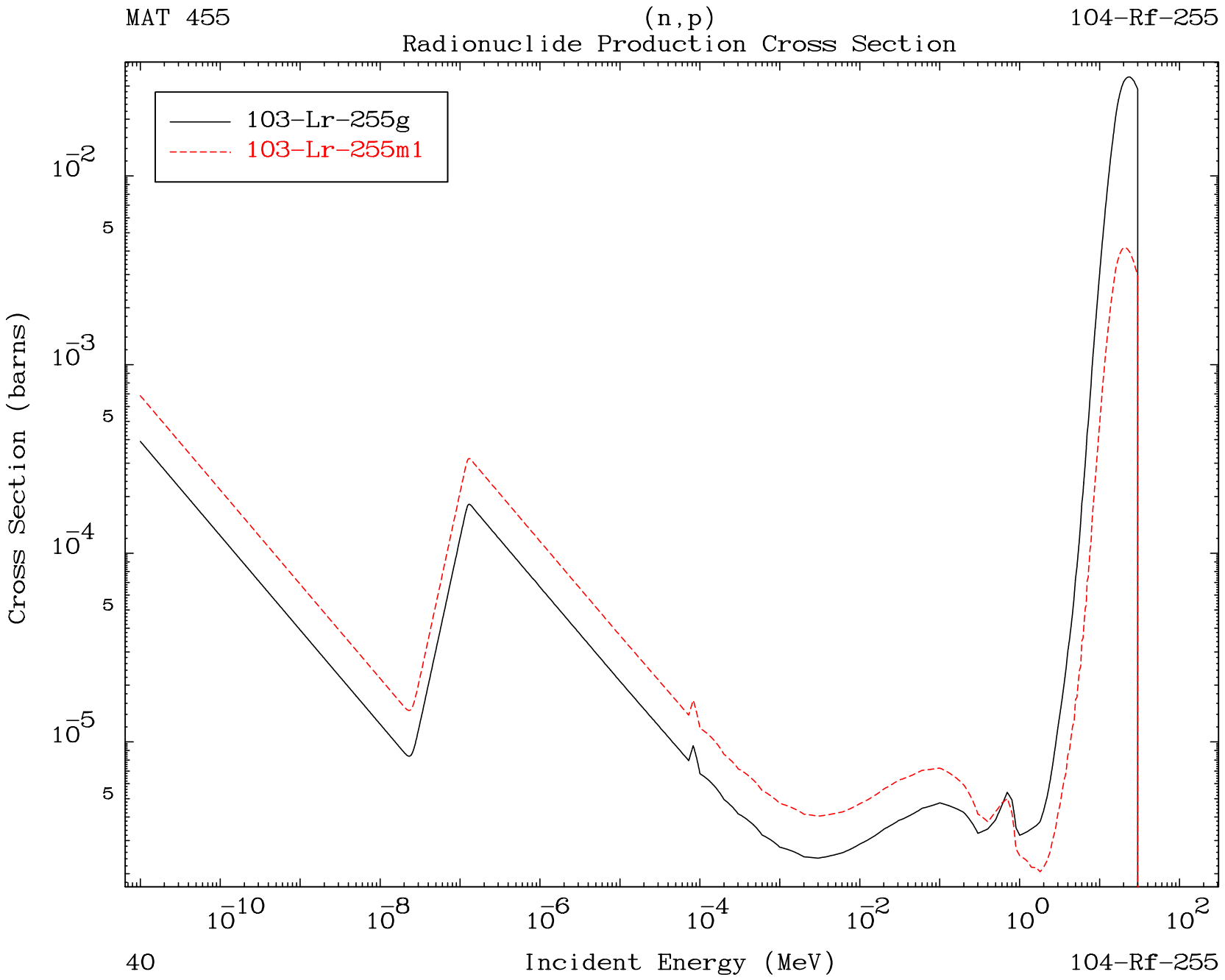

MAT 455
Delayed $\bar{\nu}$
Energy Distribution
104-Rf-255
Probability/MeV
0.000 meV
20.00 MeV
200.0 MeV
Secondary Energy (MeV)
35
104-Rf-255

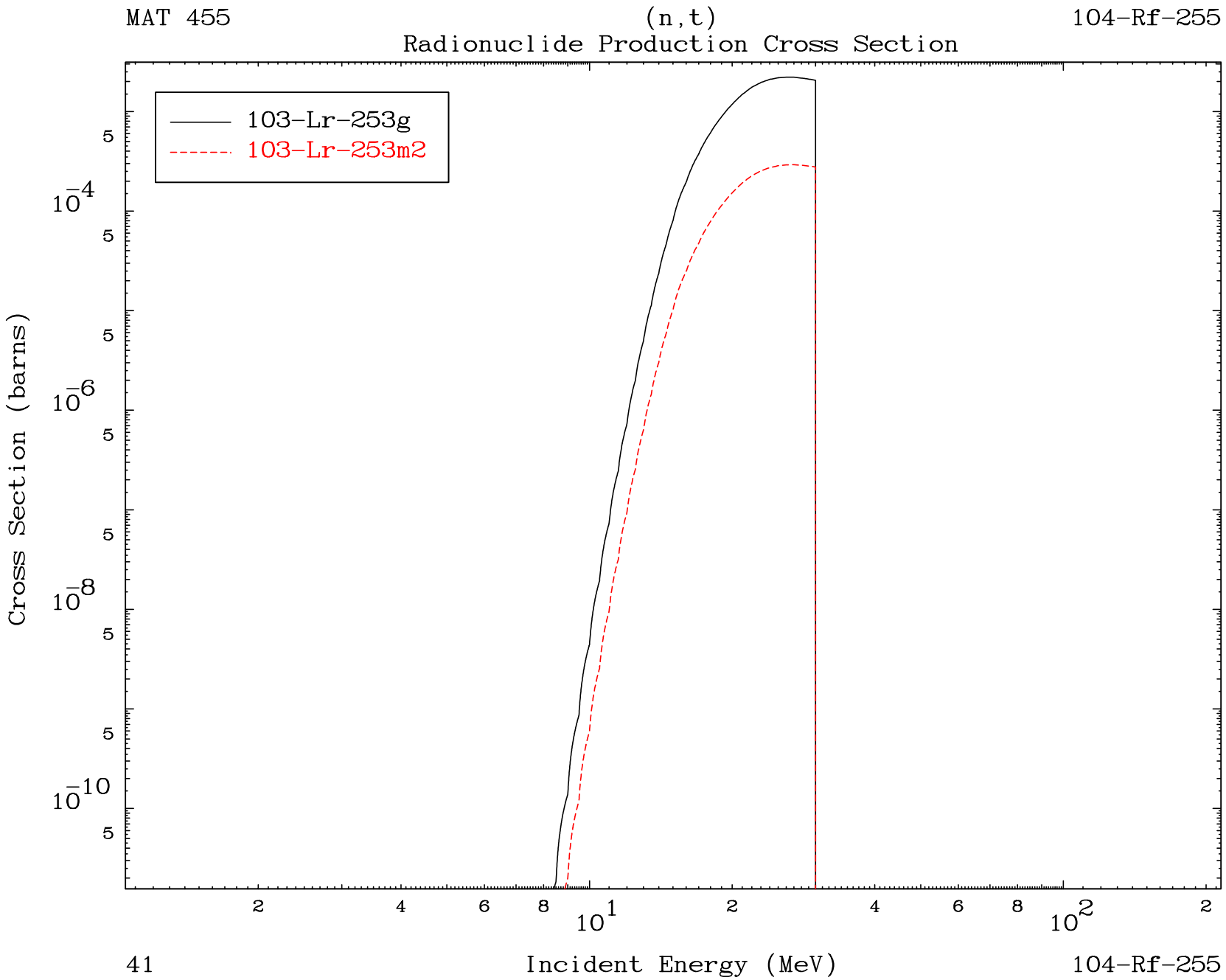

MAT 455
(n,n') α
104-Rf-255
Radionuclide Production Cross Section
102-No-251g
102-No-251m2
Cross Section (barns)
Incident Energy (MeV)
36
104-Rf-255


MAT 455
(n,n') 2α
104-Rf-255
Radionuclide Production Cross Section
100-Fm-247g
100-Fm-247m1
Cross Section (barns)
Incident Energy (MeV)
37
104-Rf-255


MAT 455
(n,n') d
104-Rf-255
Radionuclide Production Cross Section
103-Lr-253g
103-Lr-253m2
Cross Section (barns)
10-4
10-6
10-8
10-10
Incident Energy (MeV)
38
104-Rf-255


MAT 455
(n,2n) p
104-Rf-255
Radionuclide Production Cross Section
103-Lr-253g
103-Lr-253m2
Cross Section (barns)
Incident Energy (MeV)
39
104-Rf-255


MAT 455
(n,p)
104-Rf-255
Radionuclide Production Cross Section
103-Lr-255g
103-Lr-255m1
Cross Section (barns)
10^-2
5
10^-3
5
10^-4
5
10^-5
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
40
Incident Energy (MeV)
104-Rf-255


MAT 455
(n,t)
104-Rf-255
Radionuclide Production Cross Section
103-Lr-253g
103-Lr-253m2
Cross Section (barns)
10-4
10-6
10-8
10-10
2
4
6
8
101
2
4
6
8
102
2
41
Incident Energy (MeV)
104-Rf-255