Program EVALPLOT
(Version 2021-1)
by
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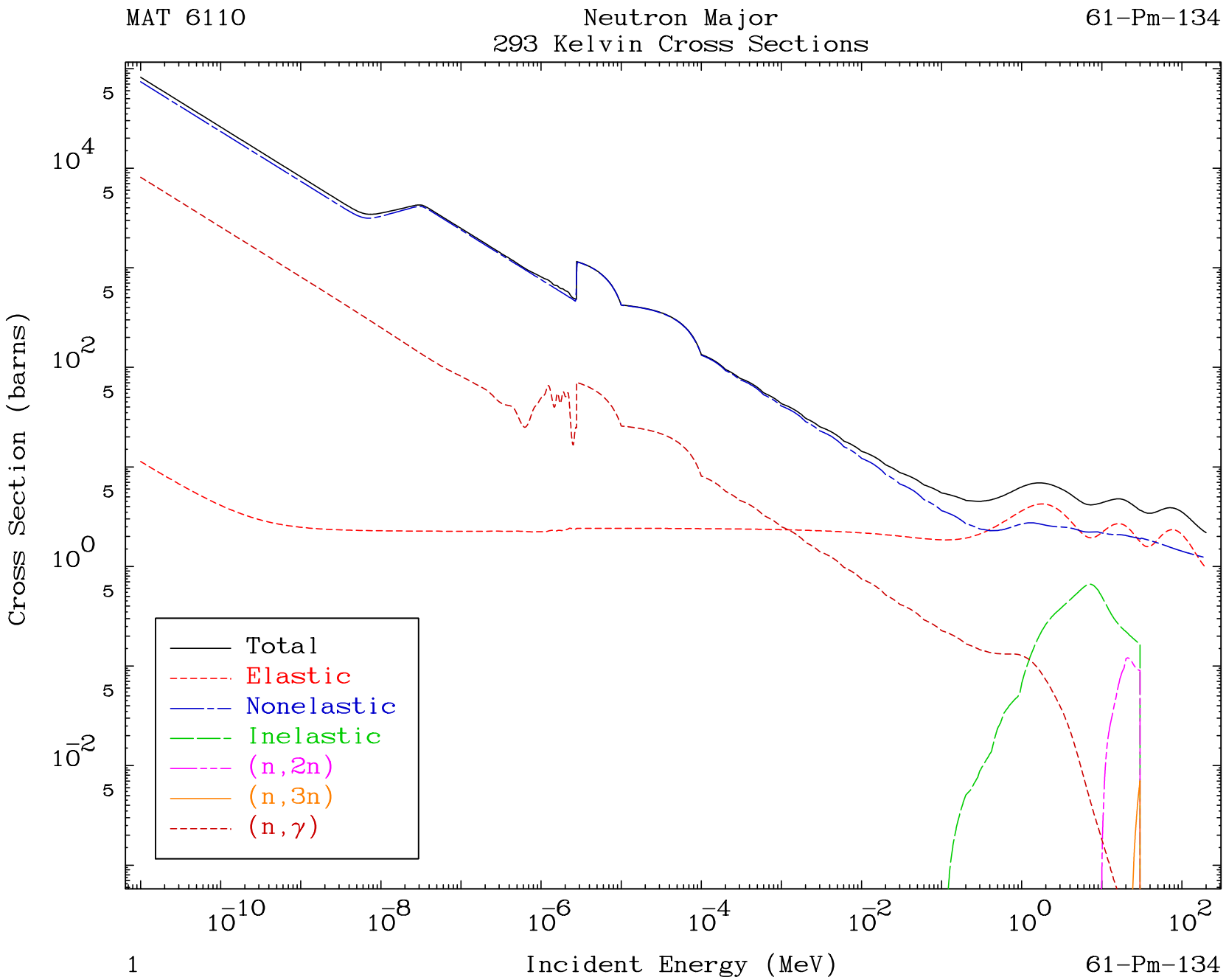
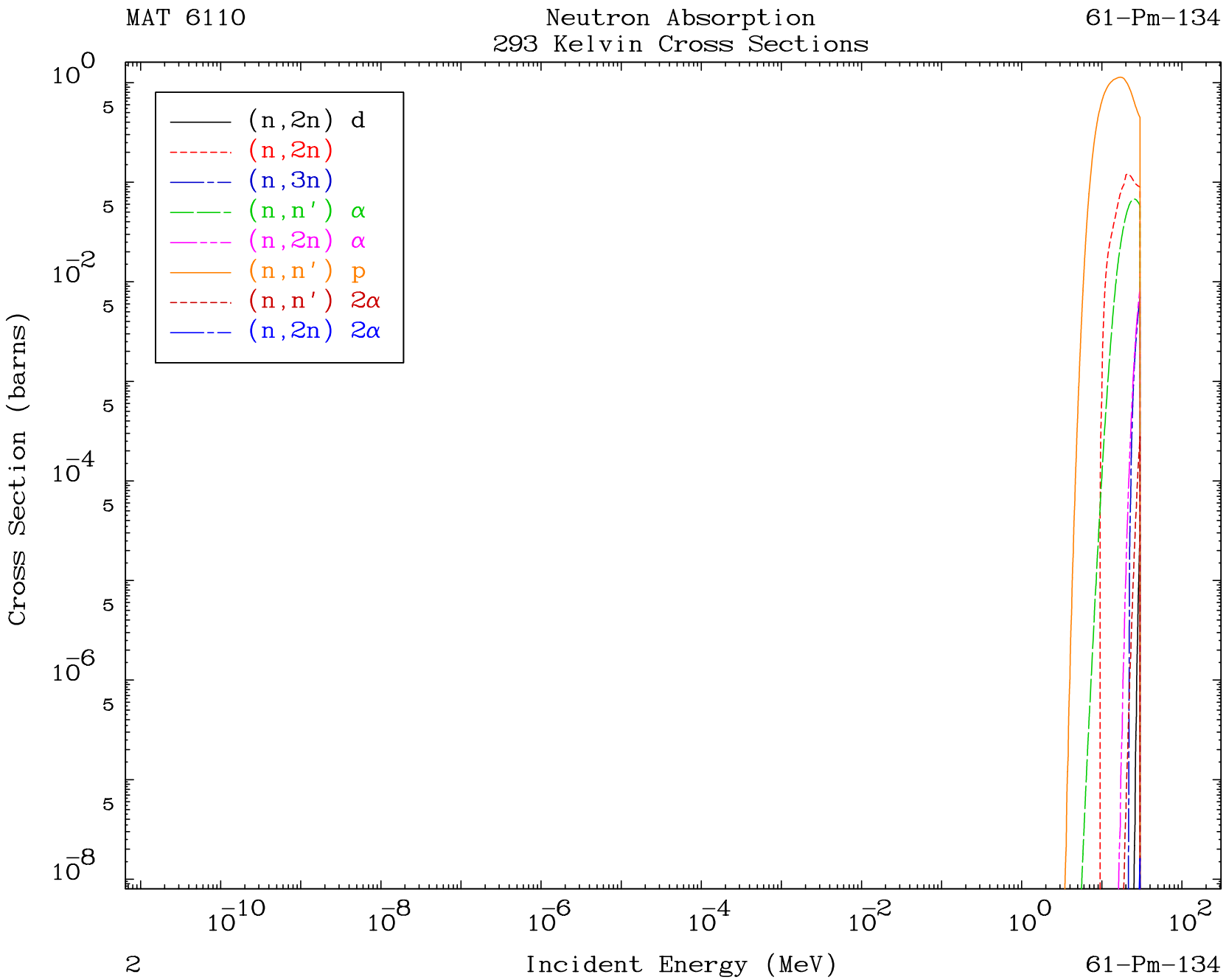
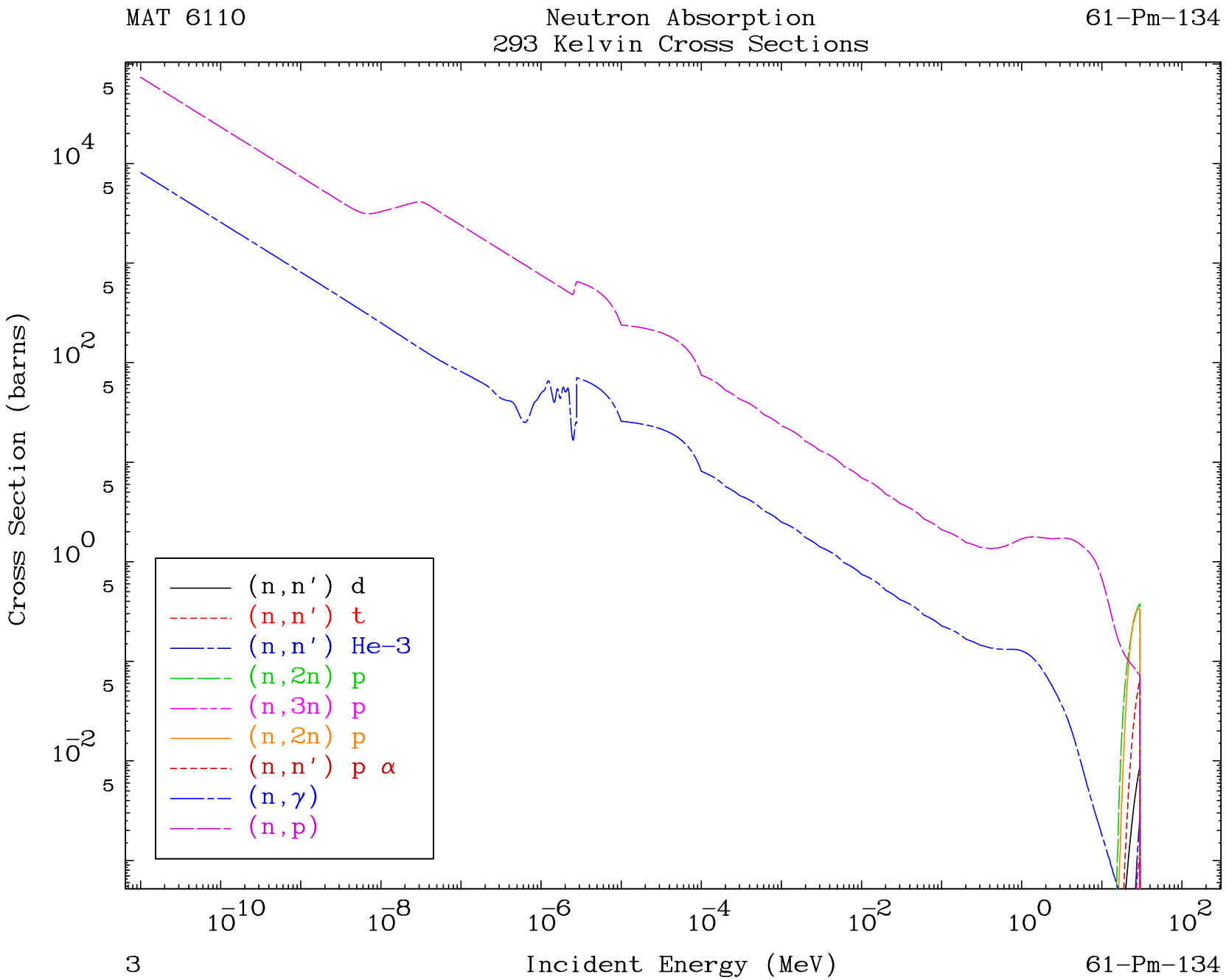
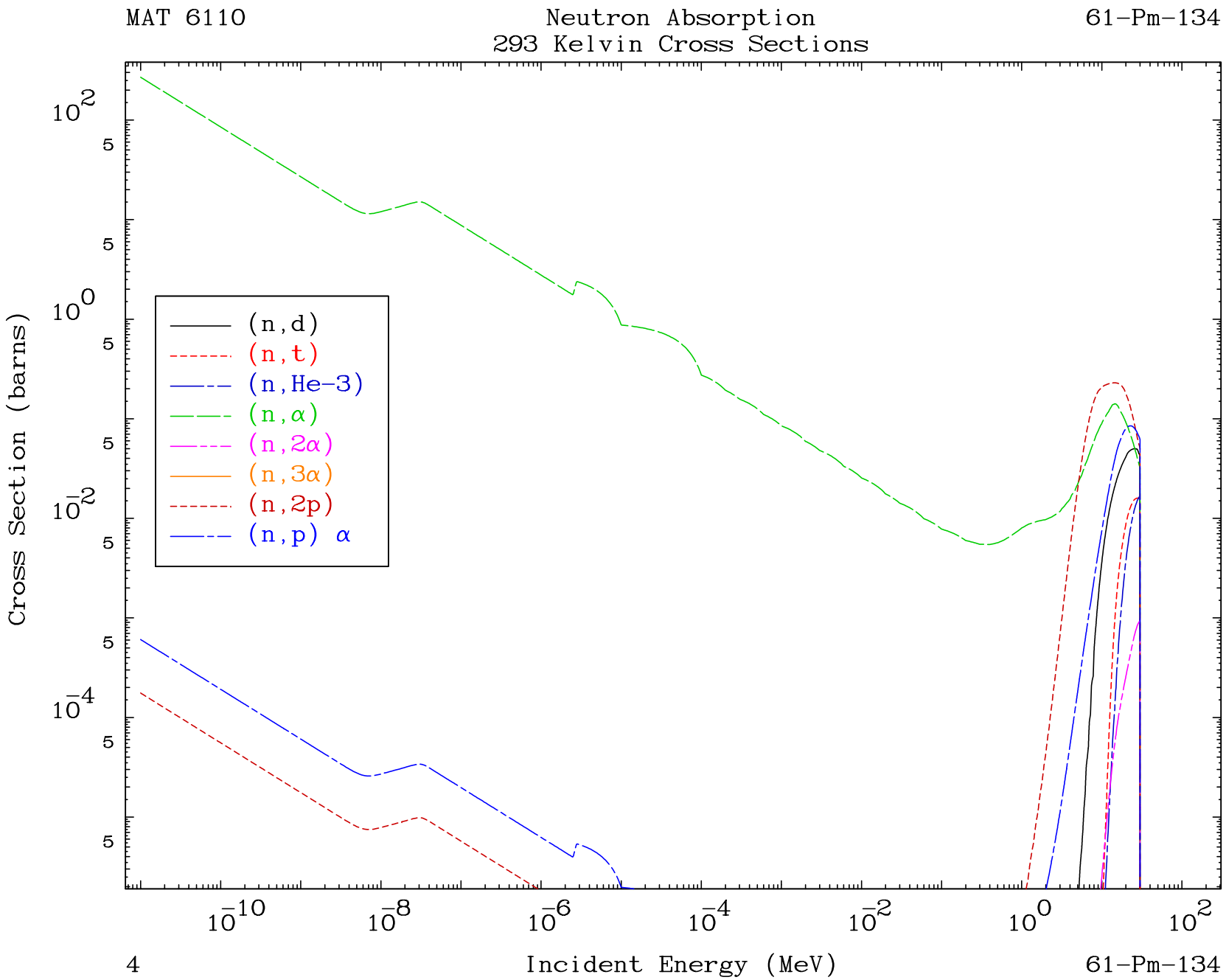
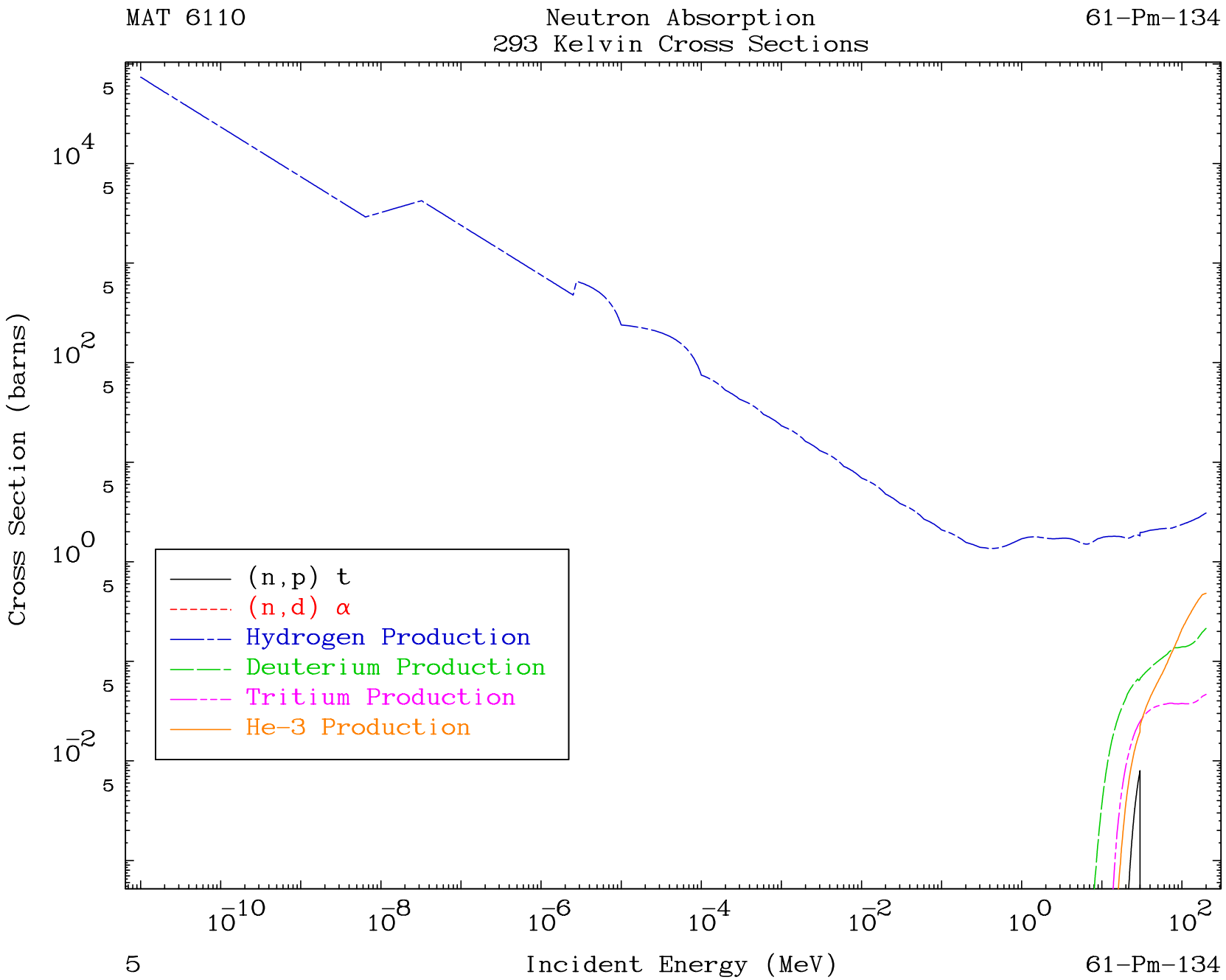
Press Mouse Button to Start

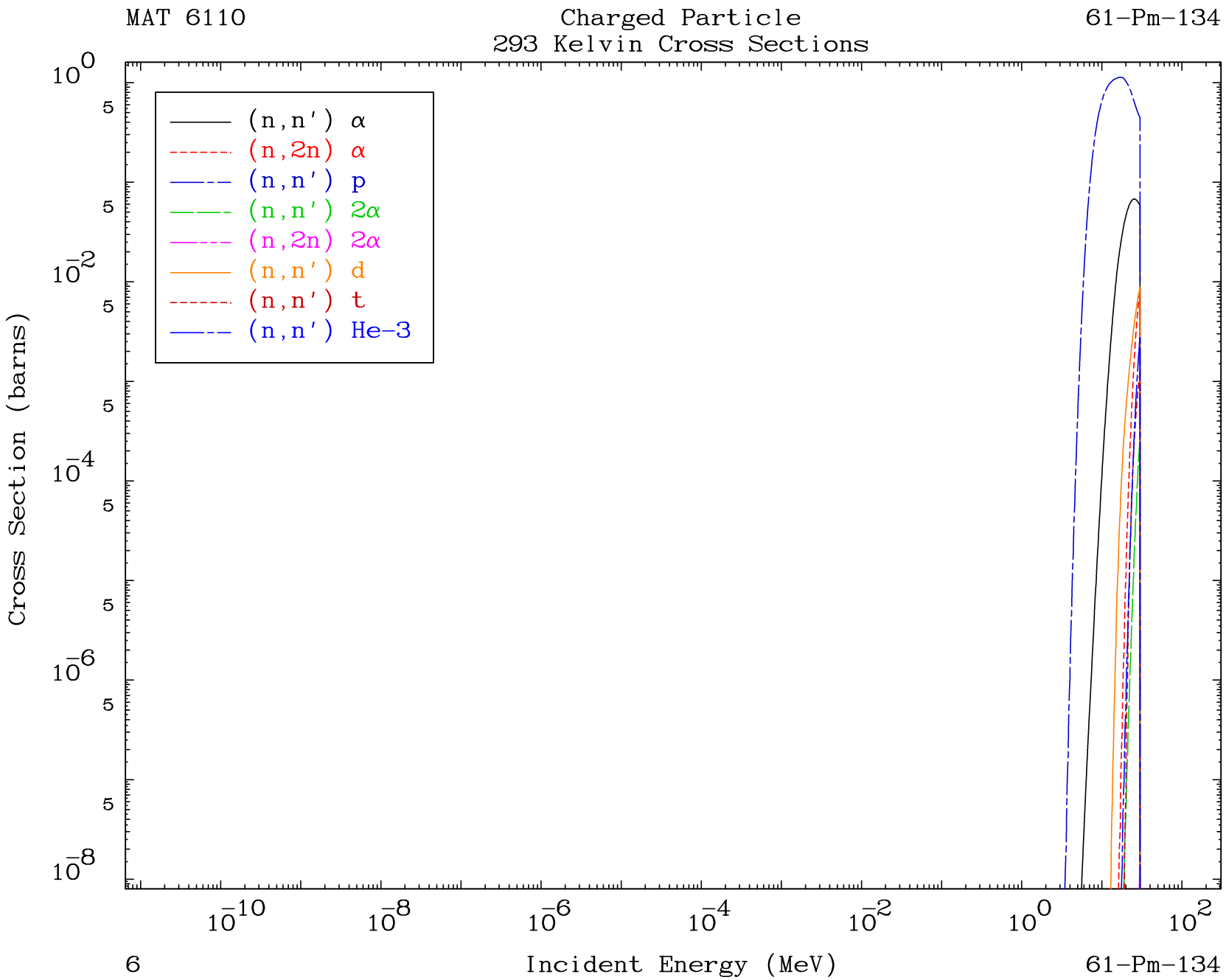

MAT 6110
Neutron Major
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Nonelastic
Inelastic
(n,2n)
(n,3n)
(n,γ)
1
61-Pm-134

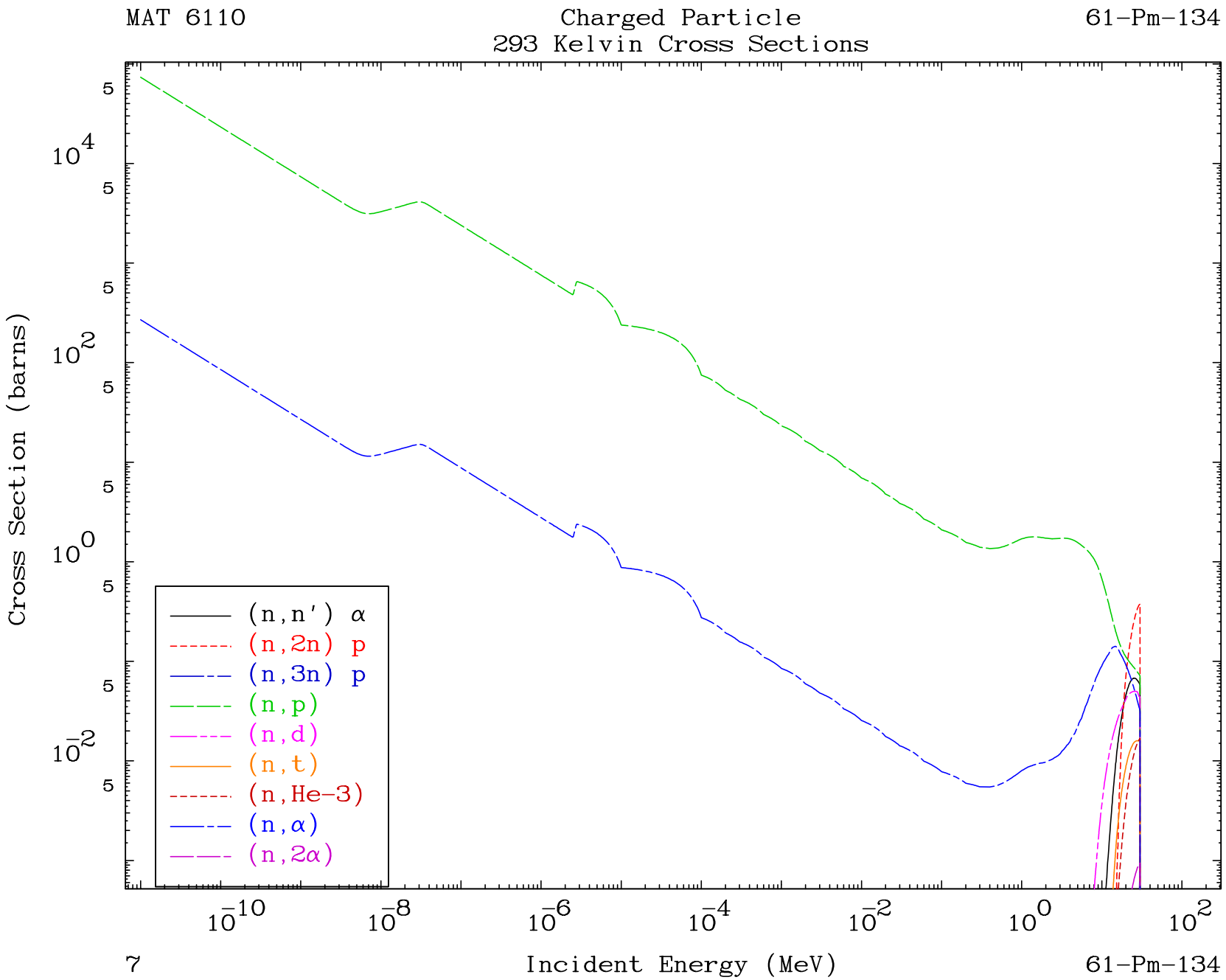

MAT 6110
Neutron Absorption
293 Kelvin Cross Sections
61-Pm-134
(n,2n) d
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
Cross Section (barns)
Incident Energy (MeV)
61-Pm-134
2

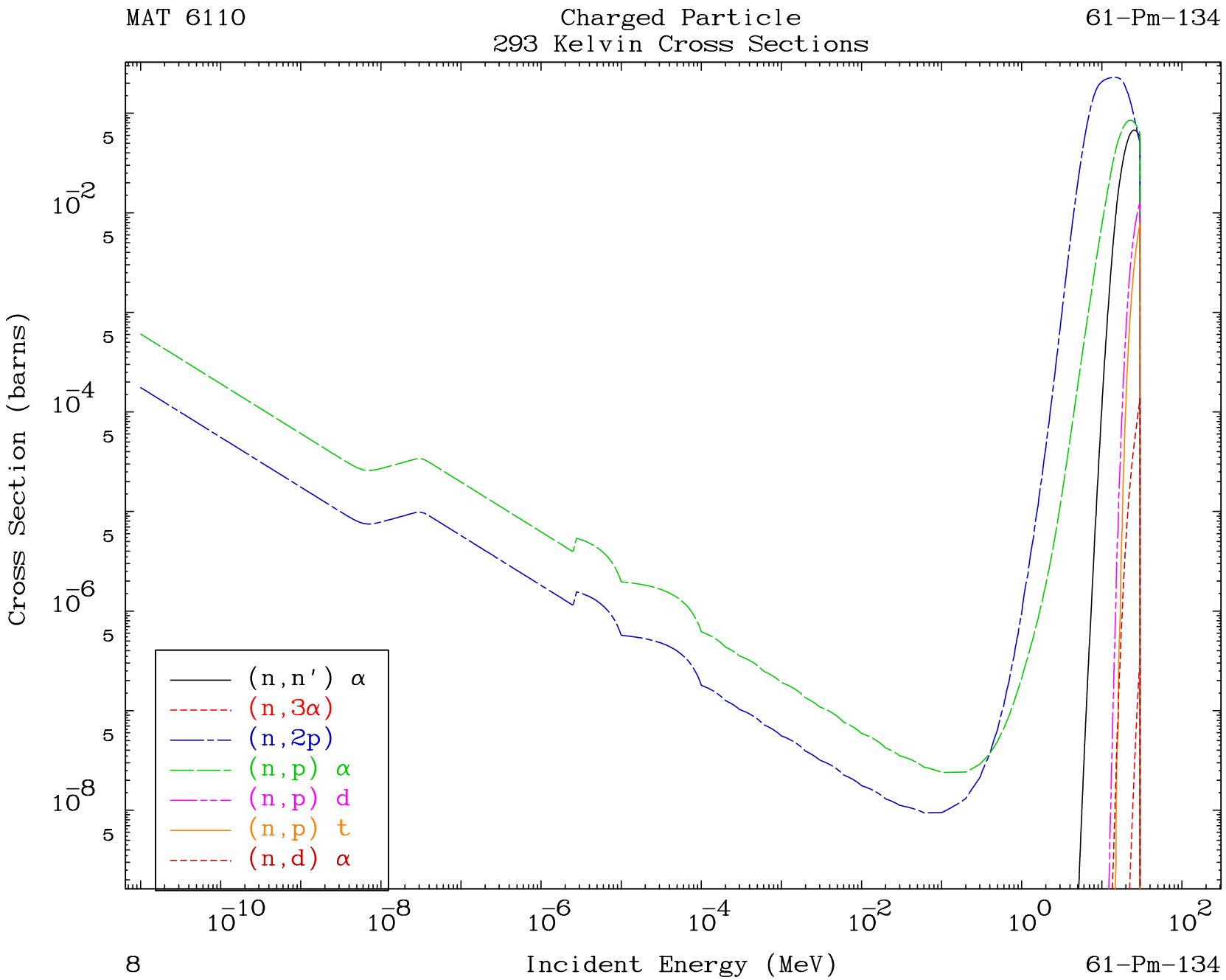

MAT 6110
Neutron Absorption
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
(n,2n) p
(n,n') p α
(n,γ)
(n,p)
3
61-Pm-134

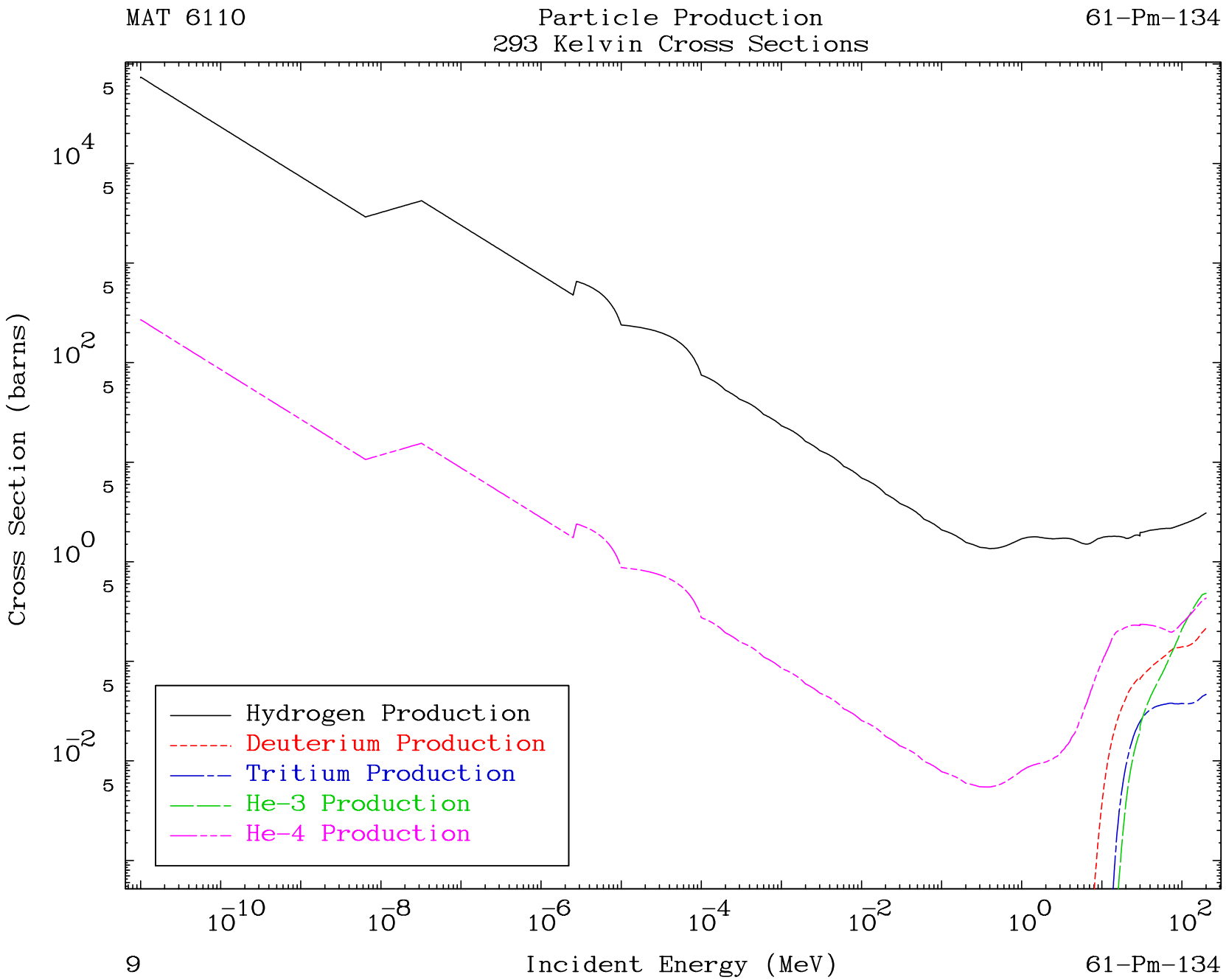

MAT 6110
Neutron Absorption
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,3α)
(n,2p)
(n,p) α
4
61-Pm-134

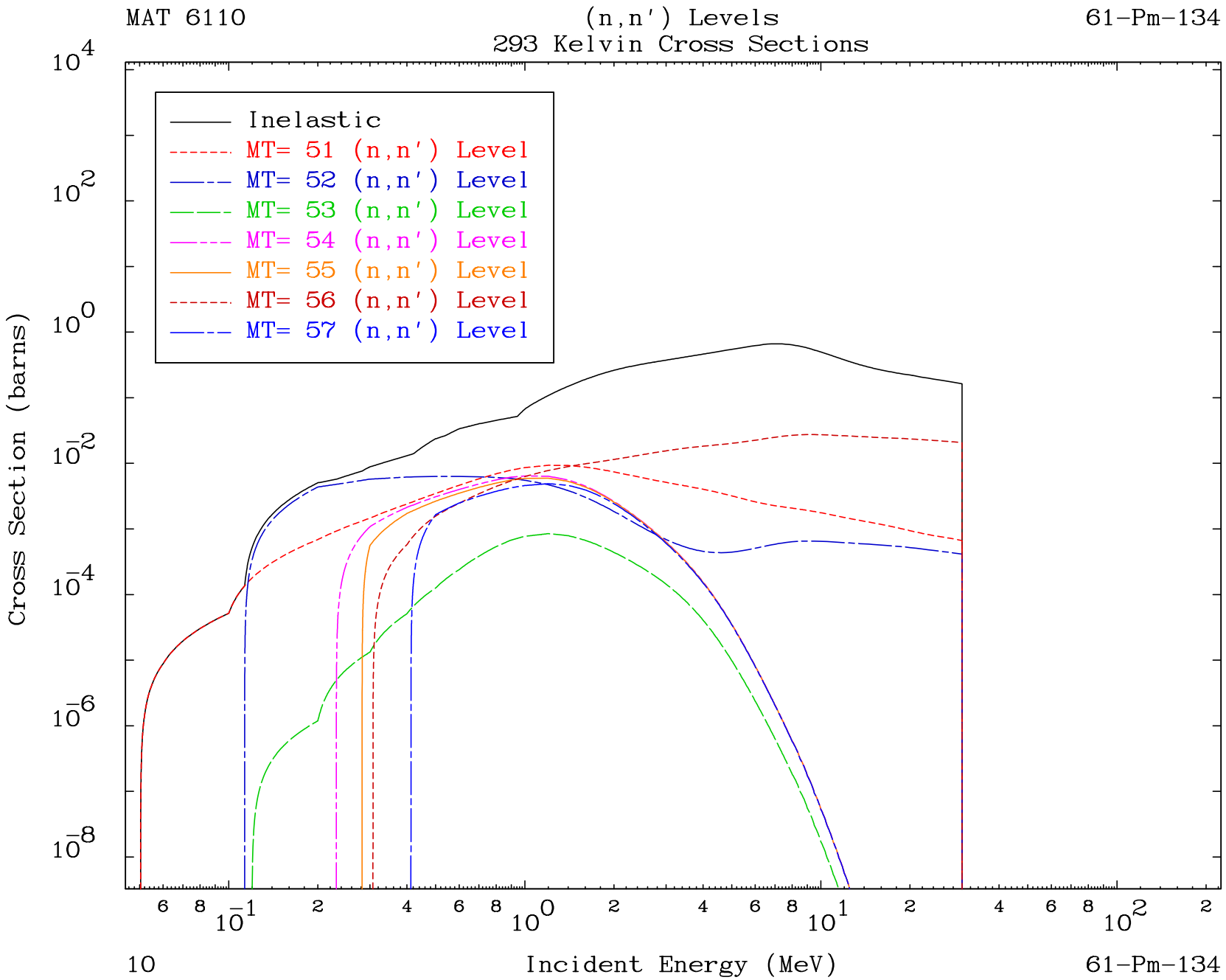

MAT 6110
Neutron Absorption
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
61-Pm-134
(n,p) t
(n,d) α
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production

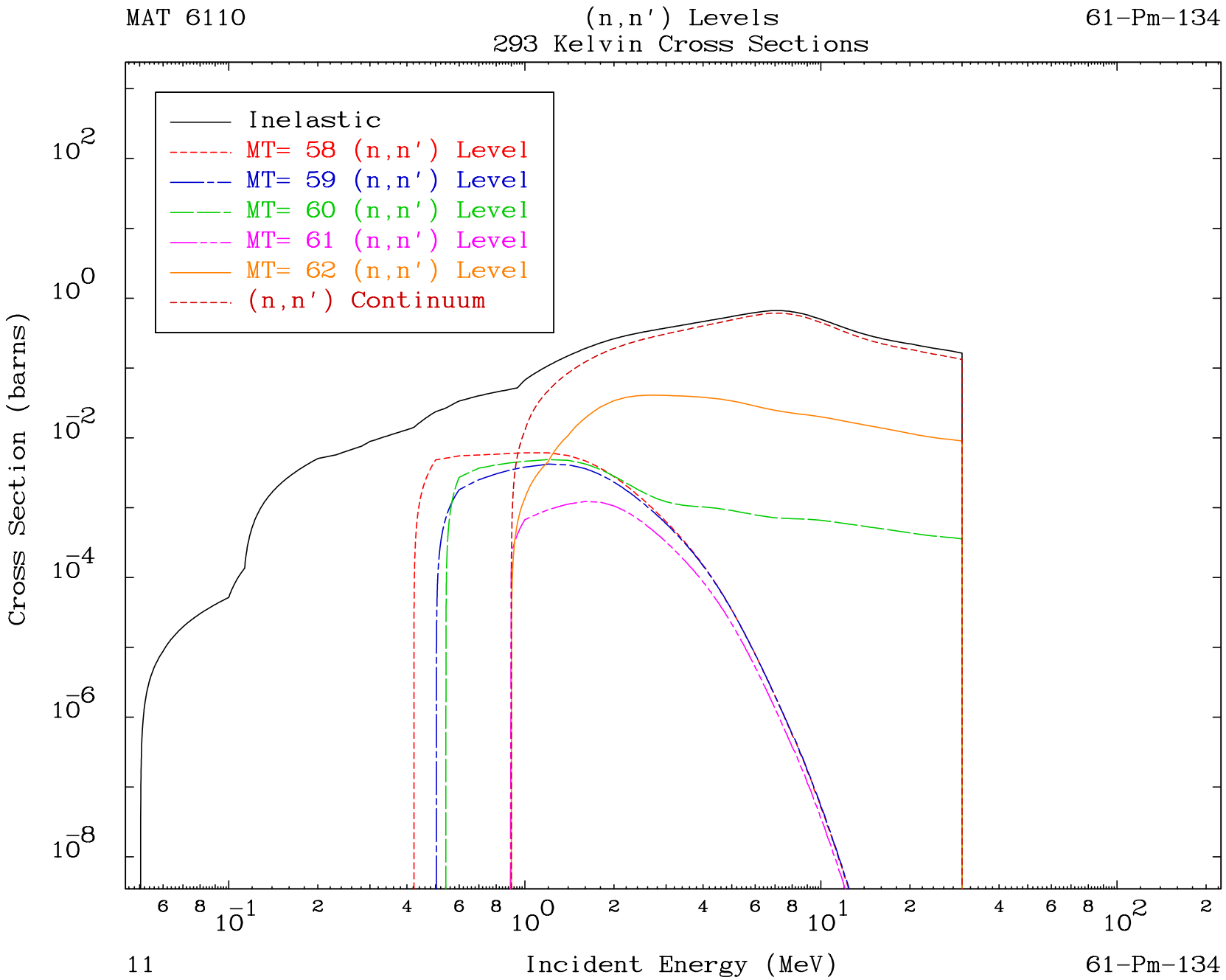

MAT 6110
Charged Particle
293 Kelvin Cross Sections
61-Pm-134
(n,n') α
(n,2n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
Cross Section (barns)
Incident Energy (MeV)
6
61-Pm-134

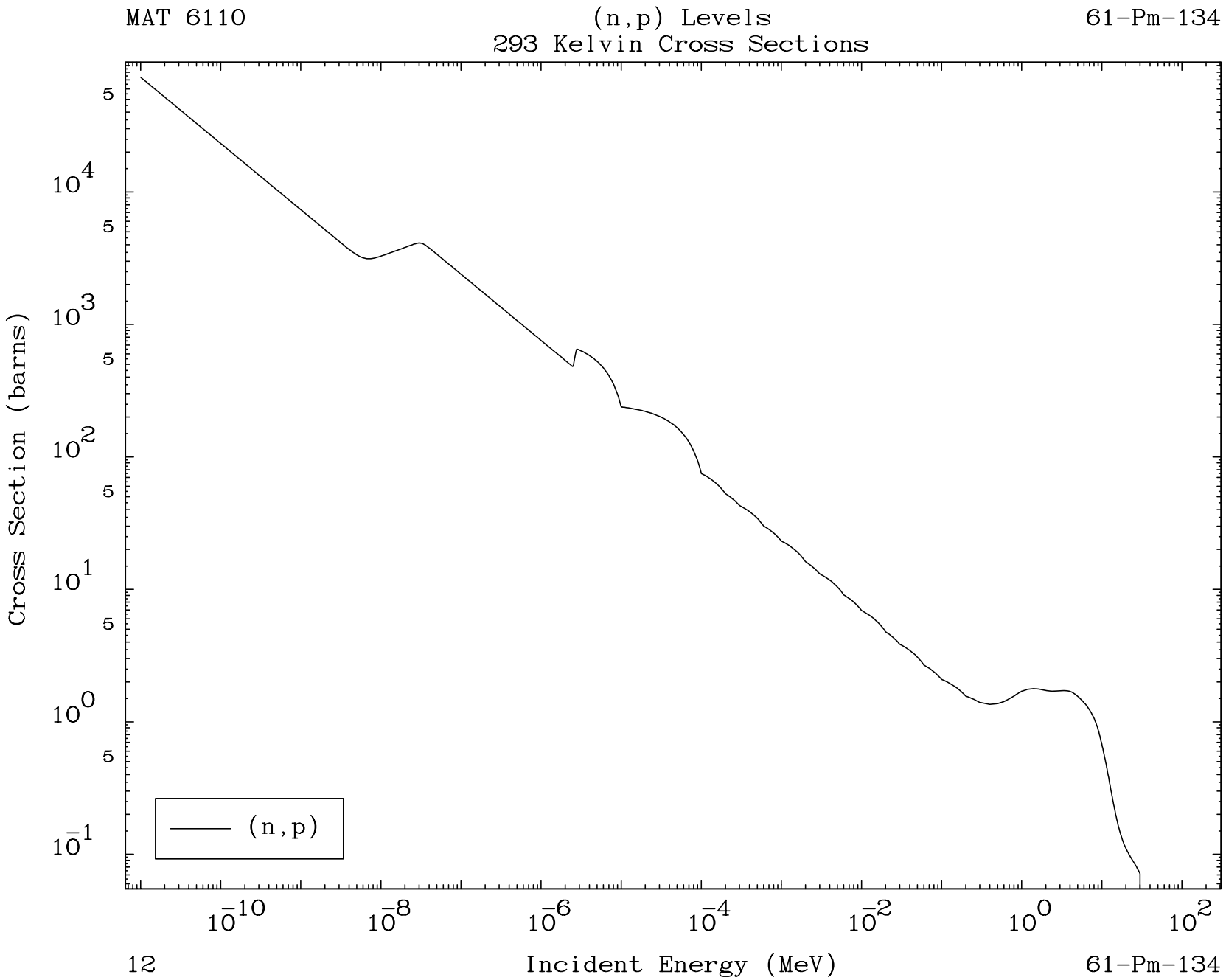

MAT 6110
Charged Particle
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
(n,n') α
(n,2n) p
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
7
61-Pm-134

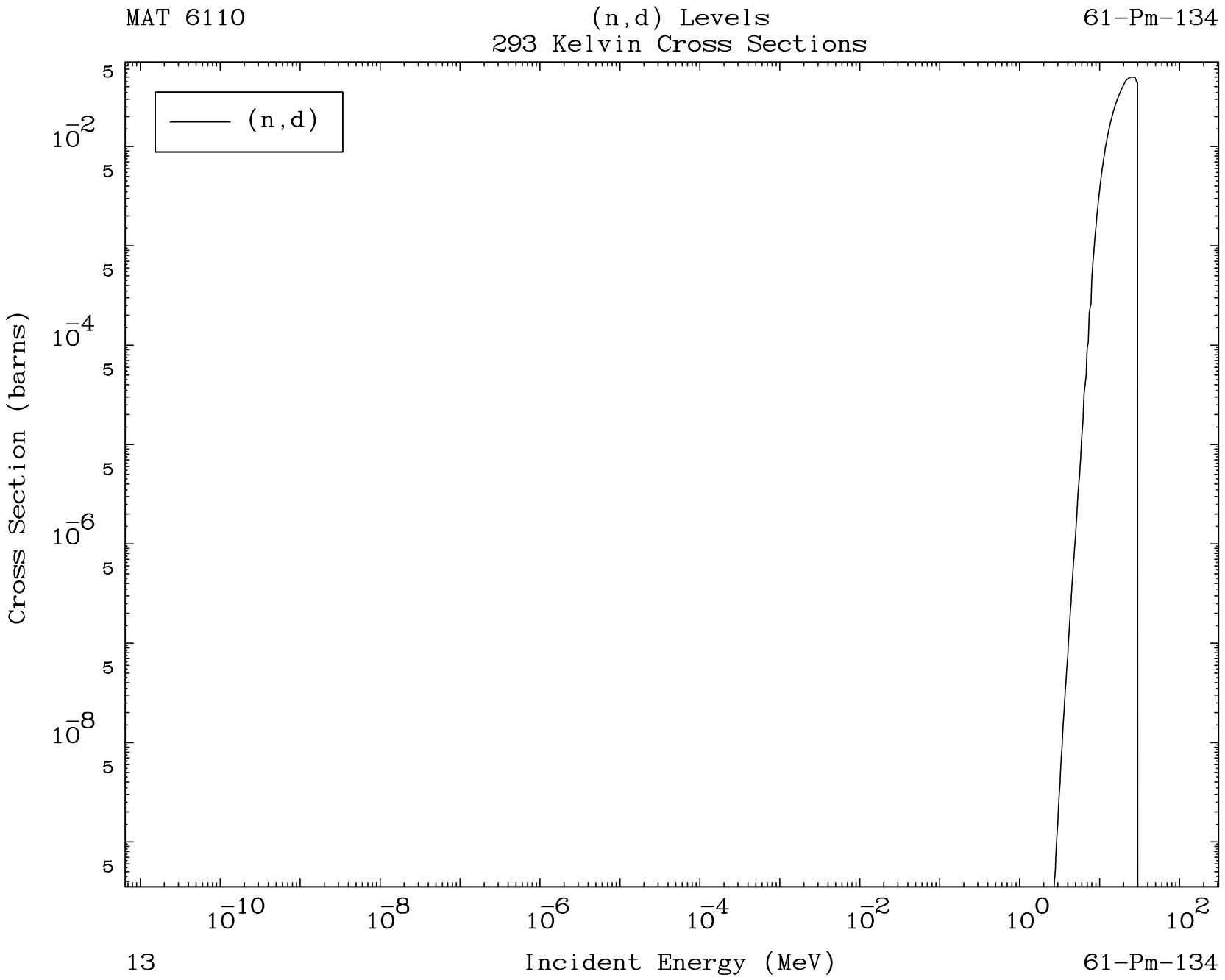

MAT 6110
Charged Particle
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
(n,n') α
(n,3α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t
(n,d) α
8
61-Pm-134

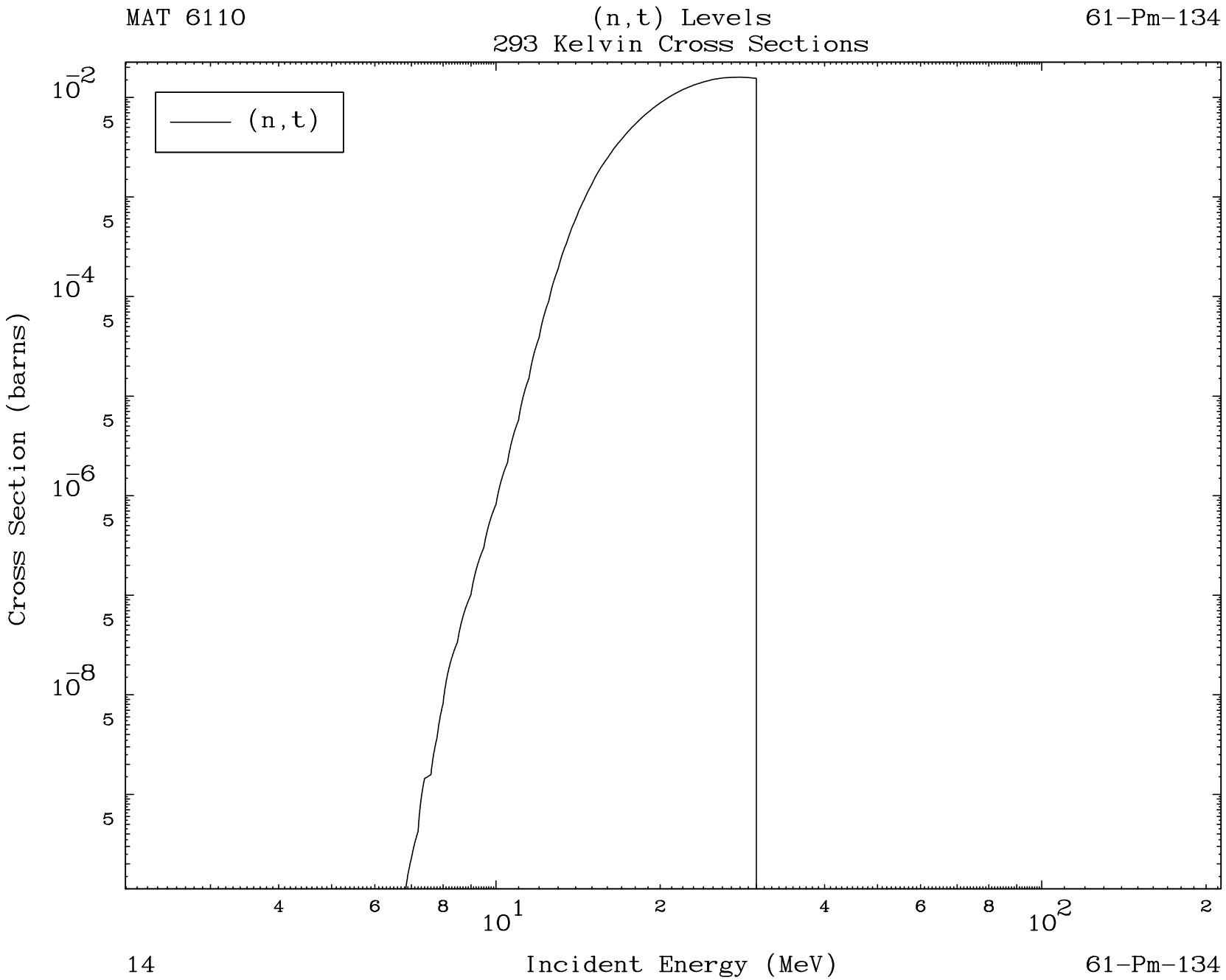

MAT 6110
Particle Production
293 Kelvin Cross Sections
61-Pm-134
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
9
61-Pm-134

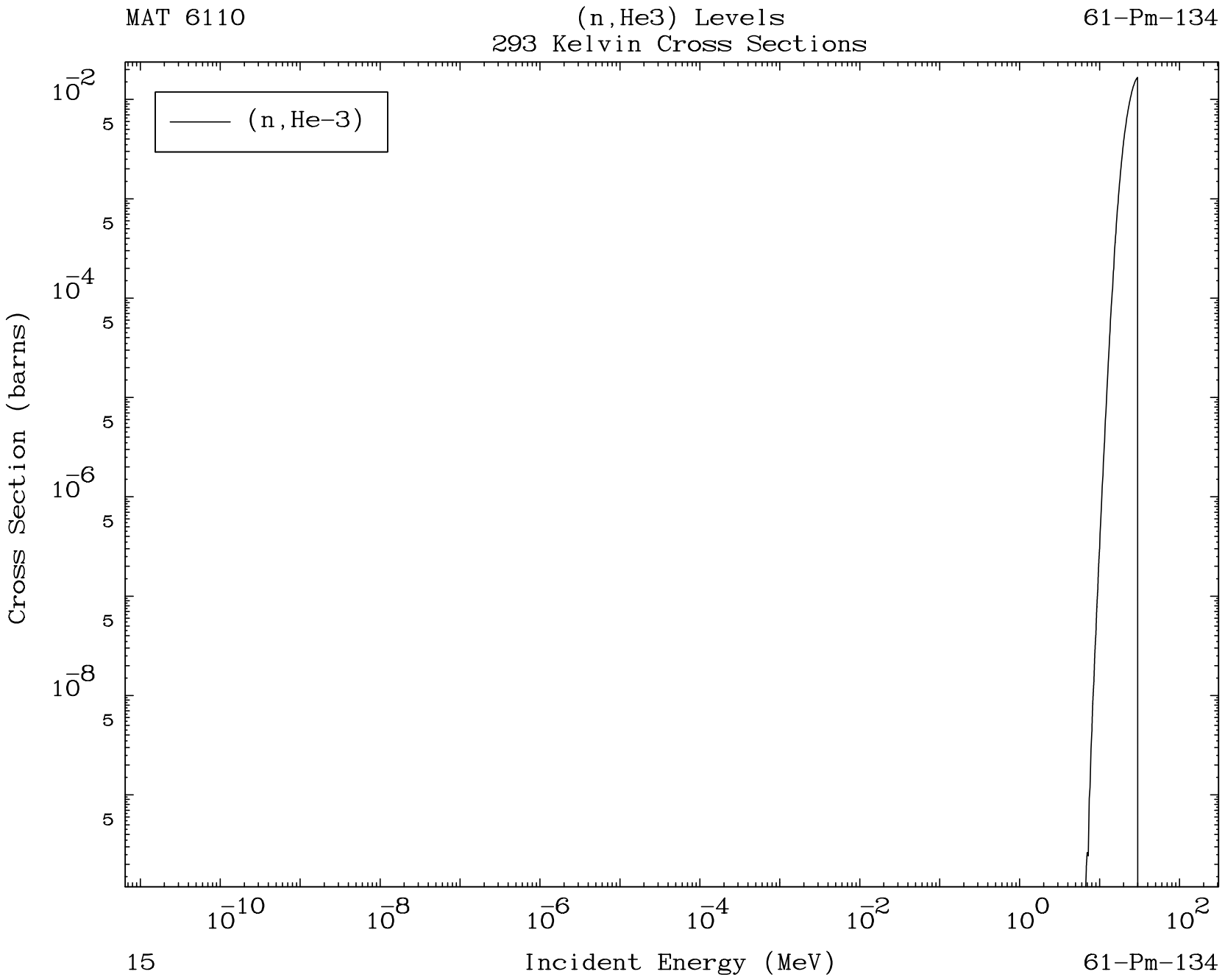

MAT 6110
(n,n') Levels
293 Kelvin Cross Sections
61-Pm-134
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
61-Pm-134

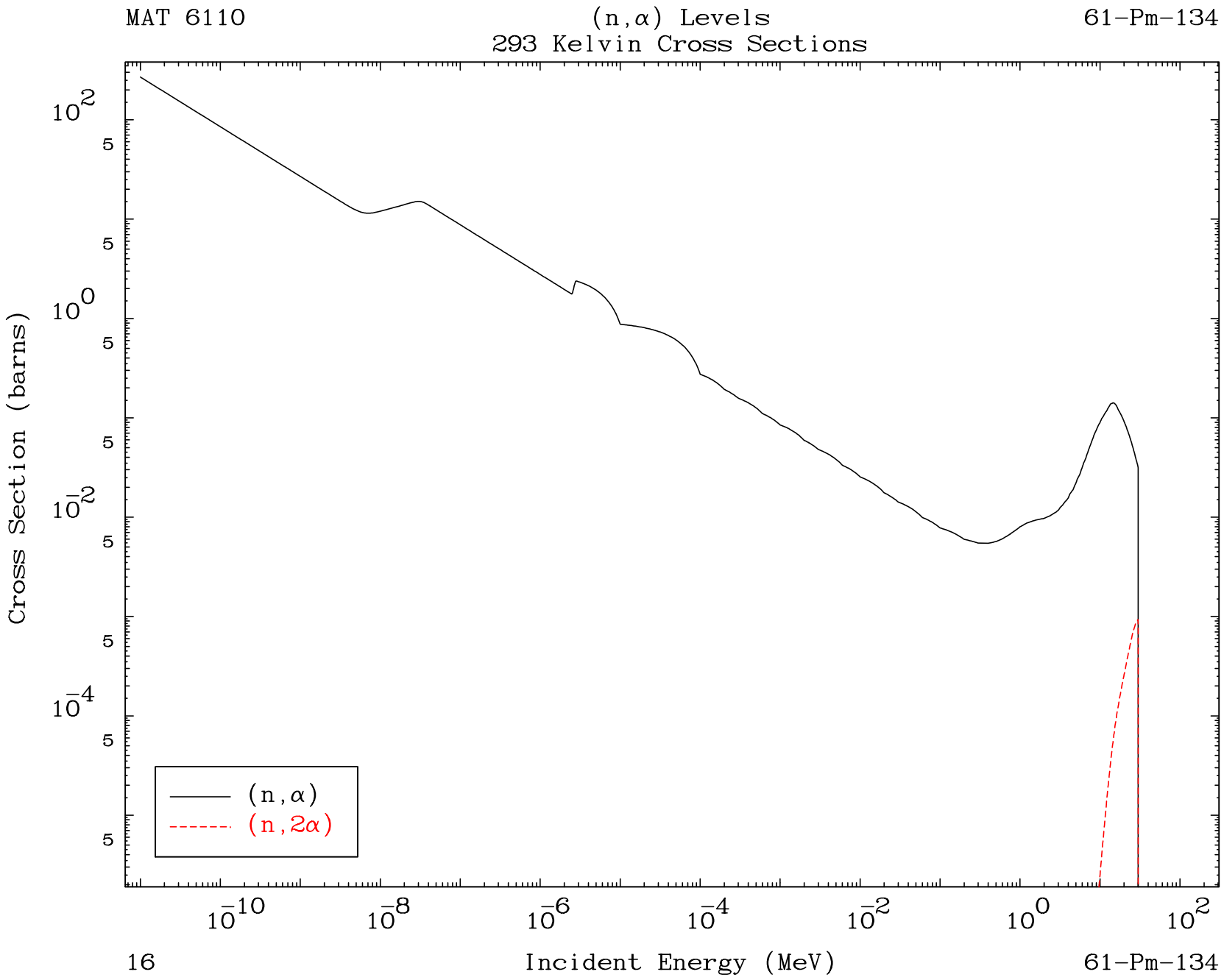

MAT 6110
(n,n') Levels
61-Pm-134
293 Kelvin Cross Sections
Inelastic
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
MT= 61 (n,n') Level
MT= 62 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
11
61-Pm-134

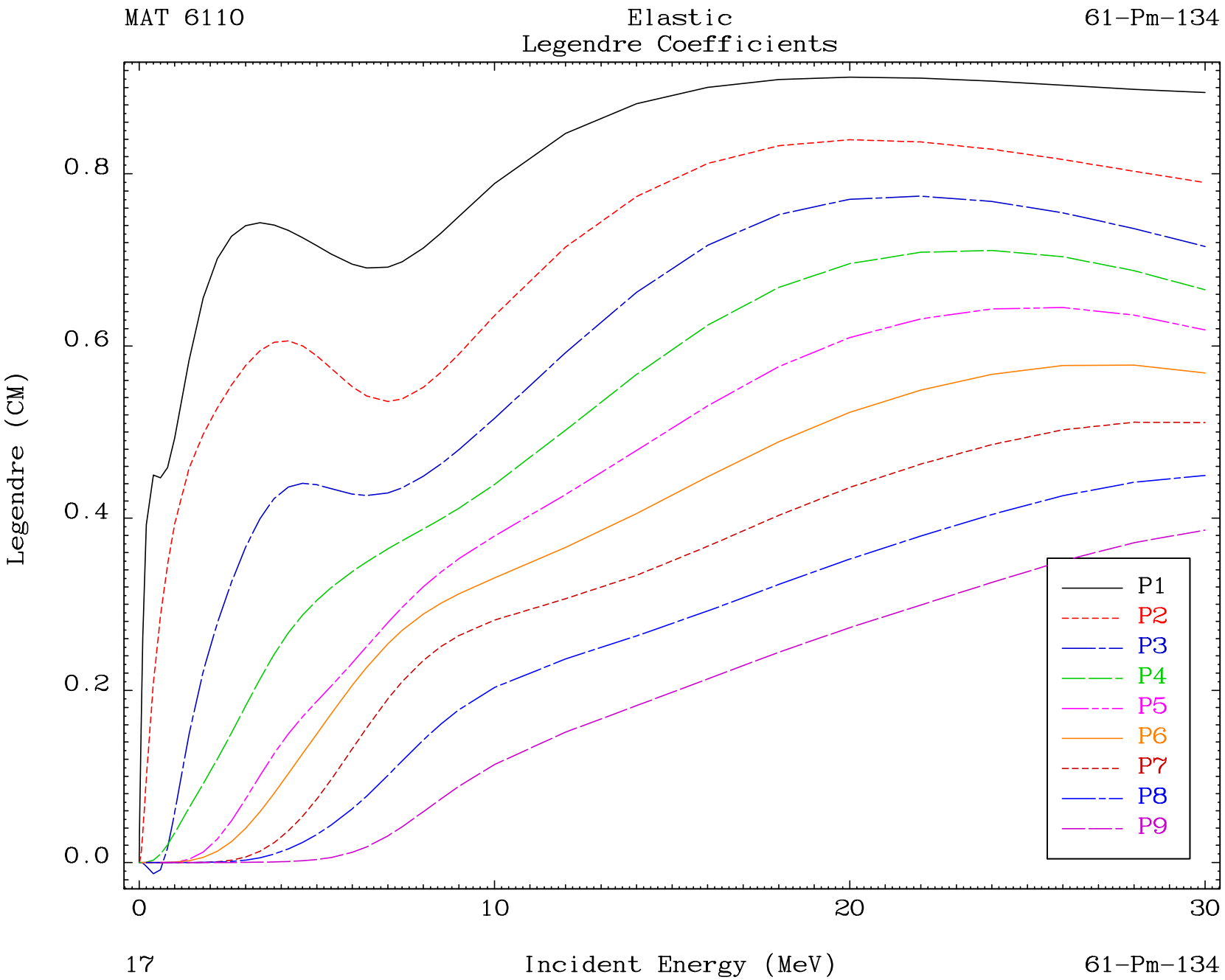

MAT 6110
(n,p) Levels
61-Pm-134
293 Kelvin Cross Sections
Cross Section (barns)
10^4
10^3
10^2
10^1
10^0
10^-1
5
(n,p)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
12
61-Pm-134

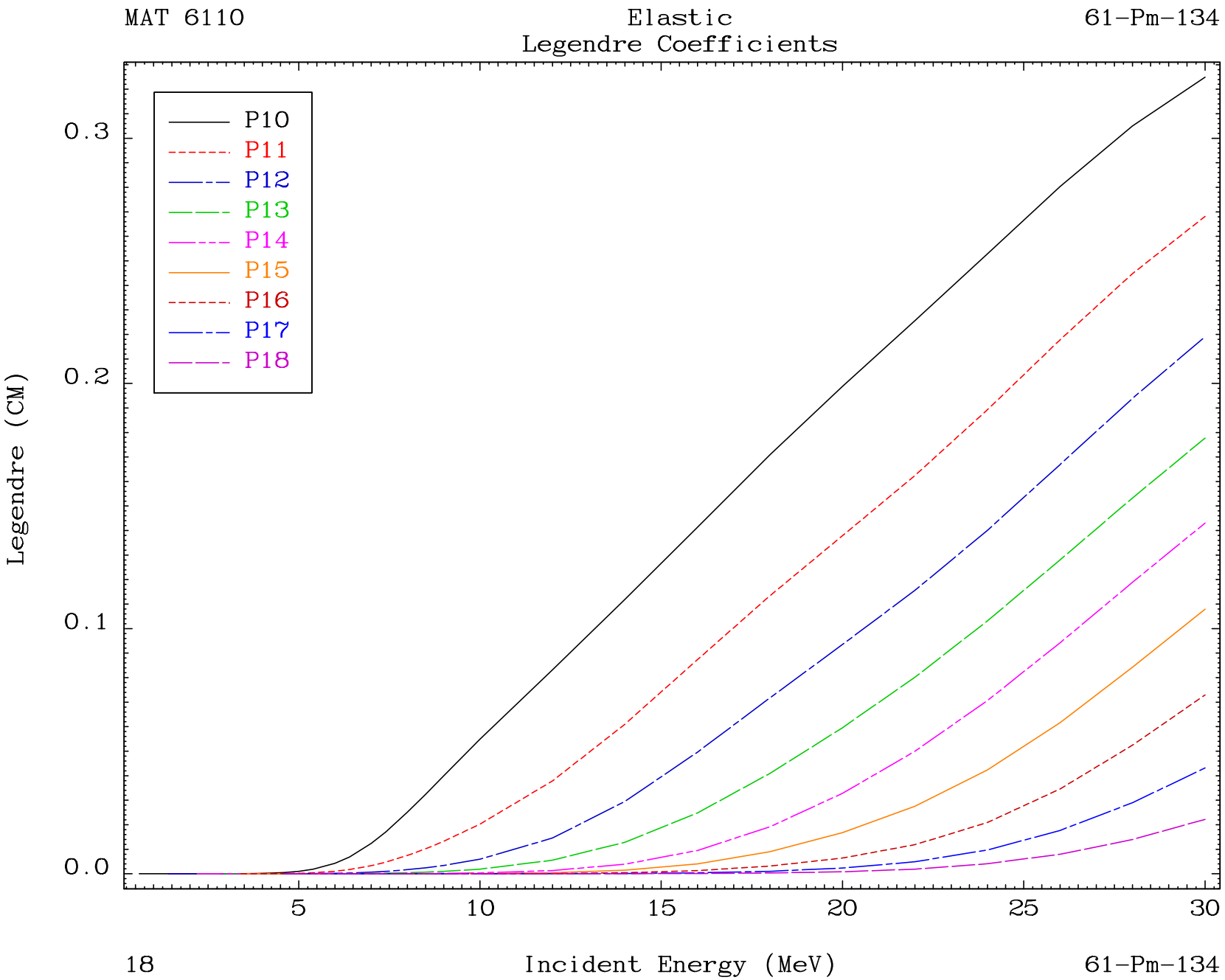

MAT 6110
(n,d) Levels
61-Pm-134
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
13
61-Pm-134

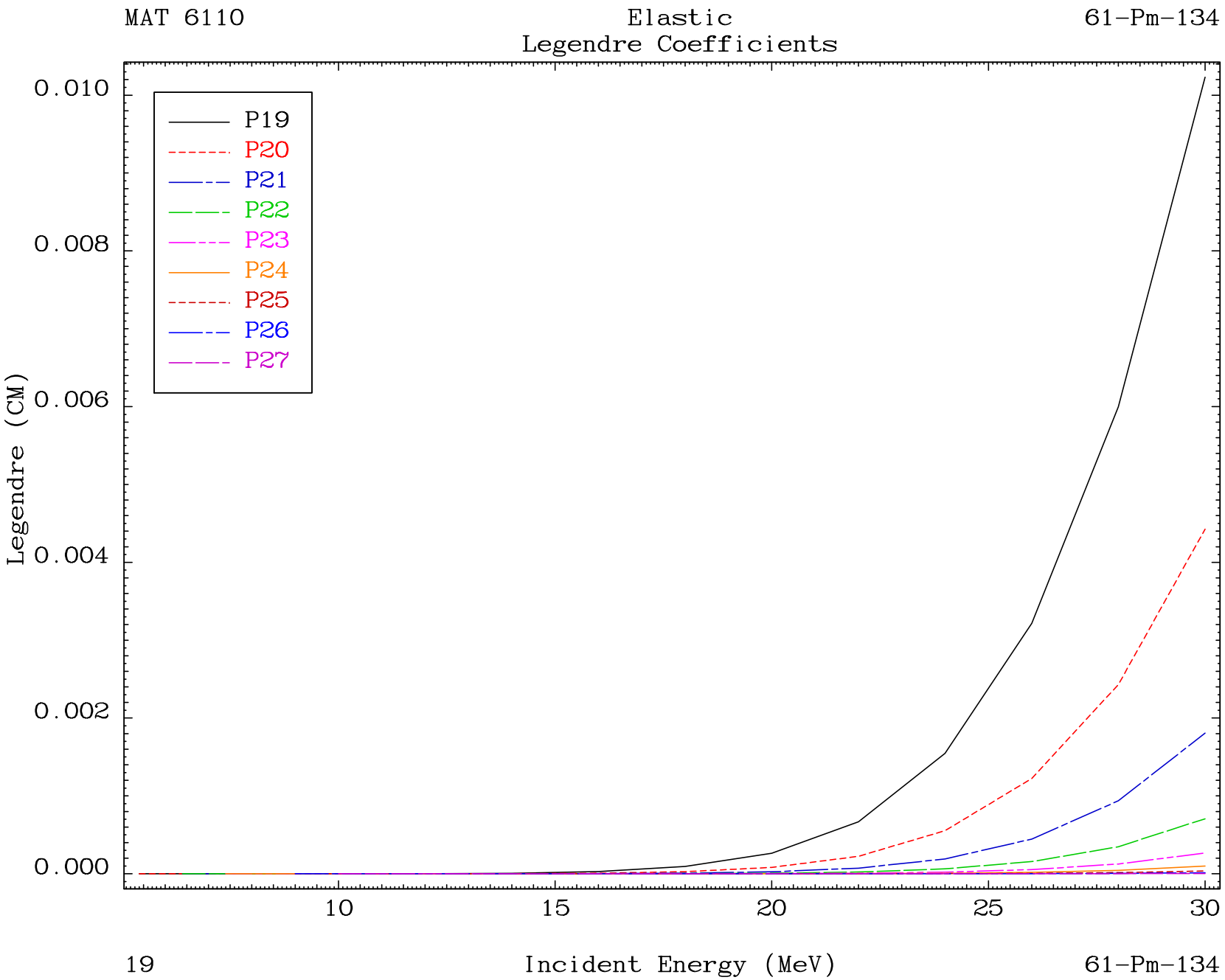

MAT 6110
(n,t) Levels
61-Pm-134
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
14
61-Pm-134

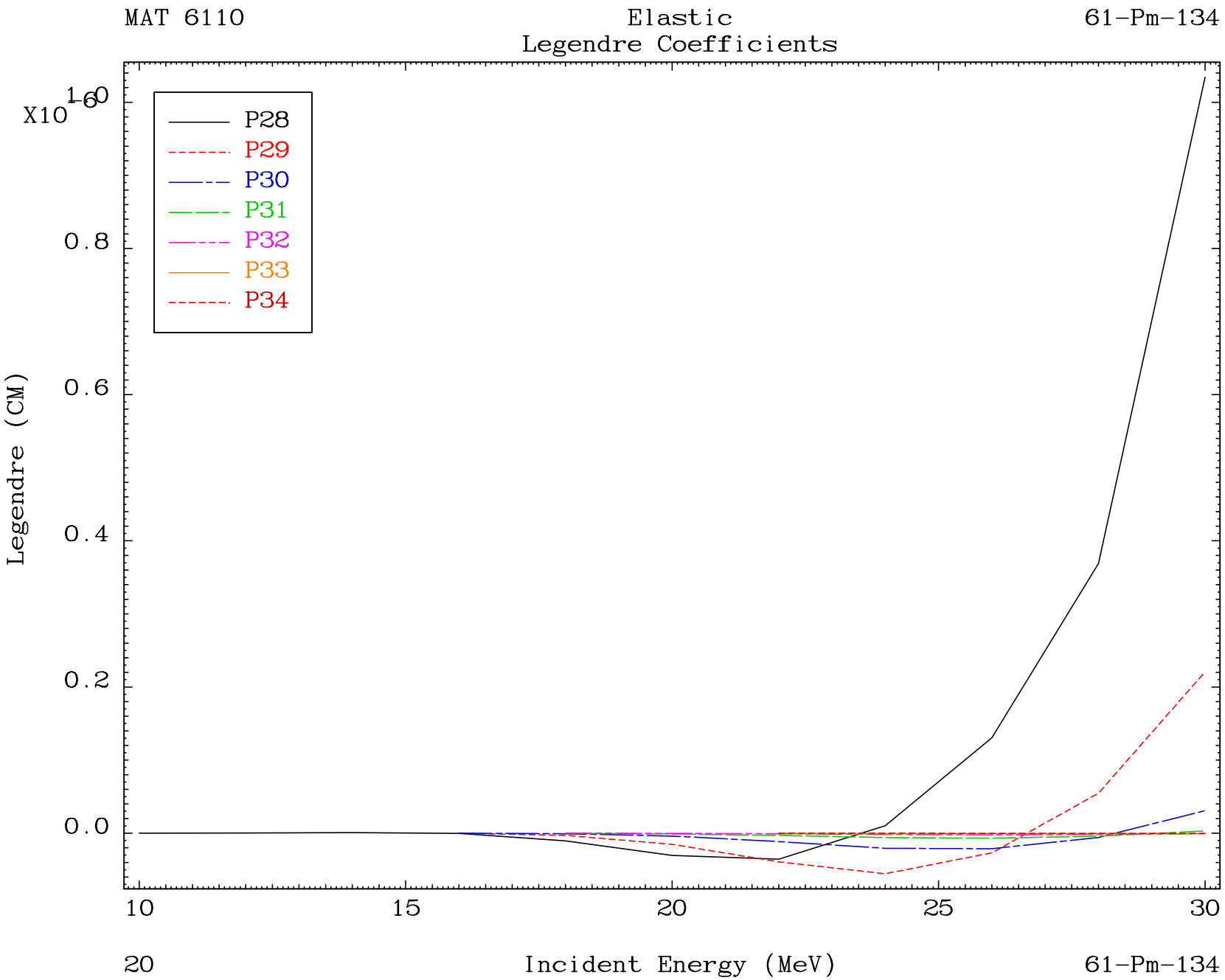

MAT 6110
(n,He3) Levels
61-Pm-134
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
15
61-Pm-134

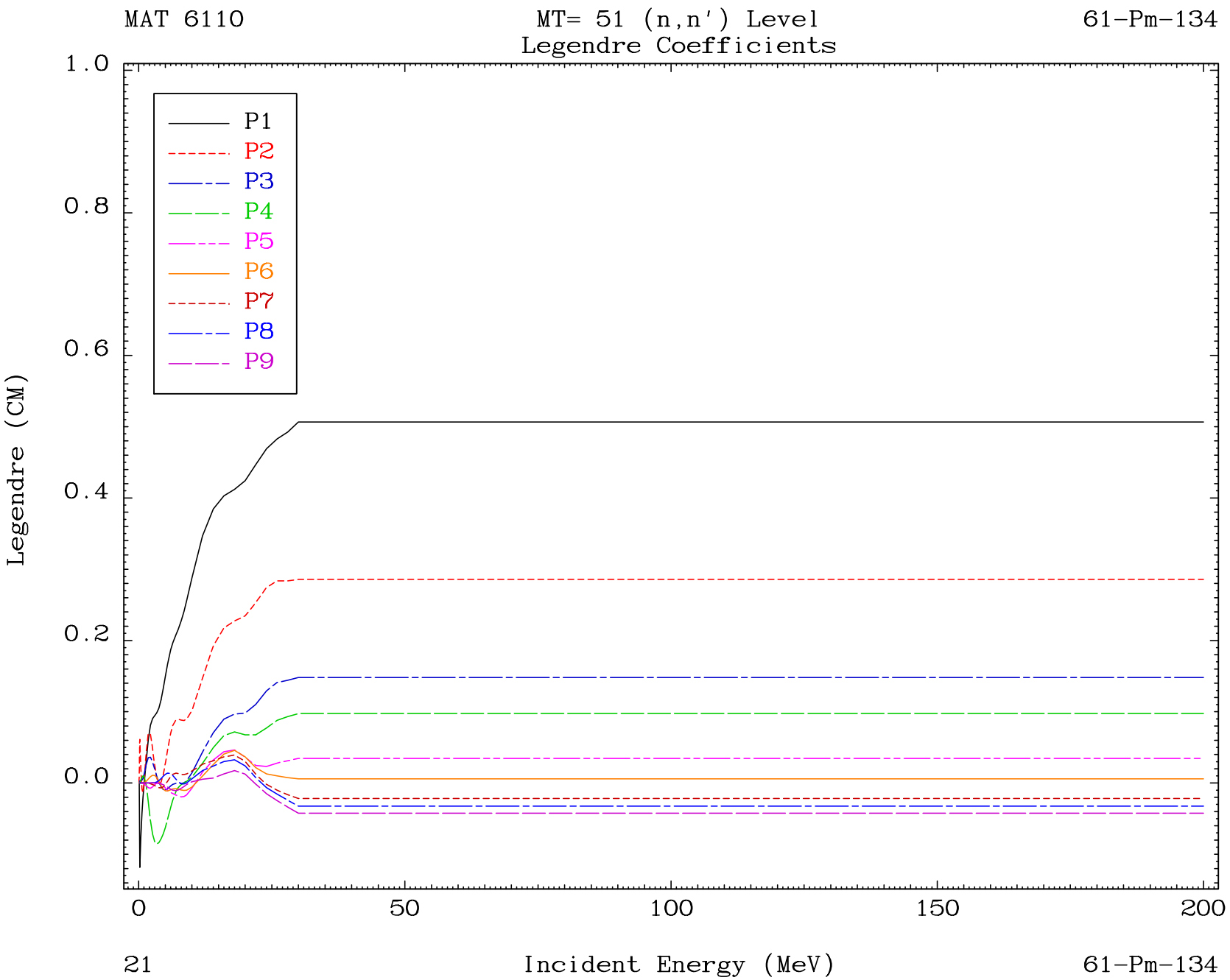

MAT 6110
(n,α) Levels
61-Pm-134
293 Kelvin Cross Sections
Cross Section (barns)
10^2
10^0
10^-2
10^-4
5
(n,α)
(n,2α)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
16
Incident Energy (MeV)
61-Pm-134

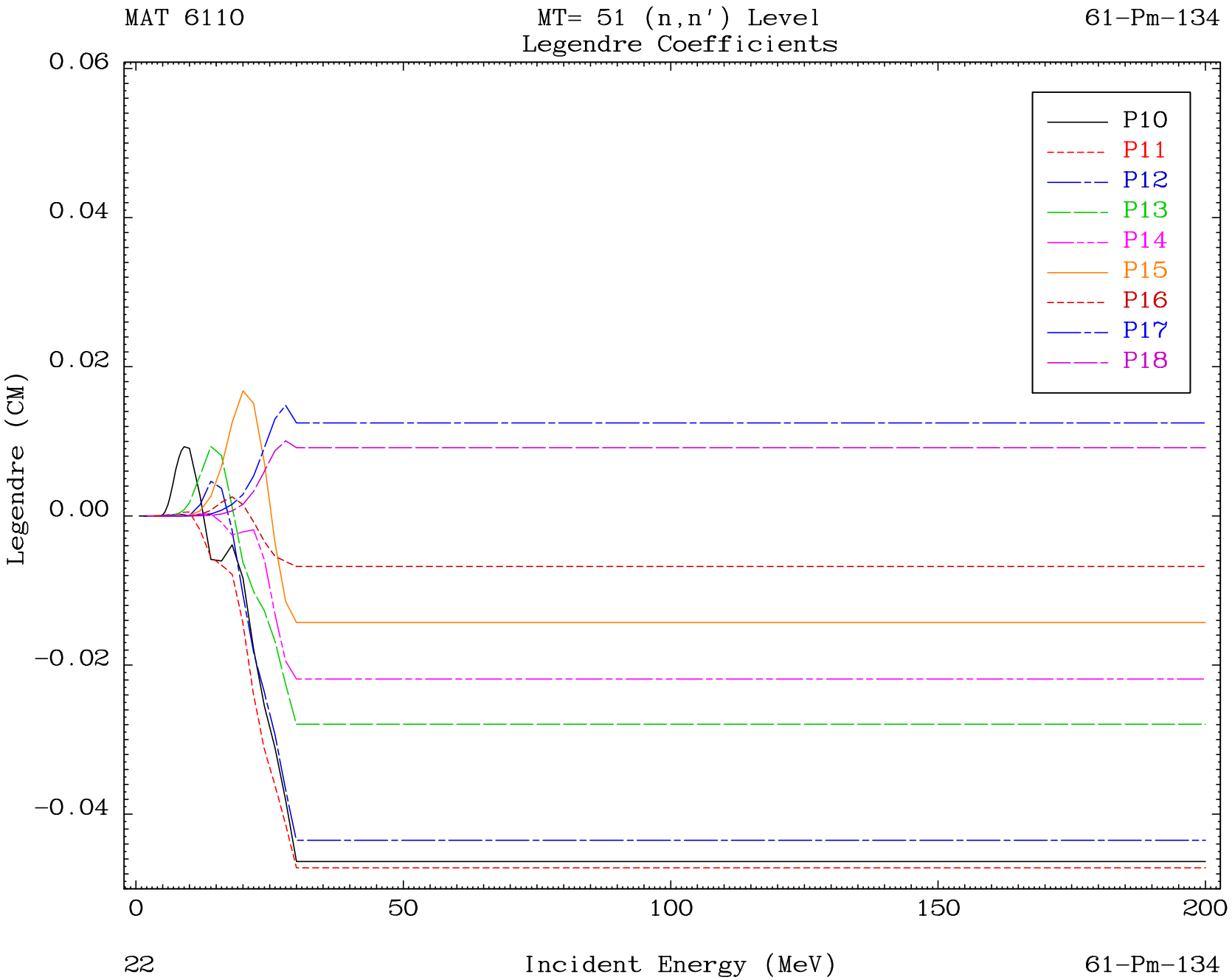

MAT 6110
Elastic
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
17
Incident Energy (MeV)
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

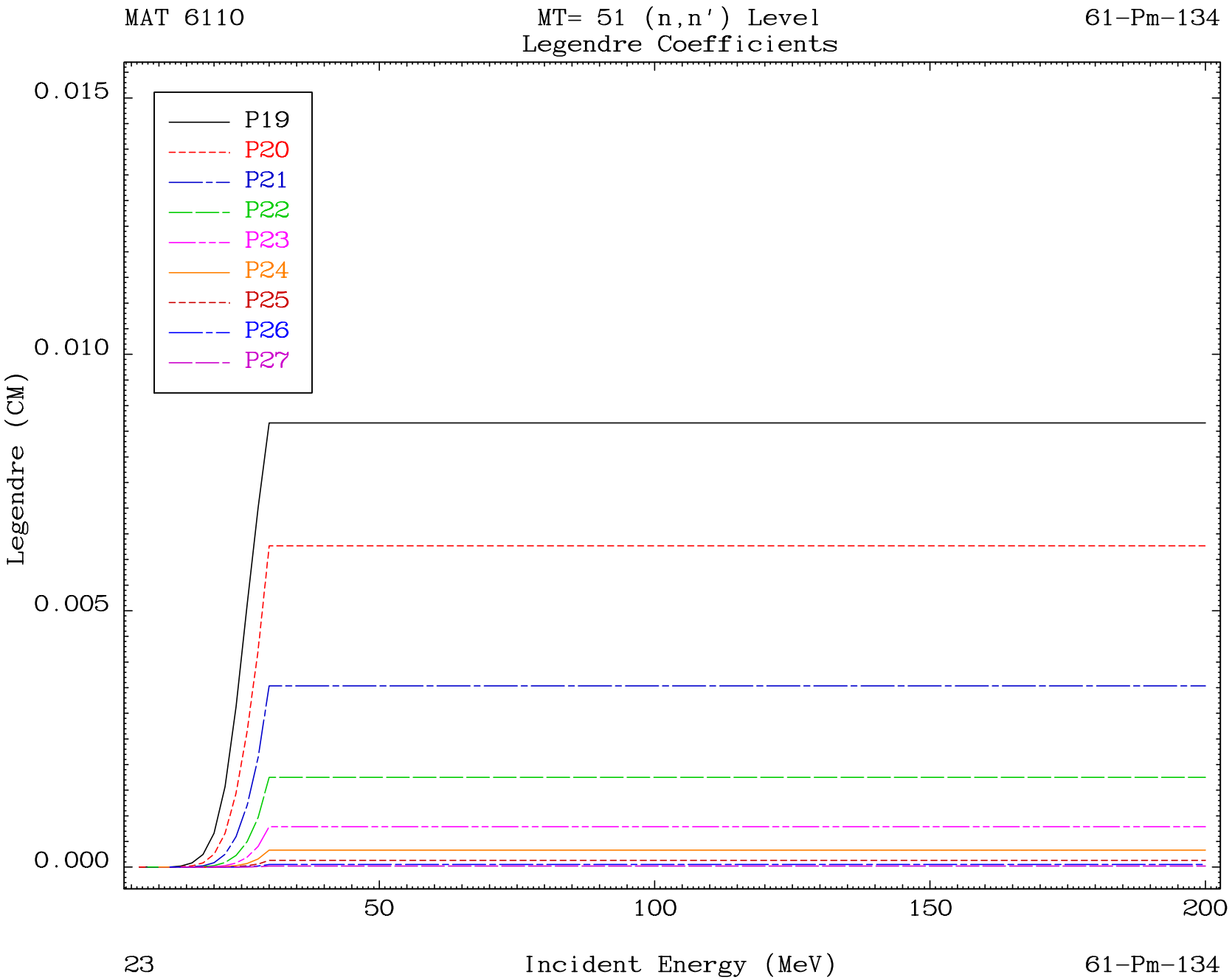

MAT 6110
Elastic
Legendre Coefficients
61-Pm-134
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.0
0.1
0.2
0.3
5
10
15
20
25
30
18
Incident Energy (MeV)
61-Pm-134

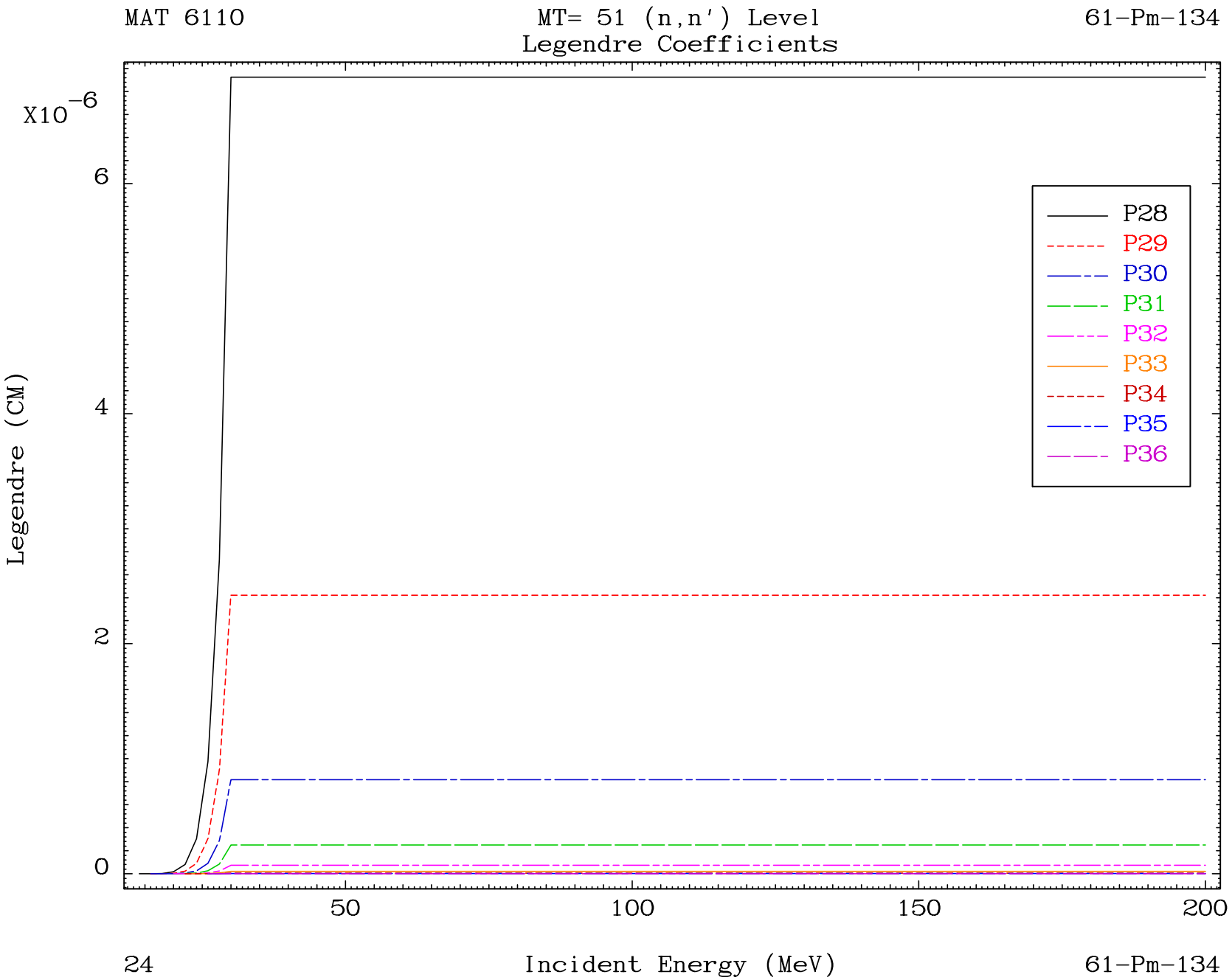

MAT 6110
Elastic
Legendre Coefficients
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.010
0.008
0.006
0.004
0.002
0.000
Legendre (CM)
10
15
20
25
30
19
Incident Energy (MeV)
61-Pm-134

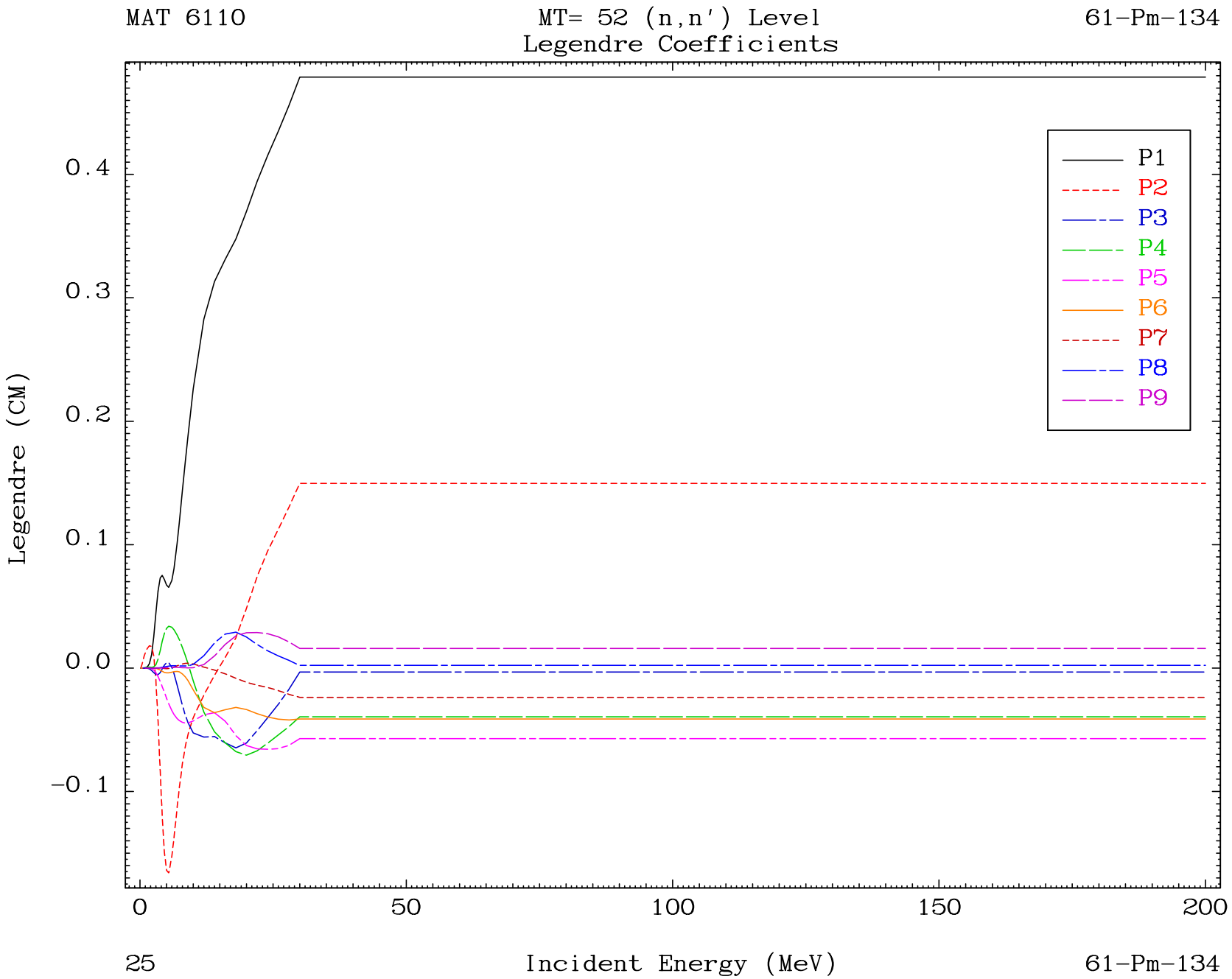

MAT 6110
Elastic
Legendre Coefficients
61-Pm-134
X10-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
20
Incident Energy (MeV)
61-Pm-134

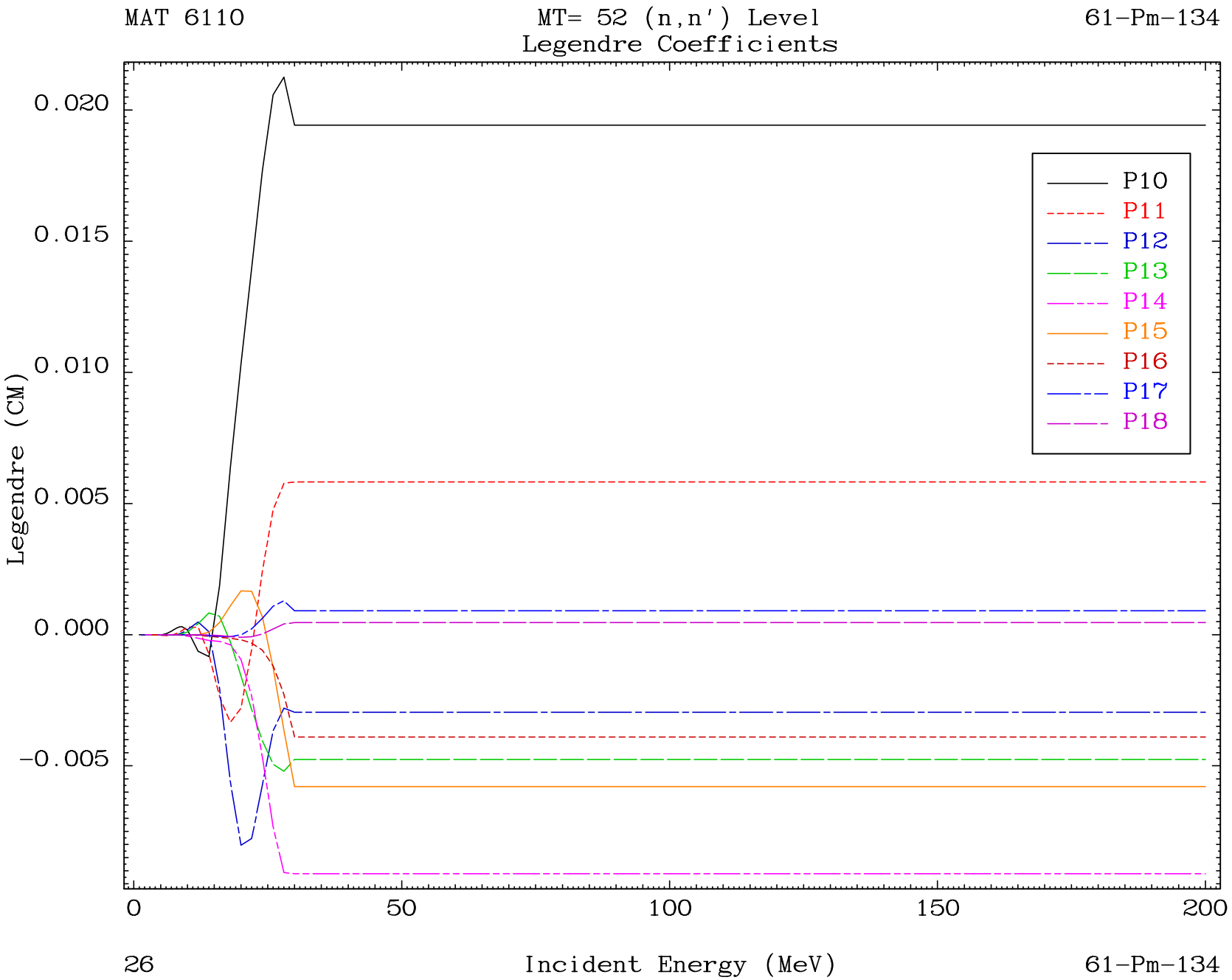

MAT 6110
MT= 51 (n,n') Level
Legendre Coefficients
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
21
Incident Energy (MeV)
61-Pm-134

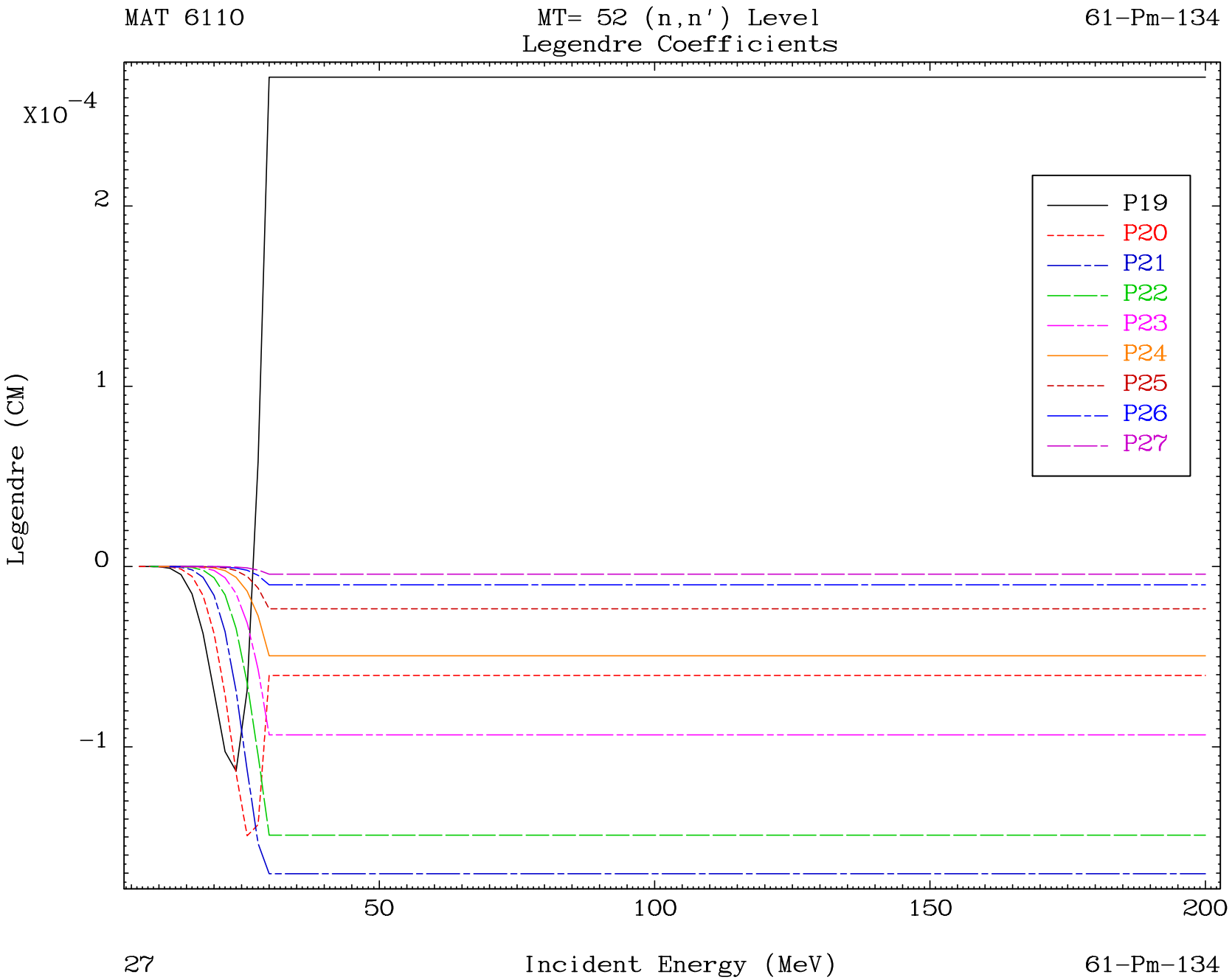

MAT 6110
MT= 51 (n,n') Level
Legendre Coefficients
61-Pm-134
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
22
Incident Energy (MeV)
61-Pm-134

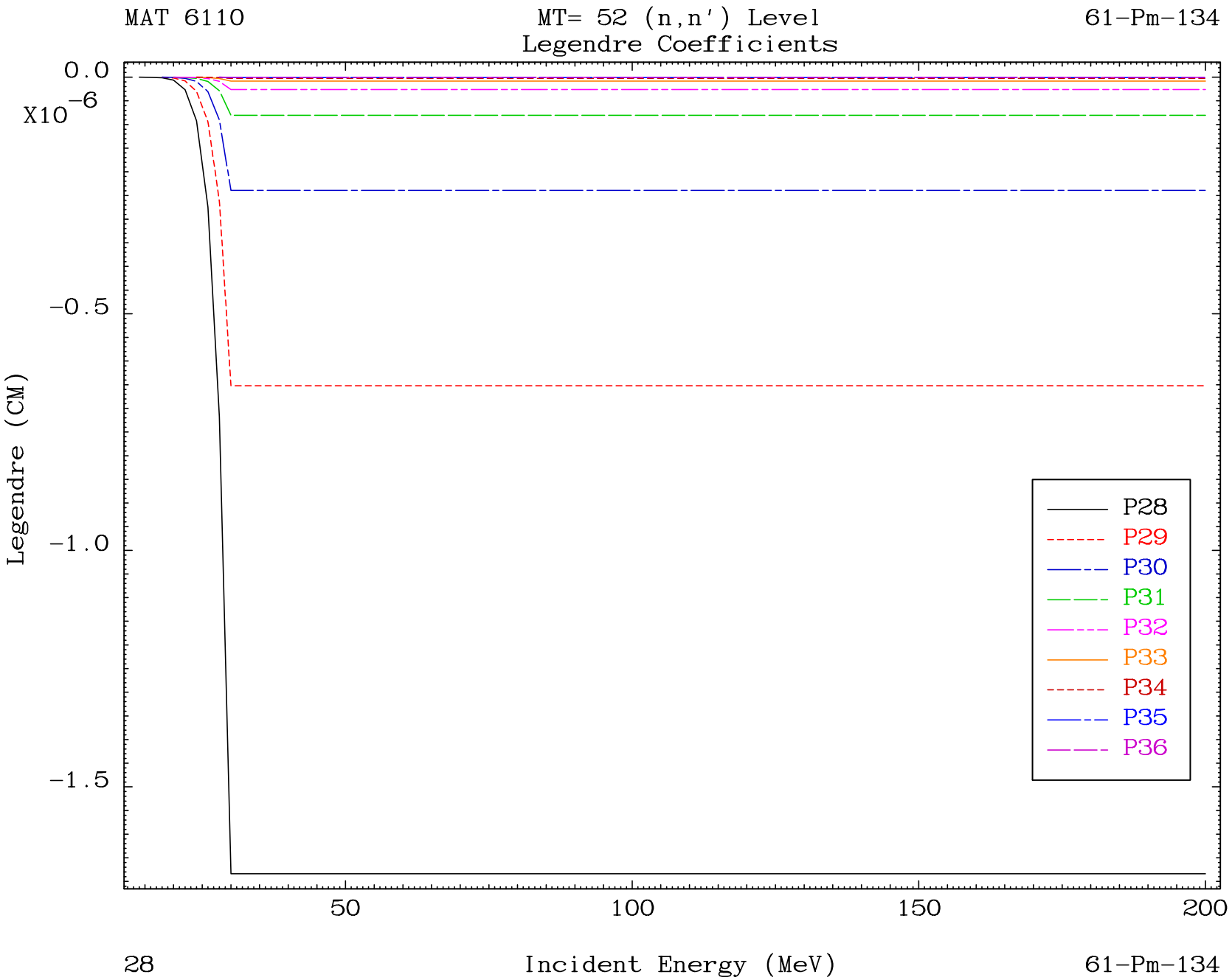

MAT 6110
MT= 51 (n,n') Level
Legendre Coefficients
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
23
Incident Energy (MeV)
61-Pm-134

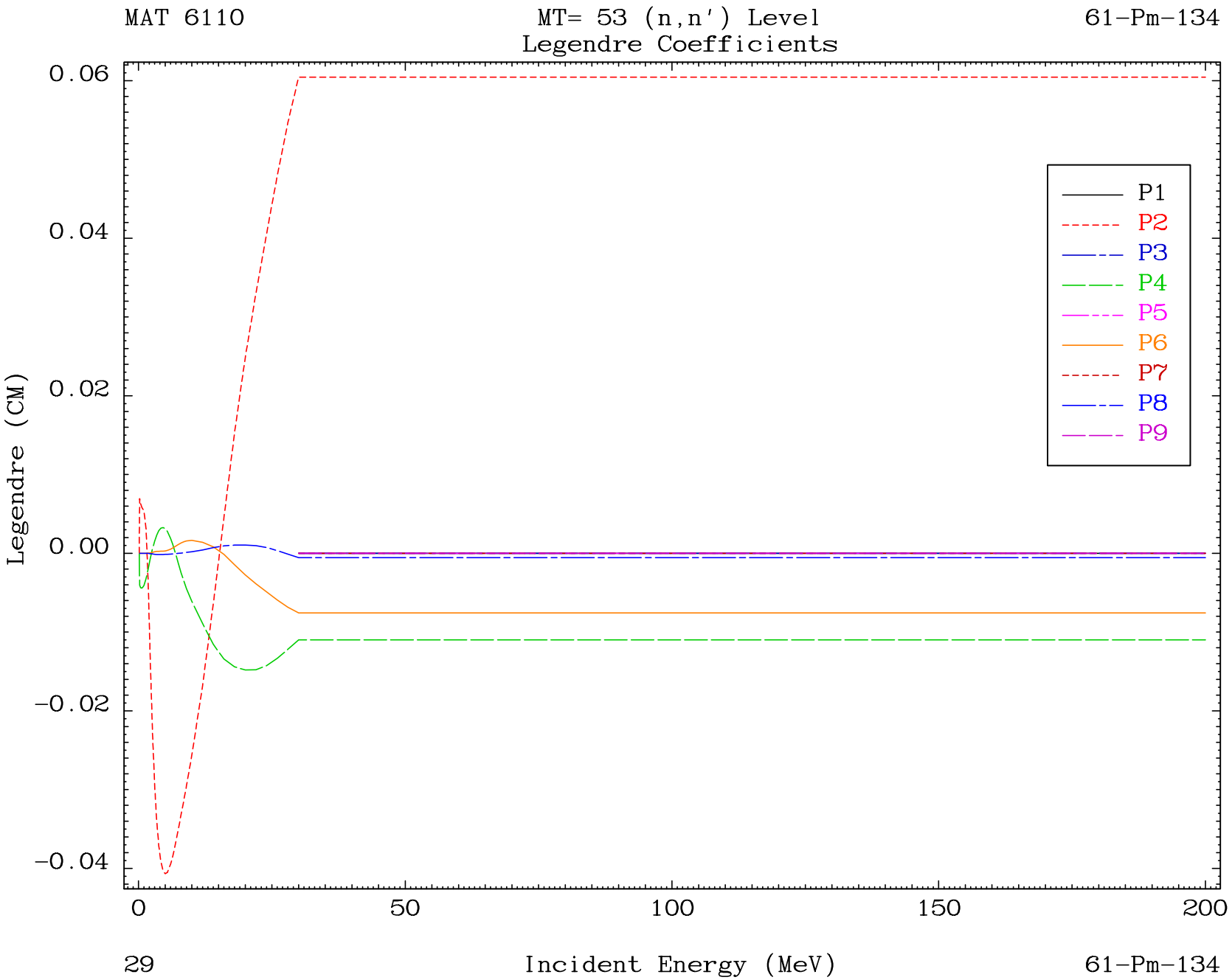

MAT 6110
MT= 51 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-6
6
4
2
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
24
Incident Energy (MeV)
61-Pm-134

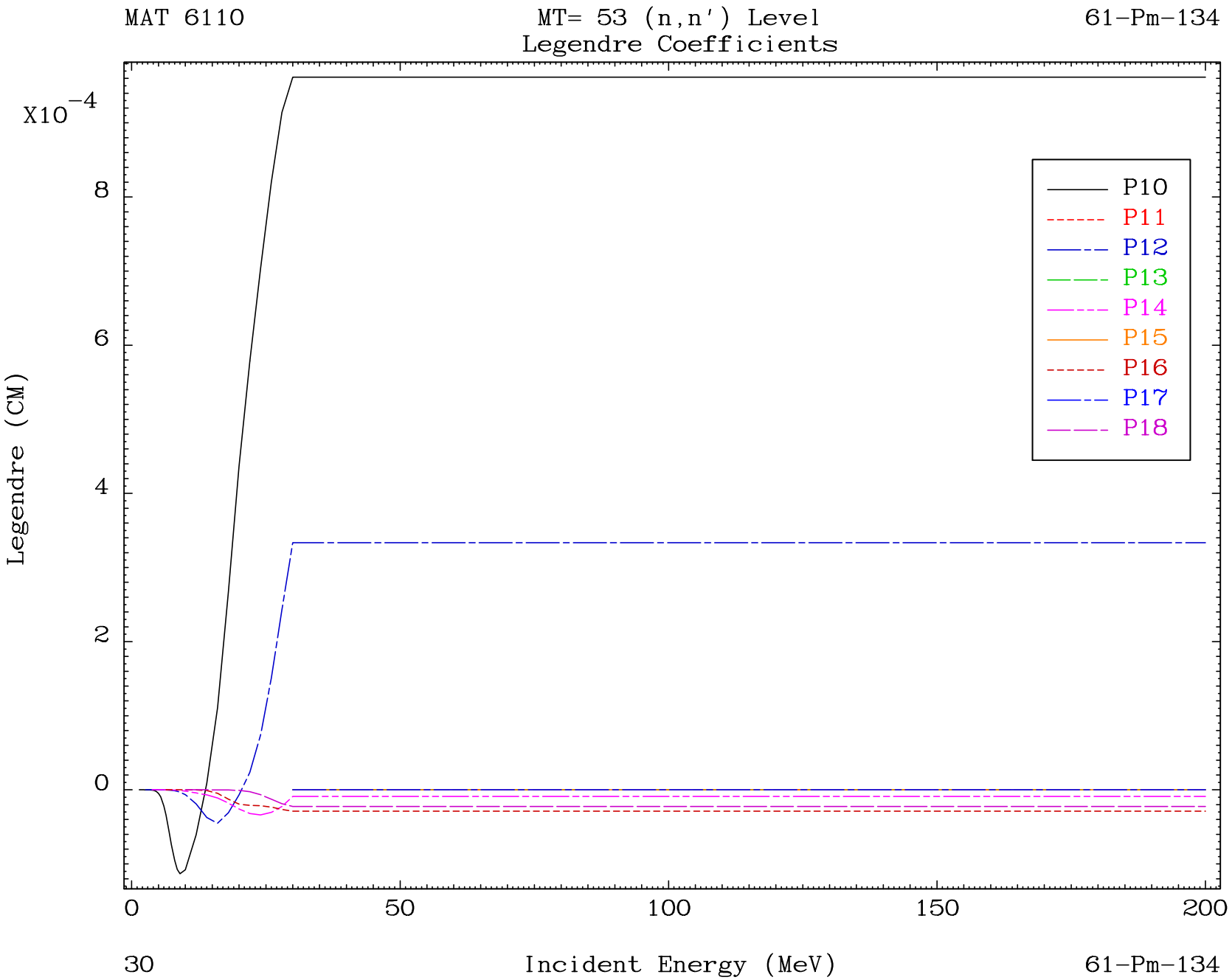

MAT 6110
MT= 52 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
25
Incident Energy (MeV)
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

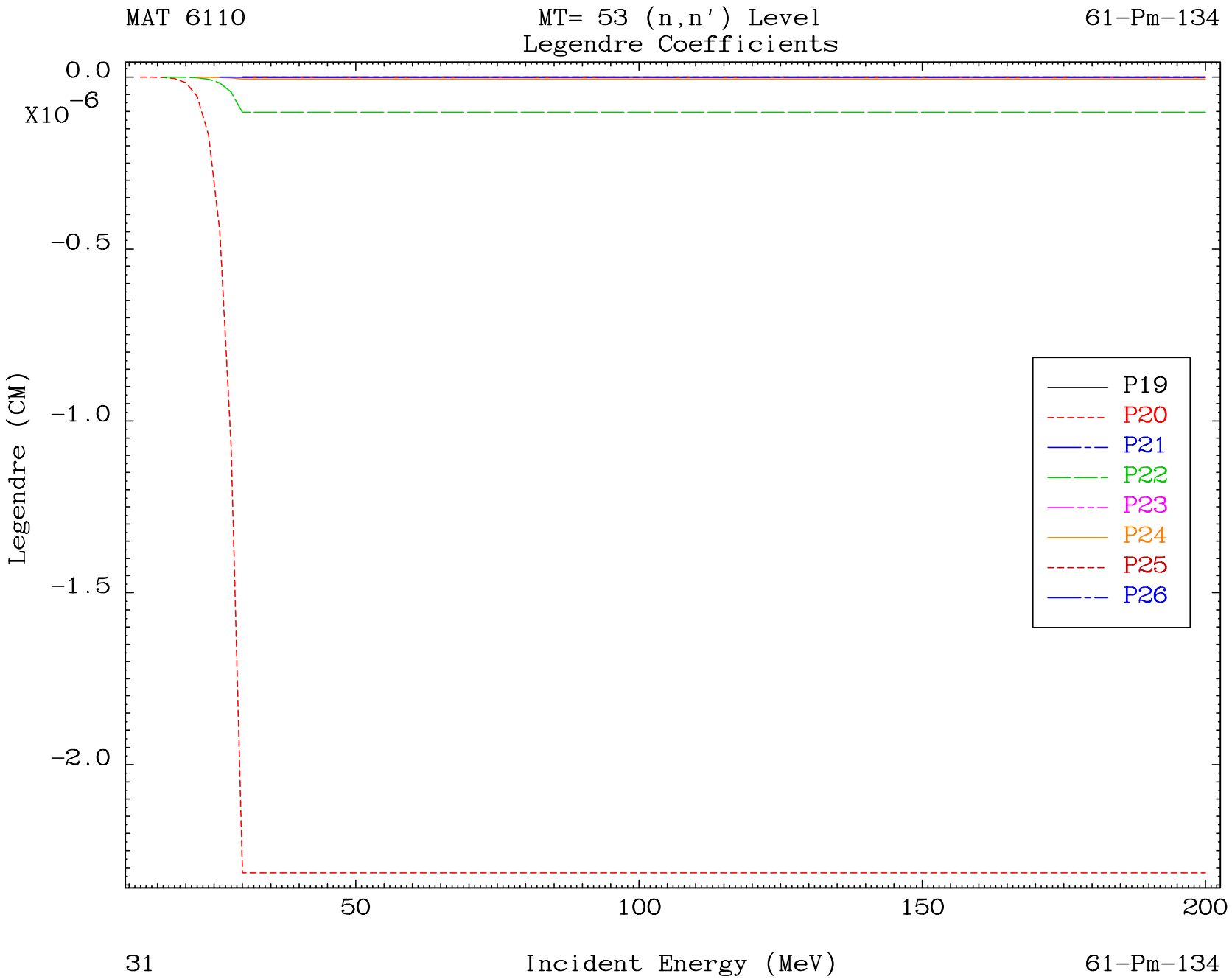

MAT 6110
MT= 52 (n,n') Level
Legendre Coefficients
61-Pm-134
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
26
Incident Energy (MeV)
61-Pm-134

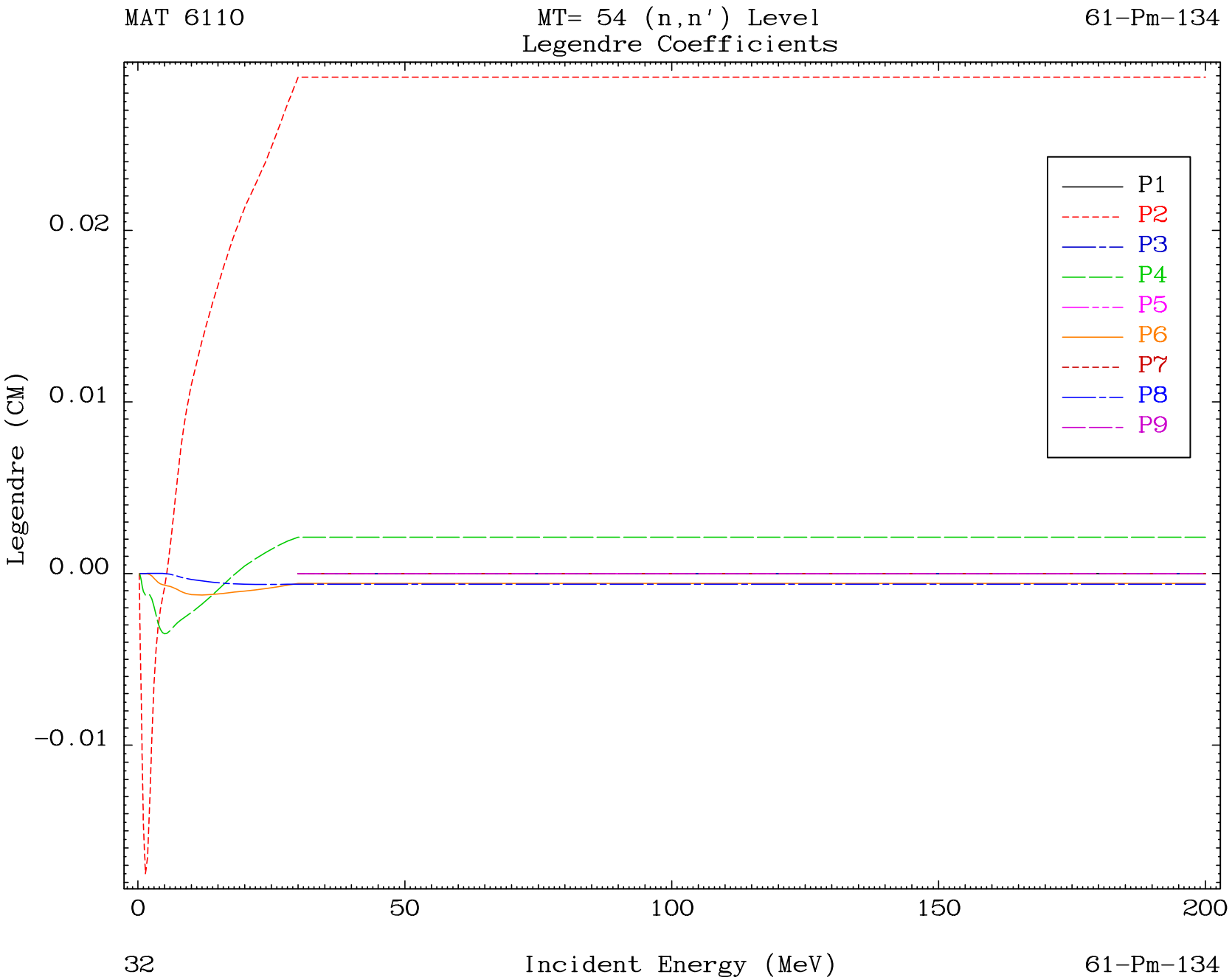

MAT 6110
MT= 52 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
2
1
0
-1
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
27
Incident Energy (MeV)
61-Pm-134

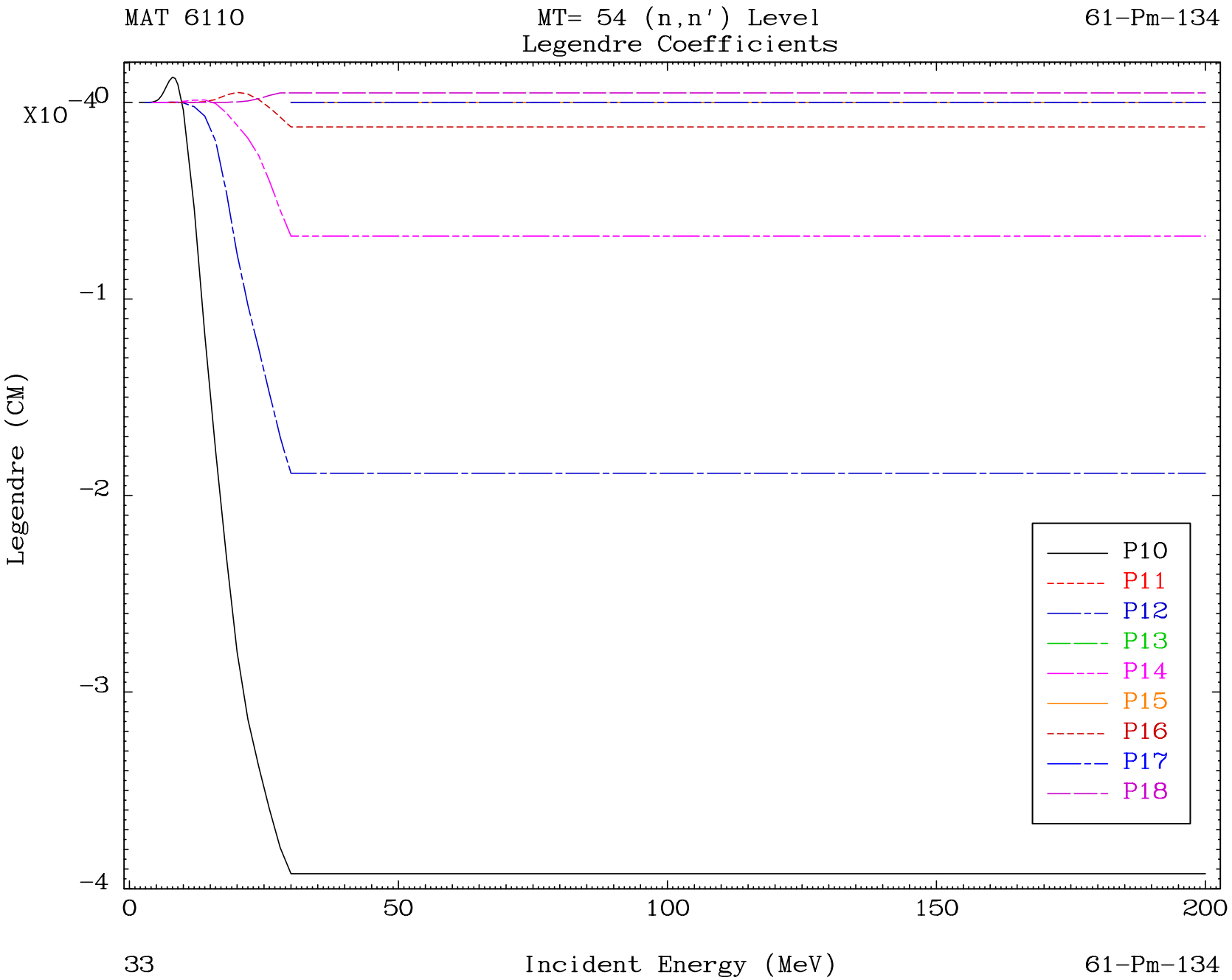

MAT 6110
MT= 52 (n,n') Level
Legendre Coefficients
61-Pm-134
0.0
X10−6
−0.5
−1.0
−1.5
Legendre (CM)
50
100
150
200
28
Incident Energy (MeV)
61-Pm-134
P28
P29
P30
P31
P32
P33
P34
P35
P36

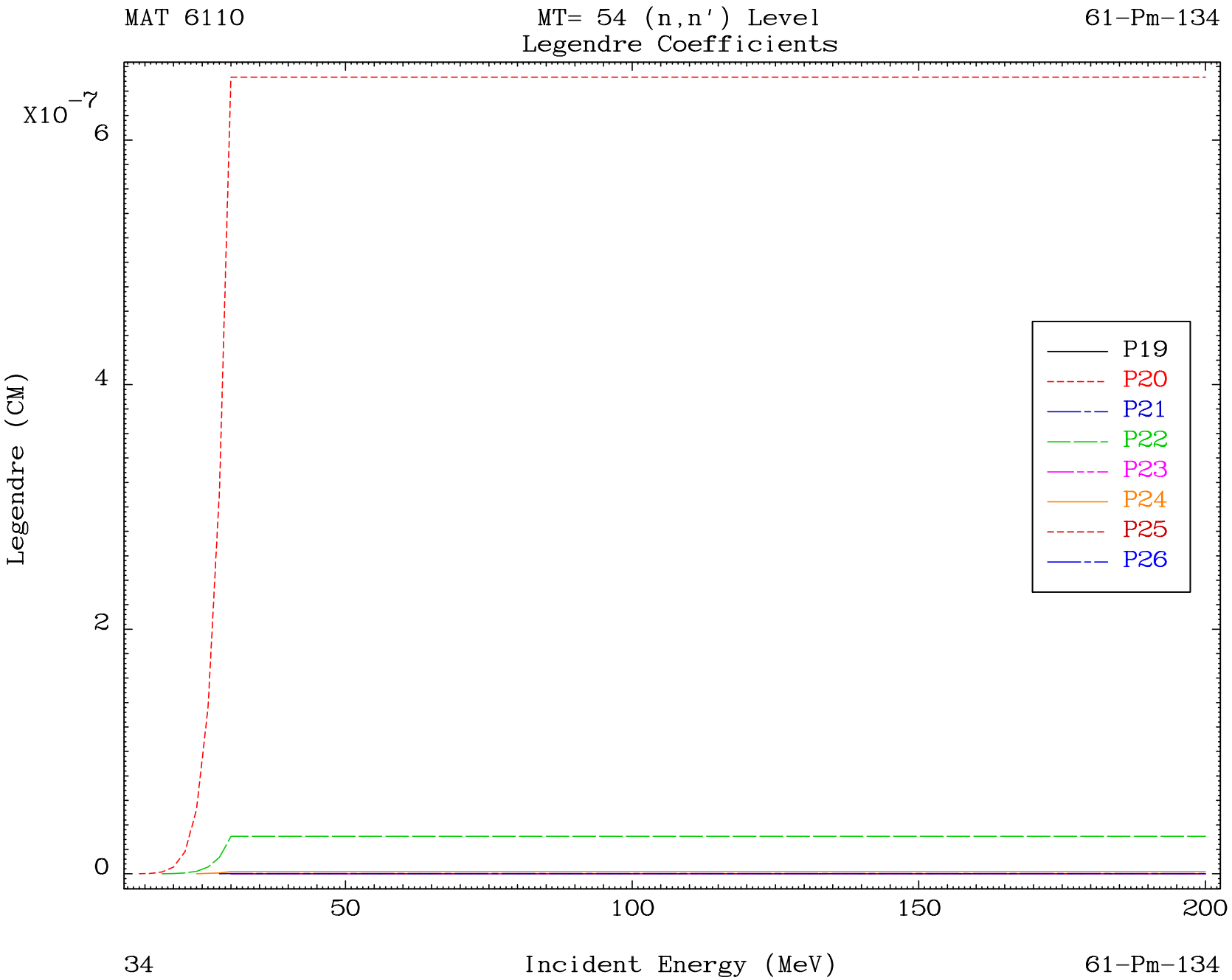

MAT 6110
MT= 53 (n,n') Level
Legendre Coefficients
61-Pm-134
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
29
Incident Energy (MeV)
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

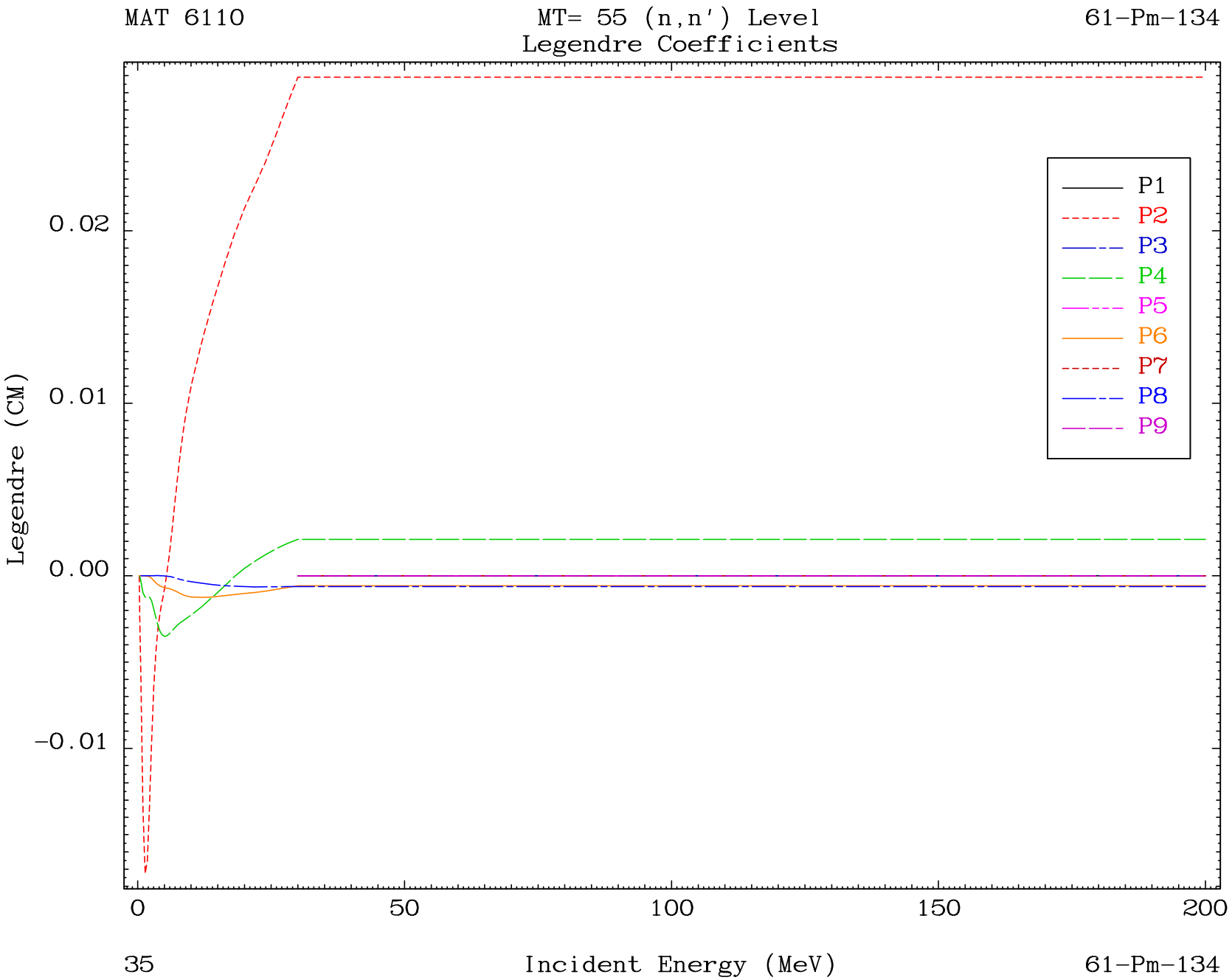

MAT 6110
MT= 53 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
8
6
4
2
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
30
Incident Energy (MeV)
61-Pm-134

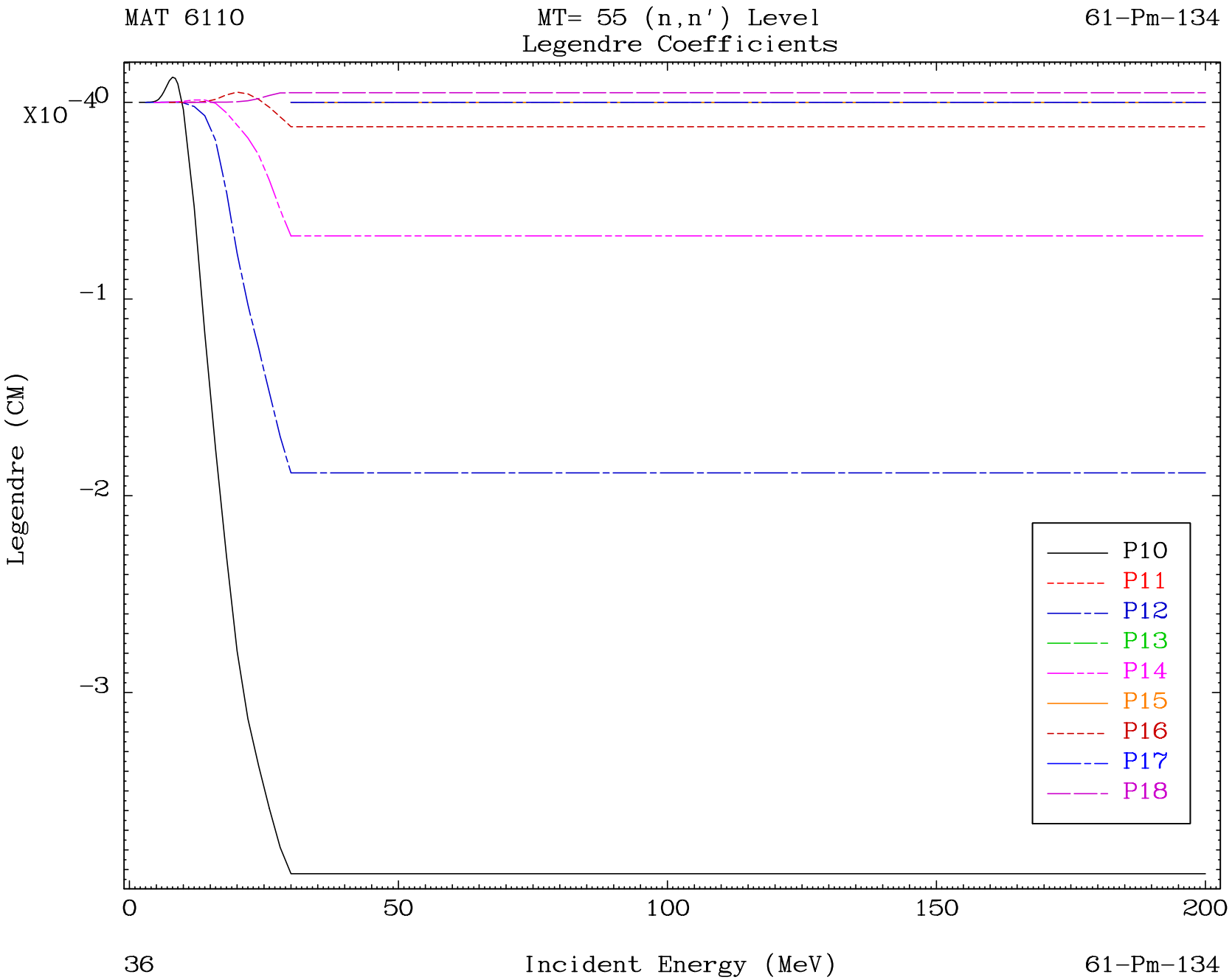

MAT 6110
MT= 53 (n,n') Level
Legendre Coefficients
61-Pm-134
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
31
Incident Energy (MeV)
61-Pm-134

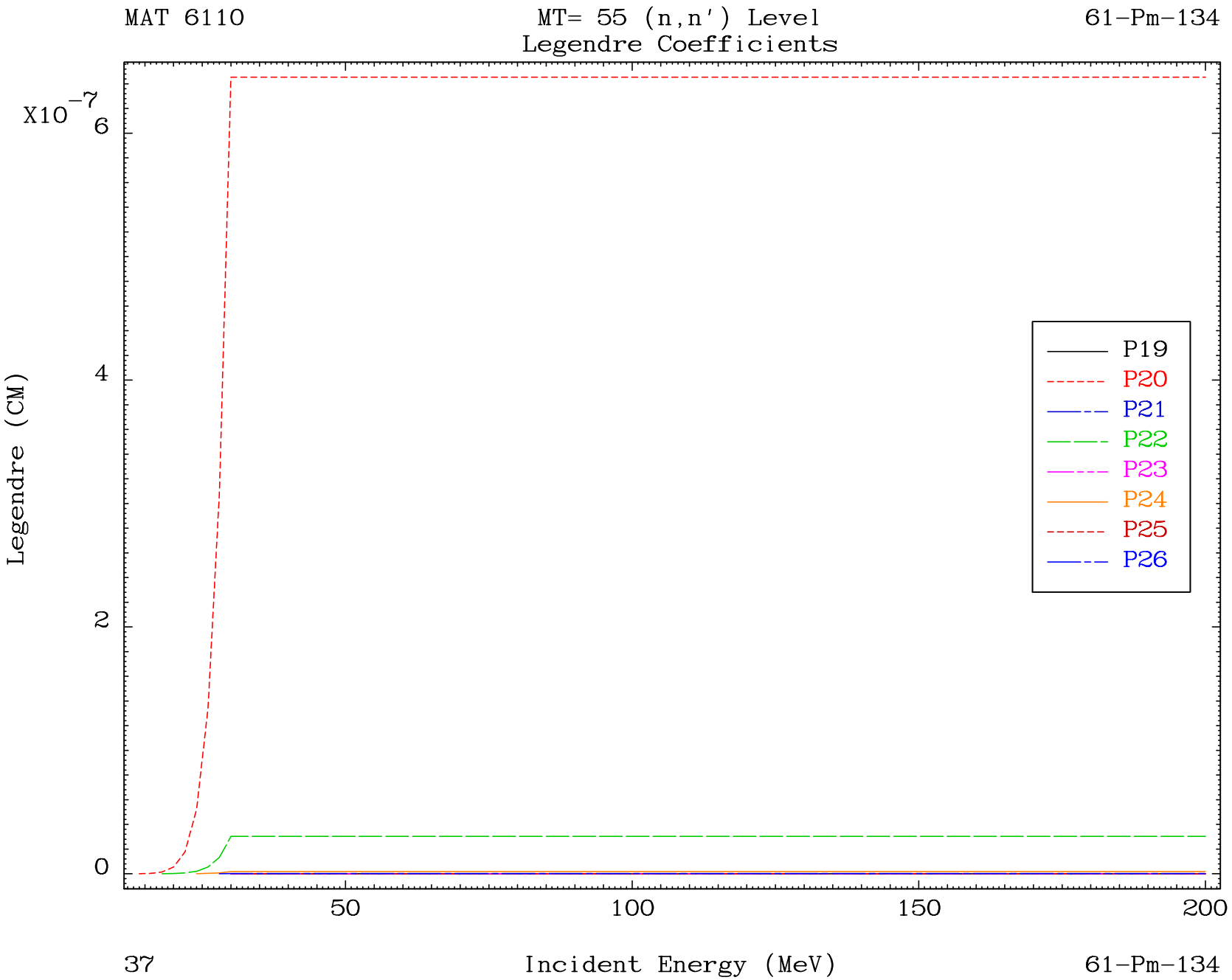

MAT 6110
MT= 54 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.02
0.01
0.00
-0.01
0
50
100
150
200
32
Incident Energy (MeV)
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

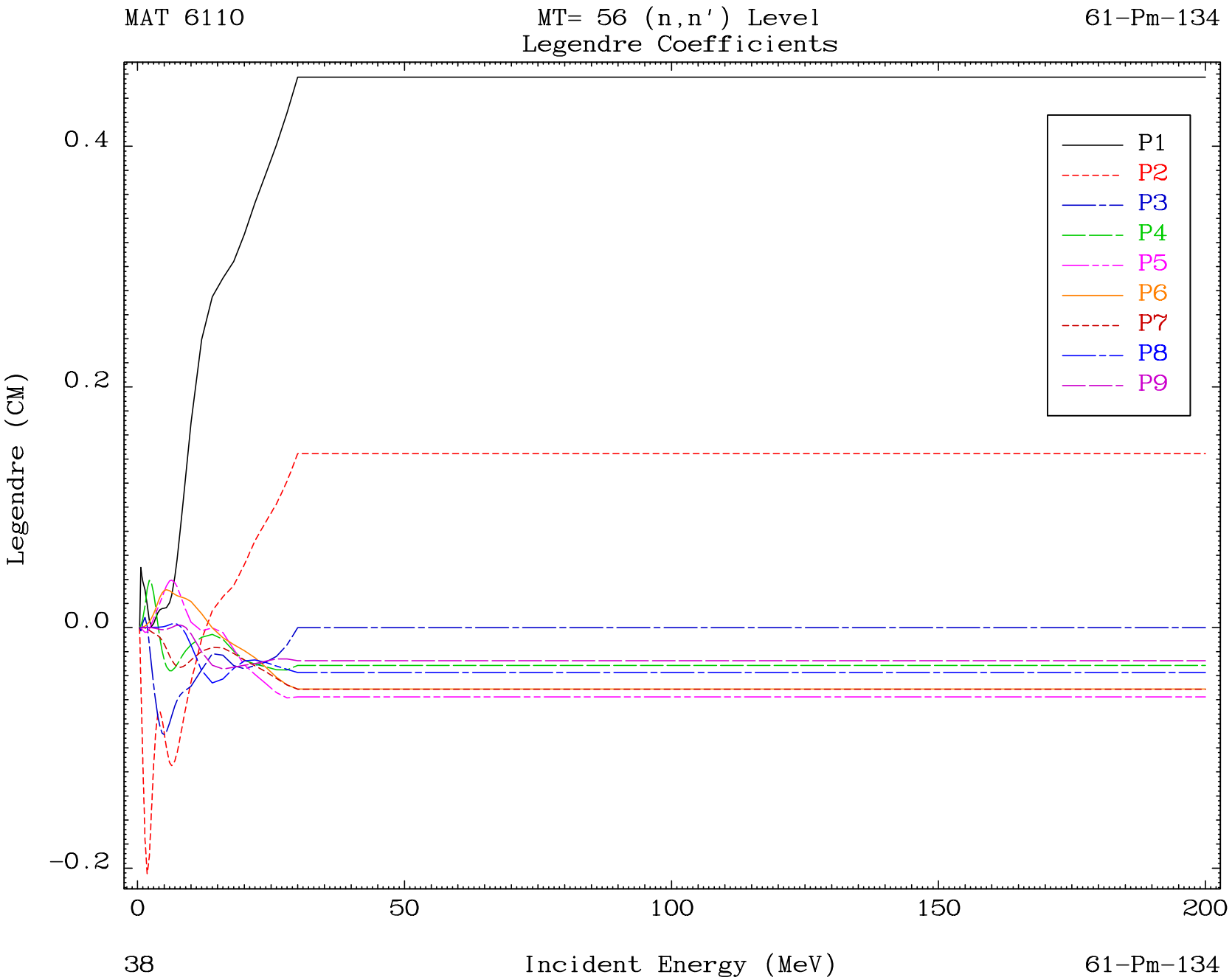

MAT 6110
MT= 54 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0
-1
-2
-3
-4
Legendre (CM)
0
50
100
150
200
33
Incident Energy (MeV)
61-Pm-134
P10
P11
P12
P13
P14
P15
P16
P17
P18

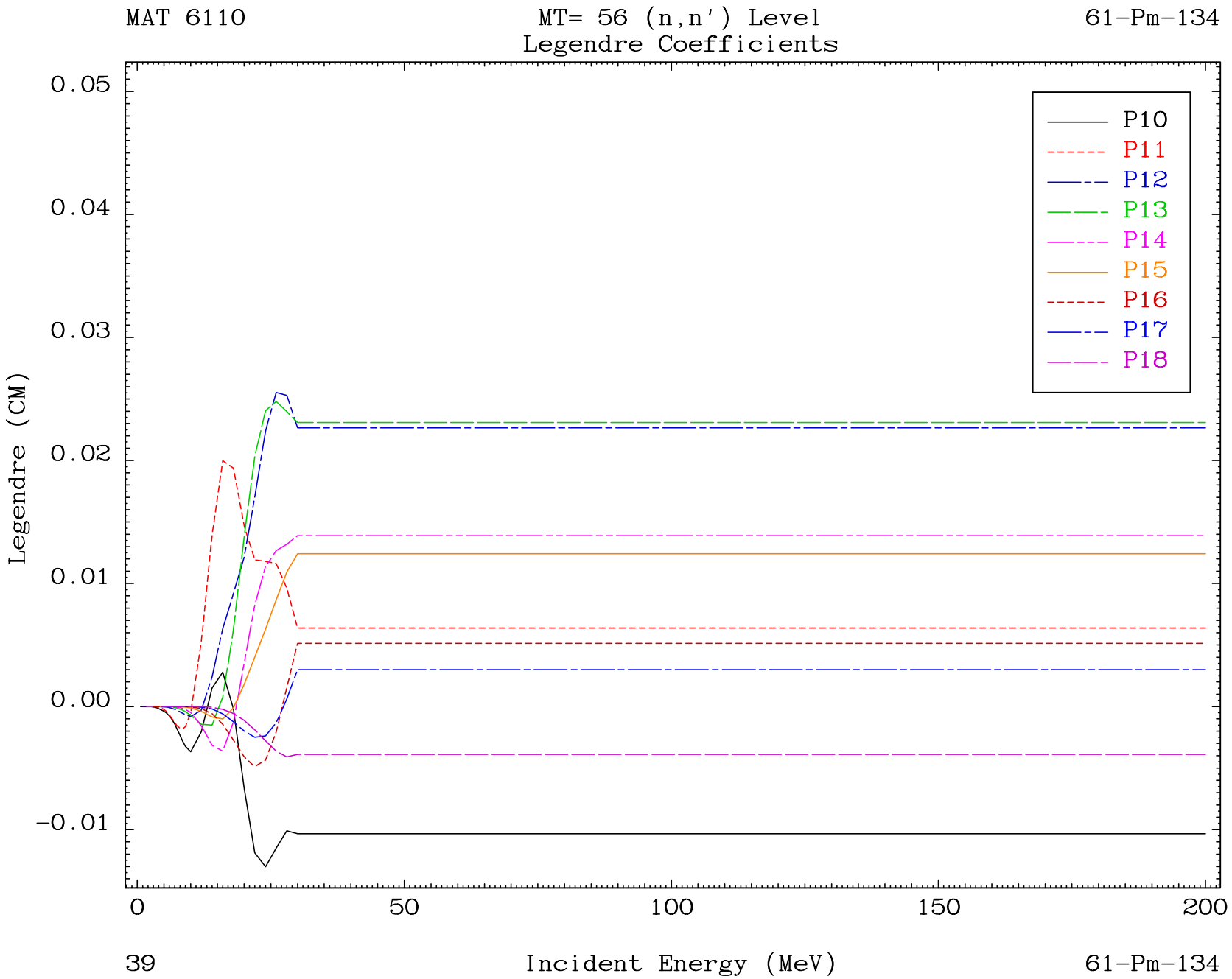

MAT 6110
MT= 54 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-7
6
4
2
0
Legendre (CM)
50
100
150
200
34
Incident Energy (MeV)
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26

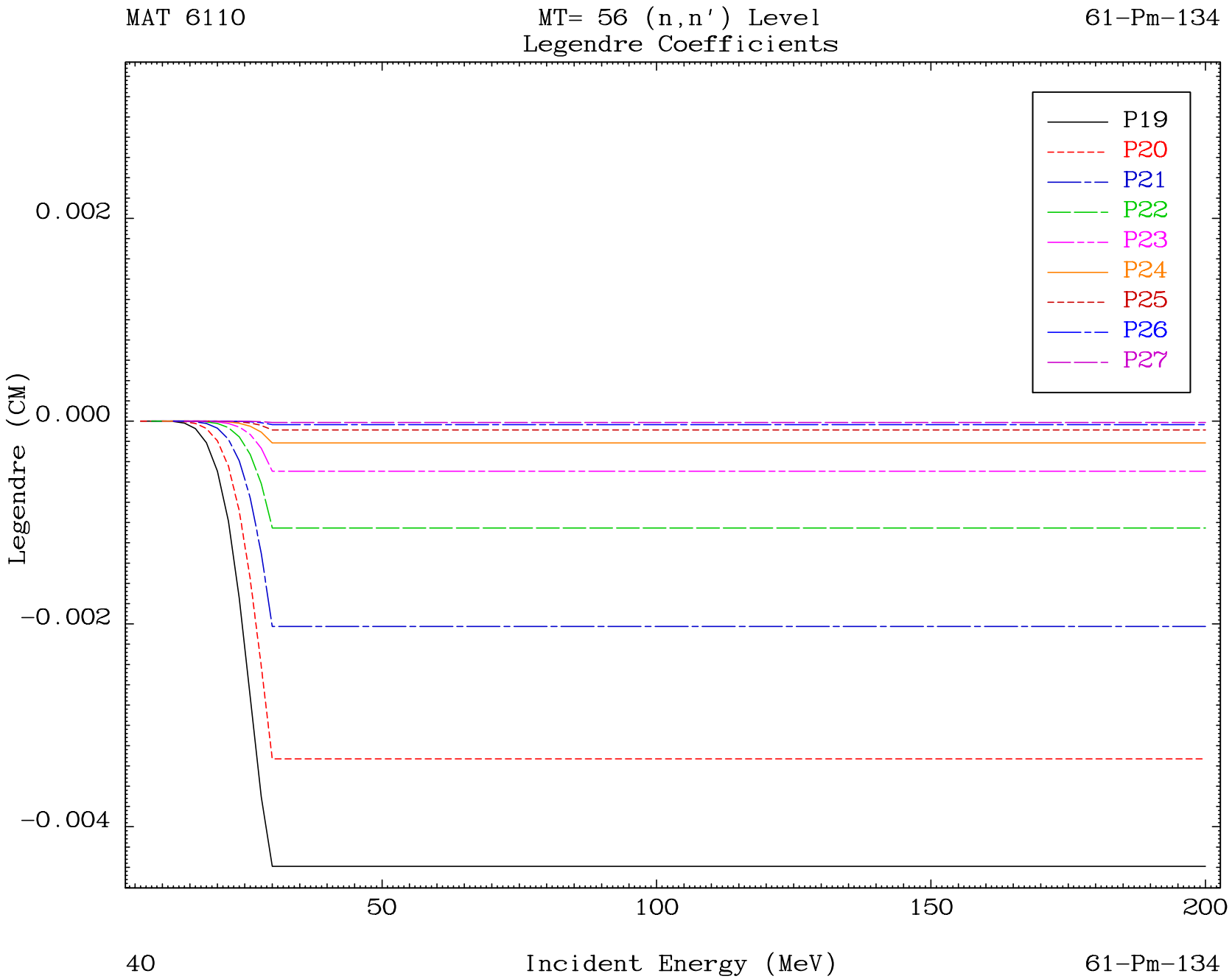

MAT 6110
MT= 55 (n,n') Level
Legendre Coefficients
61-Pm-134
0.02
0.01
0.00
-0.01
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
35
Incident Energy (MeV)
61-Pm-134

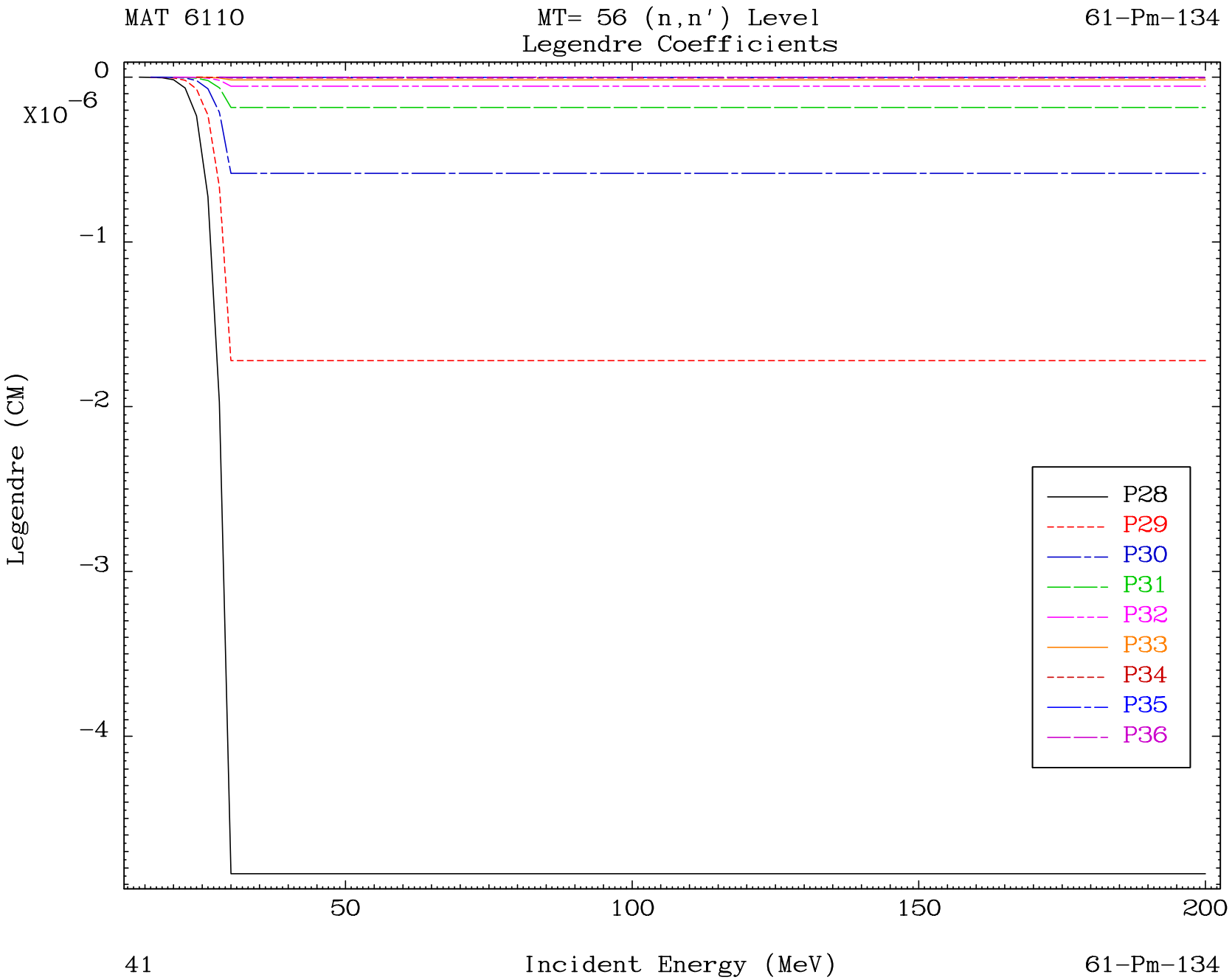

MAT 6110
MT= 55 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0
-1
-2
-3
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
36
Incident Energy (MeV)
61-Pm-134

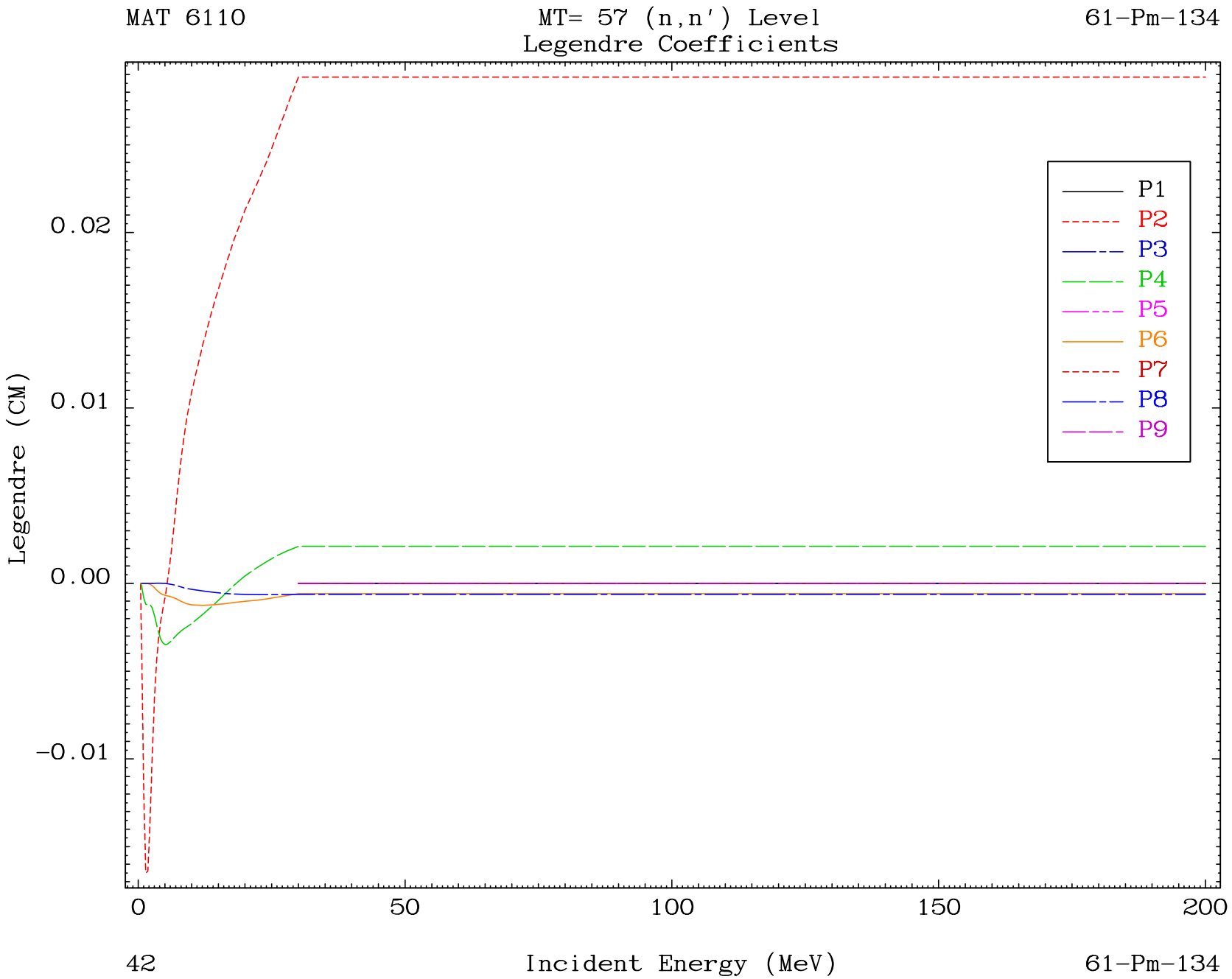

MAT 6110
MT= 55 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-7
6
4
2
0
Legendre (CM)
50
100
150
200
37
Incident Energy (MeV)
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26

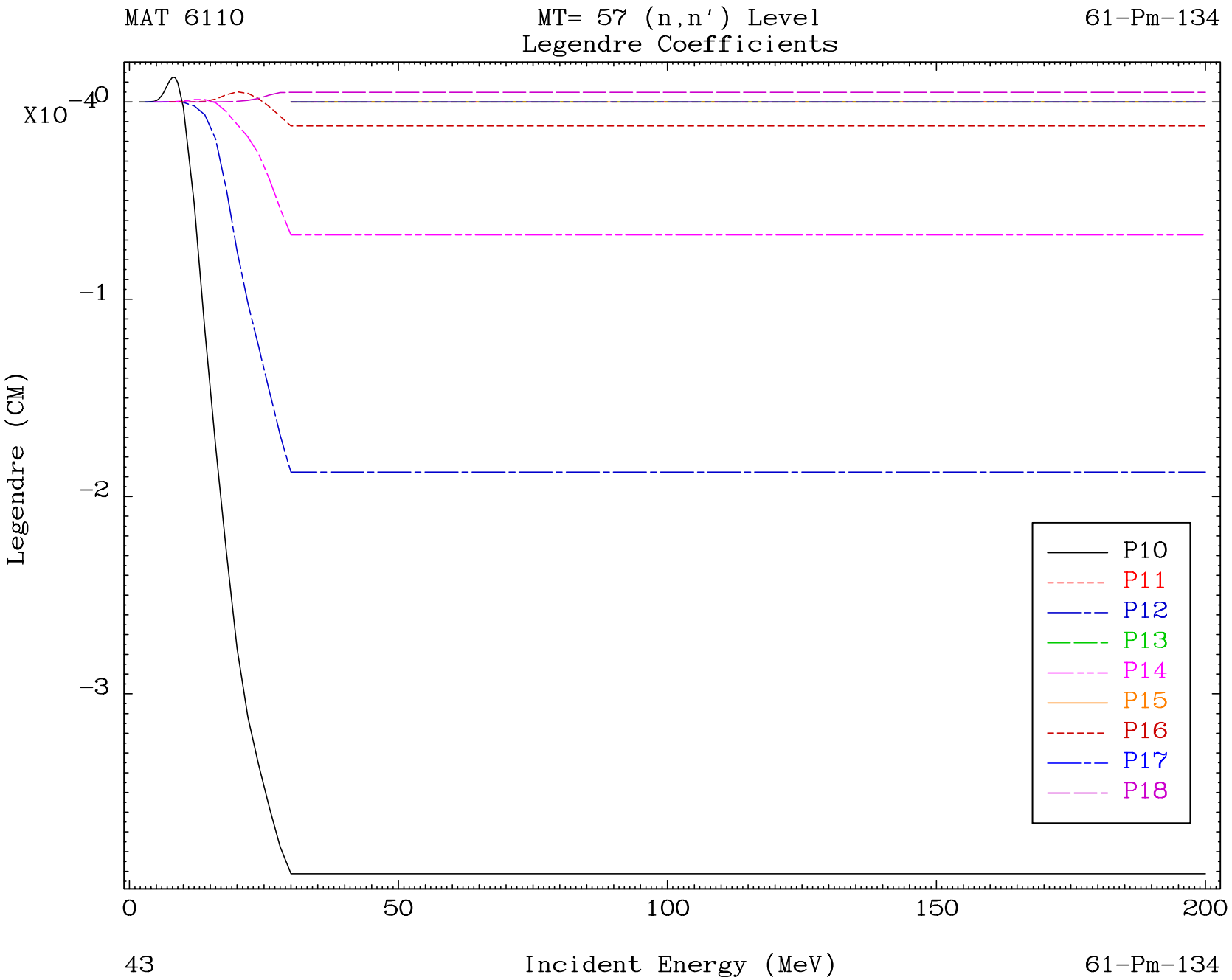

MAT 6110
MT= 56 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.4
0.2
0.0
-0.2
0
50
100
150
200
Incident Energy (MeV)
38
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

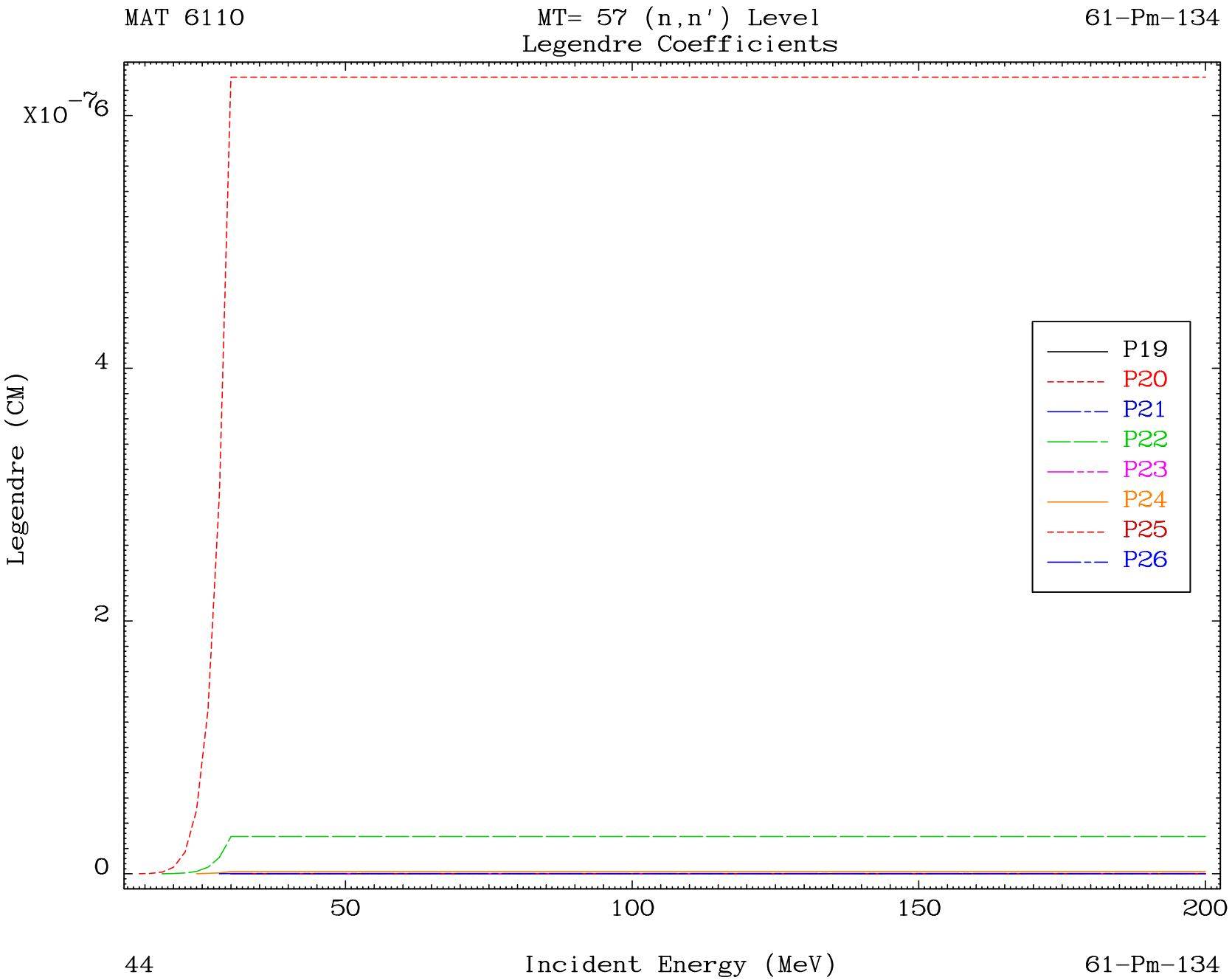

MAT 6110
MT= 56 (n,n') Level
Legendre Coefficients
61-Pm-134
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
39
Incident Energy (MeV)
61-Pm-134

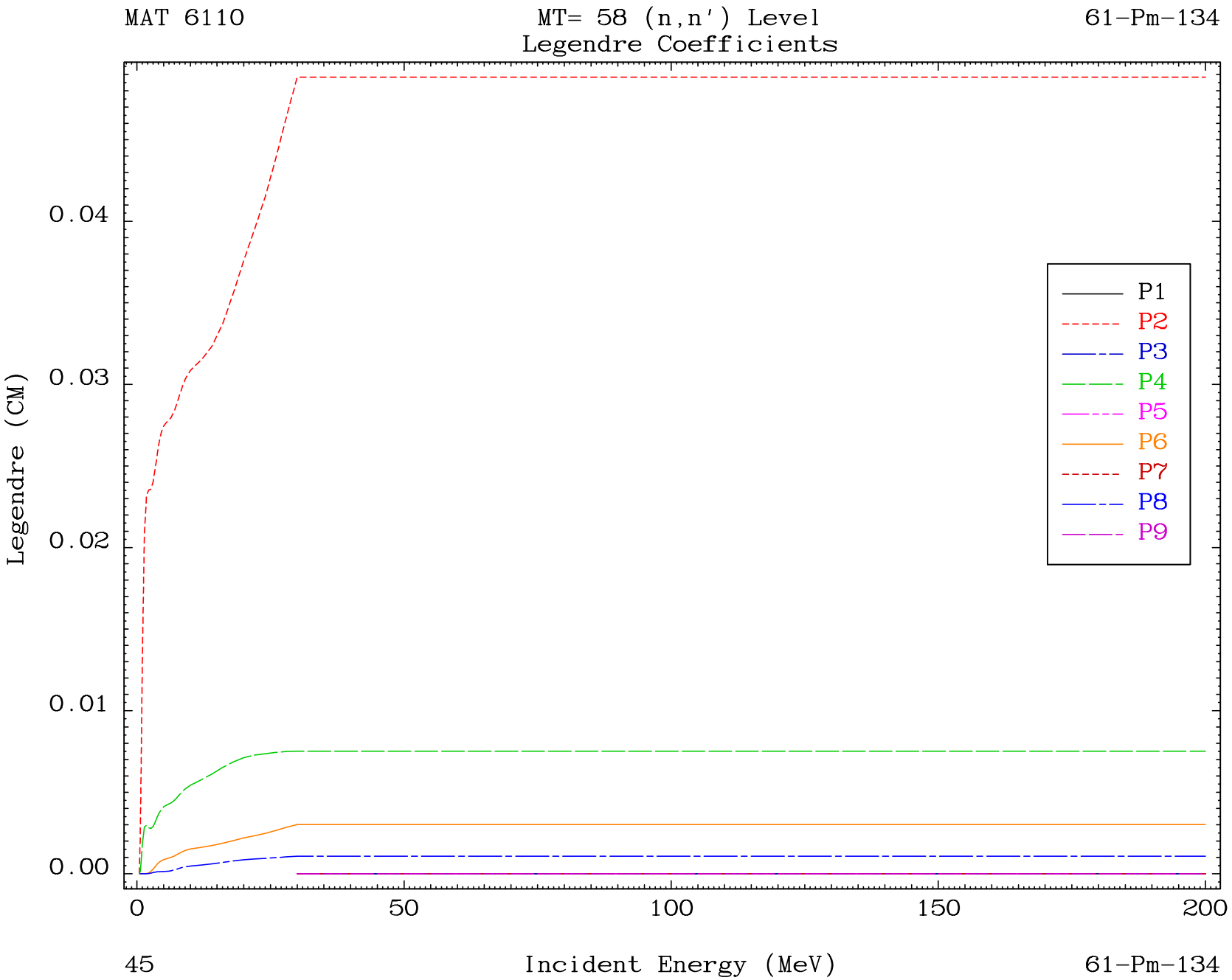

MAT 6110
MT= 56 (n,n') Level
Legendre Coefficients
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.002
0.000
-0.002
-0.004
Legendre (CM)
50
100
150
200
40
Incident Energy (MeV)
61-Pm-134

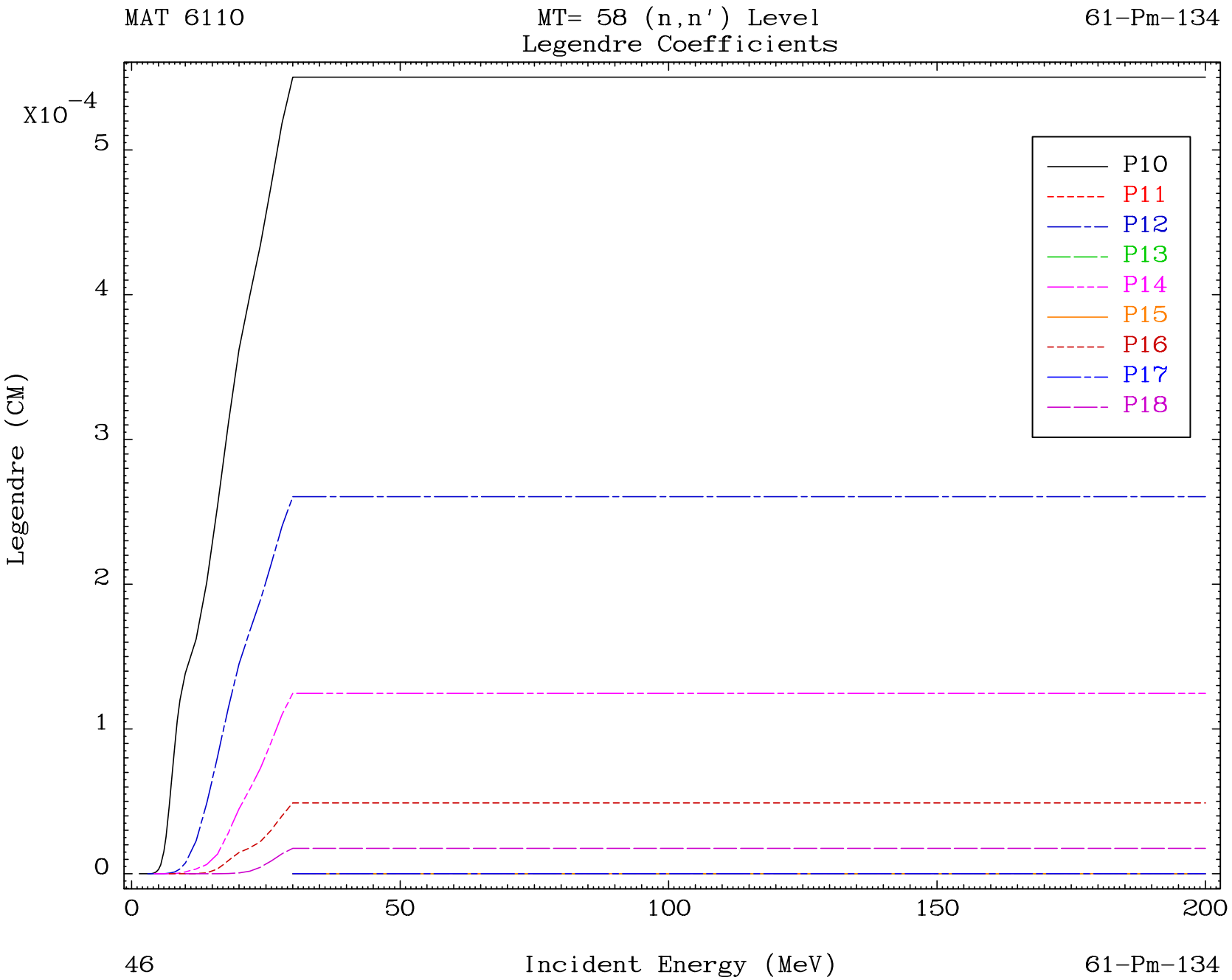

MAT 6110
MT= 56 (n,n') Level
Legendre Coefficients
61-Pm-134
0
X10−6
−1
−2
−3
−4
Legendre (CM)
50
100
150
200
41
Incident Energy (MeV)
61-Pm-134
P28
P29
P30
P31
P32
P33
P34
P35
P36

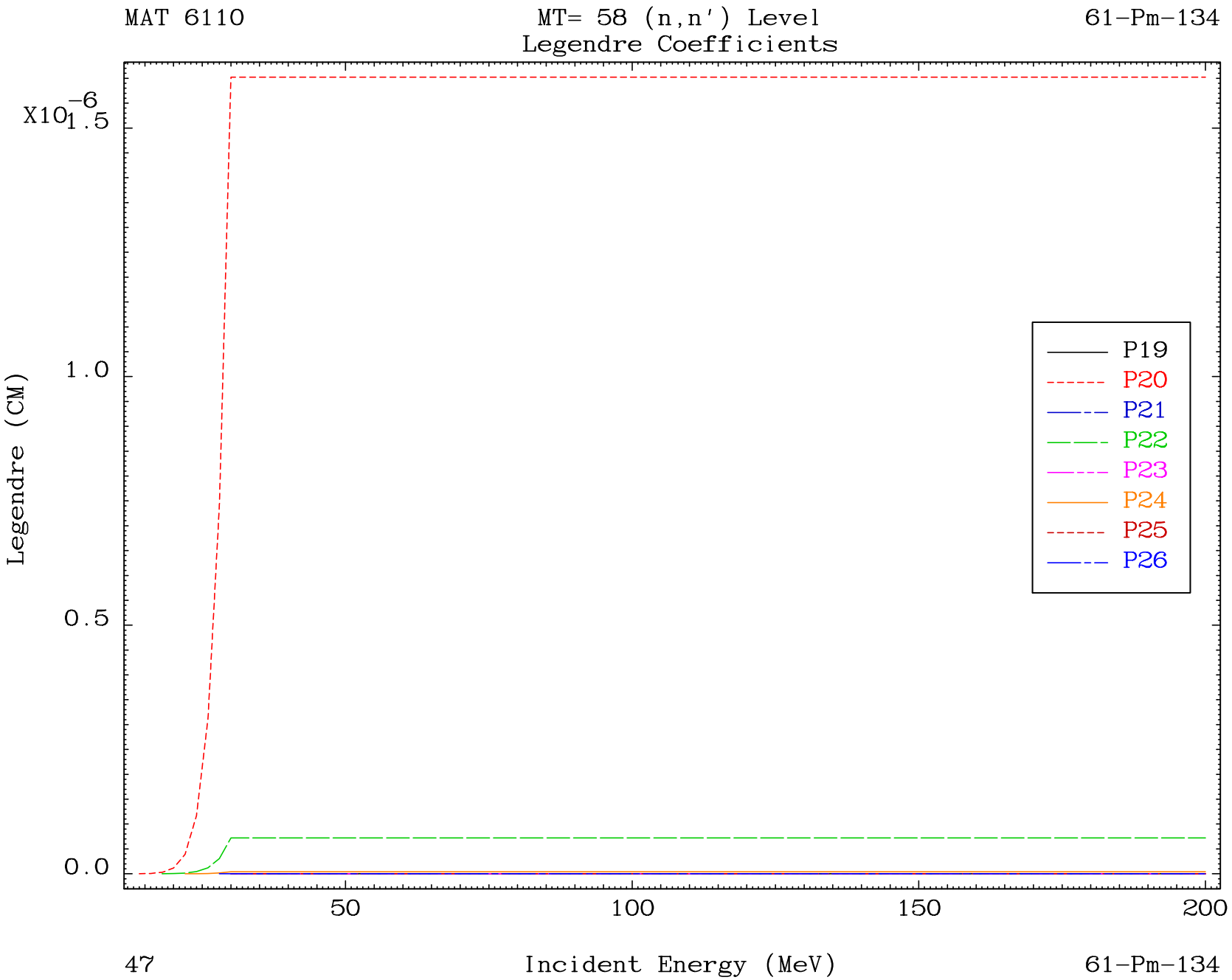

MAT 6110
MT= 57 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.02
0.01
0.00
-0.01
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
42
Incident Energy (MeV)
61-Pm-134

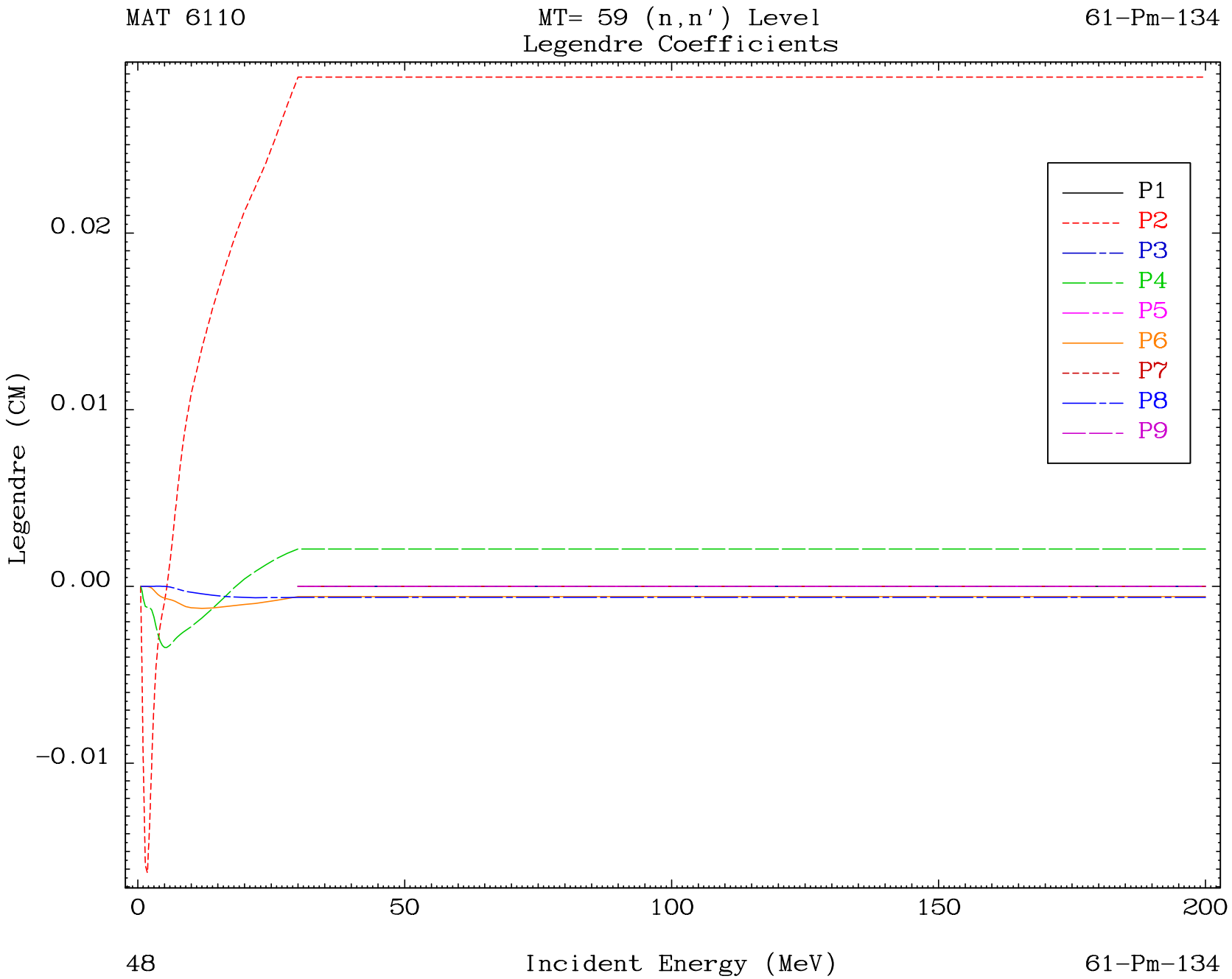

MAT 6110
MT= 57 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0
-1
-2
-3
Legendre (CM)
0
50
100
150
200
43
Incident Energy (MeV)
61-Pm-134
P10
P11
P12
P13
P14
P15
P16
P17
P18

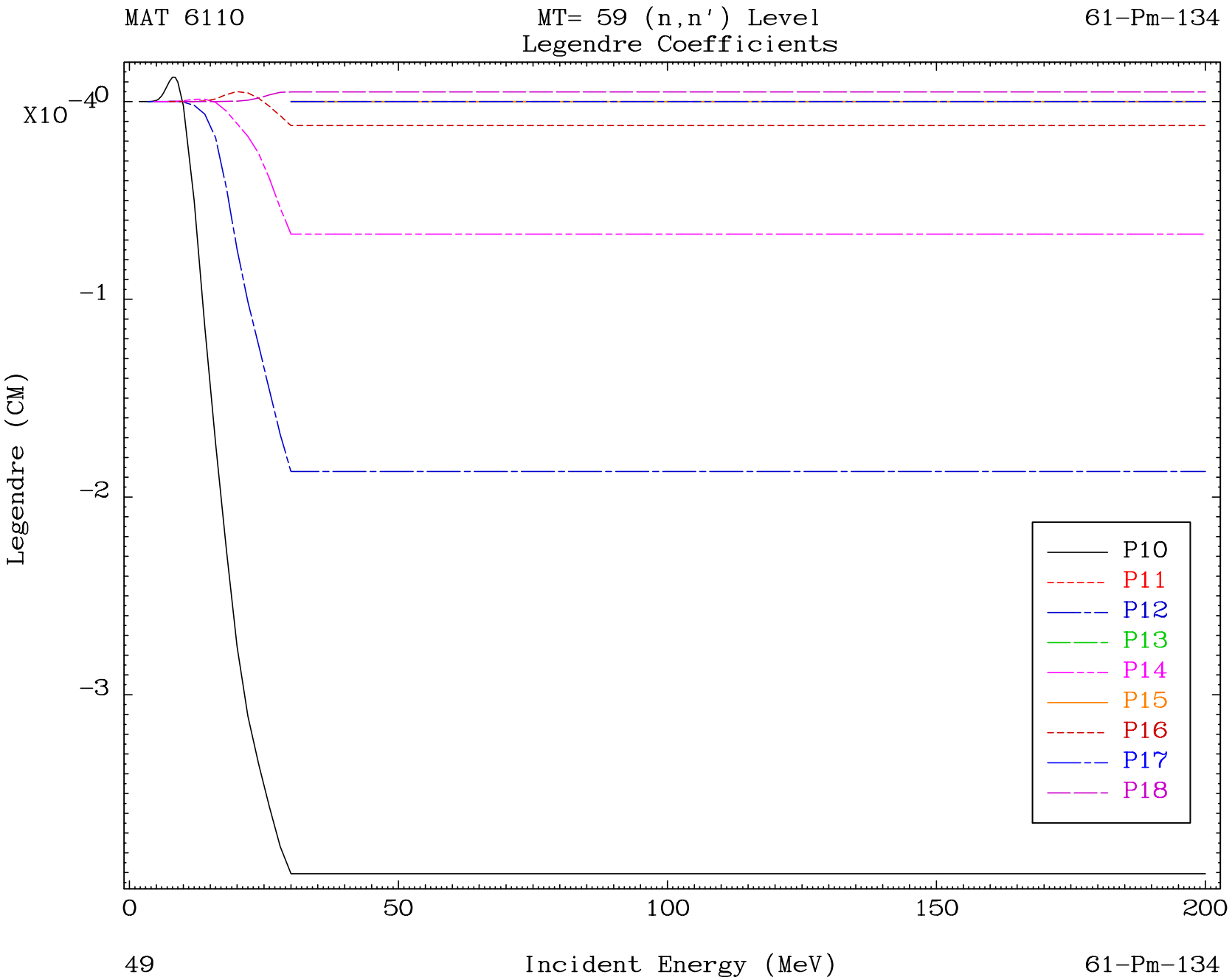

MAT 6110
MT= 57 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-7
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
44
Incident Energy (MeV)
61-Pm-134

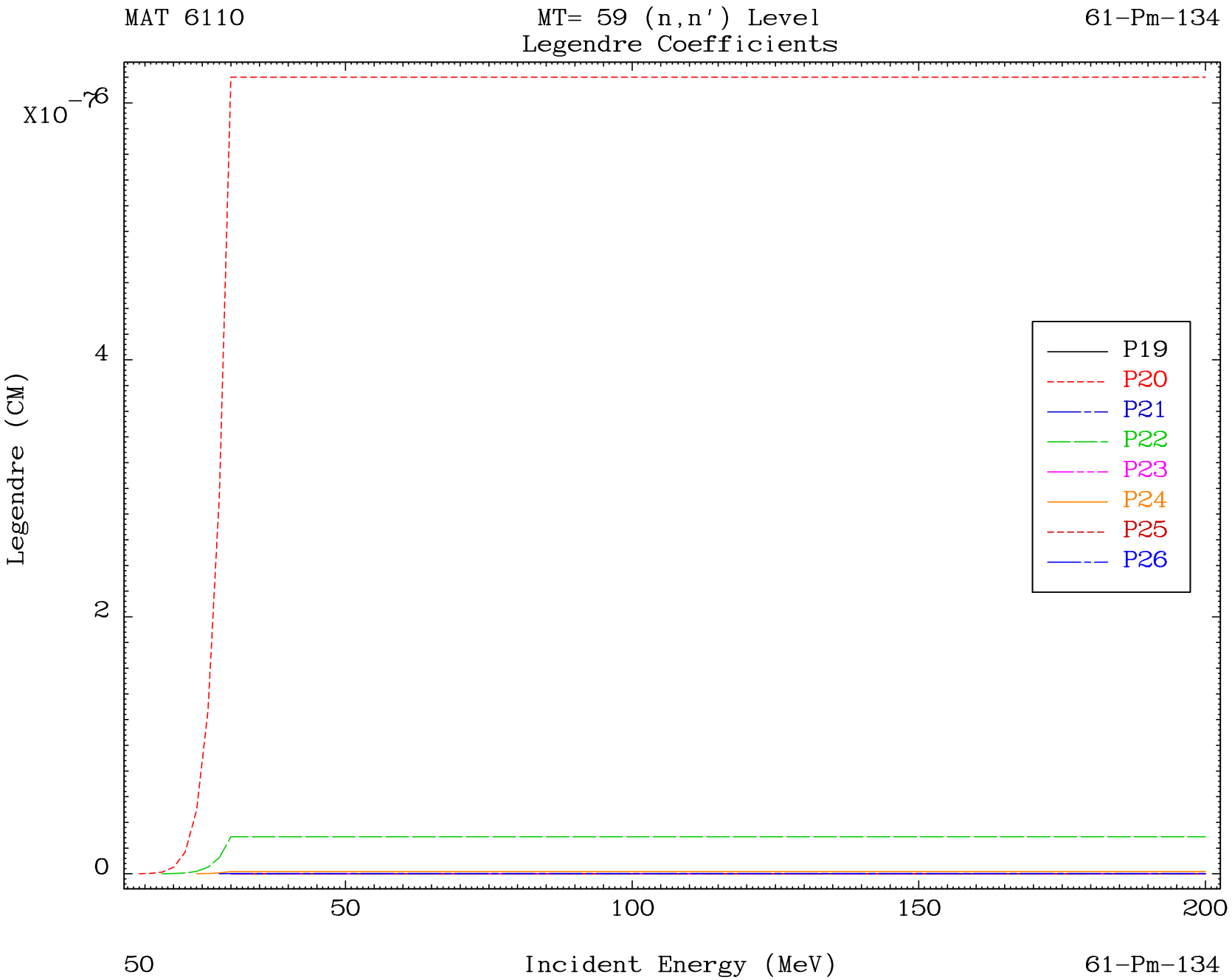

MAT 6110
MT= 58 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.04
0.03
0.02
0.01
0.00
0
50
100
150
200
45
Incident Energy (MeV)
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

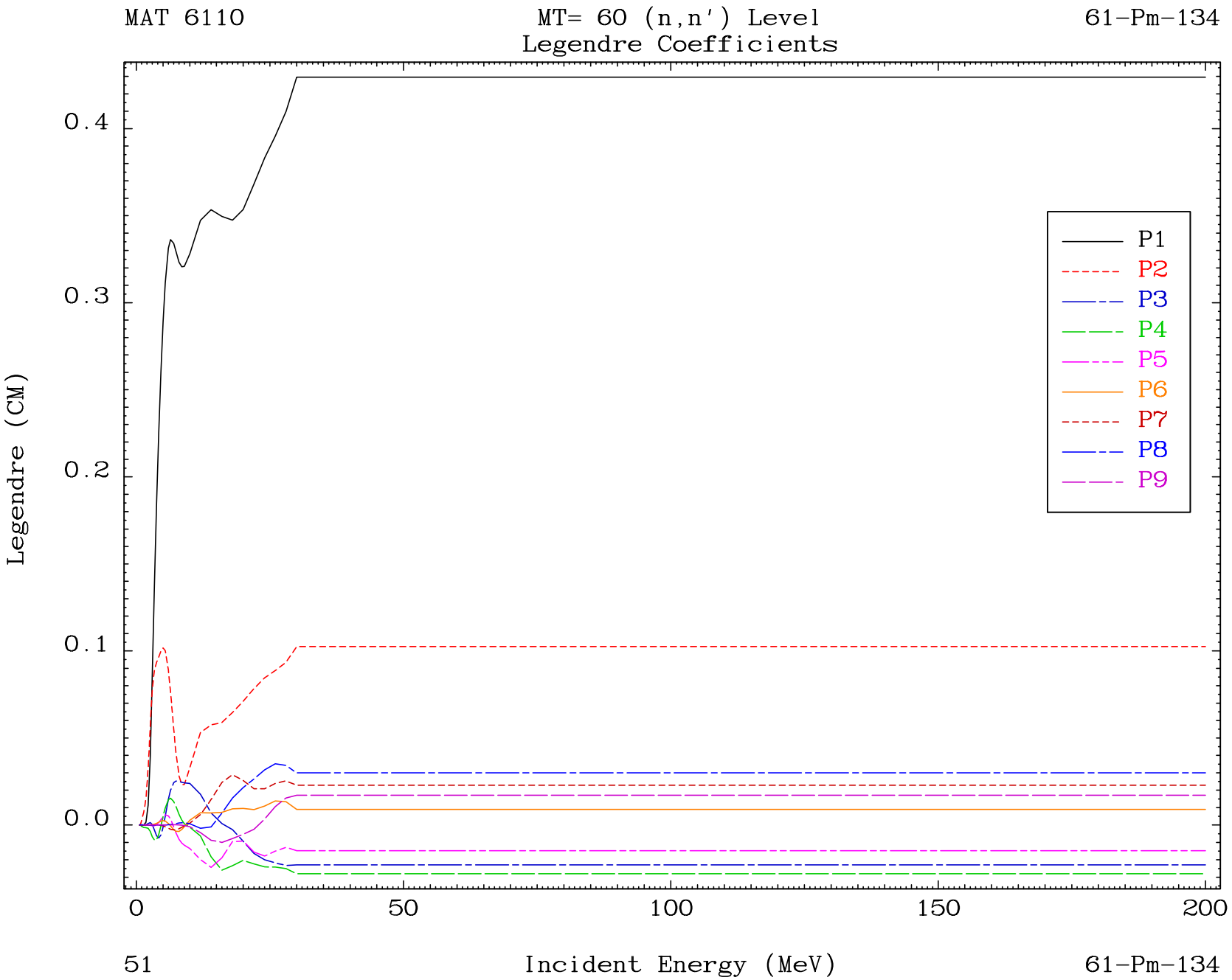

MAT 6110
MT= 58 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
5
4
3
2
1
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
46
Incident Energy (MeV)
61-Pm-134

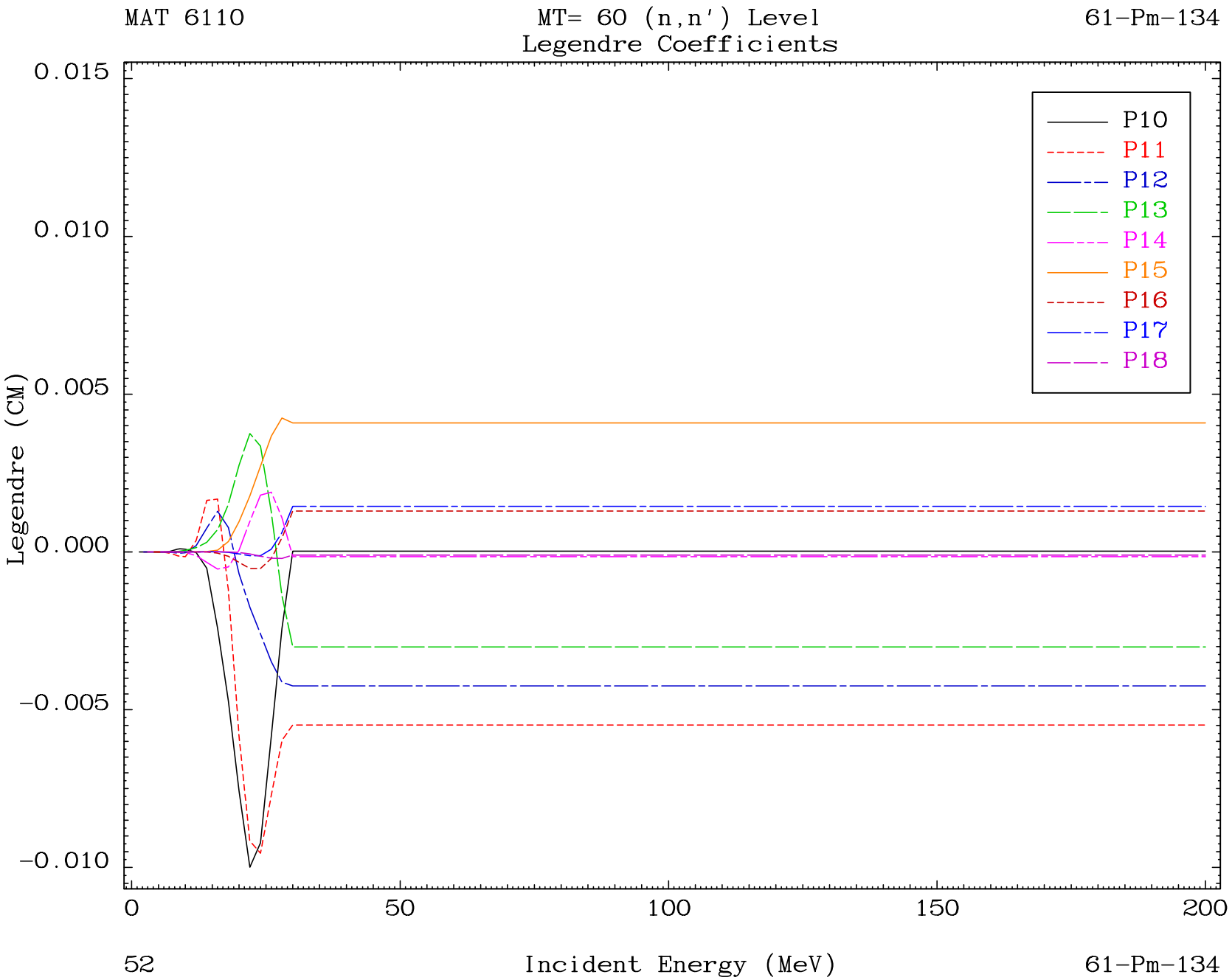

MAT 6110
MT= 58 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-6
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
47
Incident Energy (MeV)
61-Pm-134
P19
P20
P21
P22
P23
P24
P25
P26

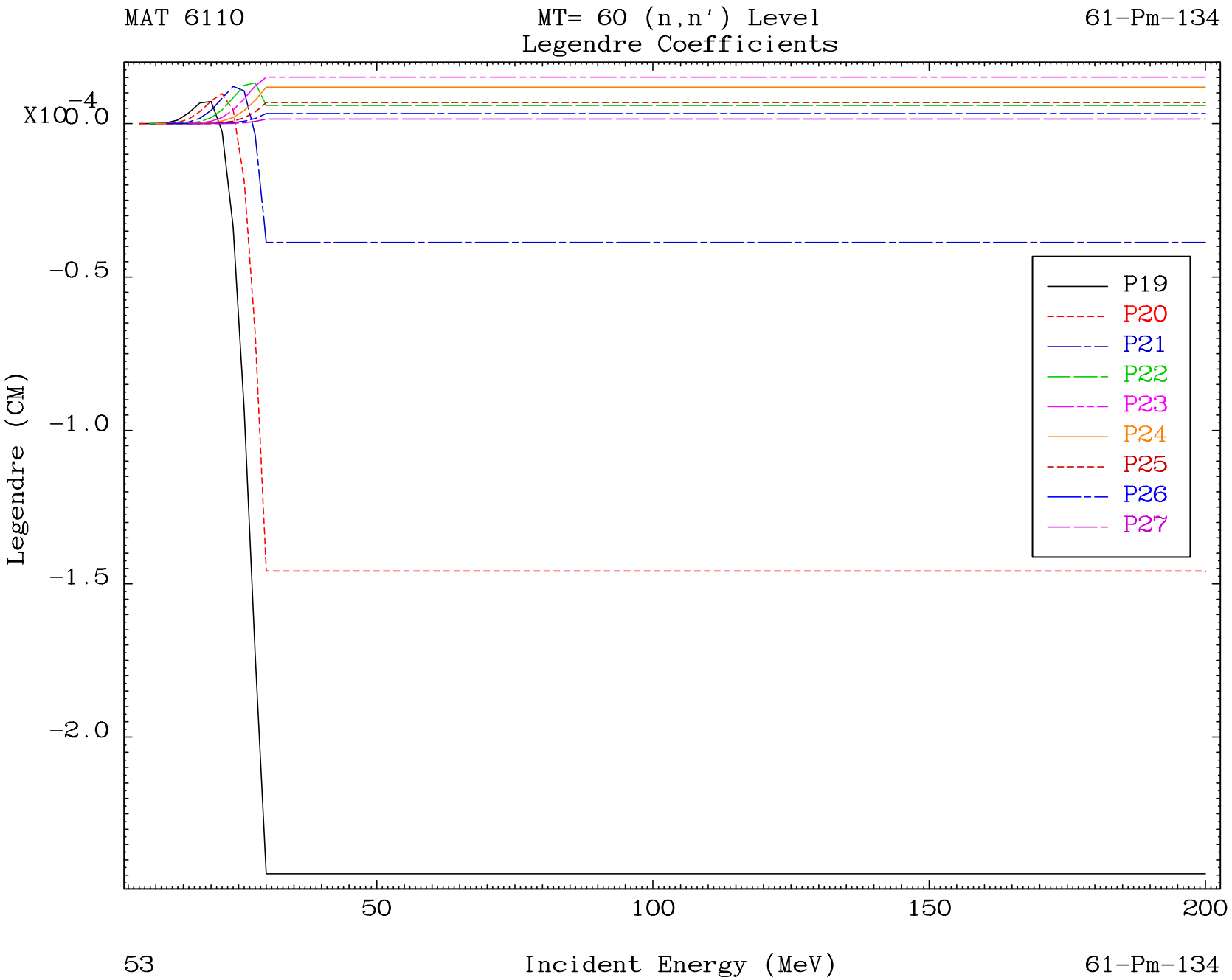

MAT 6110
MT= 59 (n,n') Level
Legendre Coefficients
61-Pm-134
0.02
0.01
0.00
-0.01
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
48
Incident Energy (MeV)
61-Pm-134

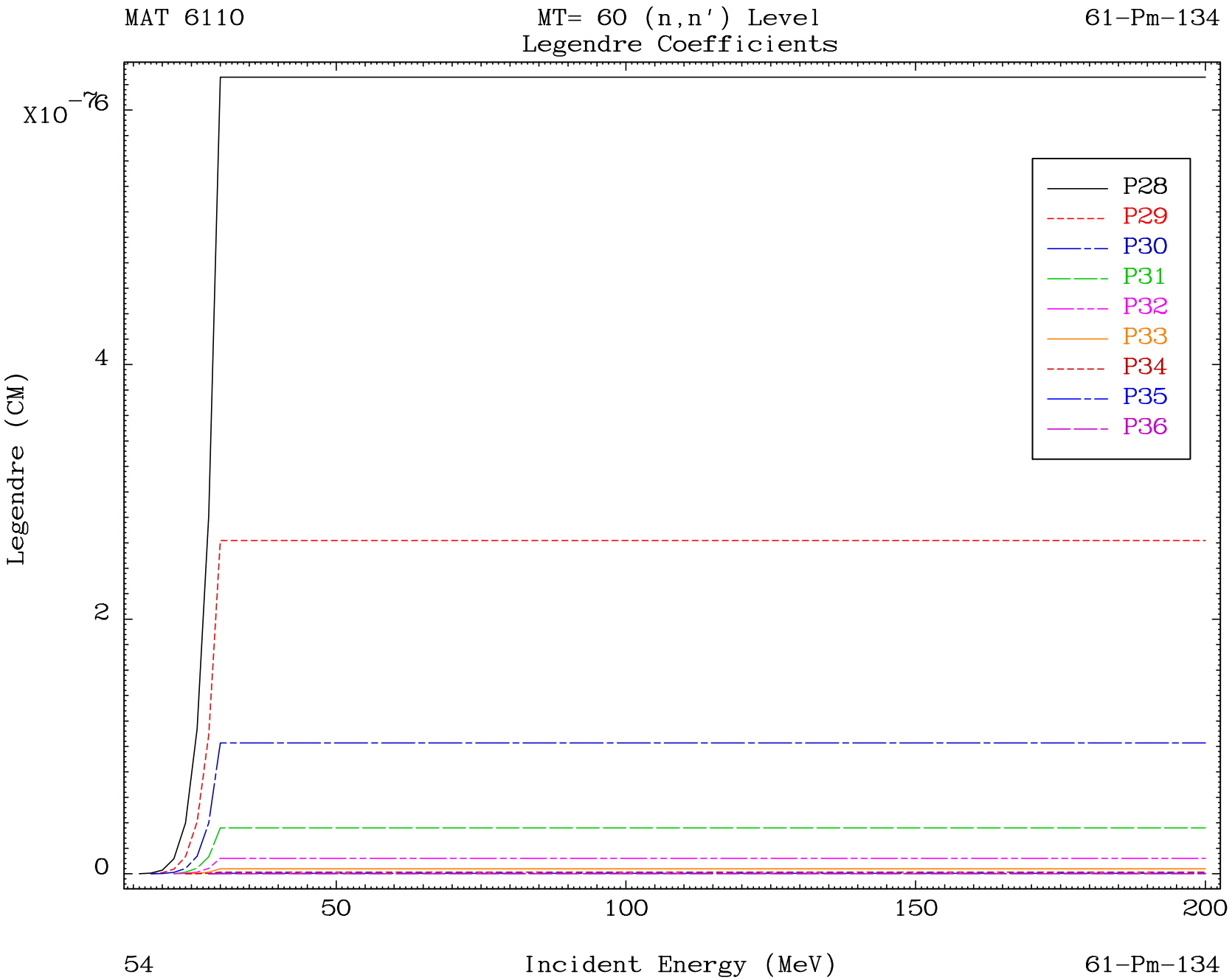

MAT 6110
MT= 59 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0
-1
-2
-3
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
49
Incident Energy (MeV)
61-Pm-134

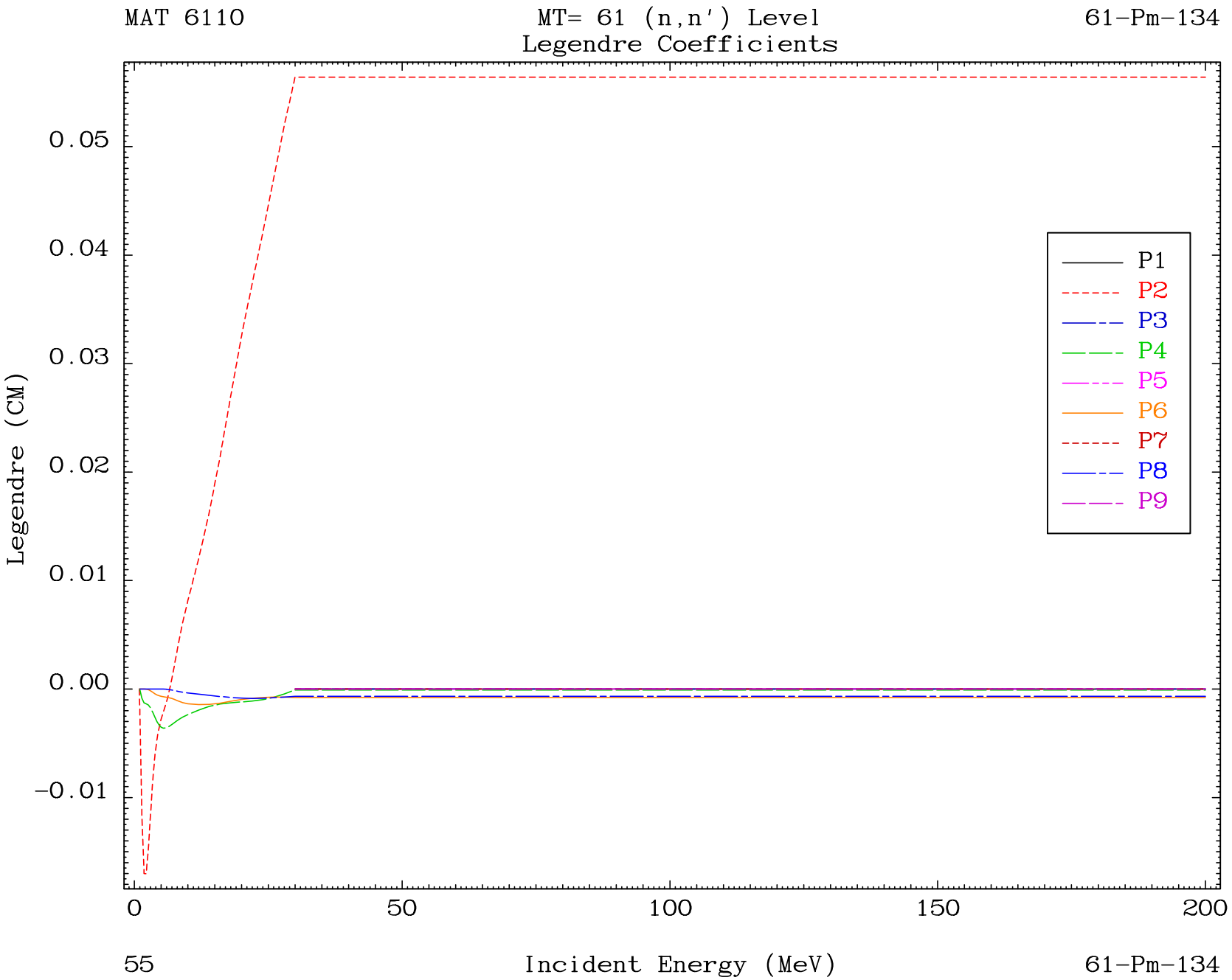

MAT 6110
MT= 59 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
50
Incident Energy (MeV)
61-Pm-134

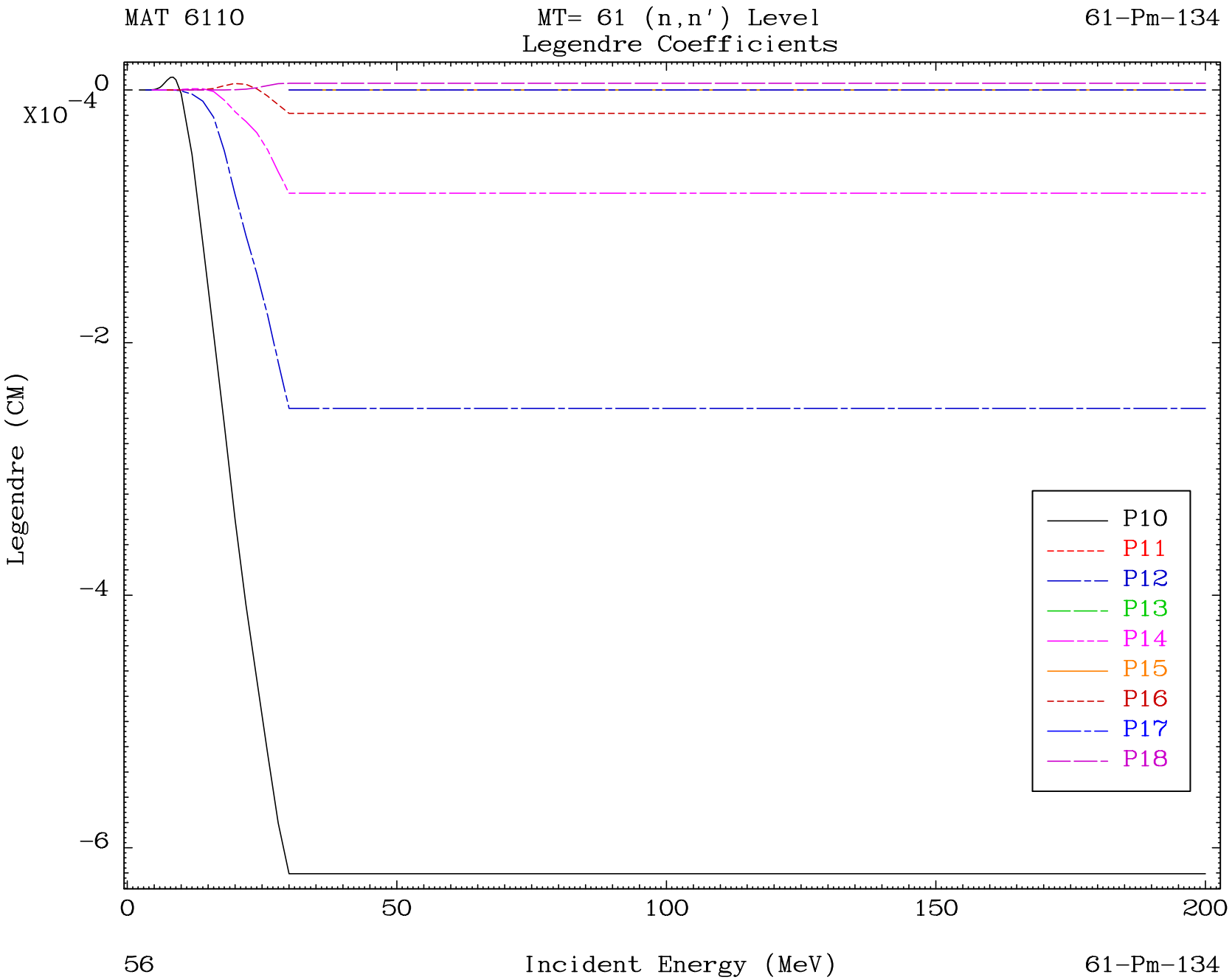

MAT 6110
MT= 60 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
Incident Energy (MeV)
51
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

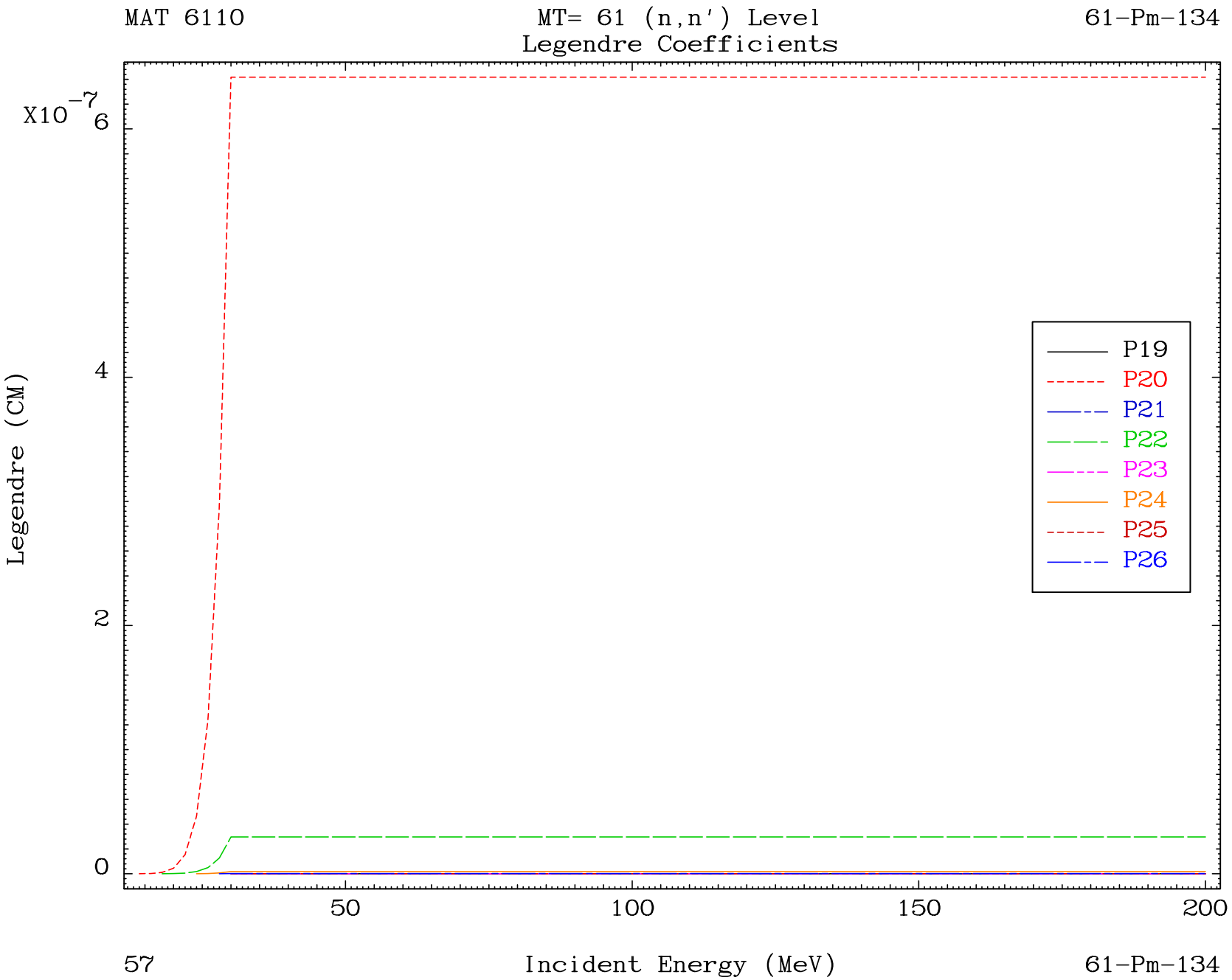

MAT 6110
MT= 60 (n,n') Level
Legendre Coefficients
61-Pm-134
0.015
0.010
0.005
0.000
-0.005
-0.010
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
52
Incident Energy (MeV)
61-Pm-134

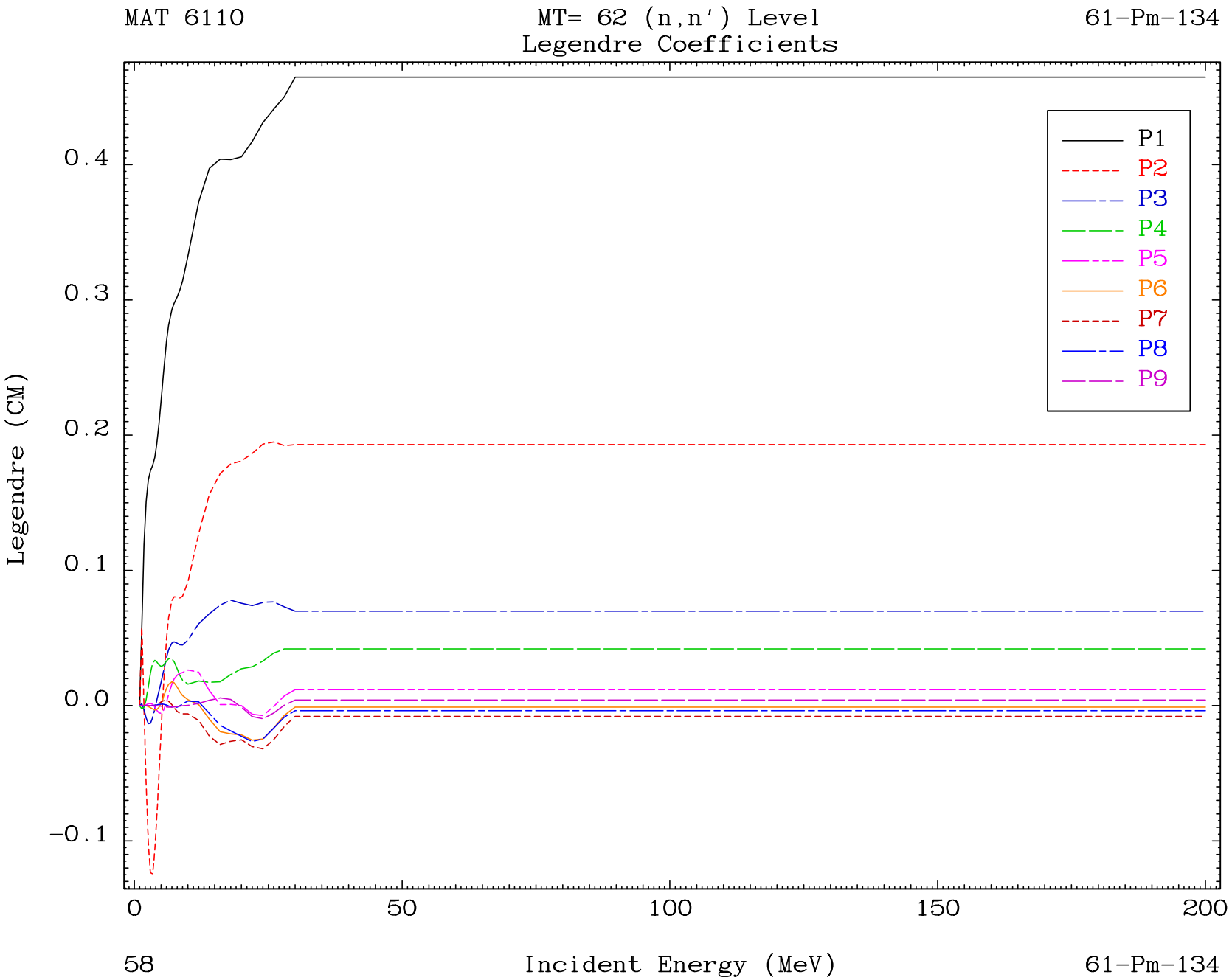

MAT 6110
MT= 60 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
53
Incident Energy (MeV)
61-Pm-134

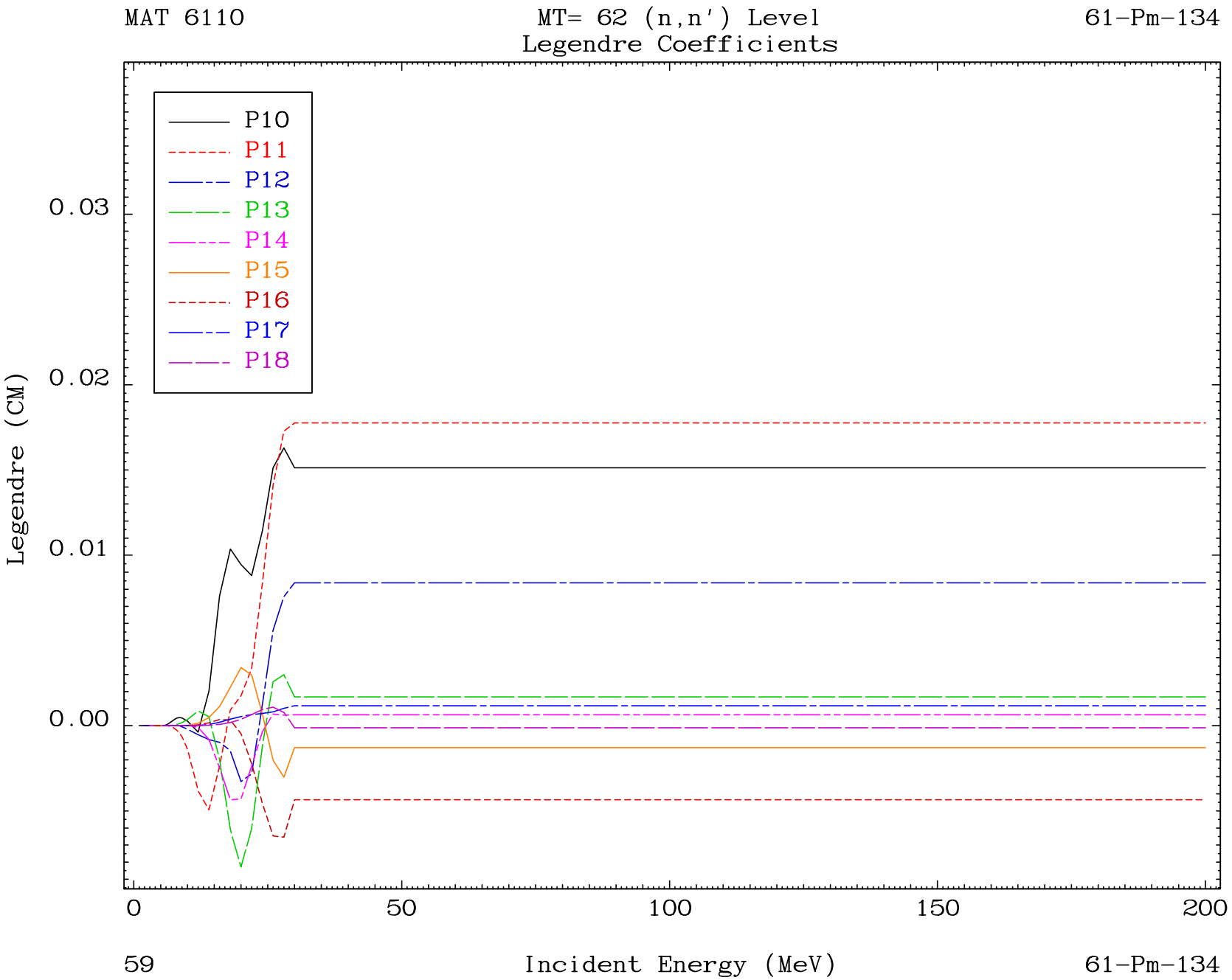

MAT 6110
MT= 60 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-6
4
2
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
54
Incident Energy (MeV)
61-Pm-134

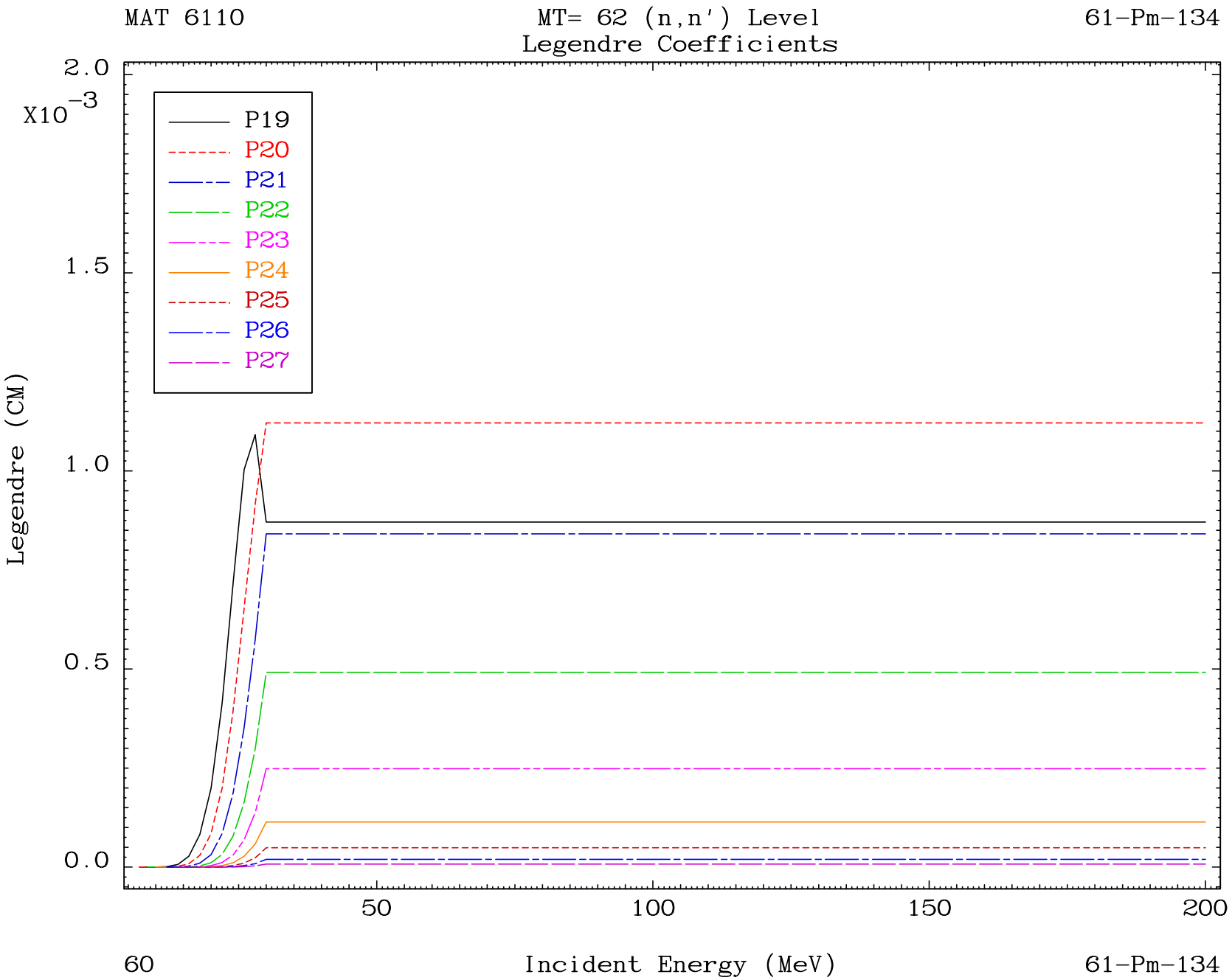

MAT 6110
MT= 61 (n,n') Level
Legendre Coefficients
61-Pm-134
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
55
Incident Energy (MeV)
61-Pm-134

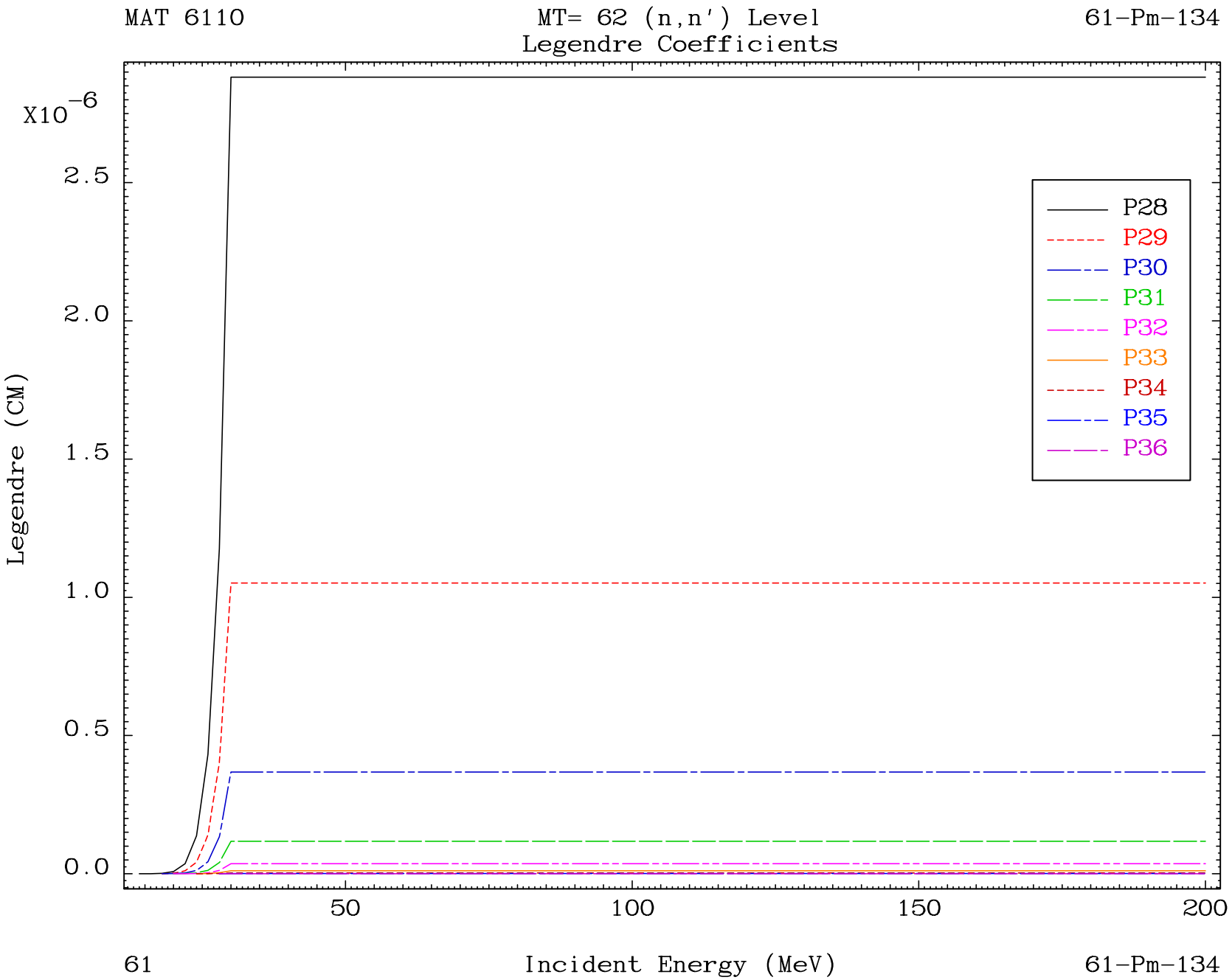

MAT 6110
MT= 61 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-4
0
-2
-4
-6
Legendre (CM)
0
50
100
150
200
56
Incident Energy (MeV)
61-Pm-134
P10
P11
P12
P13
P14
P15
P16
P17
P18

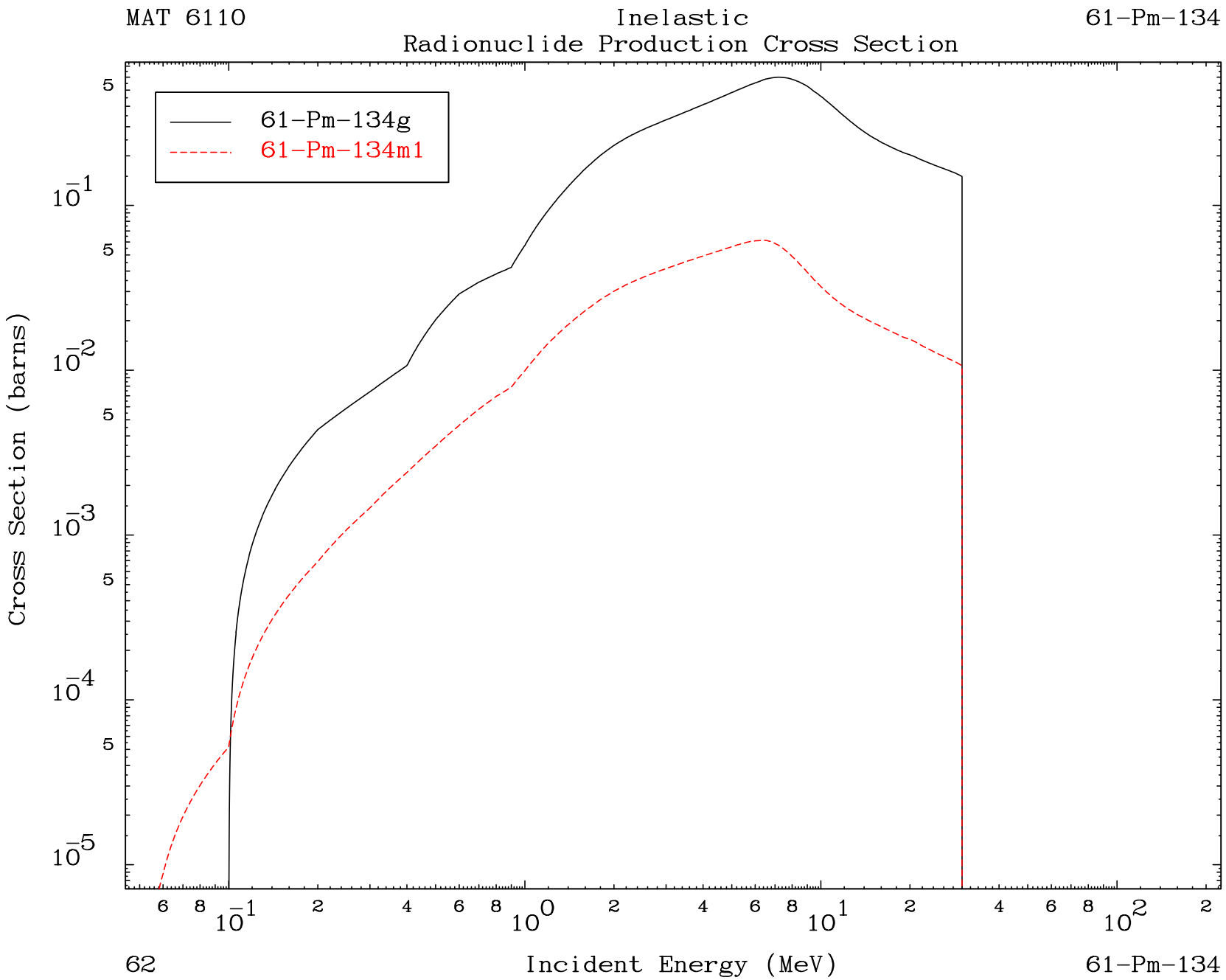

MAT 6110
MT= 61 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-7
6
4
2
0
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
57
Incident Energy (MeV)
61-Pm-134

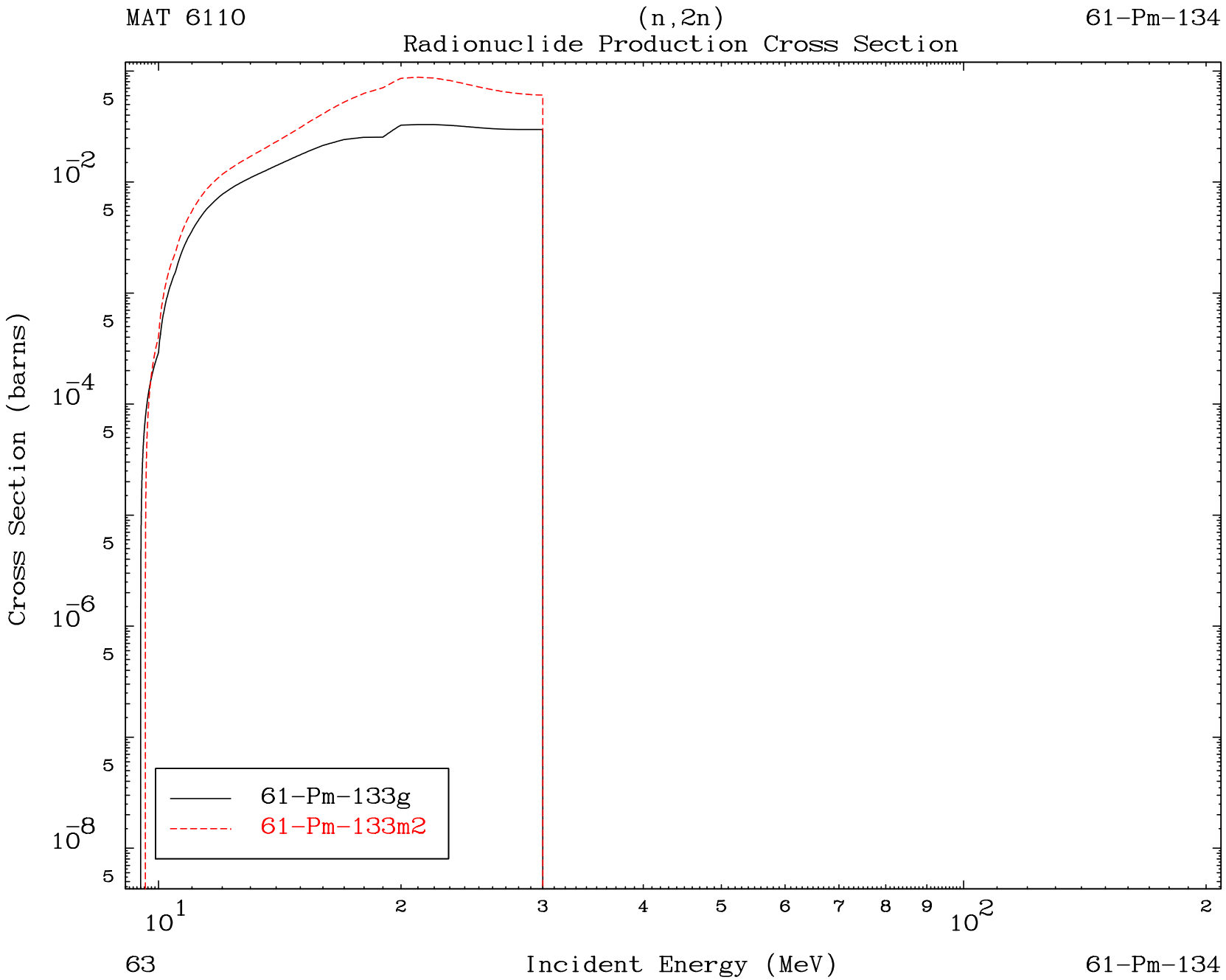

MAT 6110
MT= 62 (n,n') Level
Legendre Coefficients
61-Pm-134
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
58
61-Pm-134
P1
P2
P3
P4
P5
P6
P7
P8
P9

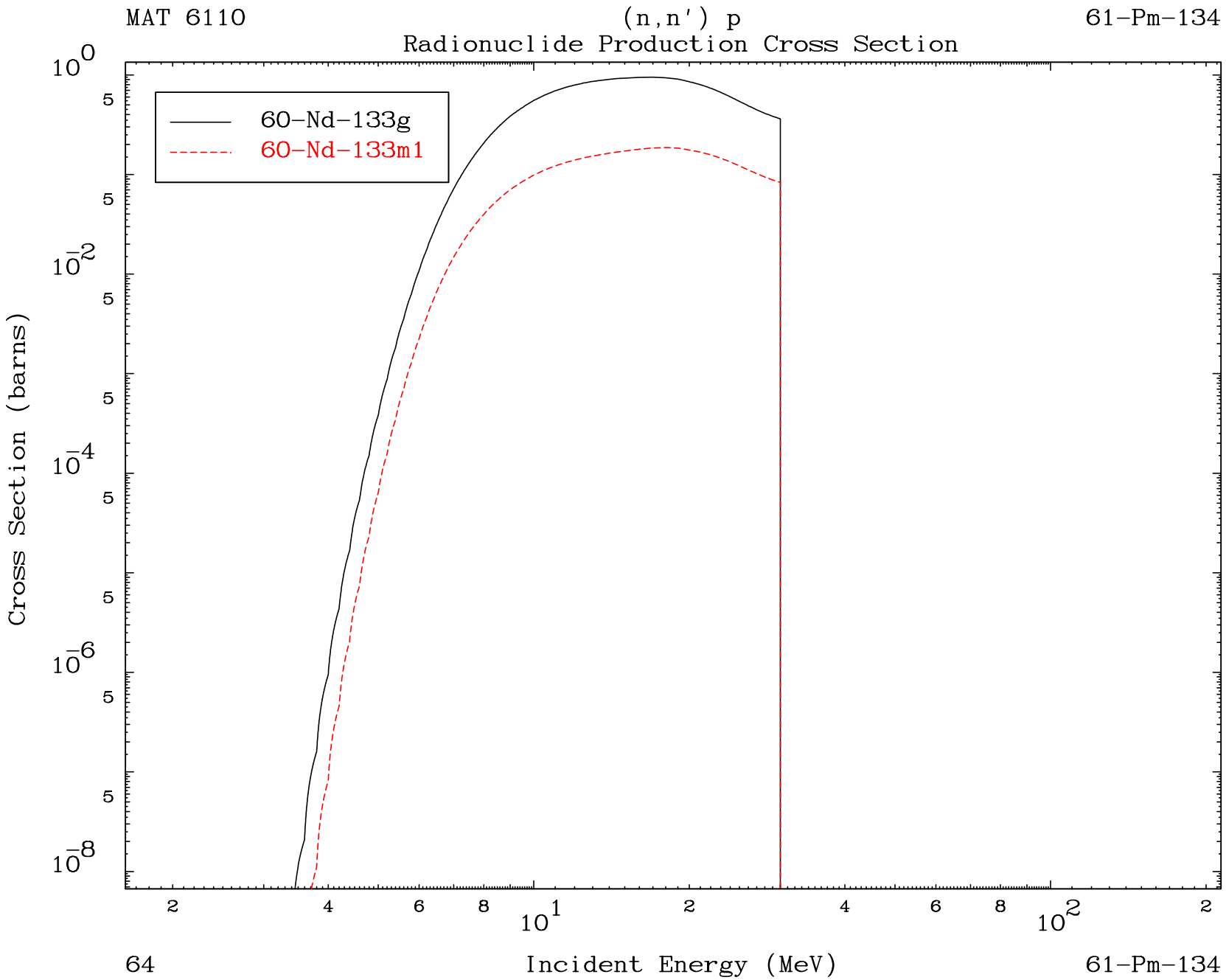

MAT 6110
MT= 62 (n,n') Level
Legendre Coefficients
61-Pm-134
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
59
Incident Energy (MeV)
61-Pm-134

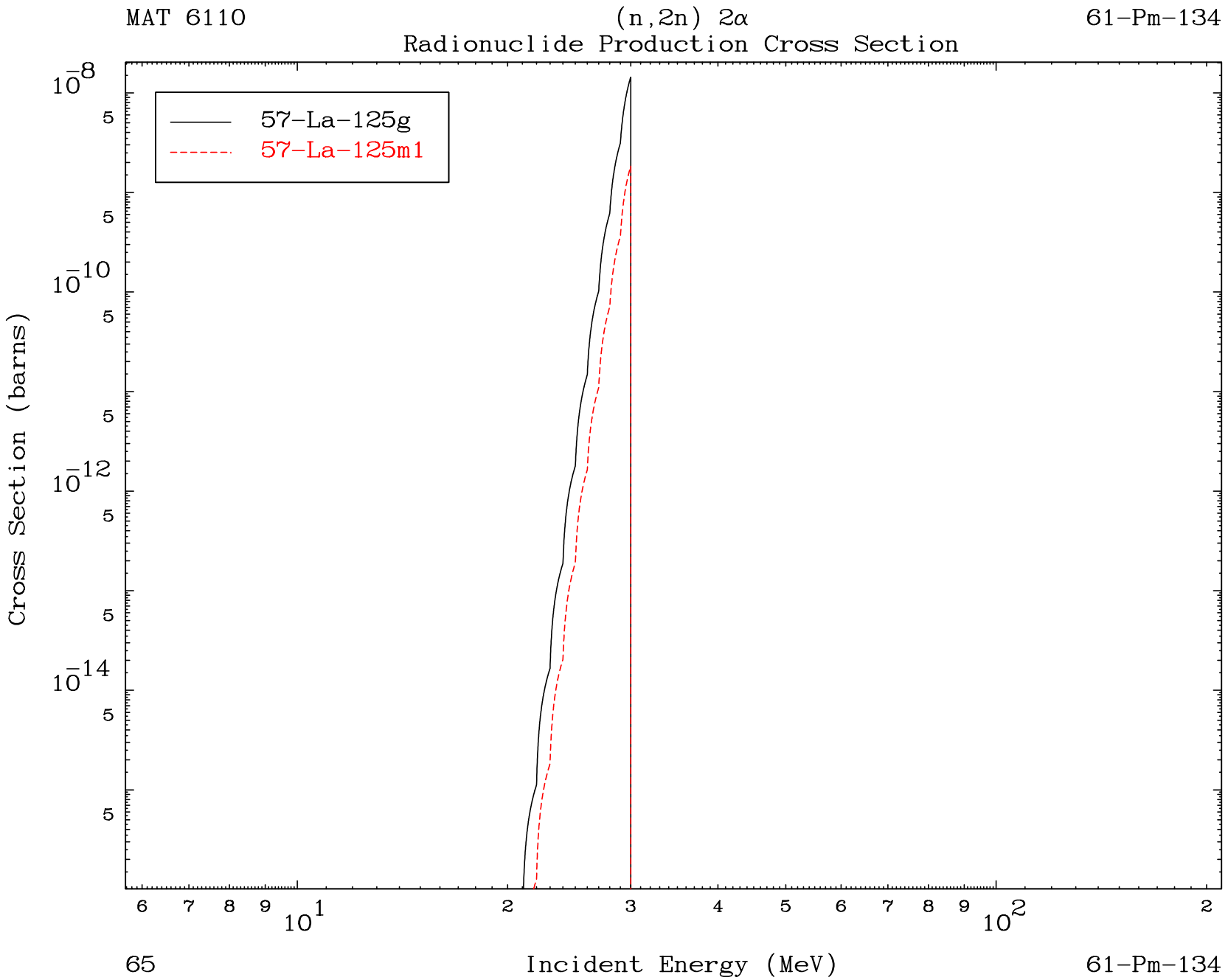

MAT 6110
MT= 62 (n,n') Level
Legendre Coefficients
61-Pm-134
2.0
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
60
Incident Energy (MeV)
61-Pm-134

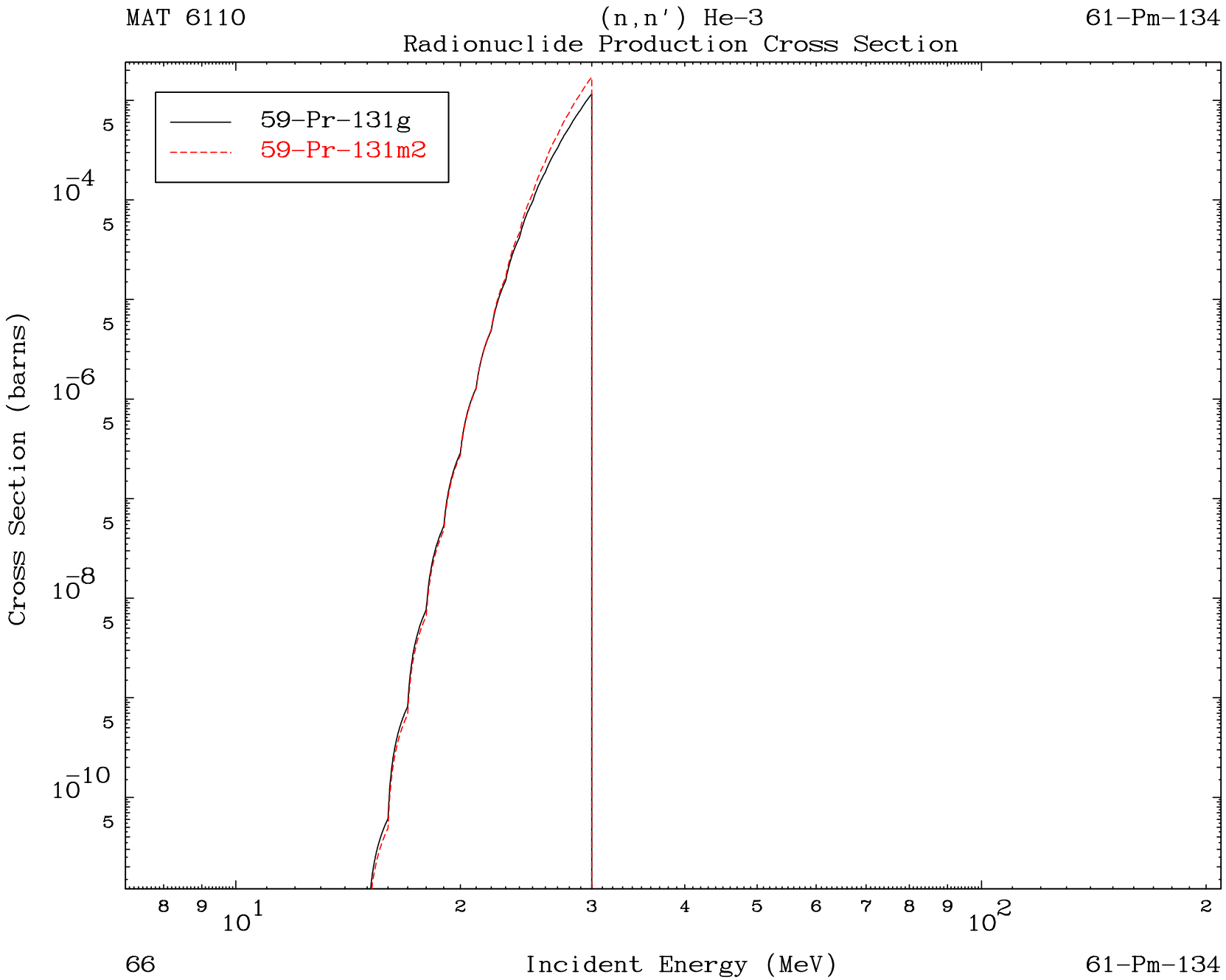

MAT 6110
MT= 62 (n,n') Level
Legendre Coefficients
61-Pm-134
X10^-6
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
61
Incident Energy (MeV)
61-Pm-134

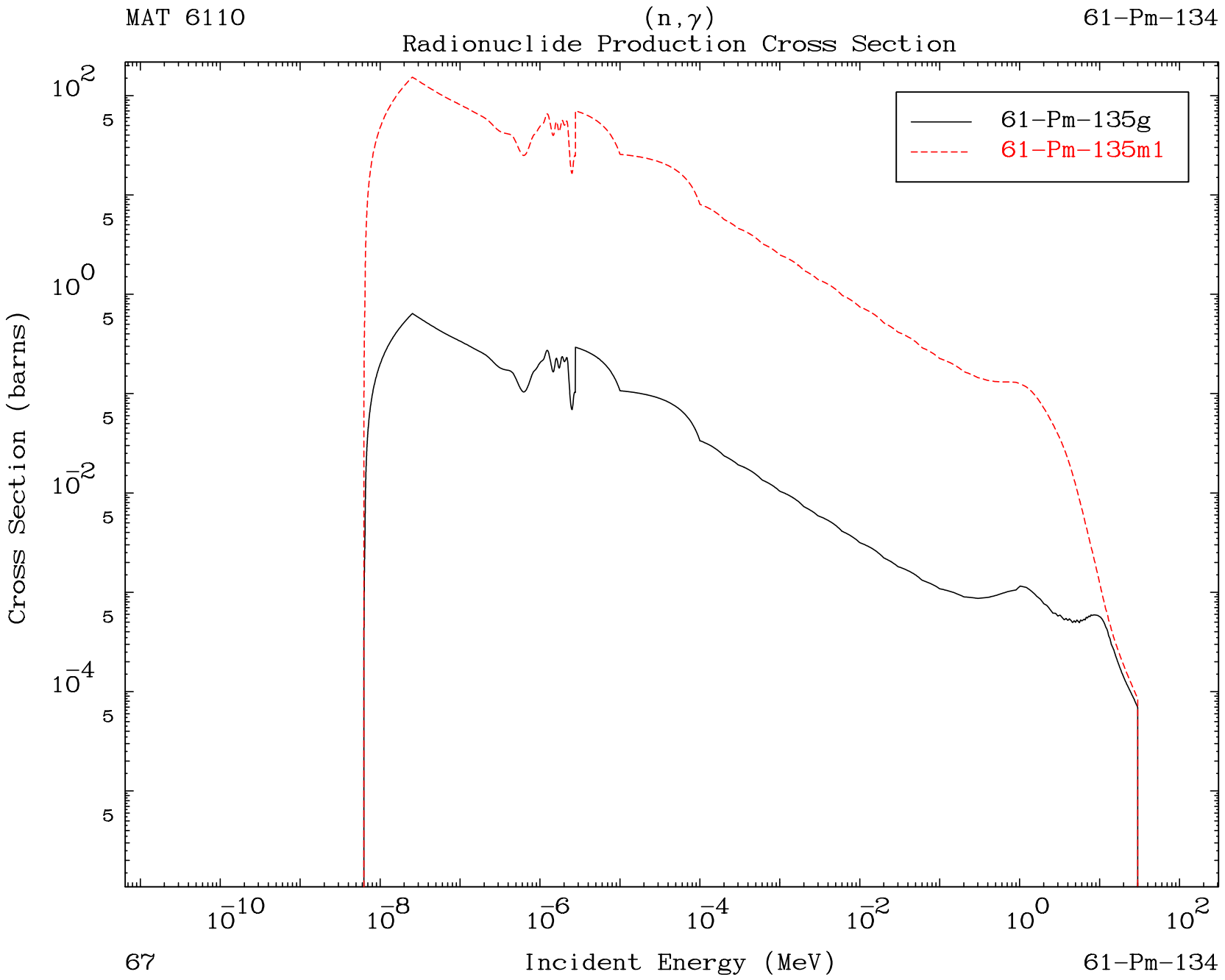

MAT 6110
Inelastic
61-Pm-134
Radionuclide Production Cross Section
61-Pm-134g
61-Pm-134m1
Cross Section (barns)
Incident Energy (MeV)
62
61-Pm-134

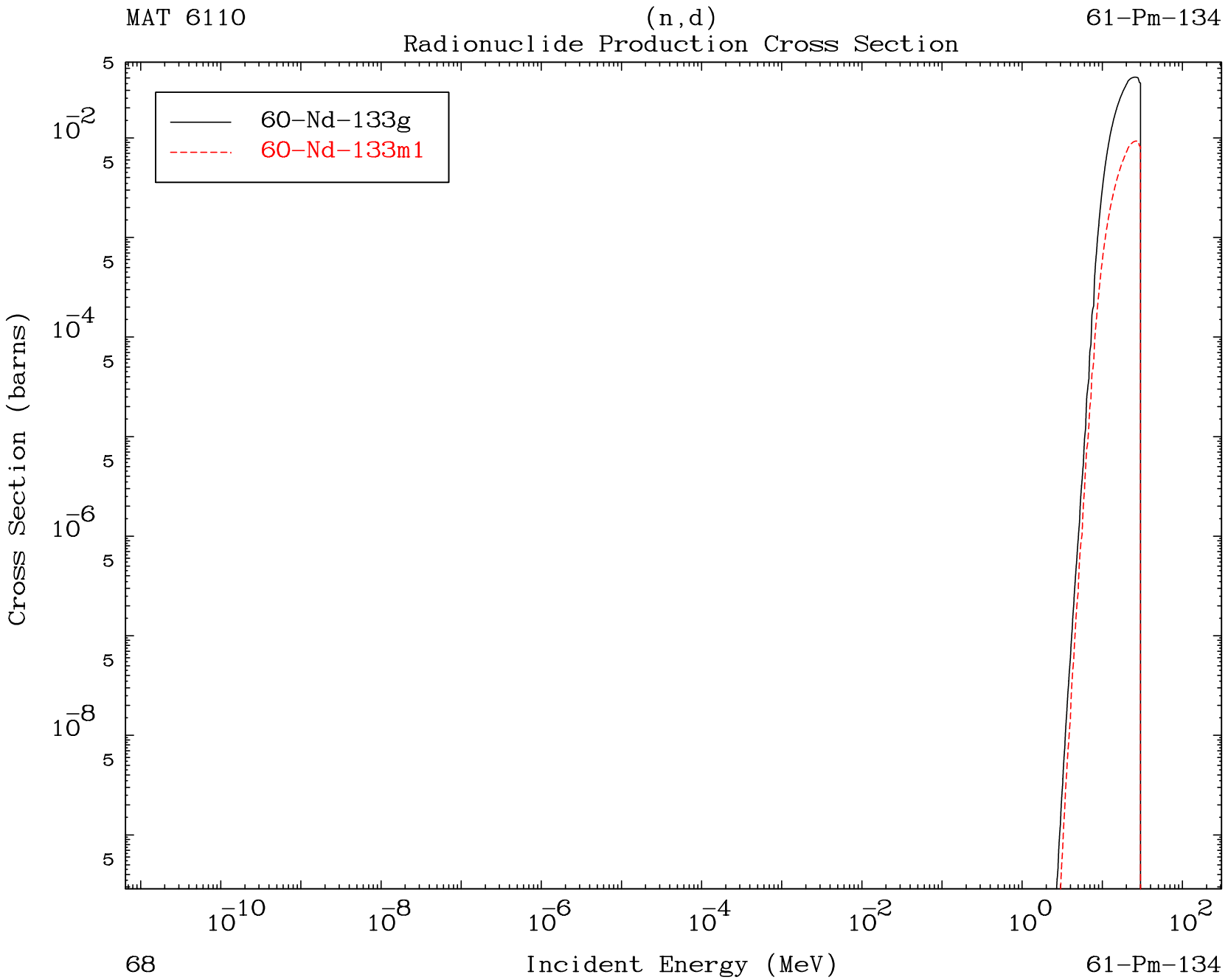

MAT 6110
(n,2n)
61-Pm-134
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
101
2
3
4
5
6
7
8
9
102
2
61-Pm-133g
61-Pm-133m2
63
Incident Energy (MeV)
61-Pm-134

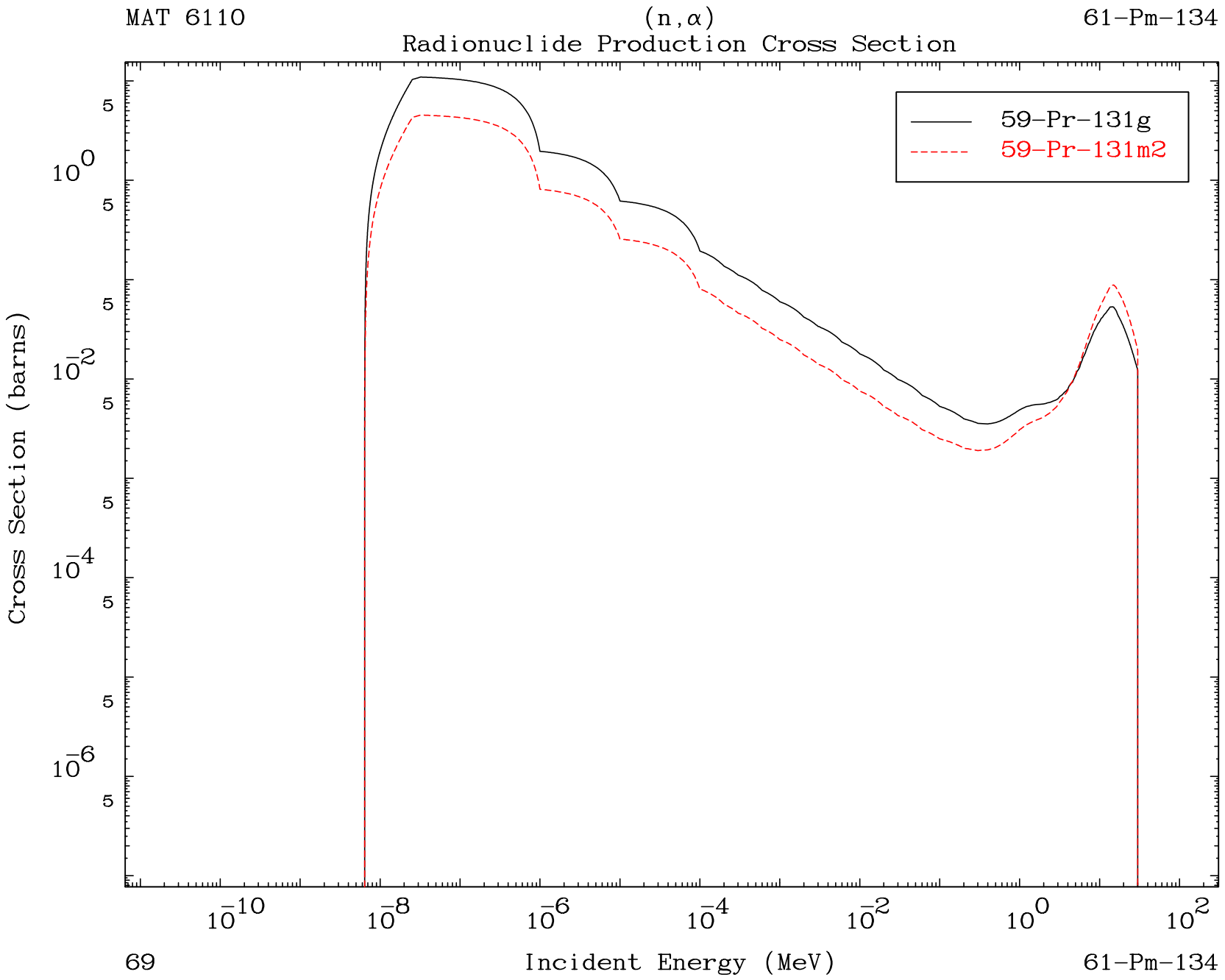

MAT 6110
(n,n') p
61-Pm-134
Radionuclide Production Cross Section
60-Nd-133g
60-Nd-133m1
Cross Section (barns)
Incident Energy (MeV)
64
61-Pm-134

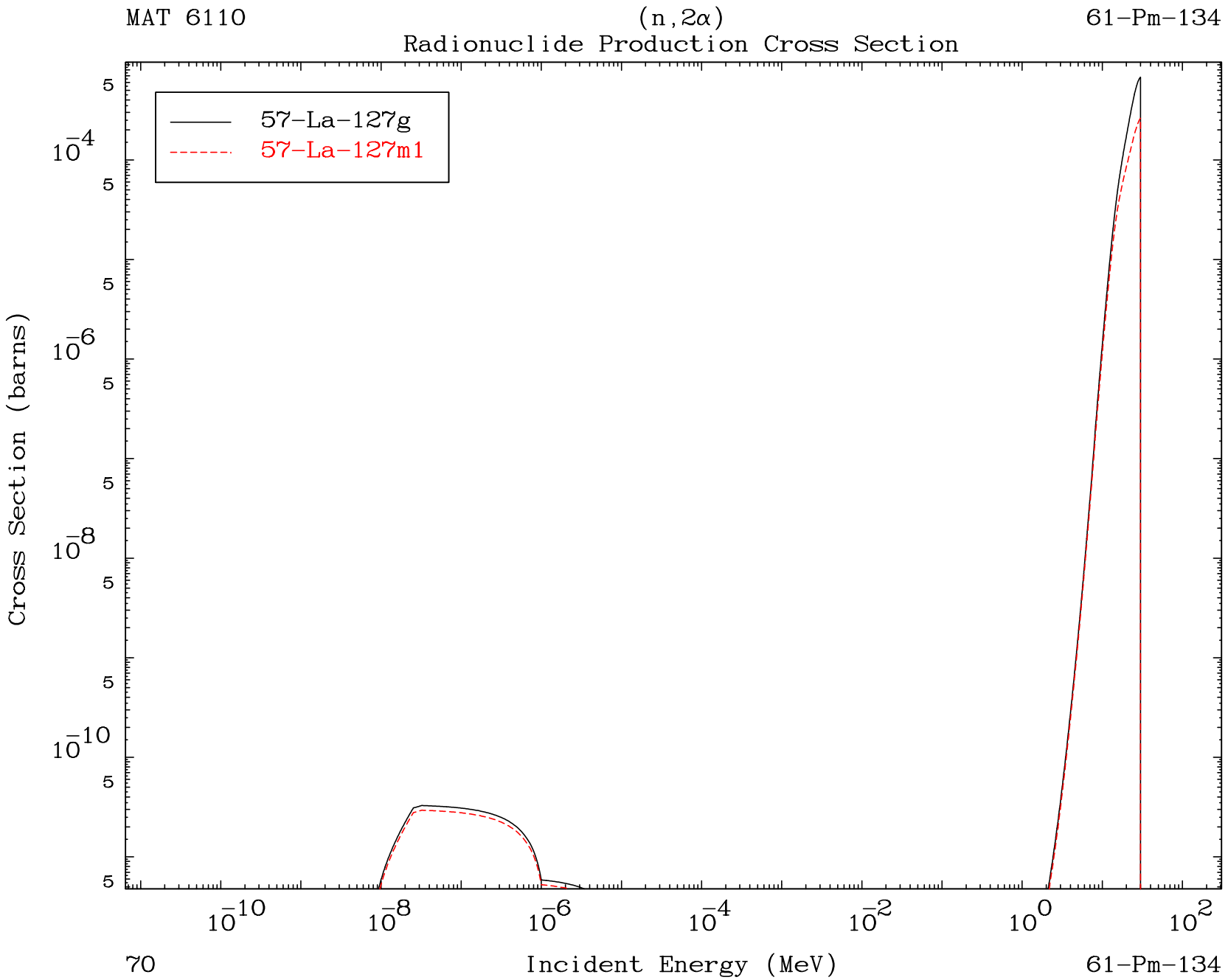

MAT 6110
(n,2n) 2α
61-Pm-134
Radionuclide Production Cross Section
57-La-125g
57-La-125m1
Cross Section (barns)
10-8
10-10
10-12
10-14
5
6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 2 2
65
Incident Energy (MeV)
61-Pm-134

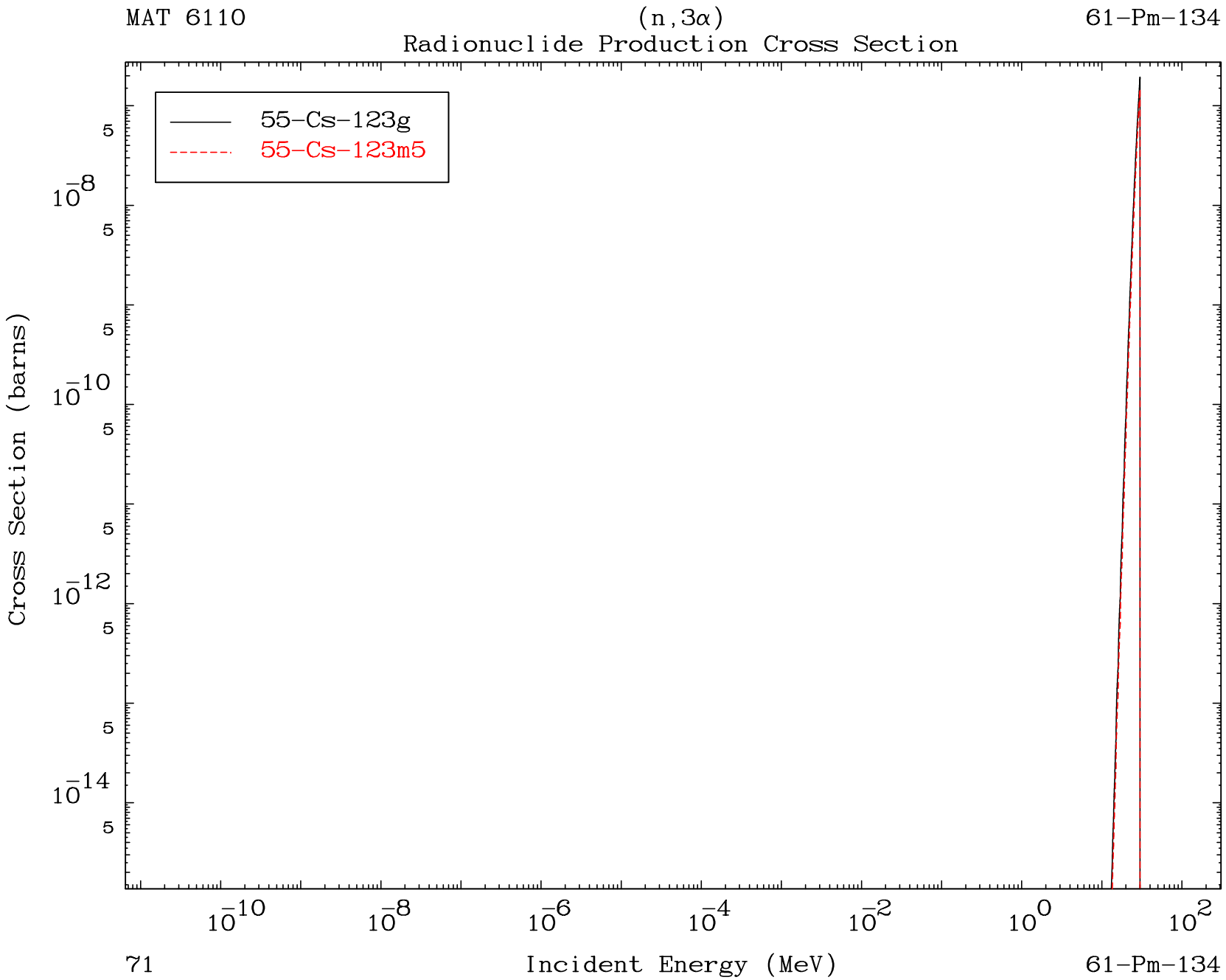

MAT 6110
(n,n') He-3
61-Pm-134
Radionuclide Production Cross Section
59-Pr-131g
59-Pr-131m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^1
10^2
Incident Energy (MeV)
66
61-Pm-134

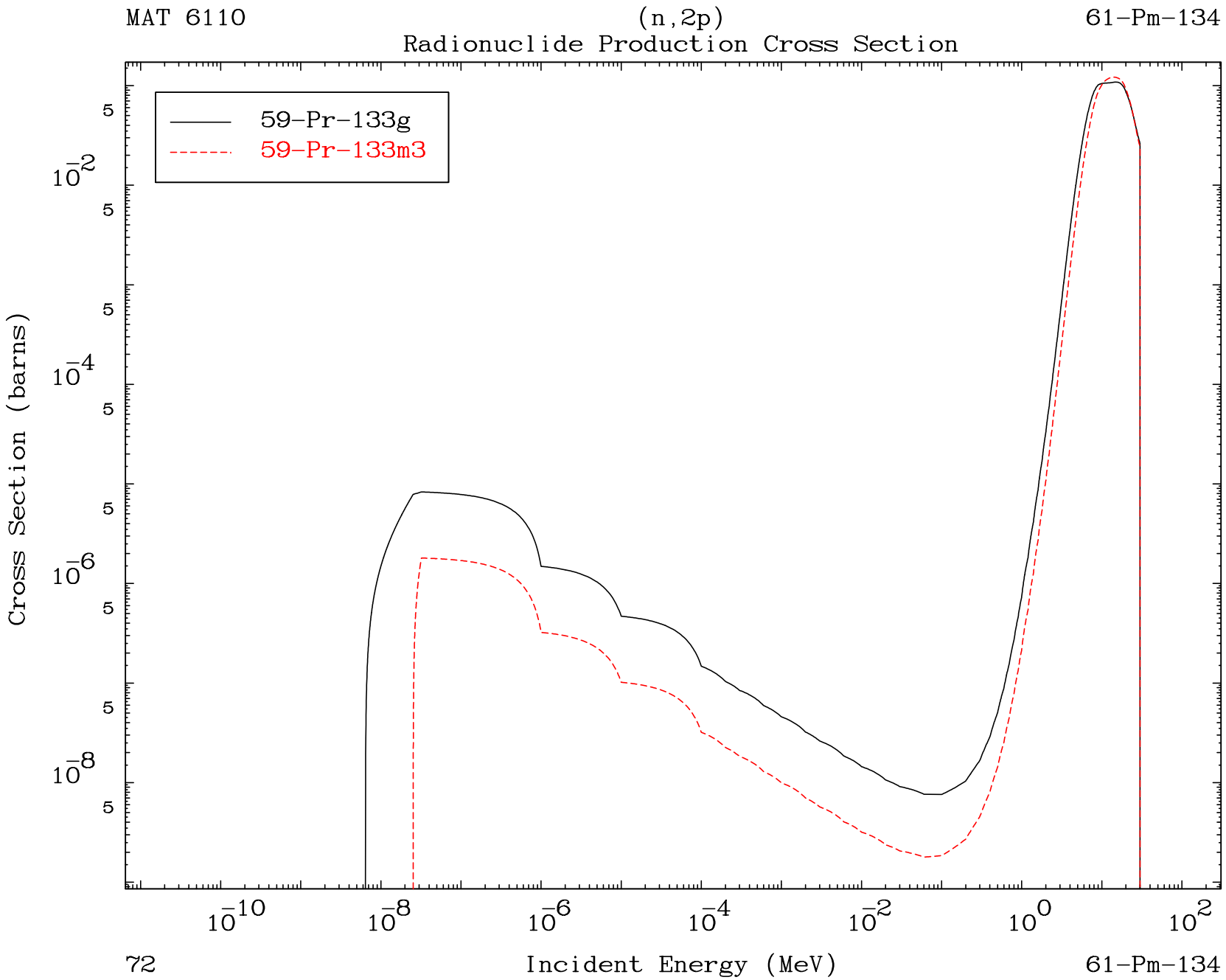

MAT 6110
(n,γ)
61-Pm-134
Radionuclide Production Cross Section
61-Pm-135g
61-Pm-135m1
Cross Section (barns)
Incident Energy (MeV)
67
61-Pm-134

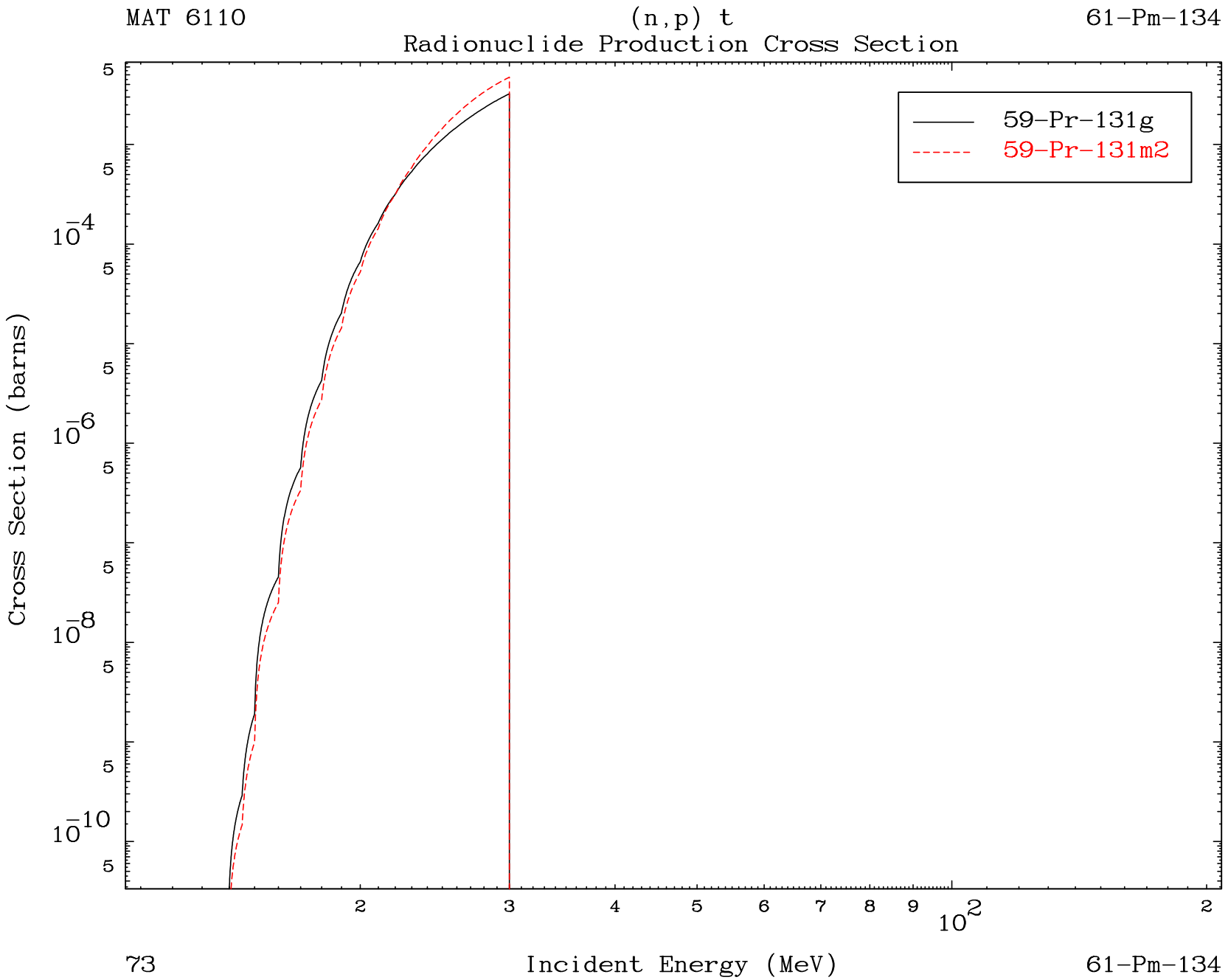

MAT 6110
(n,d)
61-Pm-134
Radionuclide Production Cross Section
60-Nd-133g
60-Nd-133m1
Cross Section (barns)
Incident Energy (MeV)
68
61-Pm-134


MAT 6110
(n,α)
61-Pm-134
Radionuclide Production Cross Section
59-Pr-131g
59-Pr-131m2
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
69
61-Pm-134


MAT 6110
(n,2α)
61-Pm-134
Radionuclide Production Cross Section
57-La-127g
57-La-127m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
70
Incident Energy (MeV)
61-Pm-134


MAT 6110
(n,3α)
61-Pm-134
Radionuclide Production Cross Section
55-Cs-123g
55-Cs-123m5
Cross Section (barns)
10-8
10-10
10-12
10-14
5
10-10
10-8
10-6
10-4
10-2
100
102
71
Incident Energy (MeV)
61-Pm-134


MAT 6110
(n,2p)
61-Pm-134
Radionuclide Production Cross Section
59-Pr-133g
59-Pr-133m3
Cross Section (barns)
Incident Energy (MeV)
72
61-Pm-134


MAT 6110
(n,p) t
61-Pm-134
Radionuclide Production Cross Section
59-Pr-131g
59-Pr-131m2
Cross Section (barns)
10-4
10-6
10-8
10-10
2
3
4
5
6
7
8
9
10 2
2
73
Incident Energy (MeV)
61-Pm-134