Program EVALPLOT
(Version 2018-1)
by
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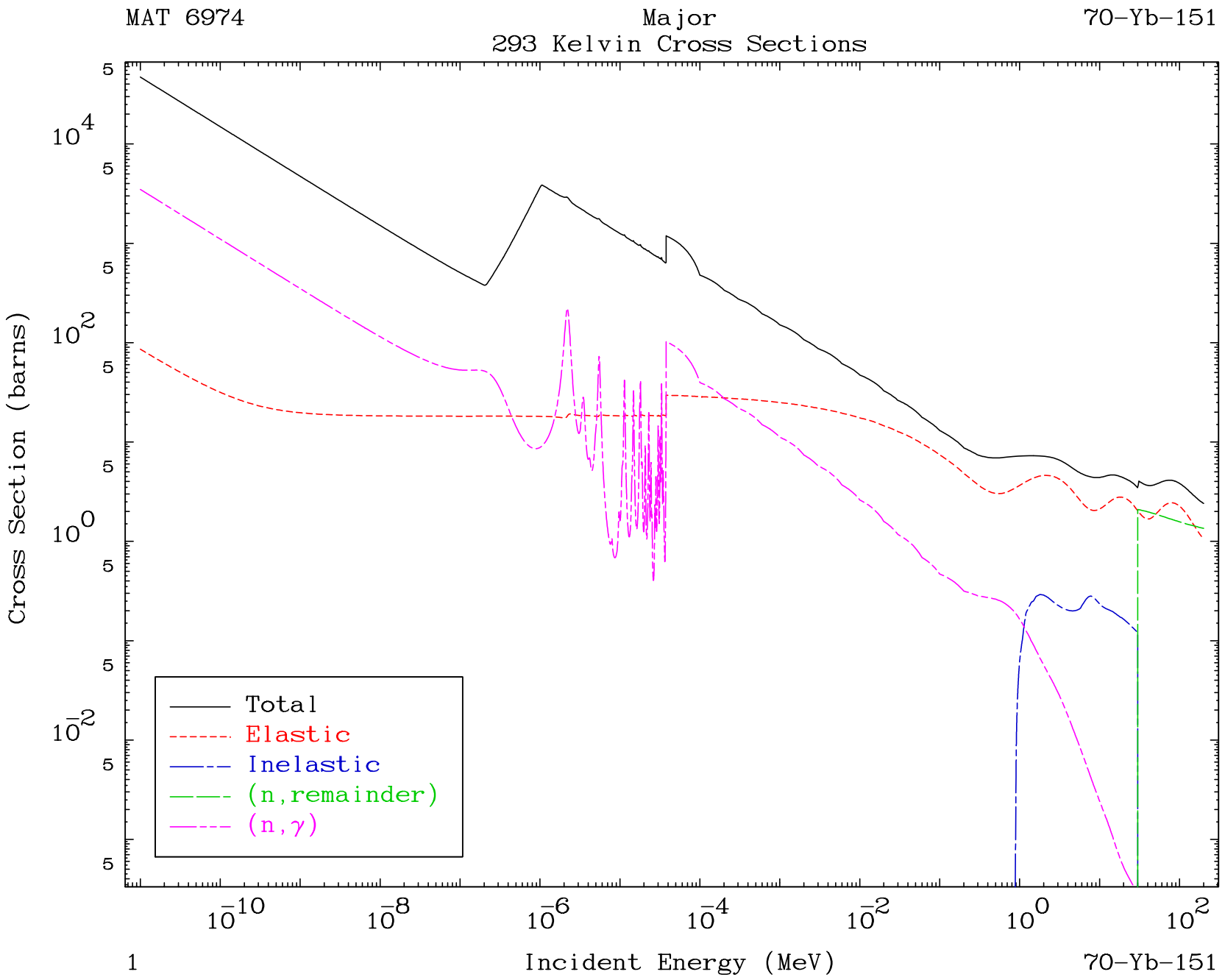
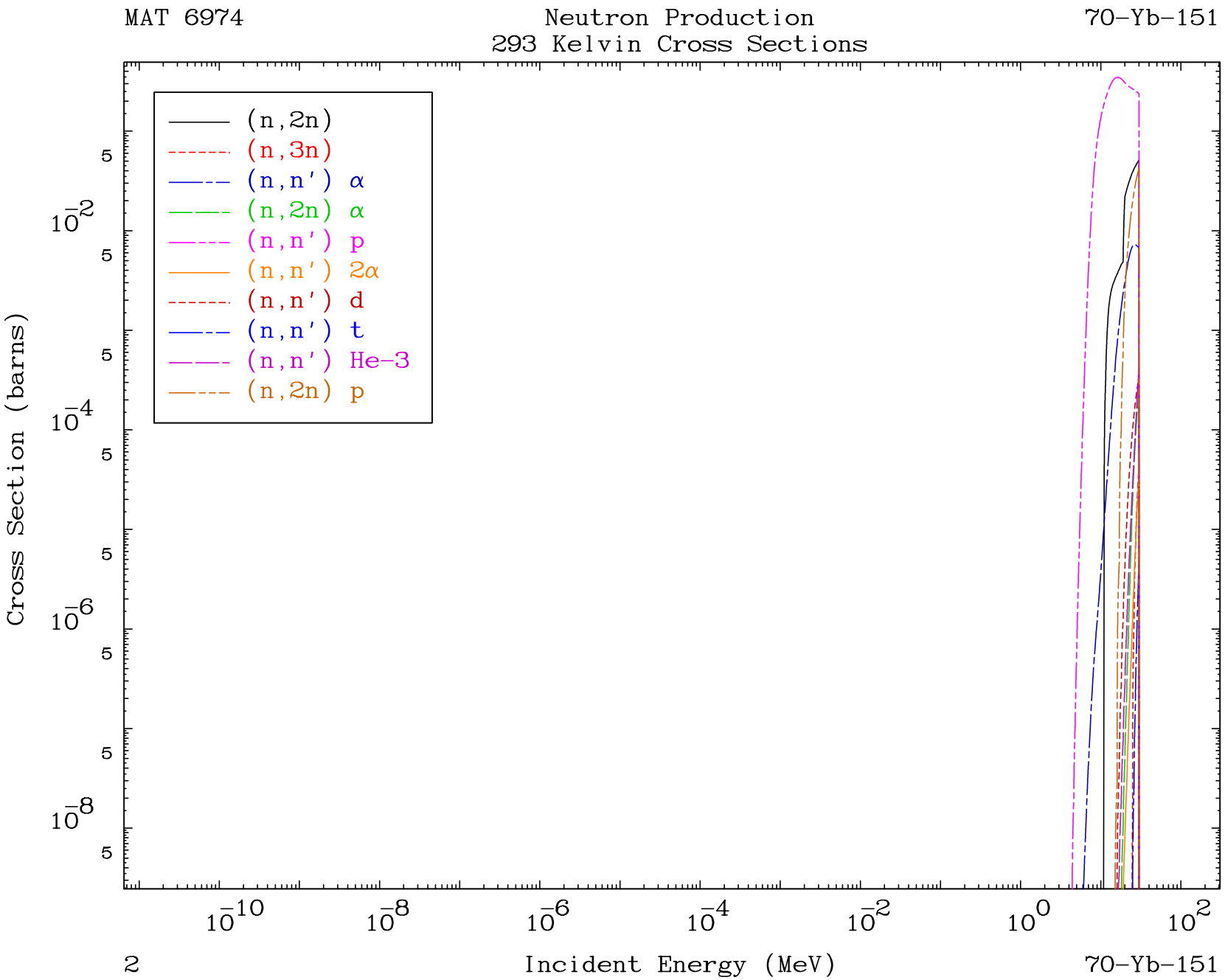
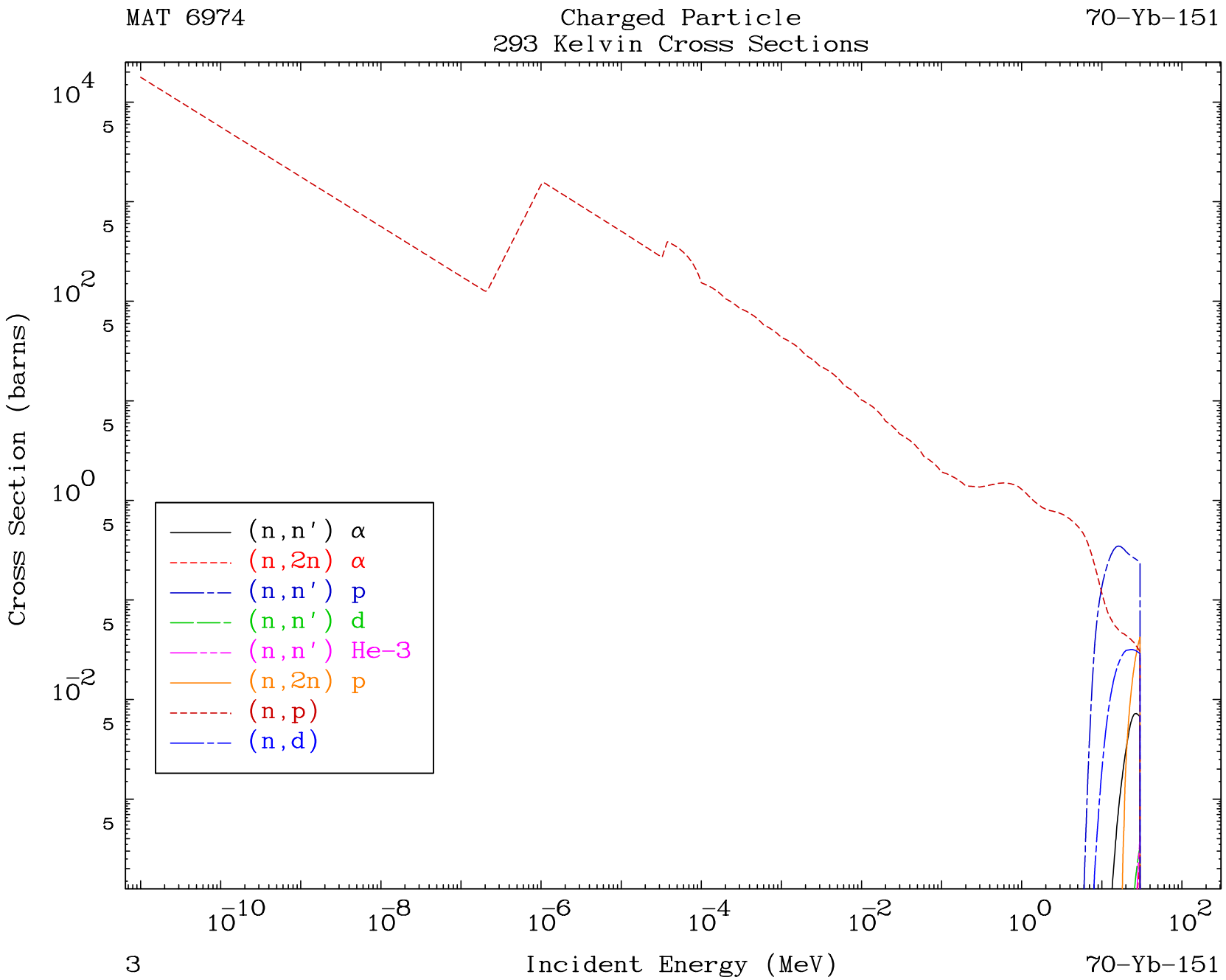
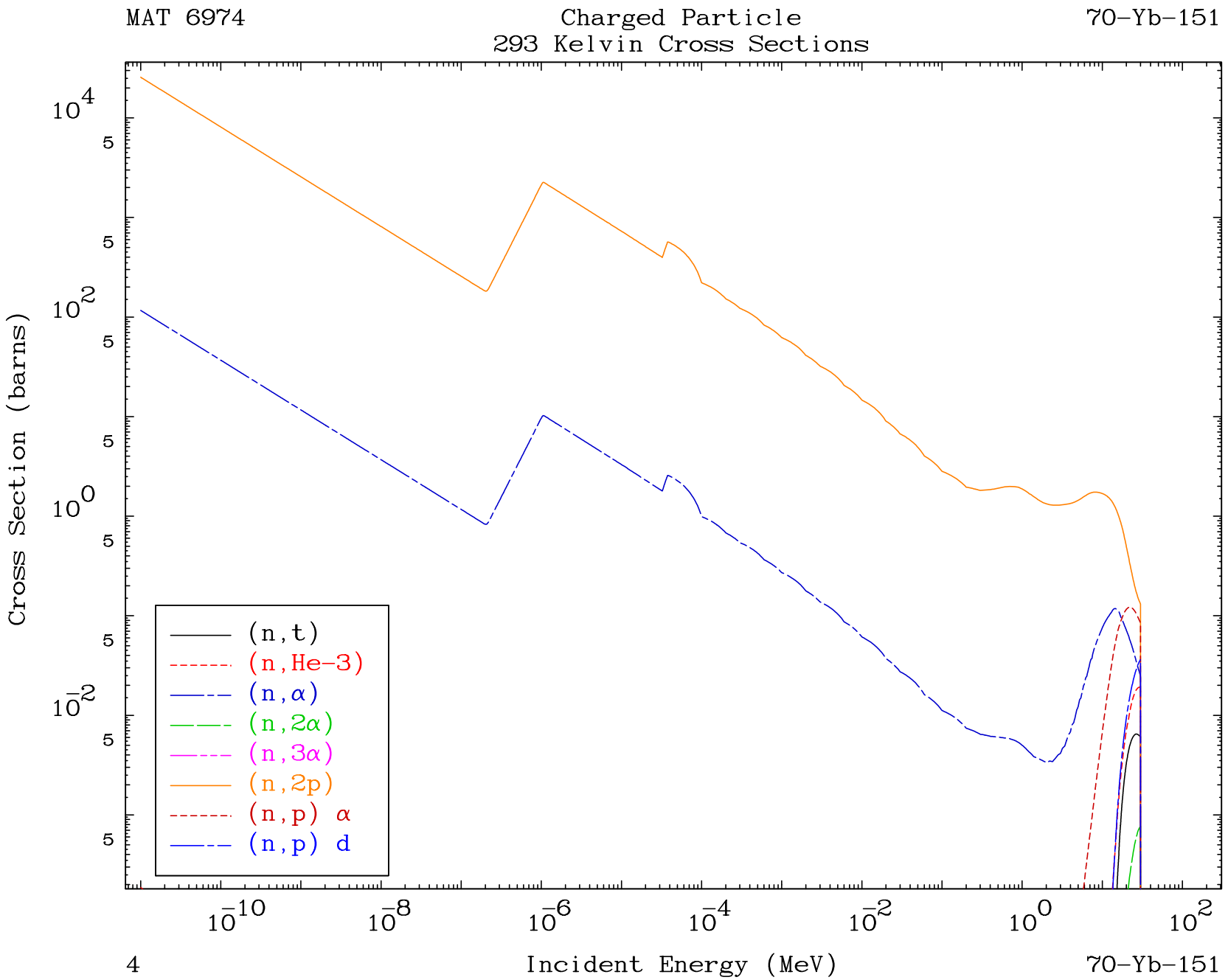
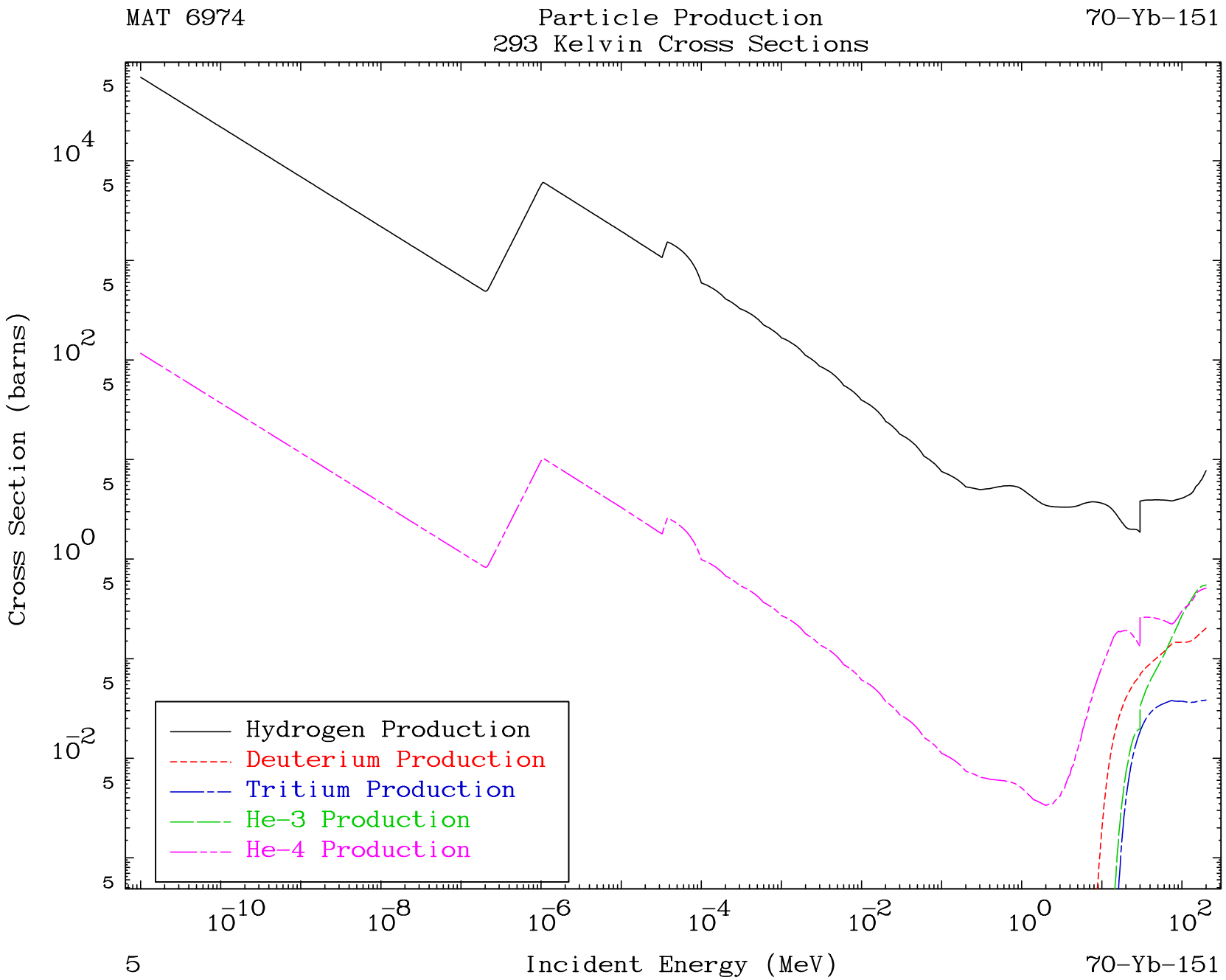
Press Mouse Button to Start

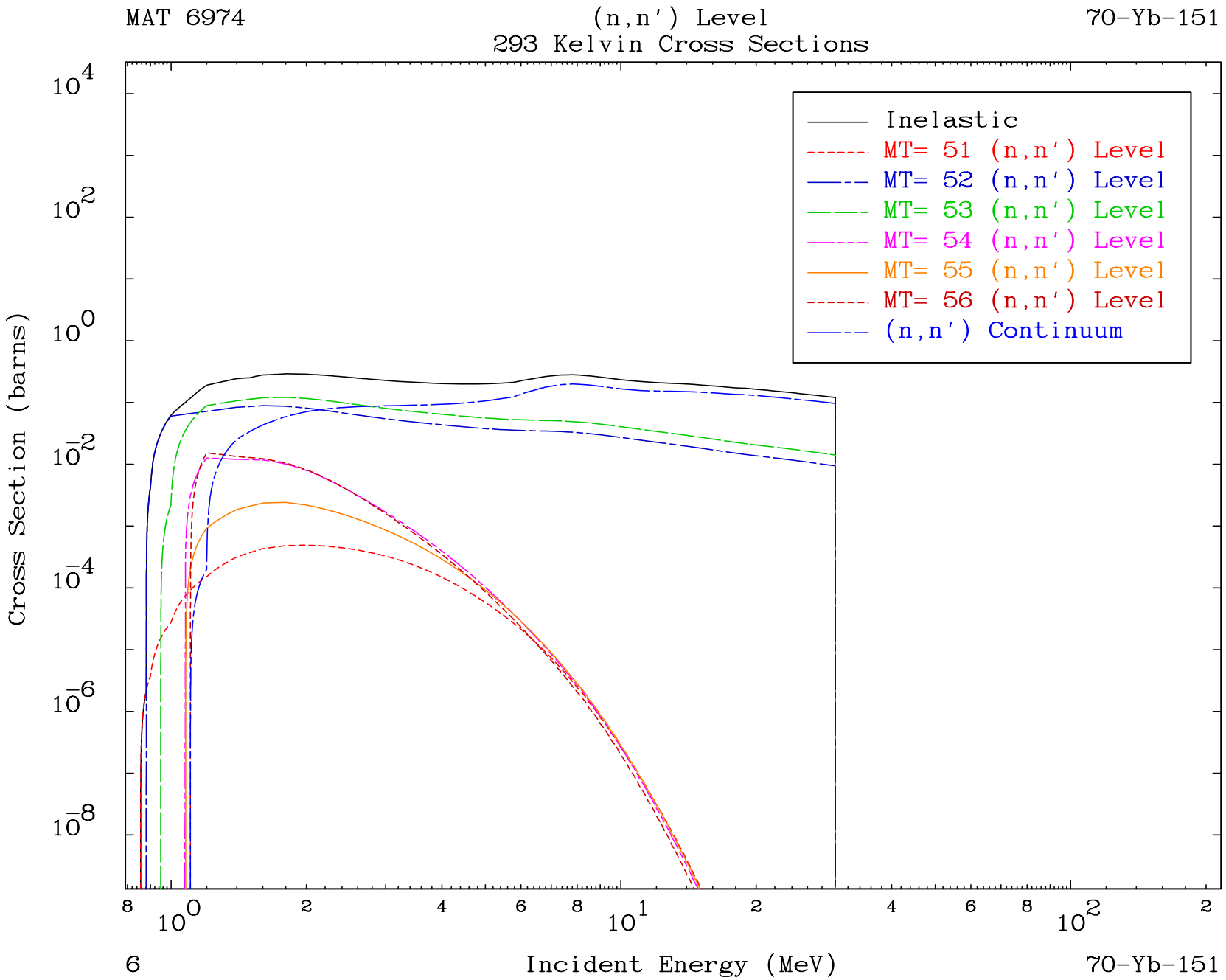

MAT 6974
Major
70-Yb-151
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
70-Yb-151

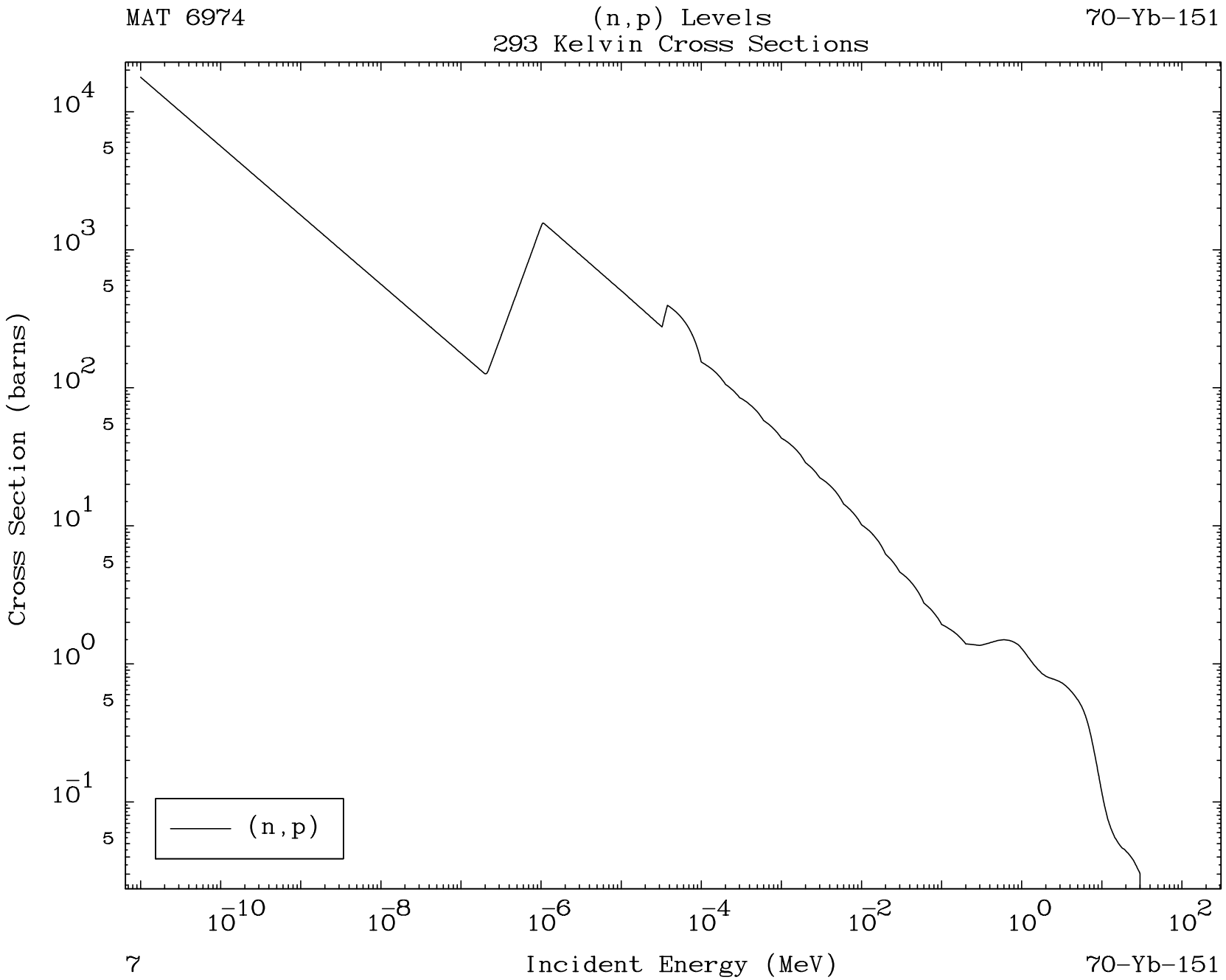

MAT 6974
Neutron Production
293 Kelvin Cross Sections
70-Yb-151
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
Cross Section (barns)
Incident Energy (MeV)
2
70-Yb-151


MAT 6974
Charged Particle
293 Kelvin Cross Sections
70-Yb-151
Cross Section (barns)
10^4
10^2
10^0
10^-2
(n,n') α
(n,2n) α
(n,n') p
(n,n') d
(n,n') He-3
(n,2n) p
(n,p)
(n,d)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
3
70-Yb-151

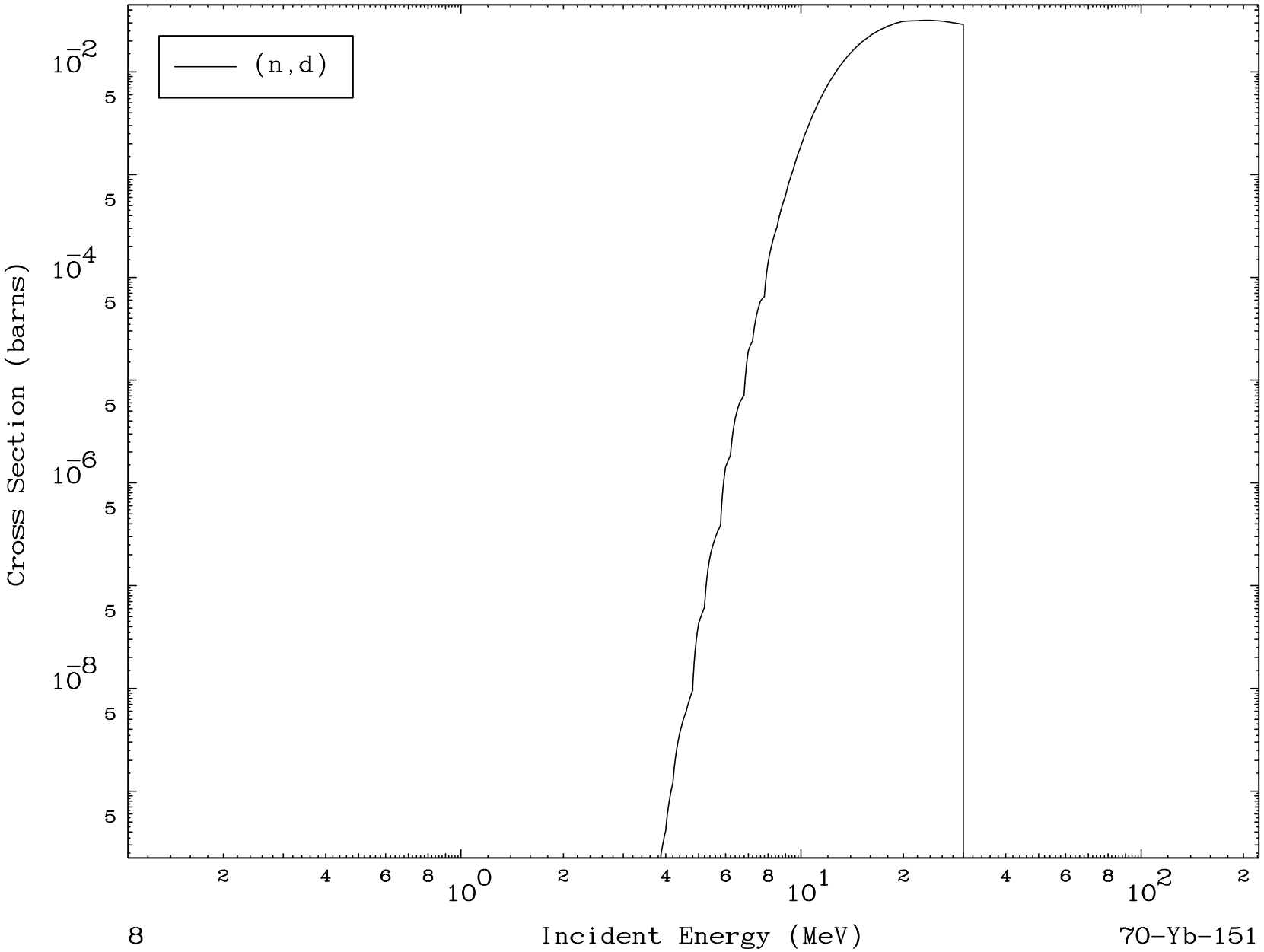

MAT 6974
Charged Particle
293 Kelvin Cross Sections
70-Yb-151
Cross Section (barns)
Incident Energy (MeV)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,3α)
(n,2p)
(n,p) α
(n,p) d
4
70-Yb-151

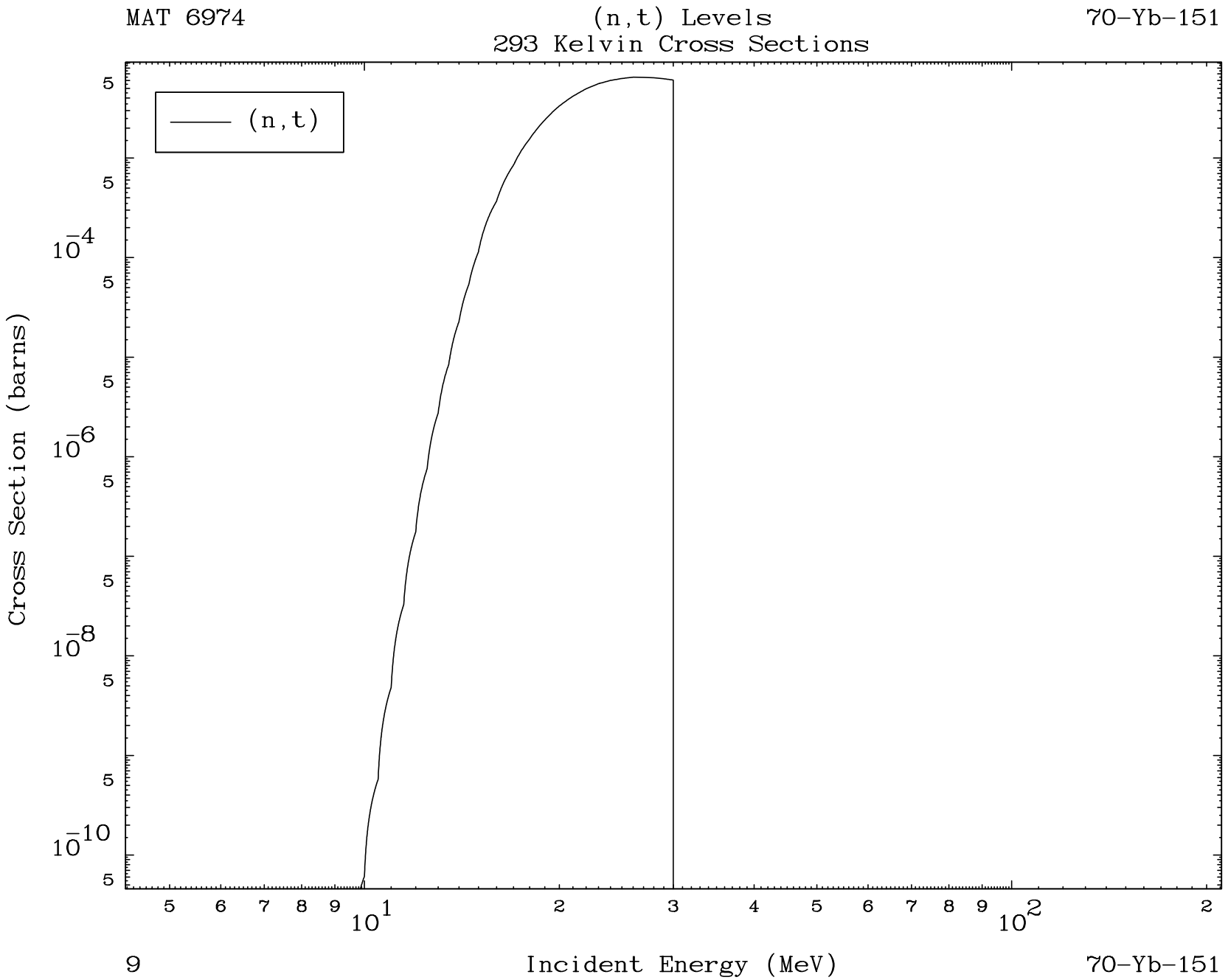

MAT 6974
Particle Production
293 Kelvin Cross Sections
70-Yb-151
Cross Section (barns)
Incident Energy (MeV)
70-Yb-151
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production

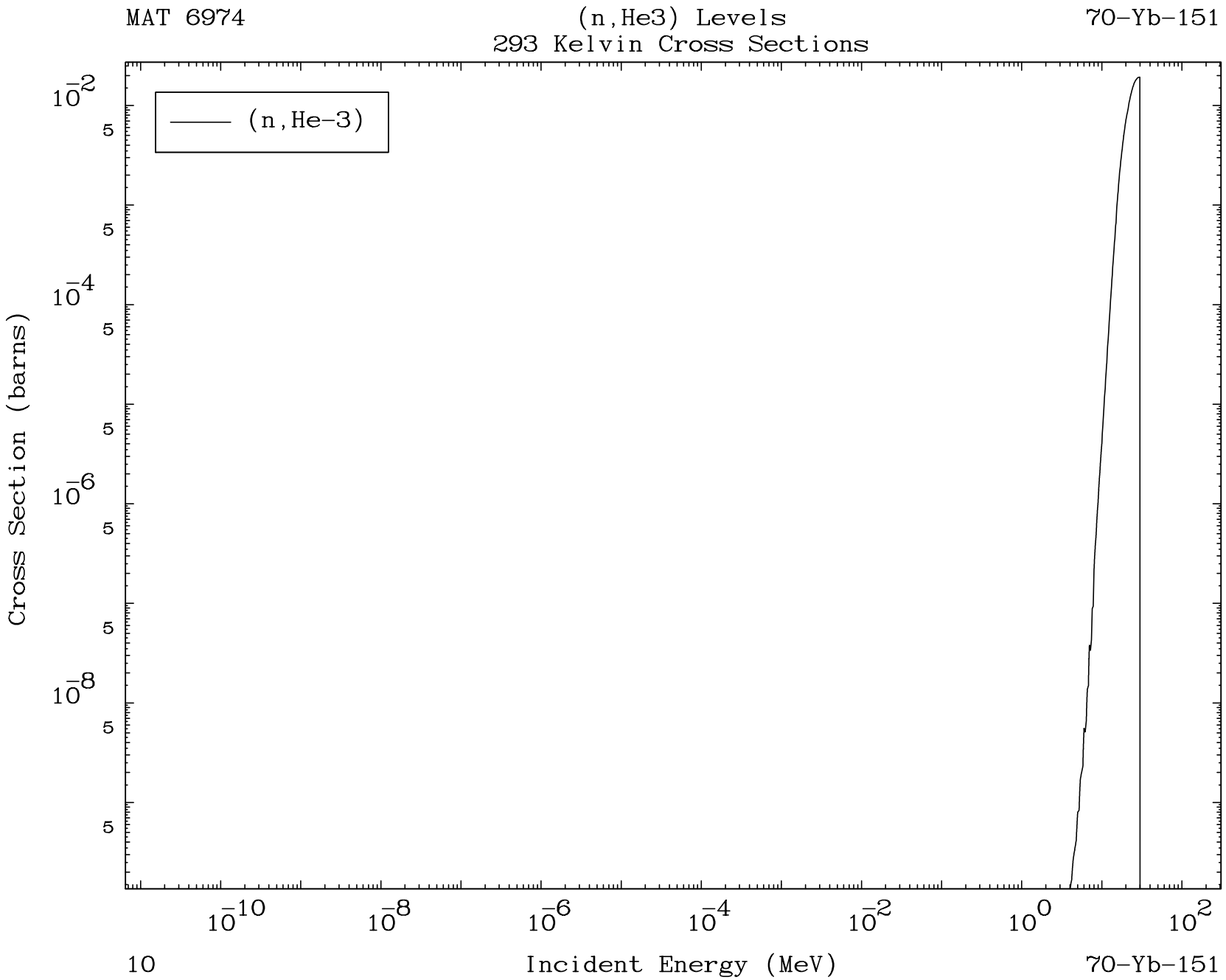

MAT 6974
(n,n') Level
293 Kelvin Cross Sections
70-Yb-151
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
70-Yb-151
6

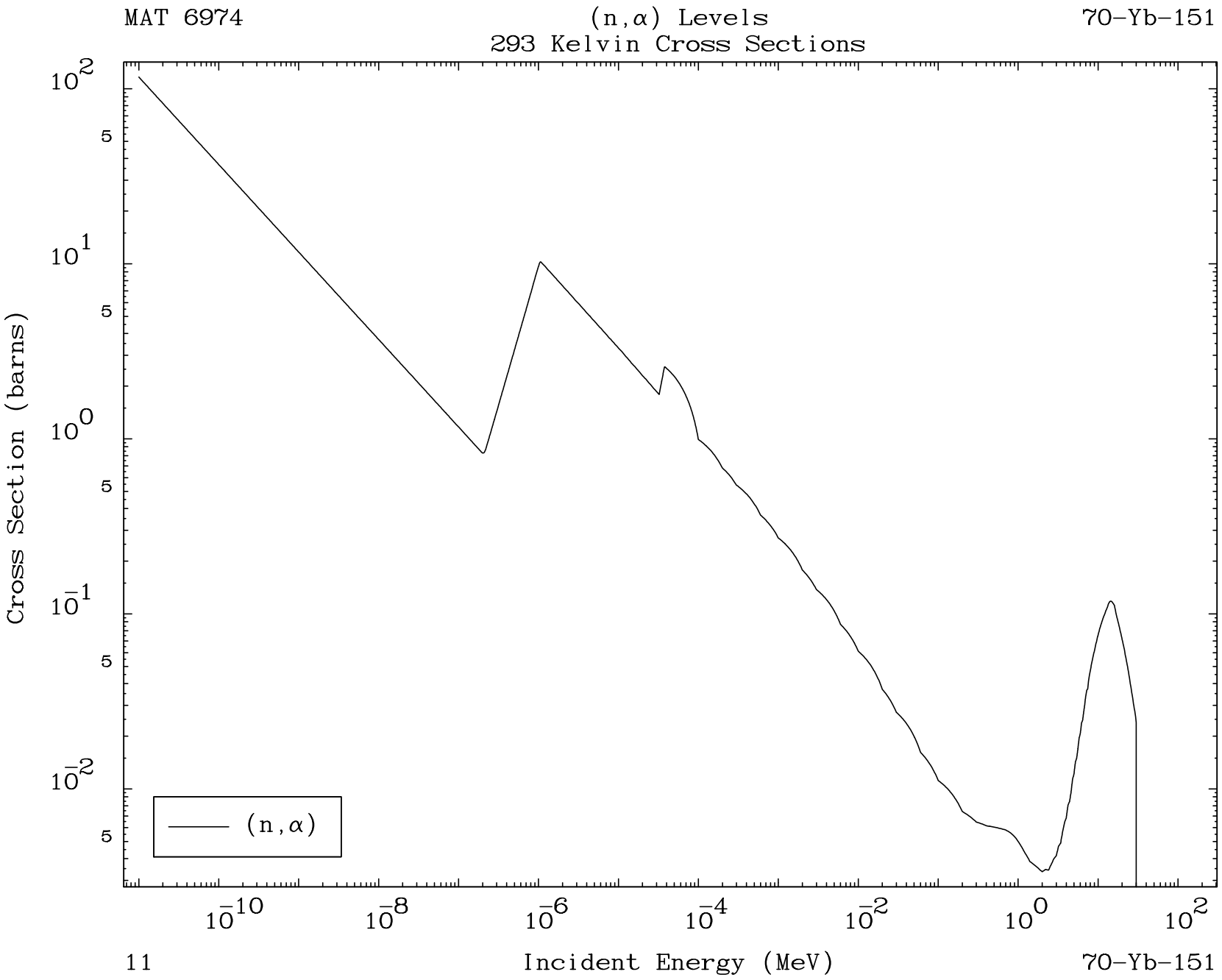

MAT 6974
(n,p) Levels
70-Yb-151
293 Kelvin Cross Sections
Cross Section (barns)
10^4
10^3
10^2
10^1
10^0
10^-1
5
(n,p)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
7
70-Yb-151

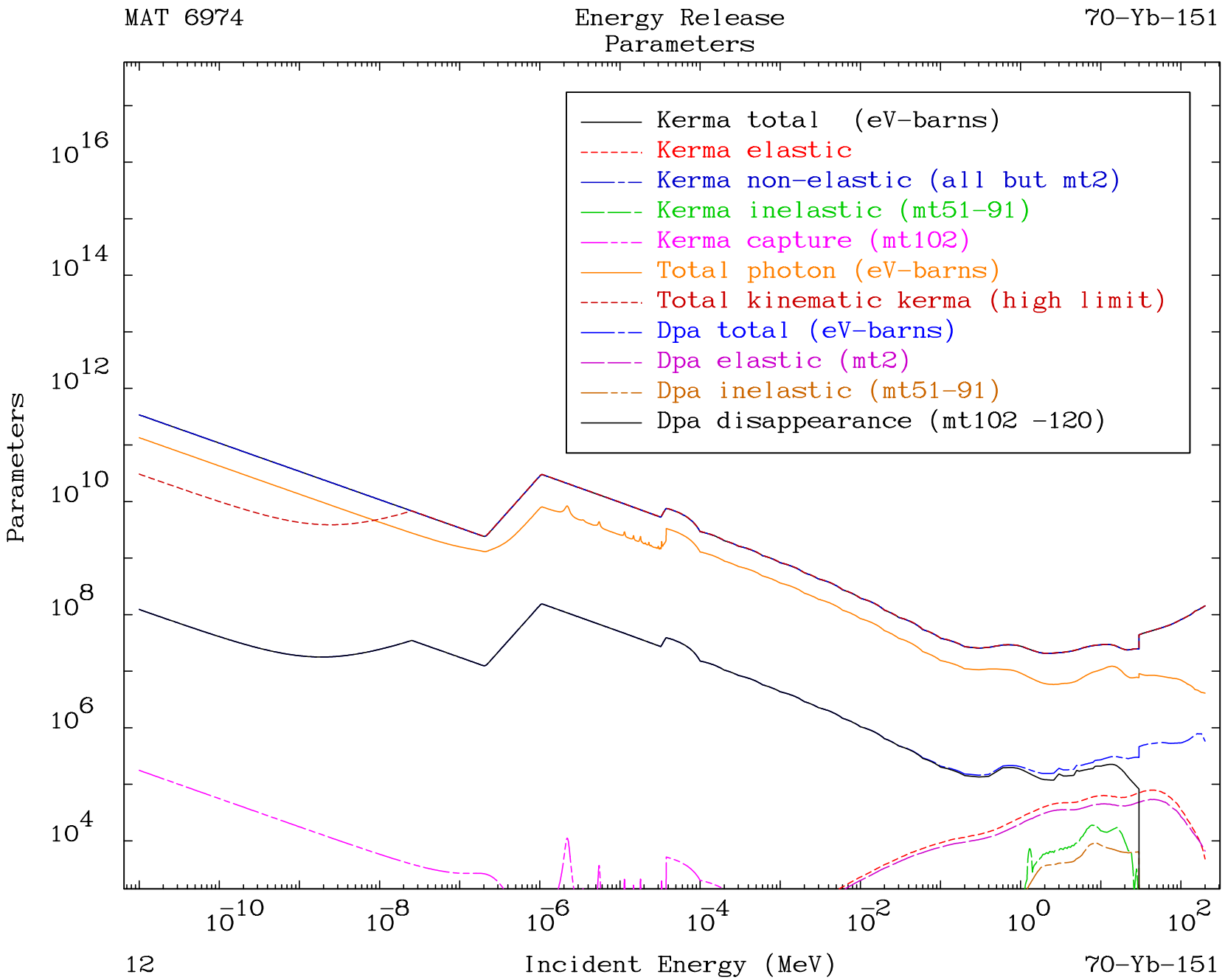
293 Kelvin Cross Sections

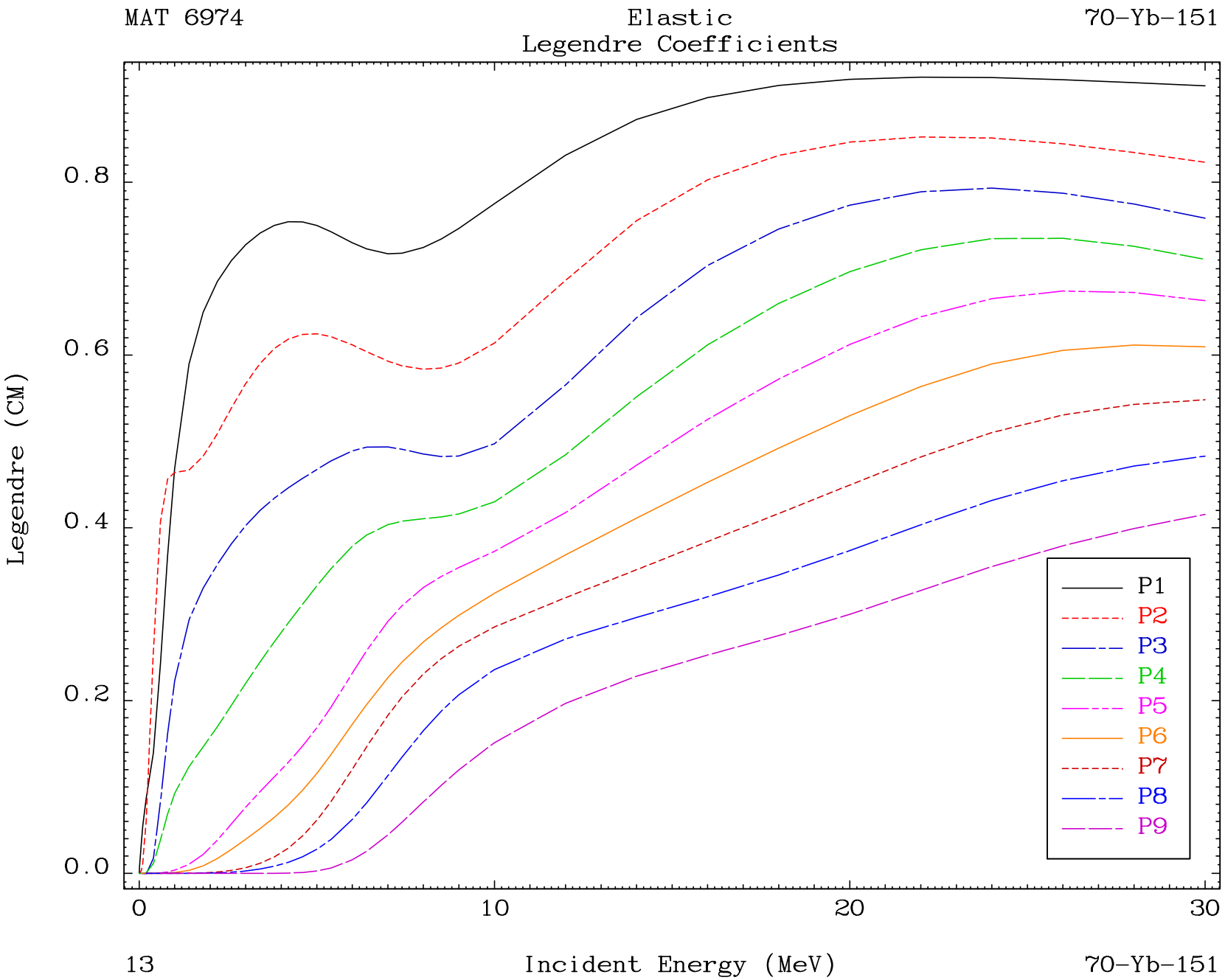


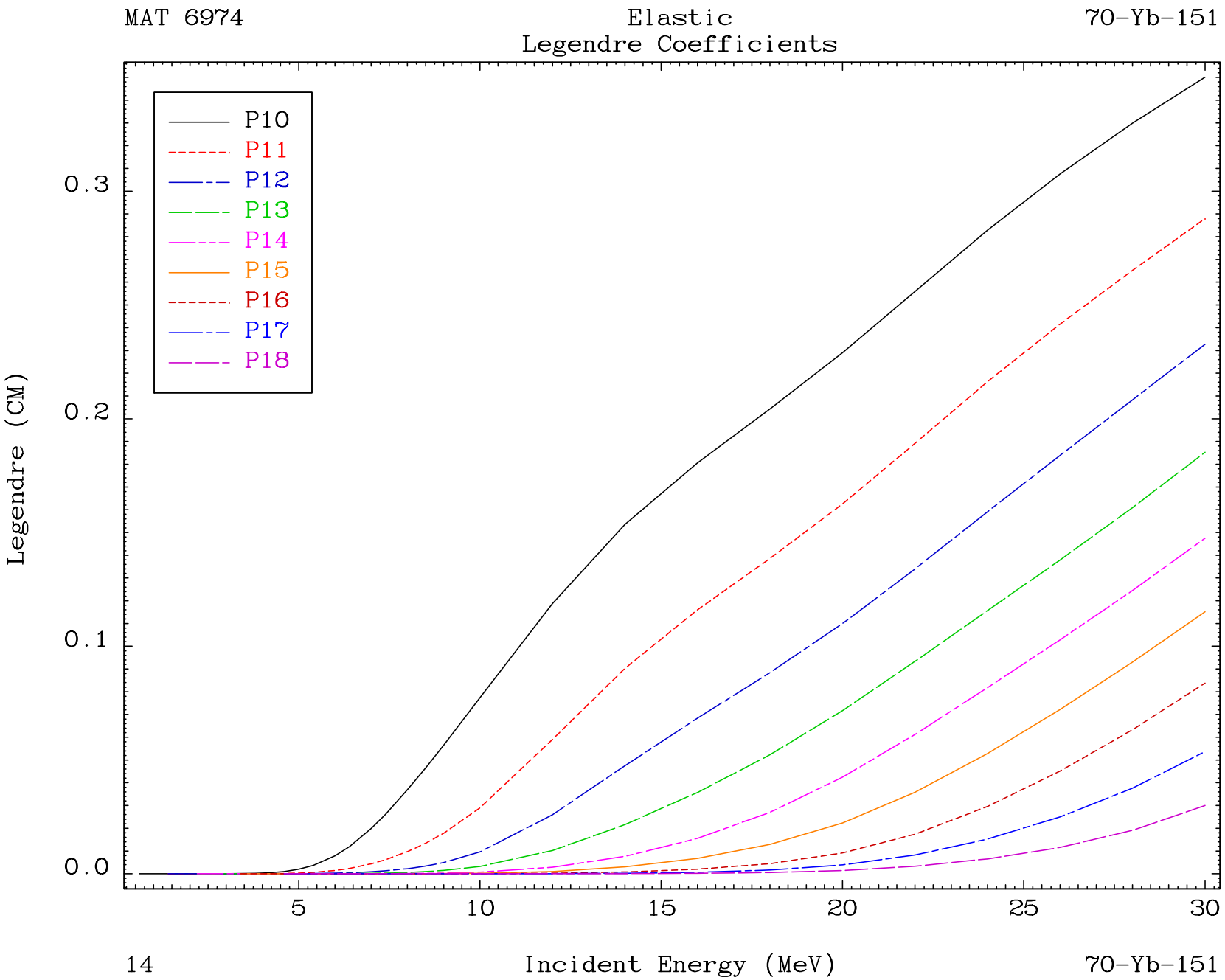

MAT 6974
(n,t) Levels
70-Yb-151
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
9
70-Yb-151

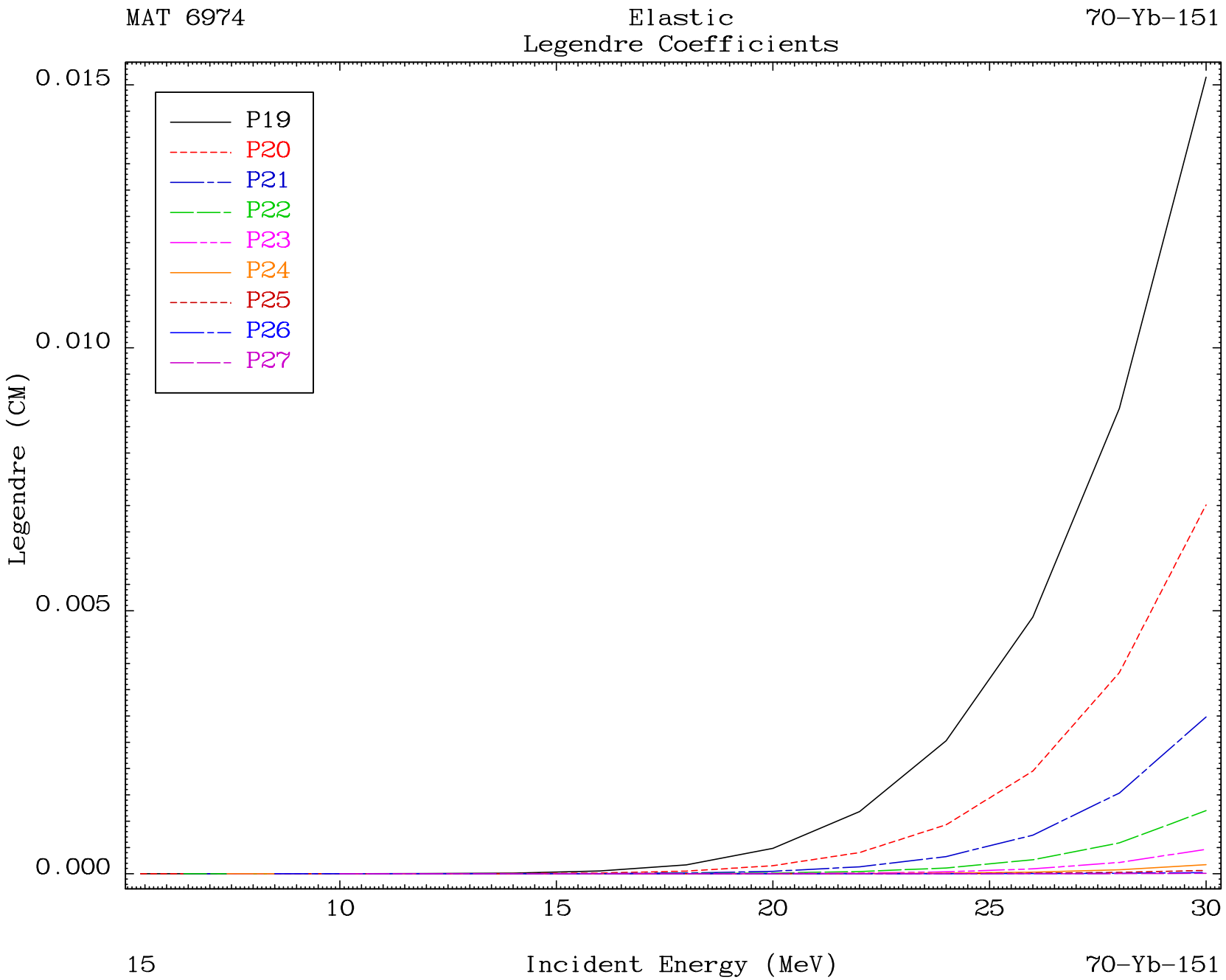

MAT 6974
(n,He3) Levels
70-Yb-151
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
10
70-Yb-151

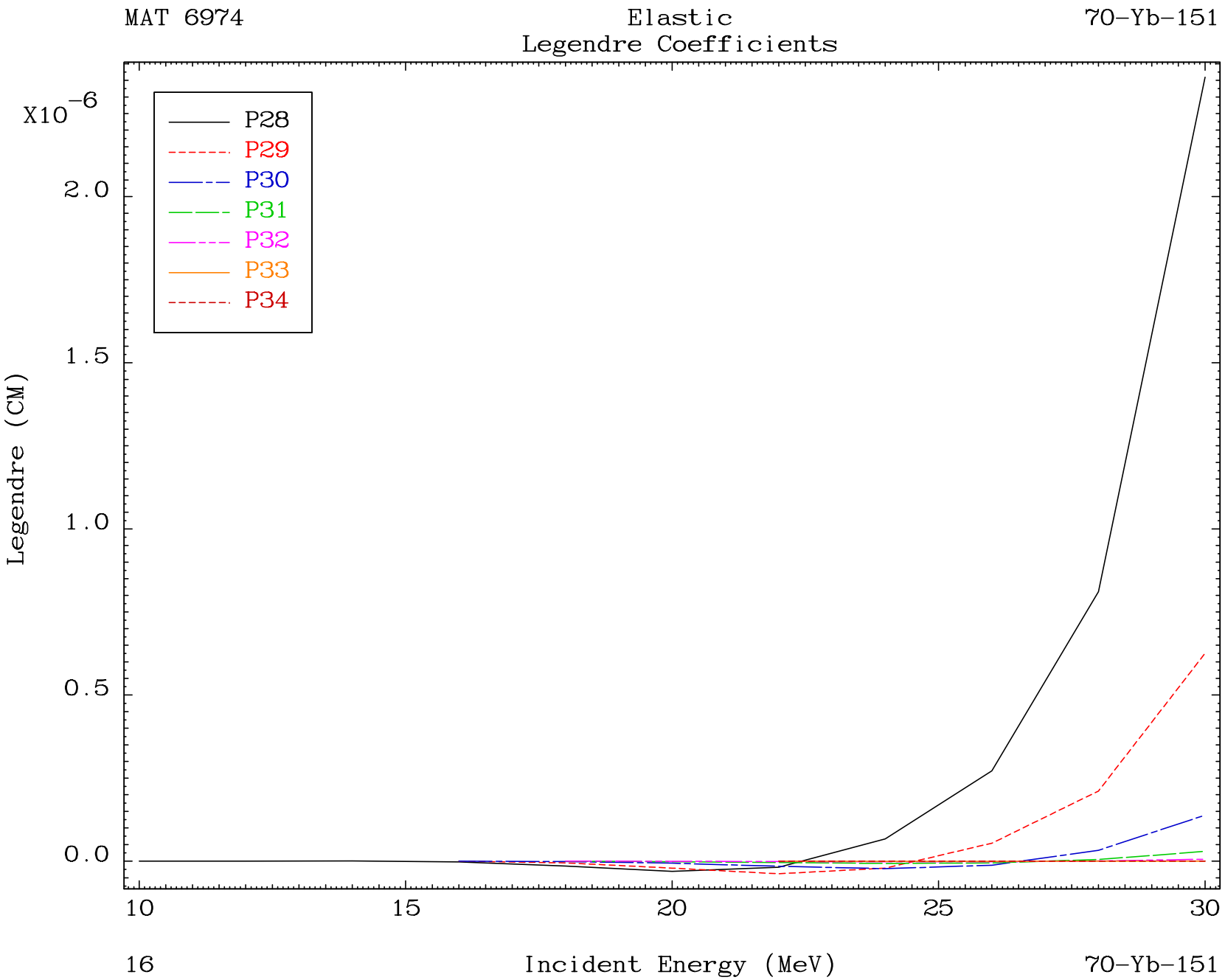

MAT 6974
(n,α) Levels
70-Yb-151
293 Kelvin Cross Sections
Cross Section (barns)
10^2
5
10^1
5
10^0
5
10^-1
5
10^-2
5
(n,α)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
11
Incident Energy (MeV)
70-Yb-151

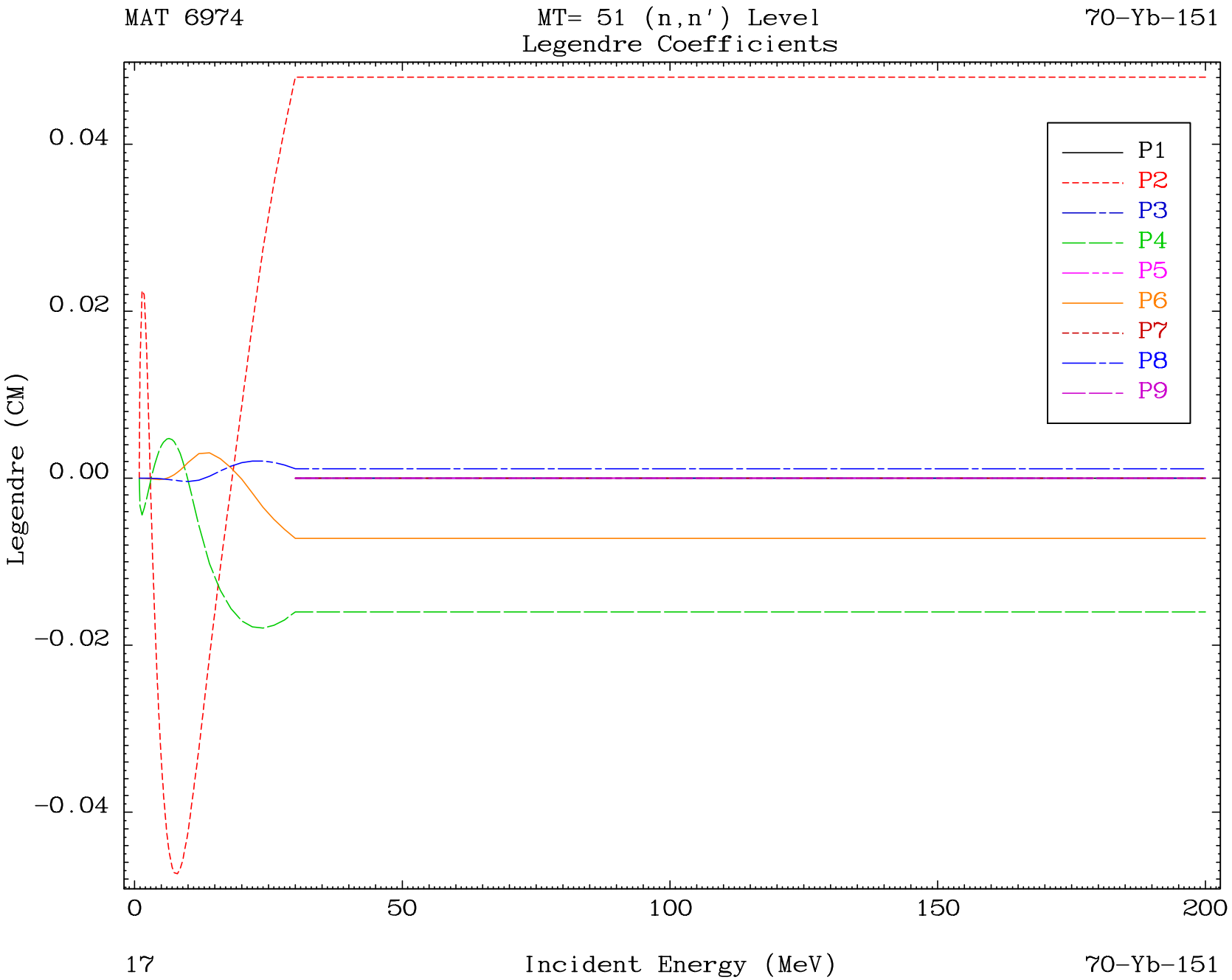

MAT 6974
Energy Release
Parameters
70-Yb-151
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{16}
10^{14}
10^{12}
10^{10}
10^{8}
10^{6}
10^{4}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
12
Incident Energy (MeV)
70-Yb-151

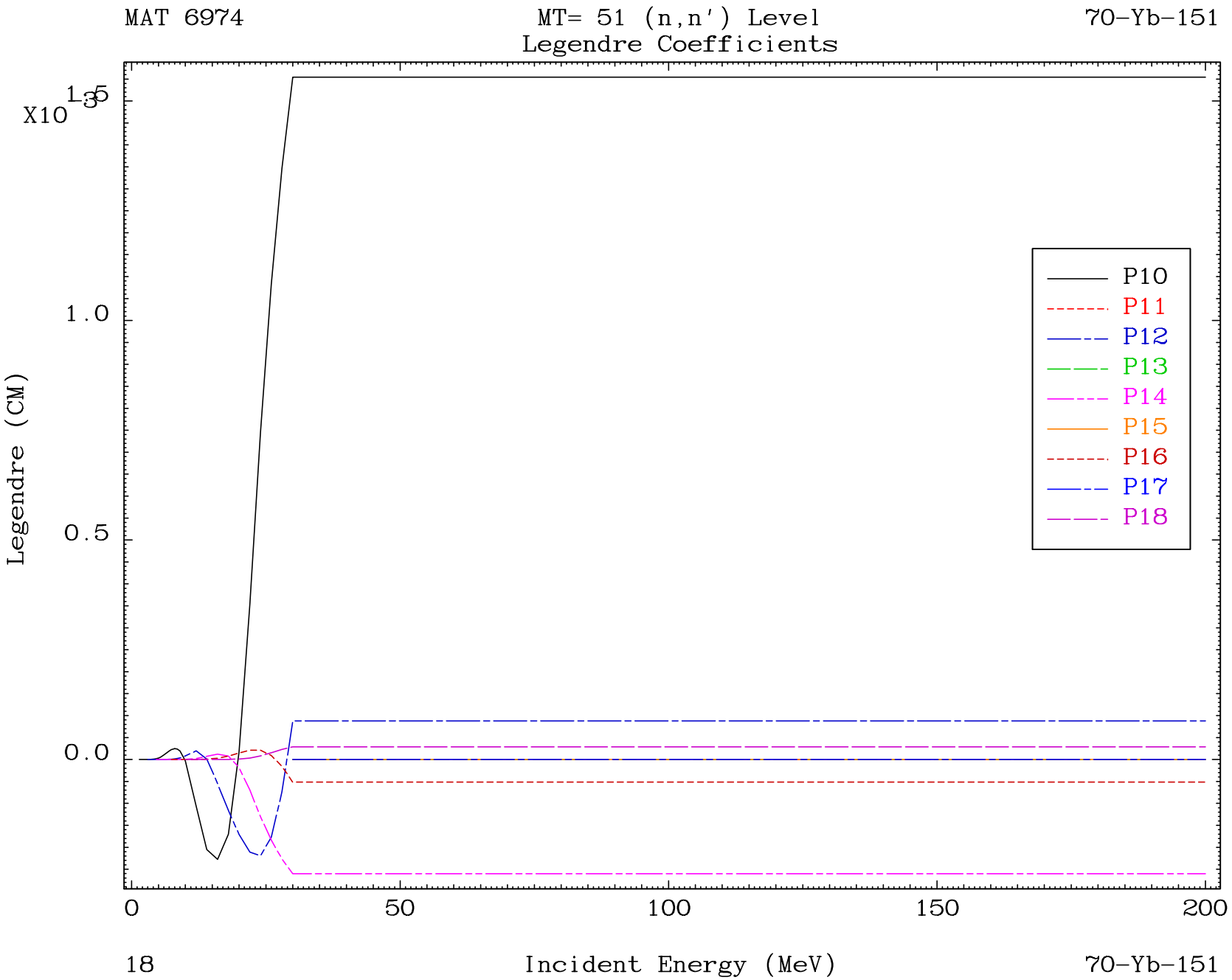

MAT 6974
Elastic
Legendre Coefficients
70-Yb-151
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
13
Incident Energy (MeV)
70-Yb-151
P1
P2
P3
P4
P5
P6
P7
P8
P9

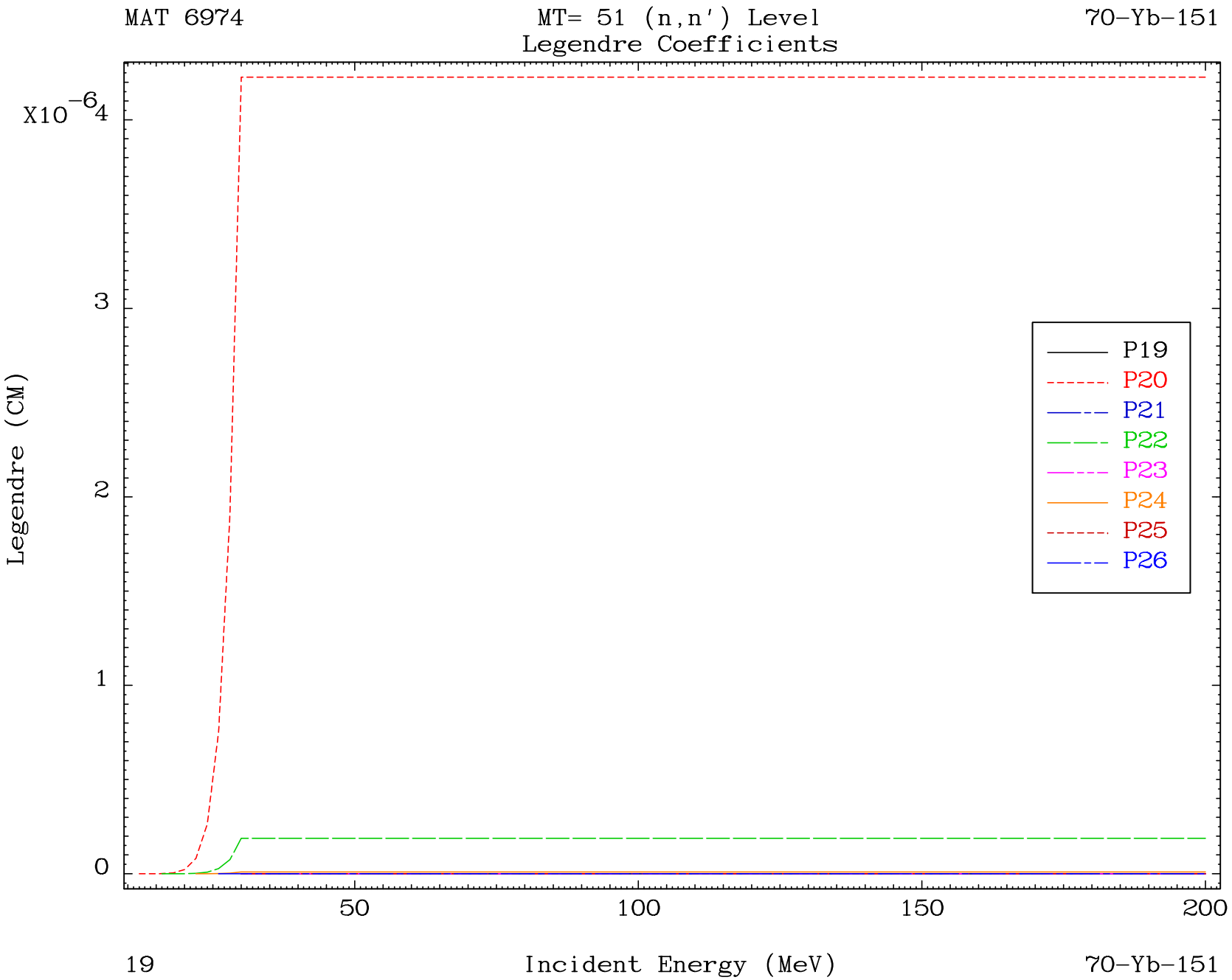

MAT 6974
Elastic
Legendre Coefficients
70-Yb-151
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.0
0.1
0.2
0.3
5
10
15
20
25
30
14
Incident Energy (MeV)
70-Yb-151

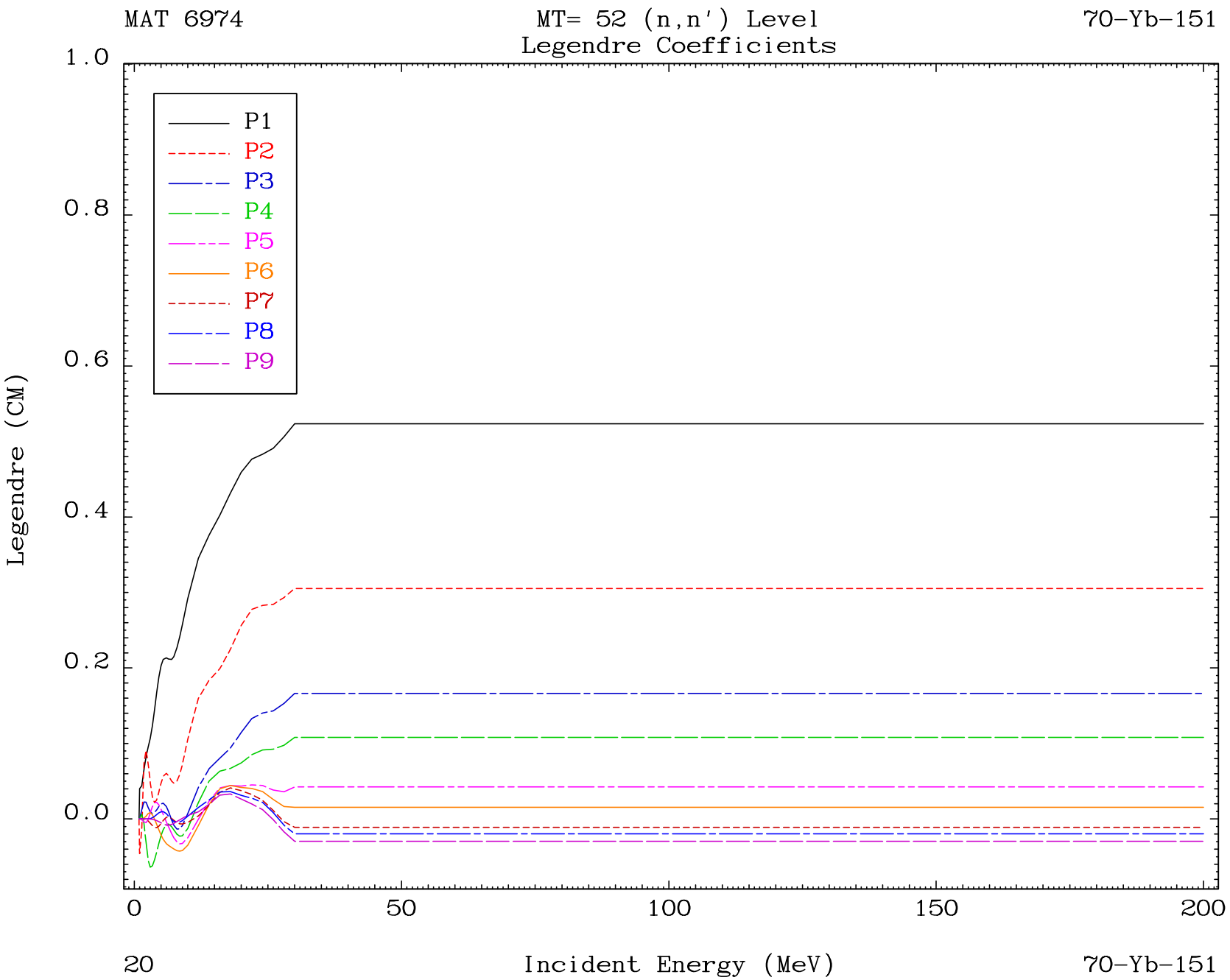

MAT 6974
Elastic
Legendre Coefficients
70-Yb-151
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
10
15
20
25
30
15
Incident Energy (MeV)
70-Yb-151

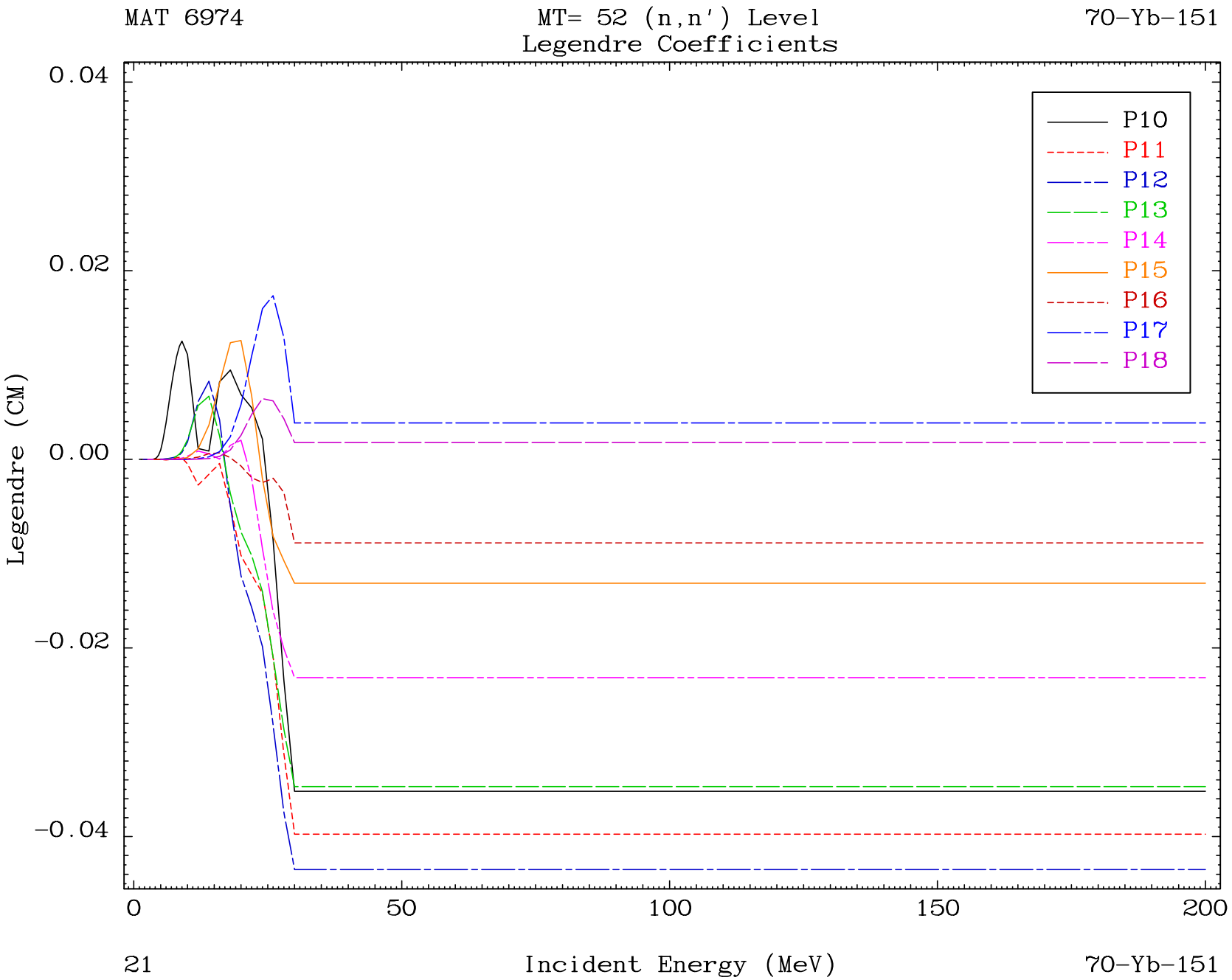

MAT 6974
Elastic
Legendre Coefficients
70-Yb-151
X10 -6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
16
Incident Energy (MeV)
70-Yb-151

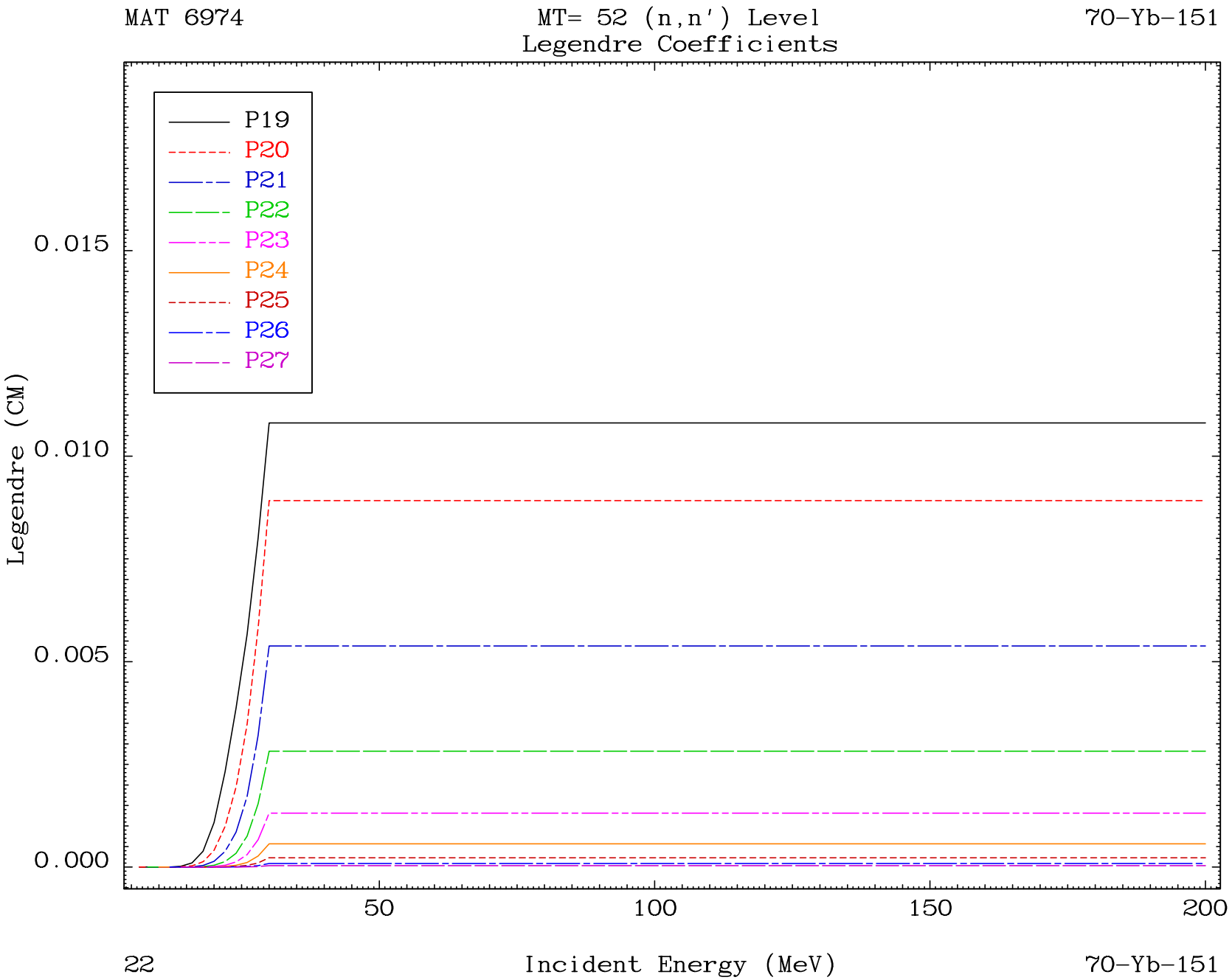

MAT 6974
MT= 51 (n,n') Level
Legendre Coefficients
70-Yb-151
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
17
Incident Energy (MeV)
70-Yb-151

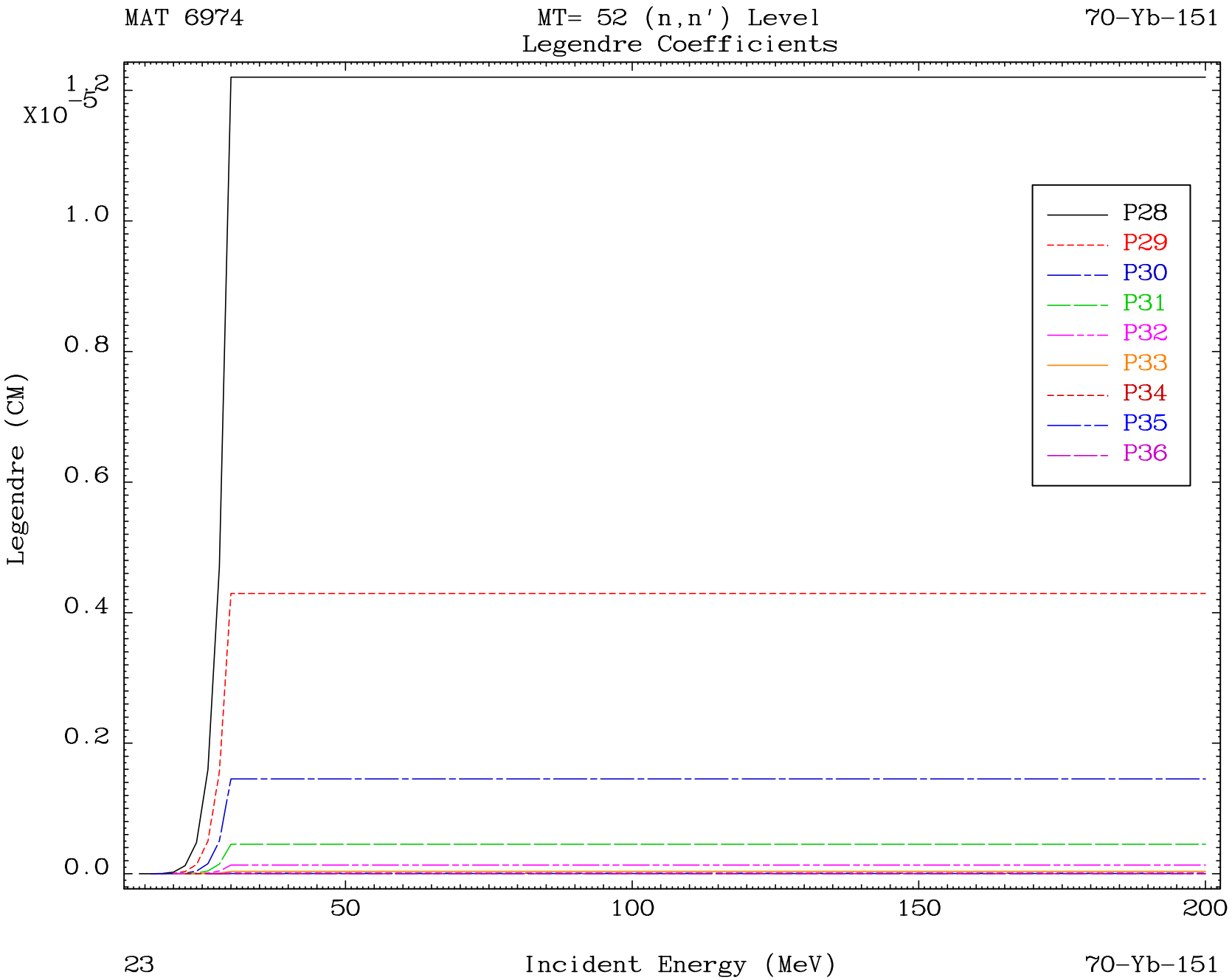

MAT 6974
MT= 51 (n,n') Level
Legendre Coefficients
70-Yb-151
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
18
Incident Energy (MeV)
70-Yb-151

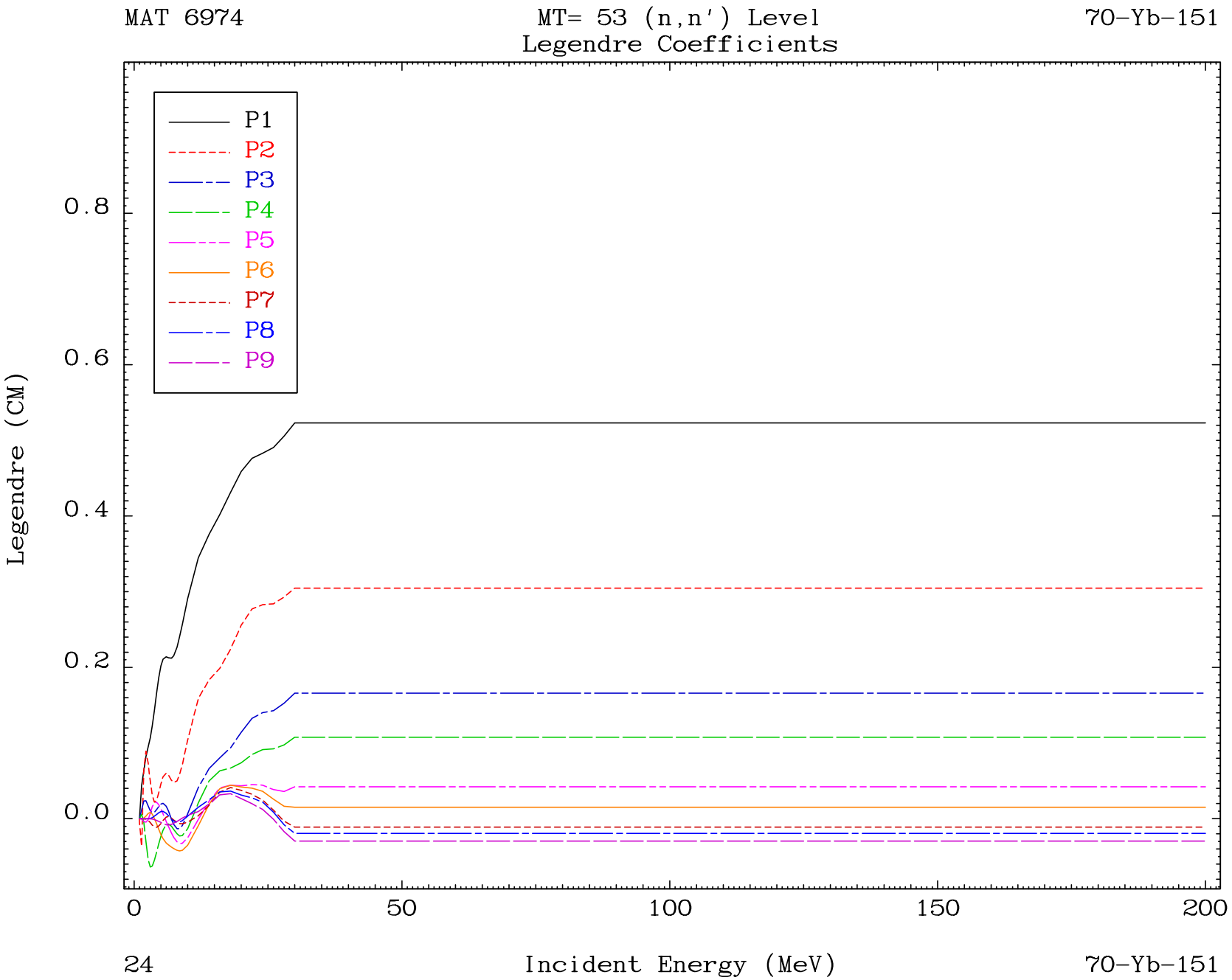

MAT 6974
MT= 51 (n,n') Level
Legendre Coefficients
70-Yb-151
X10^-6
4
3
2
1
0
Legendre (CM)
50
100
150
200
19
Incident Energy (MeV)
70-Yb-151
P19
P20
P21
P22
P23
P24
P25
P26

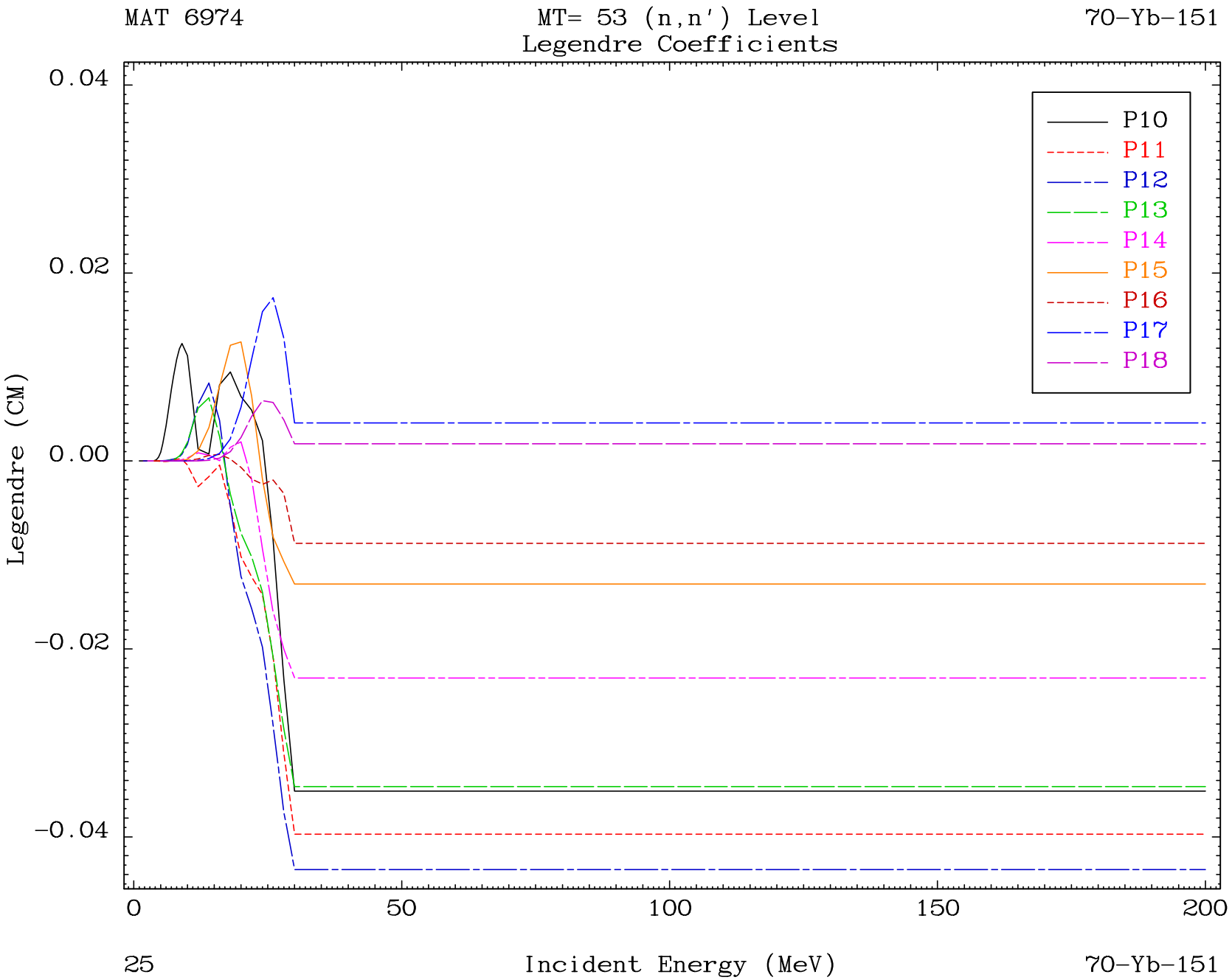

MAT 6974
MT= 52 (n,n') Level
Legendre Coefficients
70-Yb-151
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
20
Incident Energy (MeV)
70-Yb-151

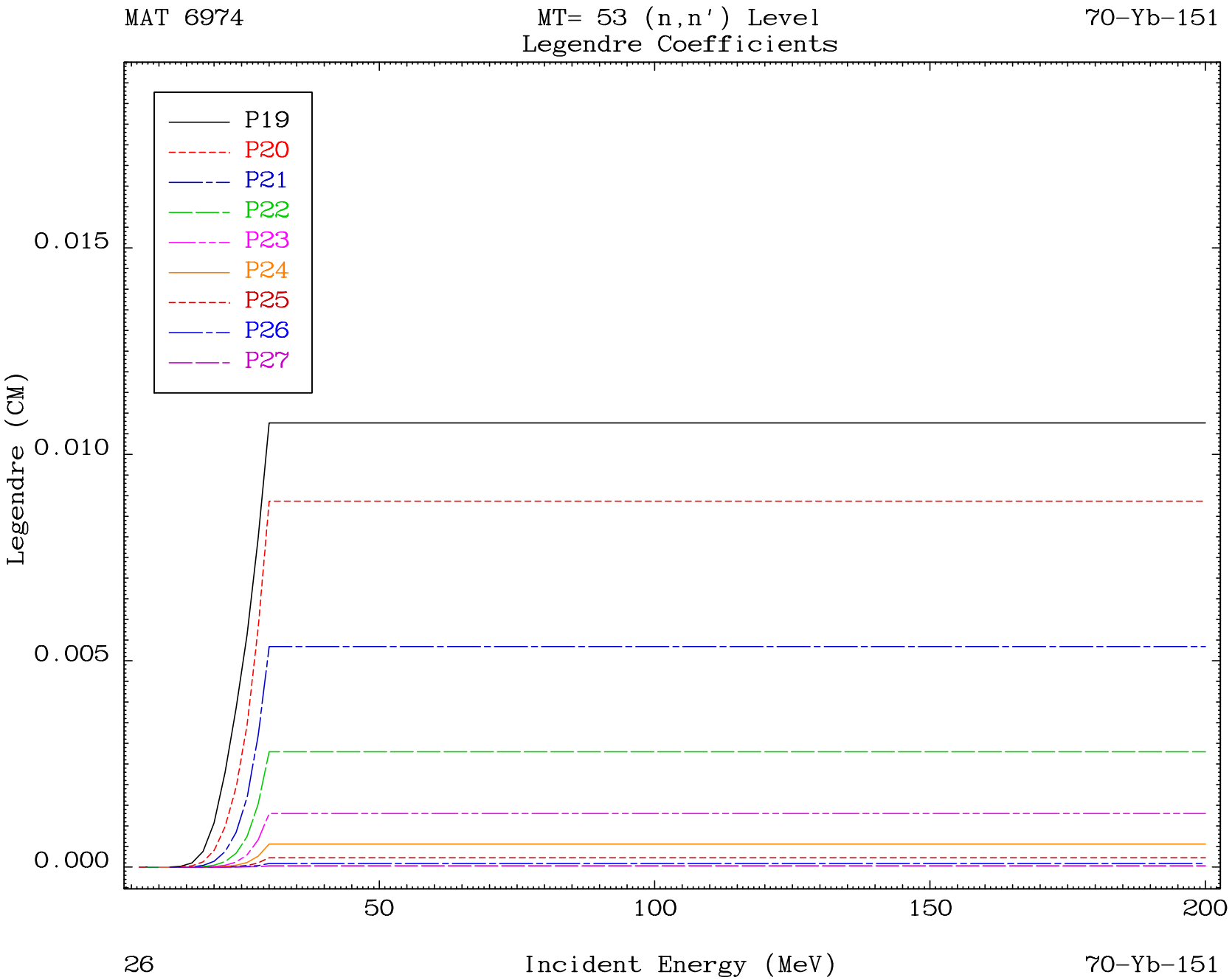

MAT 6974
MT= 52 (n,n') Level
Legendre Coefficients
70-Yb-151
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
21
Incident Energy (MeV)
70-Yb-151

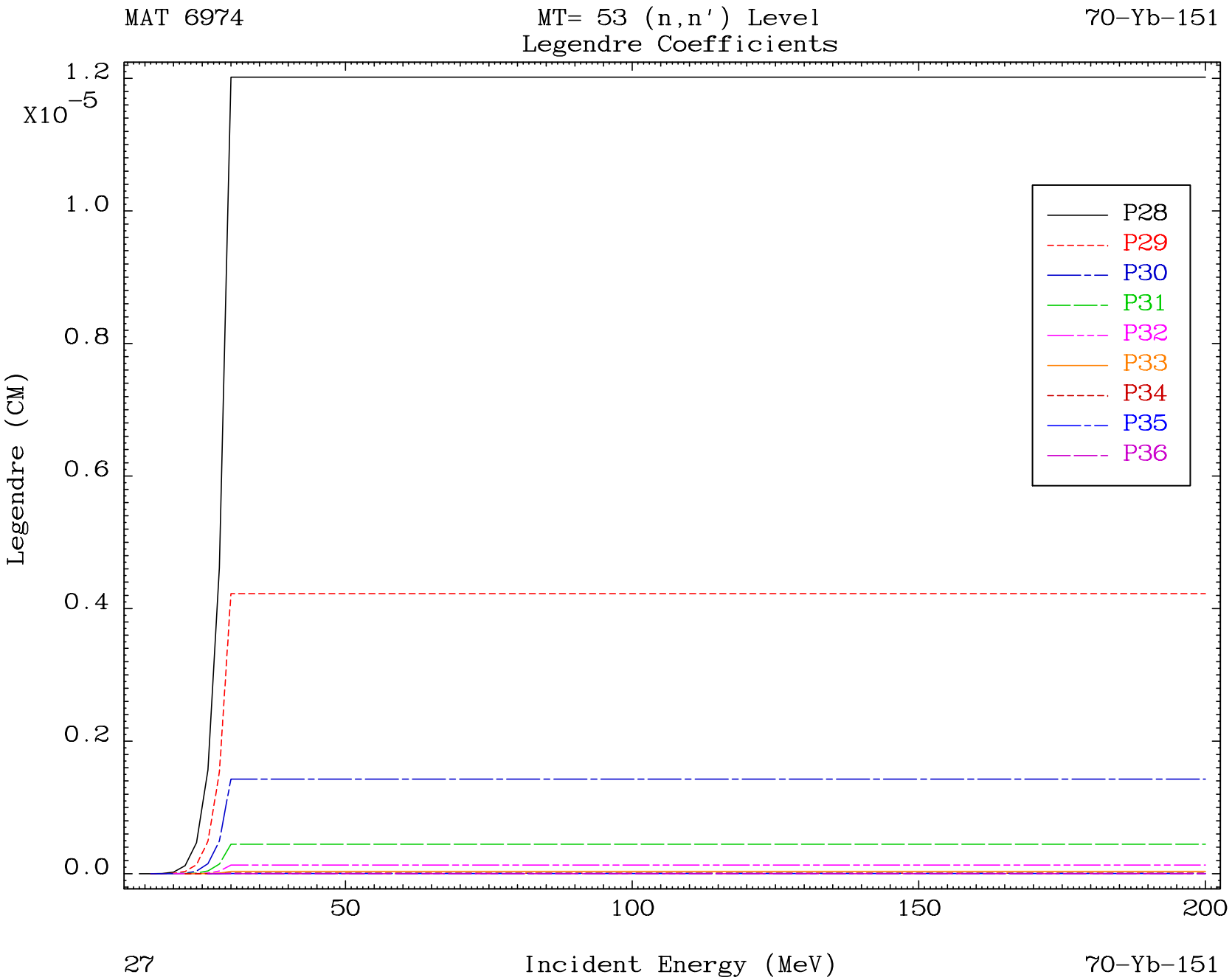

MAT 6974
MT= 52 (n,n') Level
Legendre Coefficients
70-Yb-151
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
22
Incident Energy (MeV)
70-Yb-151

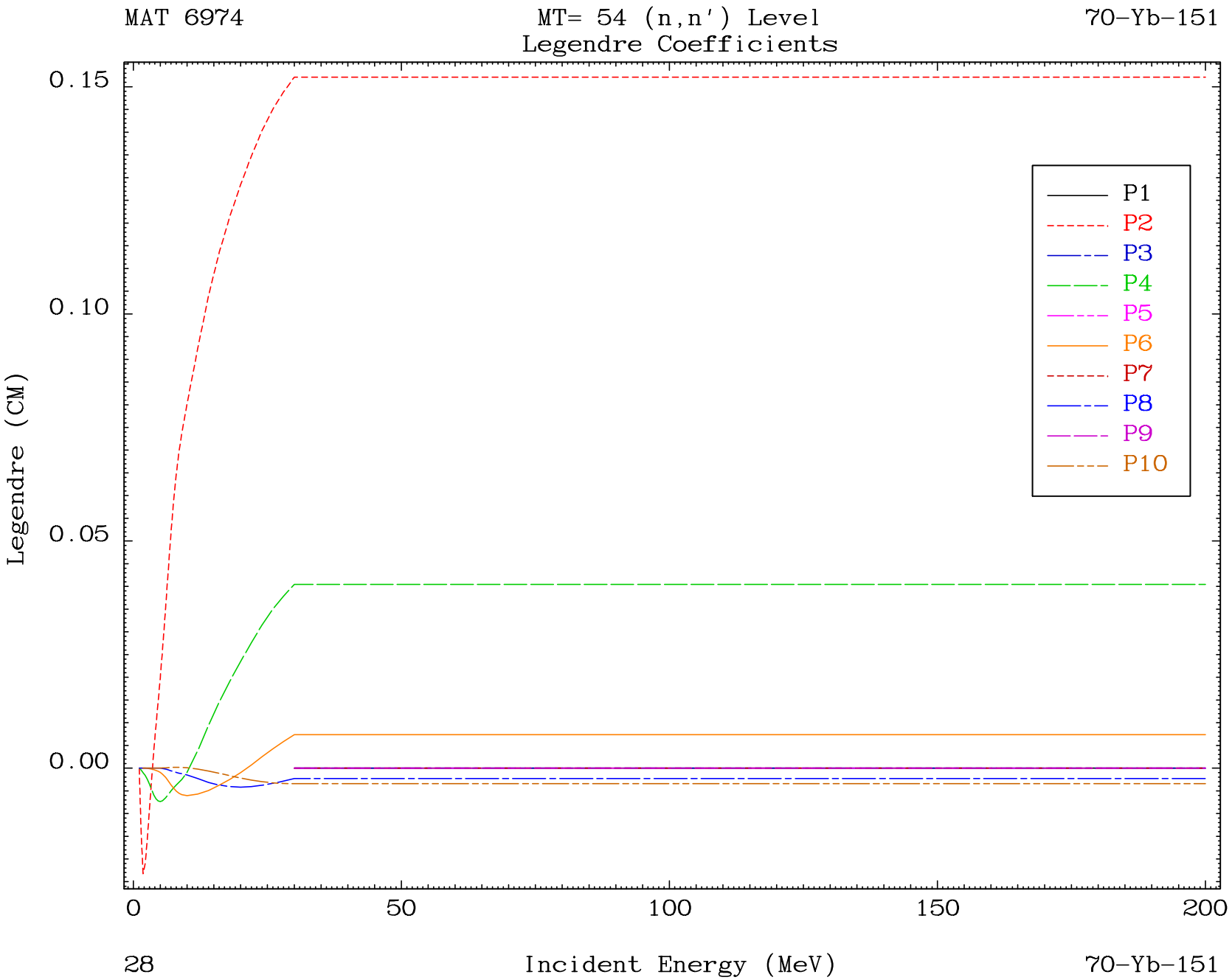

MAT 6974
MT= 52 (n,n') Level
Legendre Coefficients
70-Yb-151
X10-5
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
23
70-Yb-151
P28
P29
P30
P31
P32
P33
P34
P35
P36

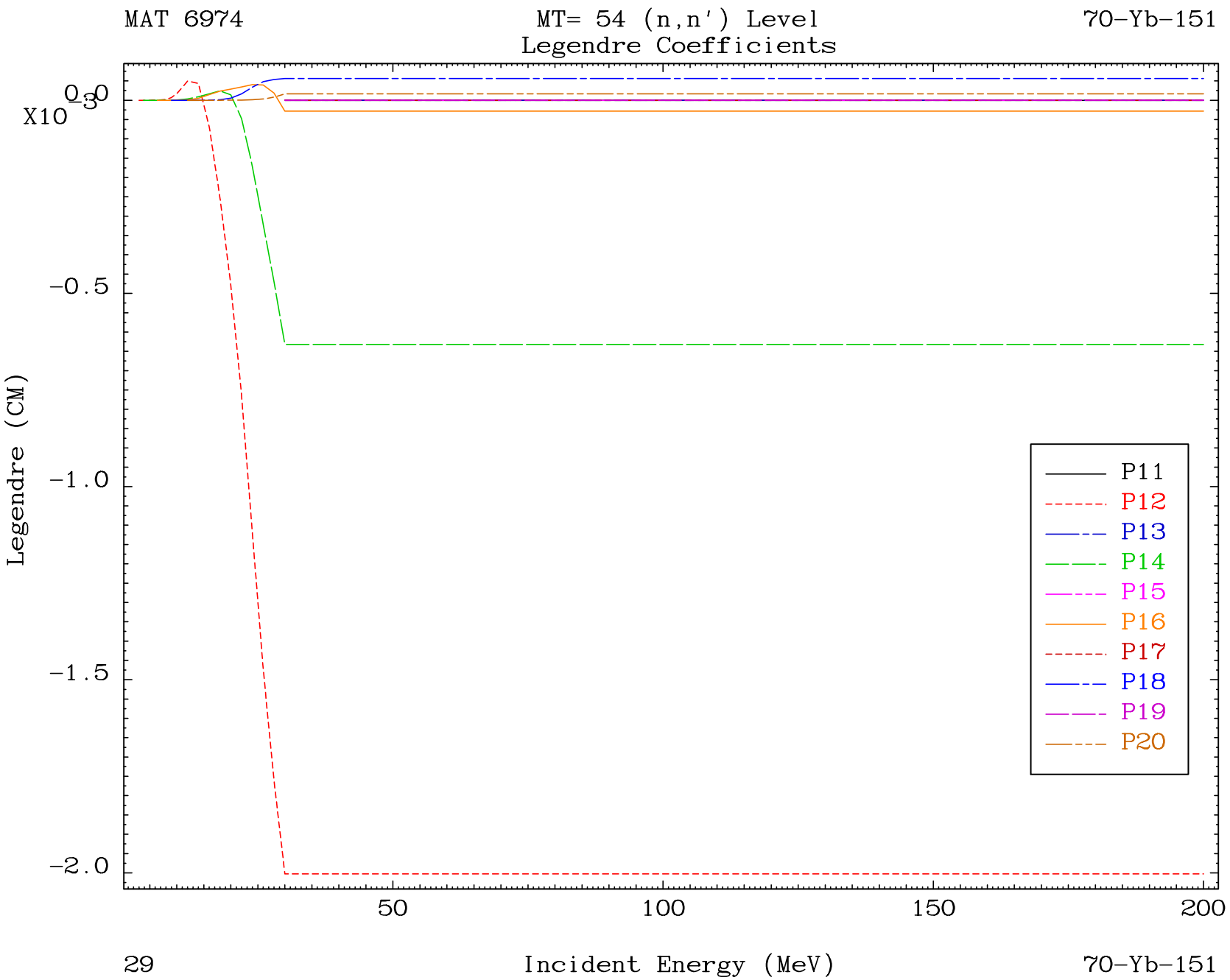

MAT 6974
MT= 53 (n,n') Level
Legendre Coefficients
70-Yb-151
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
24
Incident Energy (MeV)
70-Yb-151

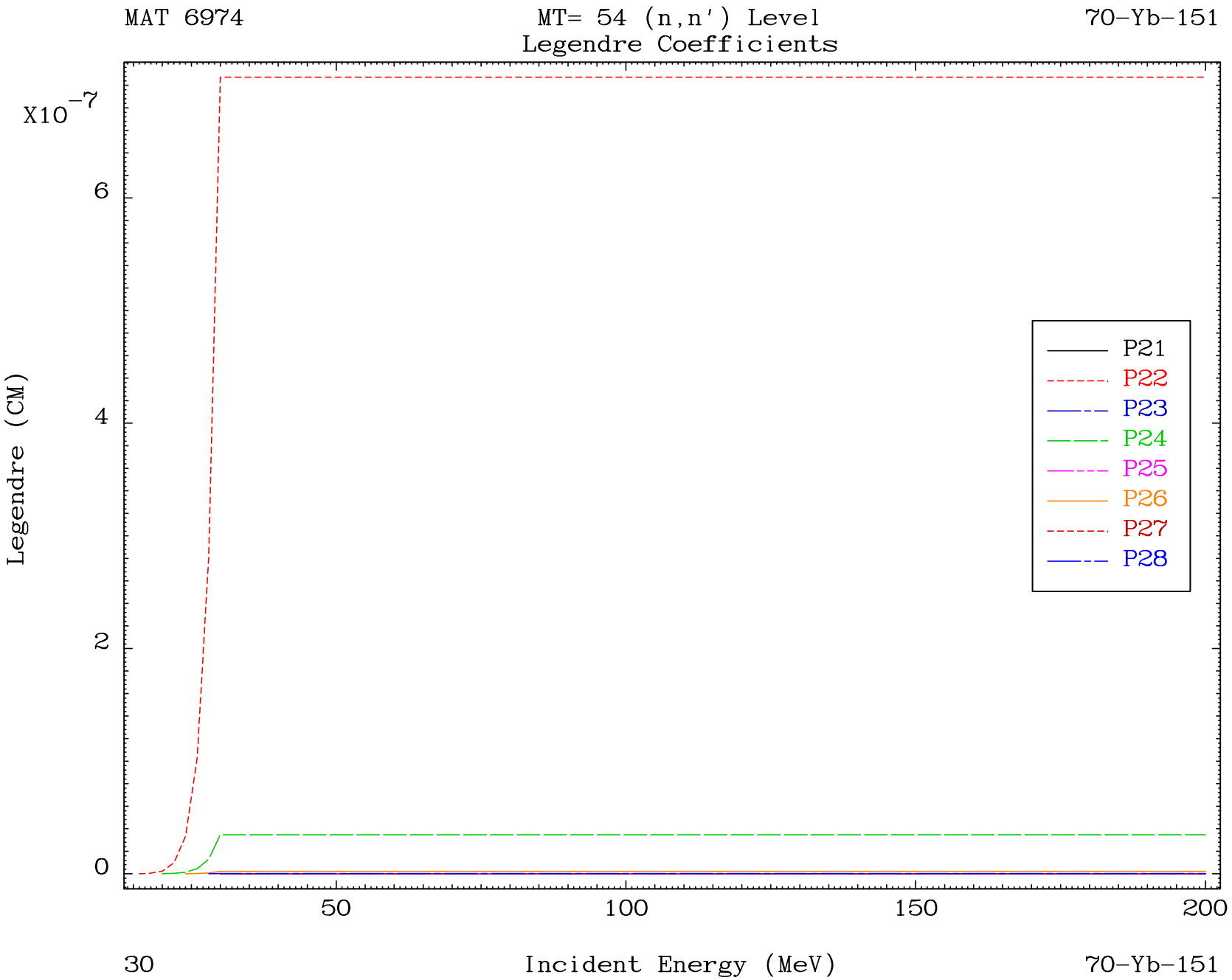

MAT 6974
MT= 53 (n,n') Level
Legendre Coefficients
70-Yb-151
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
25
Incident Energy (MeV)
70-Yb-151

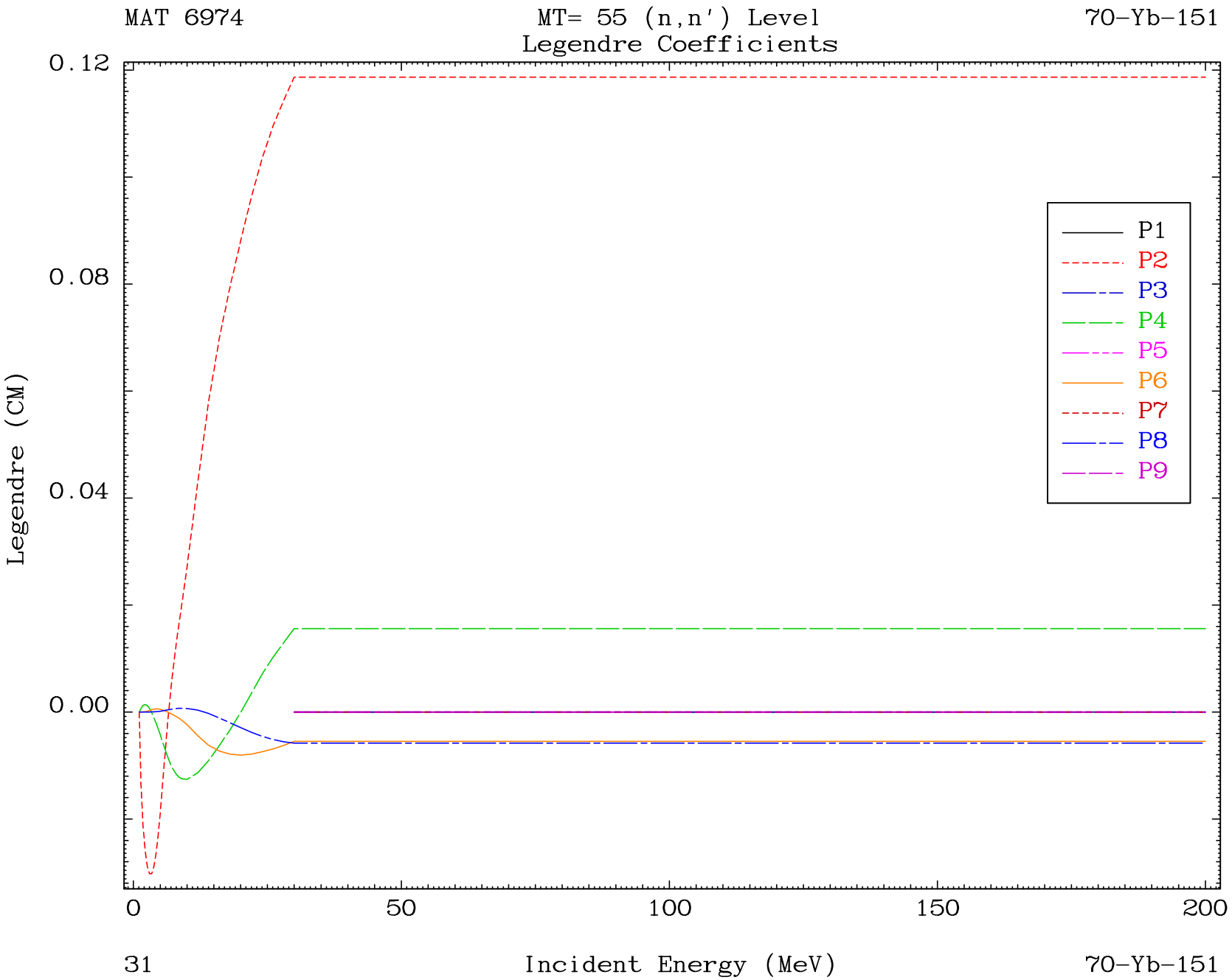

MAT 6974
MT= 53 (n,n') Level
Legendre Coefficients
70-Yb-151
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
26
Incident Energy (MeV)
70-Yb-151

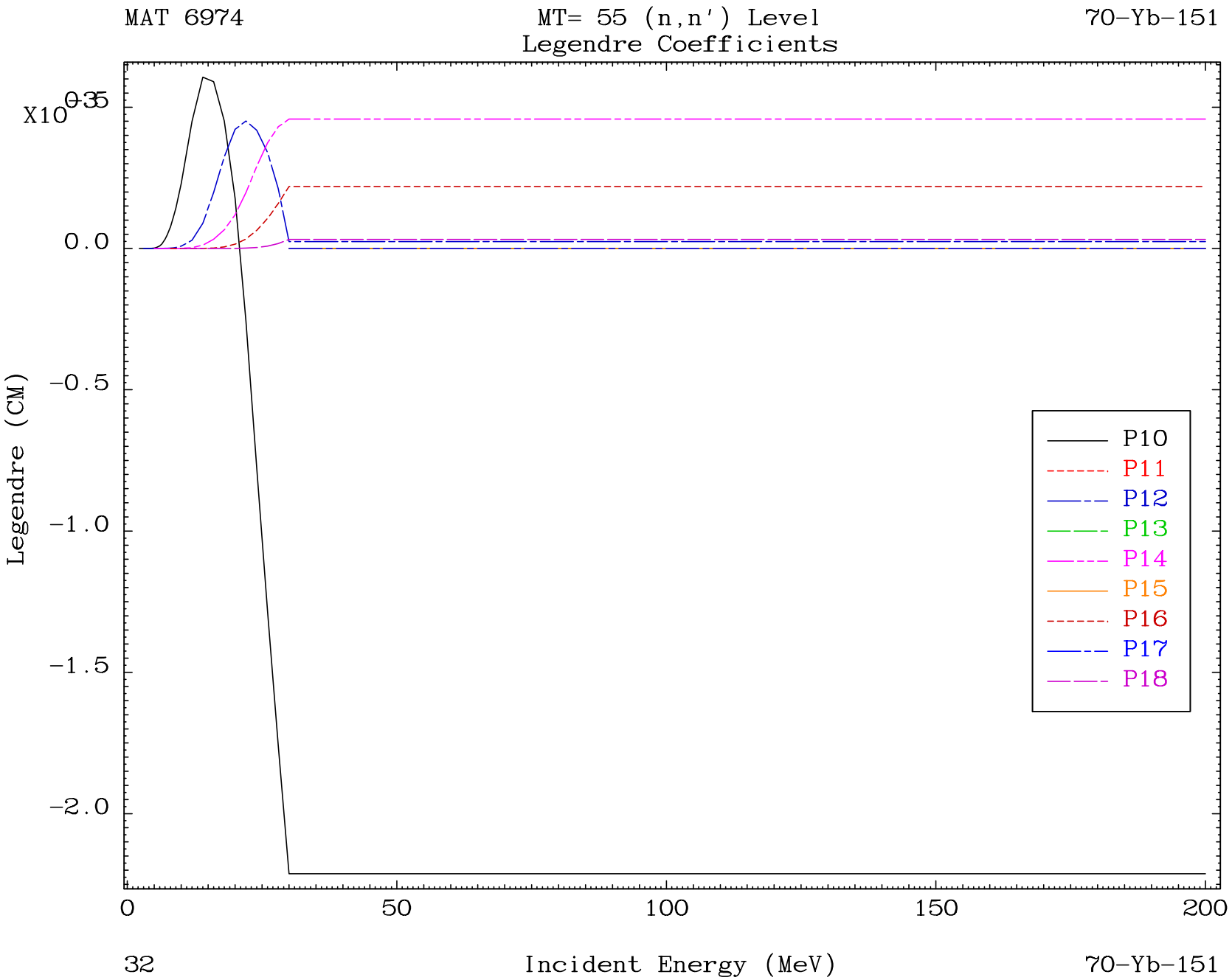

MAT 6974
MT= 53 (n,n') Level
Legendre Coefficients
70-Yb-151
X10 −5
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
27
Incident Energy (MeV)
70-Yb-151

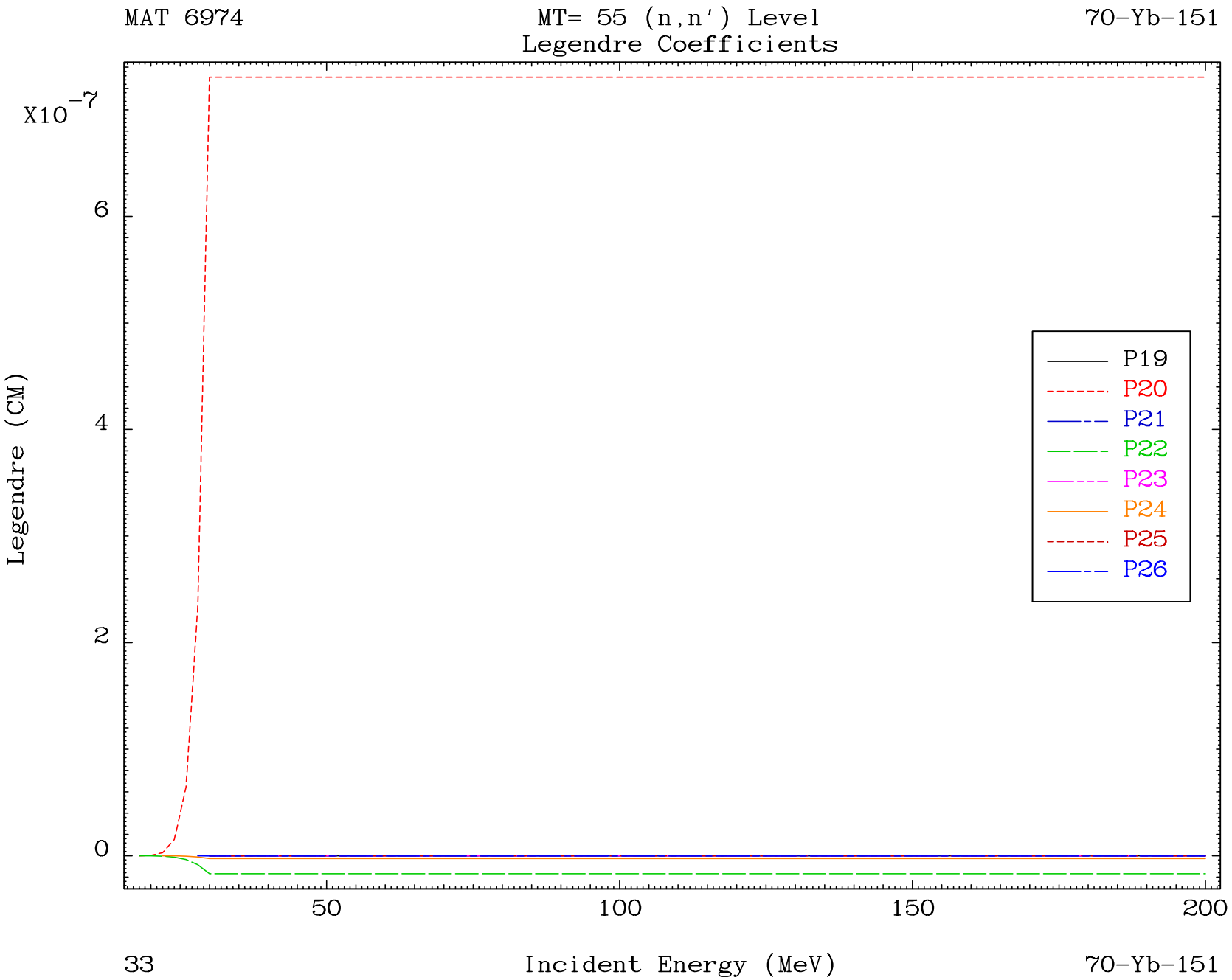

MAT 6974
MT= 54 (n,n') Level
Legendre Coefficients
70-Yb-151
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
28
Incident Energy (MeV)
70-Yb-151

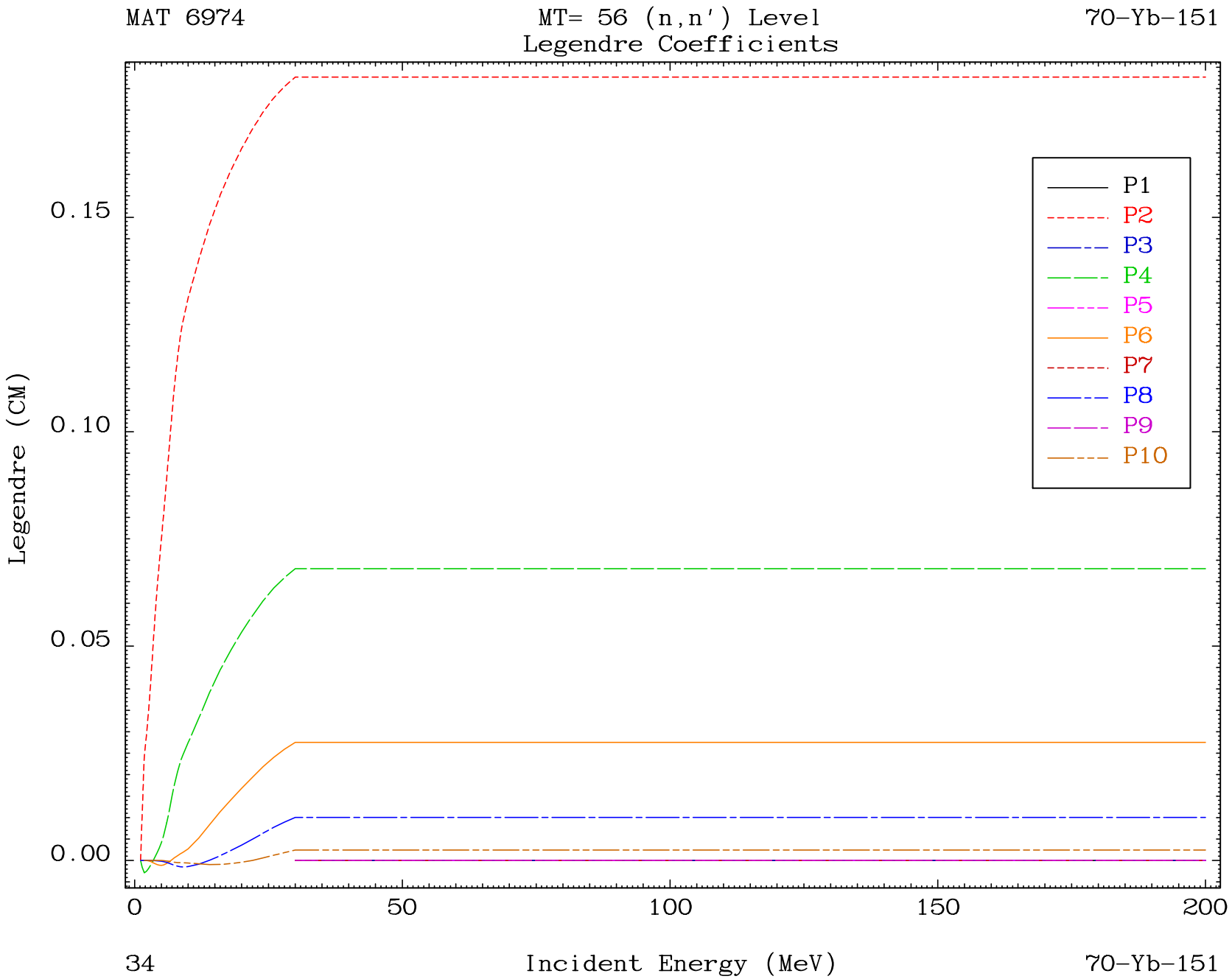

MAT 6974
MT= 54 (n,n') Level
Legendre Coefficients
70-Yb-151
X10^-3
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
29
Incident Energy (MeV)
70-Yb-151
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

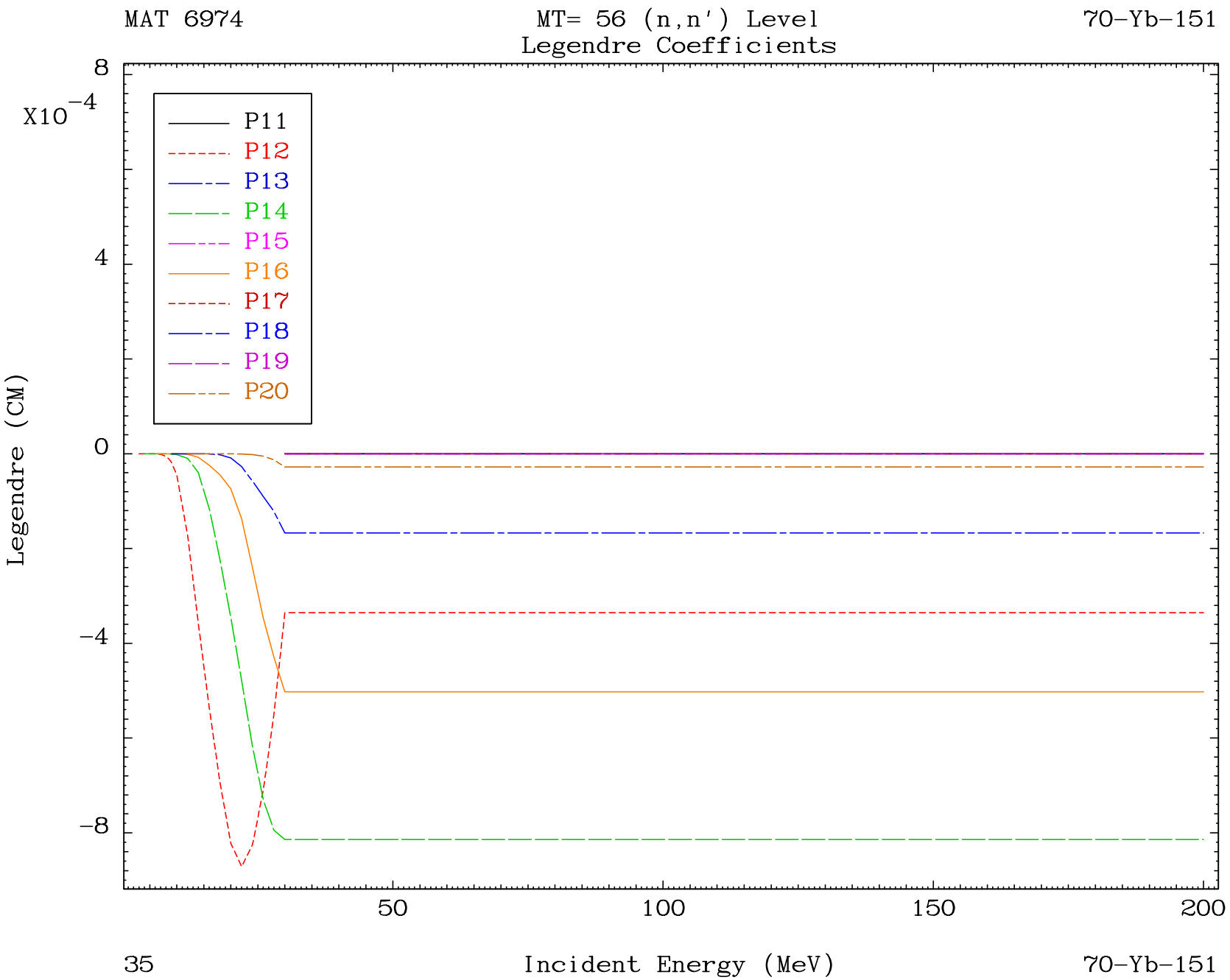

MAT 6974
MT= 54 (n,n') Level
Legendre Coefficients
70-Yb-151
X10-7
6
4
2
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
30
Incident Energy (MeV)
70-Yb-151

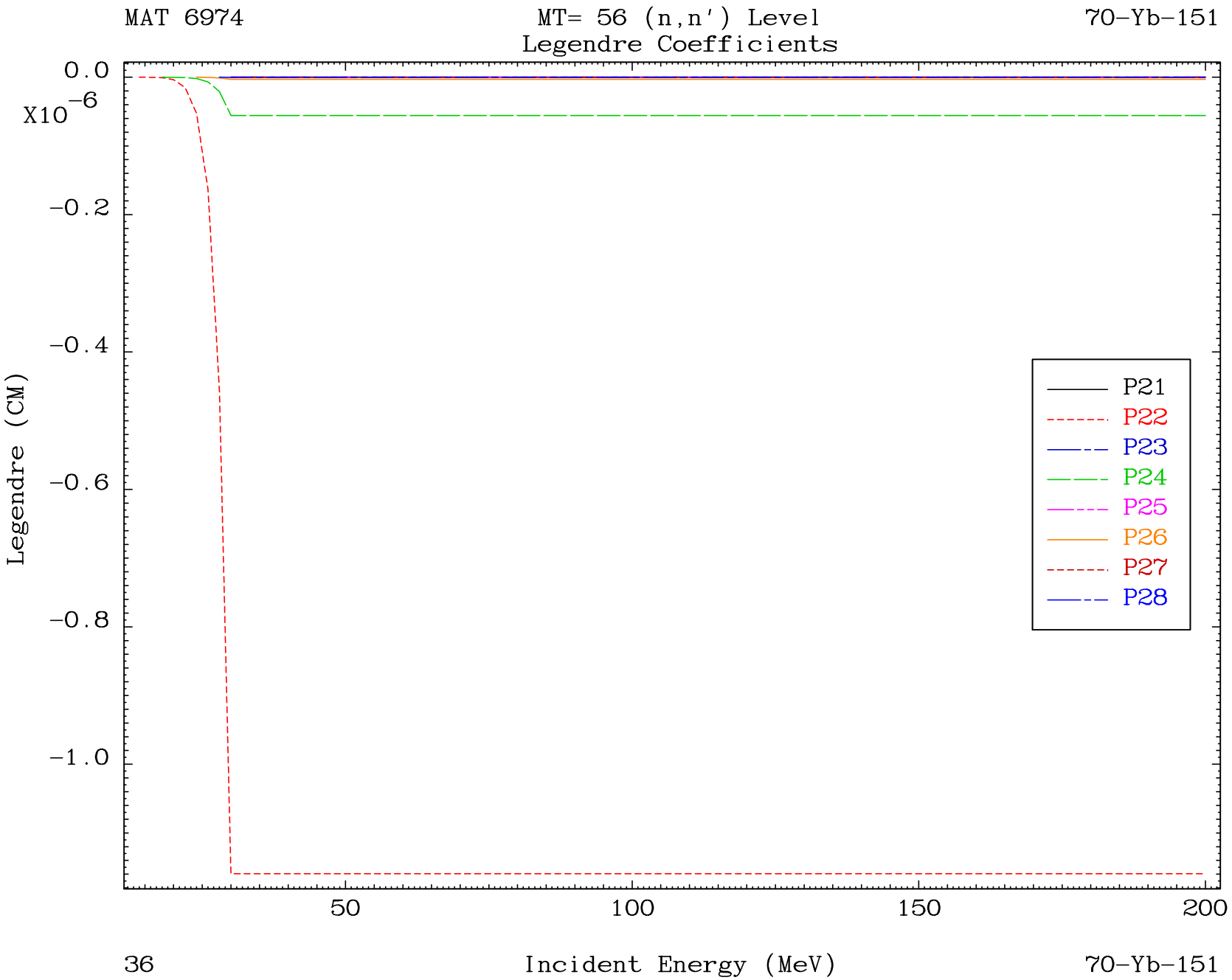

MAT 6974
MT= 55 (n,n') Level
Legendre Coefficients
70-Yb-151
0.12
0.08
0.04
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
31
Incident Energy (MeV)
70-Yb-151

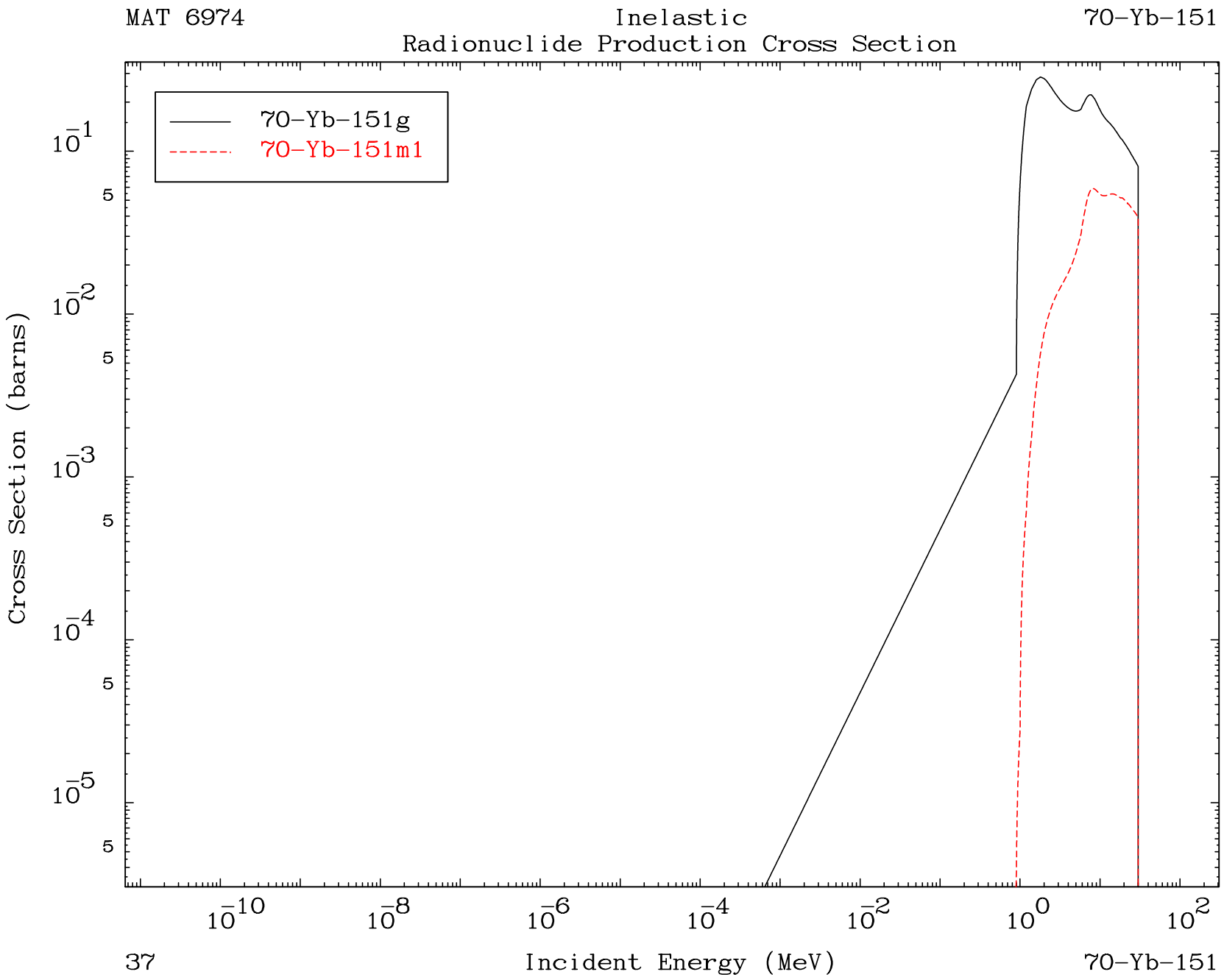

MAT 6974
MT= 55 (n,n') Level
Legendre Coefficients
70-Yb-151
X10-35
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
0
50
100
150
200
32
Incident Energy (MeV)
70-Yb-151
P10
P11
P12
P13
P14
P15
P16
P17
P18

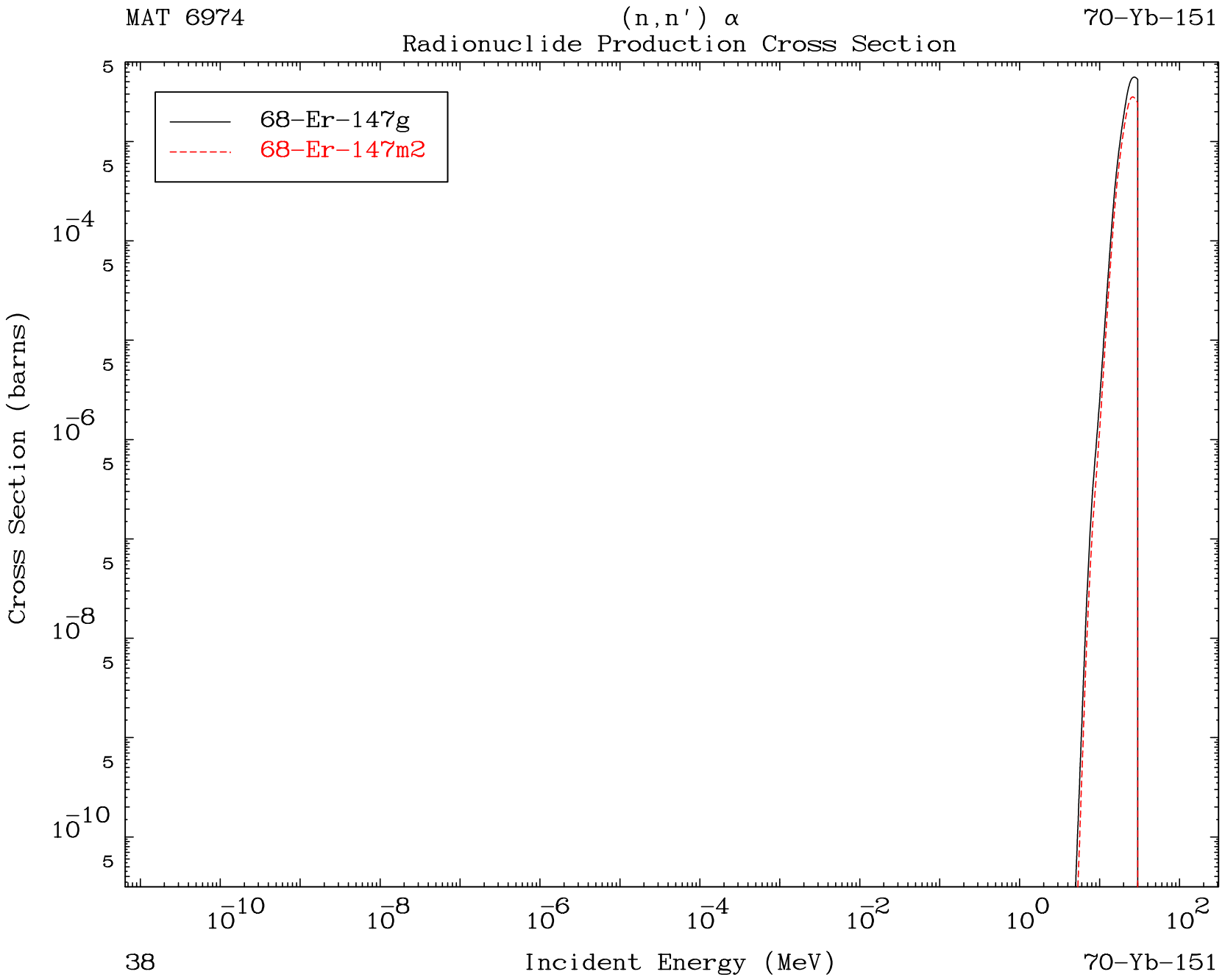

MAT 6974
MT= 55 (n,n') Level
Legendre Coefficients
70-Yb-151
X10-7
6
4
2
0
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
33
Incident Energy (MeV)
70-Yb-151

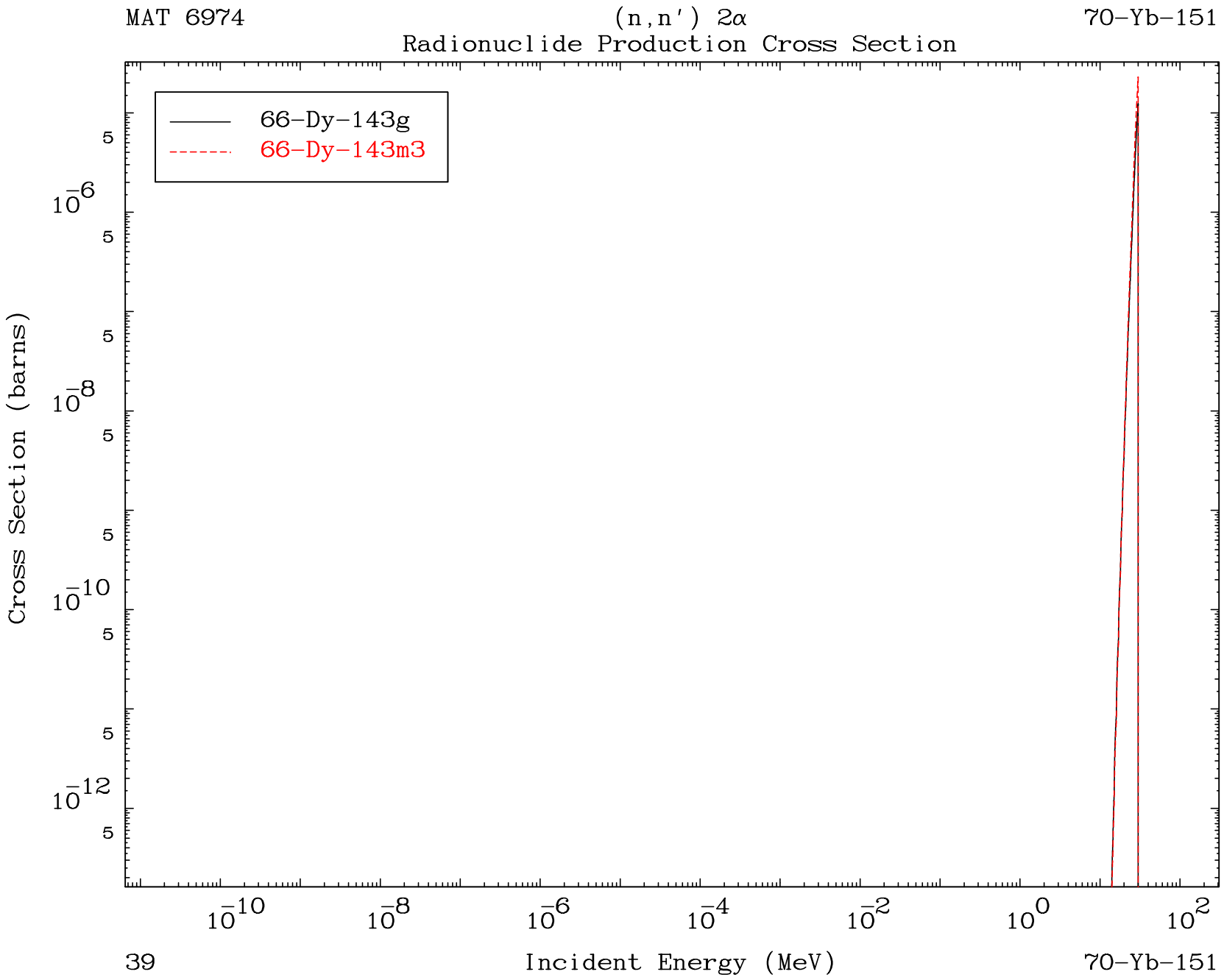

MAT 6974
MT= 56 (n,n') Level
Legendre Coefficients
70-Yb-151
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
34
Incident Energy (MeV)
70-Yb-151
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

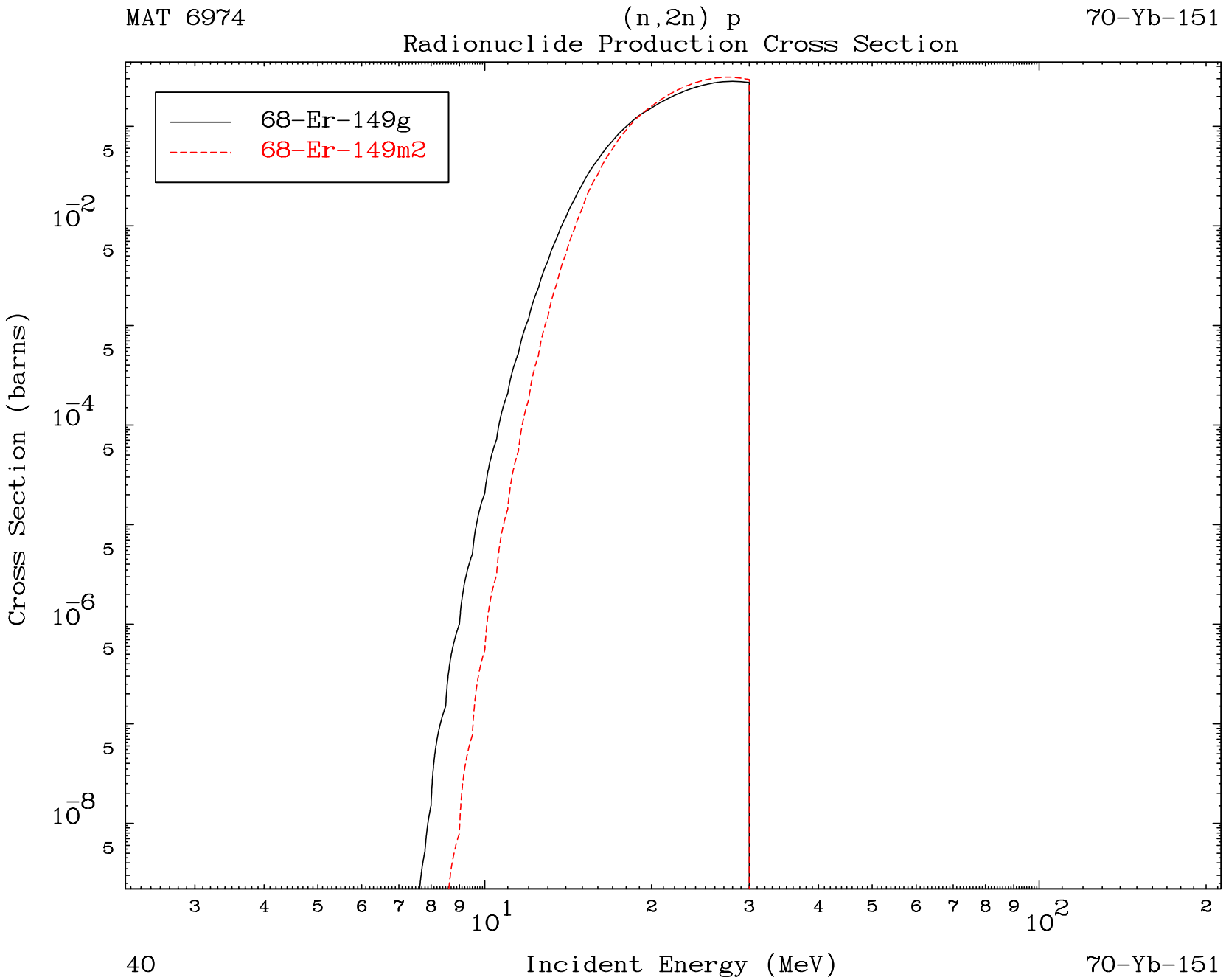

MAT 6974
MT= 56 (n,n') Level
Legendre Coefficients
70-Yb-151
X10^-4
8
4
0
-4
-8
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
Legendre (CM)
50
100
150
200
35
Incident Energy (MeV)
70-Yb-151

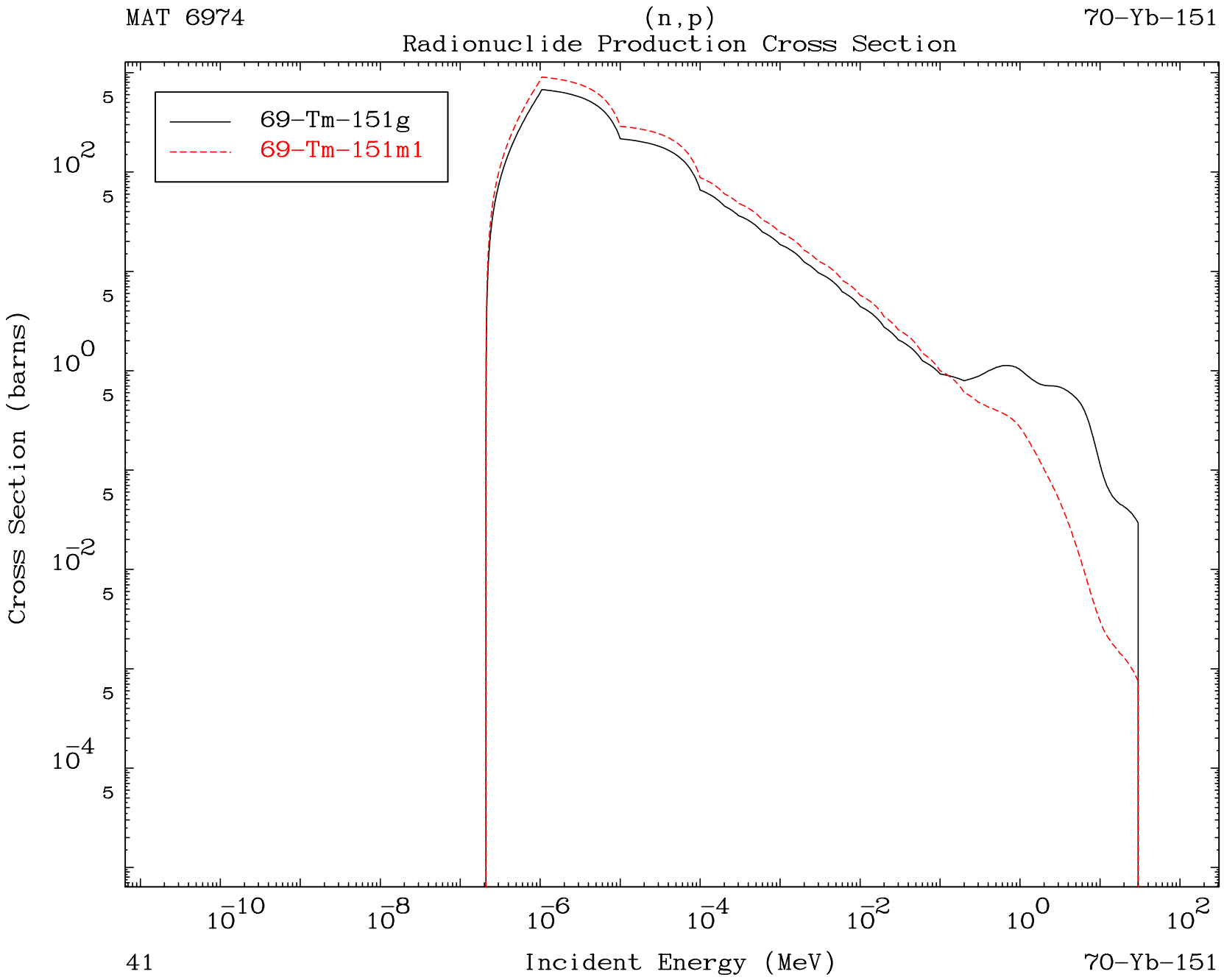

MAT 6974
MT= 56 (n,n') Level
Legendre Coefficients
70-Yb-151
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
P21
P22
P23
P24
P25
P26
P27
P28
36
Incident Energy (MeV)
70-Yb-151

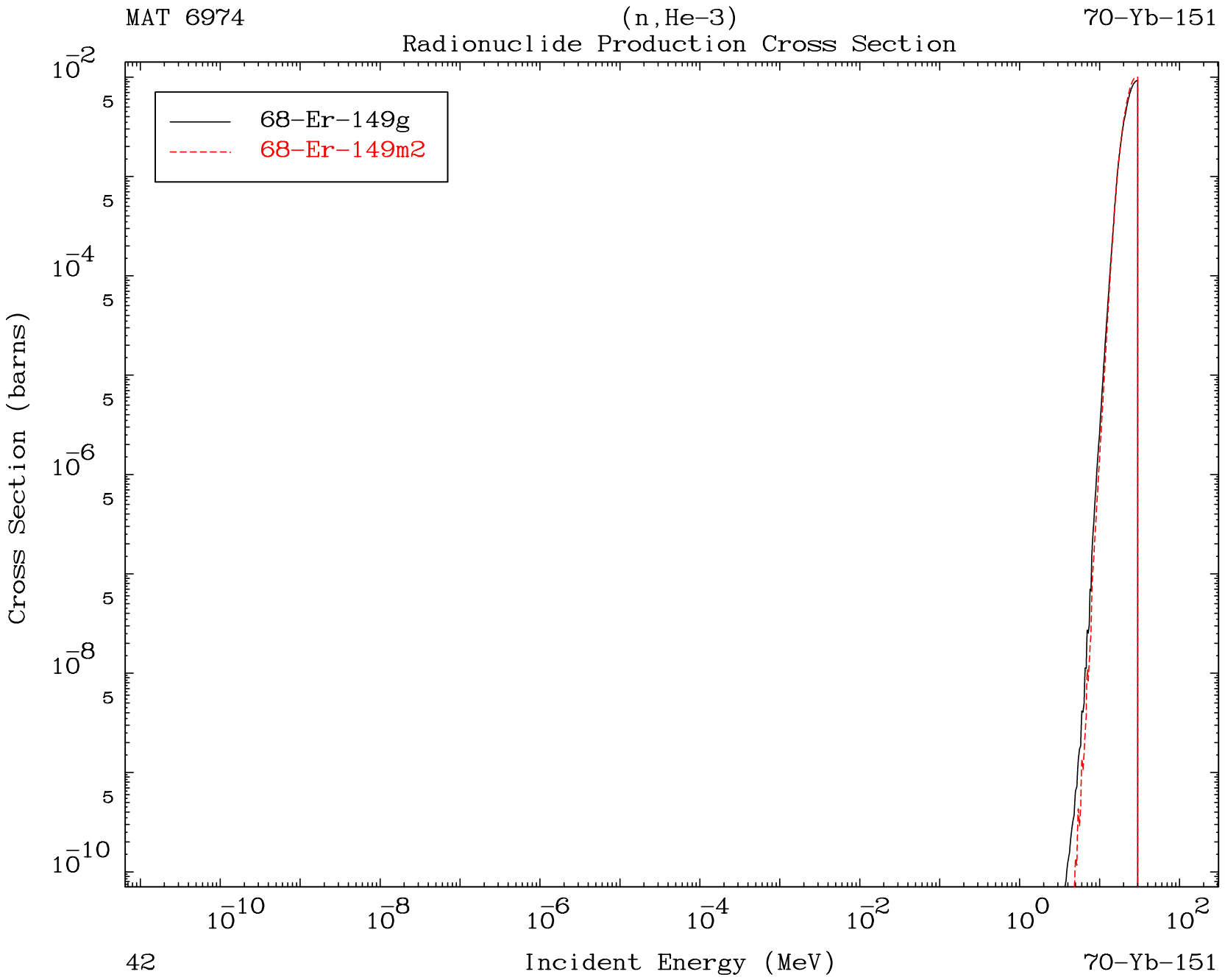

MAT 6974
Inelastic
70-Yb-151
Radionuclide Production Cross Section
70-Yb-151g
70-Yb-151m1
Cross Section (barns)
10-1
5
10-2
5
10-3
5
10-4
5
10-5
5
10-10
10-8
10-6
10-4
10-2
100
102
37
Incident Energy (MeV)
70-Yb-151

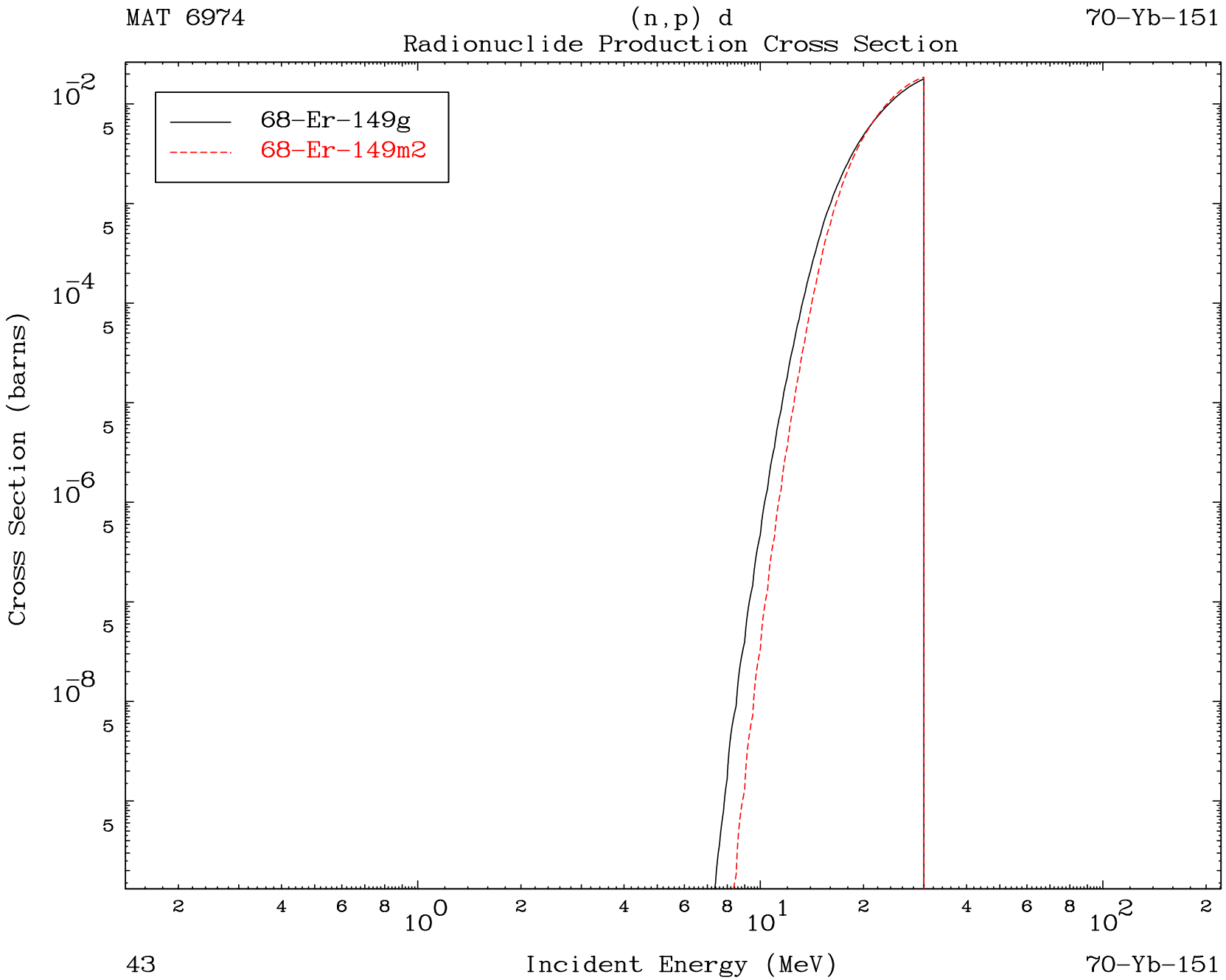

MAT 6974
(n,n') α
70-Yb-151
Radionuclide Production Cross Section
68-Er-147g
68-Er-147m2
Cross Section (barns)
Incident Energy (MeV)
38
70-Yb-151


MAT 6974
(n,n') 2α
70-Yb-151
Radionuclide Production Cross Section
66-Dy-143g
66-Dy-143m3
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
39
Incident Energy (MeV)
70-Yb-151


MAT 6974
(n,2n) p
70-Yb-151
Radionuclide Production Cross Section
68-Er-149g
68-Er-149m2
Cross Section (barns)
10-2
10-4
10-6
10-8
3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 2 2
40
Incident Energy (MeV)
70-Yb-151


MAT 6974
(n,p)
70-Yb-151
Radionuclide Production Cross Section
69-Tm-151g
69-Tm-151m1
Cross Section (barns)
Incident Energy (MeV)
41
70-Yb-151


MAT 6974
(n,He-3)
70-Yb-151
Radionuclide Production Cross Section
68-Er-149g
68-Er-149m2
Cross Section (barns)
Incident Energy (MeV)
42
70-Yb-151


MAT 6974
(n,p) d
70-Yb-151
Radionuclide Production Cross Section
68-Er-149g
68-Er-149m2
Cross Section (barns)
Incident Energy (MeV)
43
70-Yb-151