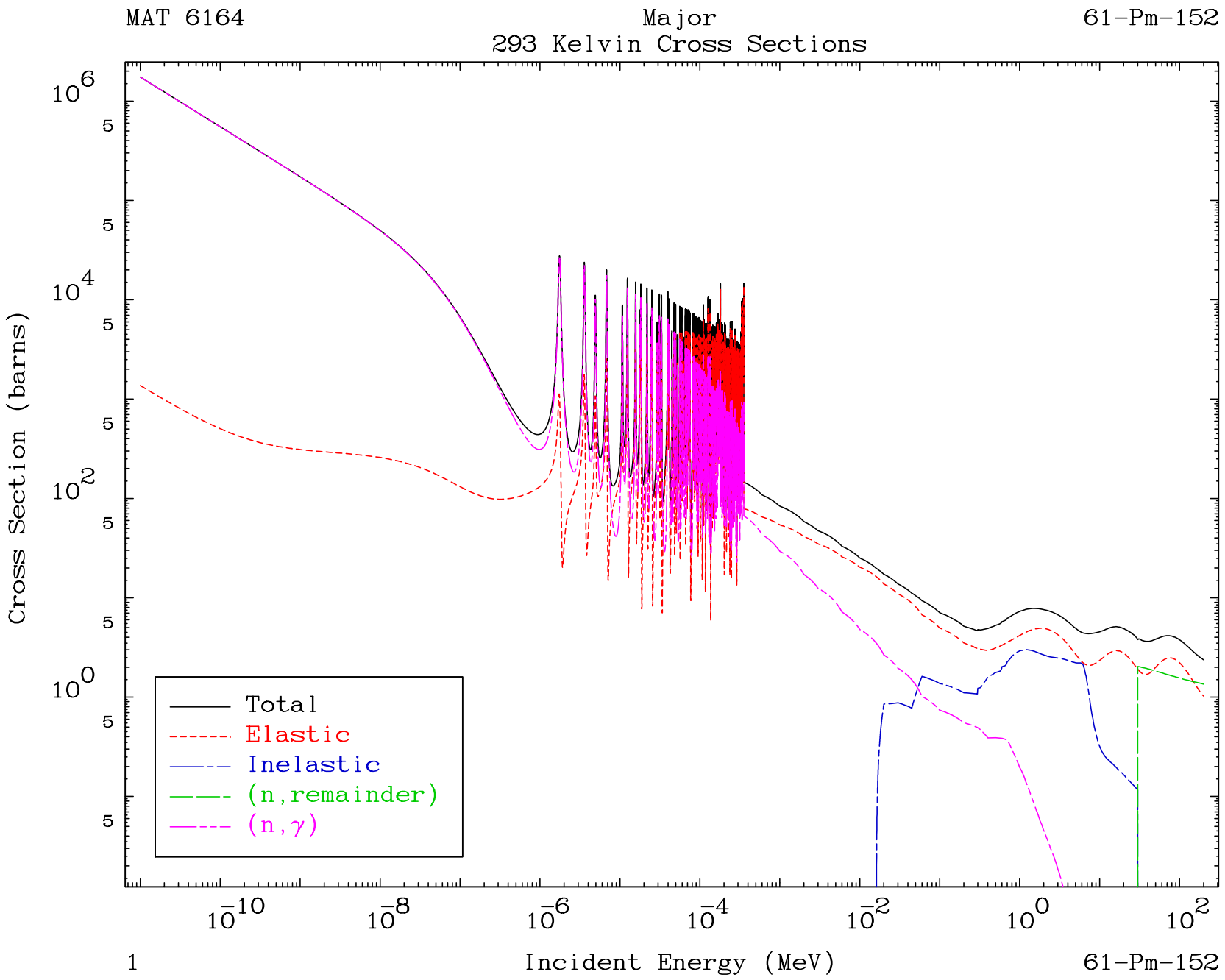
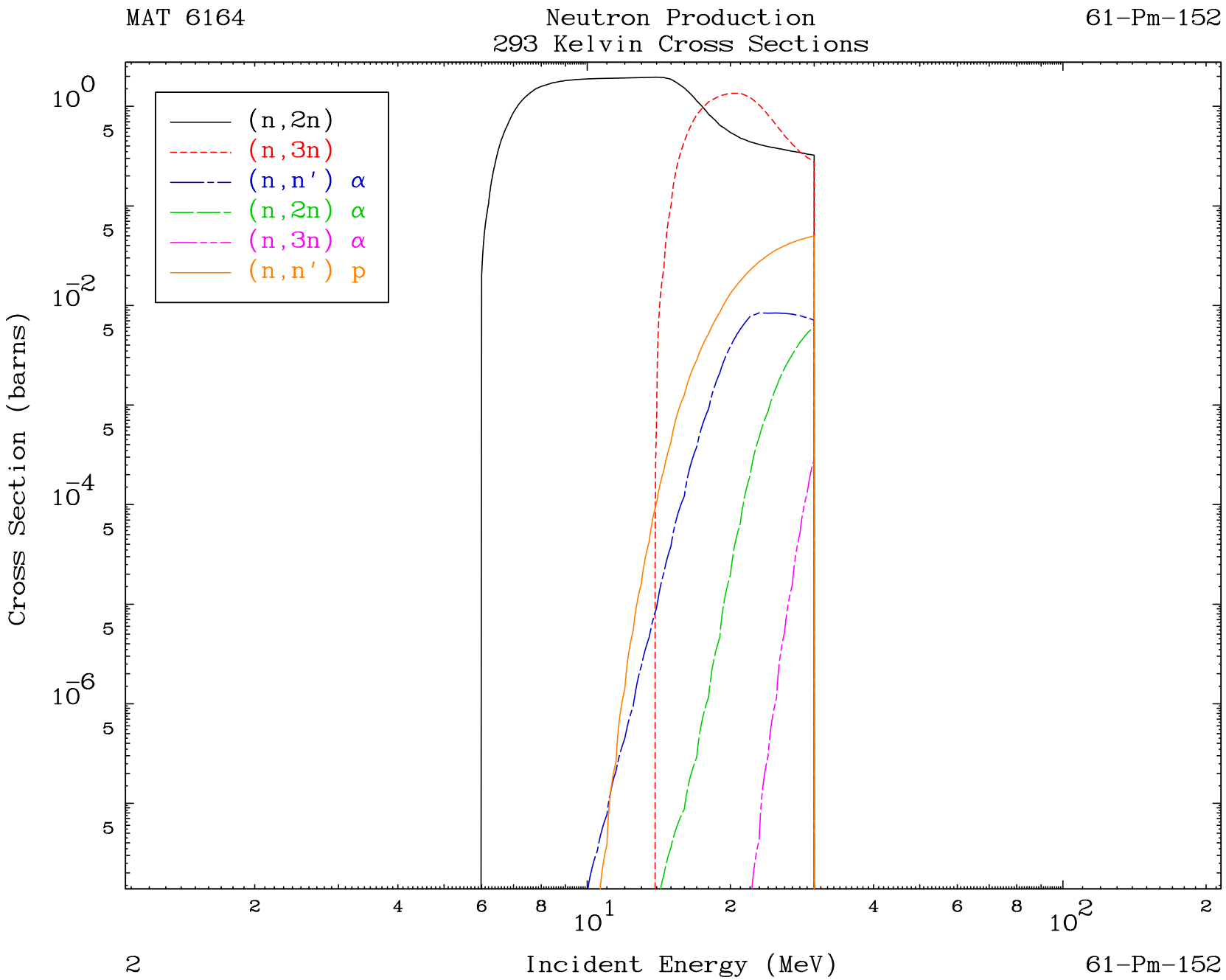
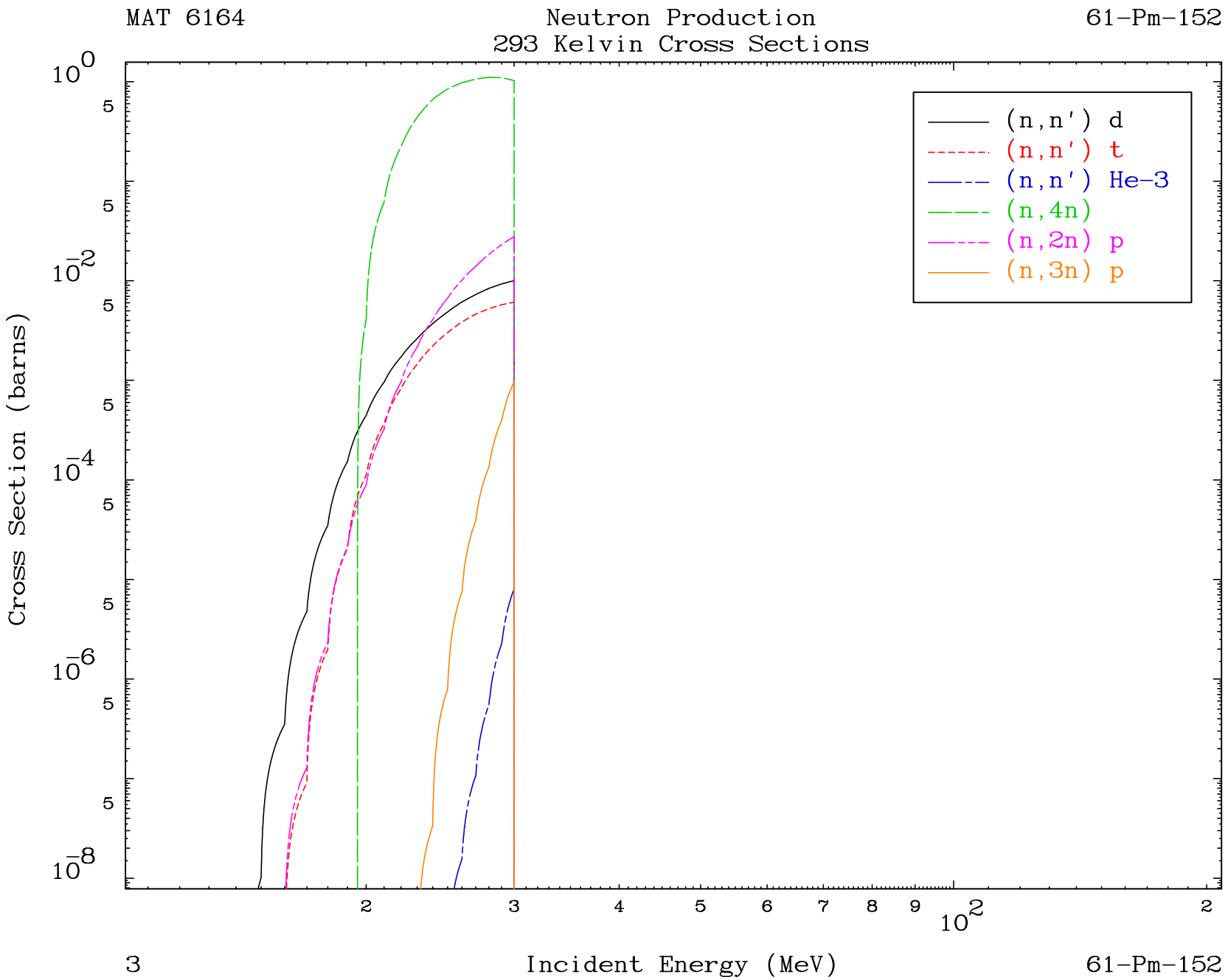
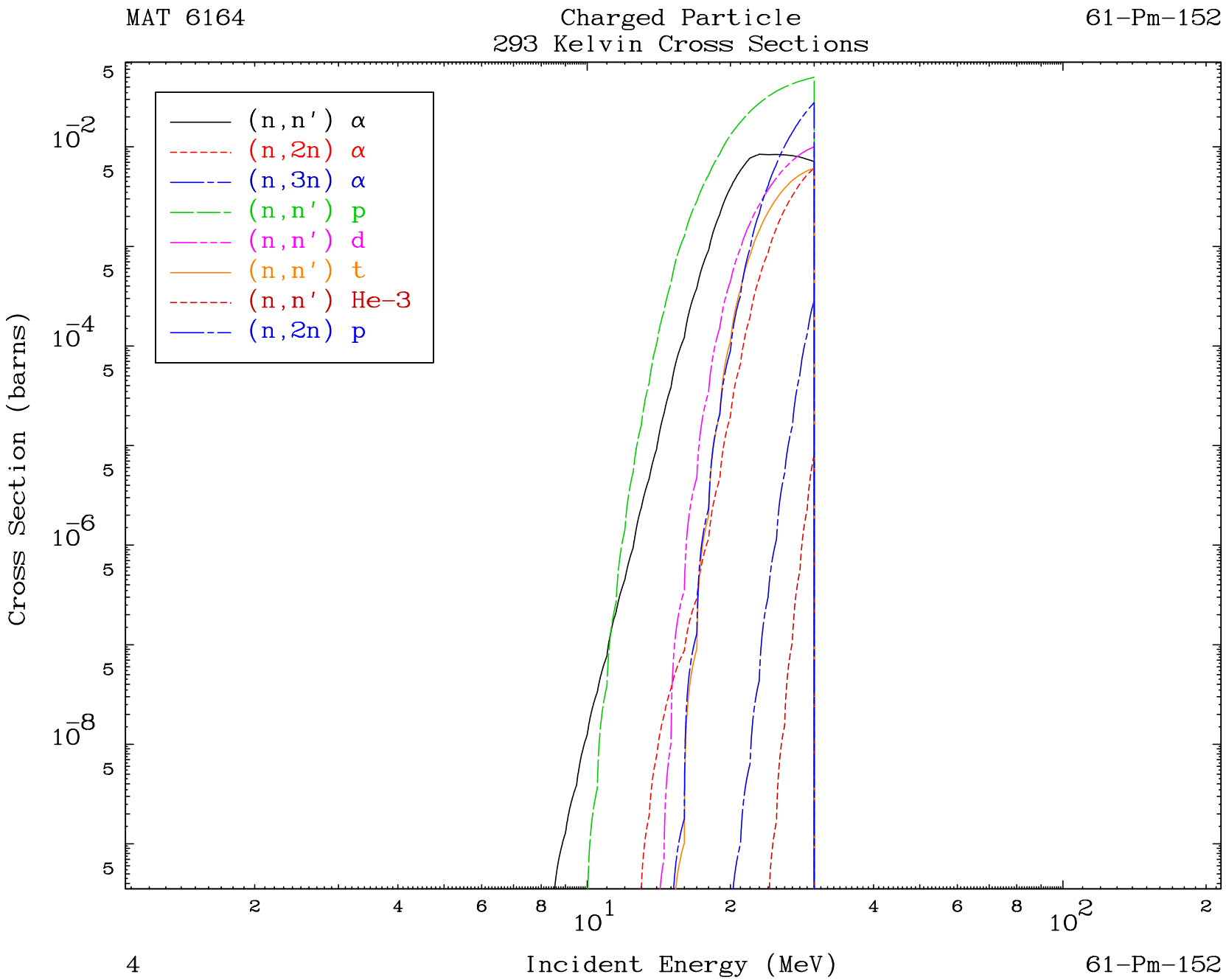
Program EVALPLOT
(Version 2015-2)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:home.comcast.net/~redcullen1

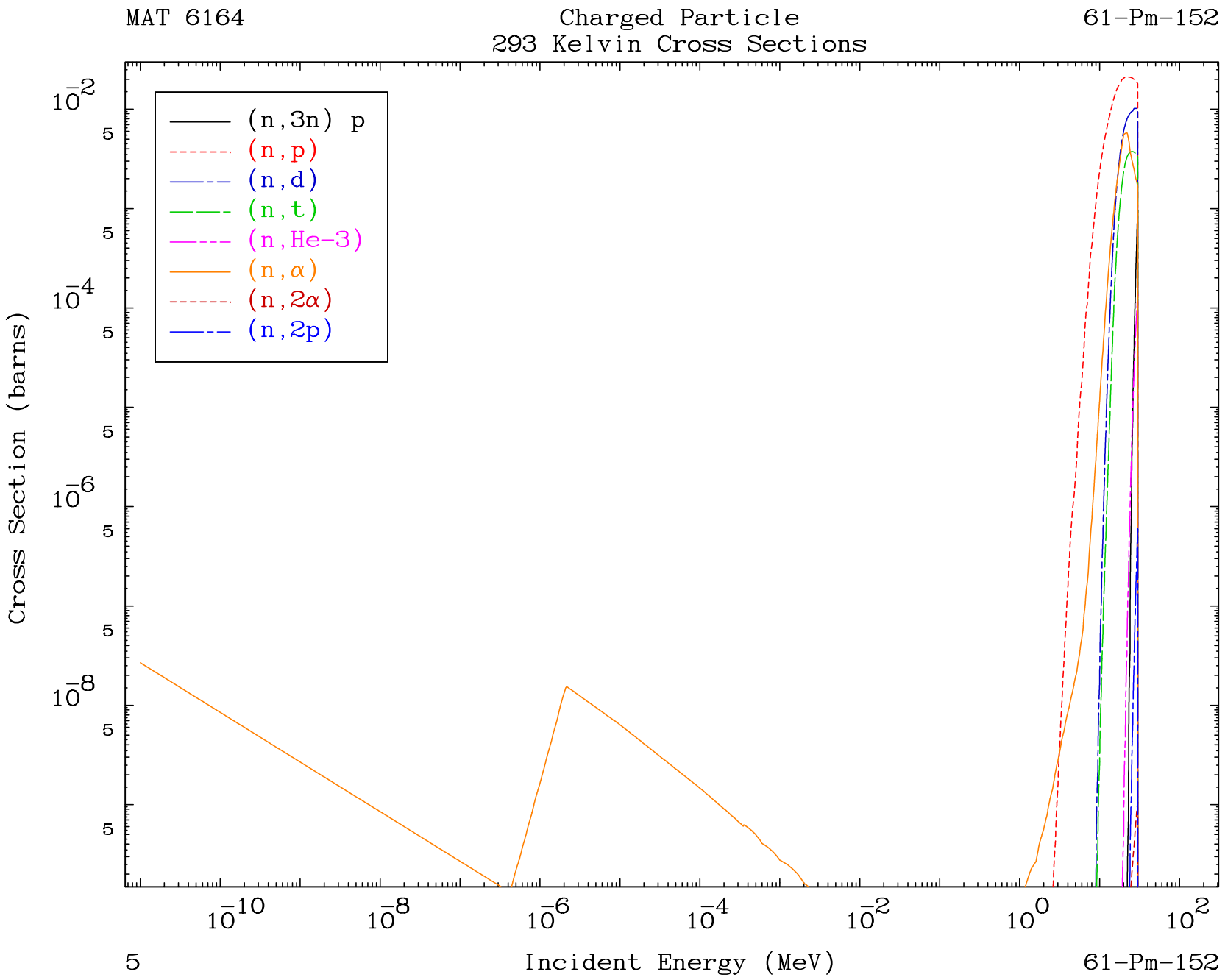
Press Mouse Button to Start

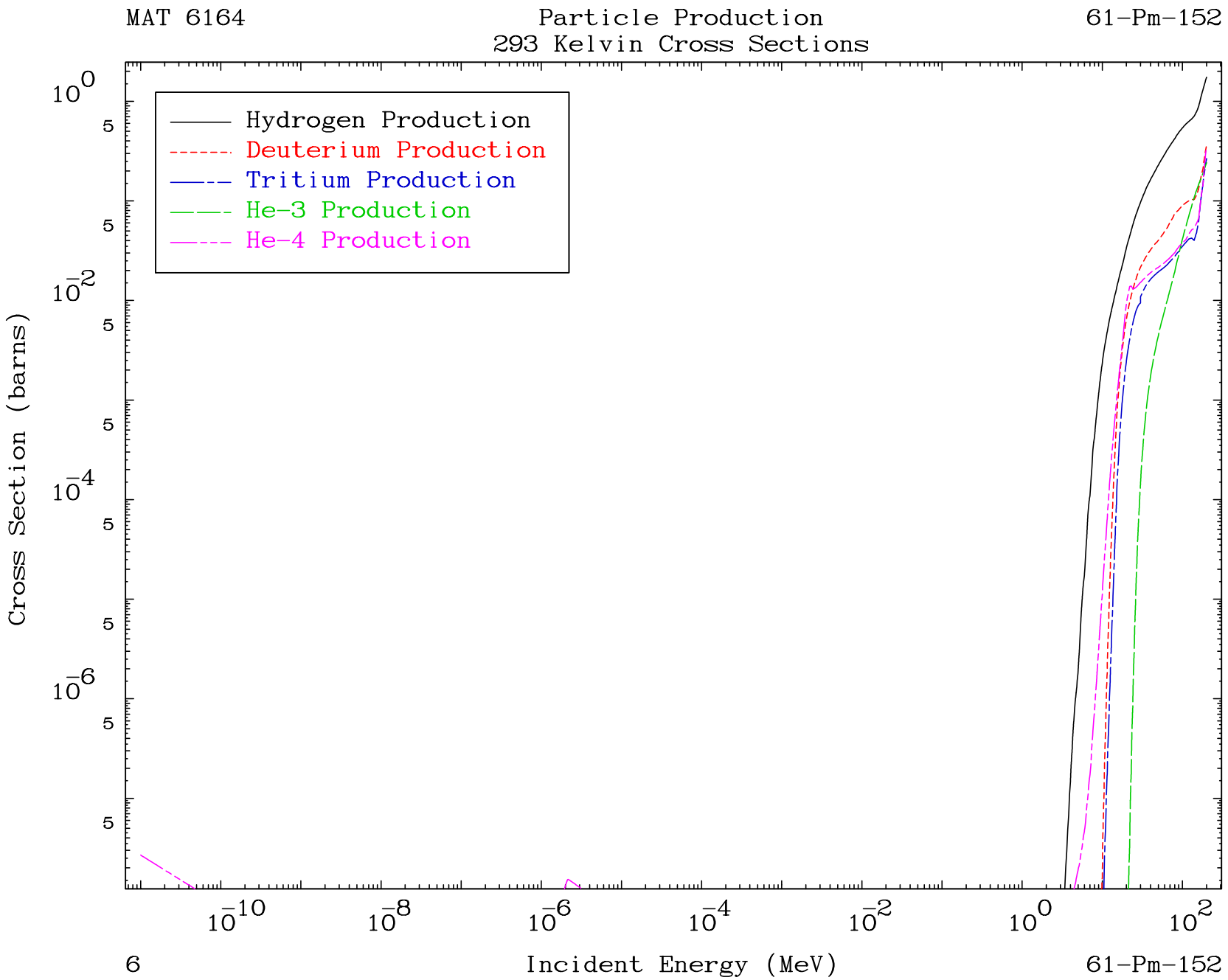

MAT 6164
Major
61-Pm-152
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
61-Pm-152

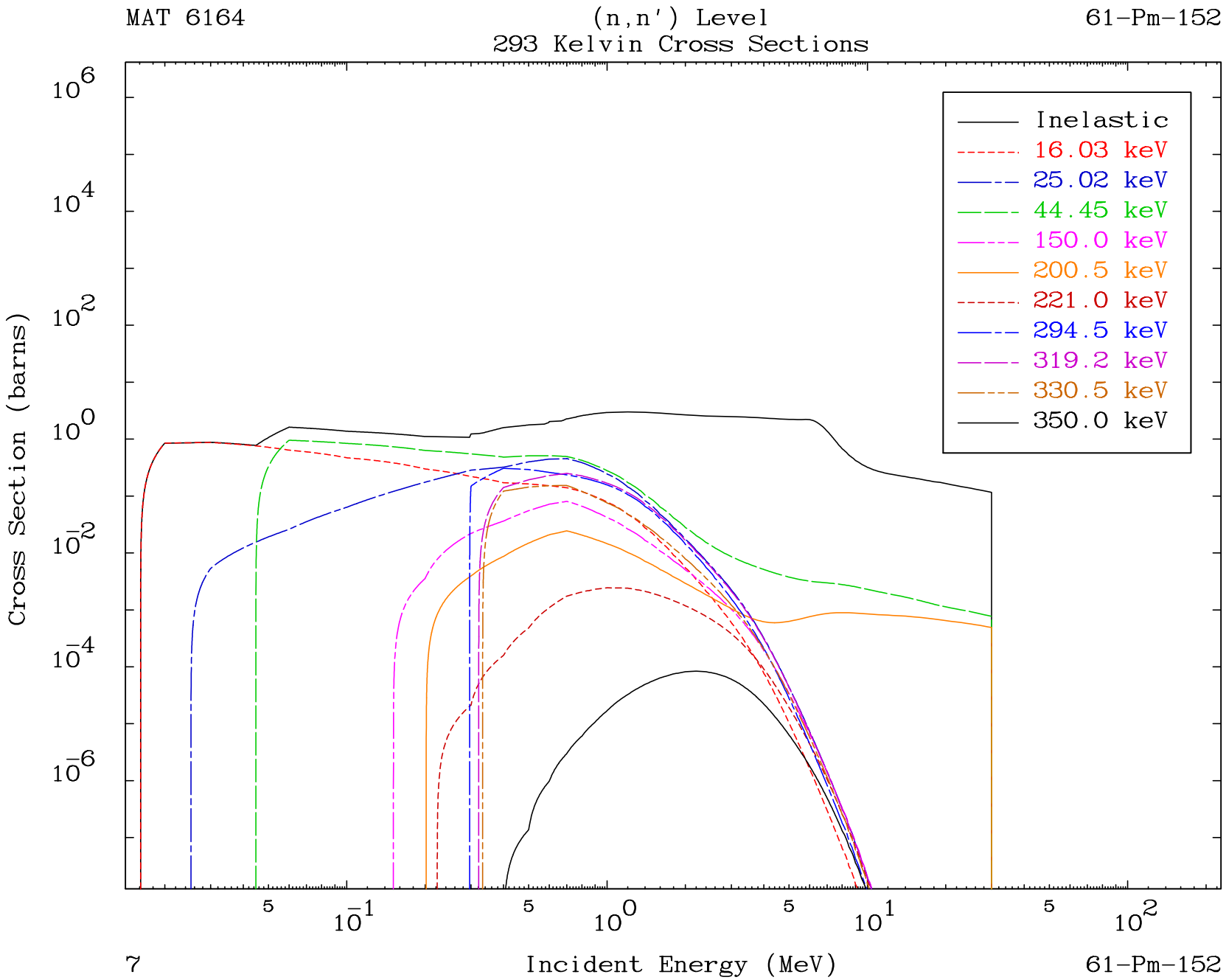

MAT 6164
Neutron Production
293 Kelvin Cross Sections
61-Pm-152
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
Cross Section (barns)
Incident Energy (MeV)
61-Pm-152
2

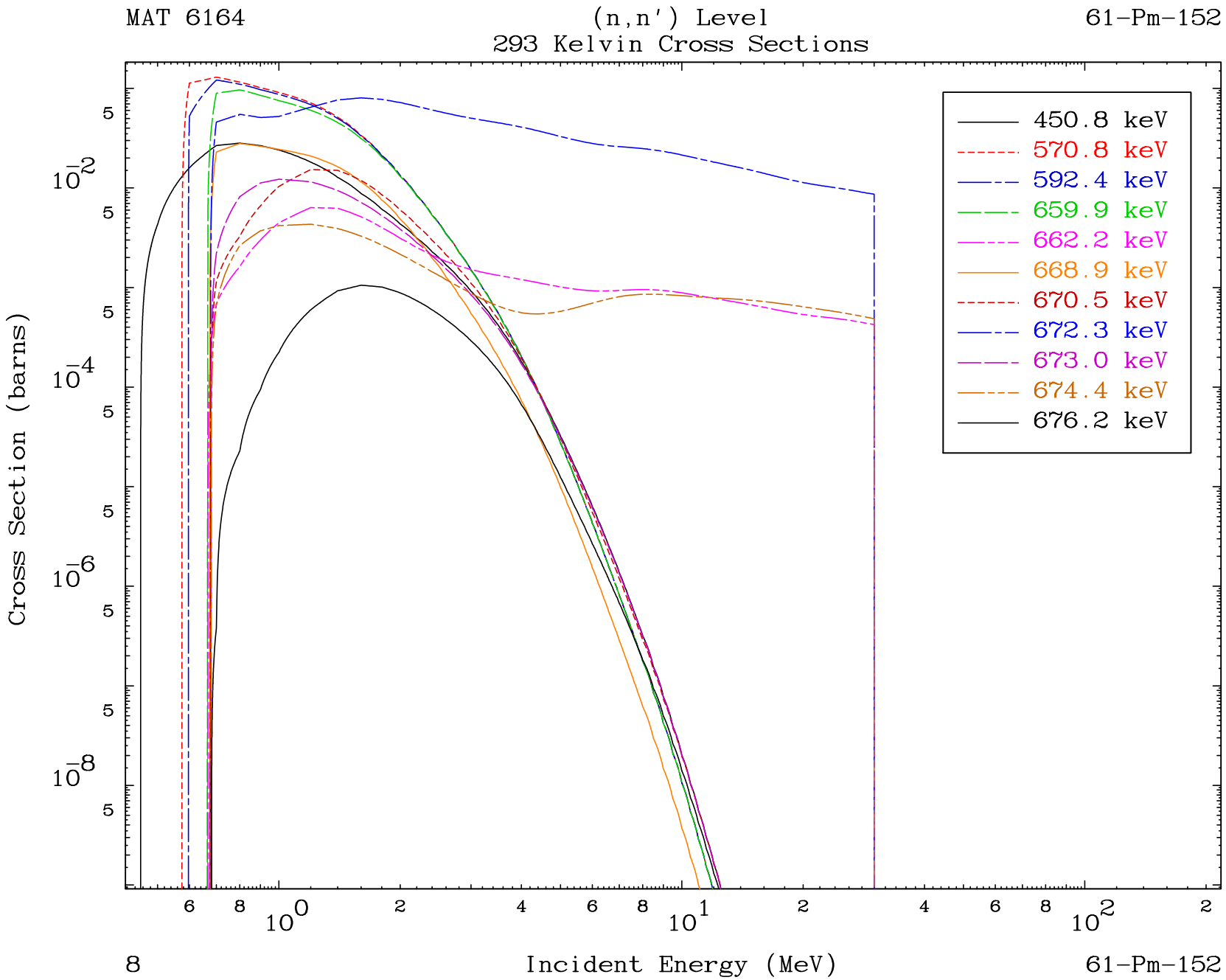

MAT 6164
Neutron Production
293 Kelvin Cross Sections
61-Pm-152
Cross Section (barns)
Incident Energy (MeV)
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
3
61-Pm-152


MAT 6164
Charged Particle
61-Pm-152
293 Kelvin Cross Sections
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
Cross Section (barns)
Incident Energy (MeV)
4
61-Pm-152

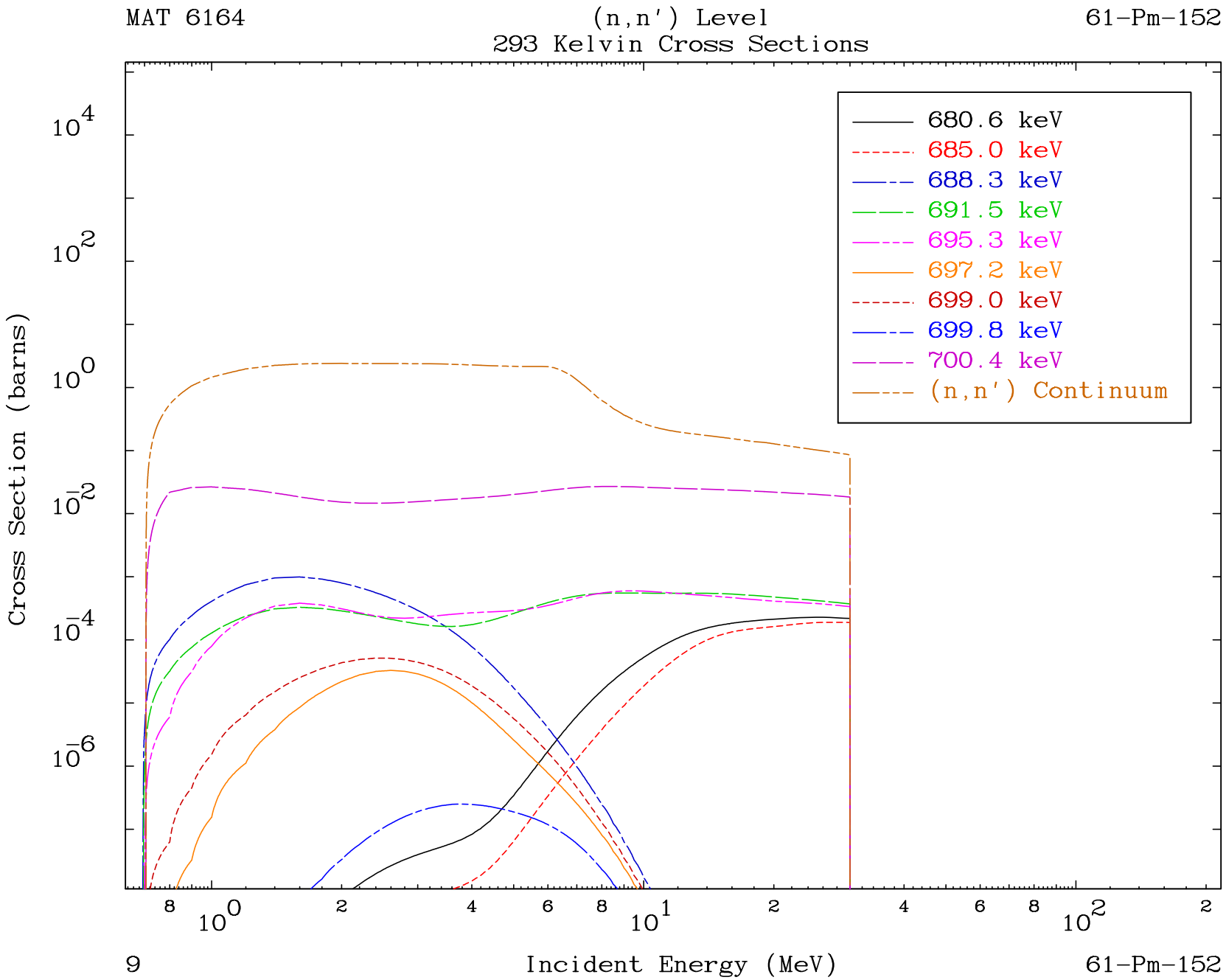

MAT 6164
Charged Particle
61-Pm-152
293 Kelvin Cross Sections
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
Cross Section (barns)
Incident Energy (MeV)
61-Pm-152

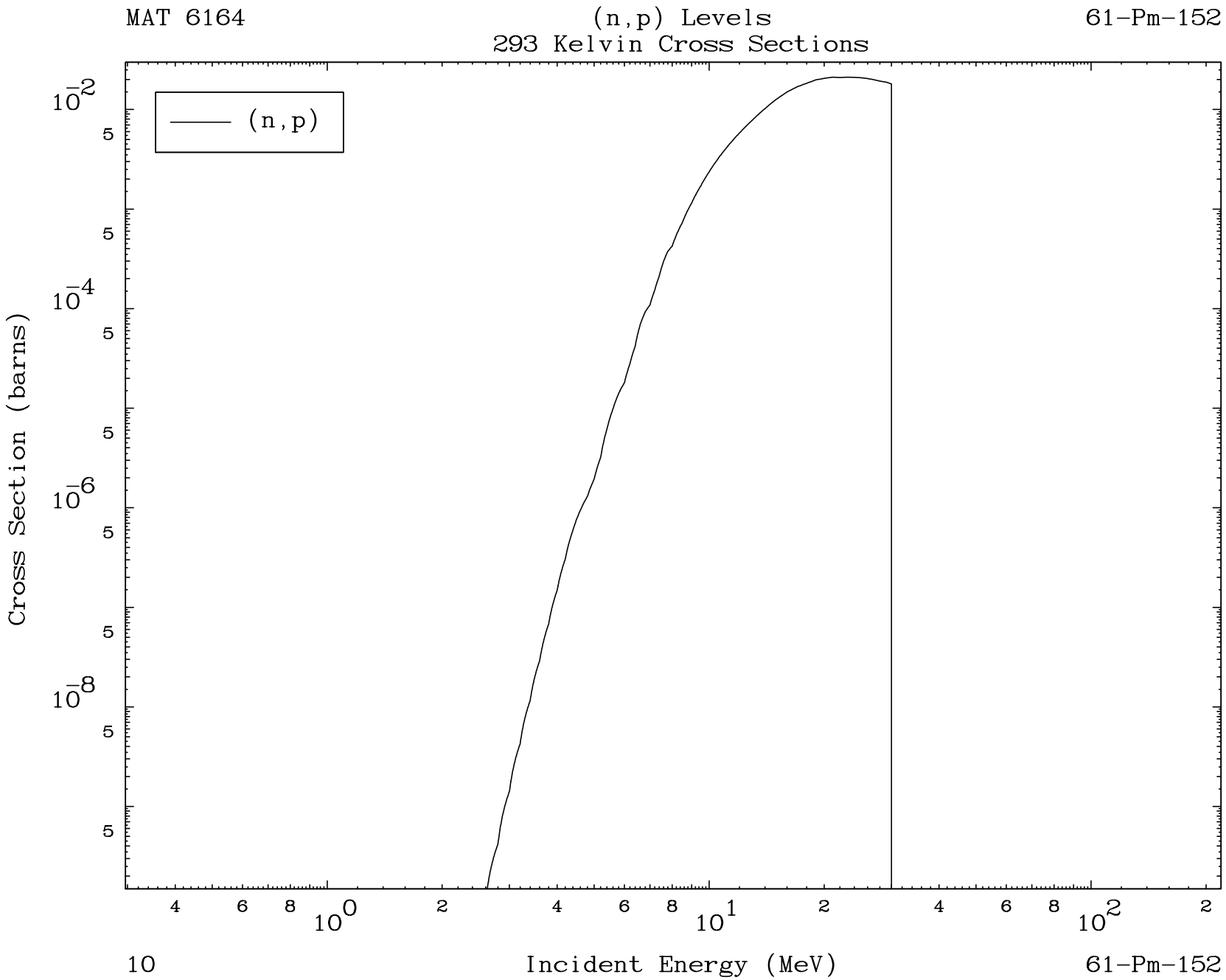

MAT 6164
Particle Production
61-Pm-152
293 Kelvin Cross Sections
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
6
61-Pm-152

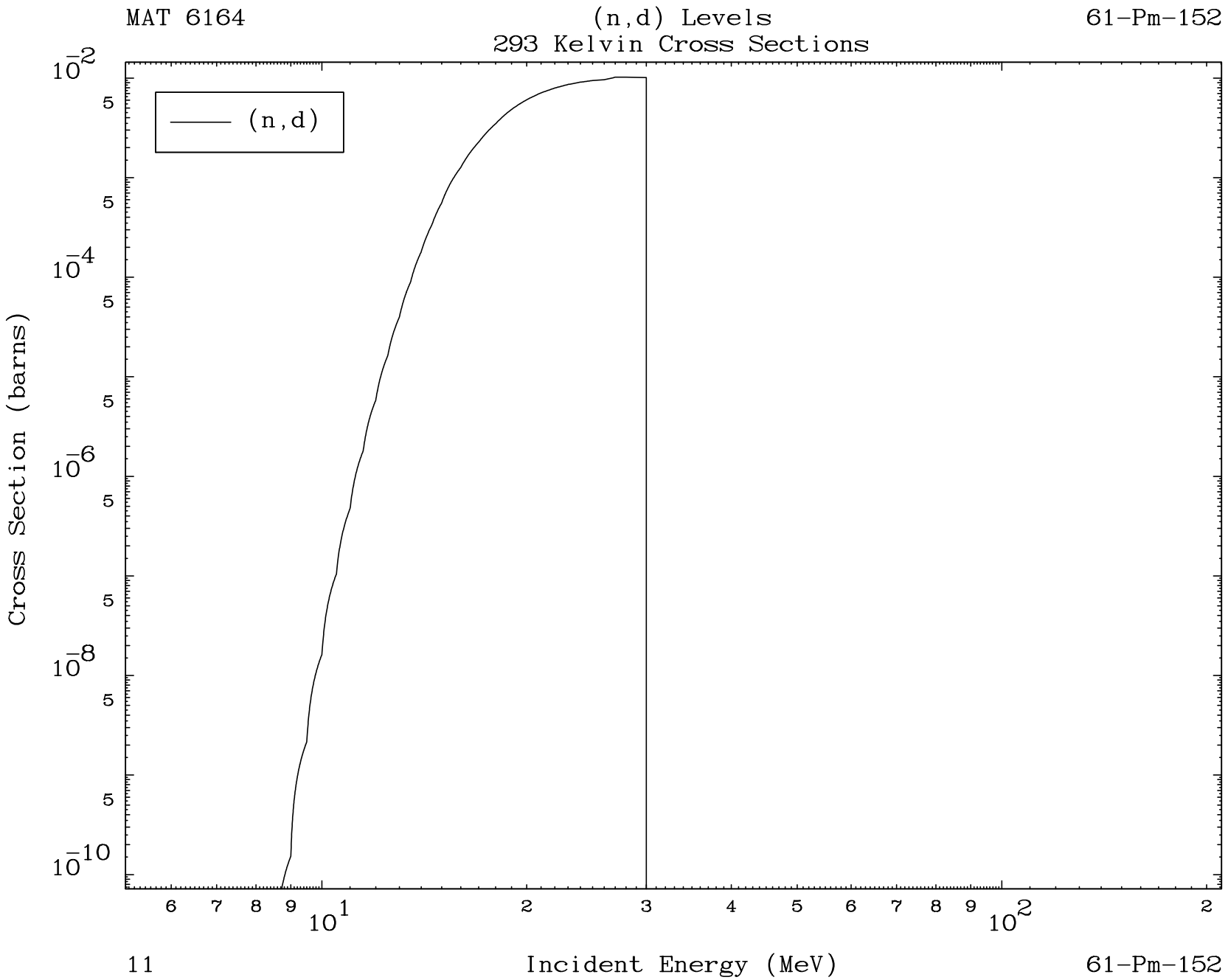

MAT 6164
(n,n') Level
293 Kelvin Cross Sections
61-Pm-152
Cross Section (barns)
Incident Energy (MeV)
Inelastic
16.03 keV
25.02 keV
44.45 keV
150.0 keV
200.5 keV
221.0 keV
294.5 keV
319.2 keV
330.5 keV
350.0 keV
7
61-Pm-152

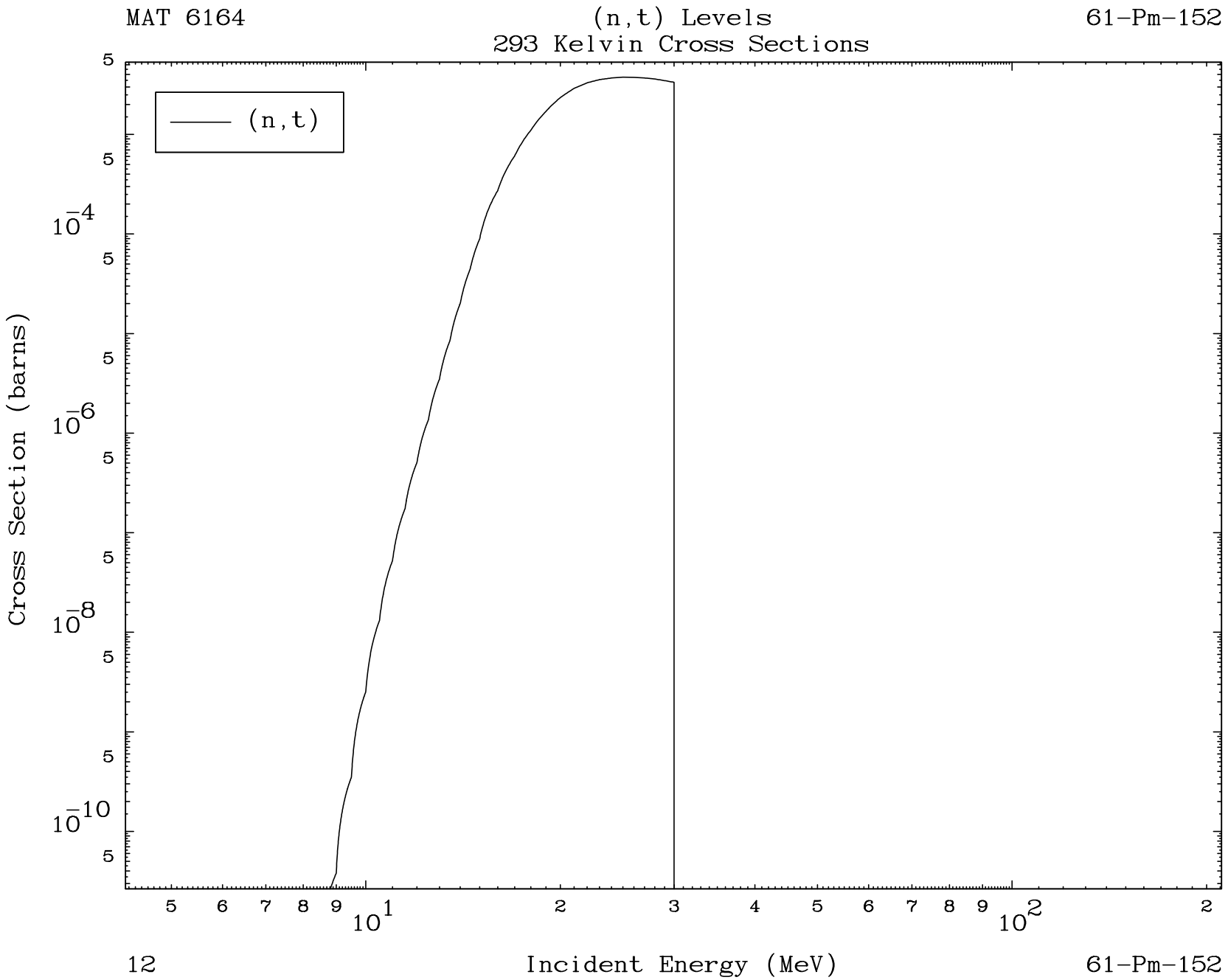

MAT 6164
(n,n') Level
293 Kelvin Cross Sections
61-Pm-152
Cross Section (barns)
Incident Energy (MeV)
450.8 keV
570.8 keV
592.4 keV
659.9 keV
662.2 keV
668.9 keV
670.5 keV
672.3 keV
673.0 keV
674.4 keV
676.2 keV

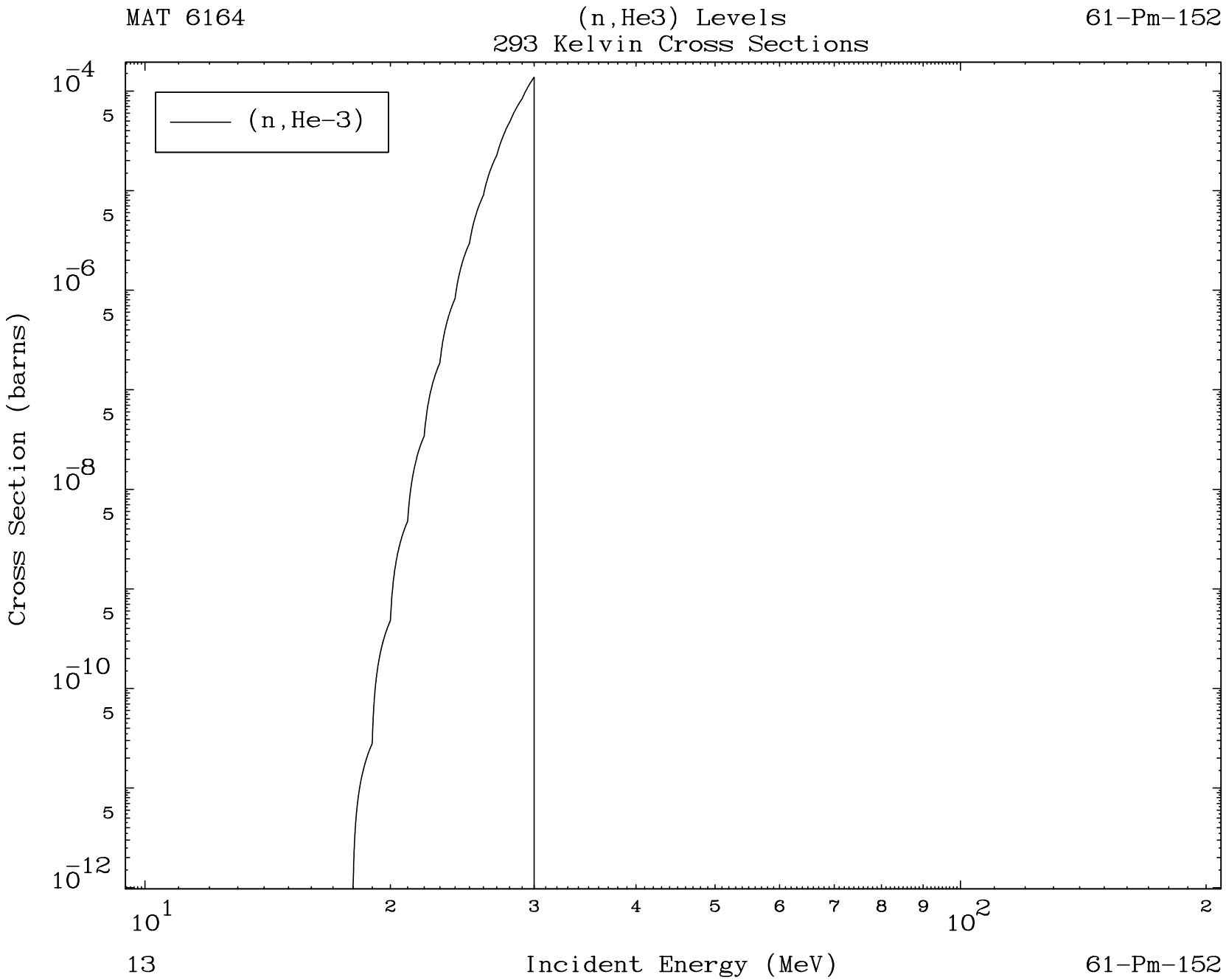
61-Pm-152

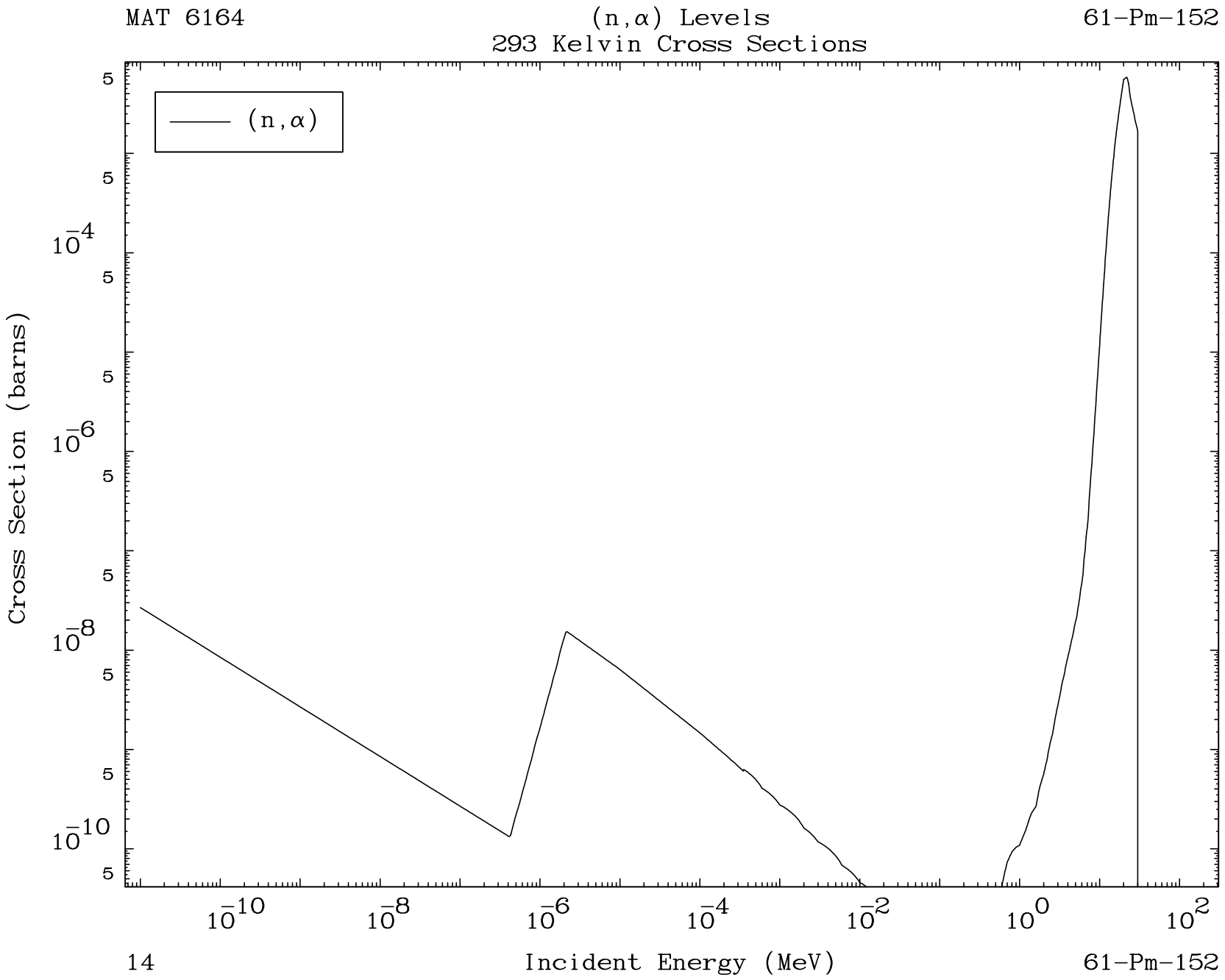

MAT 6164
(n,n') Level
293 Kelvin Cross Sections
61-Pm-152
680.6 keV
685.0 keV
688.3 keV
691.5 keV
695.3 keV
697.2 keV
699.0 keV
699.8 keV
700.4 keV
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
9
61-Pm-152

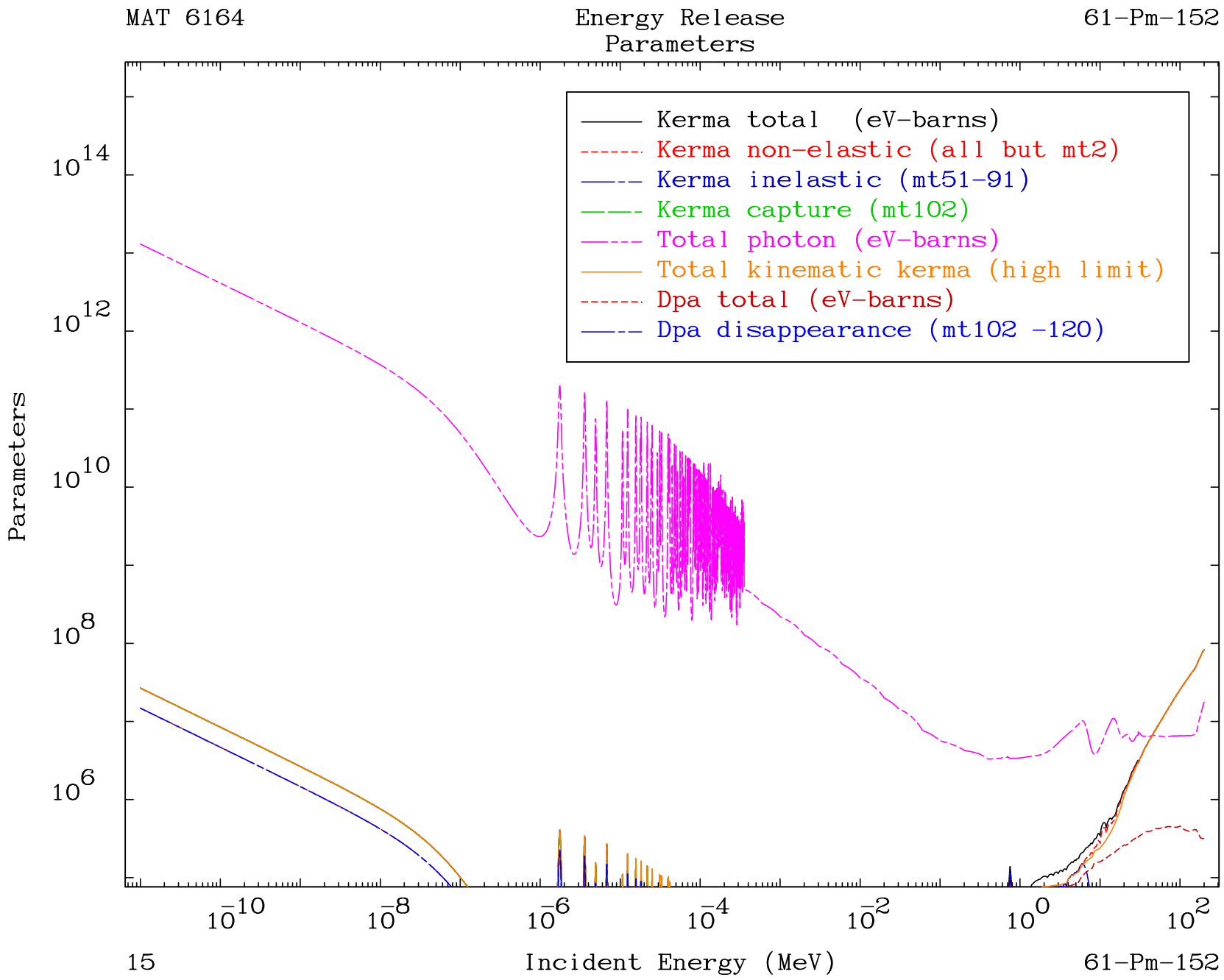

MAT 6164
(n,p) Levels
61-Pm-152
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
61-Pm-152

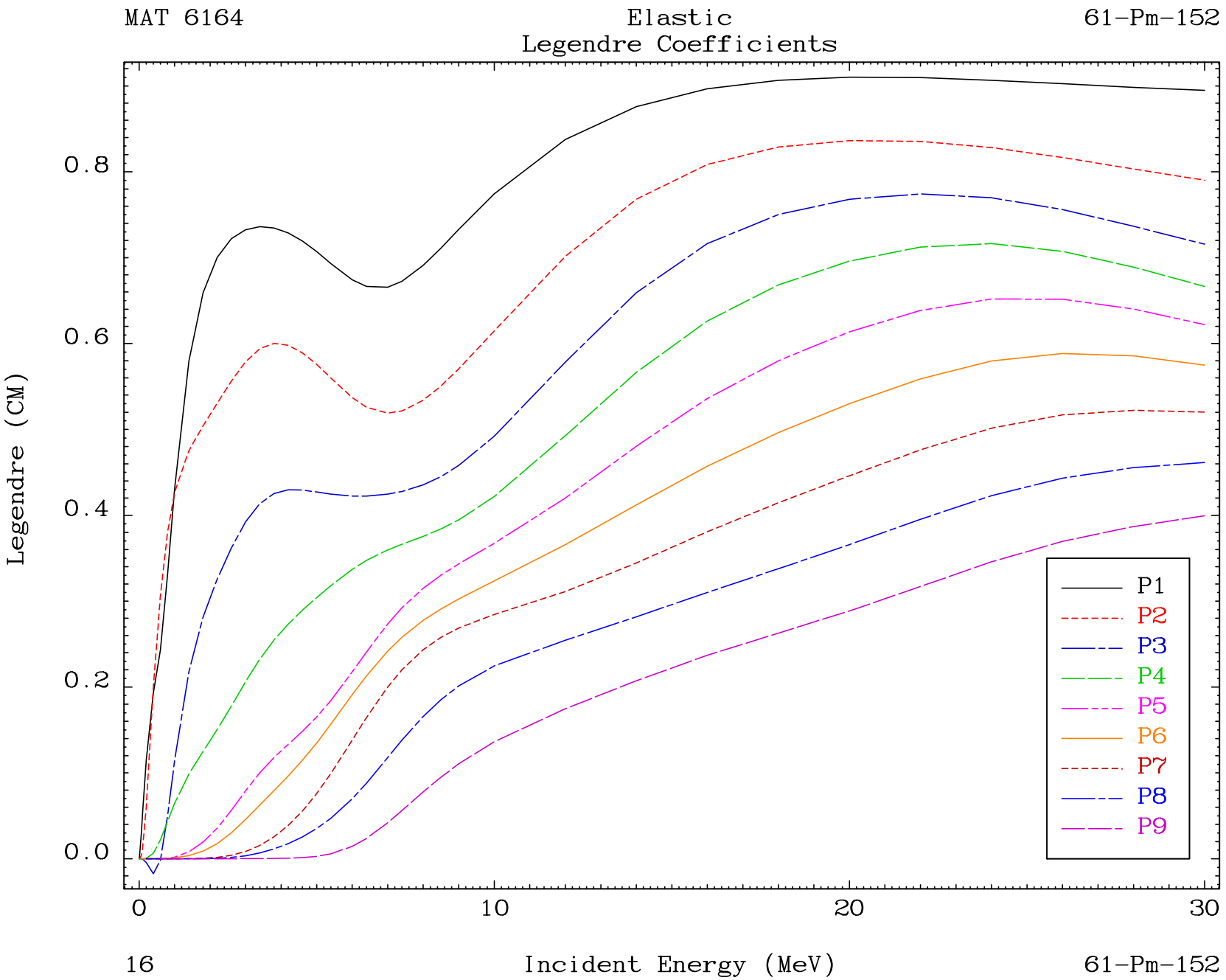

MAT 6164
(n,d) Levels
61-Pm-152
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
11
61-Pm-152

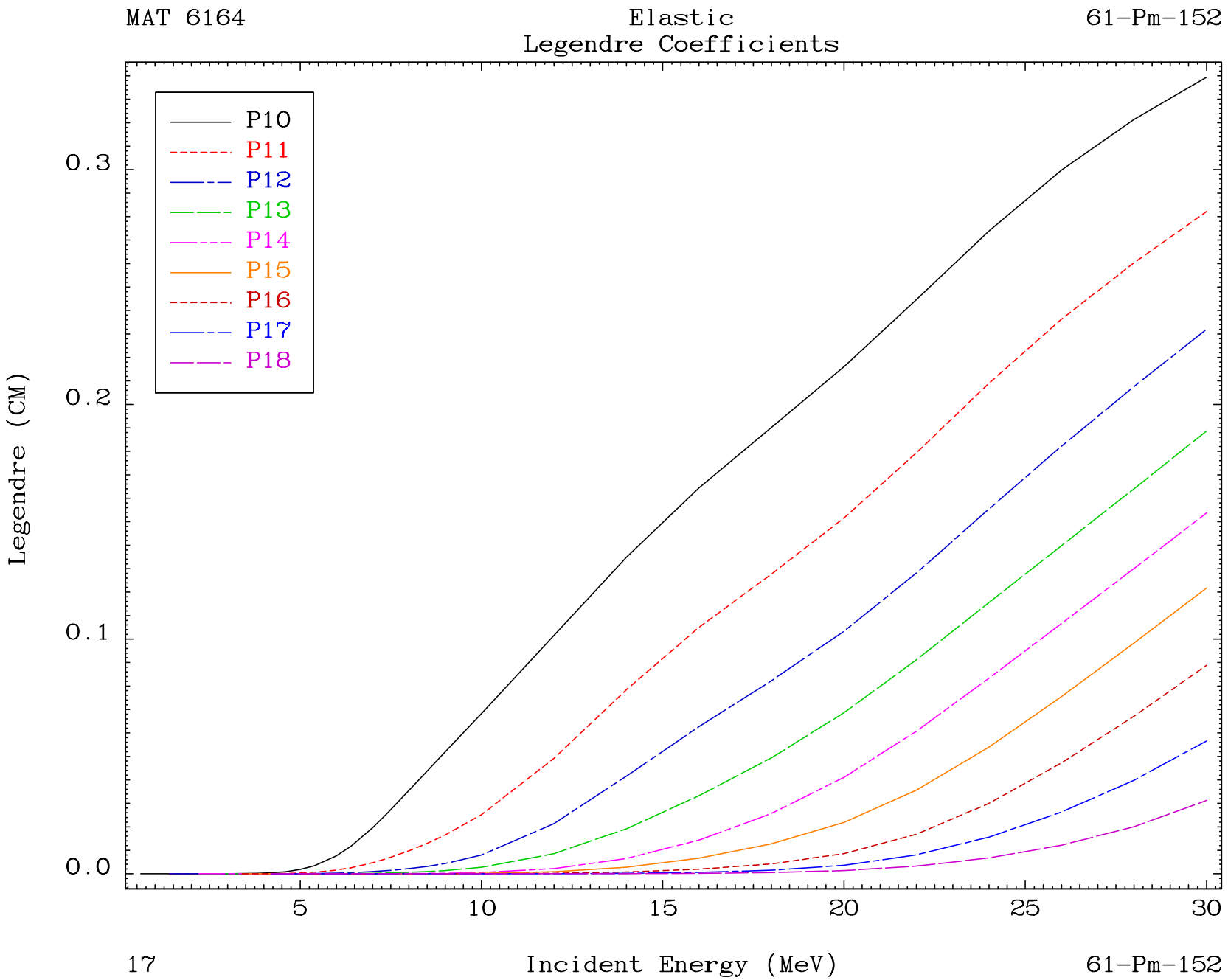

MAT 6164
(n,t) Levels
61-Pm-152
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
12
61-Pm-152

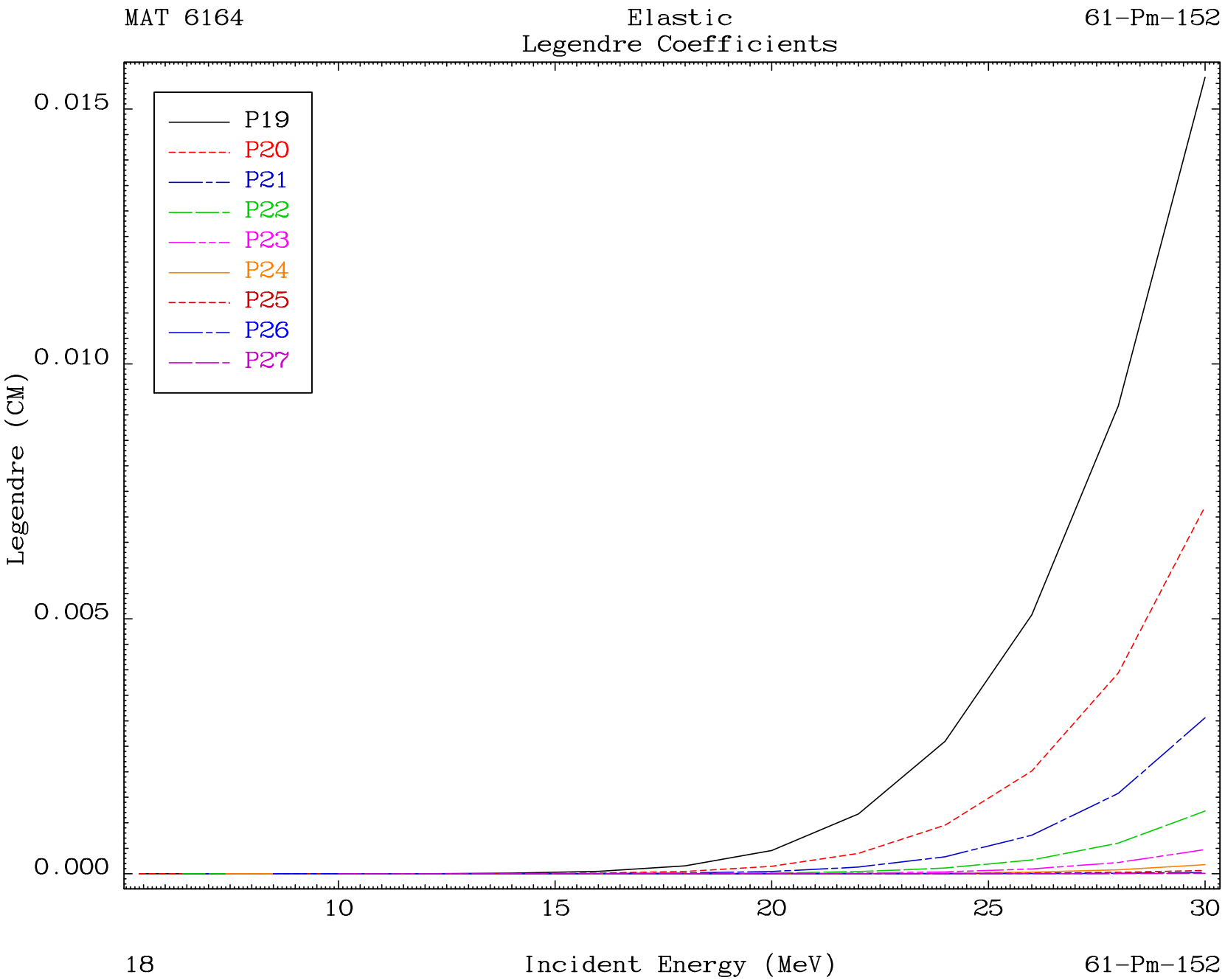

MAT 6164
(n,He3) Levels
61-Pm-152
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^-12
10^1
2
3
4
5
6
7
8
9
10^2
2
13
Incident Energy (MeV)
61-Pm-152

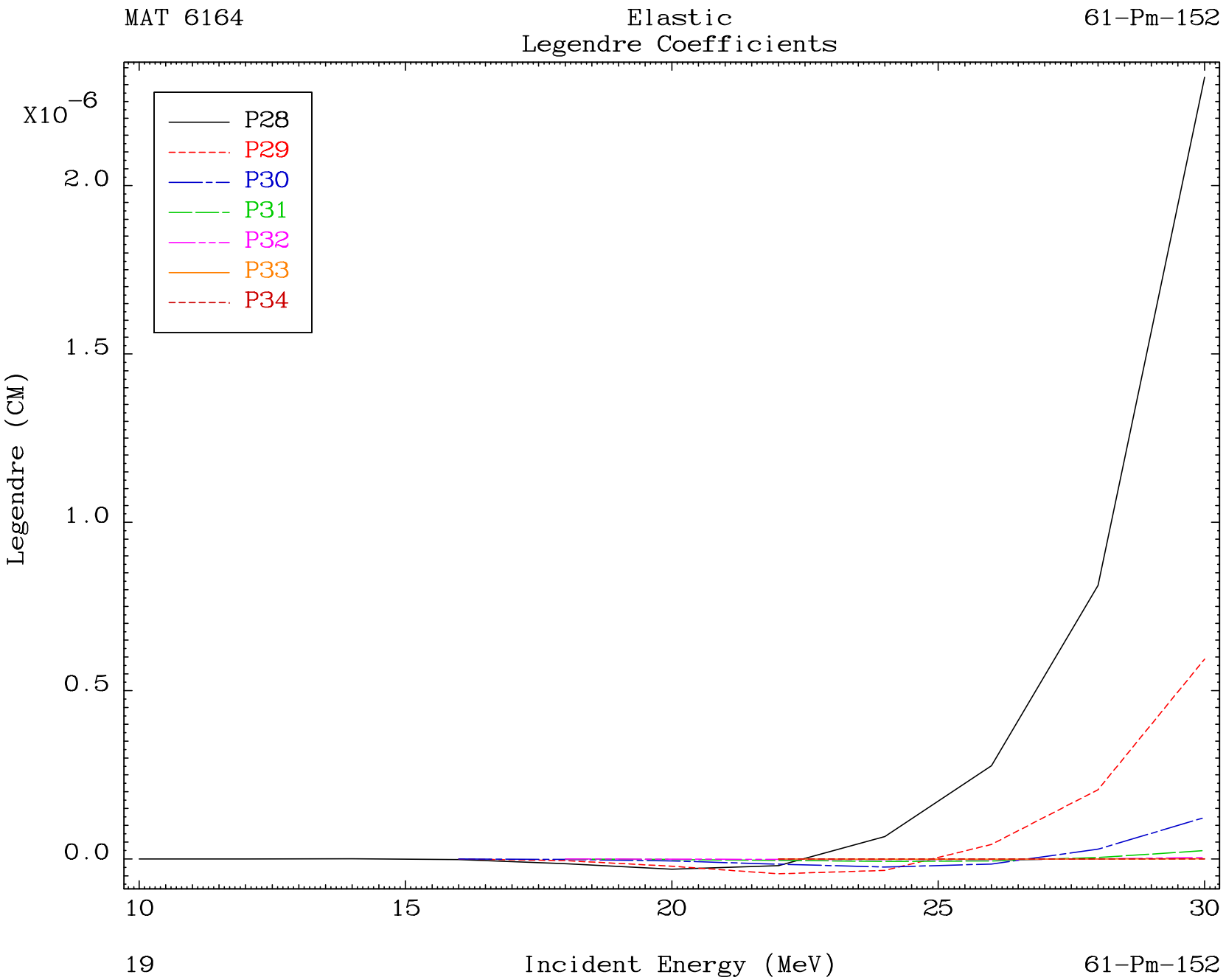

MAT 6164
(n,α) Levels
61-Pm-152
293 Kelvin Cross Sections
(n,α)
Cross Section (barns)
Incident Energy (MeV)
14
61-Pm-152

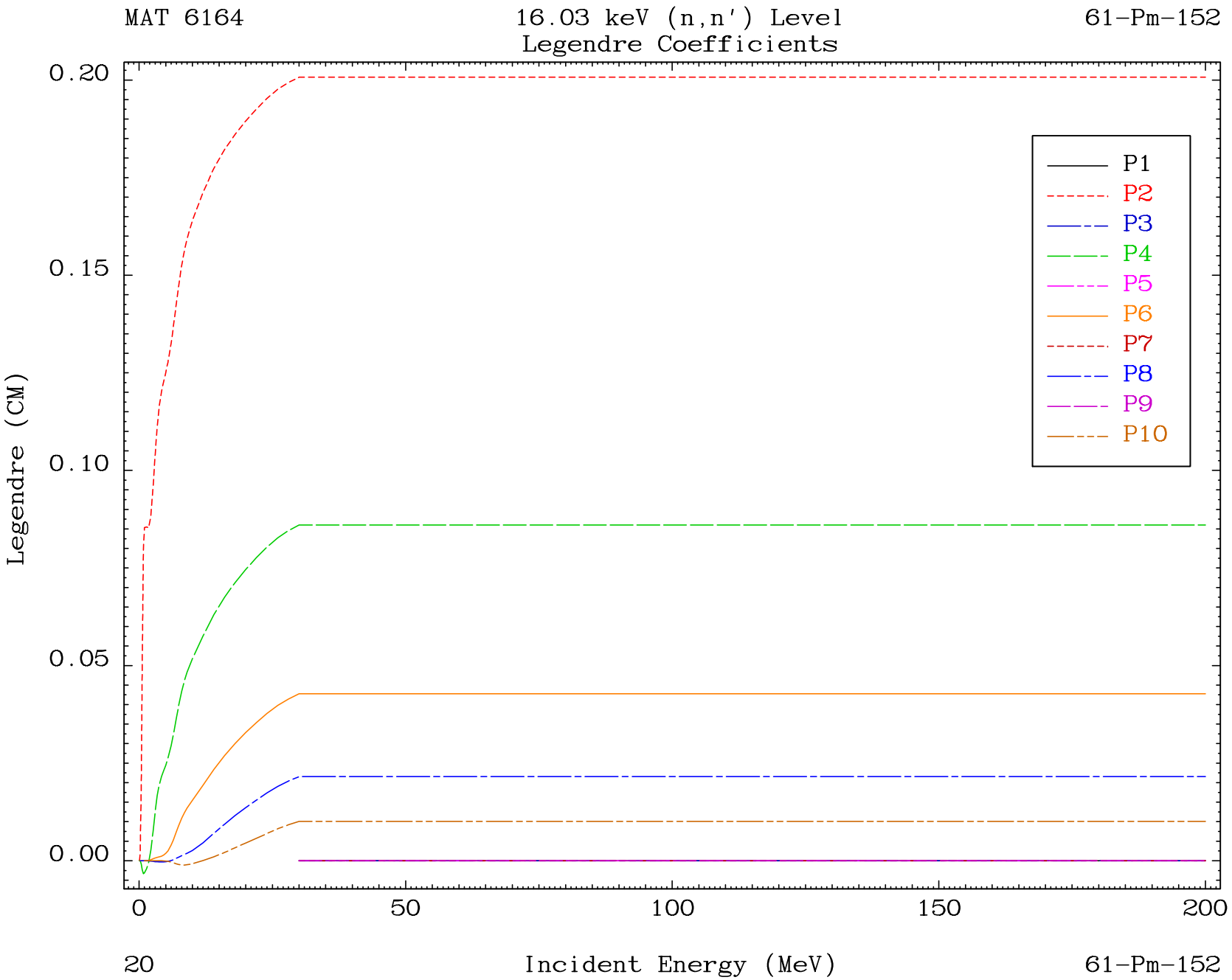

MAT 6164
Energy Release
Parameters
61-Pm-152
Kerma total (eV-barns)
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa disappearance (mt102 -120)
Parameters
10^{14}
10^{12}
10^{10}
10^{8}
10^{6}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
Incident Energy (MeV)
15
61-Pm-152

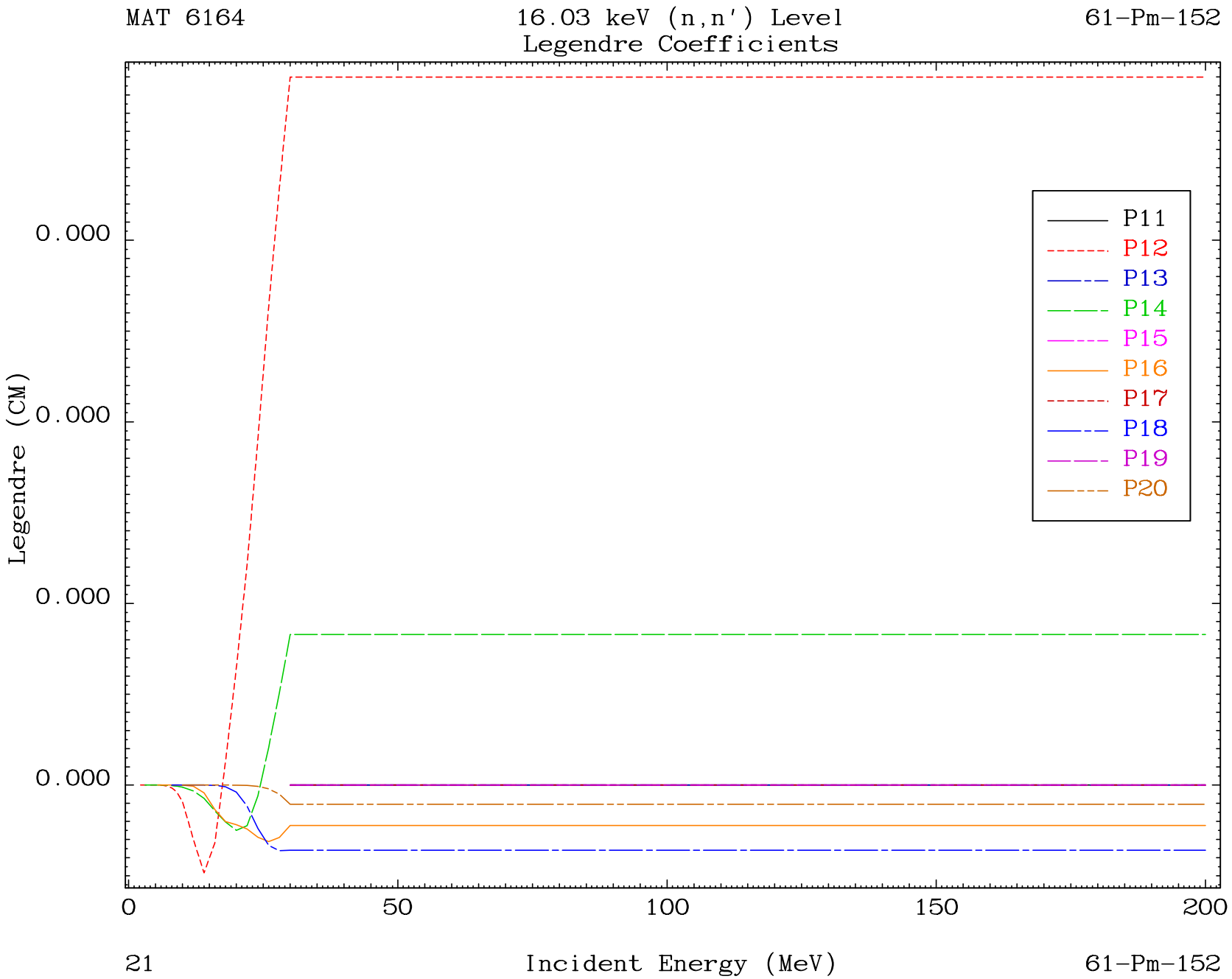

MAT 6164
Elastic
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
16
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

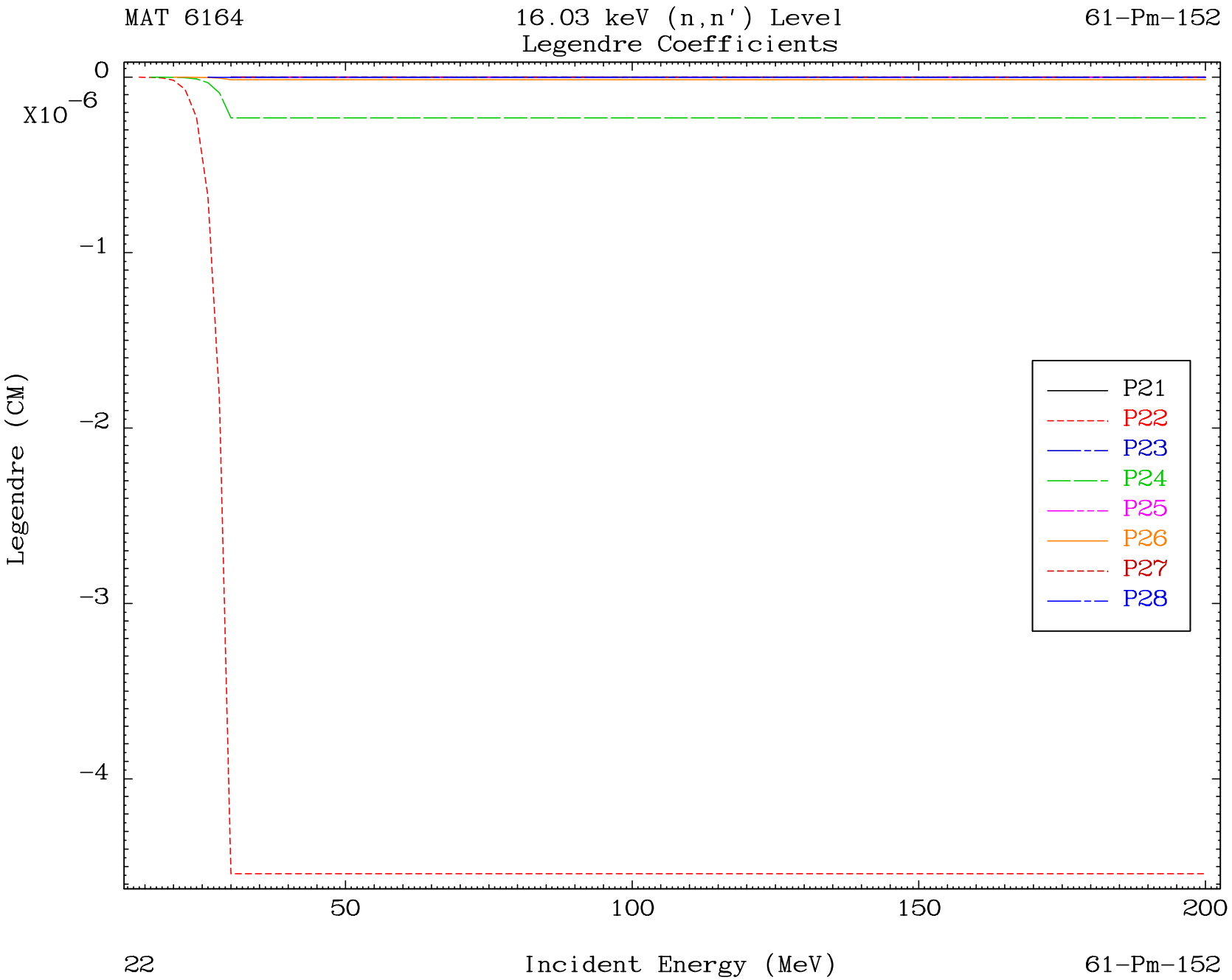

MAT 6164
Elastic
Legendre Coefficients
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.0
0.1
0.2
0.3
5
10
15
20
25
30
17
Incident Energy (MeV)
61-Pm-152

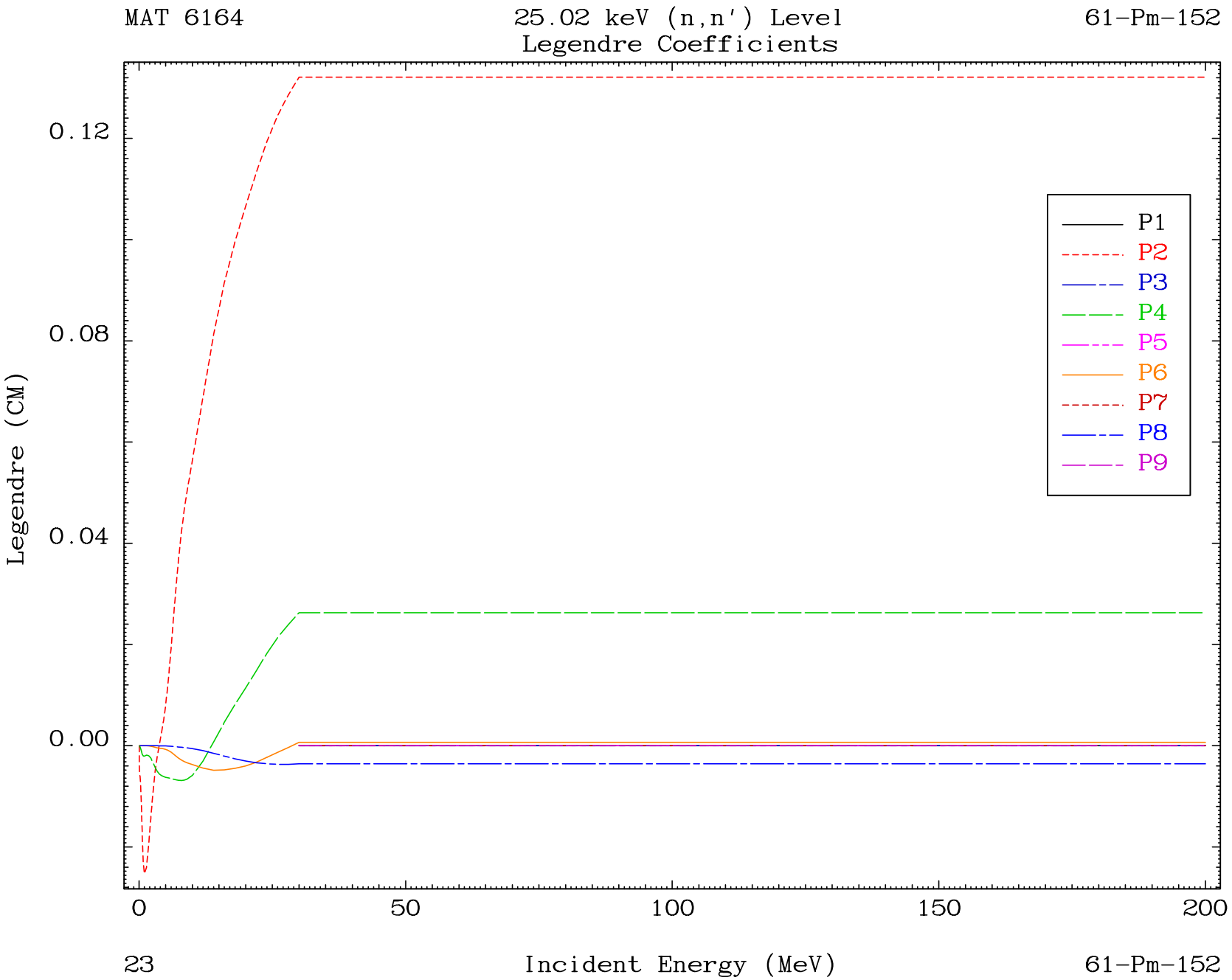

MAT 6164
Elastic
Legendre Coefficients
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
10
15
20
25
30
18
Incident Energy (MeV)
61-Pm-152

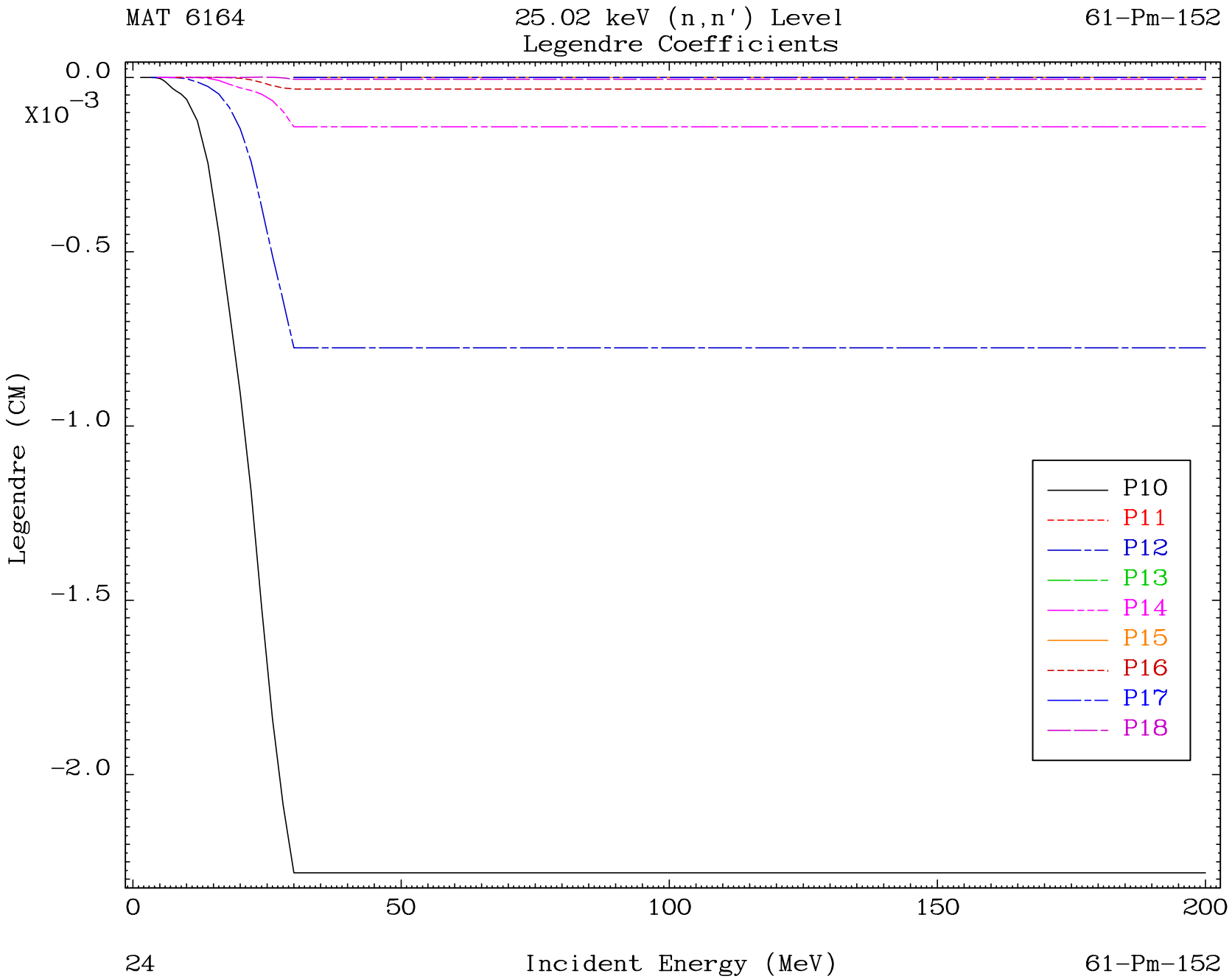

MAT 6164
Elastic
Legendre Coefficients
61-Pm-152
X10 -6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
19
Incident Energy (MeV)
61-Pm-152

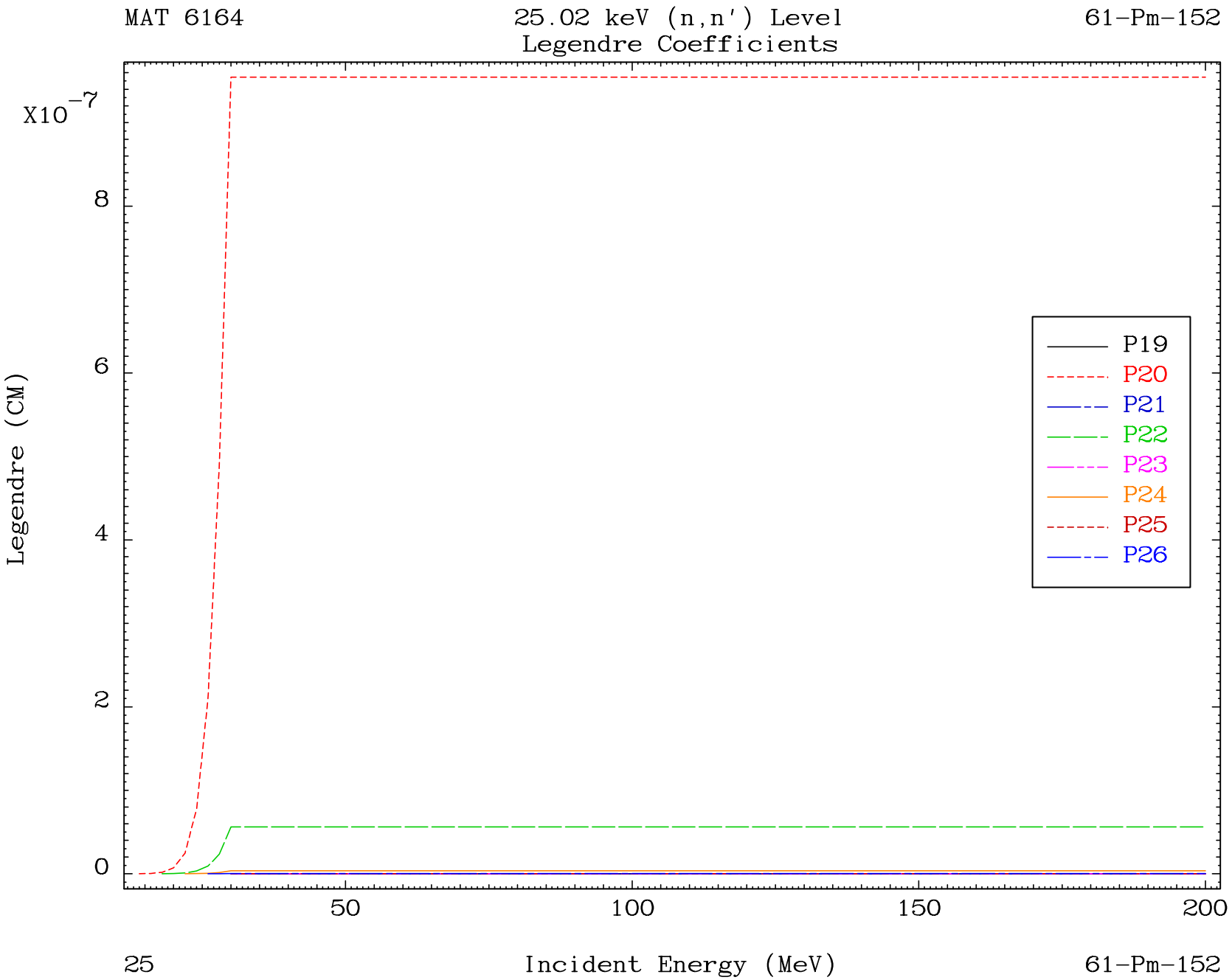

MAT 6164
16.03 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
20
Incident Energy (MeV)
61-Pm-152

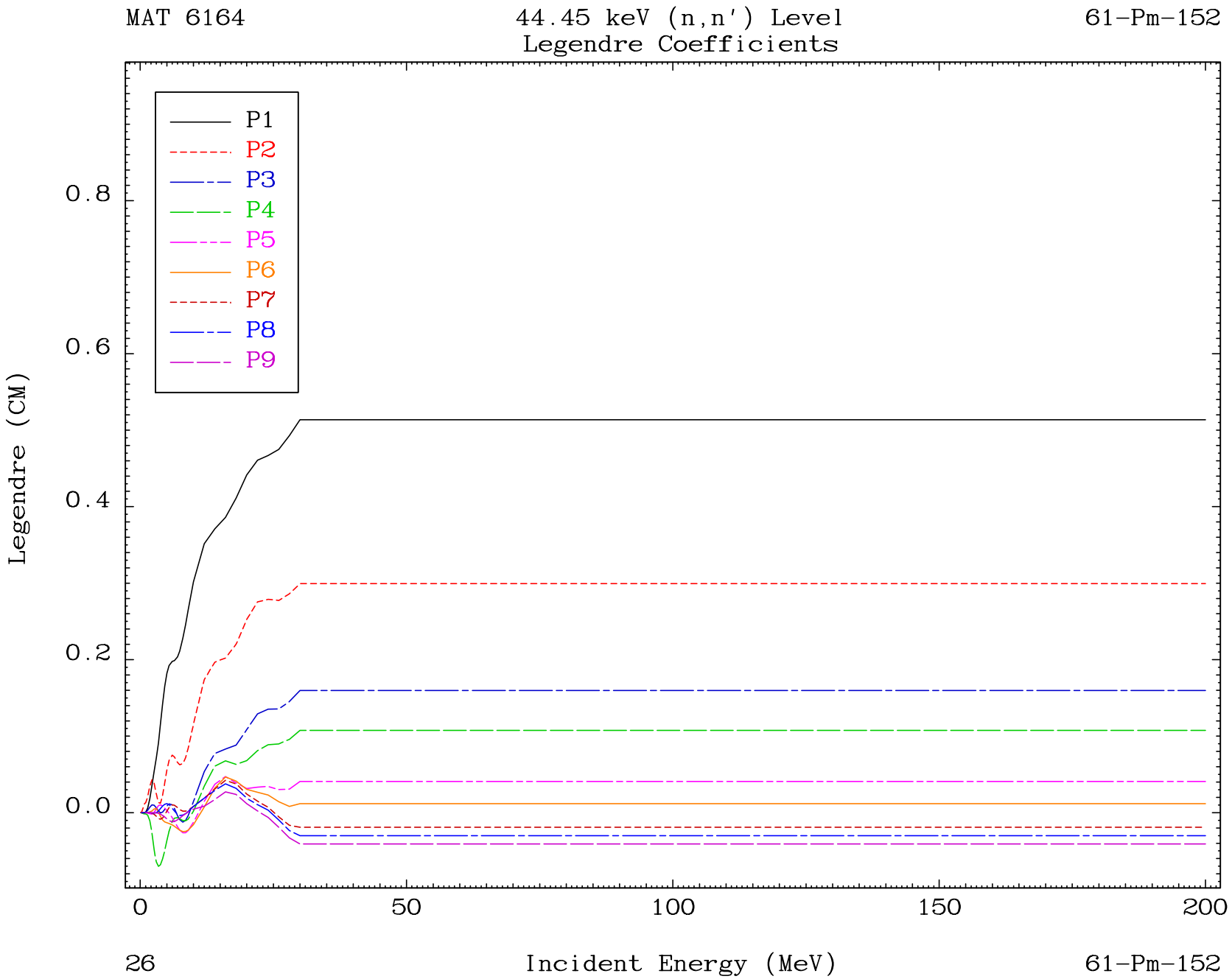

MAT 6164
16.03 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.000
0.000
0.000
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
21
Incident Energy (MeV)
61-Pm-152

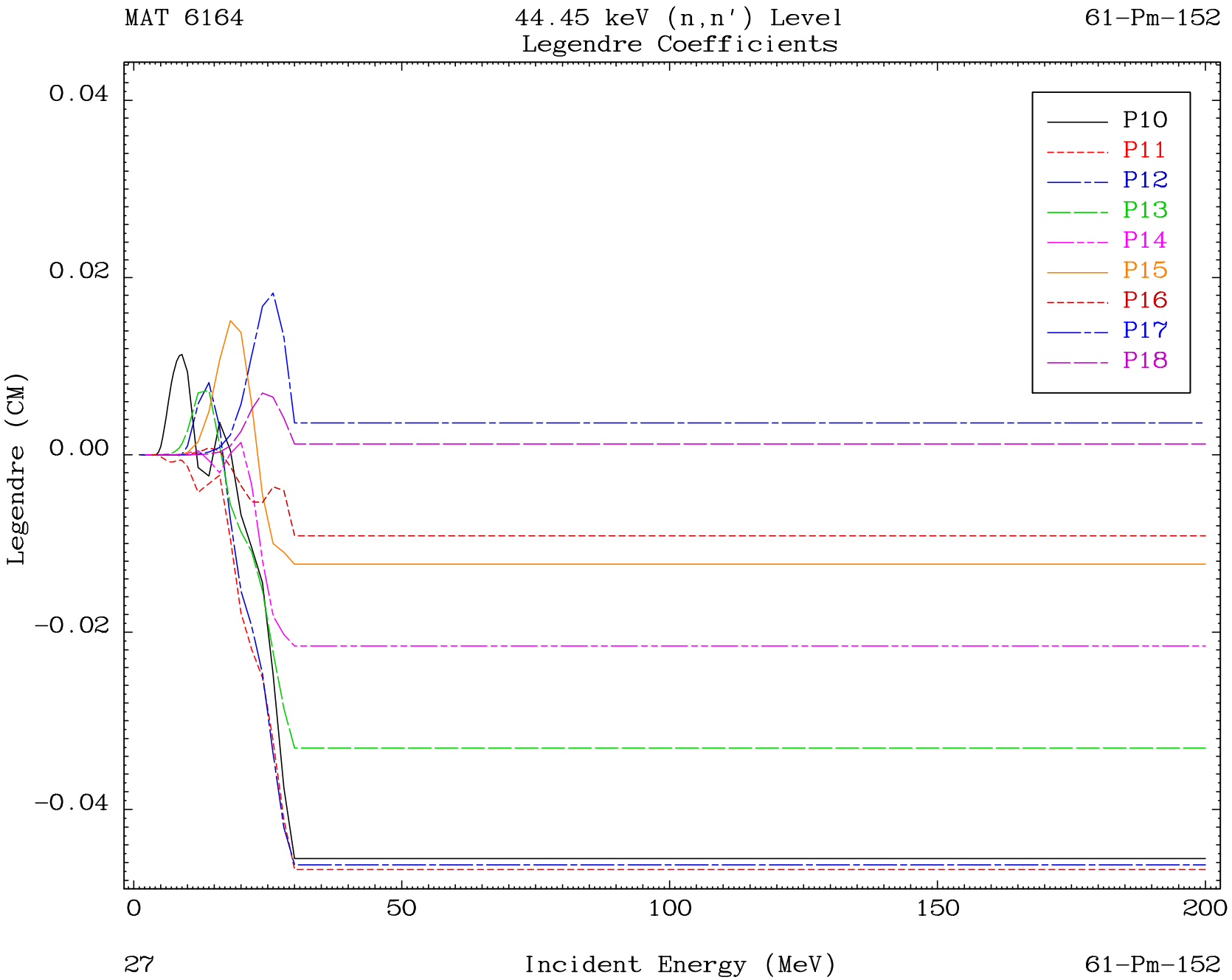

MAT 6164
16.03 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10 −6
−1
−2
−3
−4
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
22
Incident Energy (MeV)
61-Pm-152

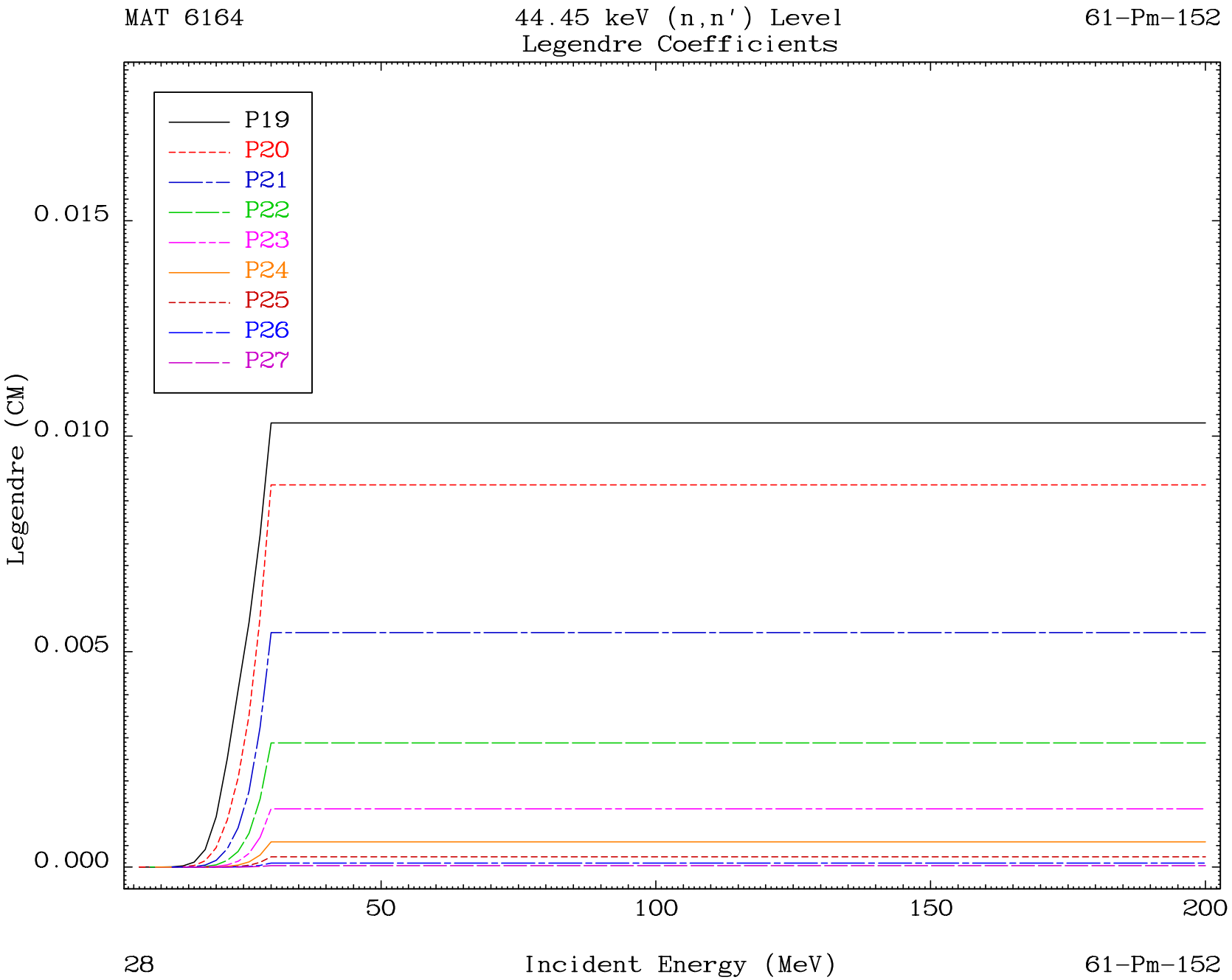

MAT 6164
25.02 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.12
0.08
0.04
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
23
Incident Energy (MeV)
61-Pm-152

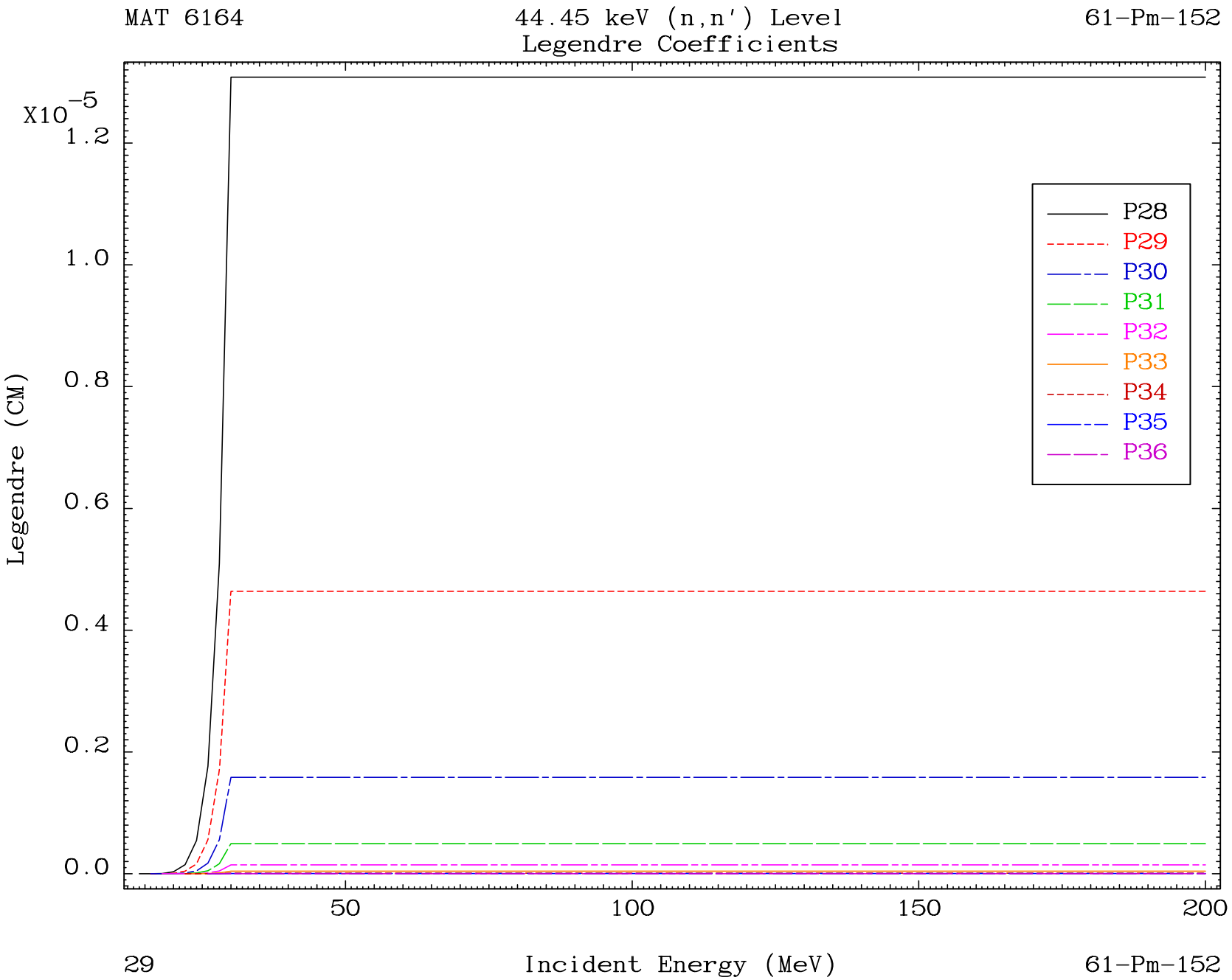

MAT 6164
25.02 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-3
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
24
Incident Energy (MeV)
61-Pm-152

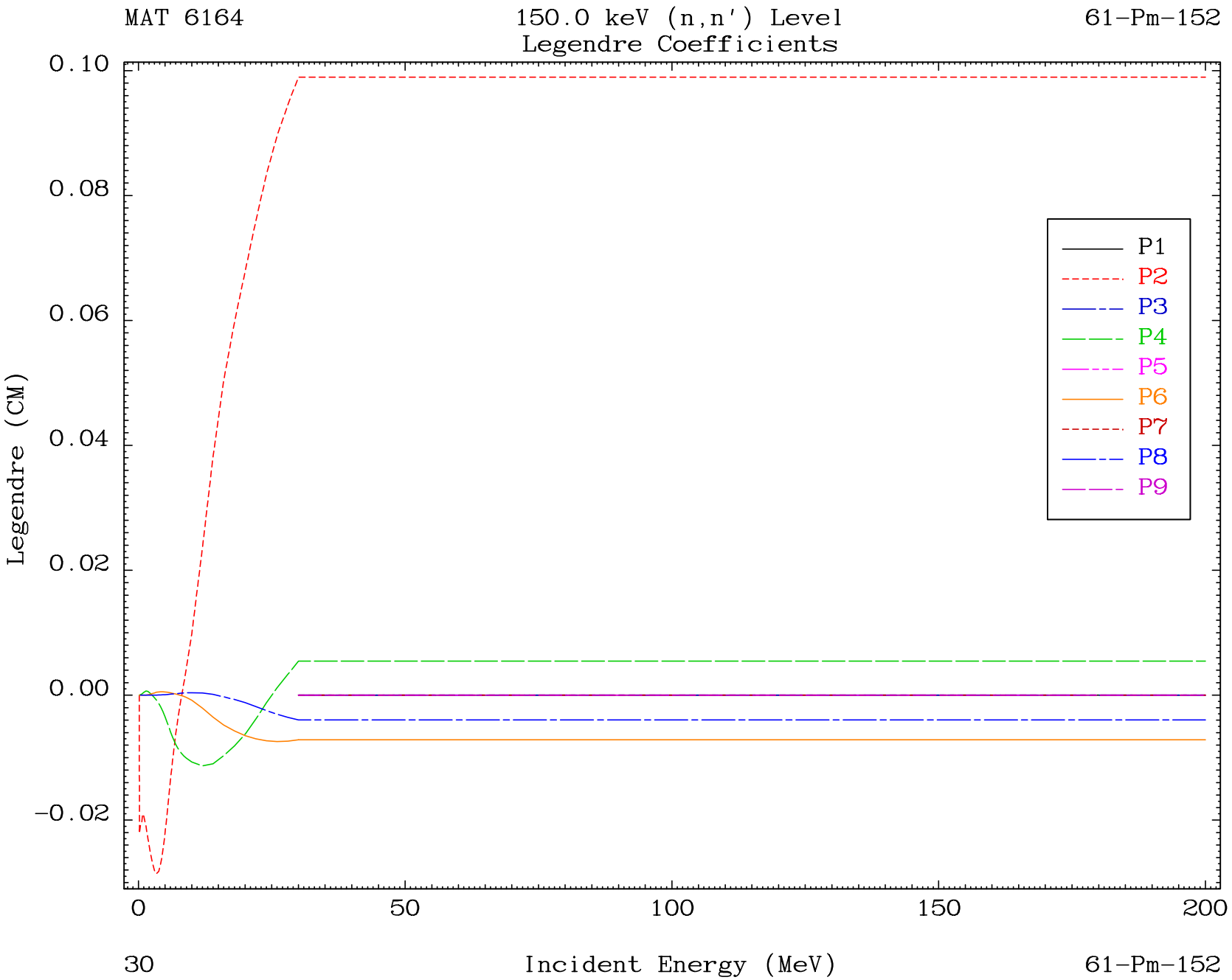

MAT 6164
25.02 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-7
8
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
25
Incident Energy (MeV)
61-Pm-152

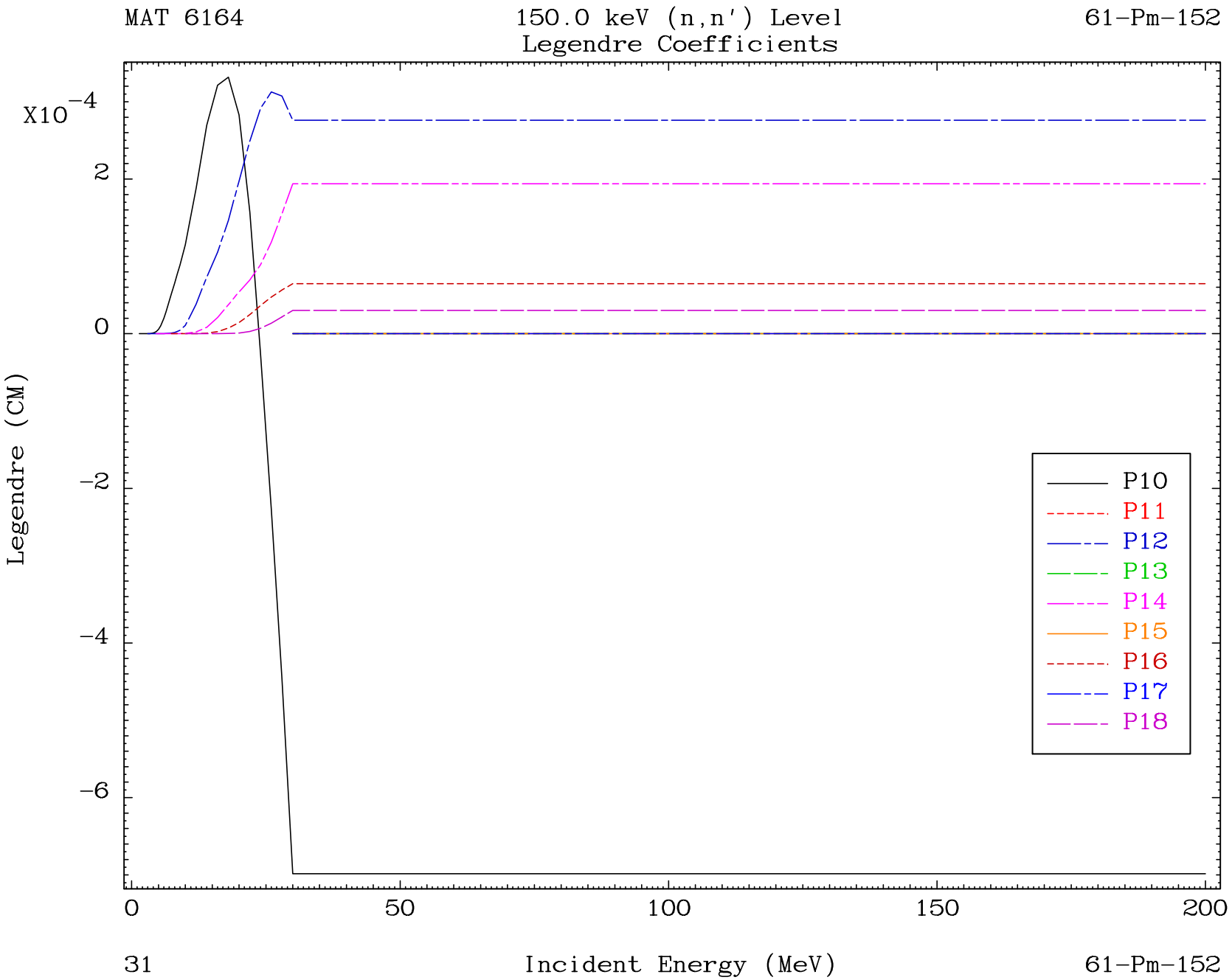

MAT 6164
44.45 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
26
Incident Energy (MeV)
61-Pm-152

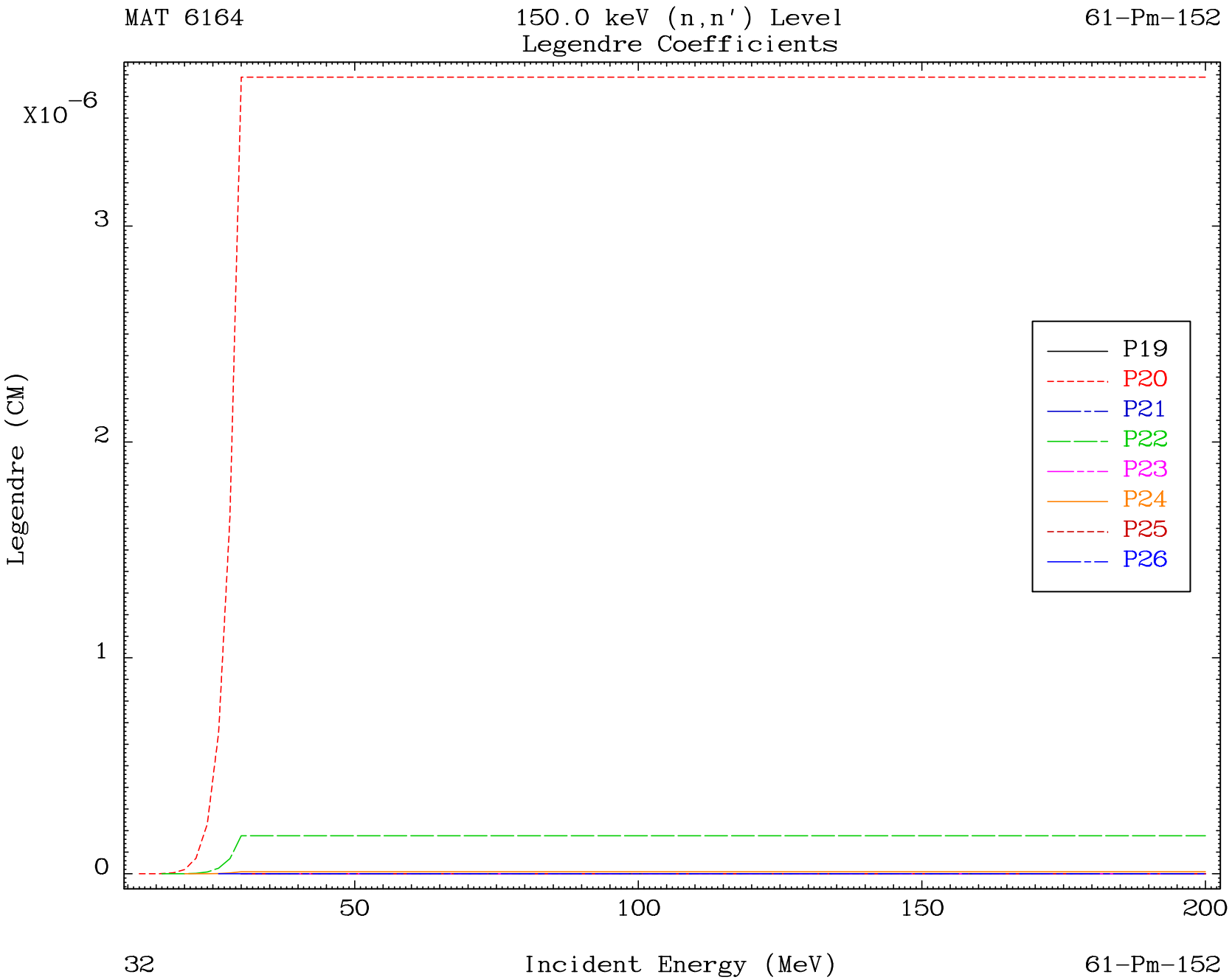

MAT 6164
44.45 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
27
Incident Energy (MeV)
61-Pm-152

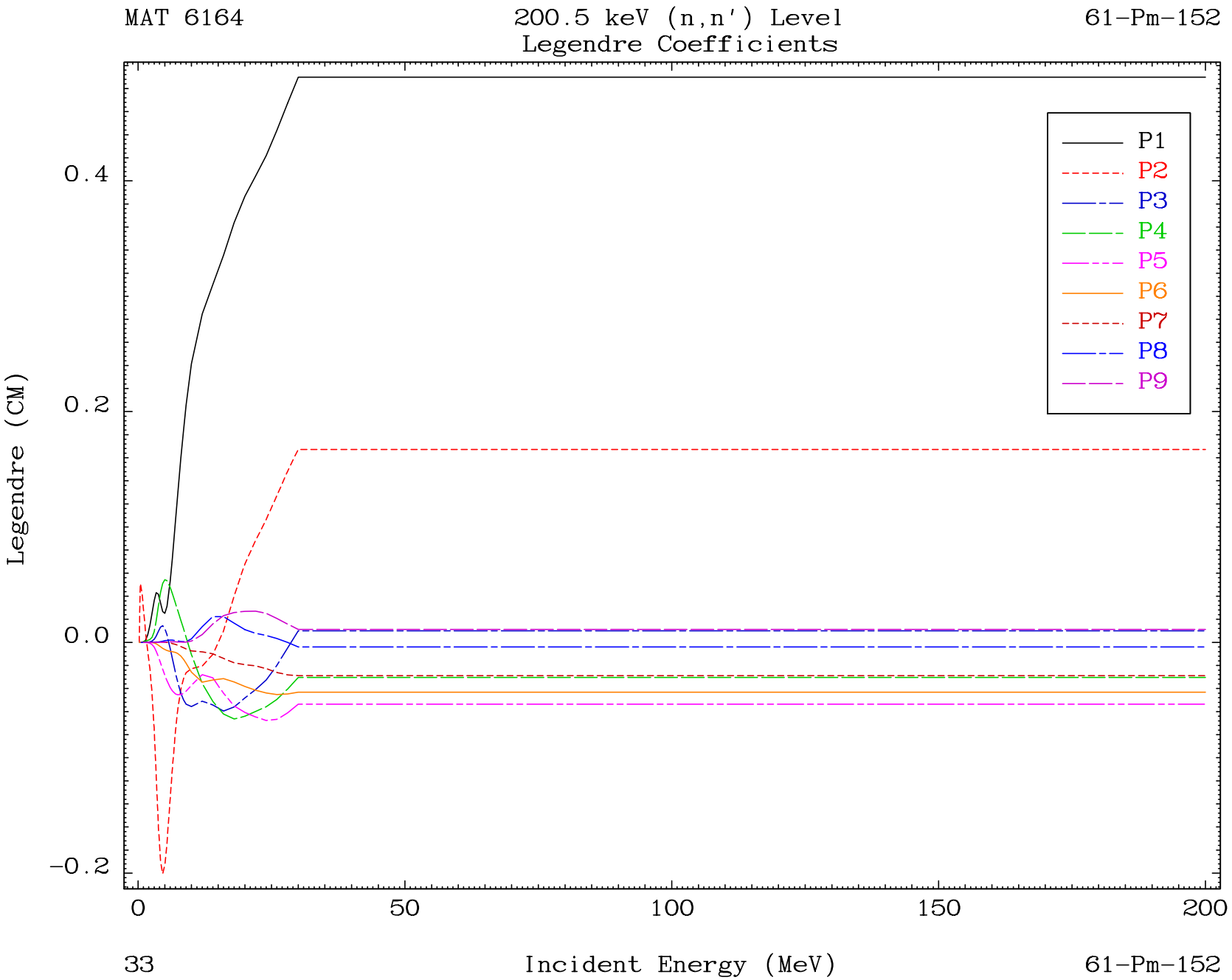

MAT 6164
44.45 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
28
Incident Energy (MeV)
61-Pm-152

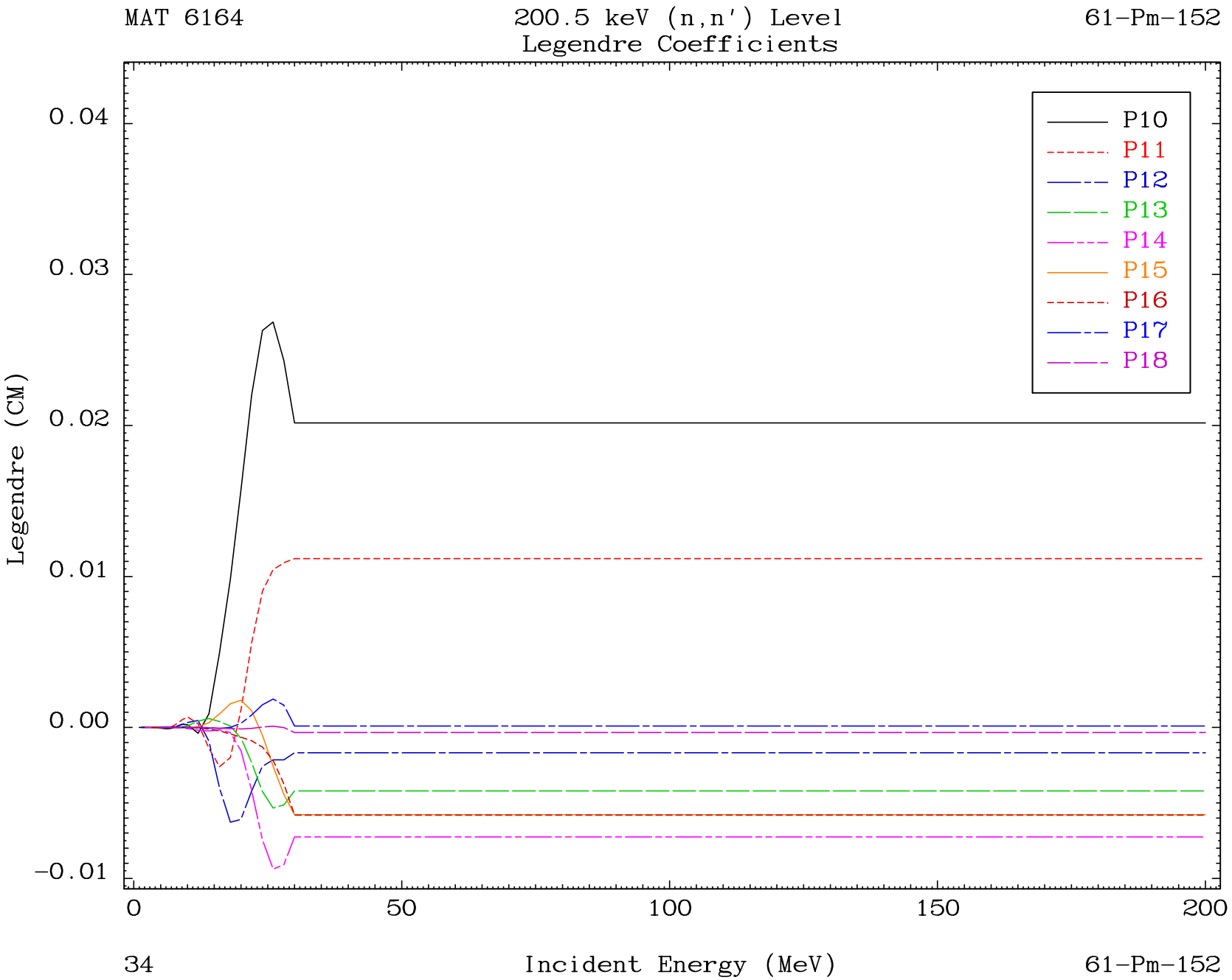

MAT 6164
44.45 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-5
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
29
Incident Energy (MeV)
61-Pm-152

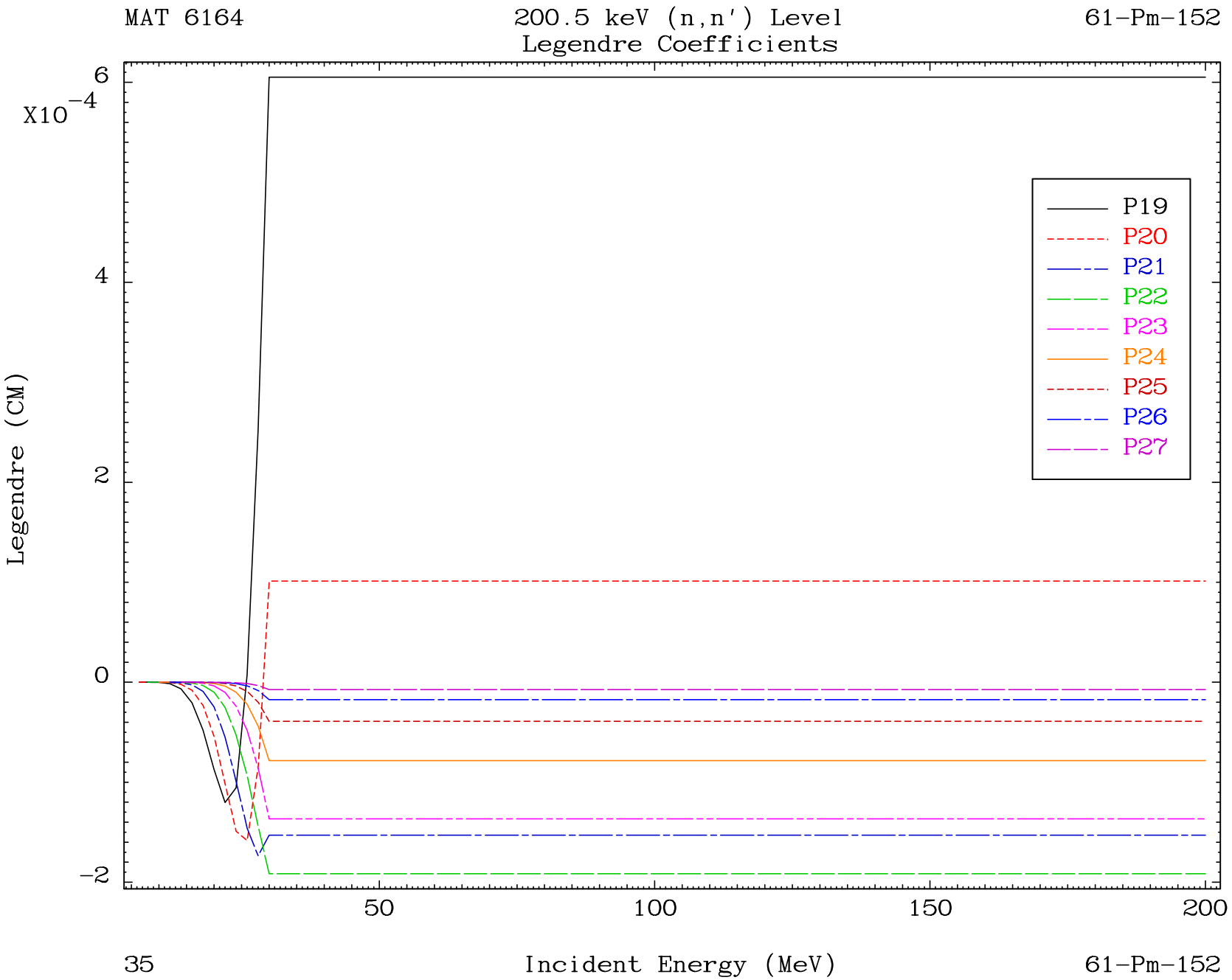

MAT 6164
150.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
30
Incident Energy (MeV)
61-Pm-152

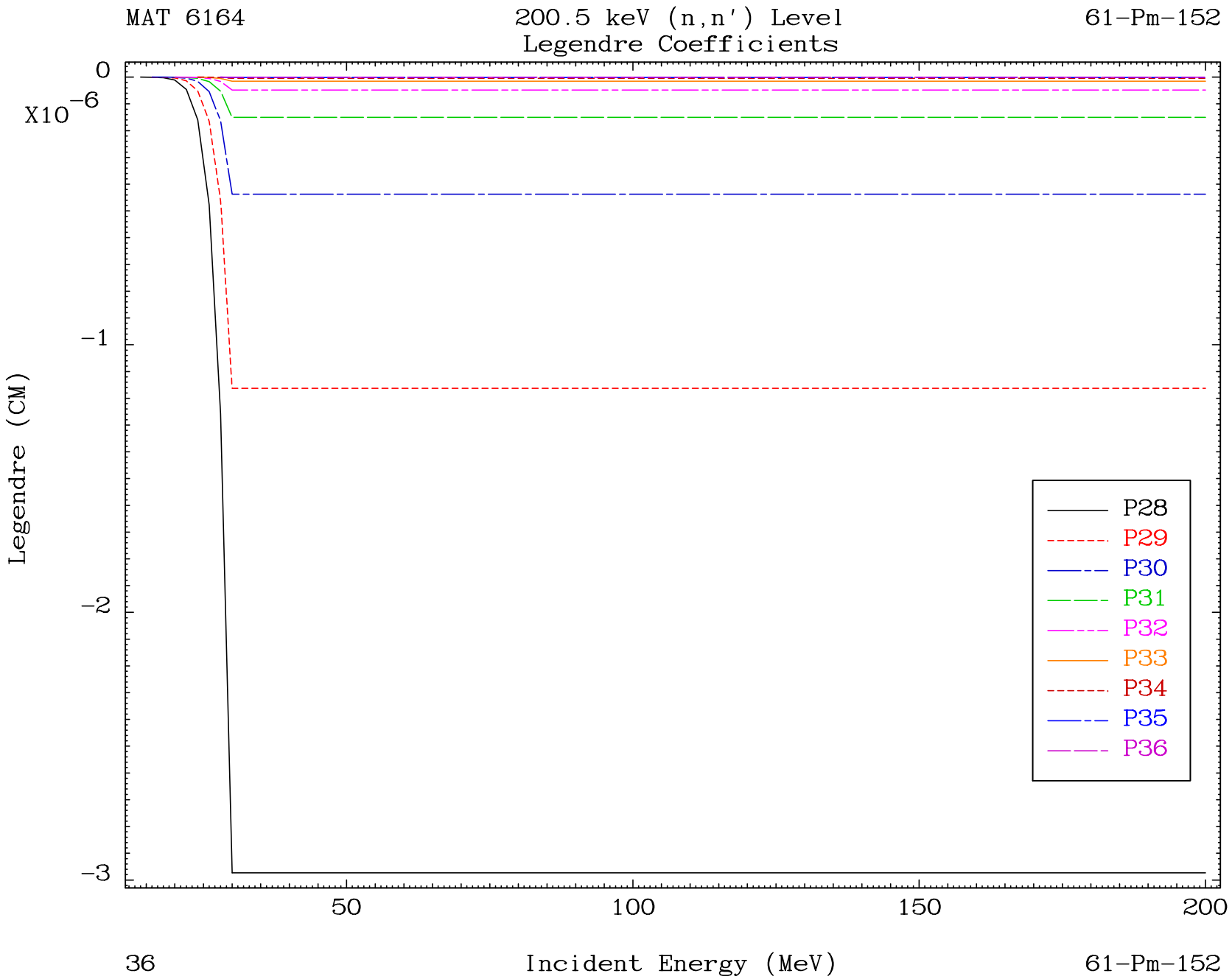

MAT 6164
150.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −4
2
0
−2
−4
−6
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
31
Incident Energy (MeV)
61-Pm-152

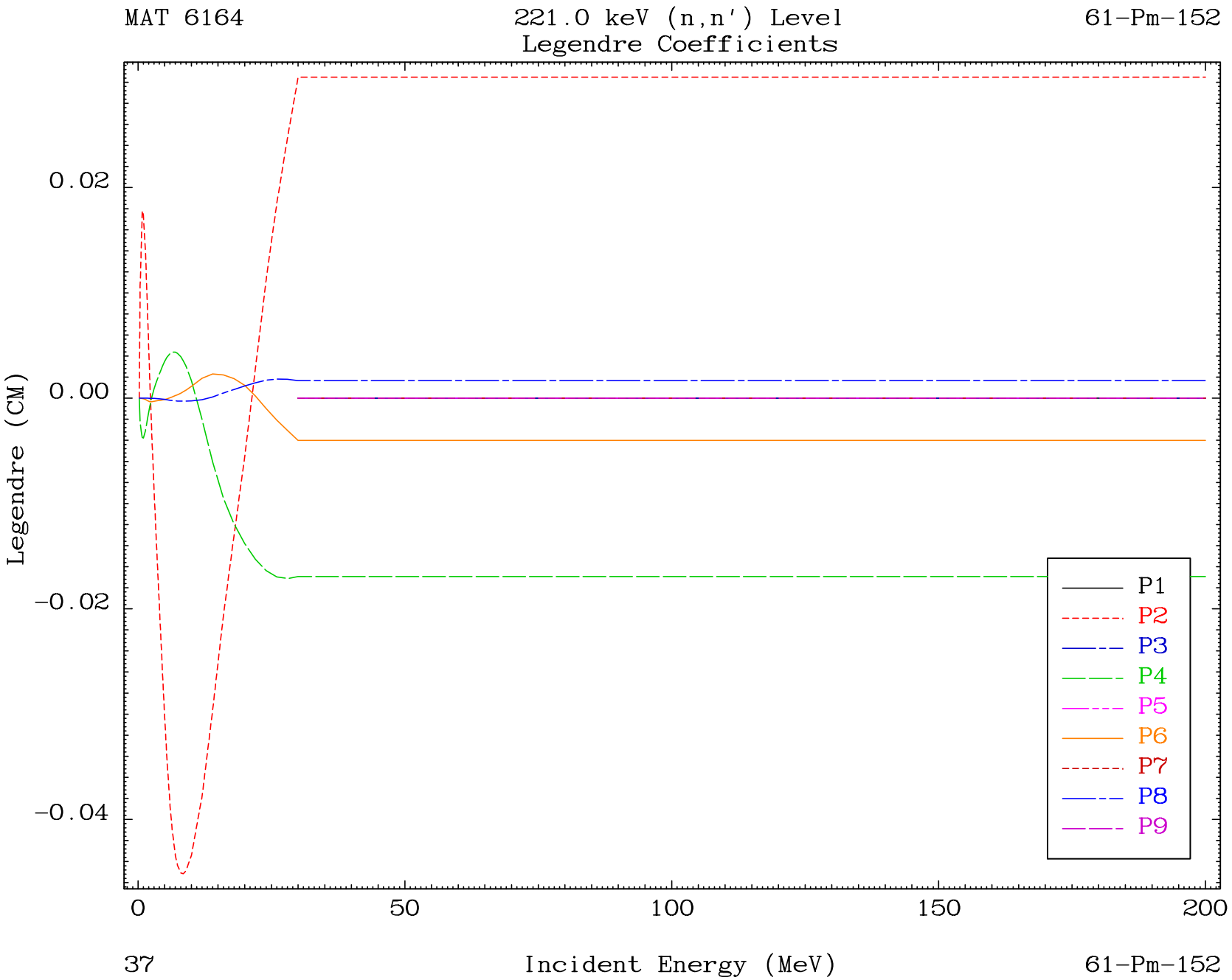

MAT 6164
150.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
32
Incident Energy (MeV)
61-Pm-152

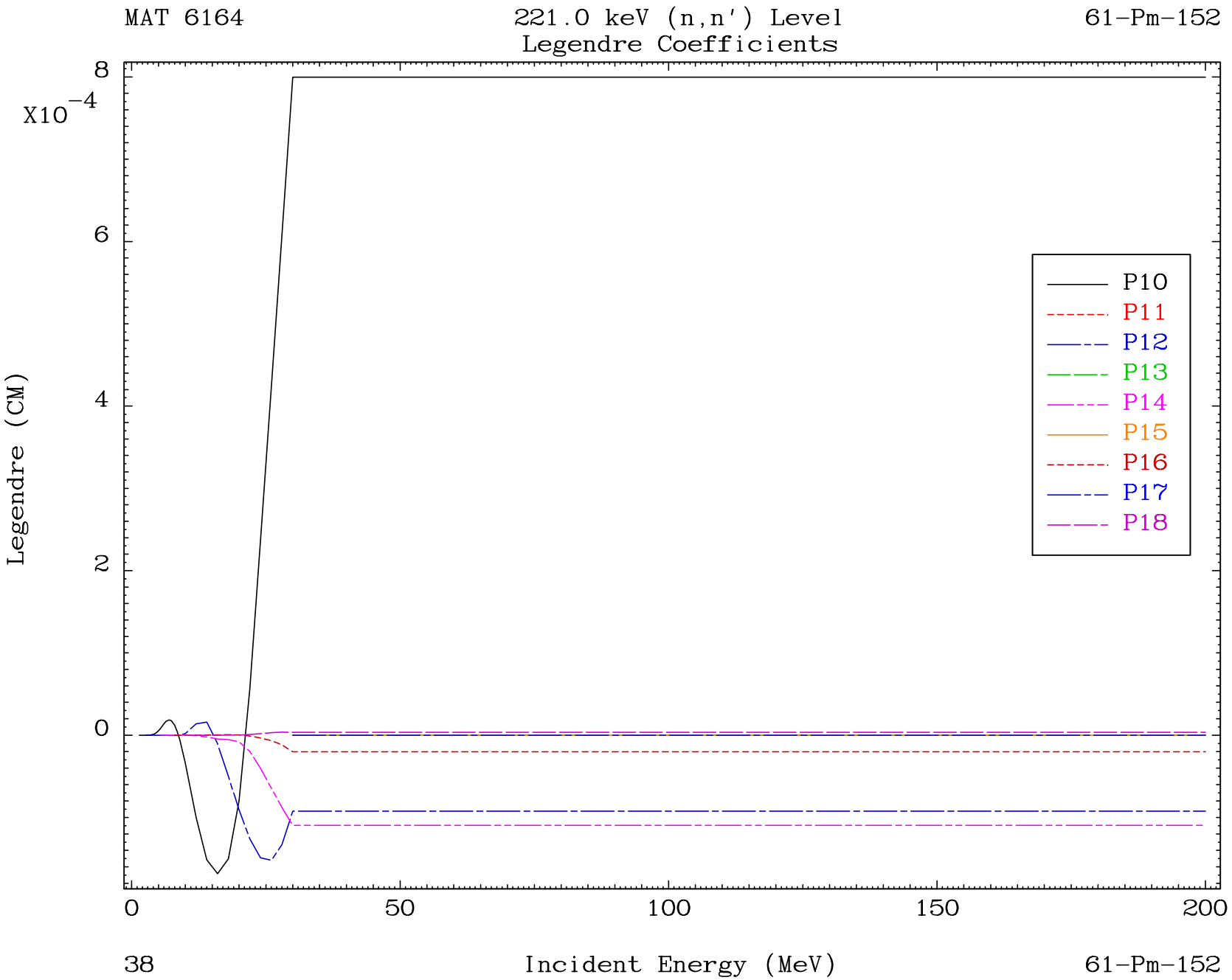

MAT 6164
200.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.2
0.0
-0.2
0
50
100
150
200
Incident Energy (MeV)
33
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

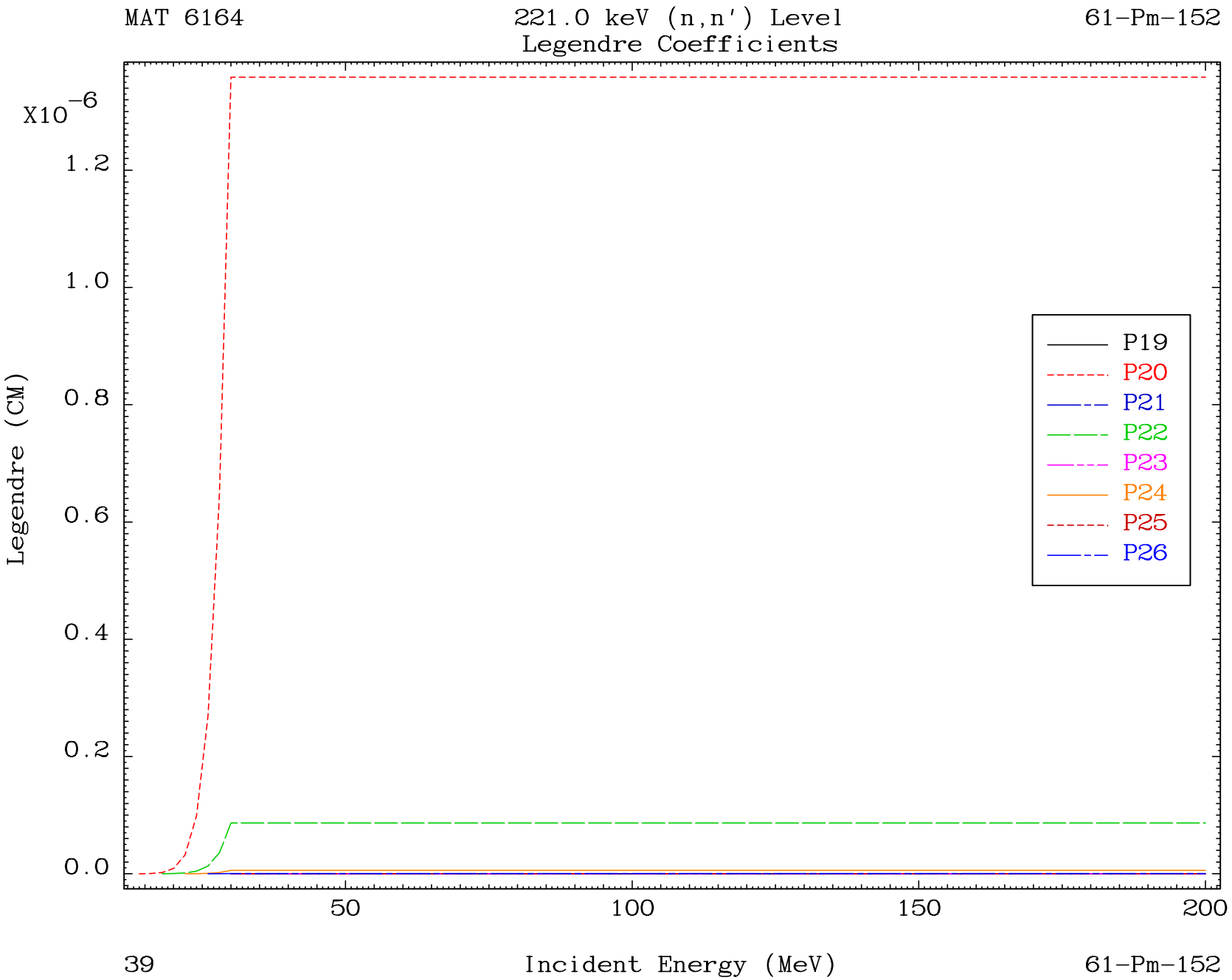

MAT 6164
200.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
34
Incident Energy (MeV)
61-Pm-152

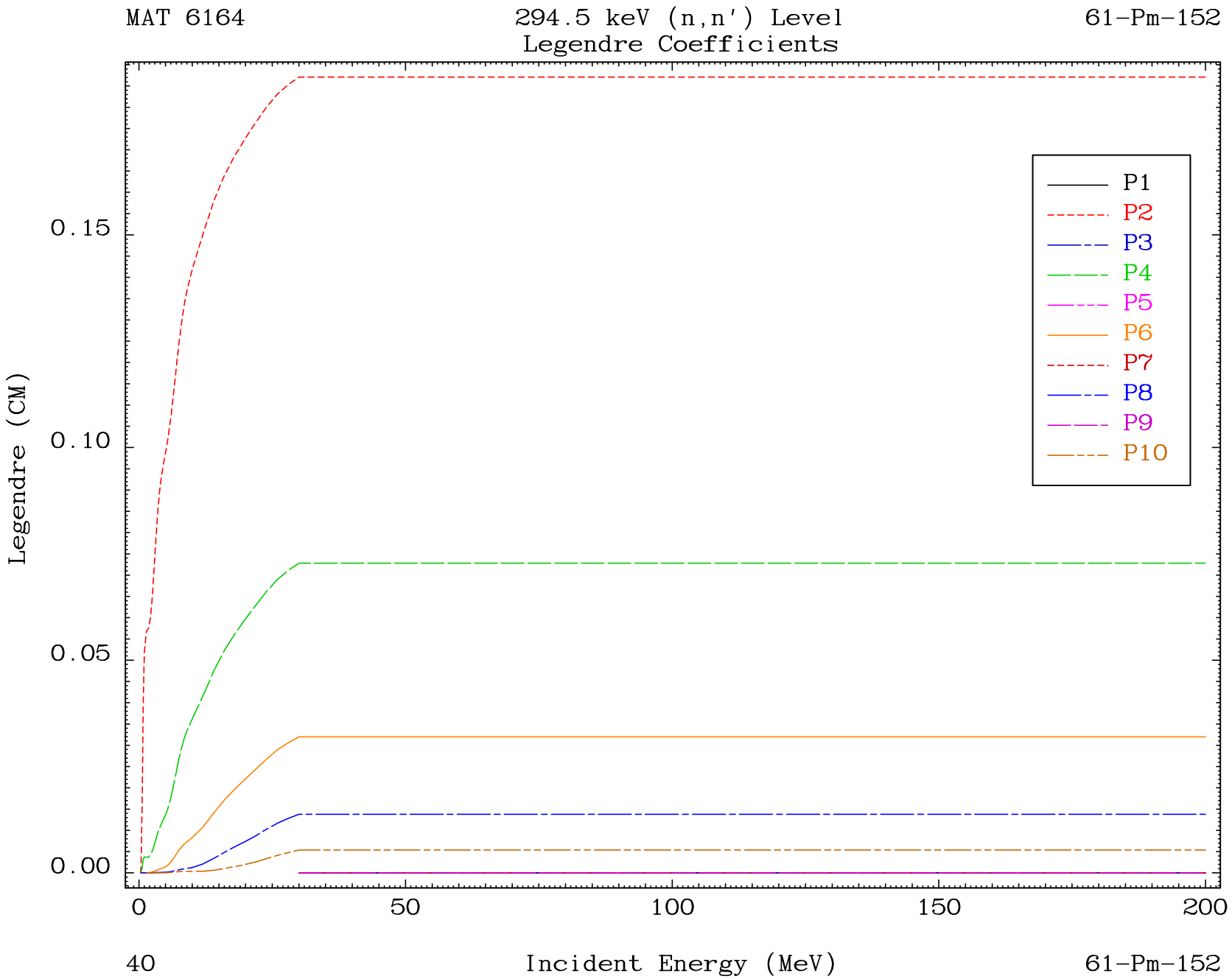

MAT 6164
200.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 -4
6
4
2
0
-2
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
35
Incident Energy (MeV)
61-Pm-152

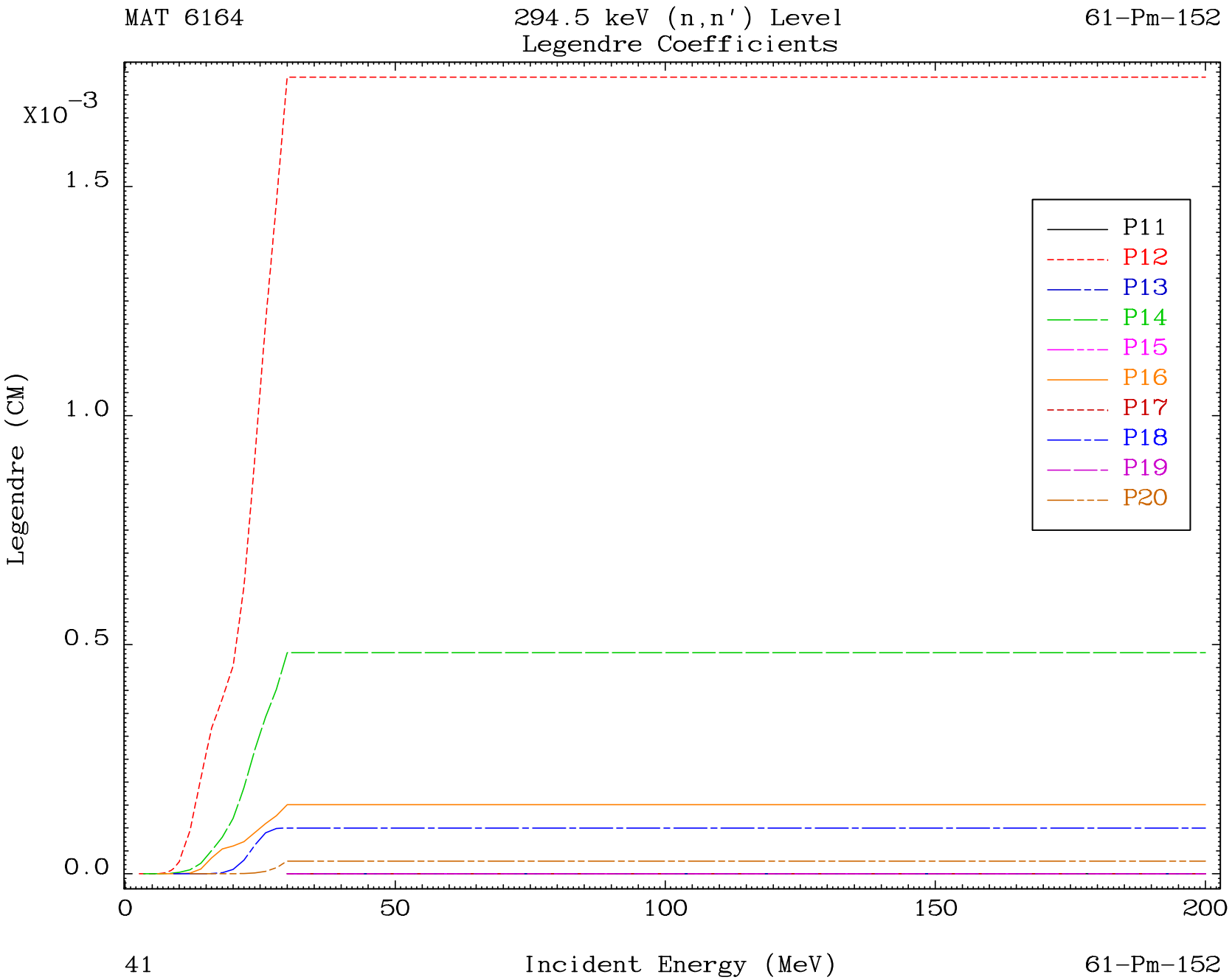

MAT 6164
200.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10^-6
-1
-2
-3
Legendre (CM)
50
100
150
200
36
Incident Energy (MeV)
61-Pm-152
P28
P29
P30
P31
P32
P33
P34
P35
P36

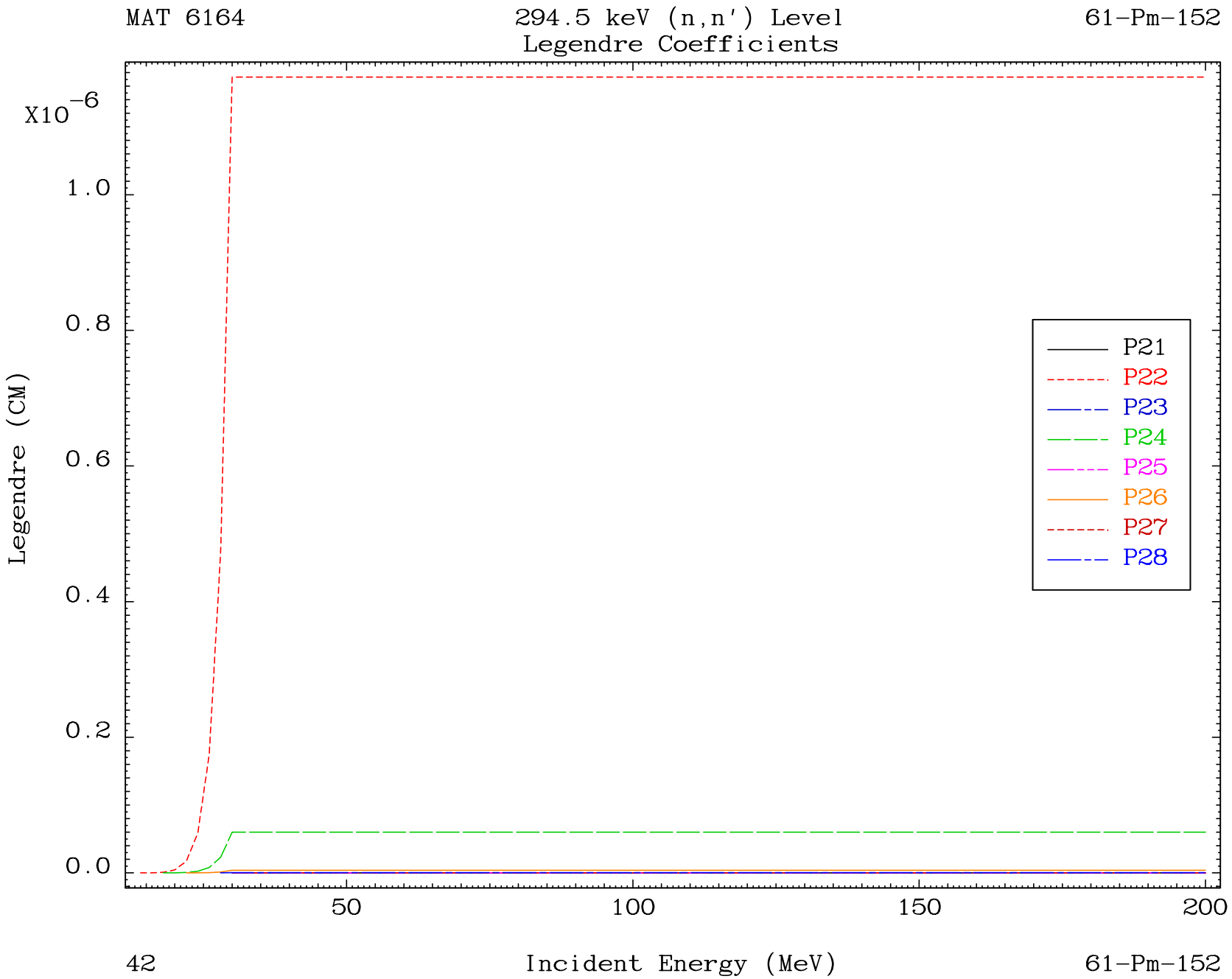

MAT 6164
221.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
37
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

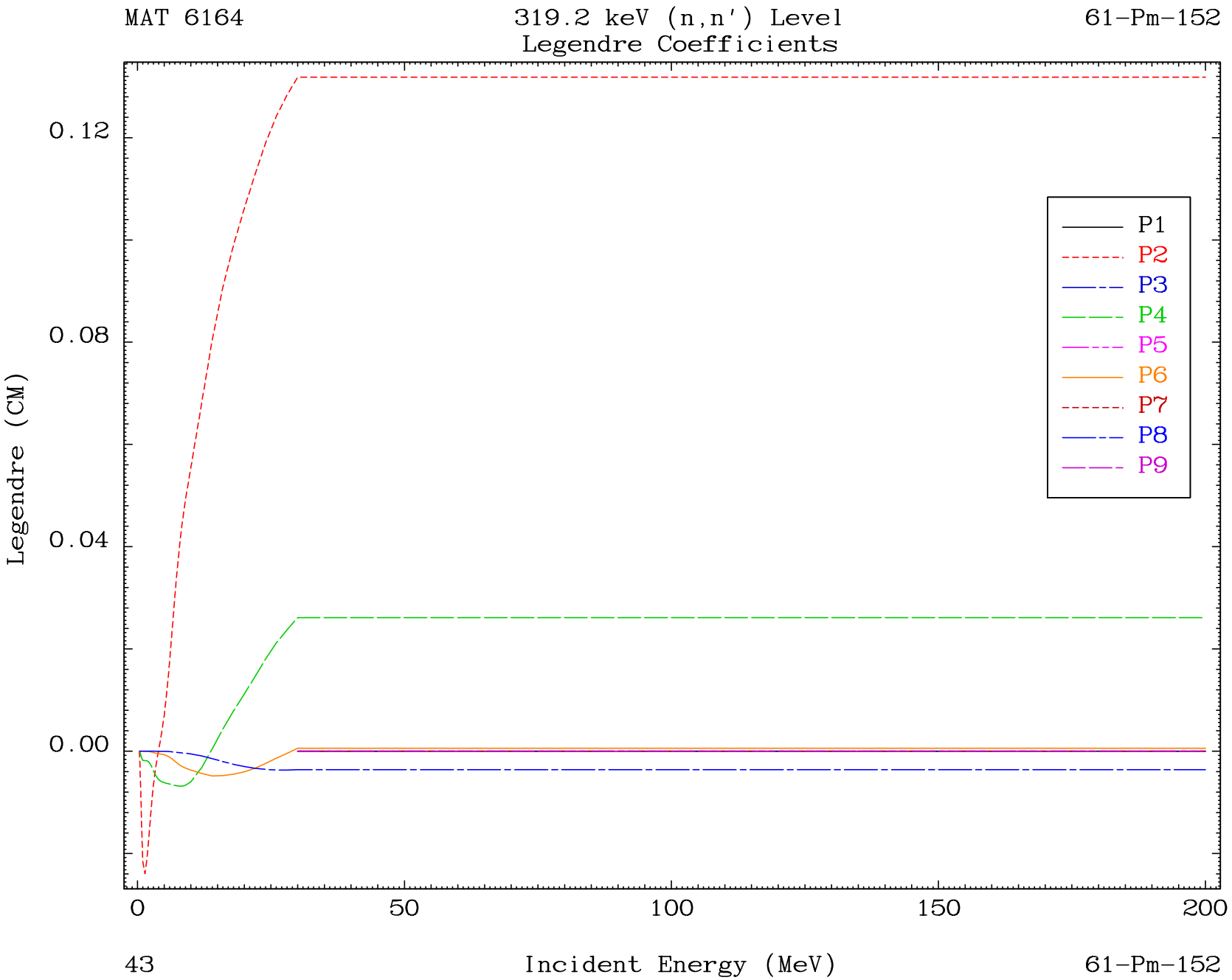

MAT 6164
221.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −4
8
6
4
2
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
38
Incident Energy (MeV)
61-Pm-152

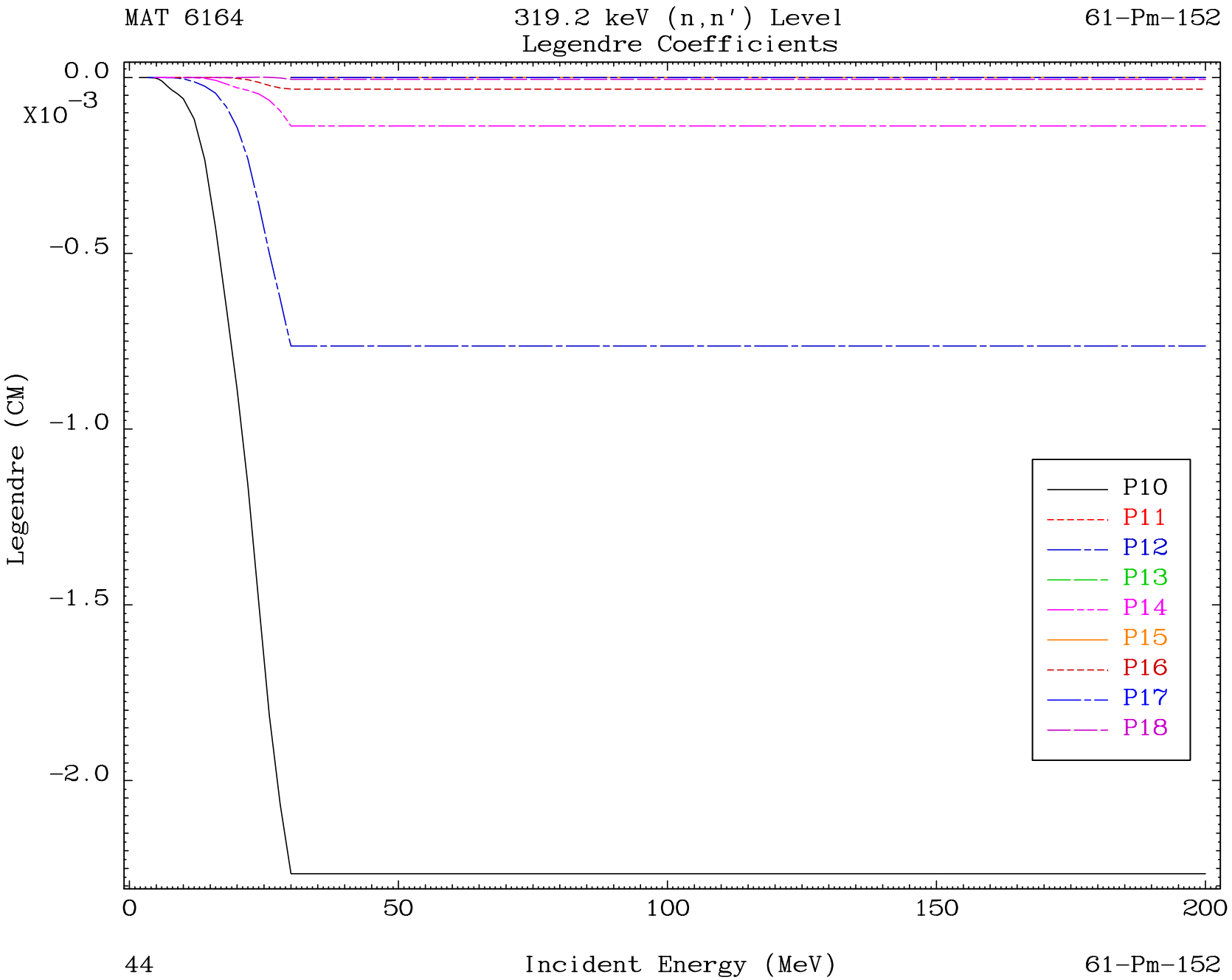

MAT 6164
221.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10−6
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
39
Incident Energy (MeV)
61-Pm-152

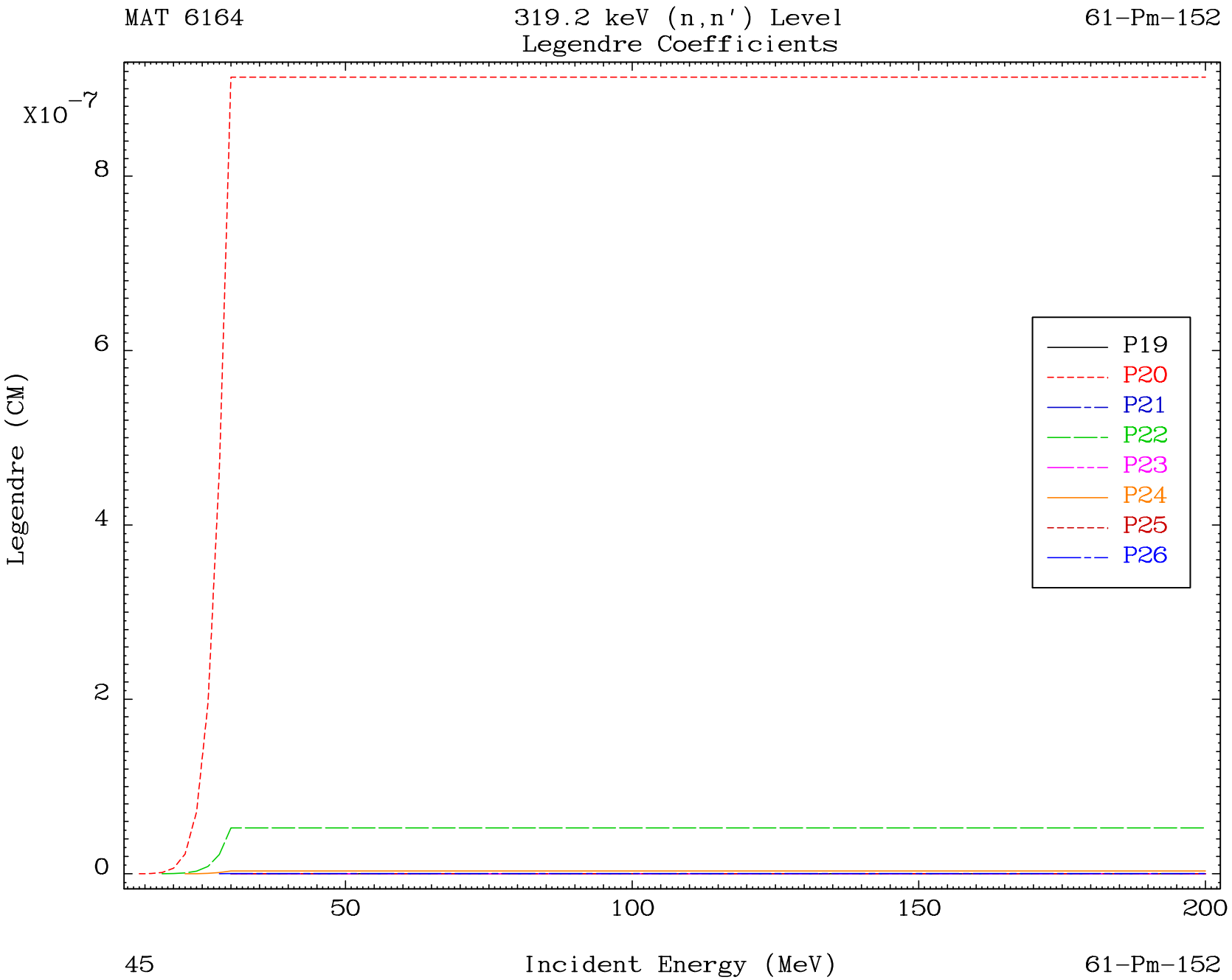

MAT 6164
294.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
40
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

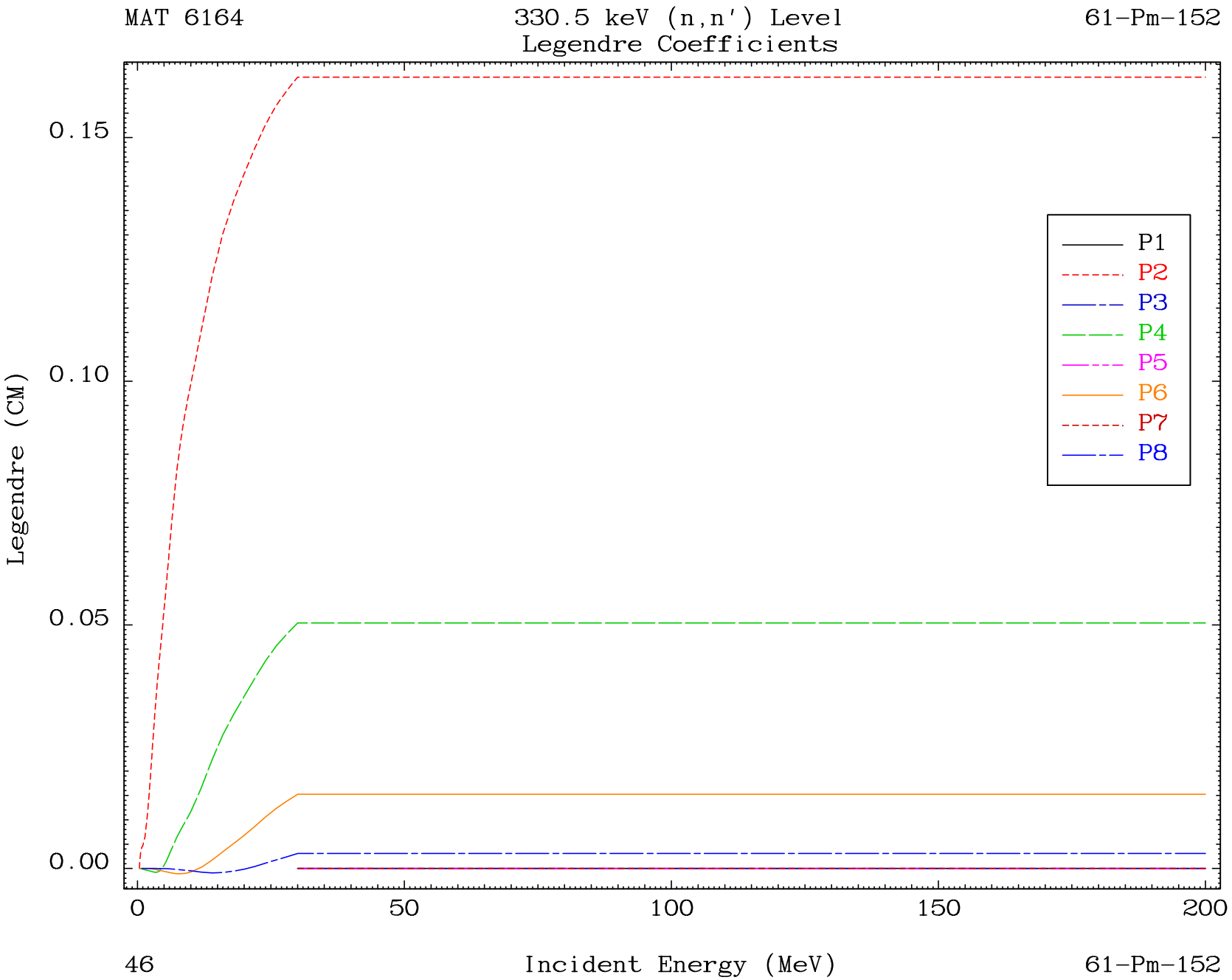

MAT 6164
294.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
41
Incident Energy (MeV)
61-Pm-152

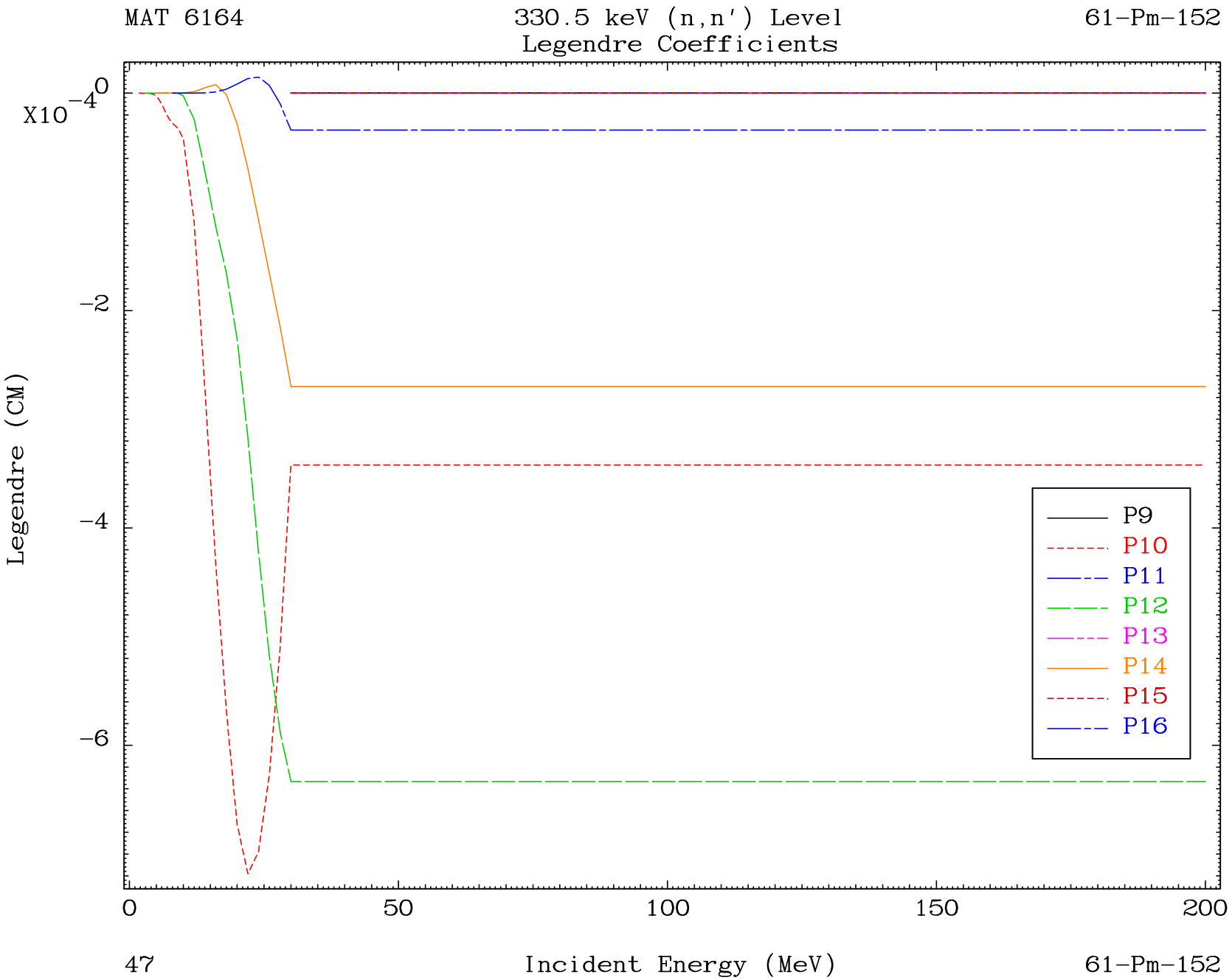

MAT 6164
294.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
42
Incident Energy (MeV)
61-Pm-152

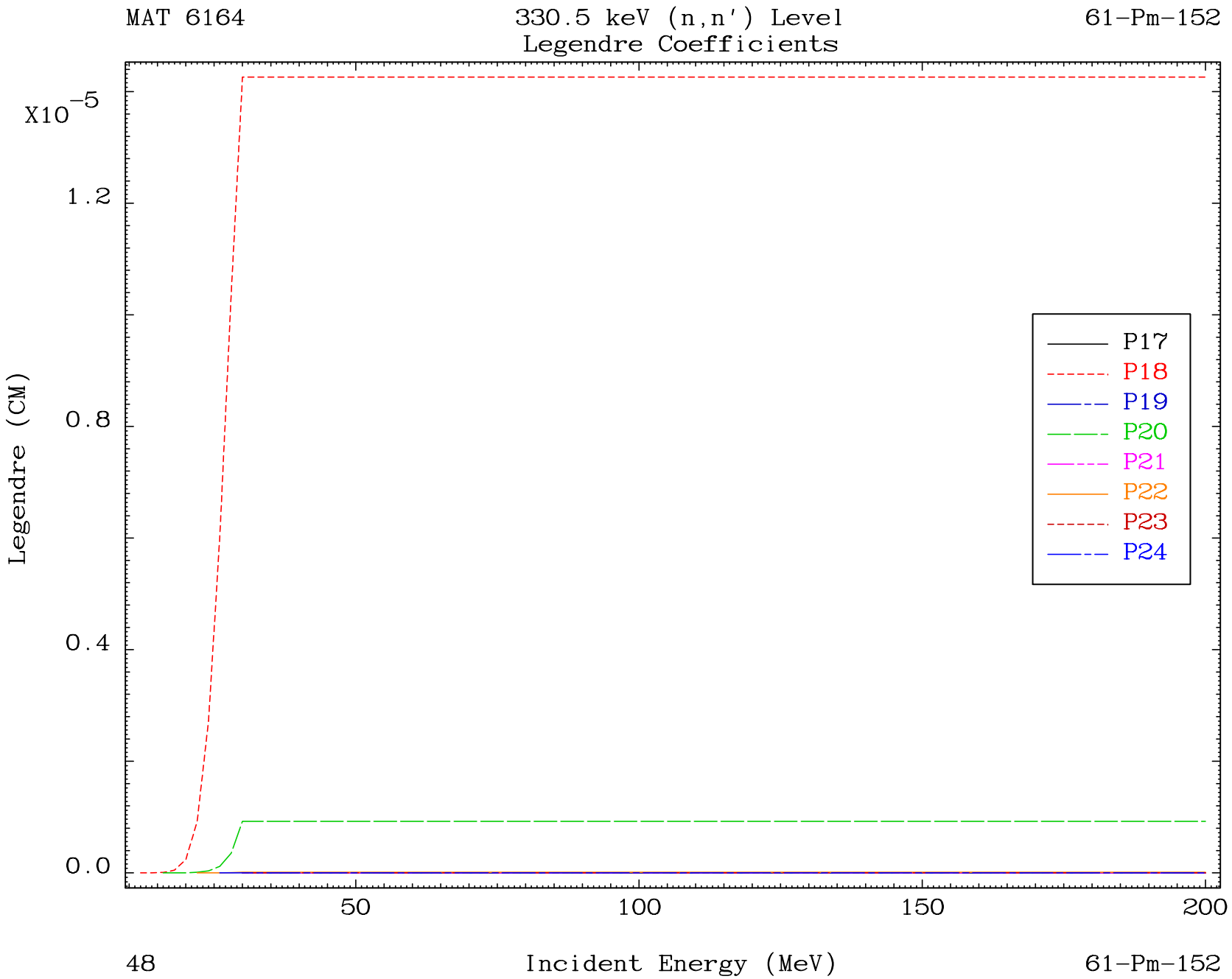

MAT 6164
319.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.12
0.08
0.04
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
43
Incident Energy (MeV)
61-Pm-152

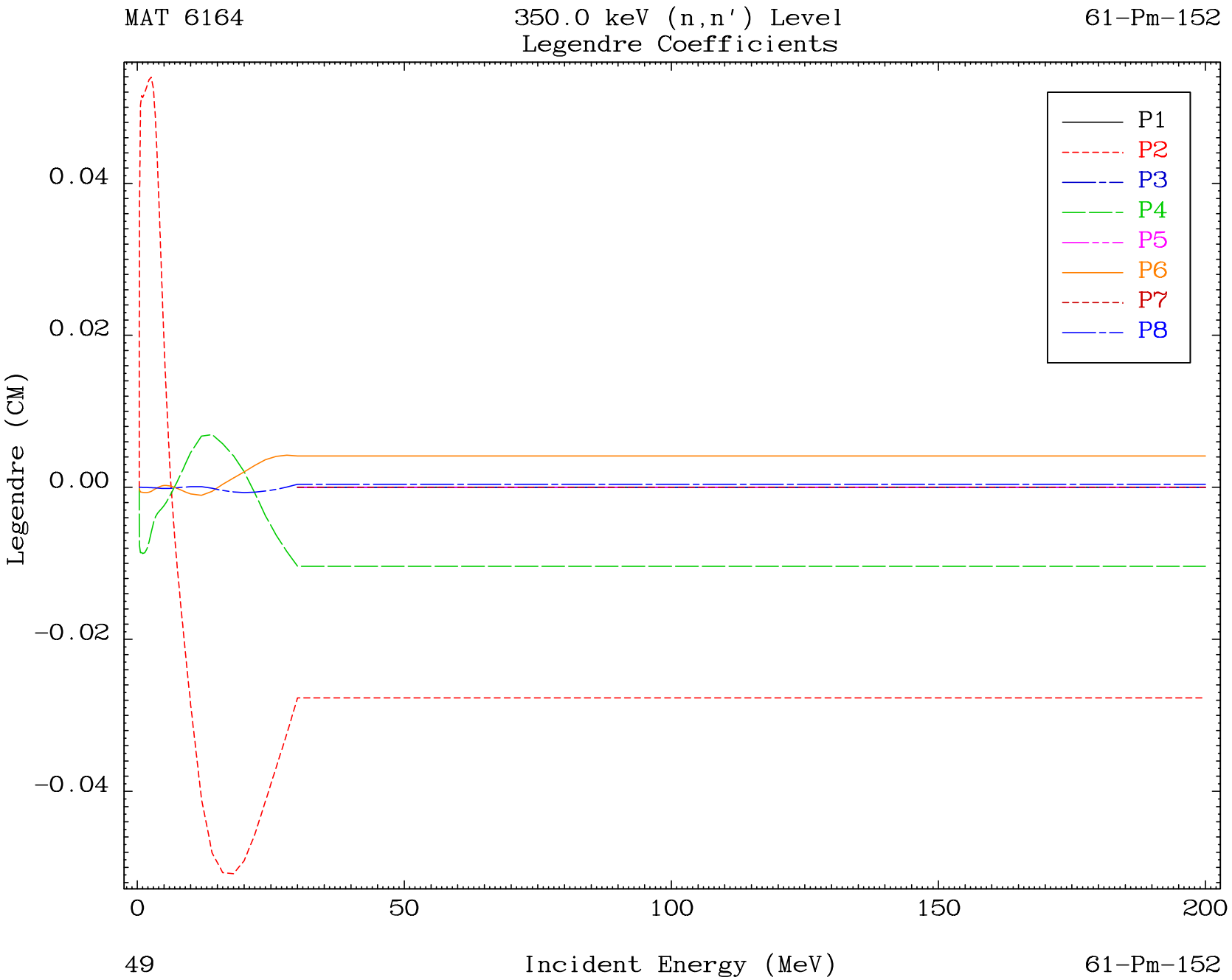

MAT 6164
319.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-3
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
44
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18

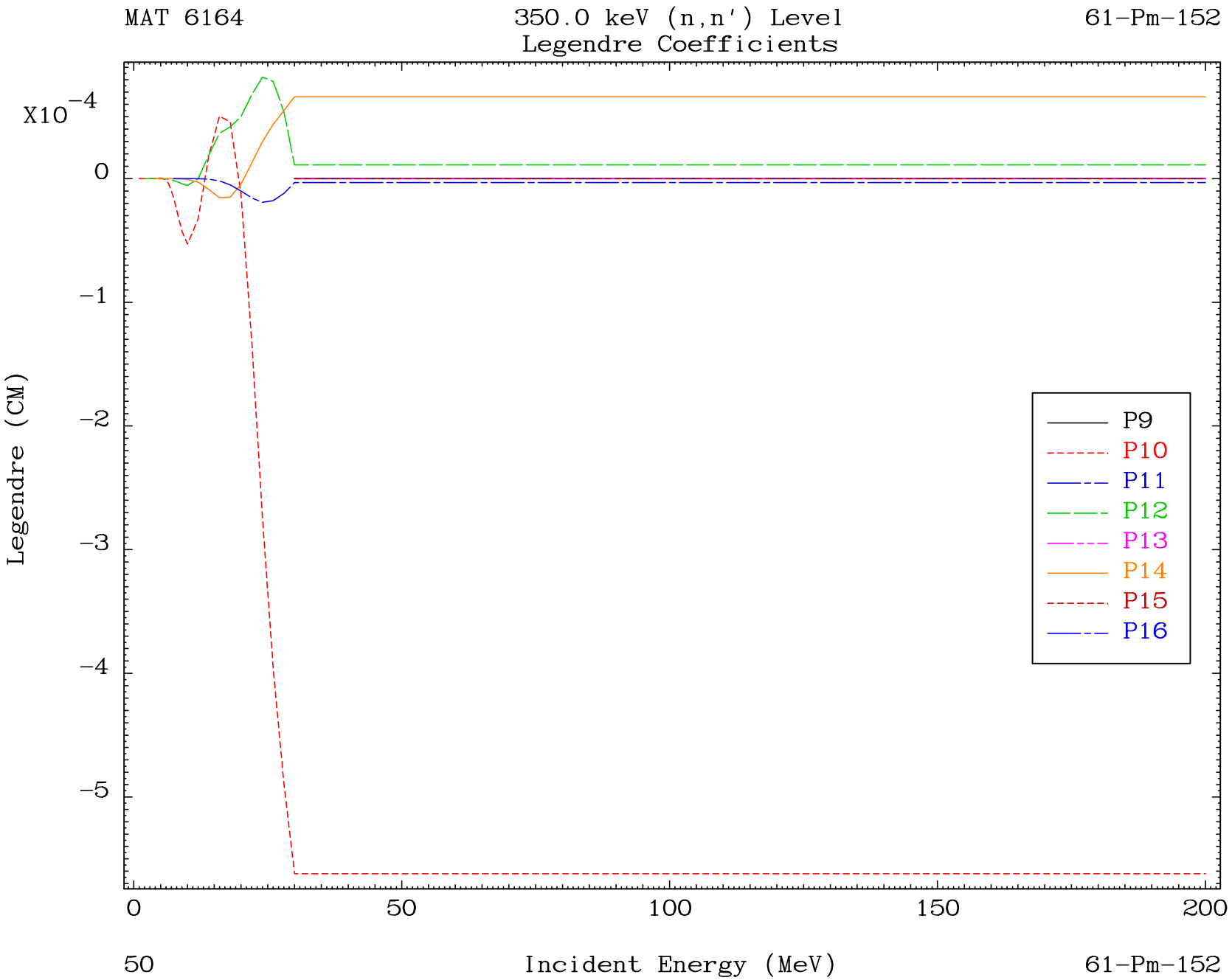

MAT 6164
319.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-7
8
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
45
Incident Energy (MeV)
61-Pm-152

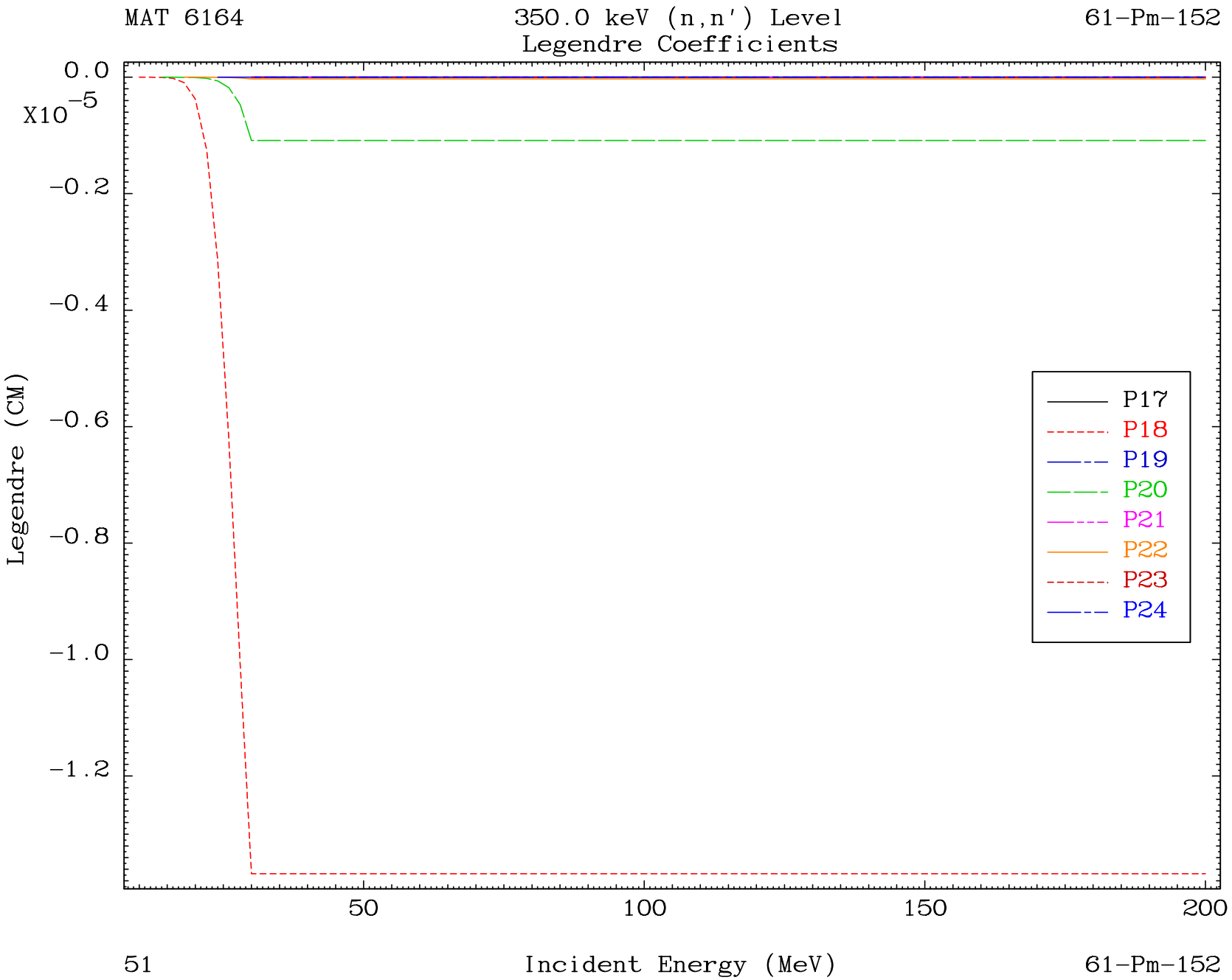

MAT 6164
330.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
46
Incident Energy (MeV)
61-Pm-152

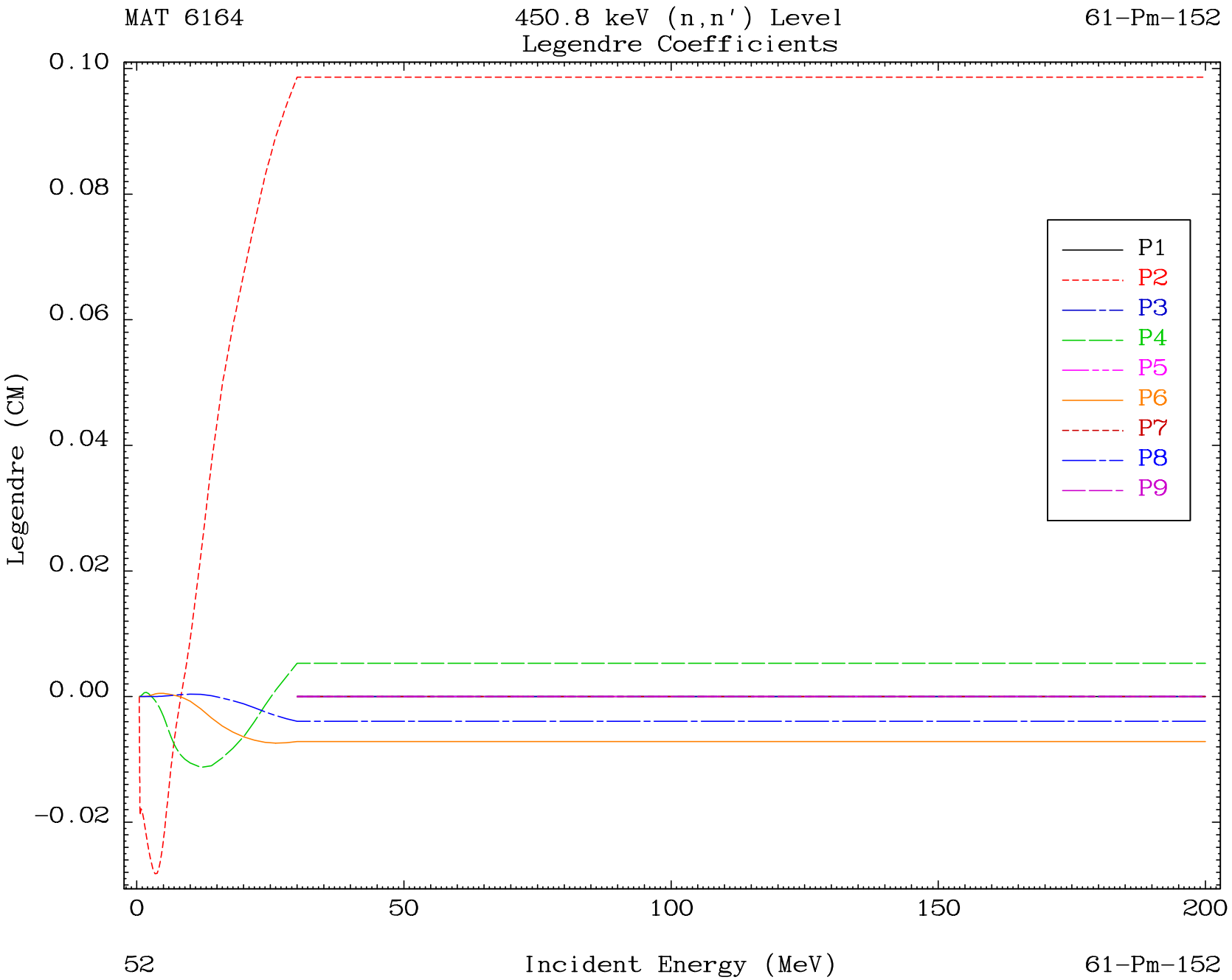

MAT 6164
330.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
0
-2
-4
-6
Legendre (CM)
0
50
100
150
200
47
Incident Energy (MeV)
61-Pm-152
P9
P10
P11
P12
P13
P14
P15
P16

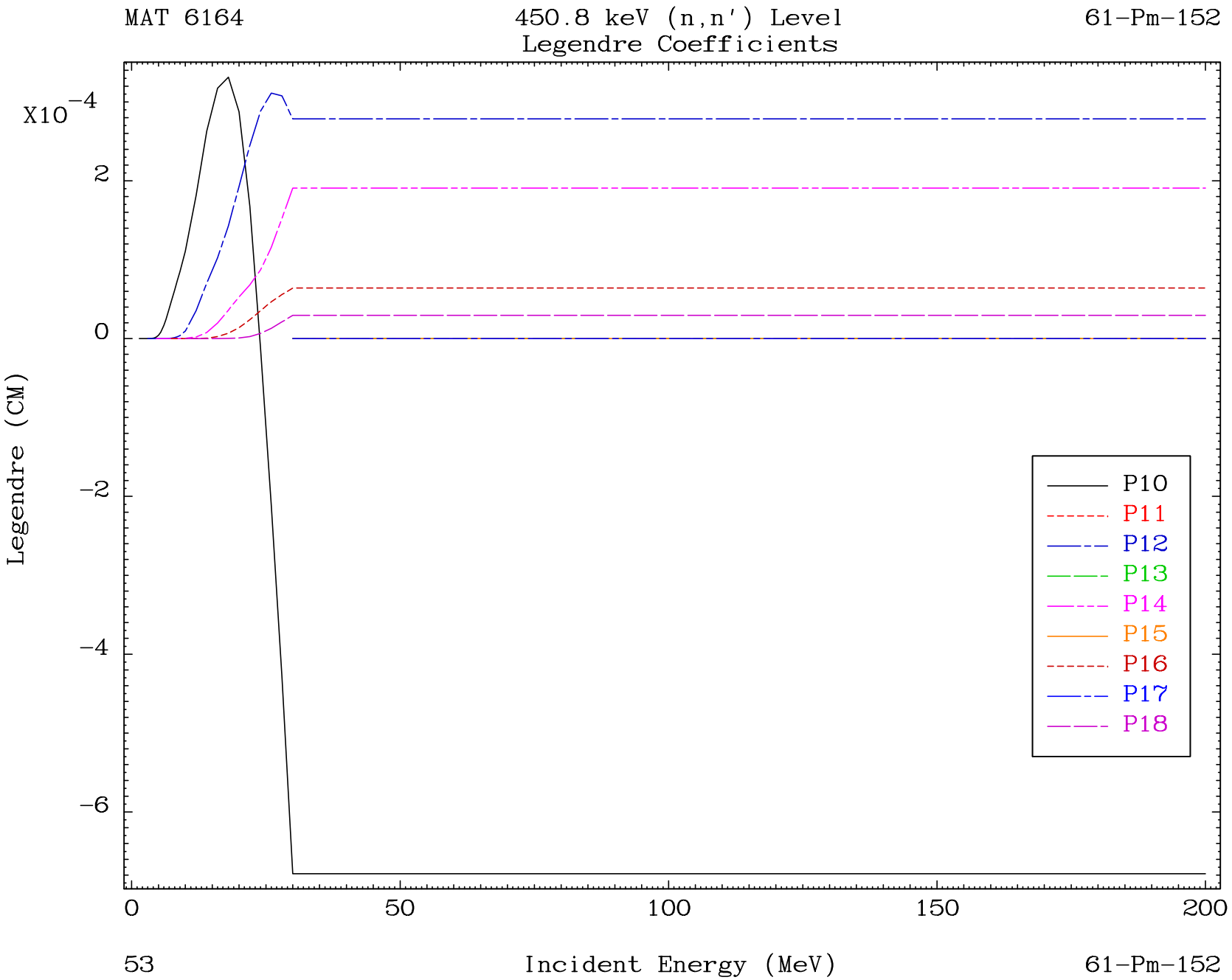

MAT 6164
330.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-5
1.2
0.8
0.4
0.0
Legendre (CM)
P17
P18
P19
P20
P21
P22
P23
P24
50
100
150
200
48
Incident Energy (MeV)
61-Pm-152

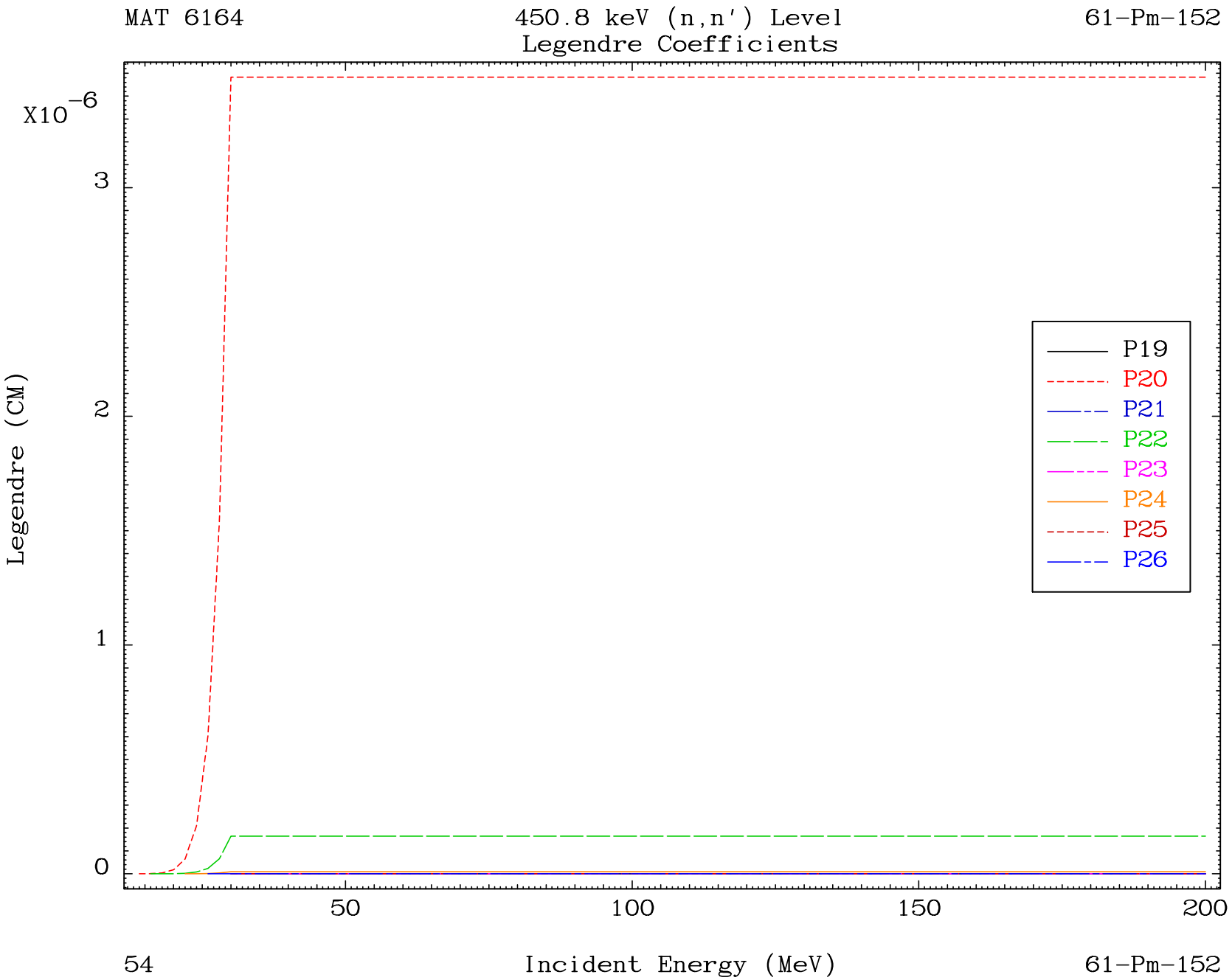

MAT 6164
350.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
49
Incident Energy (MeV)
61-Pm-152

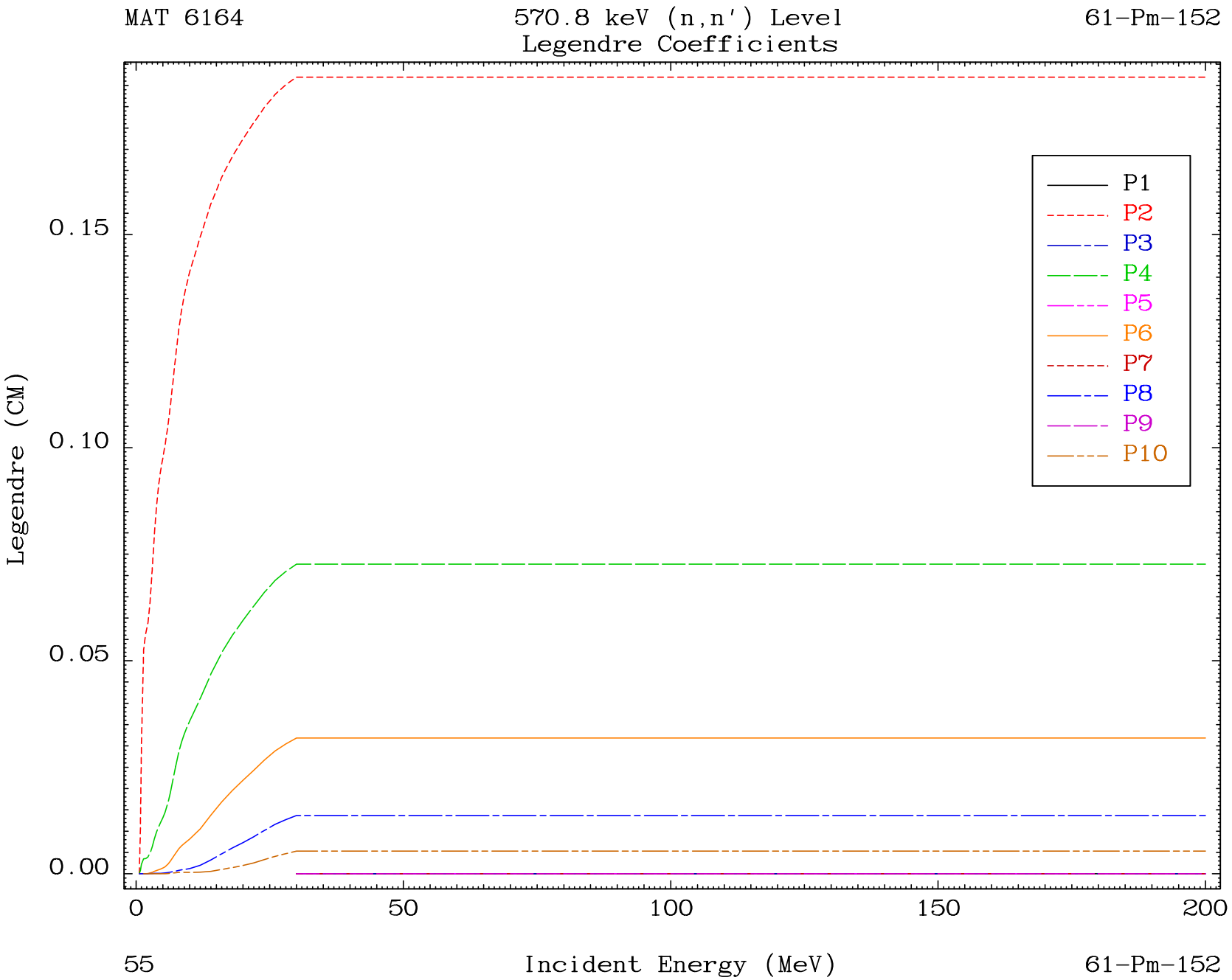

MAT 6164
350.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −4
0
−1
−2
−3
−4
−5
Legendre (CM)
P9
P10
P11
P12
P13
P14
P15
P16
0
50
100
150
200
50
Incident Energy (MeV)
61-Pm-152

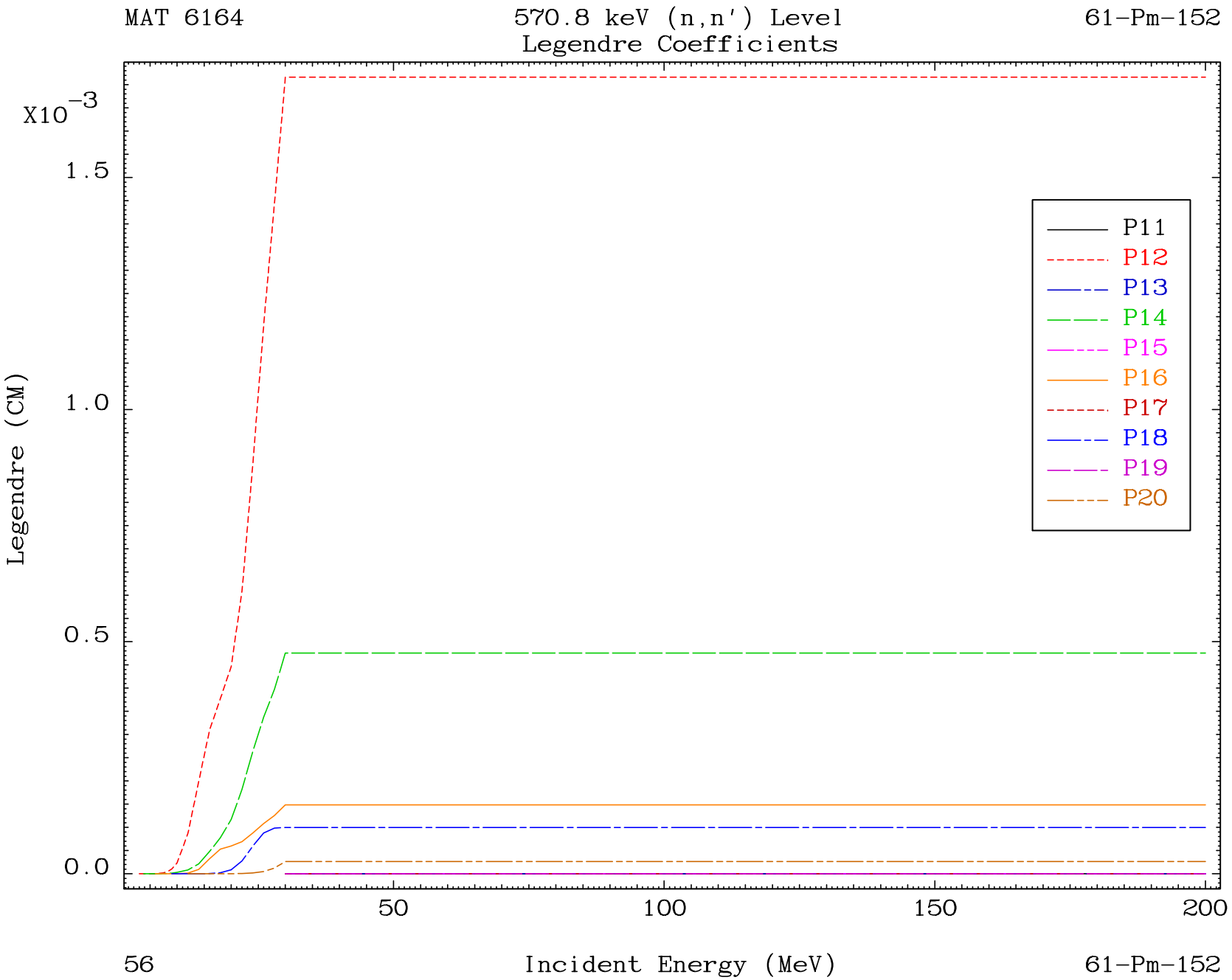

MAT 6164
350.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
51
Incident Energy (MeV)
61-Pm-152

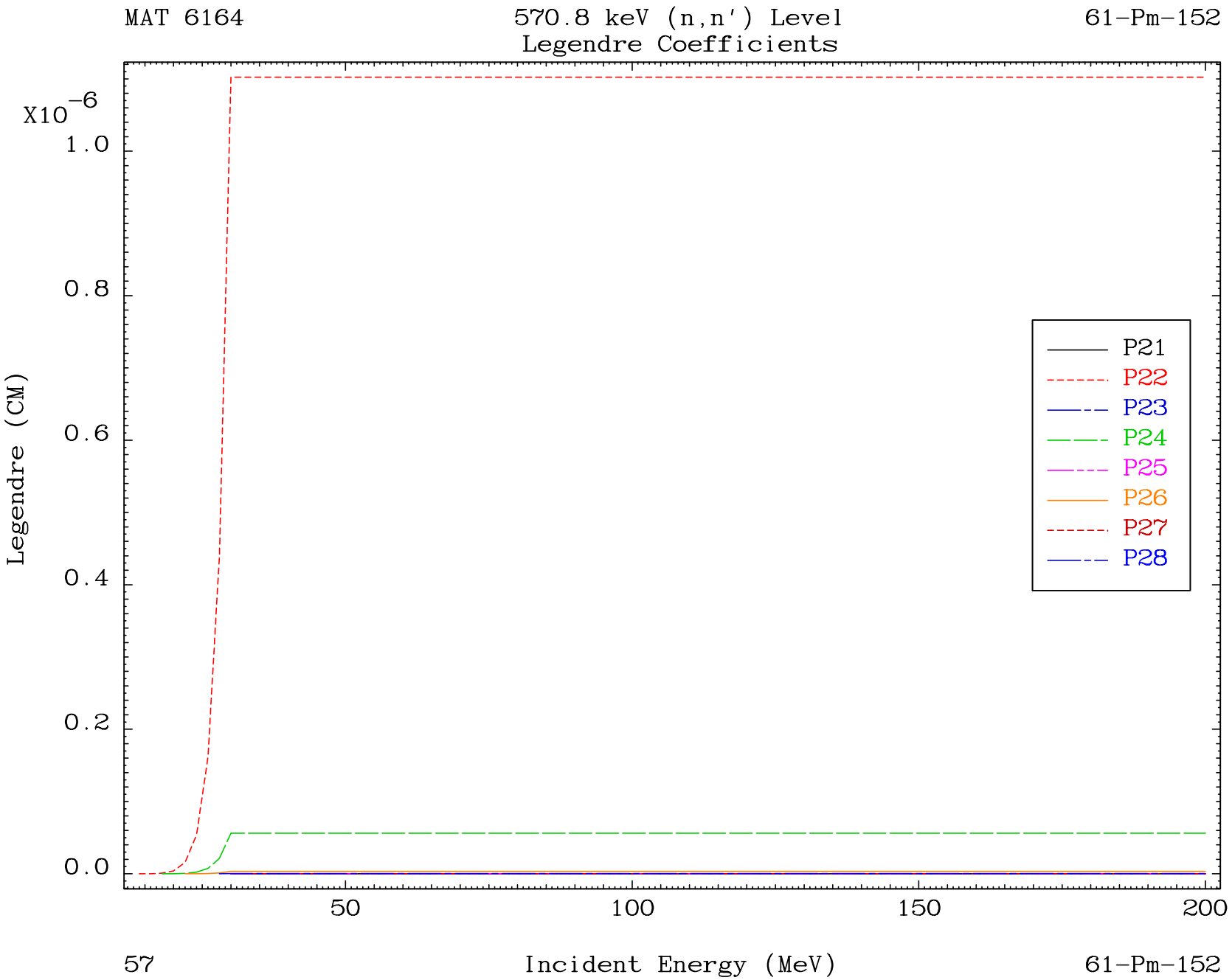

MAT 6164
450.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
52
Incident Energy (MeV)
61-Pm-152

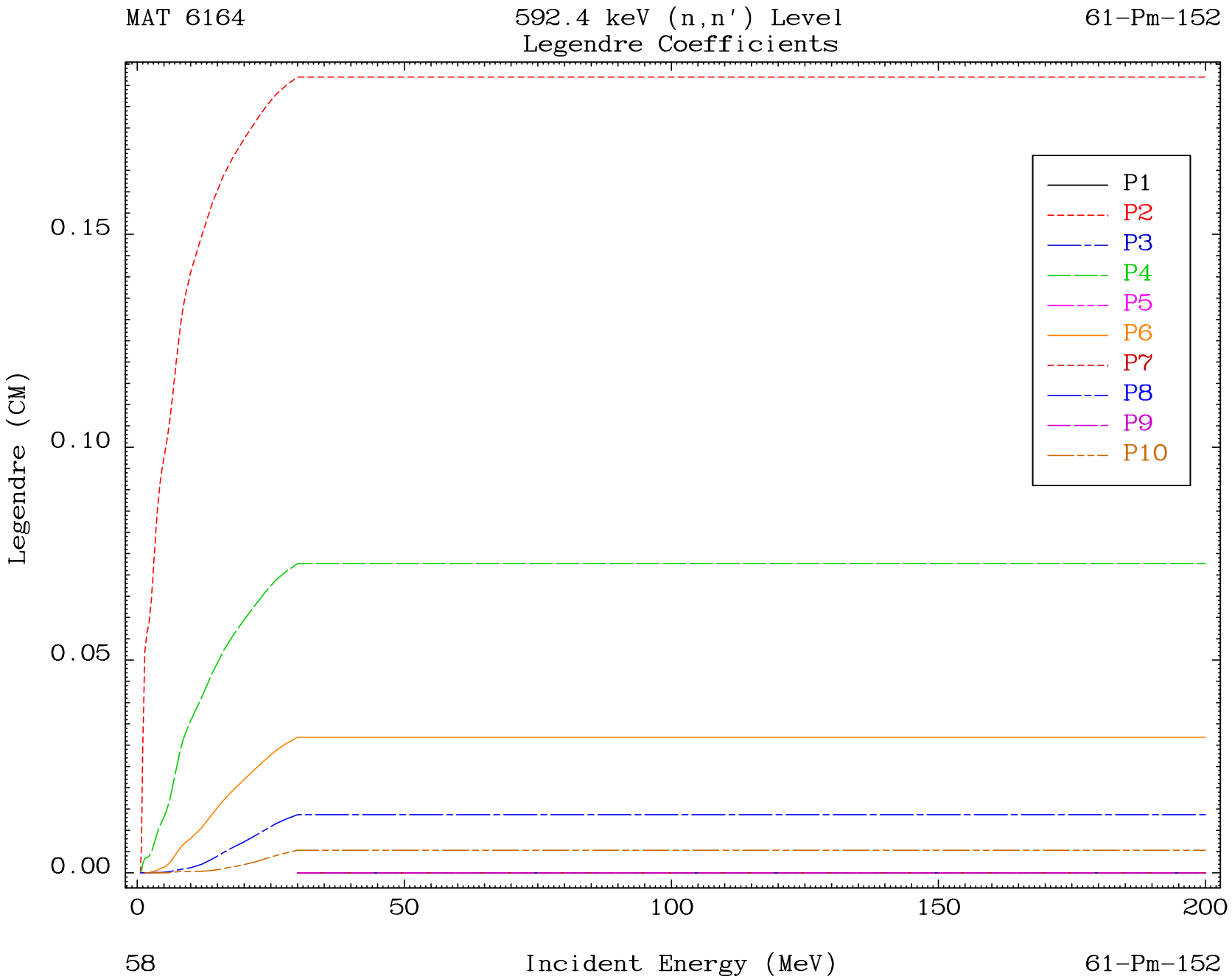

MAT 6164
450.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
2
0
-2
-4
-6
Legendre (CM)
0
50
100
150
200
53
Incident Energy (MeV)
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18

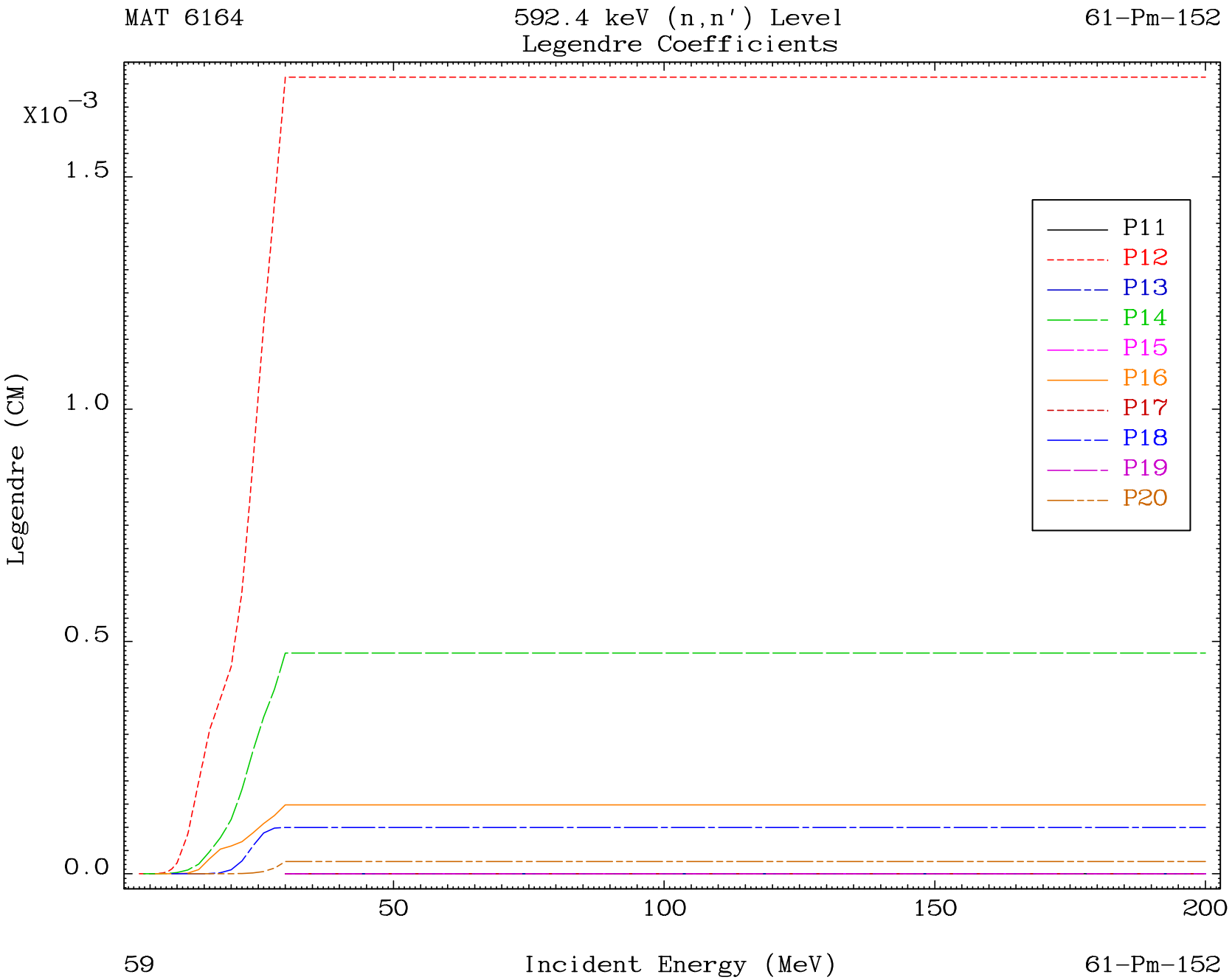

MAT 6164
450.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
54
Incident Energy (MeV)
61-Pm-152

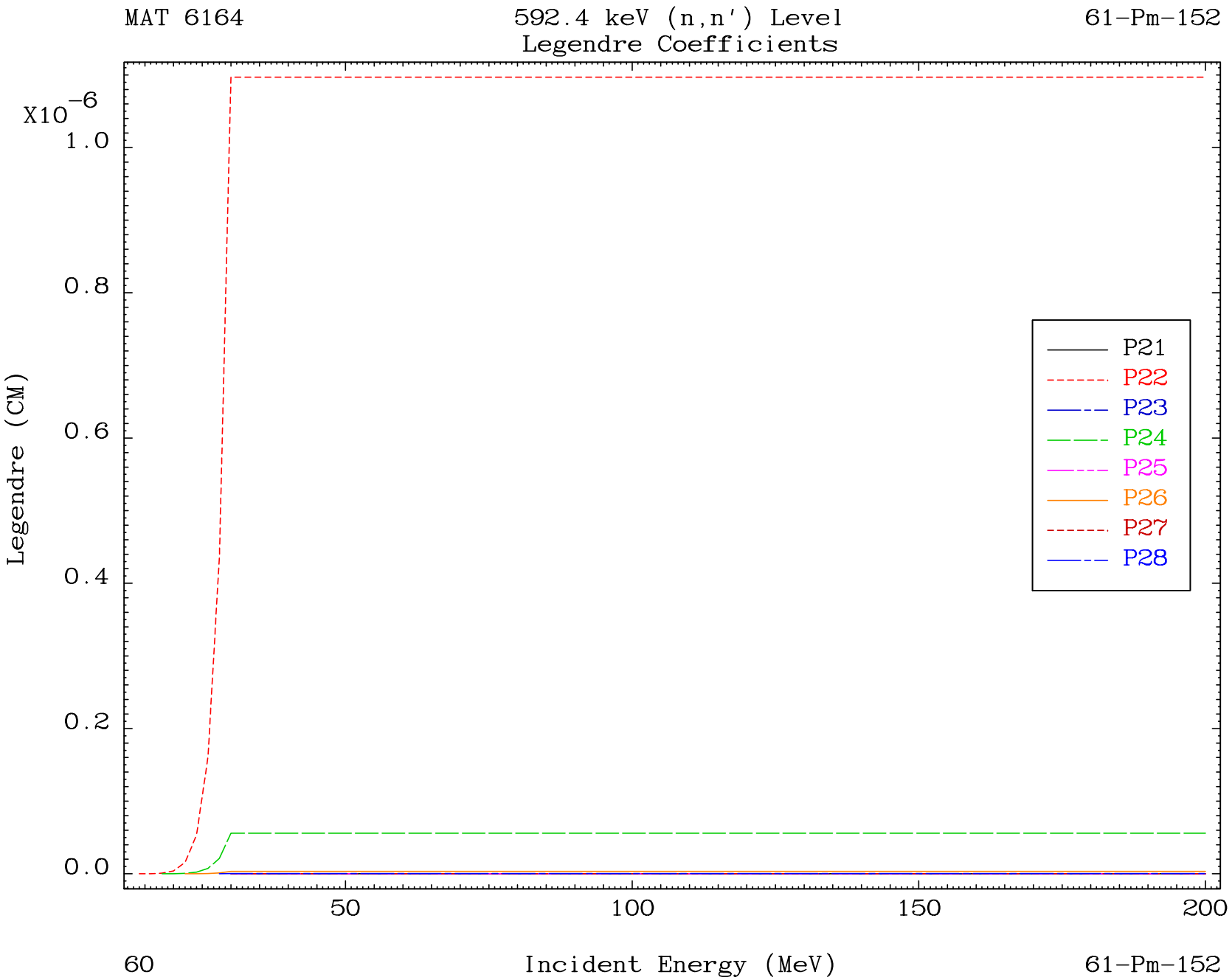

MAT 6164
570.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
55
Incident Energy (MeV)
61-Pm-152

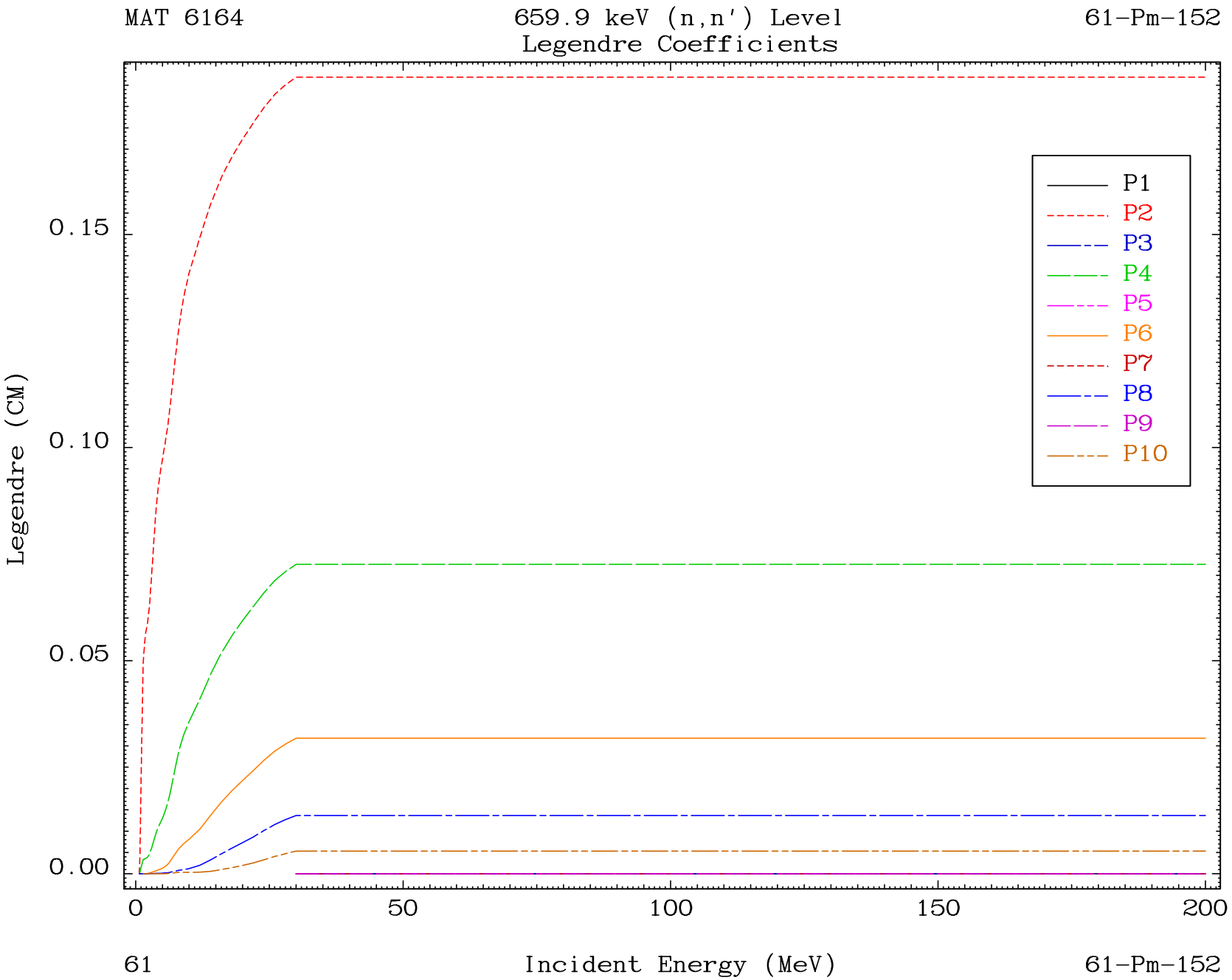

MAT 6164
570.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
50
100
150
200
56
Incident Energy (MeV)
61-Pm-152

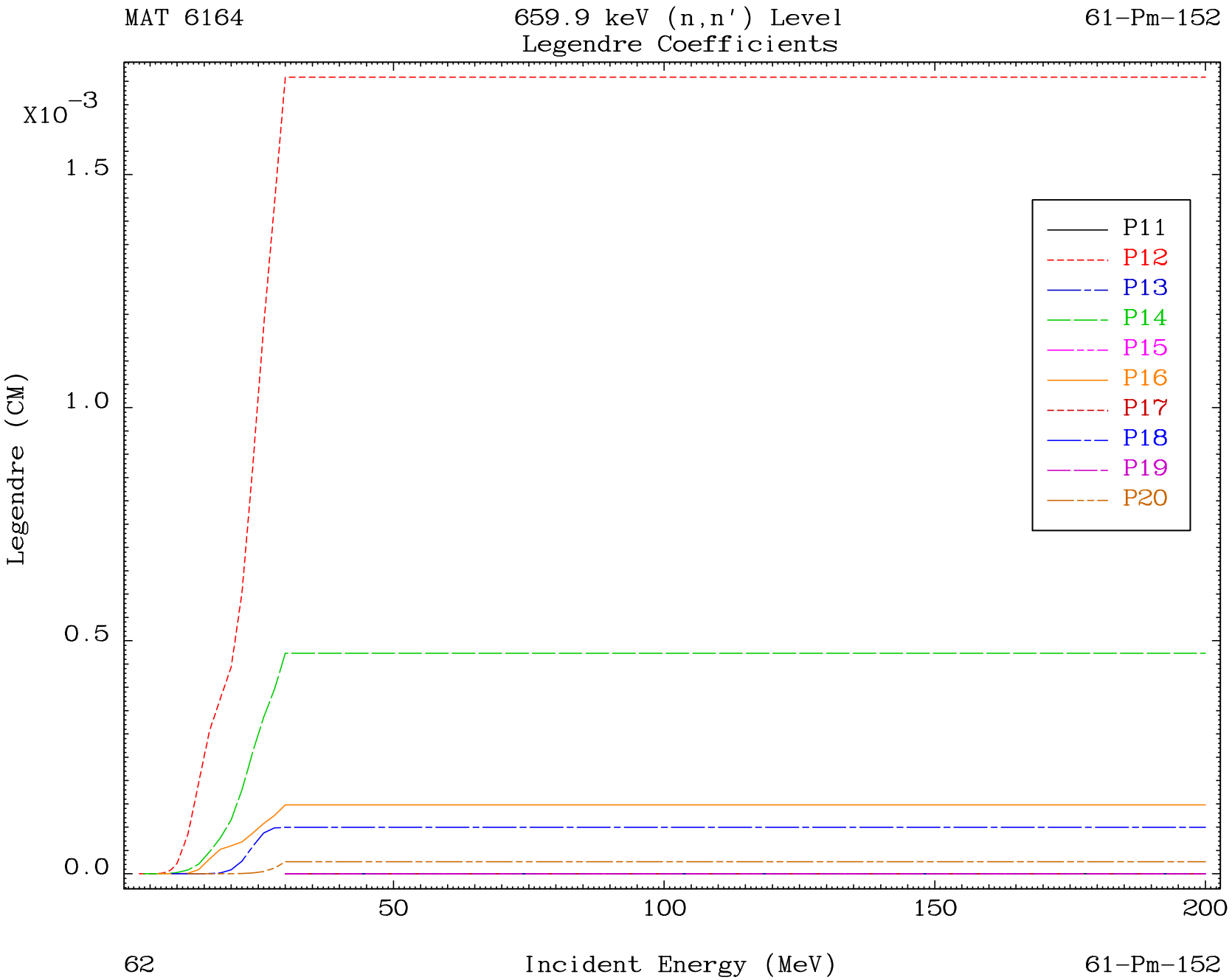

MAT 6164
570.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
57
Incident Energy (MeV)
61-Pm-152

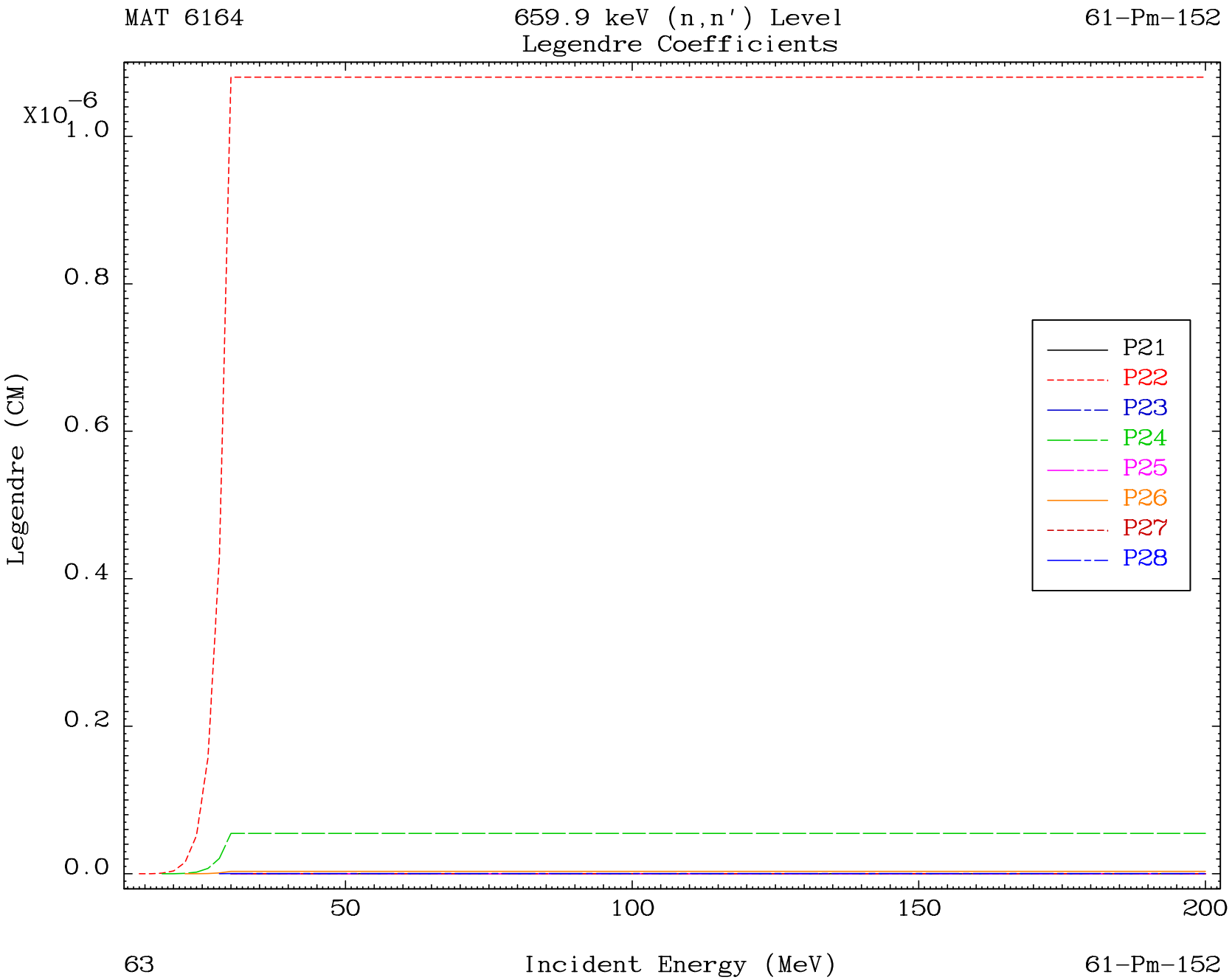

MAT 6164
592.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
58
Incident Energy (MeV)
61-Pm-152

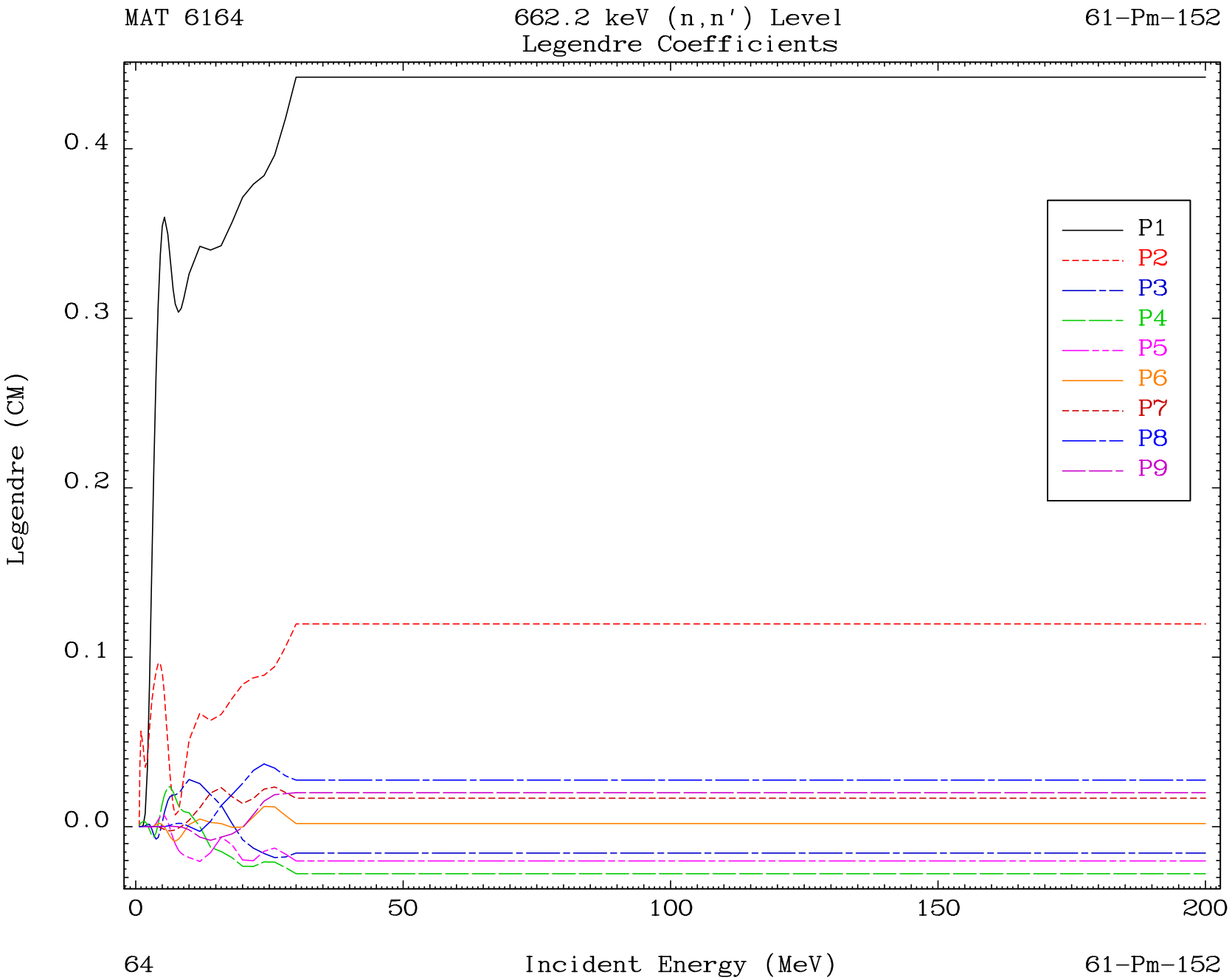

MAT 6164
592.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-3
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
50
100
150
200
59
Incident Energy (MeV)
61-Pm-152

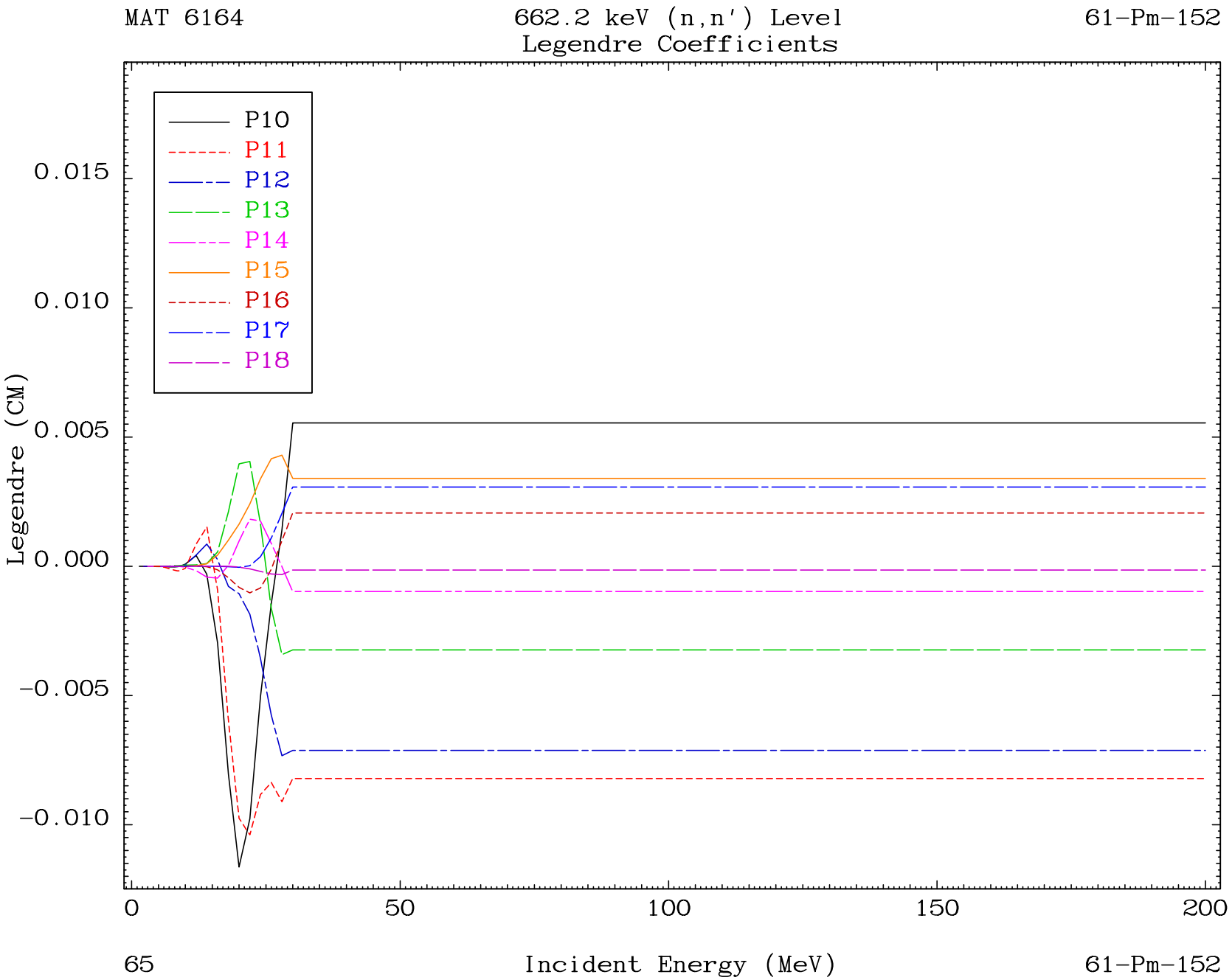

MAT 6164
592.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
60
Incident Energy (MeV)
61-Pm-152

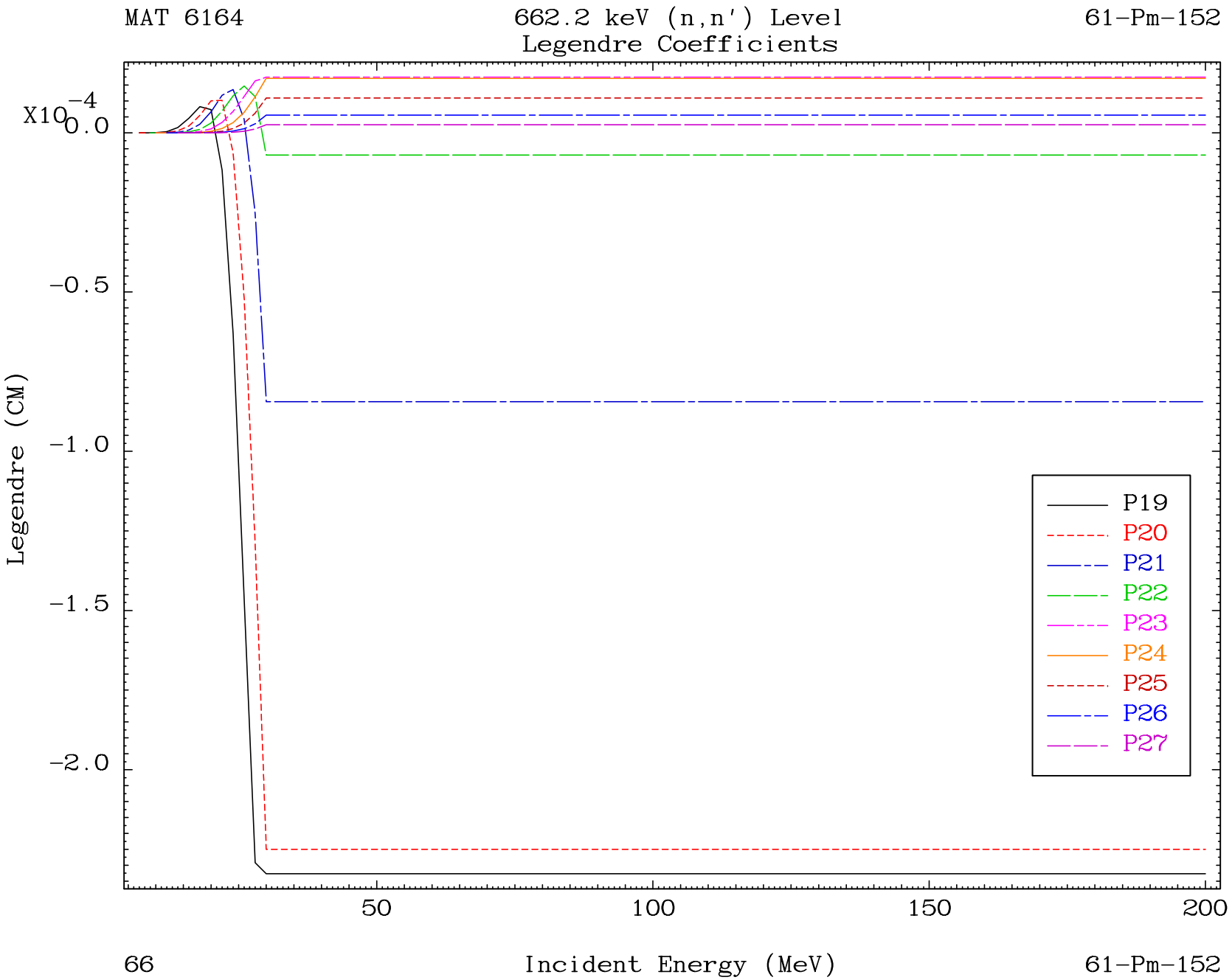

MAT 6164
659.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
61
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

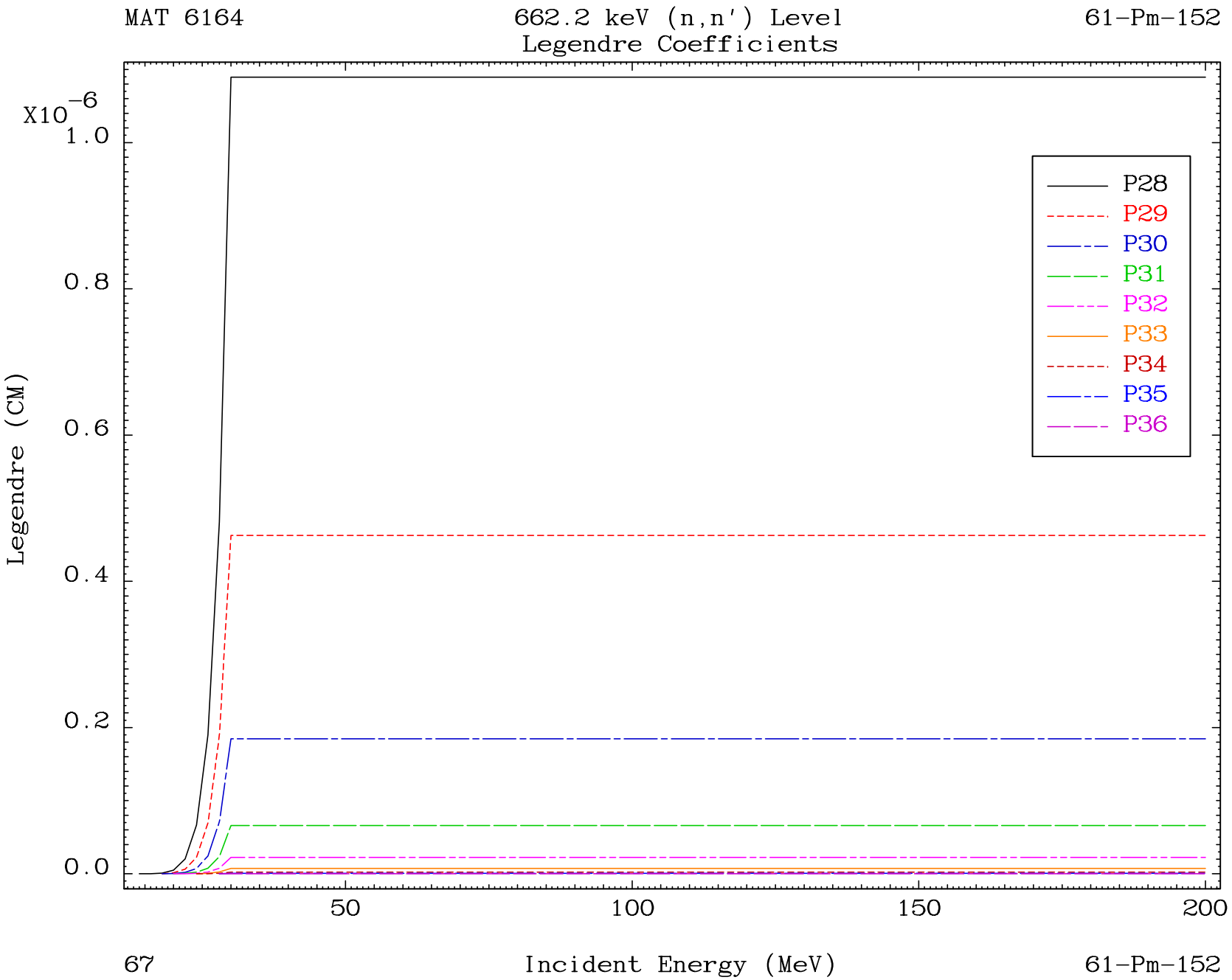

MAT 6164
659.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
50
100
150
200
62
Incident Energy (MeV)
61-Pm-152

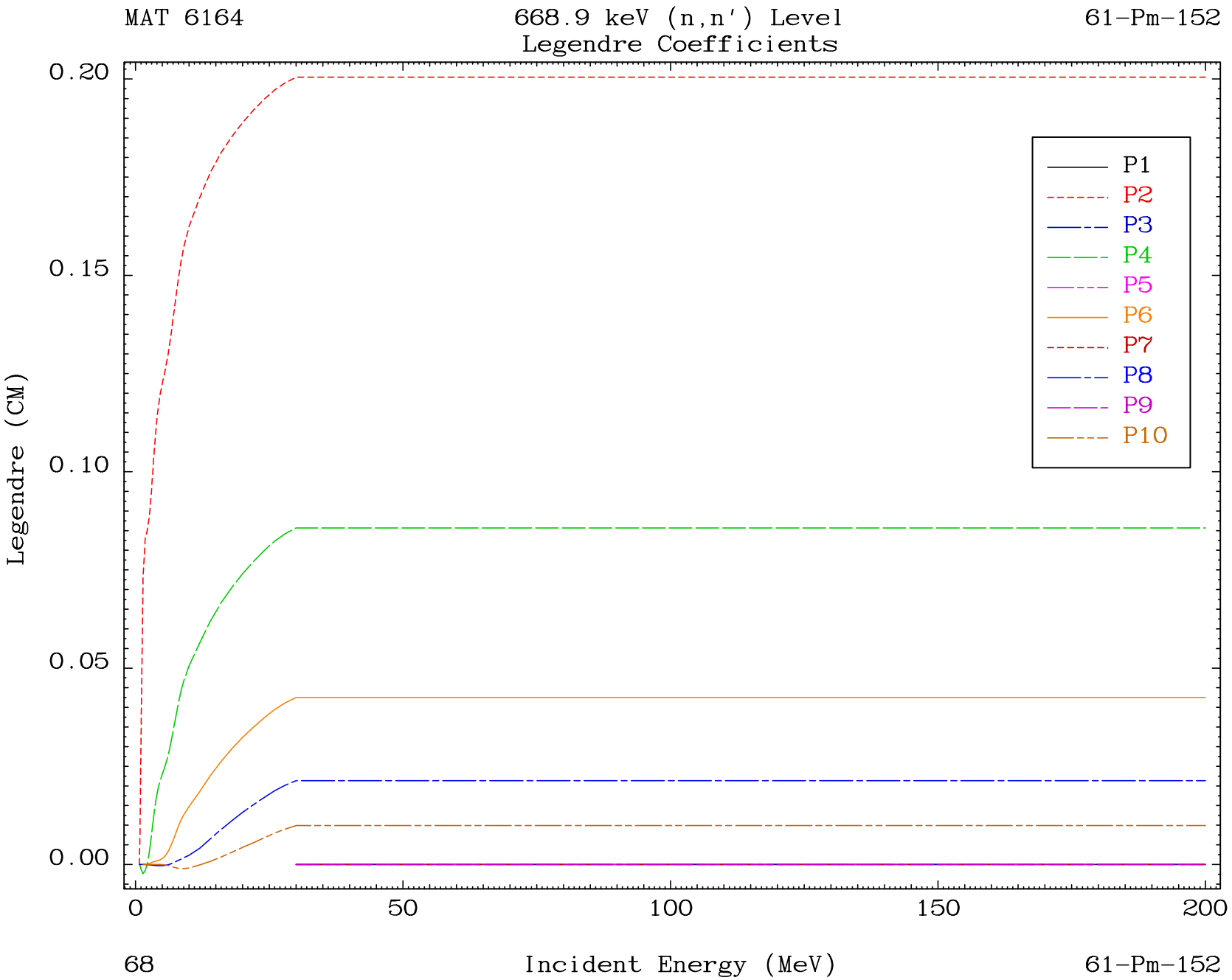

MAT 6164
659.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
63
Incident Energy (MeV)
61-Pm-152

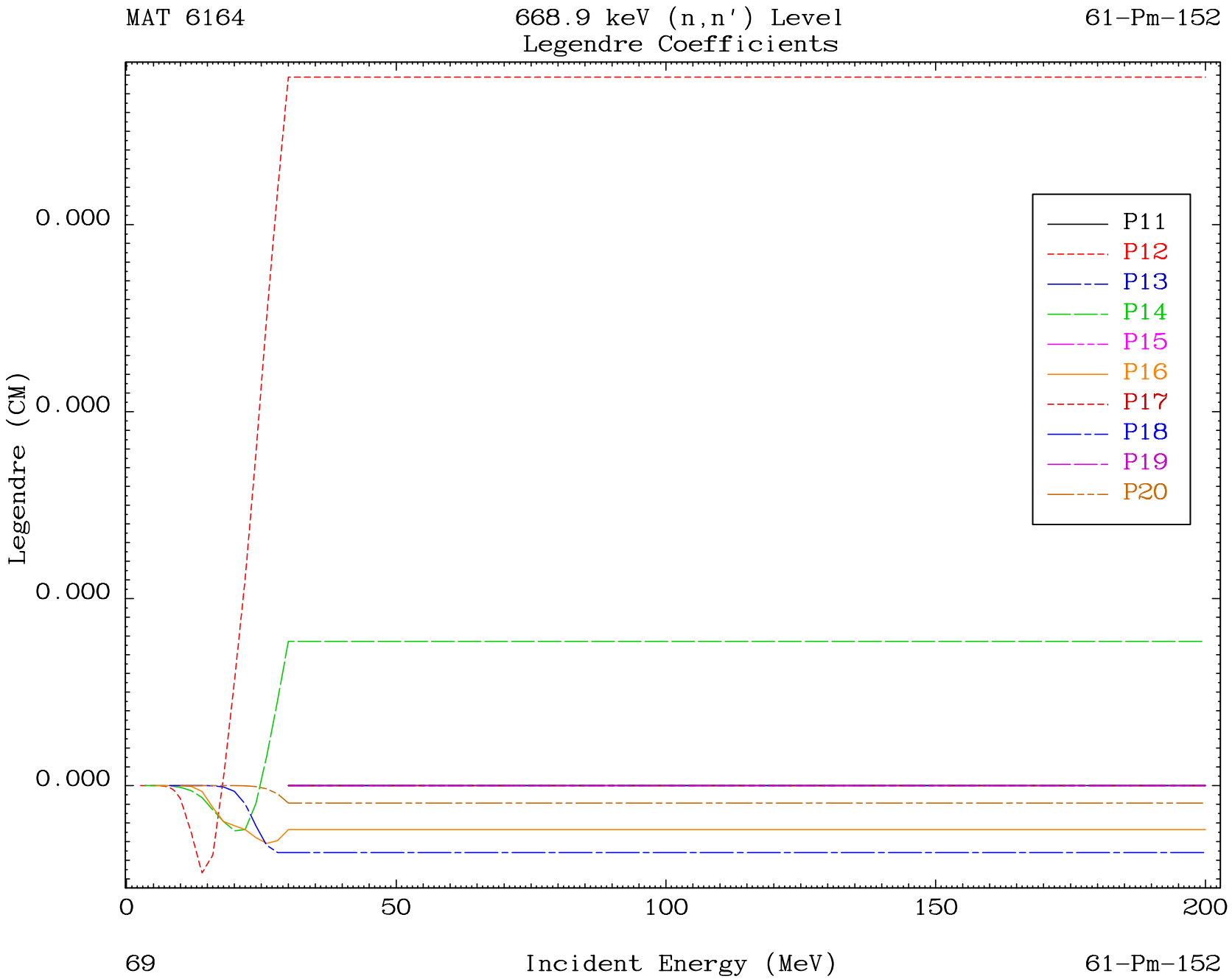

MAT 6164
662.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
64
Incident Energy (MeV)
61-Pm-152

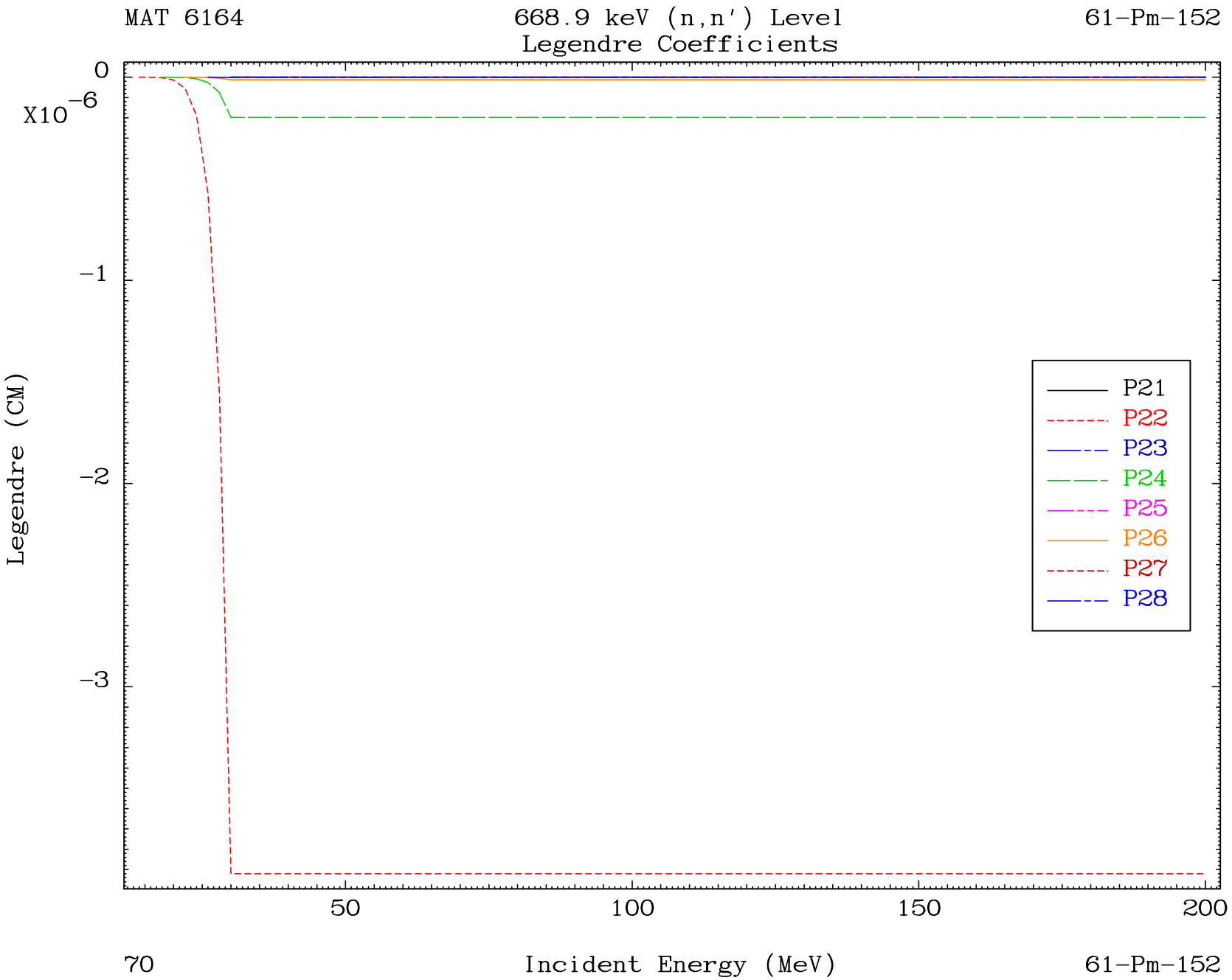

MAT 6164
662.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.015
0.010
0.005
0.000
-0.005
-0.010
Legendre (CM)
0
50
100
150
200
65
Incident Energy (MeV)
61-Pm-152

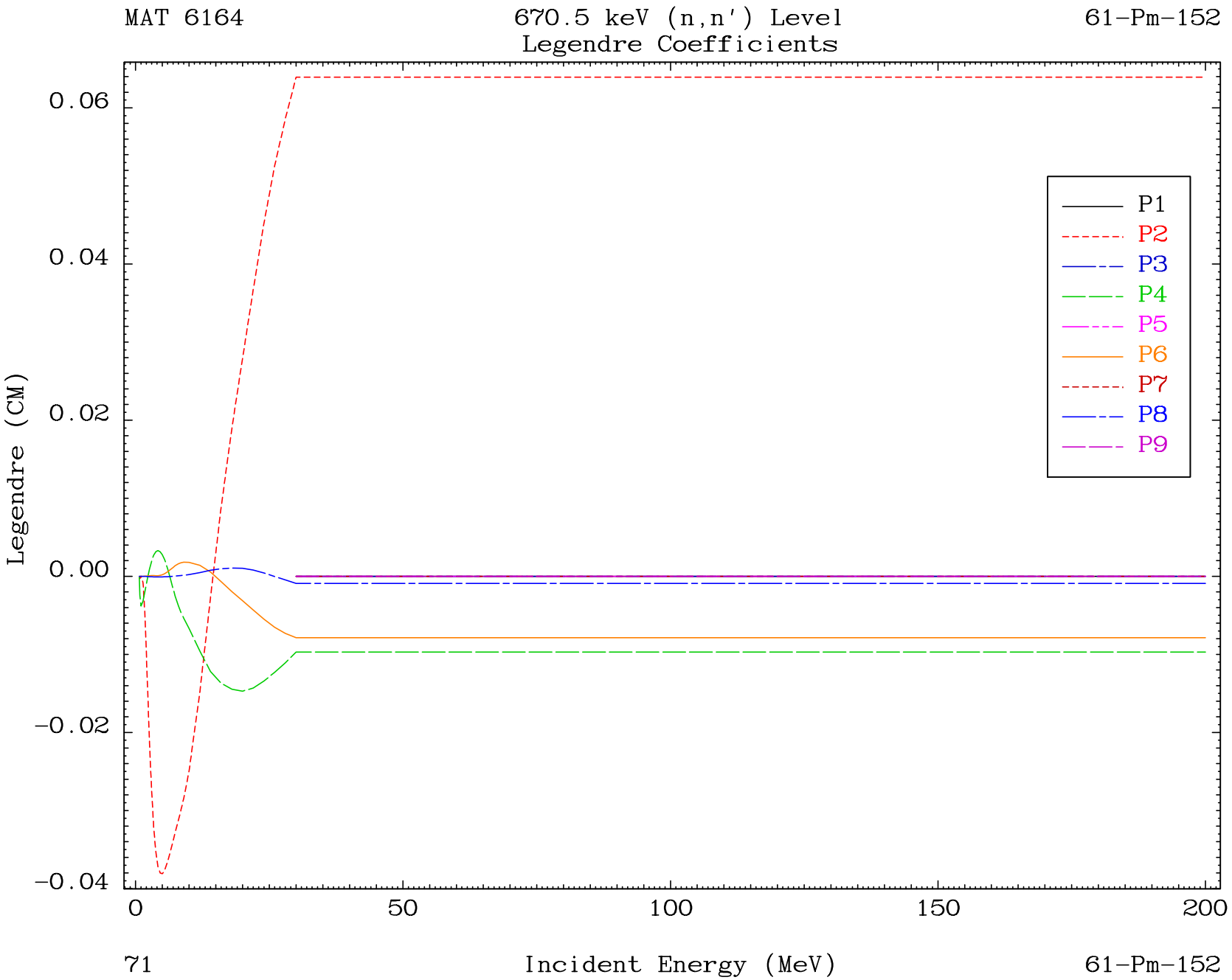

MAT 6164
662.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
66
Incident Energy (MeV)
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26
P27

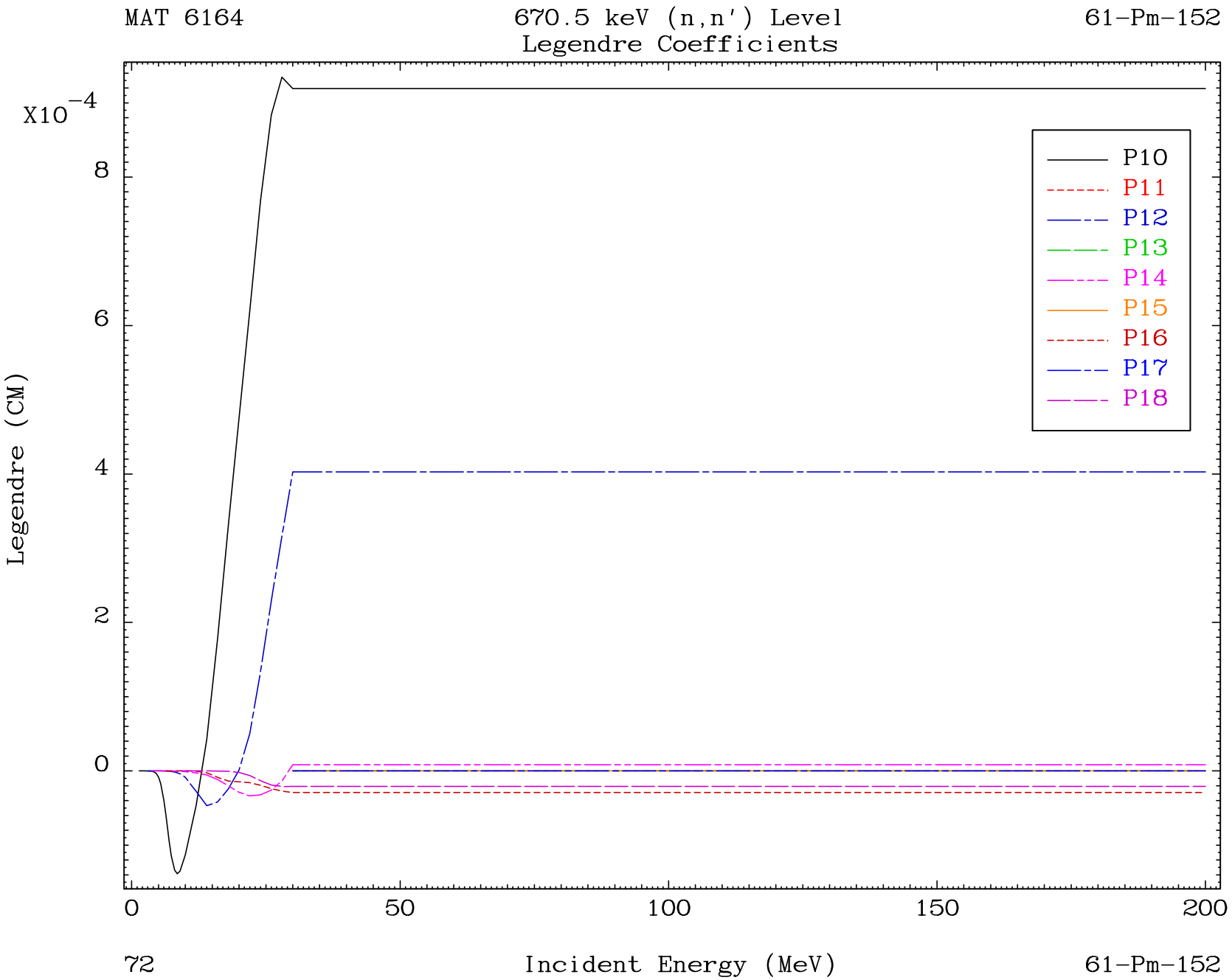

MAT 6164
662.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
67
Incident Energy (MeV)
61-Pm-152

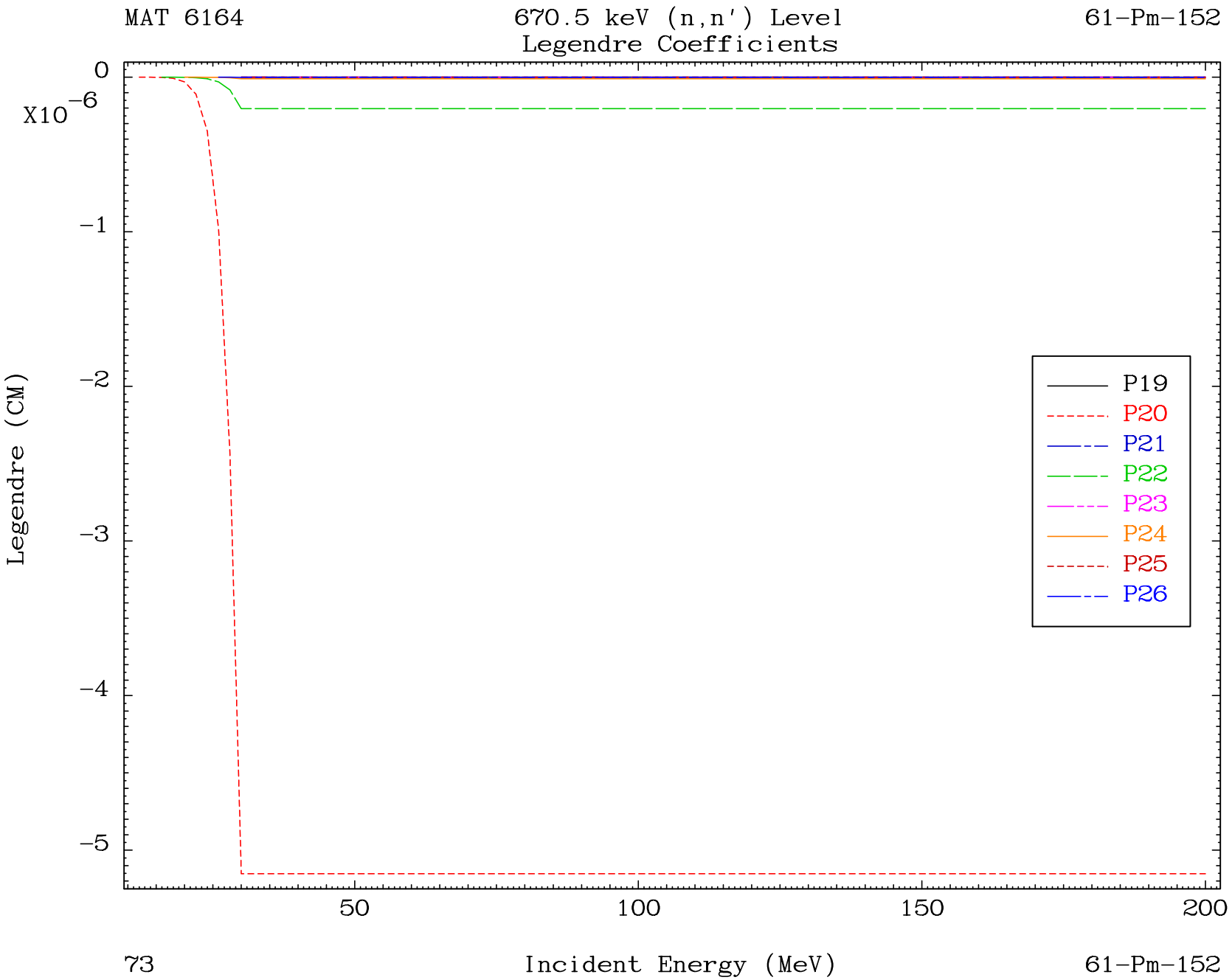

MAT 6164
668.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
68
Incident Energy (MeV)
61-Pm-152

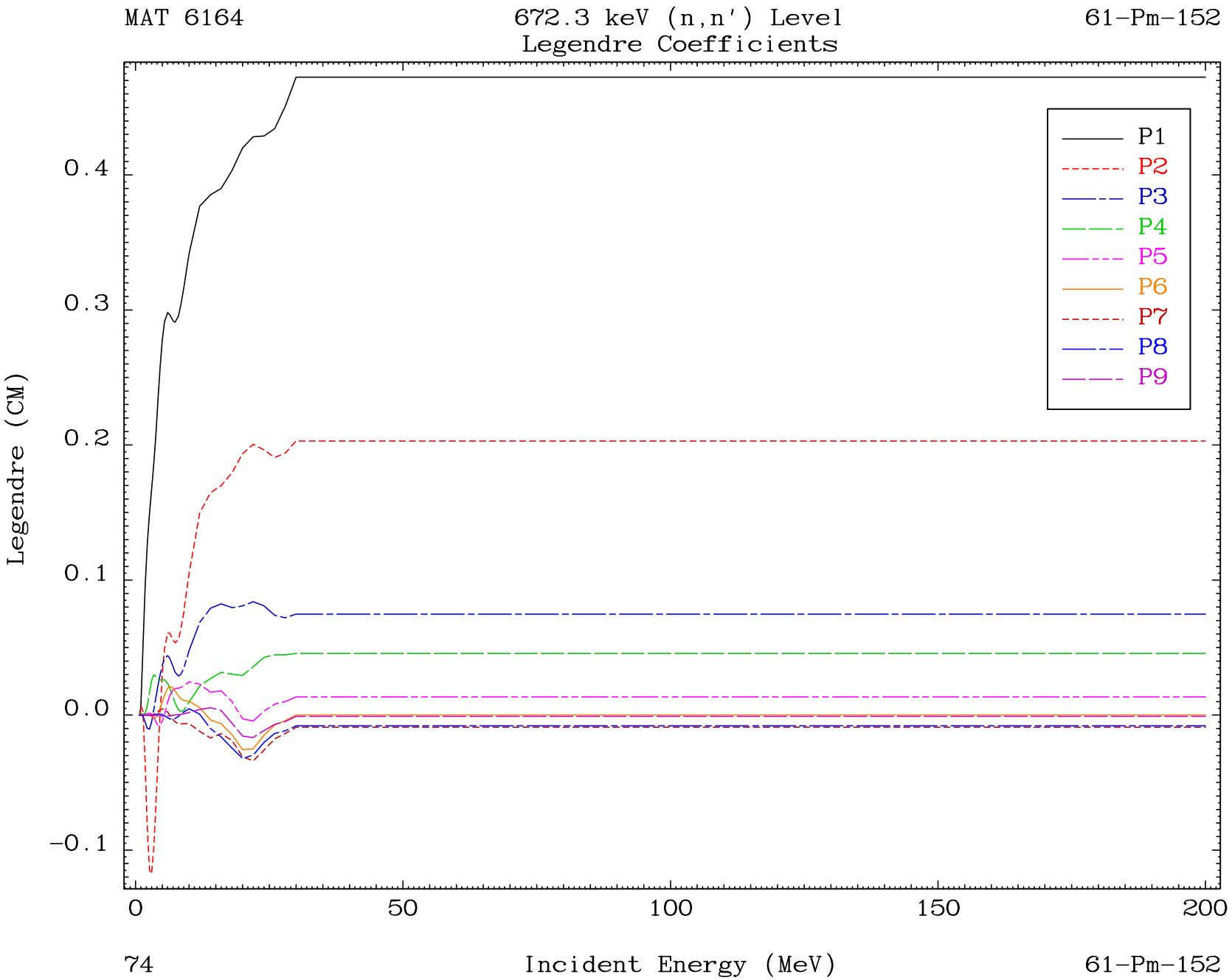

MAT 6164
668.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.000
0.000
0.000
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
69
Incident Energy (MeV)
61-Pm-152

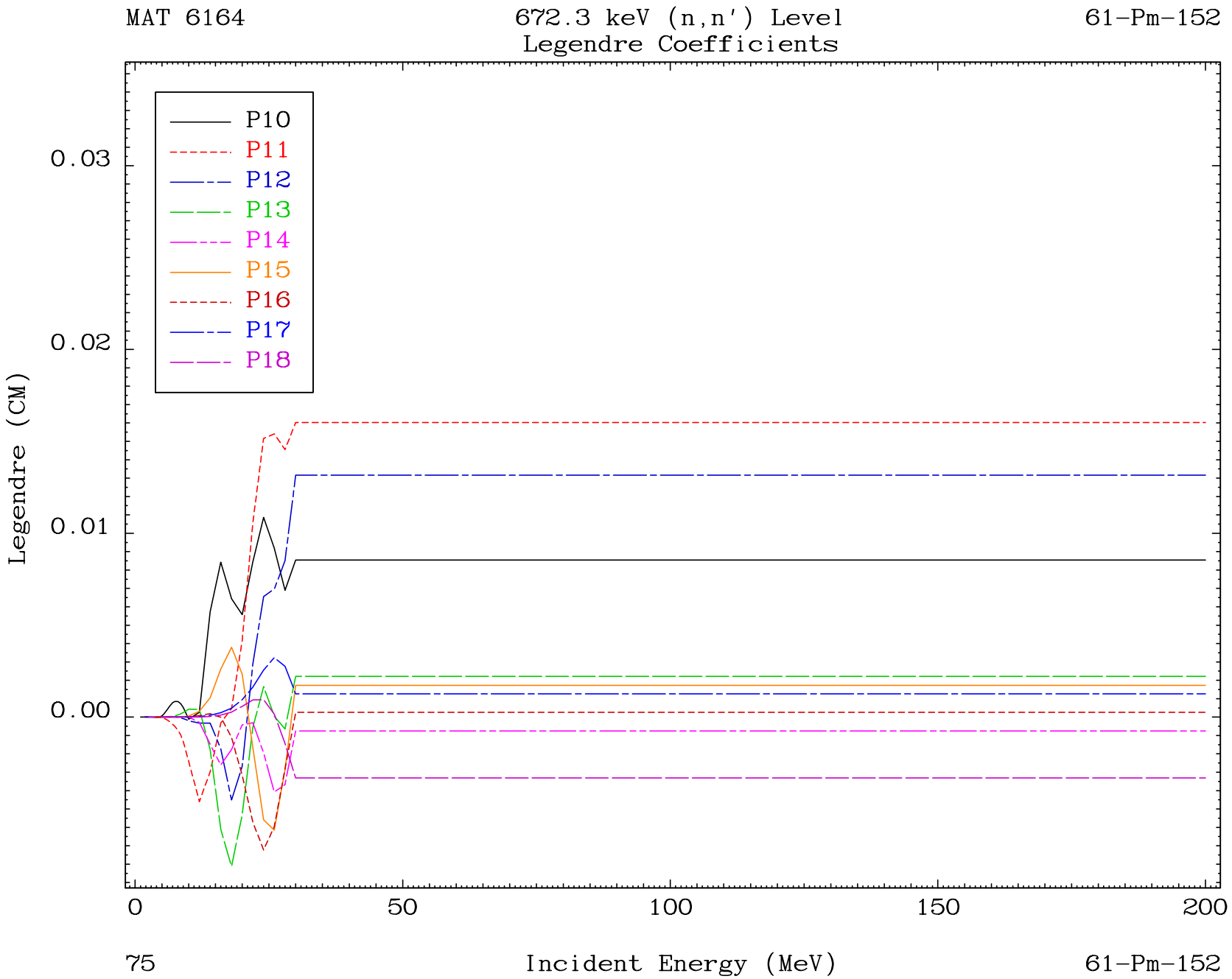

MAT 6164
668.9 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10−6
−1
−2
−3
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
70
Incident Energy (MeV)
61-Pm-152

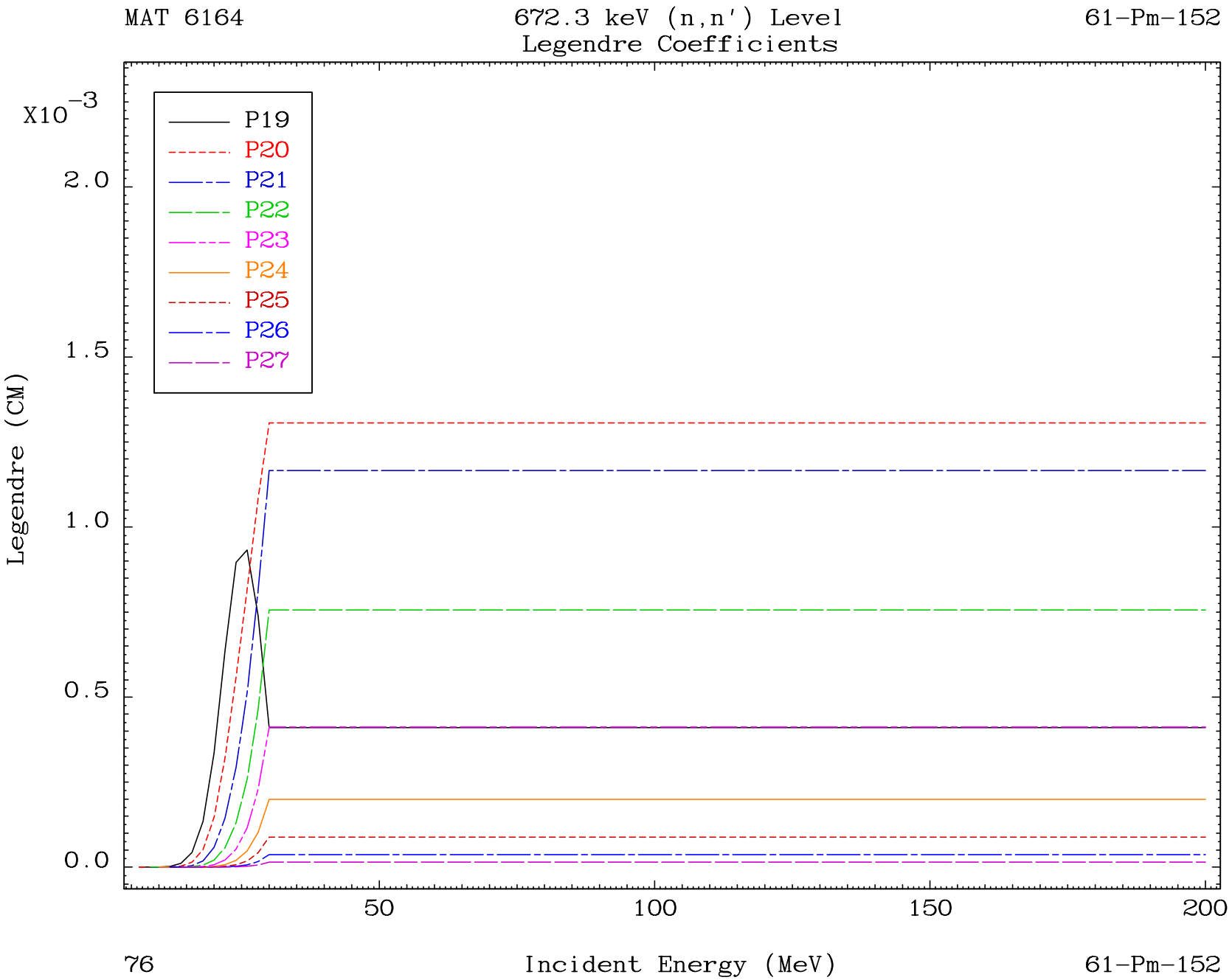

MAT 6164
670.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
71
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

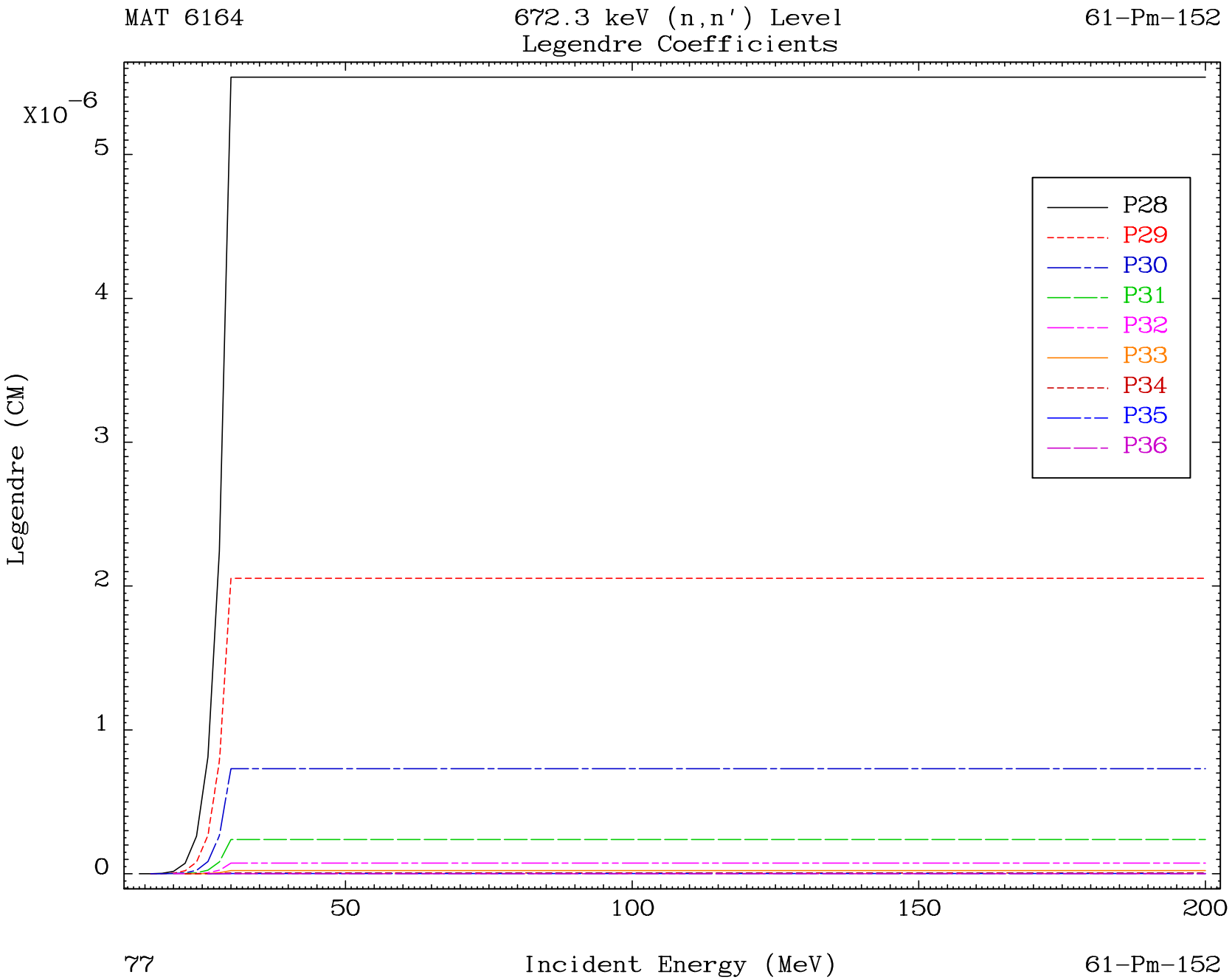

MAT 6164
670.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 -4
8
6
4
2
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
72
Incident Energy (MeV)
61-Pm-152

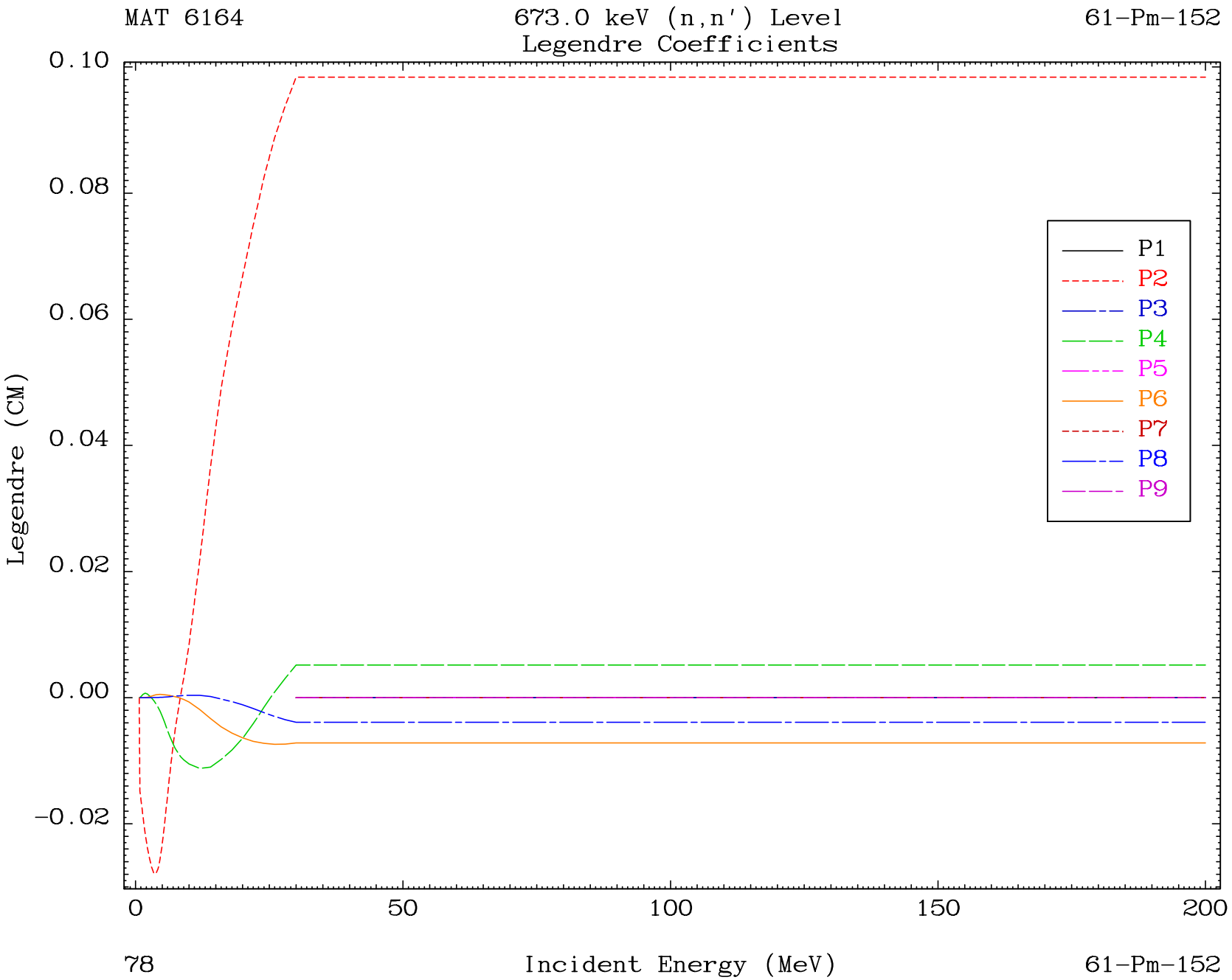

MAT 6164
670.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10 −6
−1
−2
−3
−4
−5
Legendre (CM)
50
100
150
200
73
Incident Energy (MeV)
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26

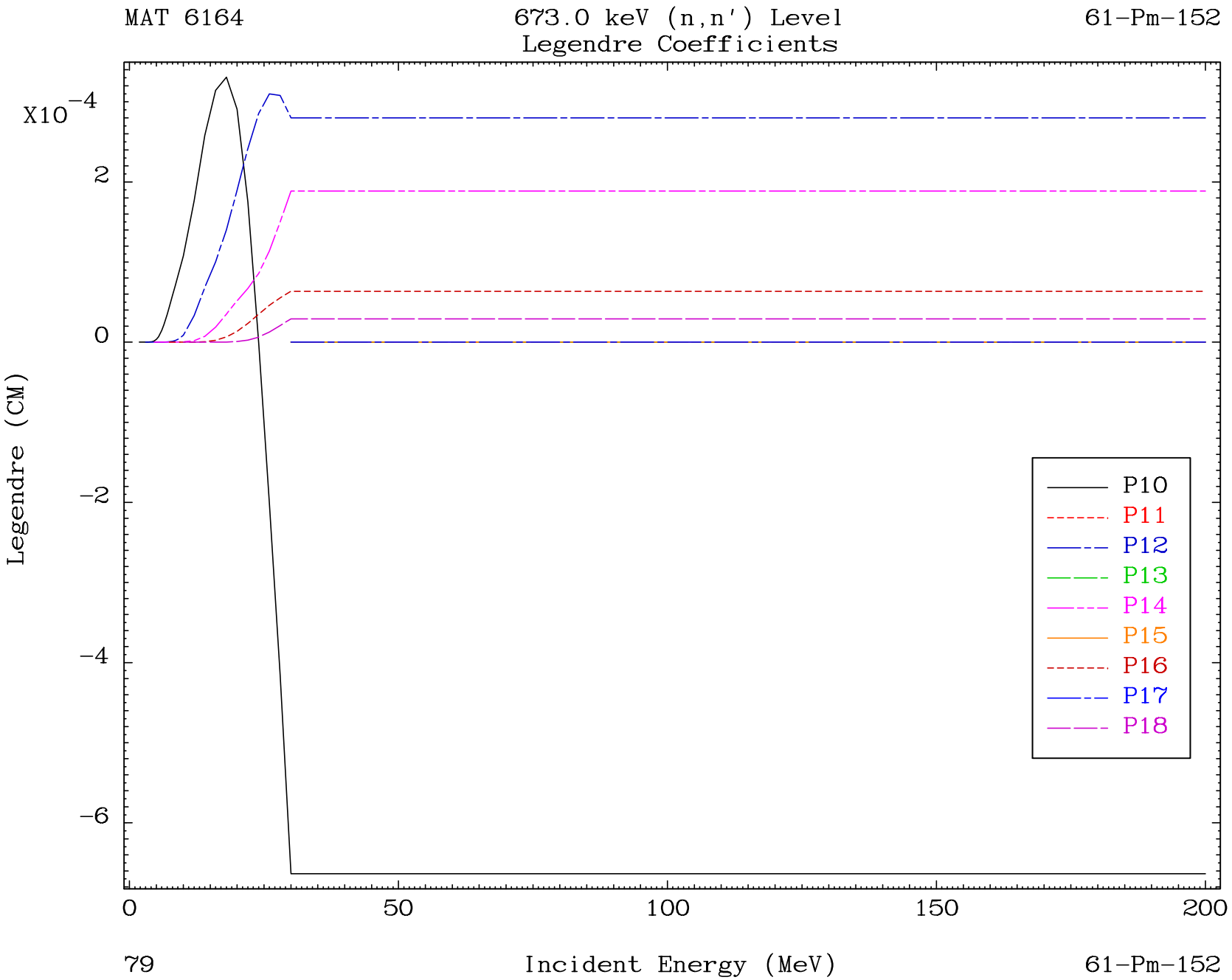

MAT 6164
672.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
74
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

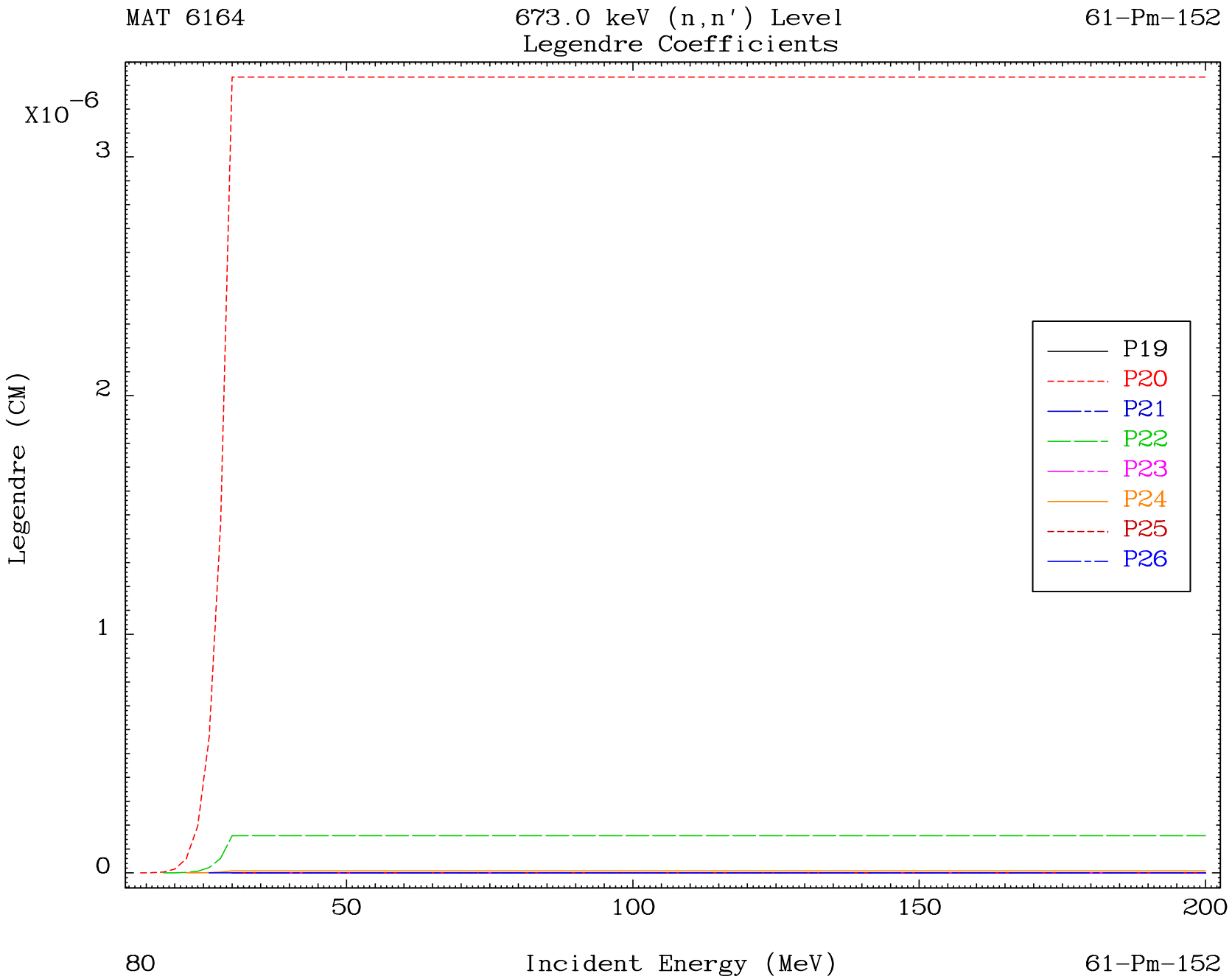

MAT 6164
672.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
75
Incident Energy (MeV)
61-Pm-152

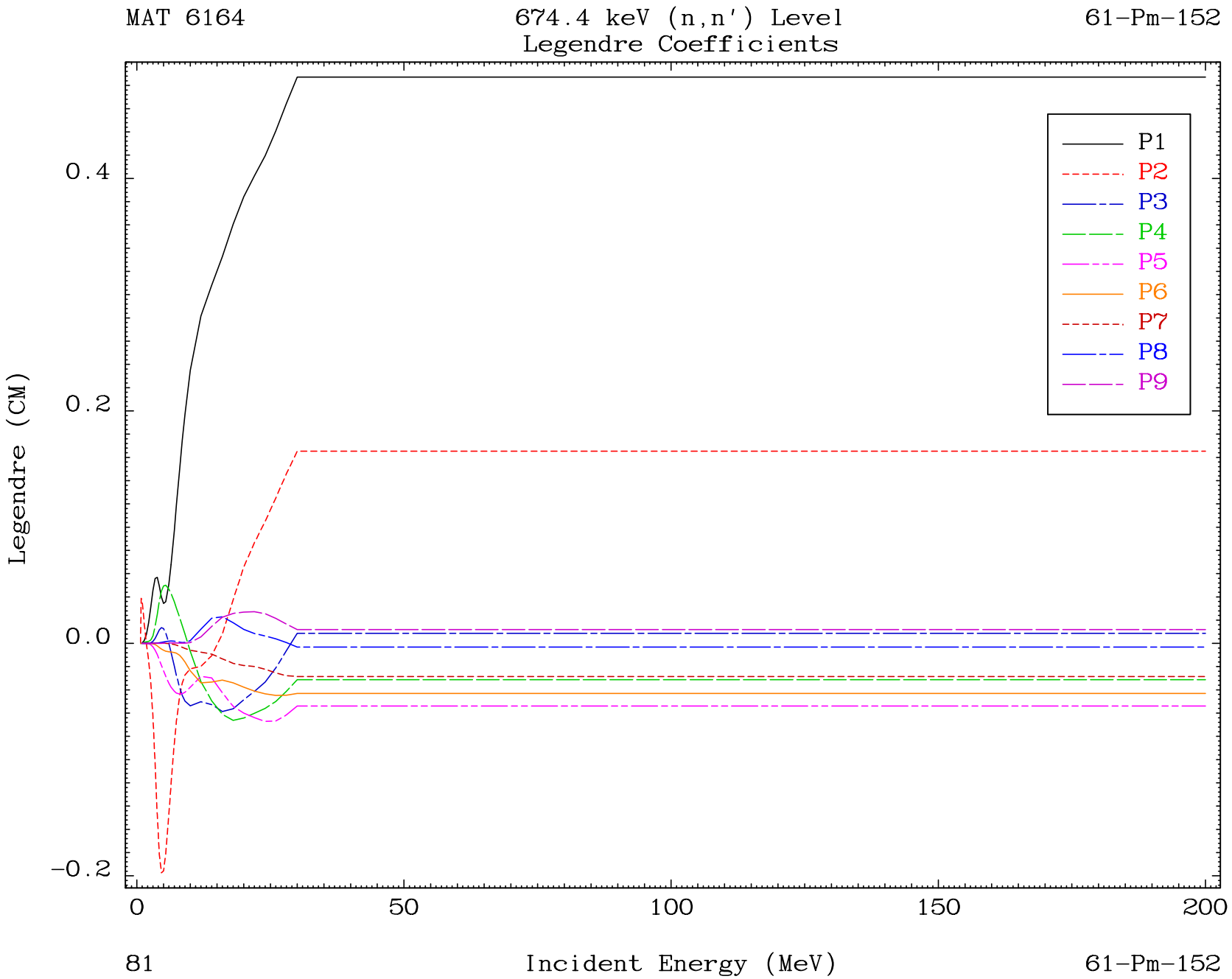

MAT 6164
672.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
76
Incident Energy (MeV)
61-Pm-152

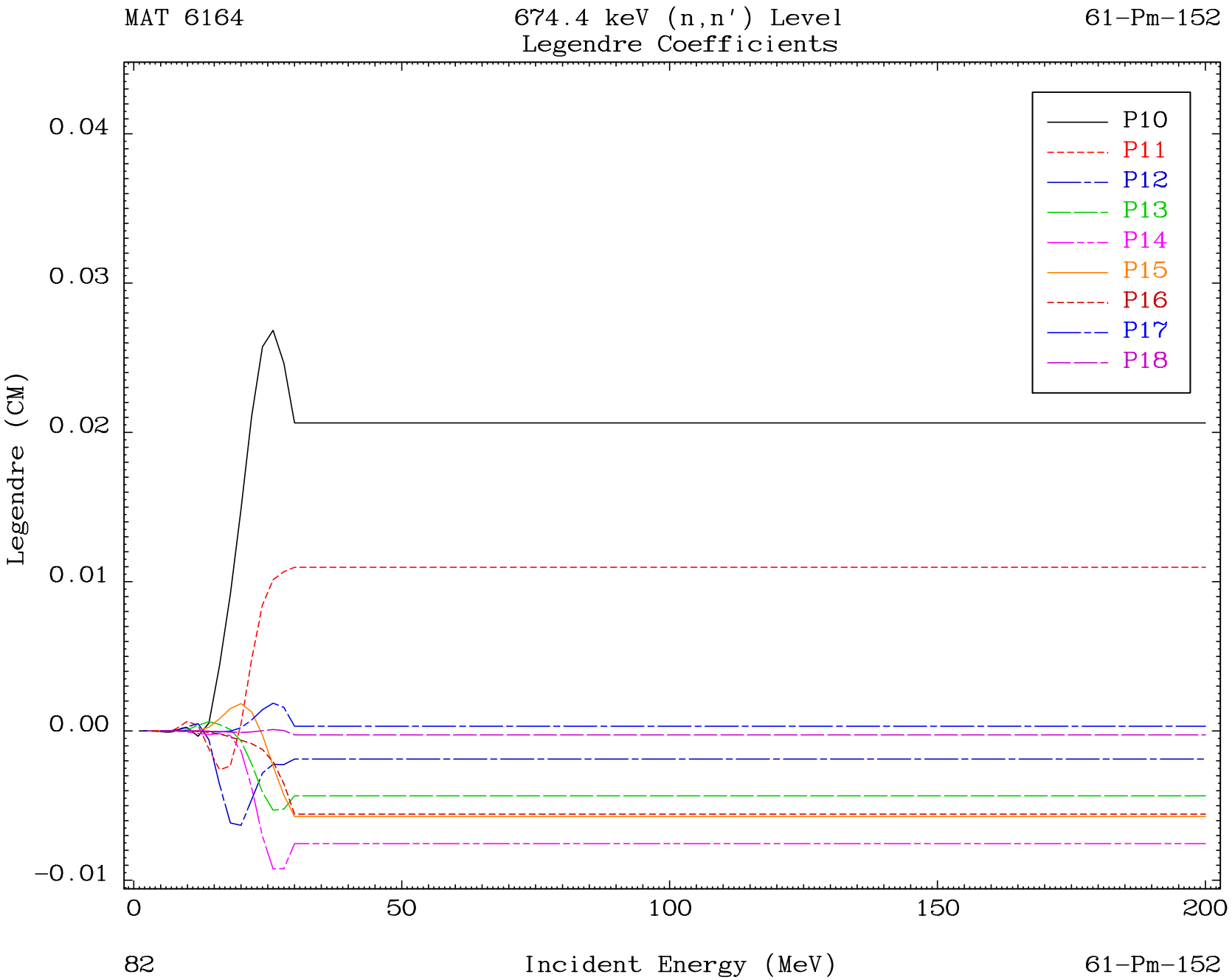

MAT 6164
672.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
5
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
77
Incident Energy (MeV)
61-Pm-152

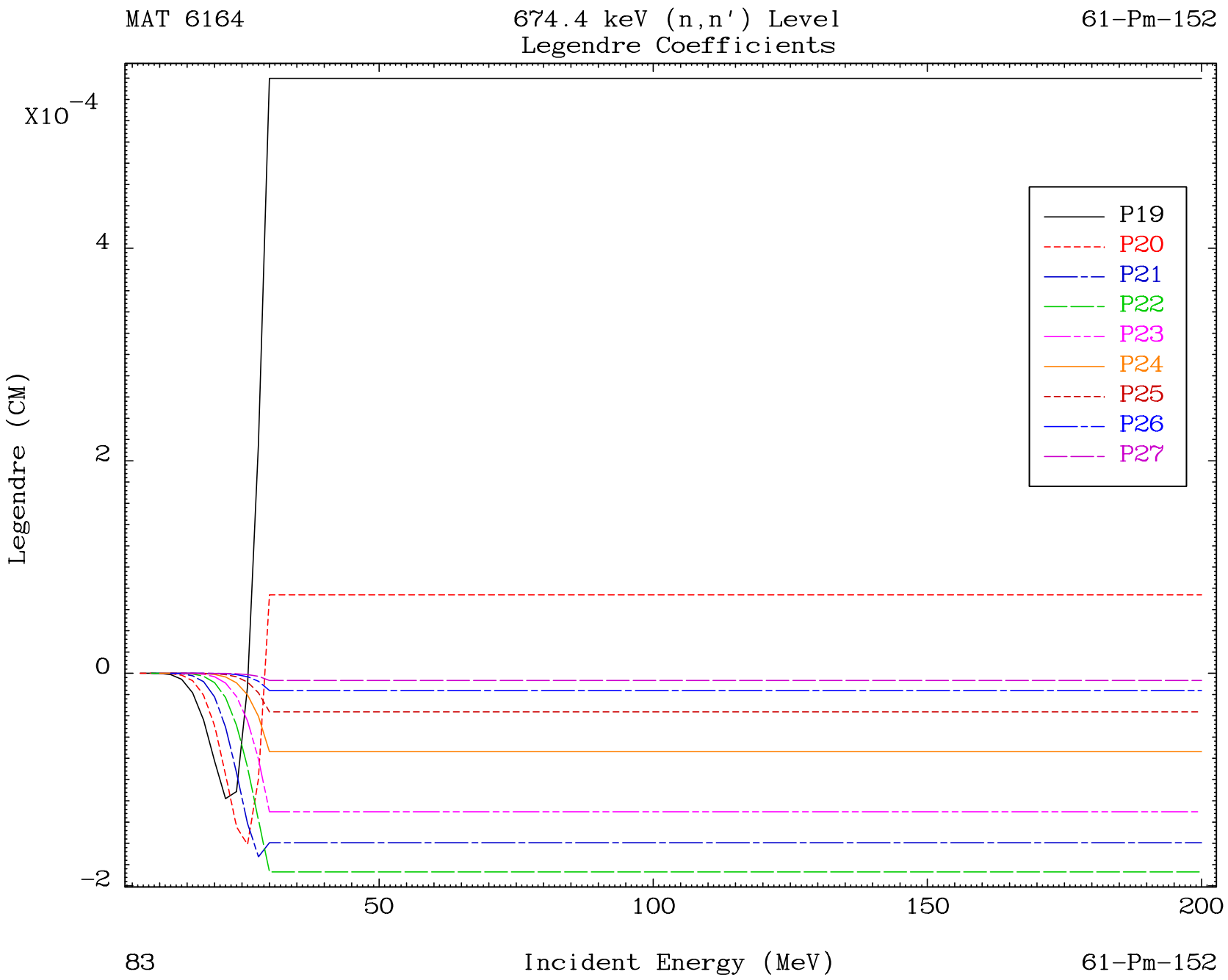

MAT 6164
673.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
78
Incident Energy (MeV)
61-Pm-152

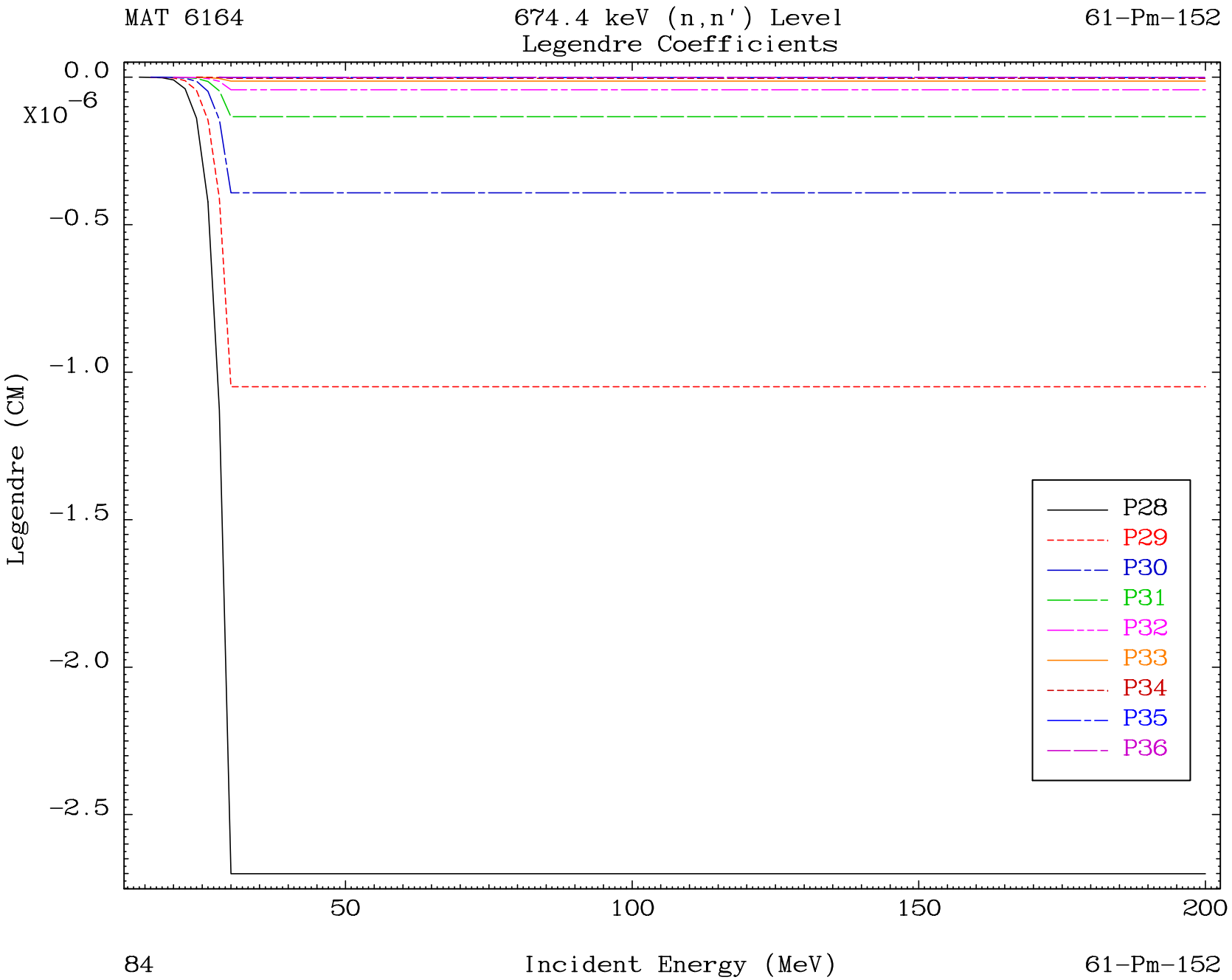

MAT 6164
673.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
2
0
-2
-4
-6
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
79
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18

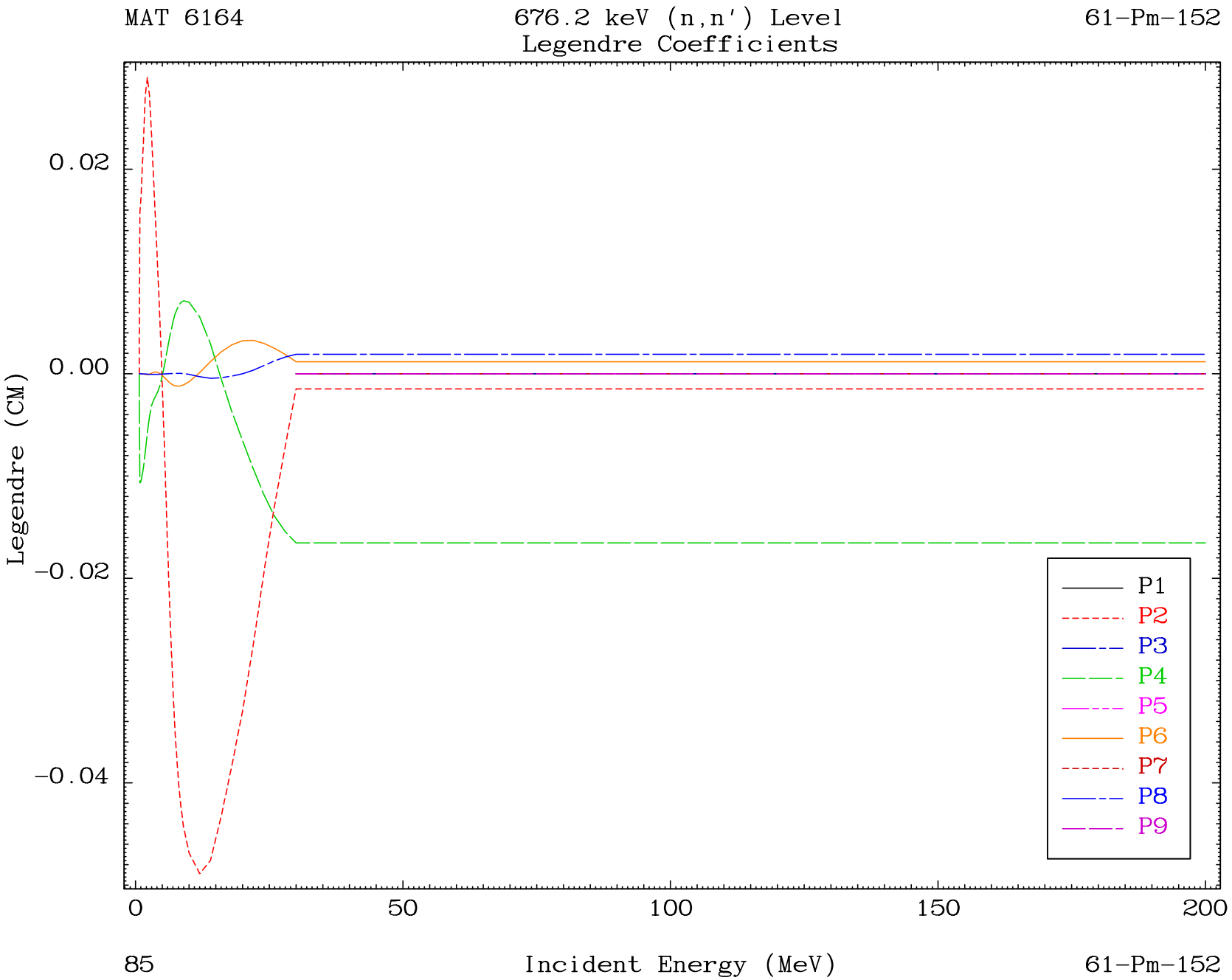

MAT 6164
673.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
80
Incident Energy (MeV)
61-Pm-152

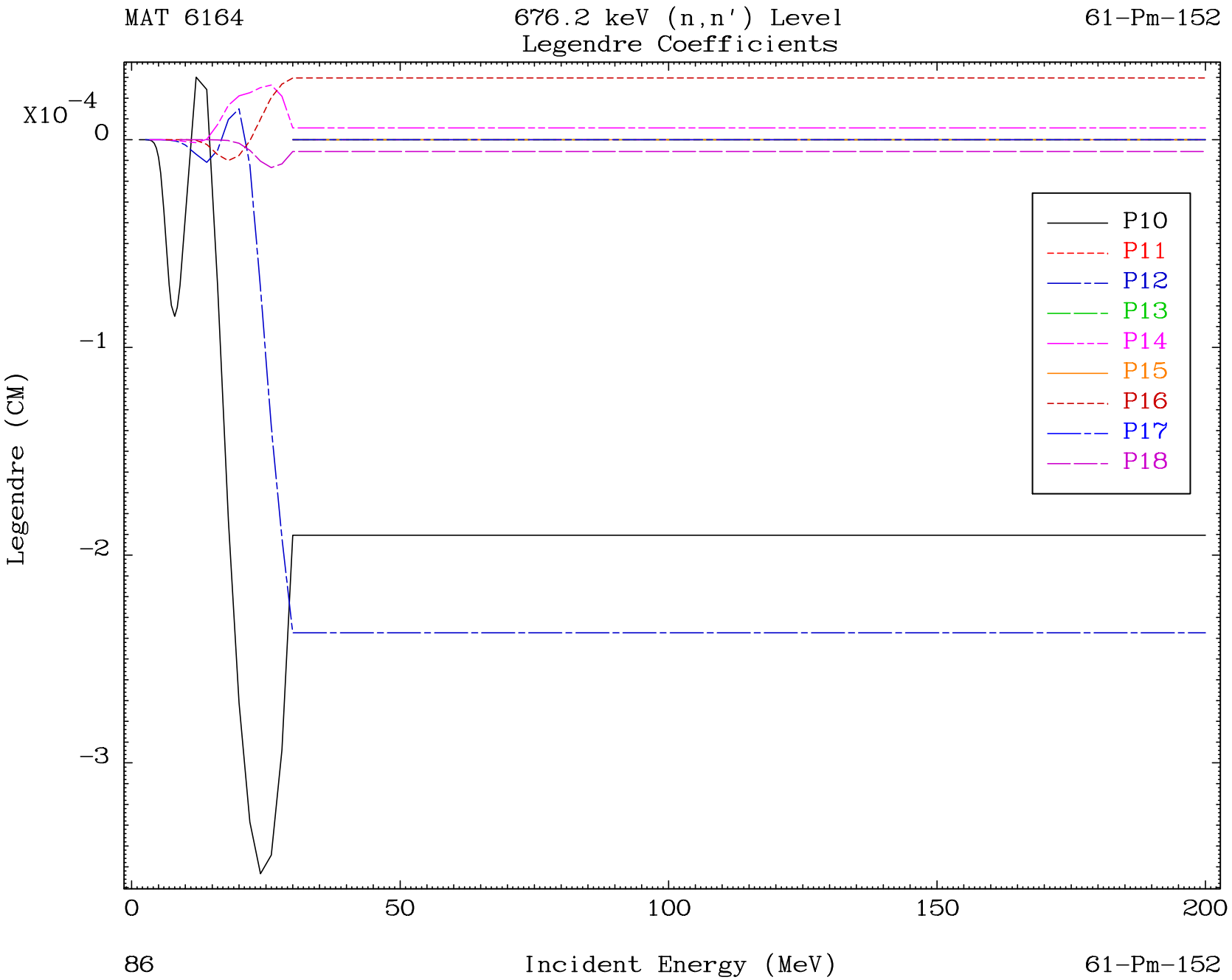

MAT 6164
674.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.2
0.0
-0.2
0
50
100
150
200
Incident Energy (MeV)
81
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

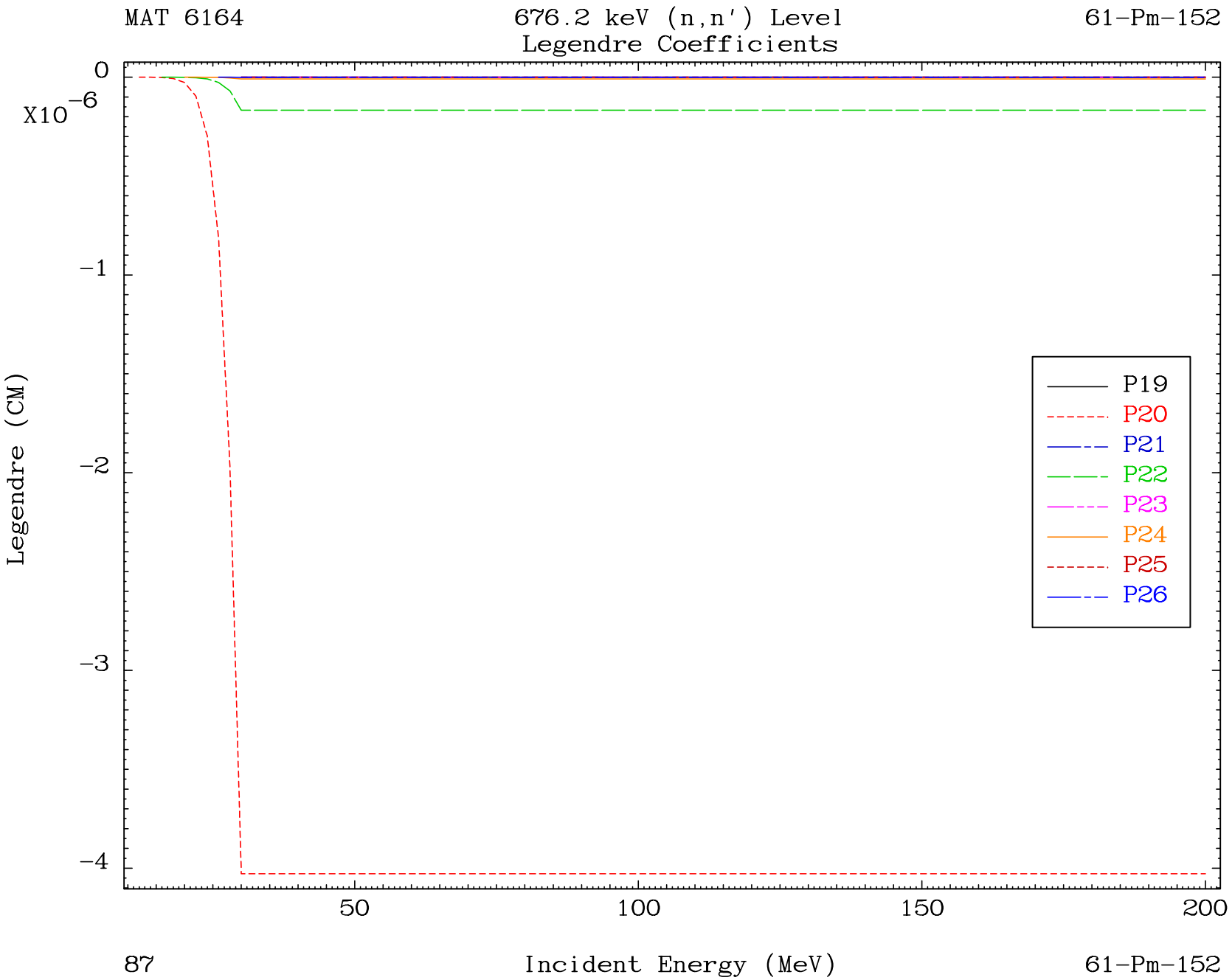

MAT 6164
674.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
82
Incident Energy (MeV)
61-Pm-152

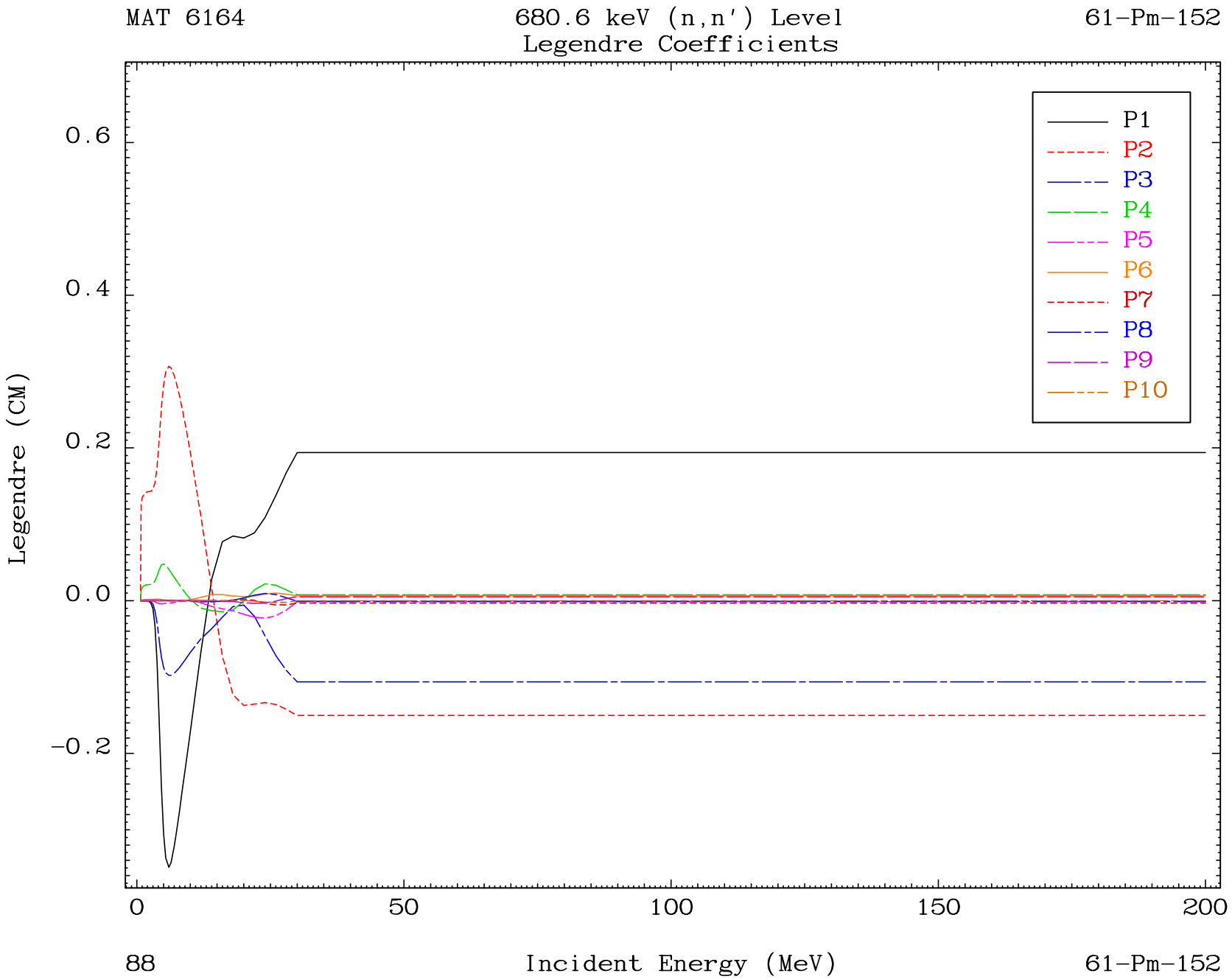

MAT 6164
674.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
4
2
0
-2
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
83
Incident Energy (MeV)
61-Pm-152

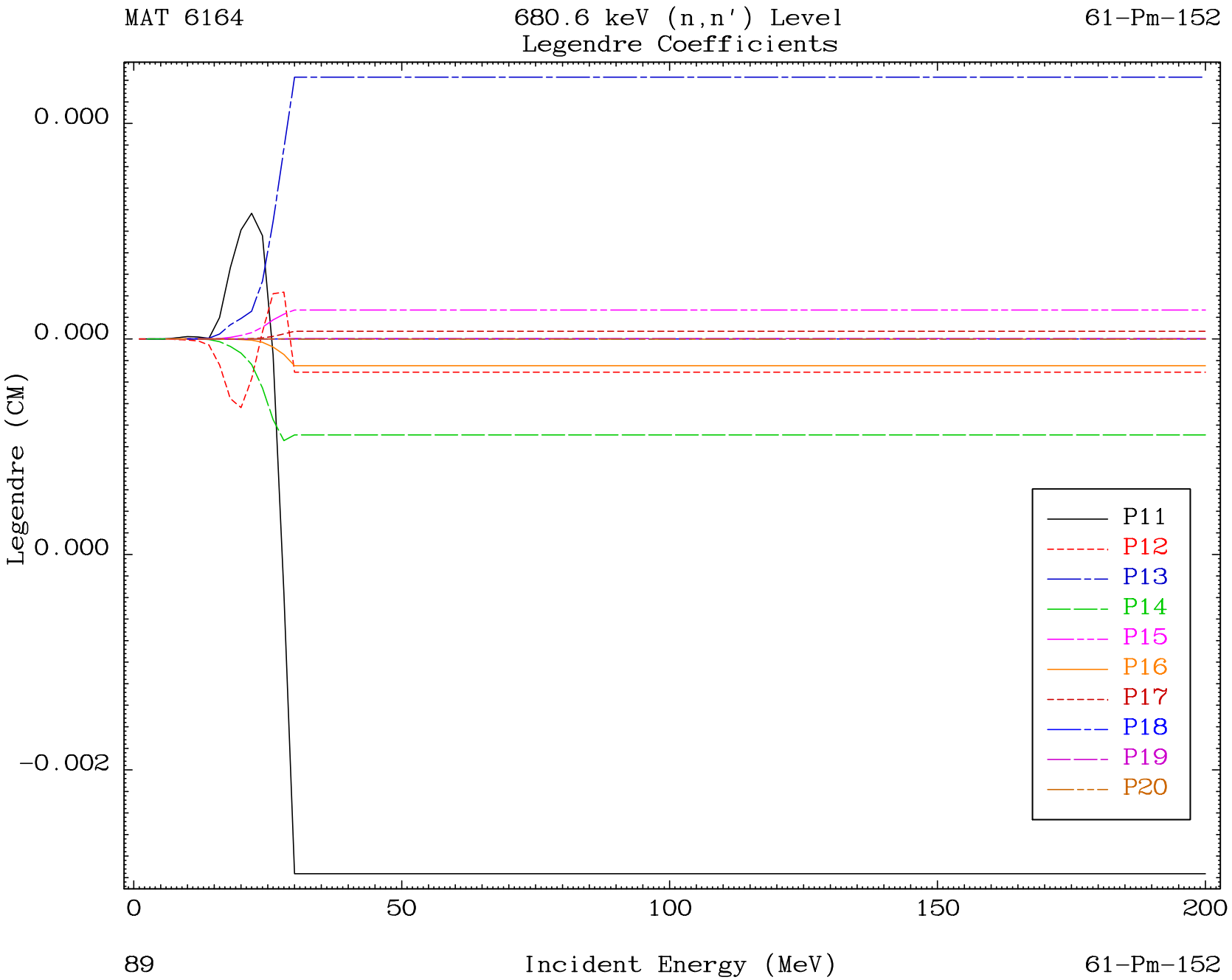

MAT 6164
674.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
84
Incident Energy (MeV)
61-Pm-152
P28
P29
P30
P31
P32
P33
P34
P35
P36

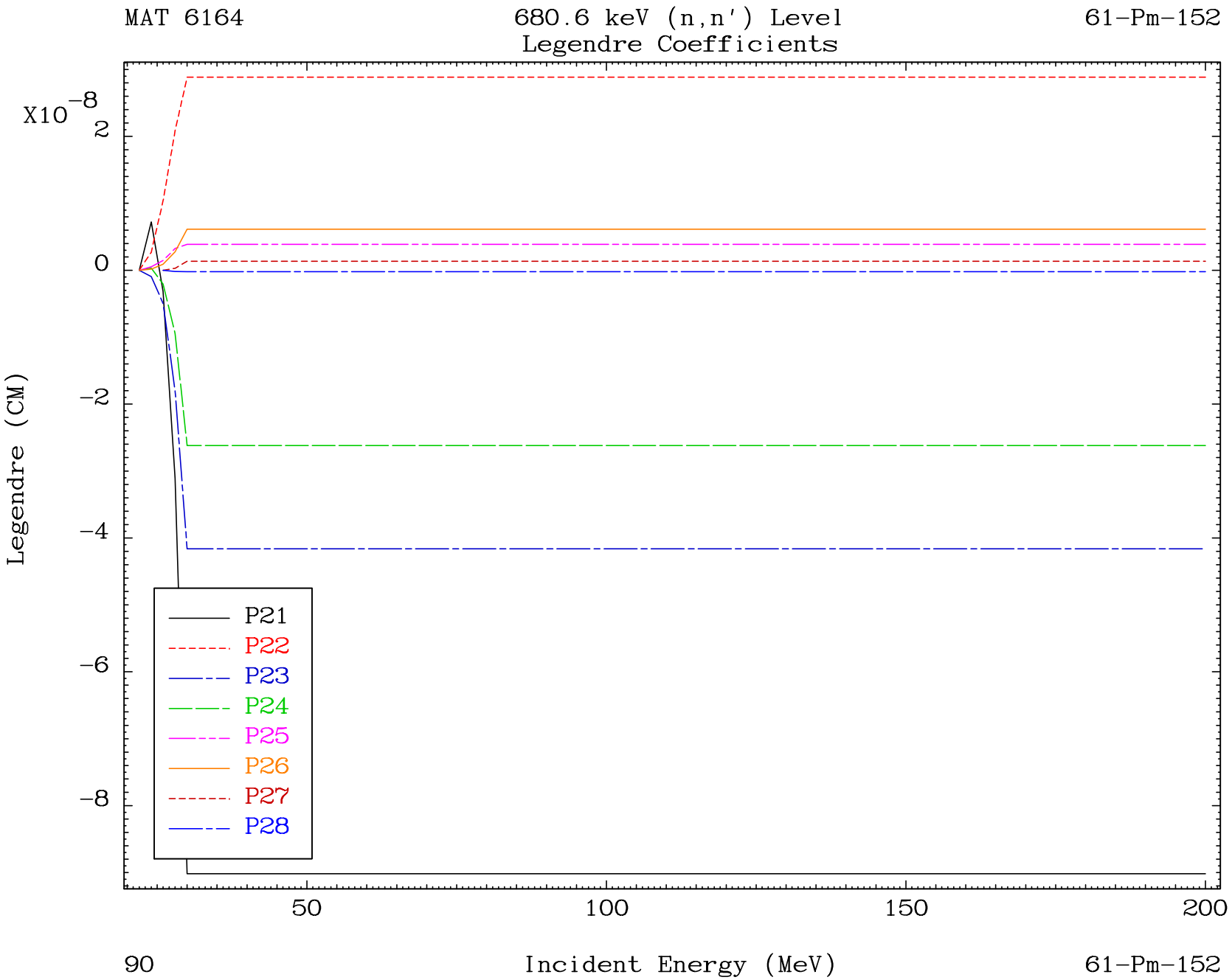

MAT 6164
676.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
85
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

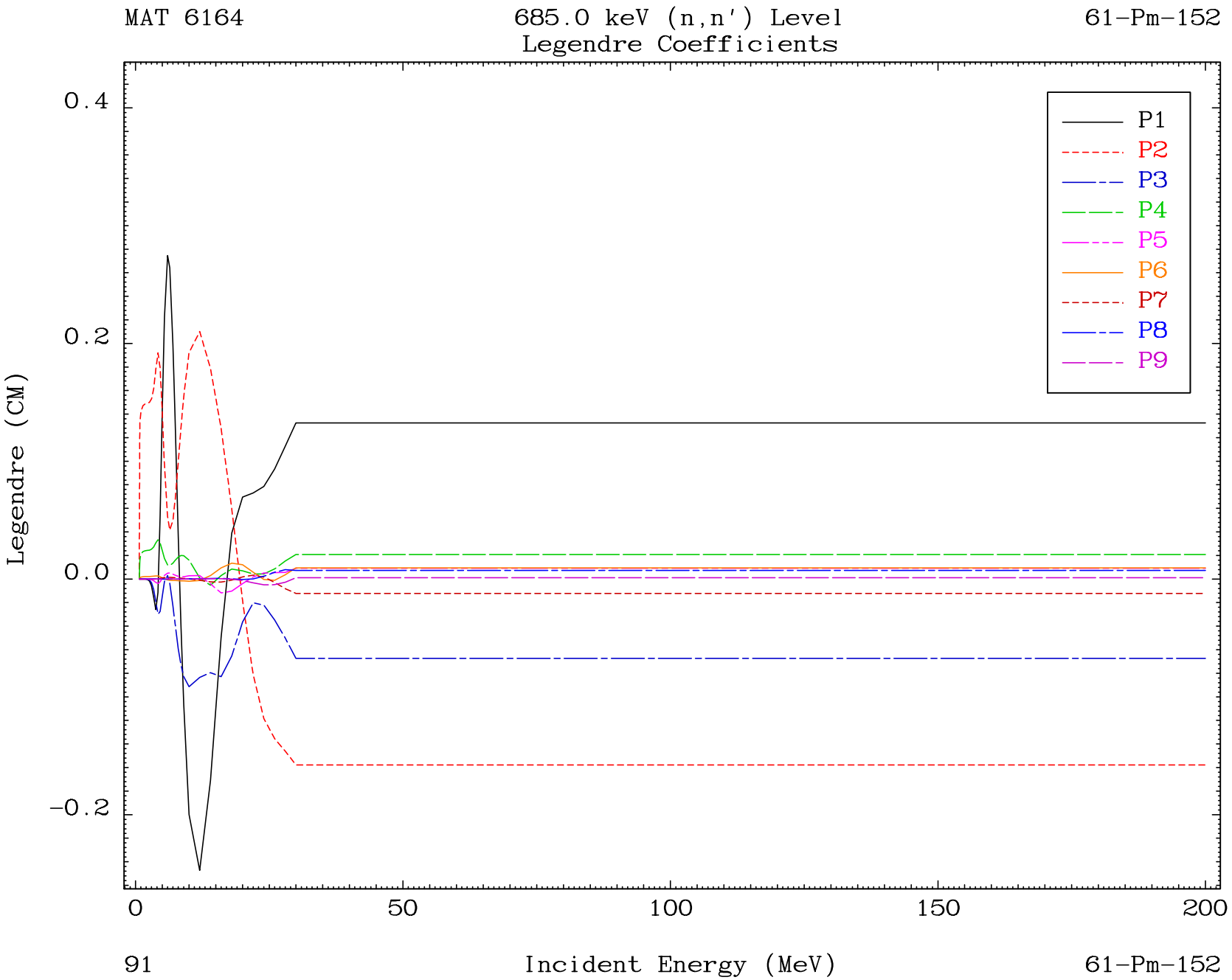

MAT 6164
676.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
0
-1
-2
-3
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
86
Incident Energy (MeV)
61-Pm-152

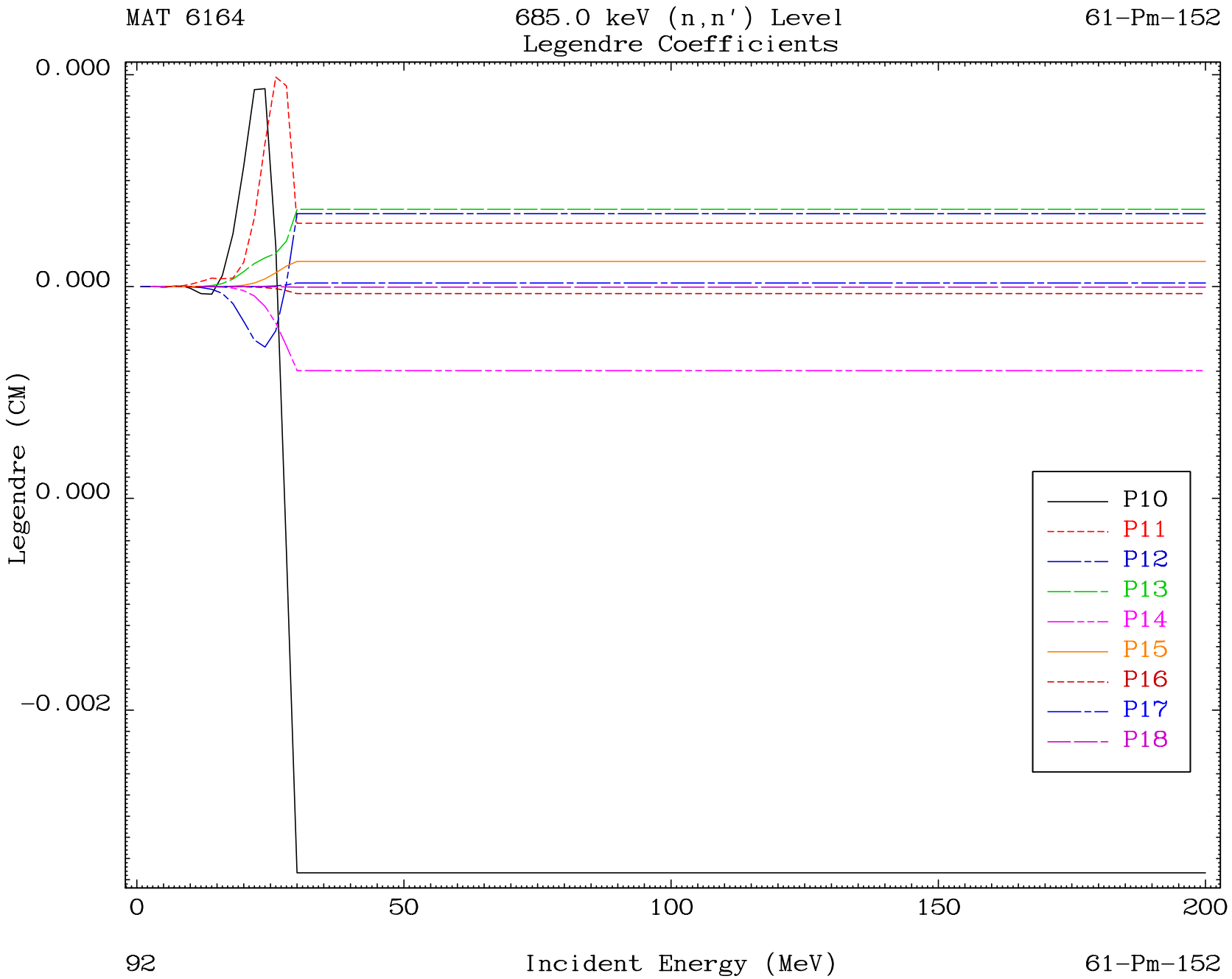

MAT 6164
676.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10−6
−1
−2
−3
−4
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
87
Incident Energy (MeV)
61-Pm-152

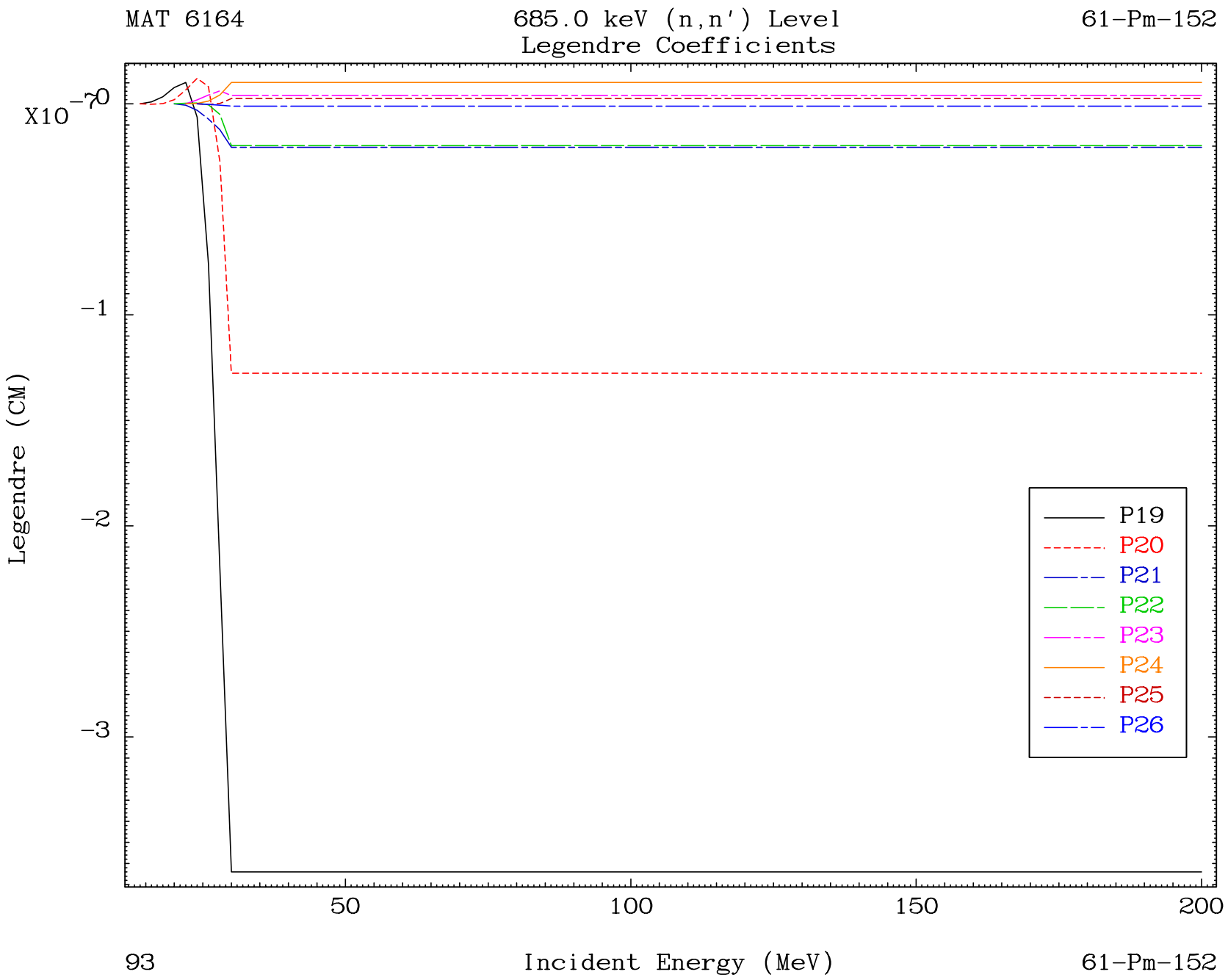

MAT 6164
680.6 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0.6
0.4
0.2
0.0
-0.2
Legendre (CM)
0
50
100
150
200
88
Incident Energy (MeV)
61-Pm-152

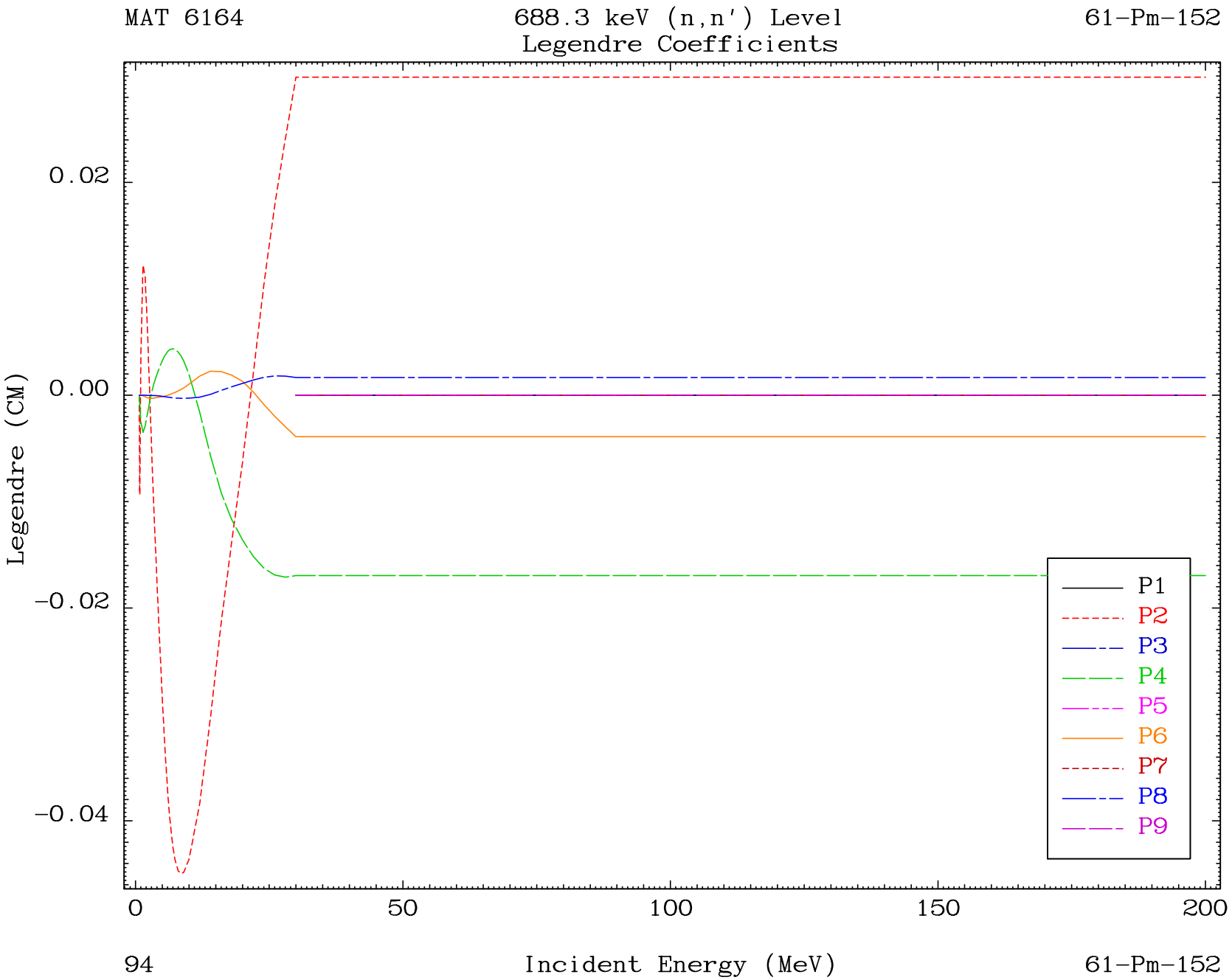

MAT 6164
680.6 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.000
0.000
0.000
-0.002
Legendre (CM)
0
50
100
150
200
89
Incident Energy (MeV)
61-Pm-152
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

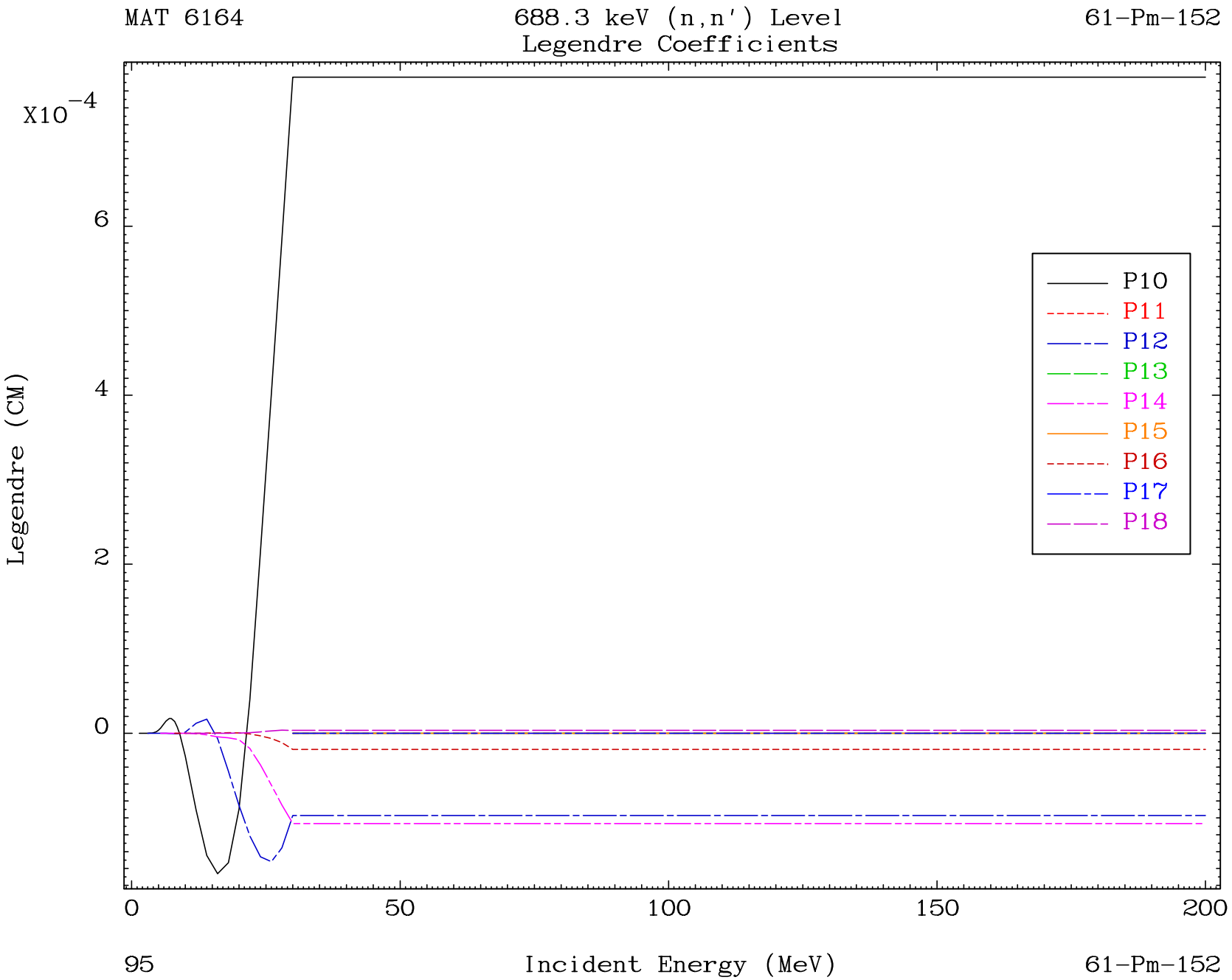

MAT 6164
680.6 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-8
2
0
-2
-4
-6
-8
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
90
Incident Energy (MeV)
61-Pm-152

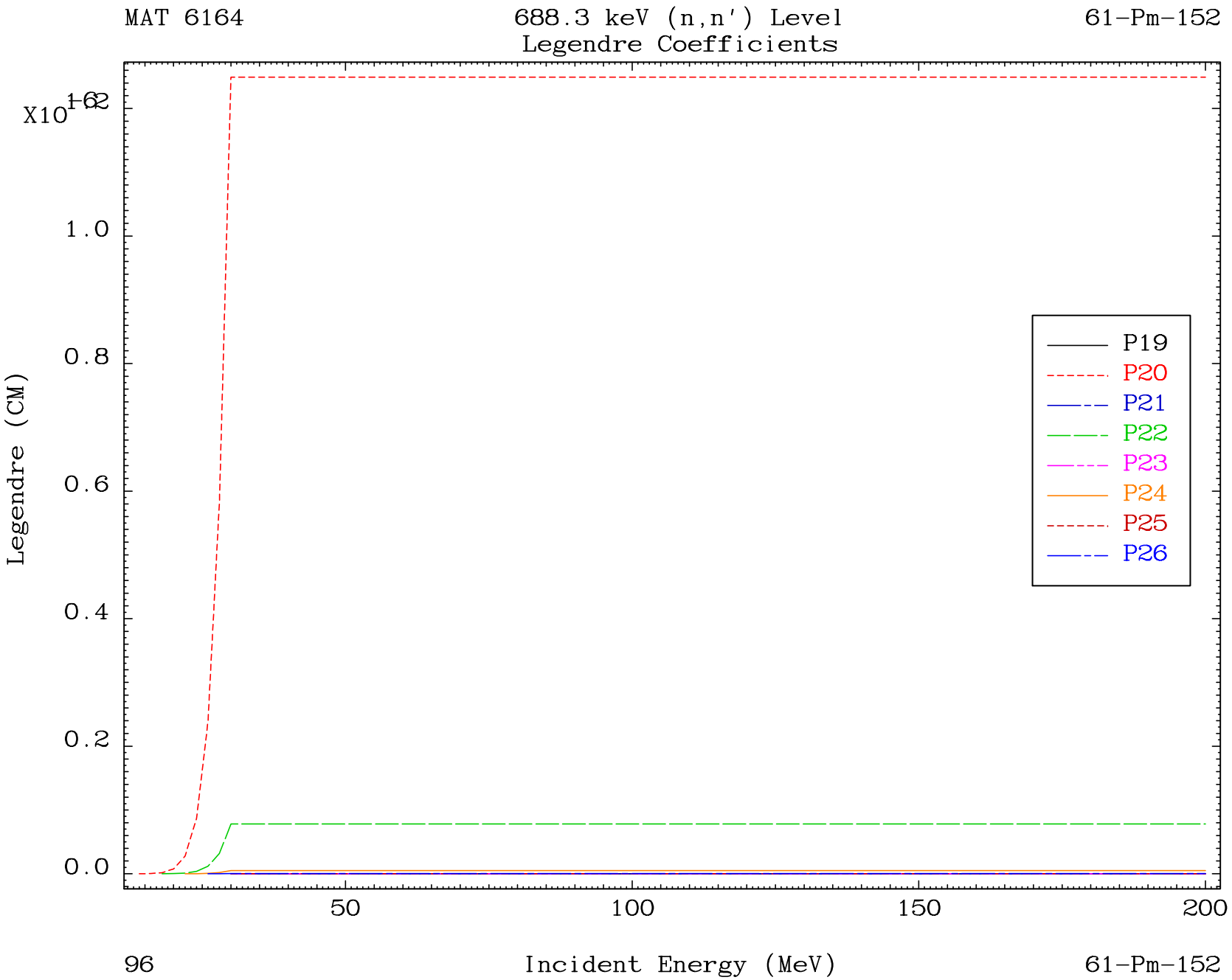

MAT 6164
685.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.4
0.2
0.0
-0.2
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
91
Incident Energy (MeV)
61-Pm-152

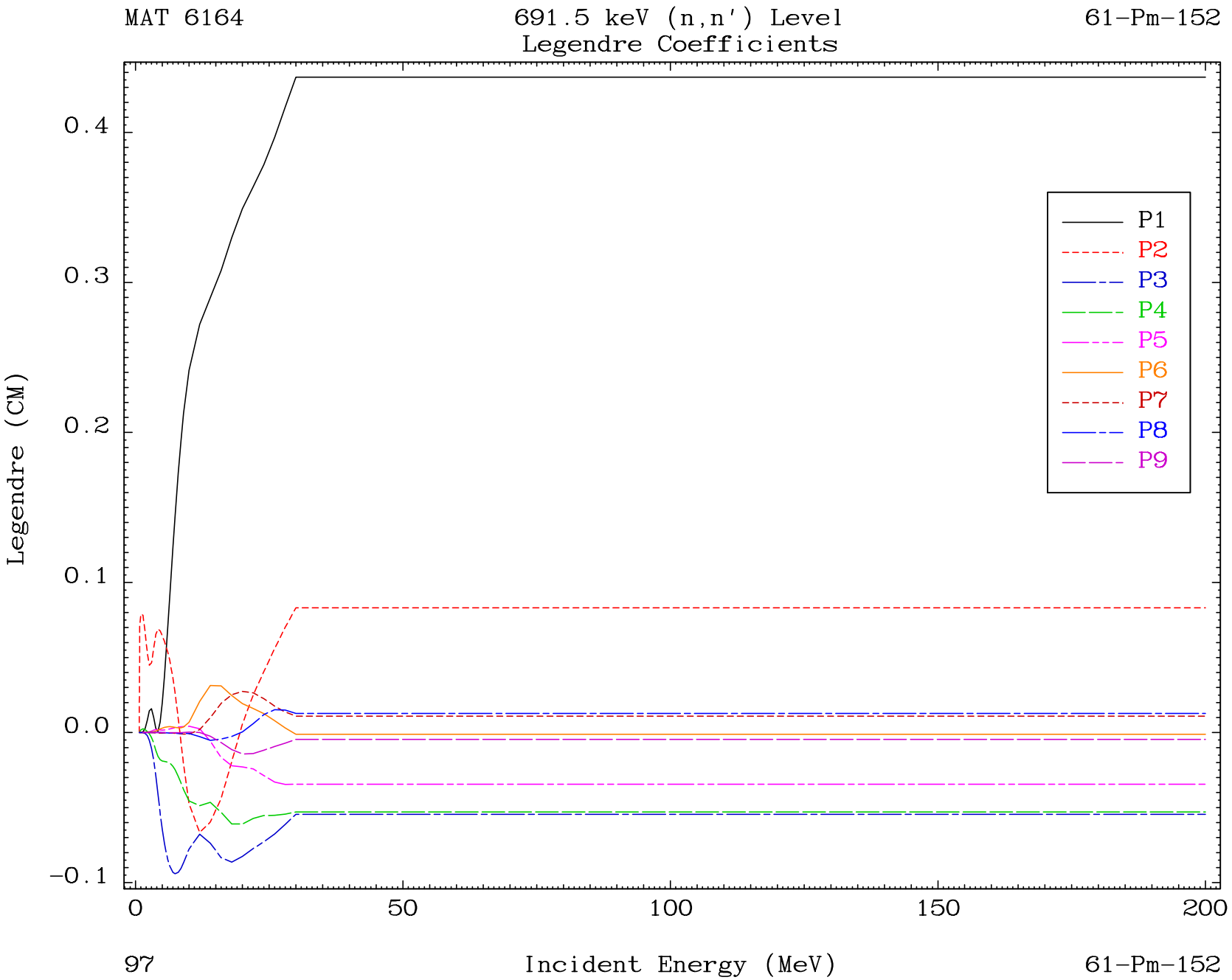

MAT 6164
685.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.000
0.000
0.000
-0.002
Legendre (CM)
0
50
100
150
200
92
Incident Energy (MeV)
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18

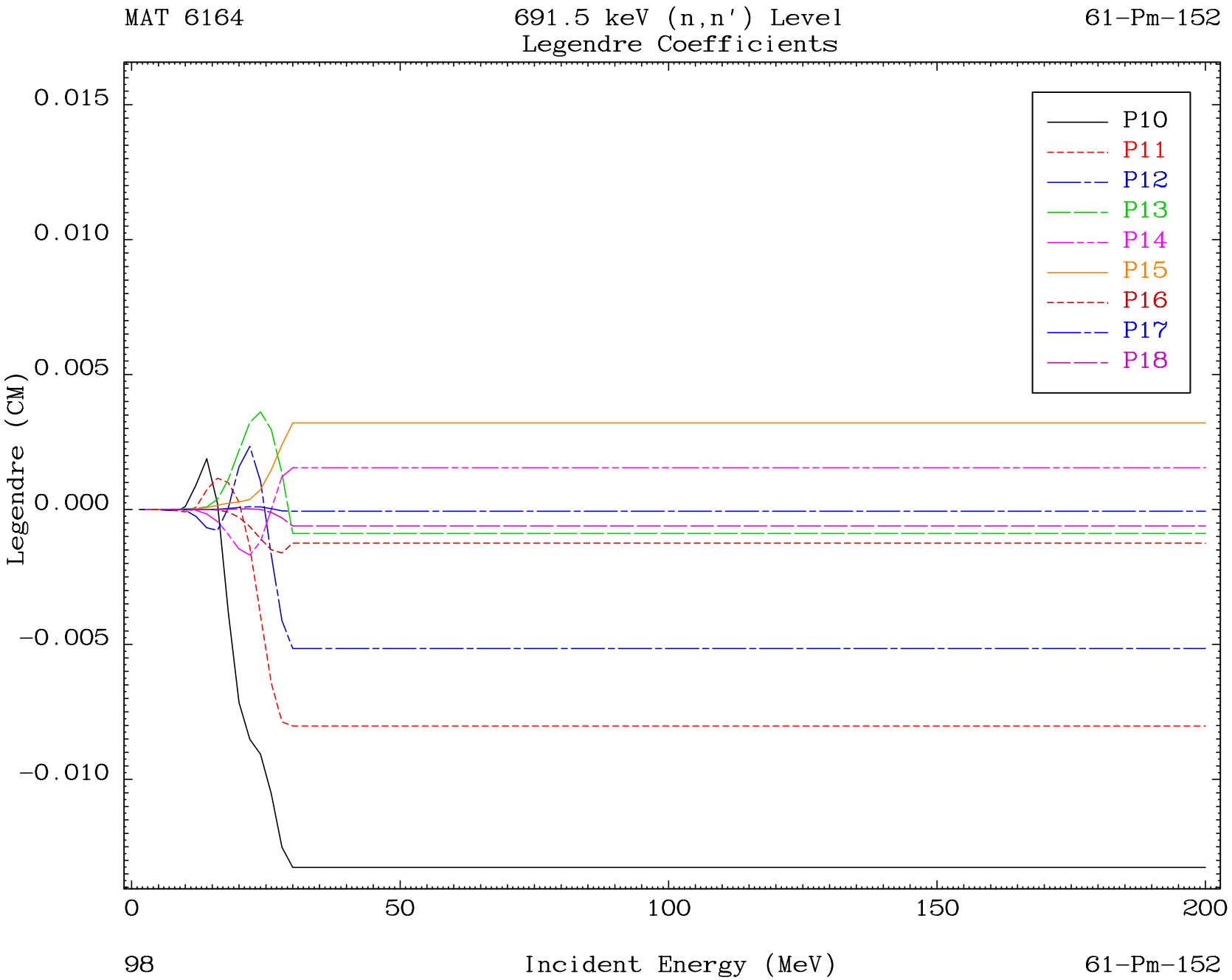

MAT 6164
685.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-0
-1
-2
-3
Legendre (CM)
50
100
150
200
93
Incident Energy (MeV)
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26

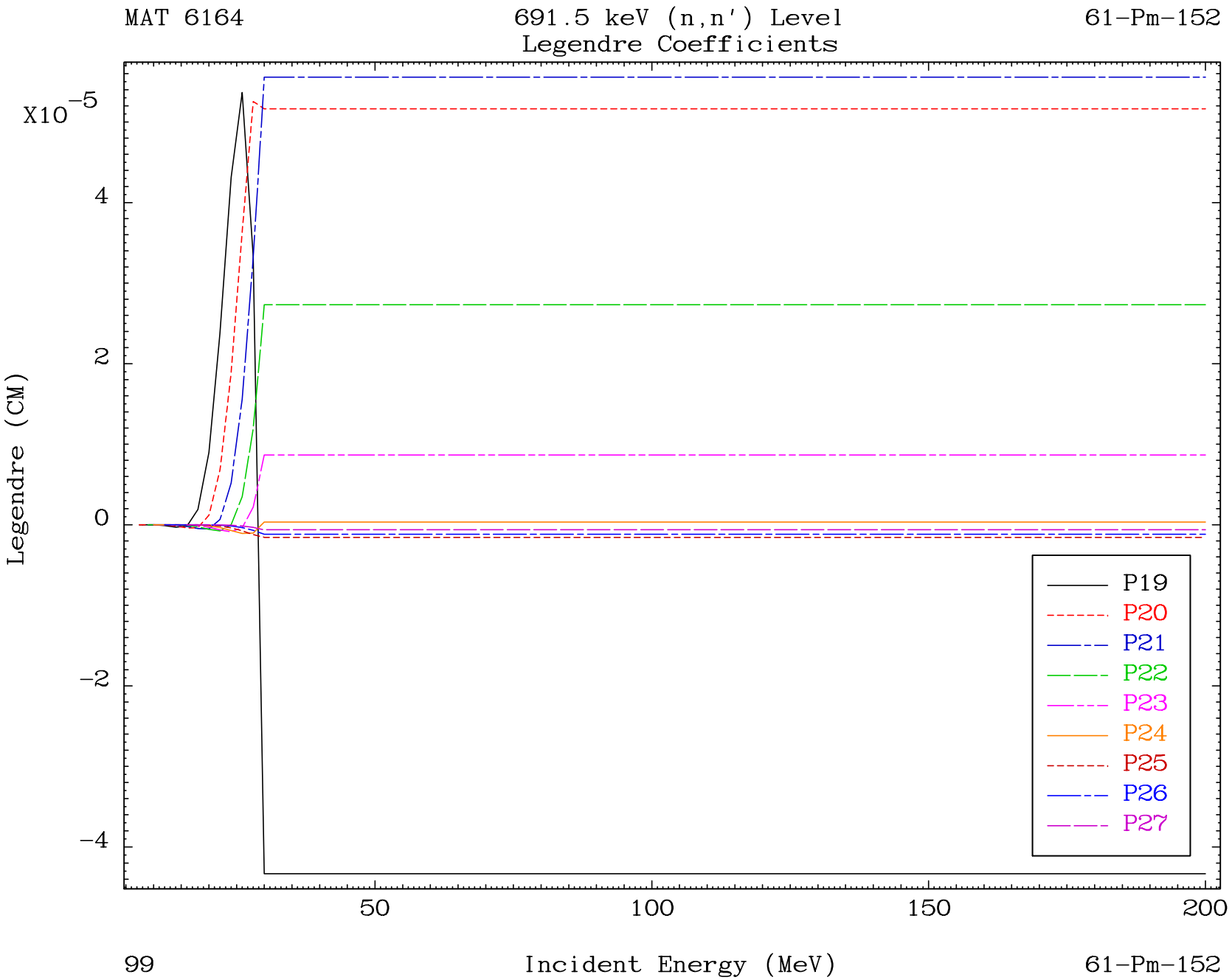

MAT 6164
688.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
94
Incident Energy (MeV)
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

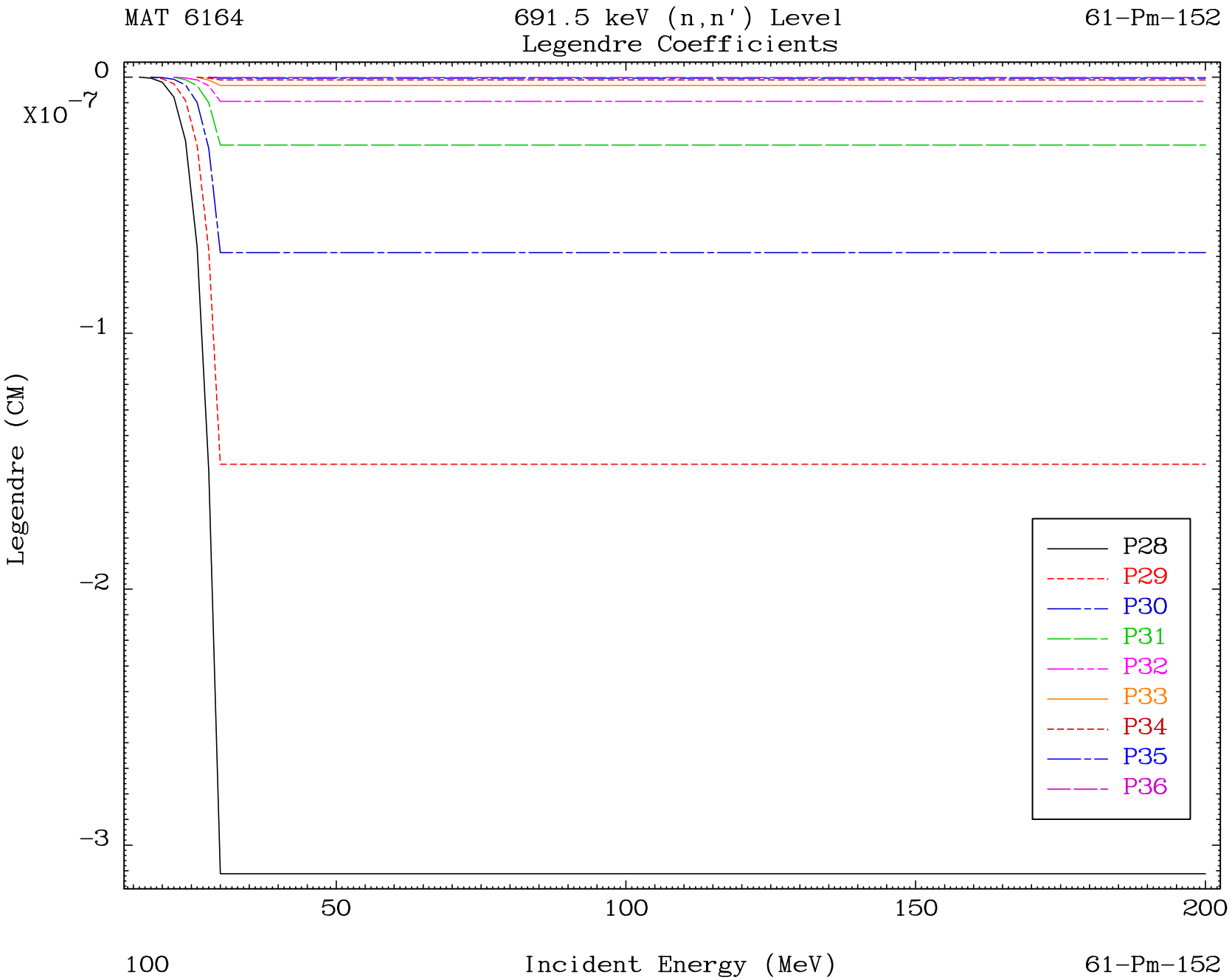

MAT 6164
688.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
6
4
2
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
95
Incident Energy (MeV)
61-Pm-152

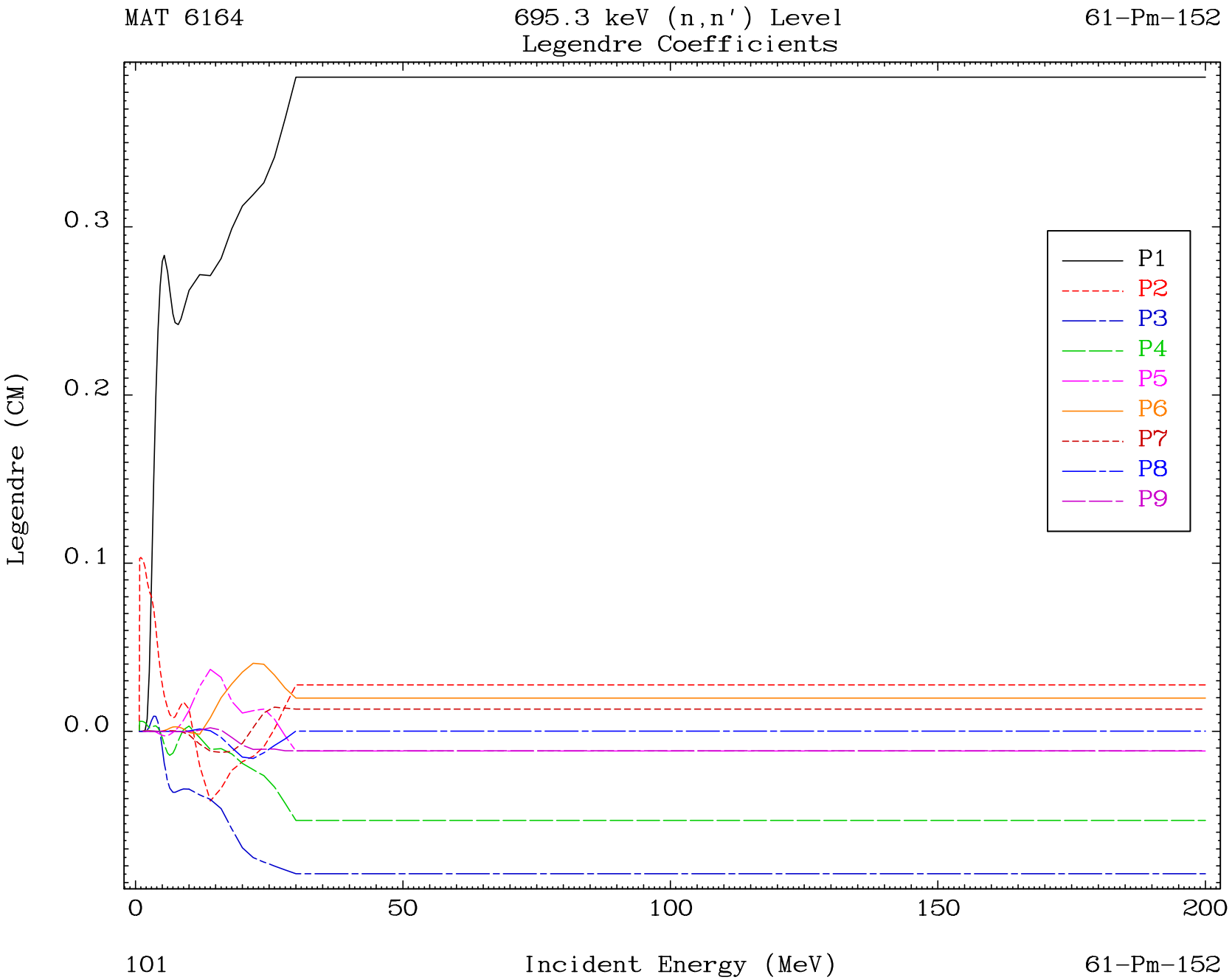

MAT 6164
688.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10-02
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
50
100
150
200
96
Incident Energy (MeV)
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26

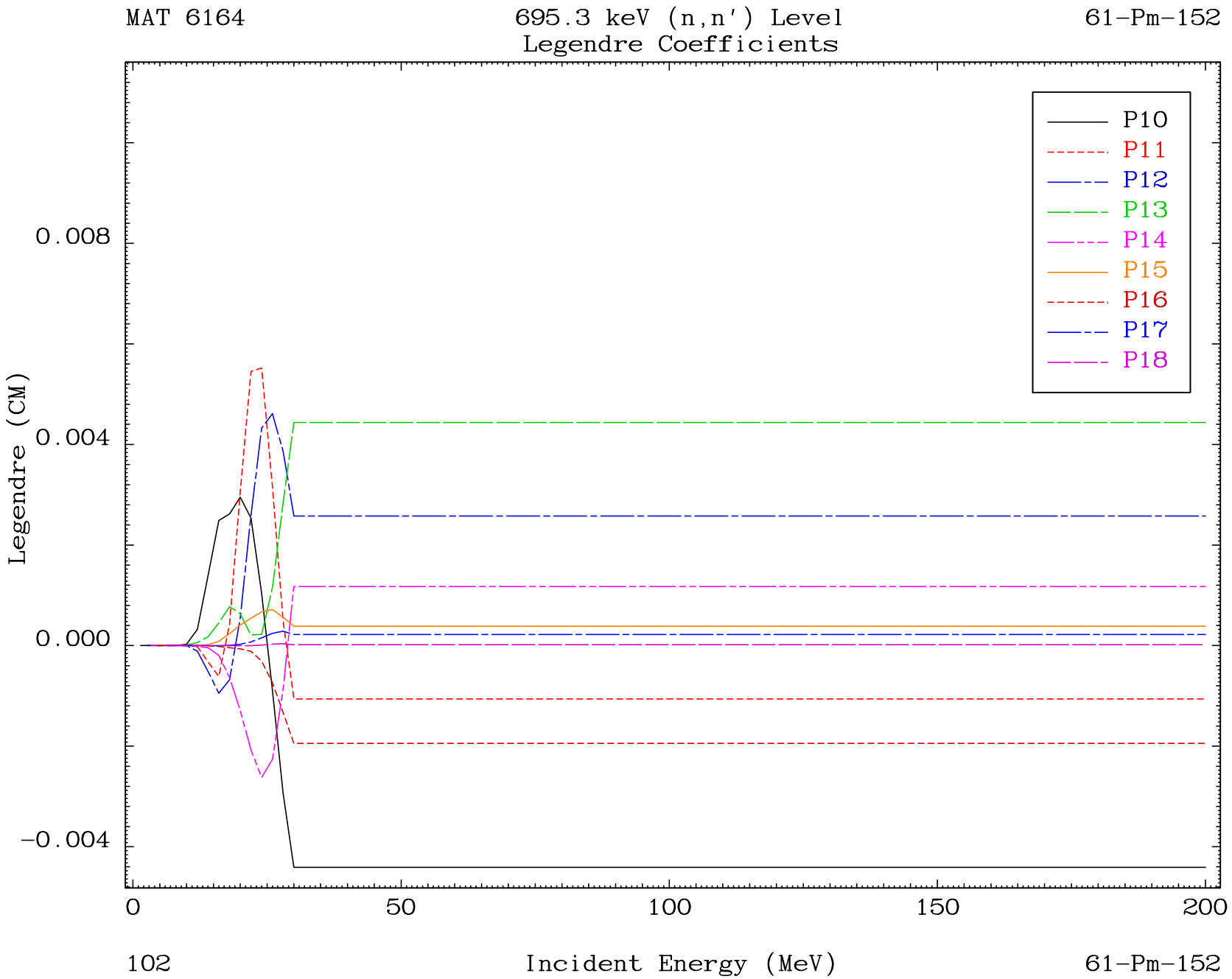

MAT 6164
691.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
97
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
P9

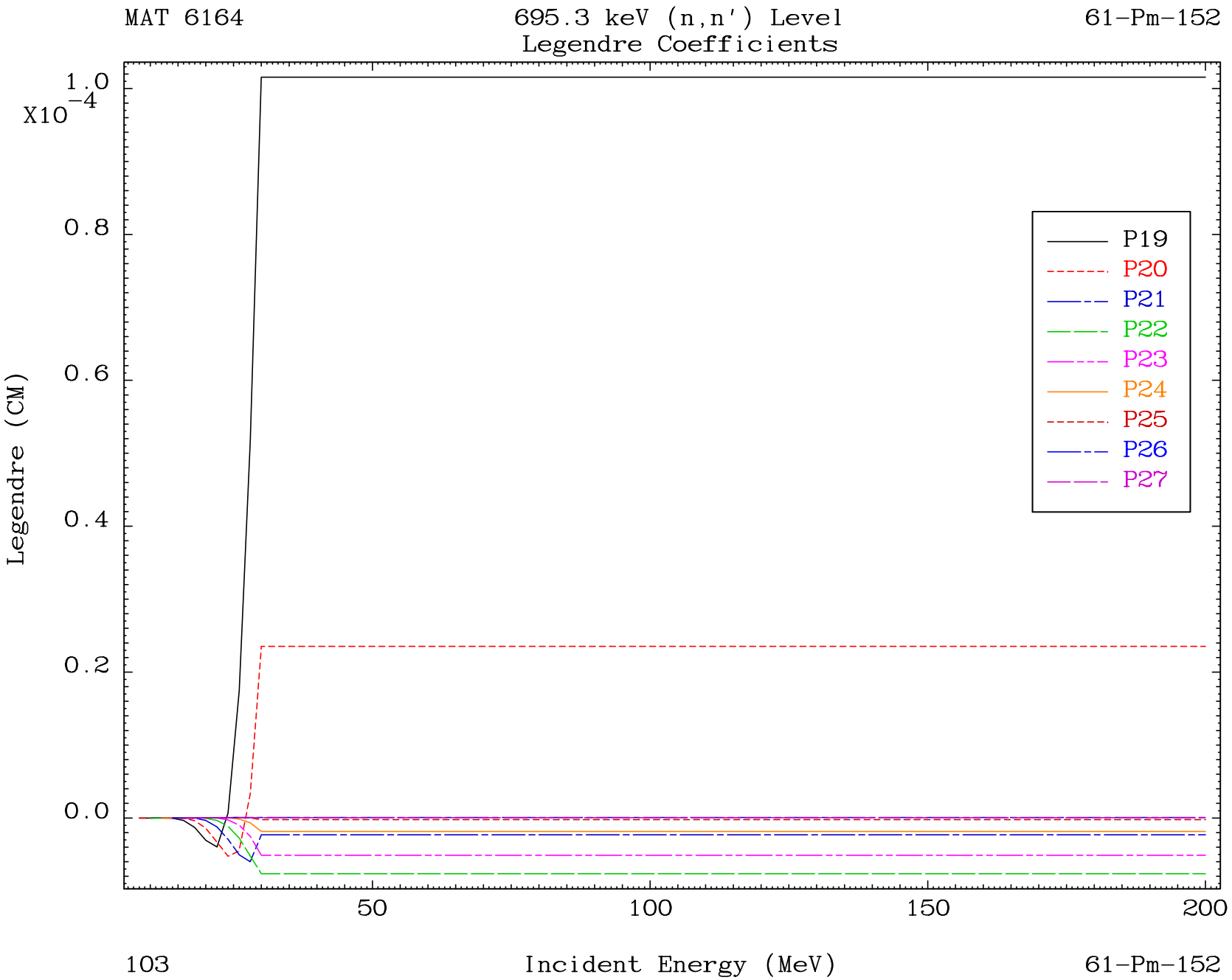

MAT 6164
691.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.015
0.010
0.005
0.000
-0.005
-0.010
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
98
Incident Energy (MeV)
61-Pm-152

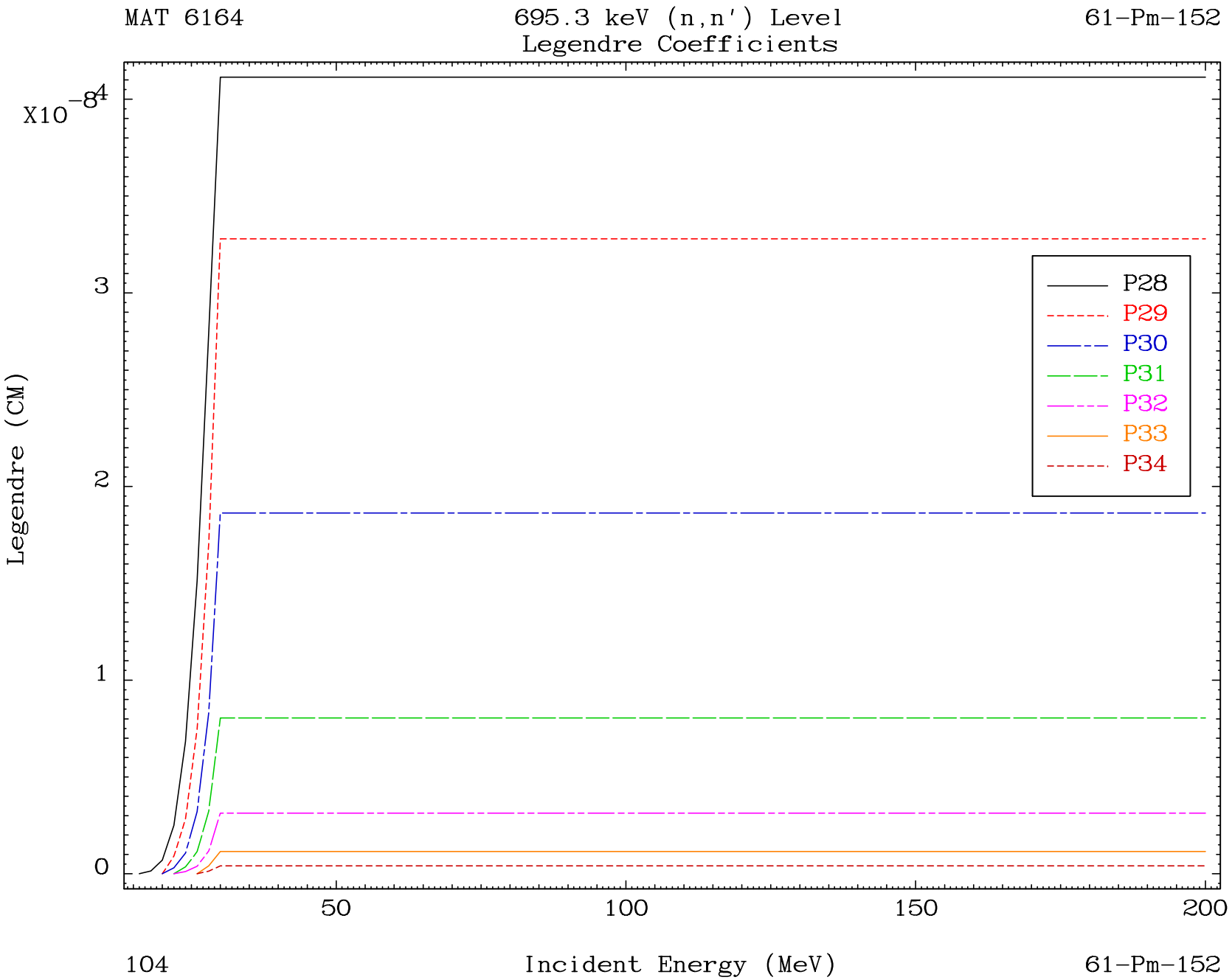

MAT 6164
691.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10−5
4
2
0
−2
−4
Legendre (CM)
50
100
150
200
99
Incident Energy (MeV)
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26
P27

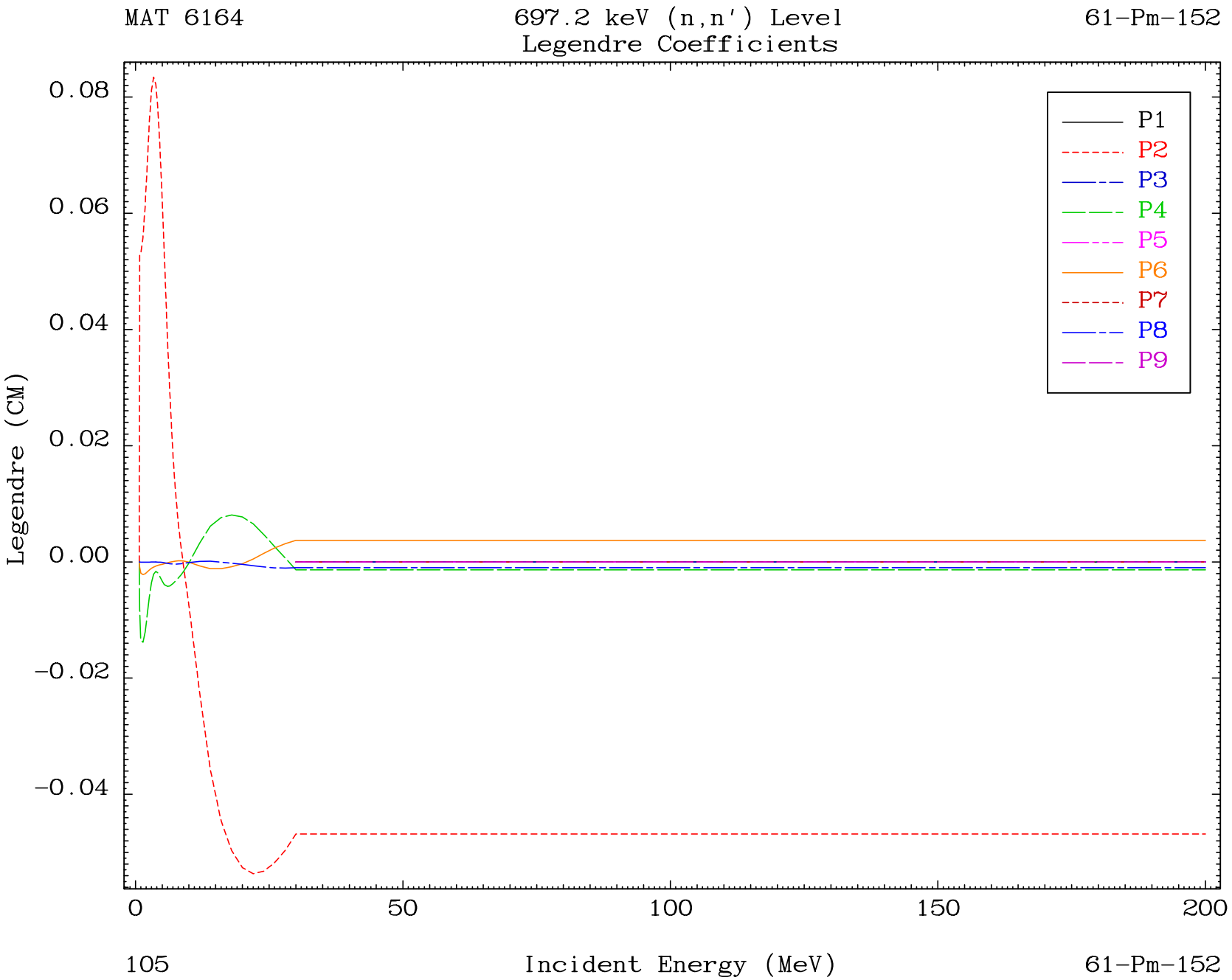

MAT 6164
691.5 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0
X10-7
-1
-2
-3
Legendre (CM)
50
100
150
200
100
Incident Energy (MeV)
61-Pm-152
P28
P29
P30
P31
P32
P33
P34
P35
P36

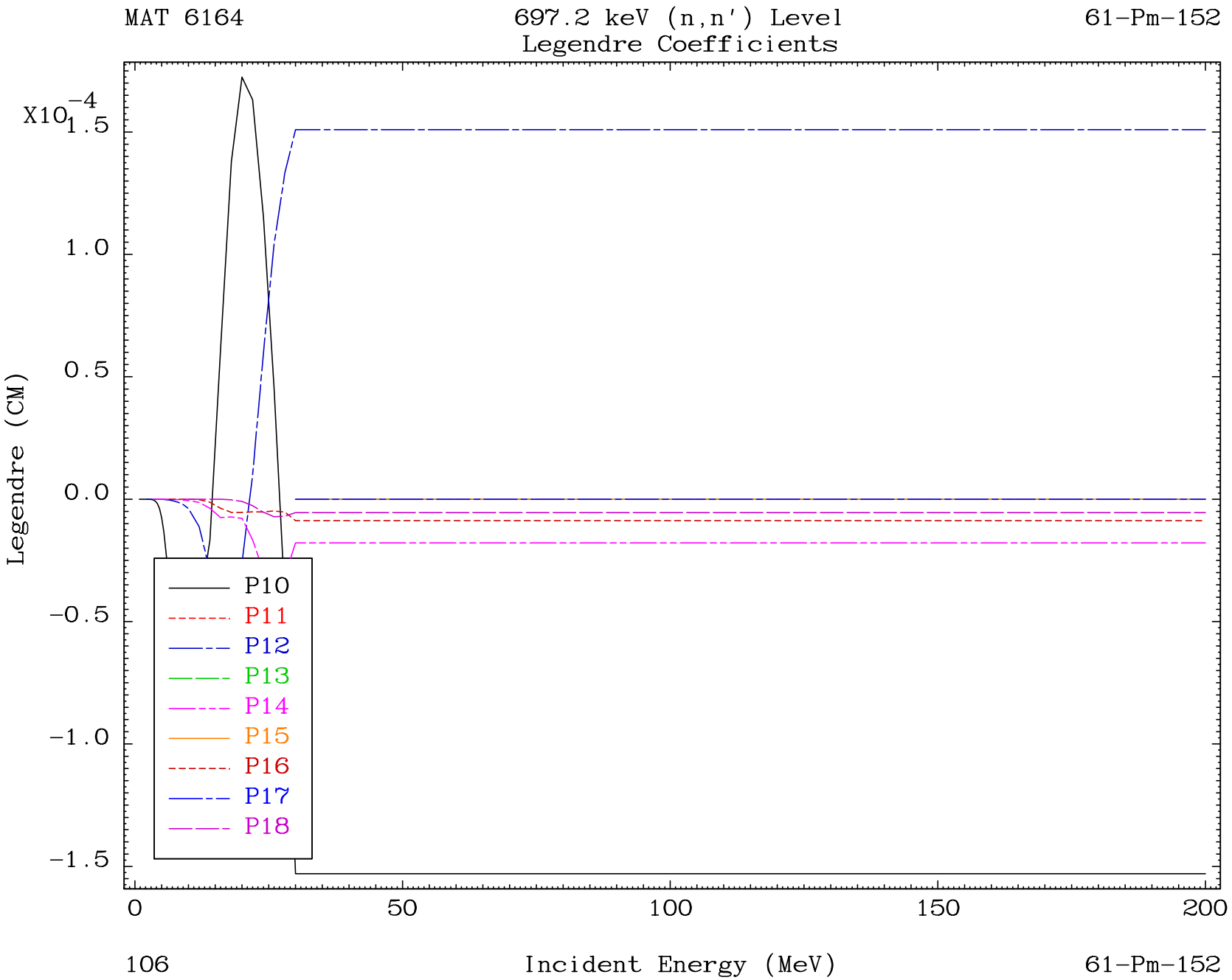

MAT 6164
695.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
101
Incident Energy (MeV)
61-Pm-152

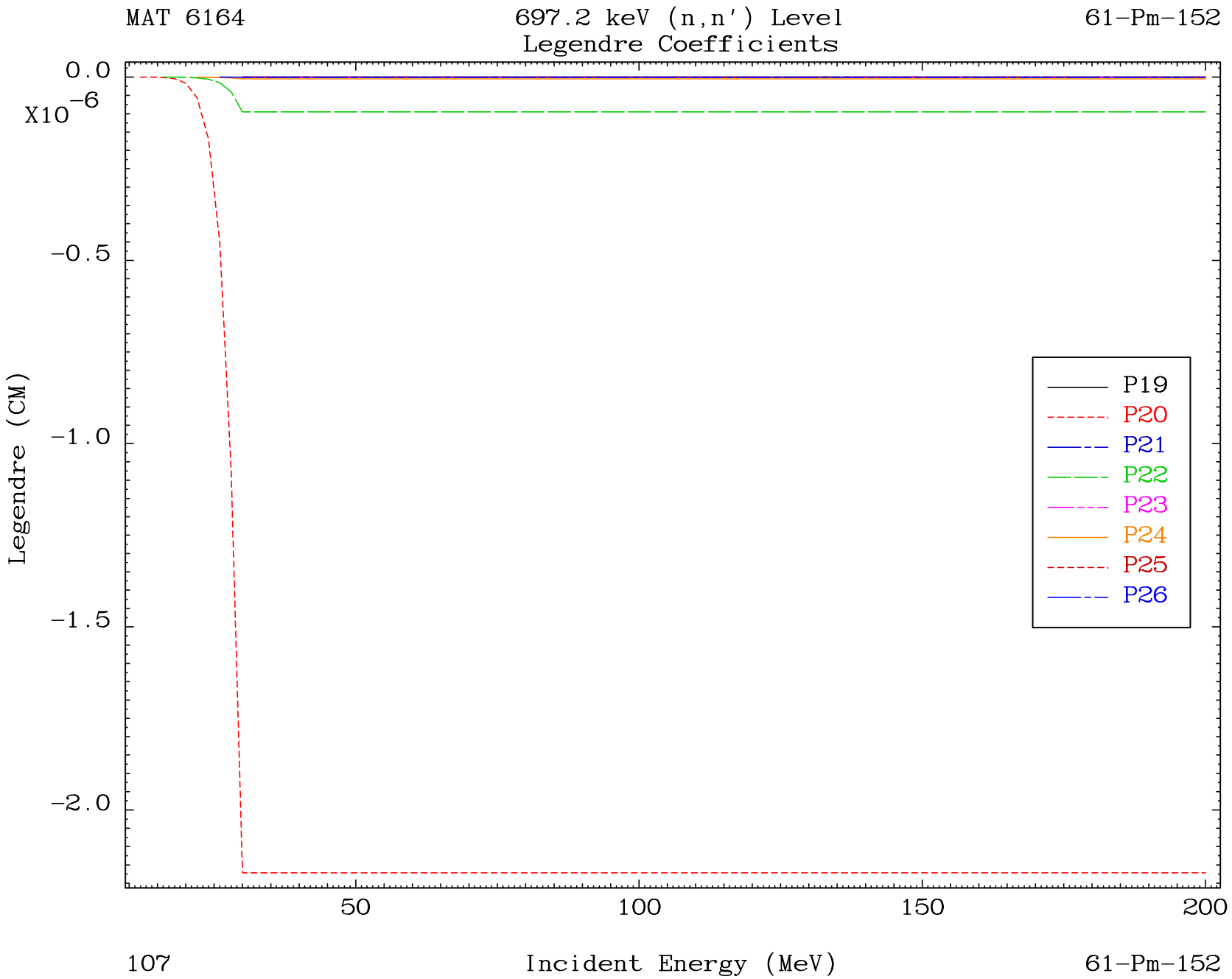

MAT 6164
695.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.008
0.004
0.000
-0.004
Legendre (CM)
0
50
100
150
200
102
Incident Energy (MeV)
61-Pm-152

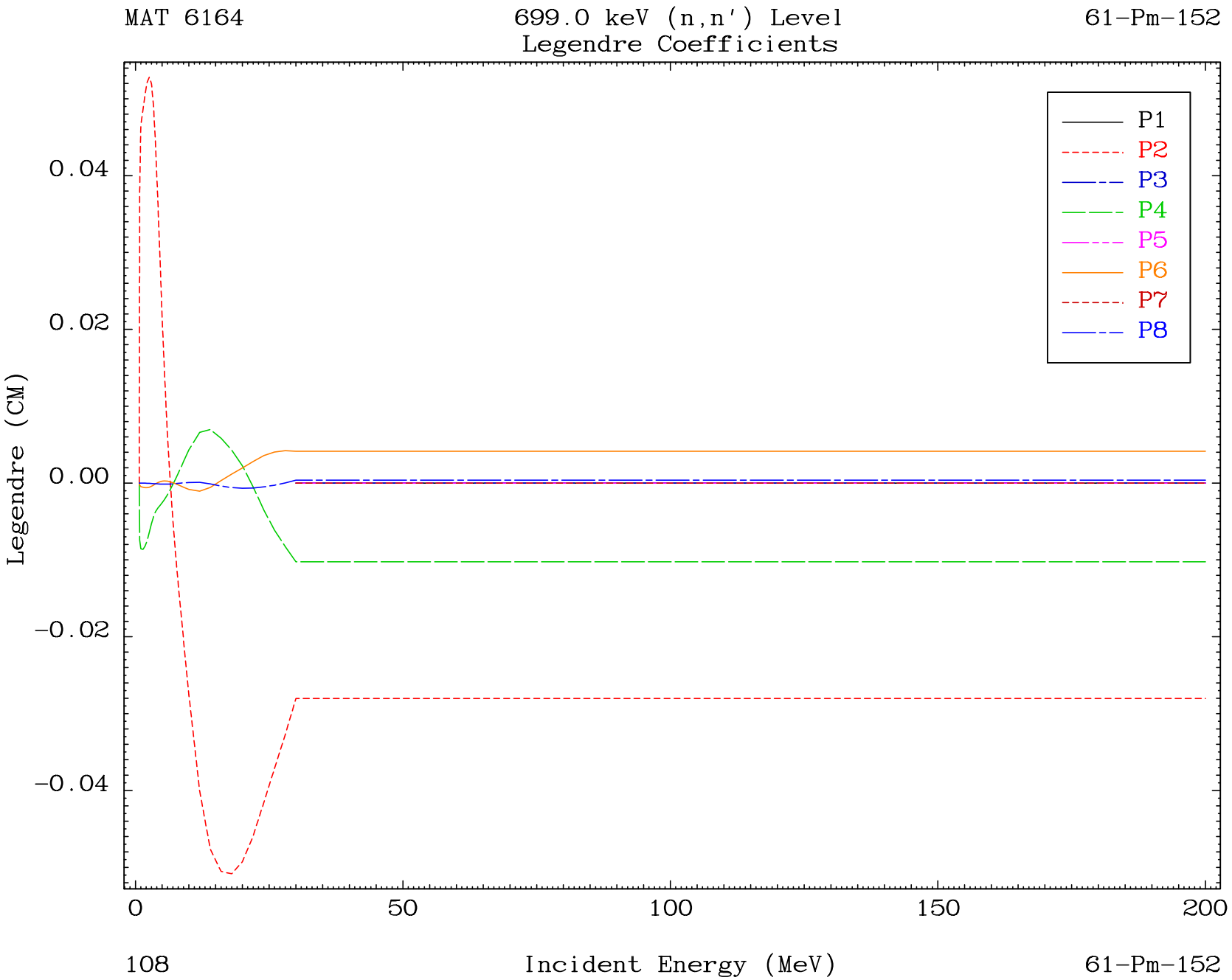

MAT 6164
695.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 −4
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
103
Incident Energy (MeV)
61-Pm-152

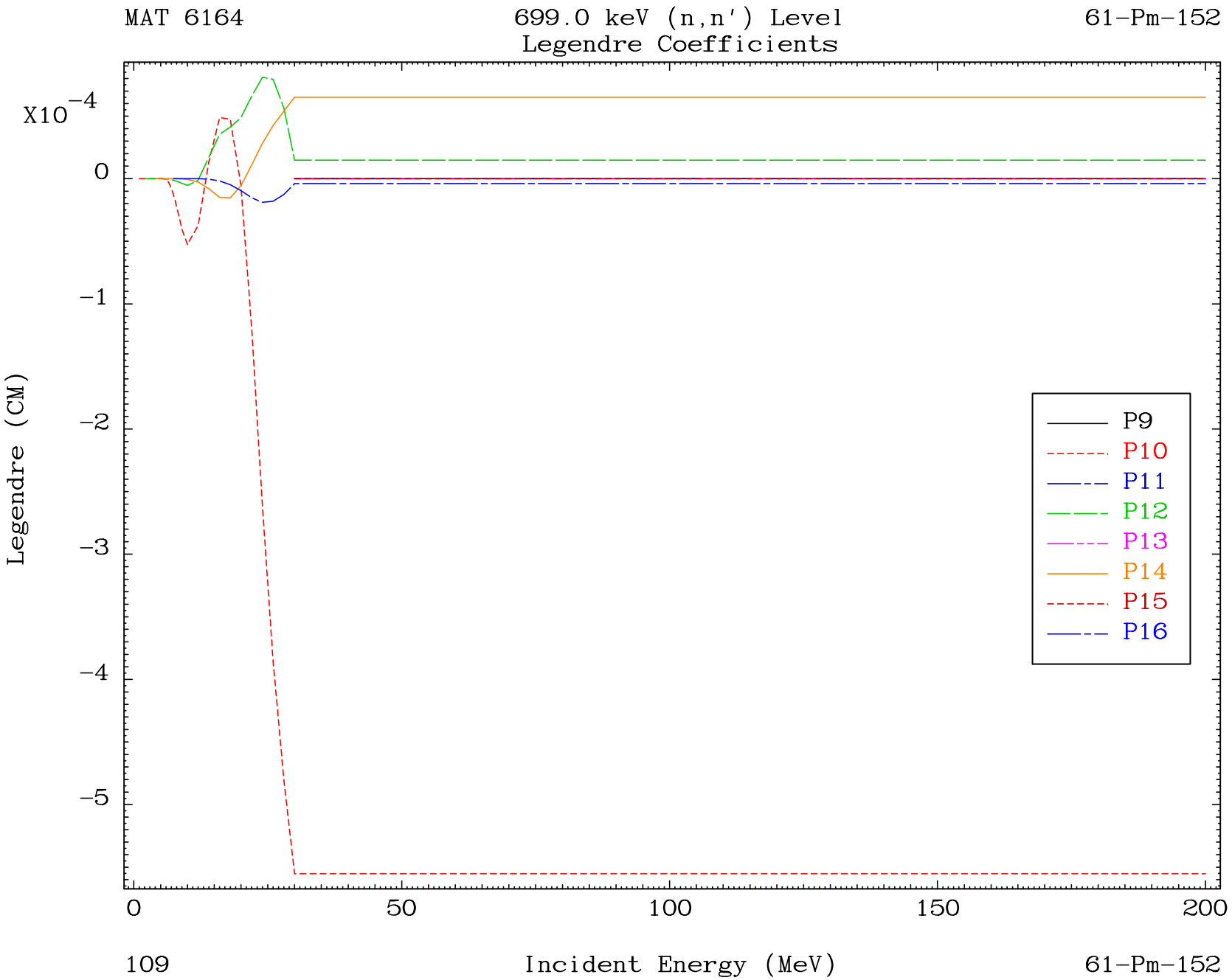

MAT 6164
695.3 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 -8 4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
104
Incident Energy (MeV)
61-Pm-152

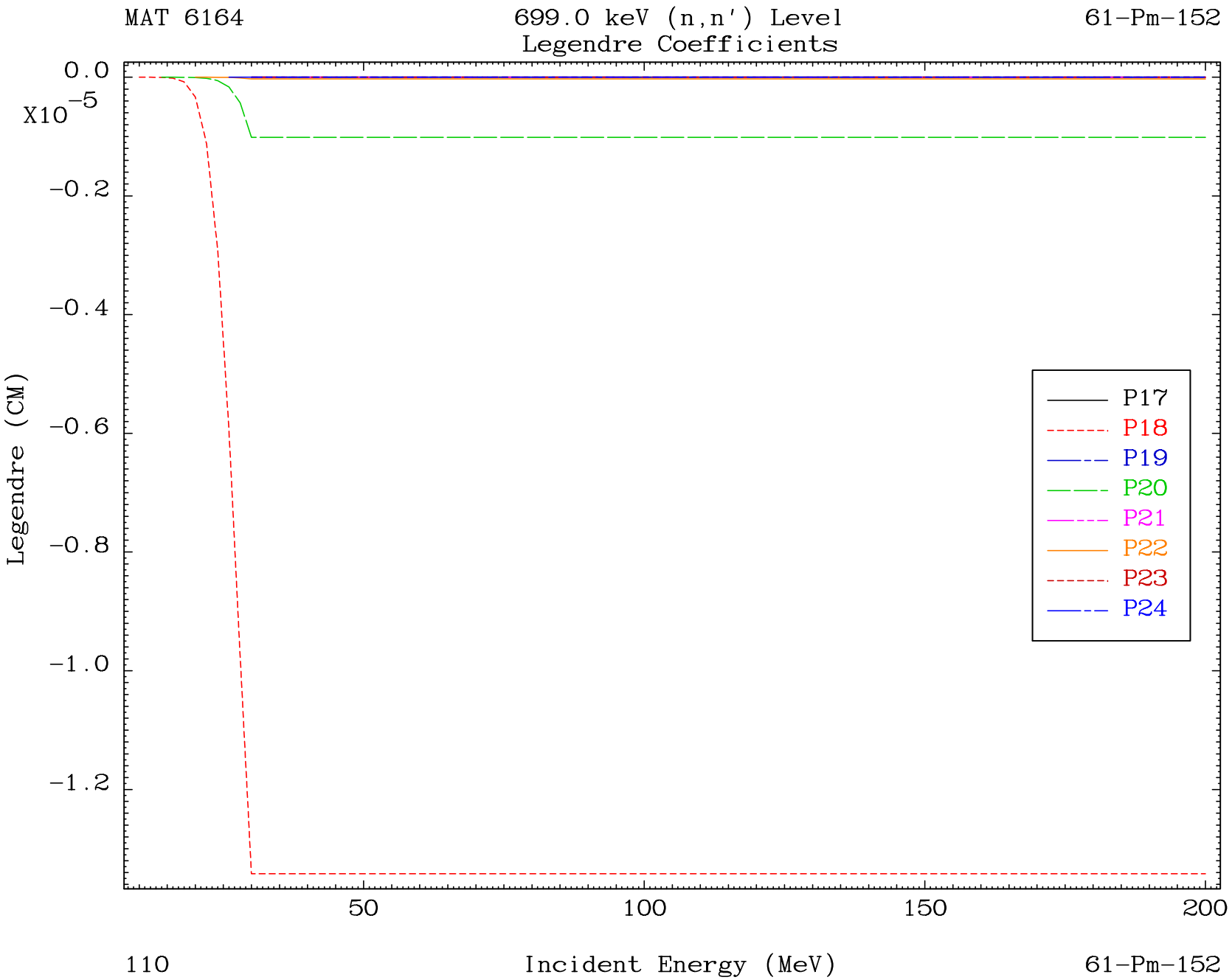

MAT 6164
697.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
105
Incident Energy (MeV)
61-Pm-152

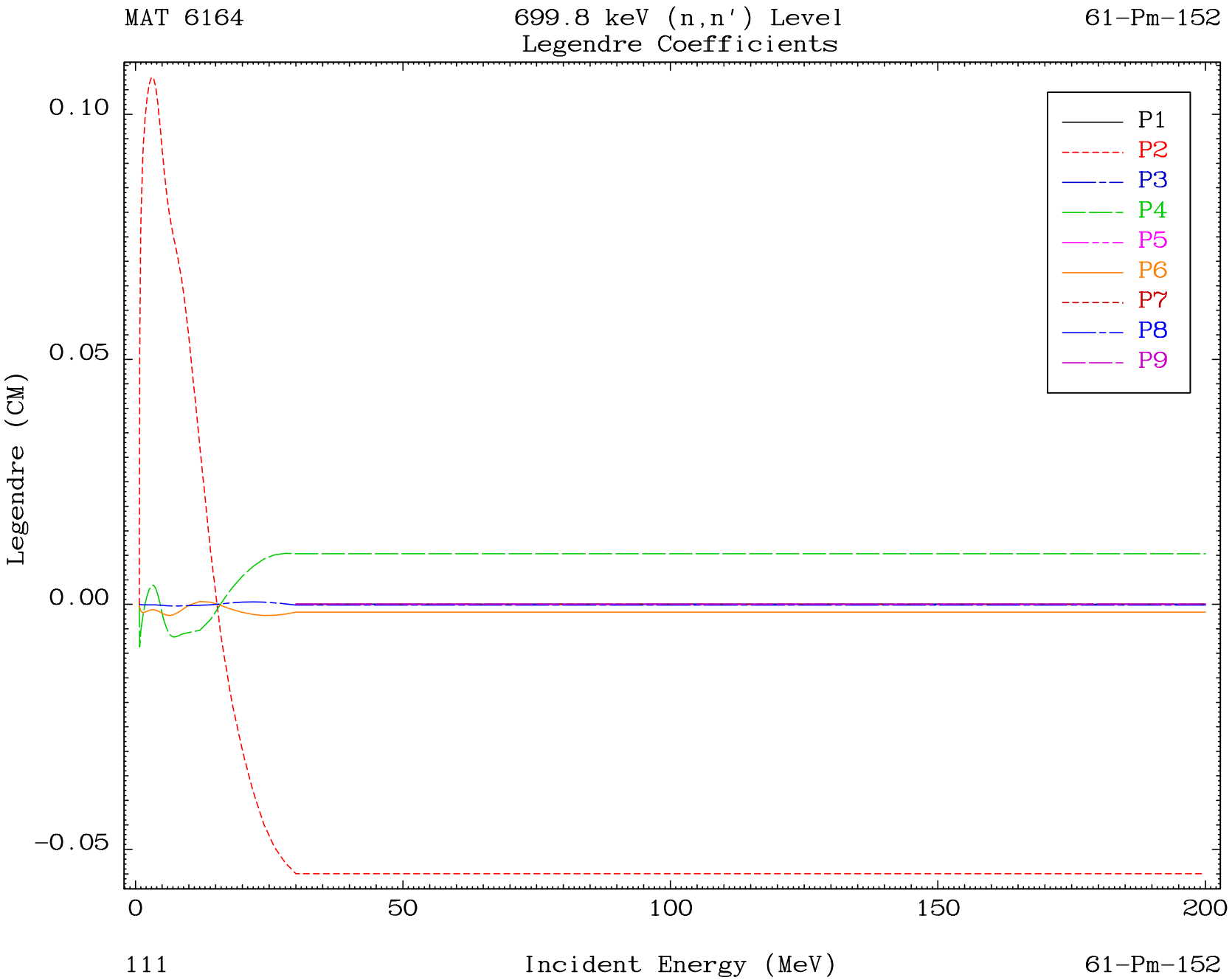

MAT 6164
697.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
106
Incident Energy (MeV)
61-Pm-152

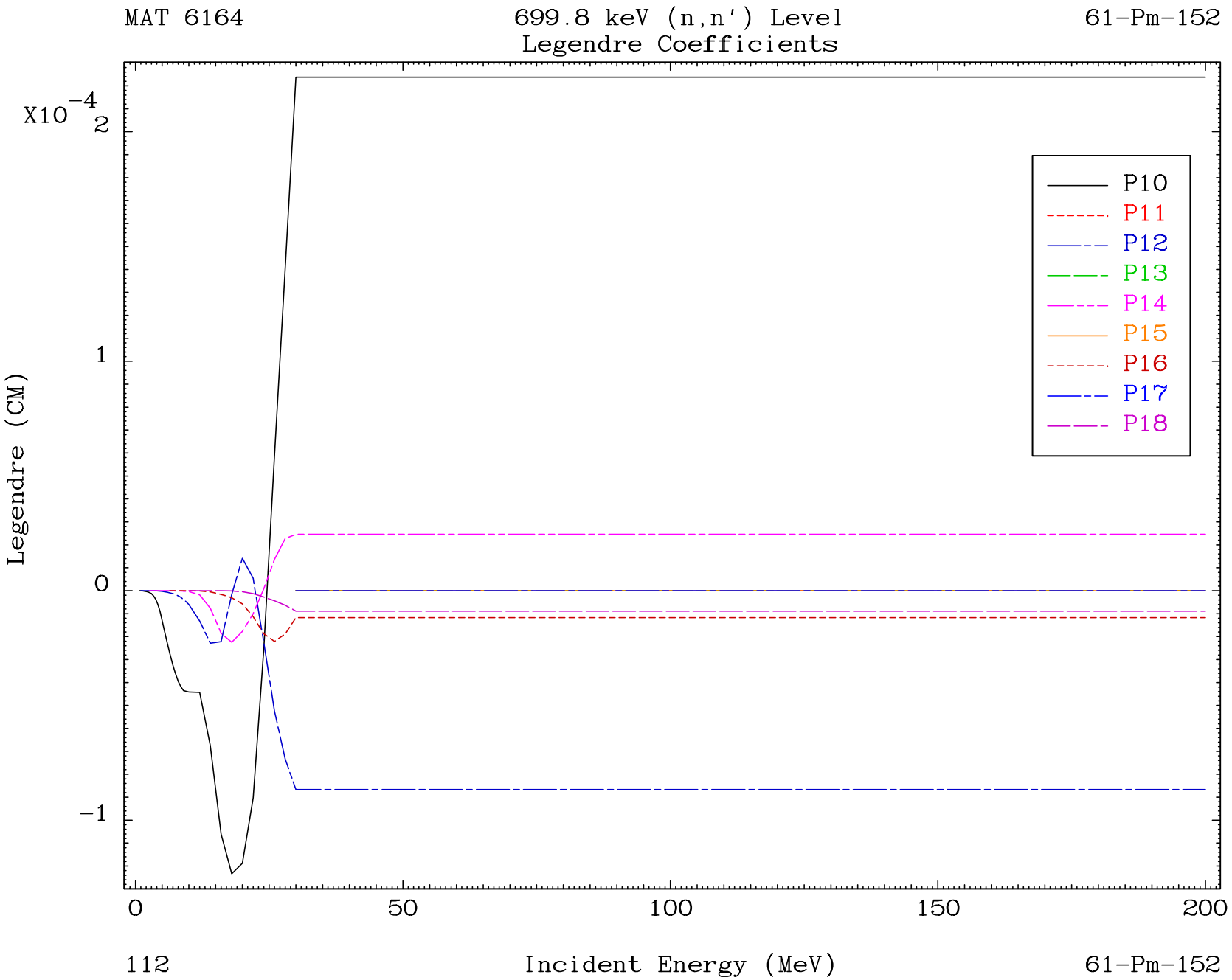

MAT 6164
697.2 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
107
Incident Energy (MeV)
61-Pm-152

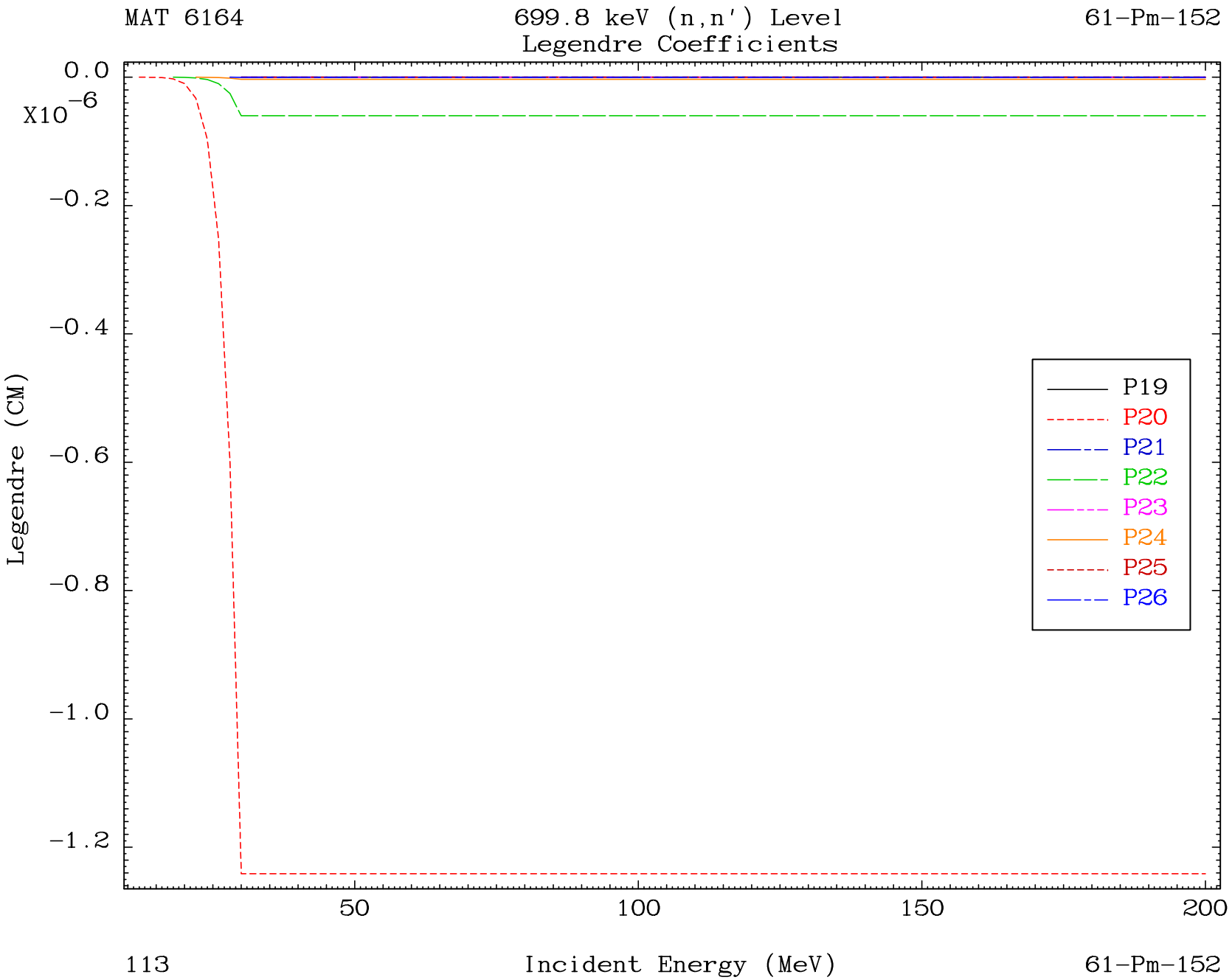

MAT 6164
699.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P1
P2
P3
P4
P5
P6
P7
P8
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
108
Incident Energy (MeV)
61-Pm-152

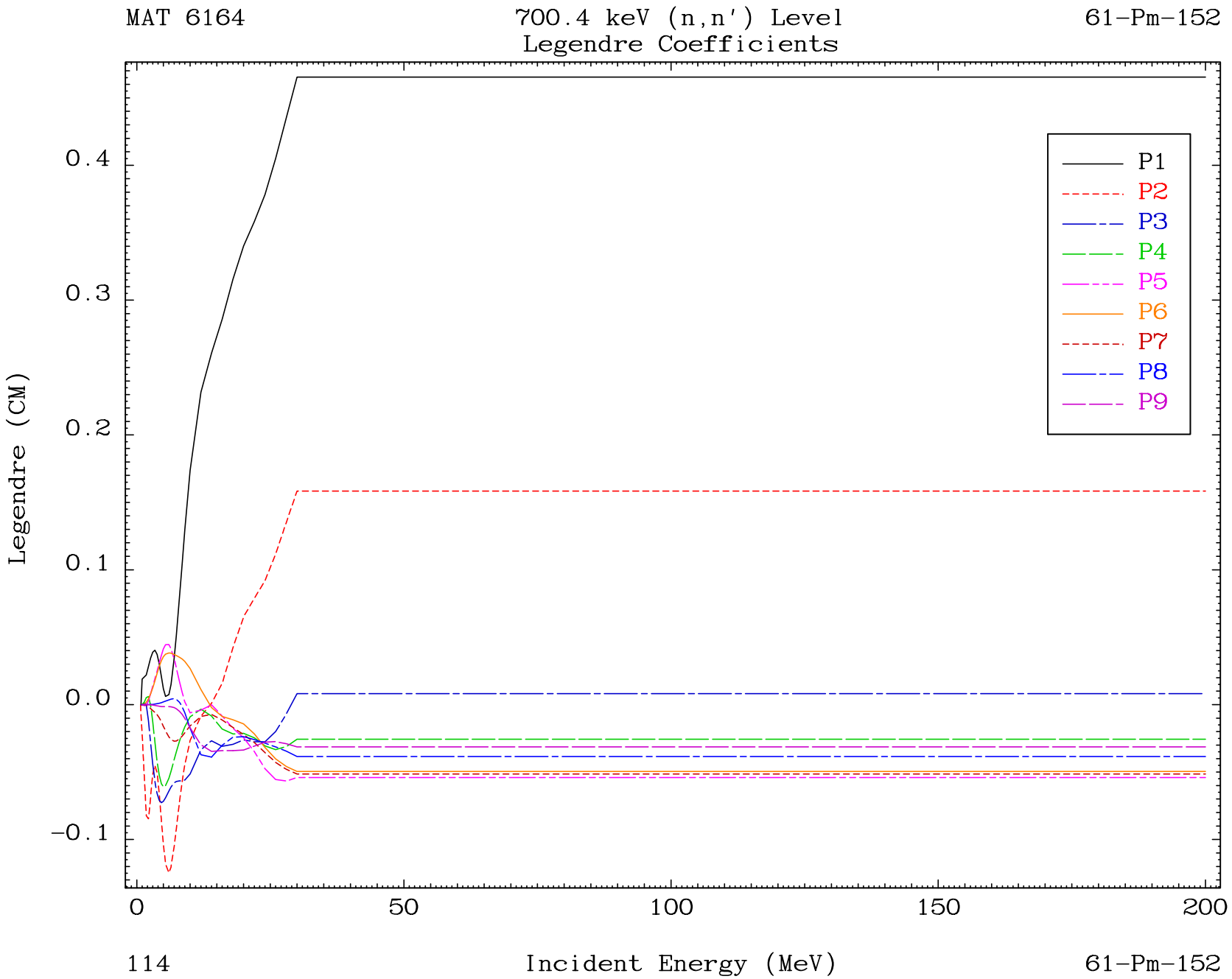

MAT 6164
699.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-4
0
-1
-2
-3
-4
-5
Legendre (CM)
P9
P10
P11
P12
P13
P14
P15
P16
0
50
100
150
200
109
Incident Energy (MeV)
61-Pm-152

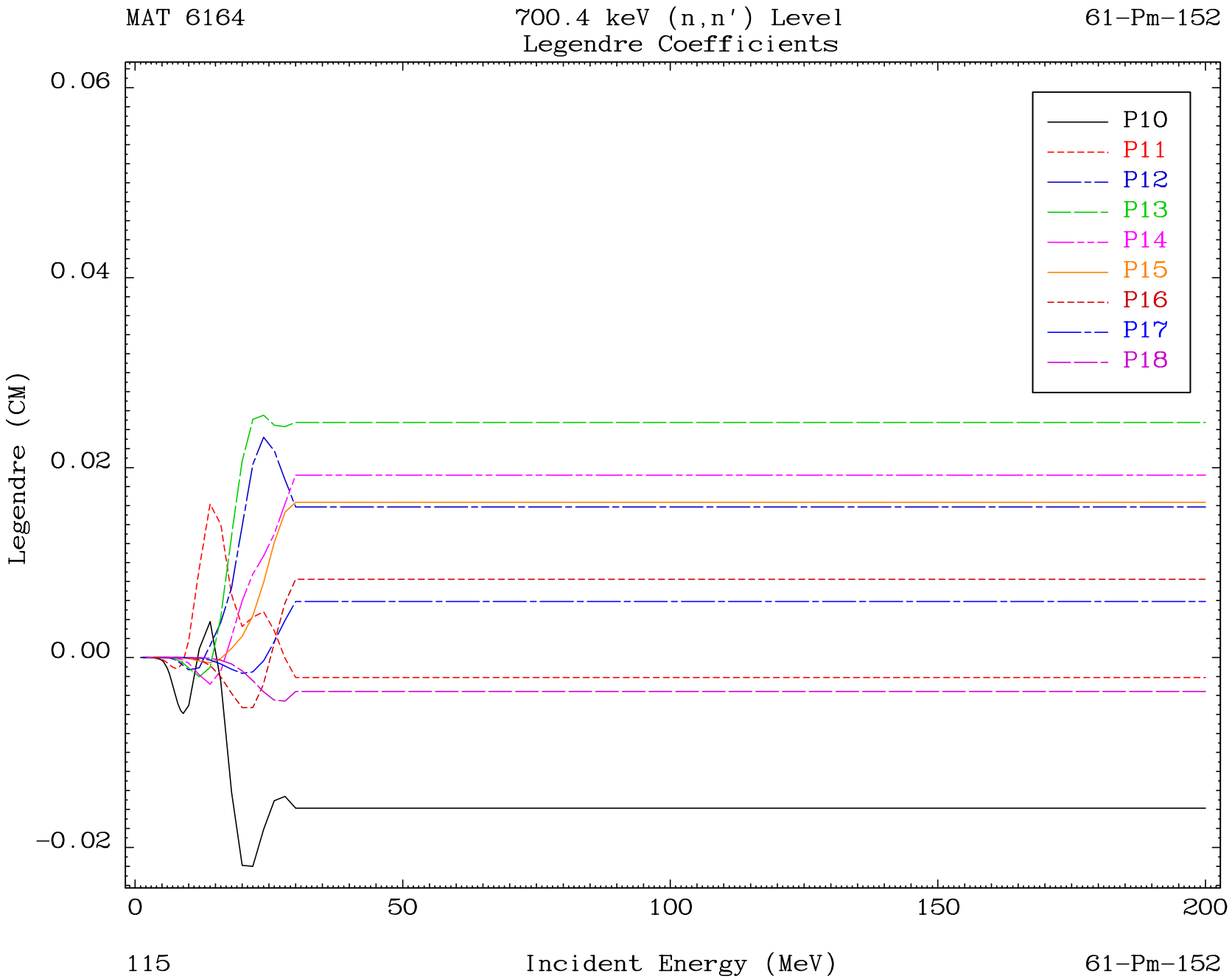

MAT 6164
699.0 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
110
Incident Energy (MeV)
61-Pm-152
P17
P18
P19
P20
P21
P22
P23
P24

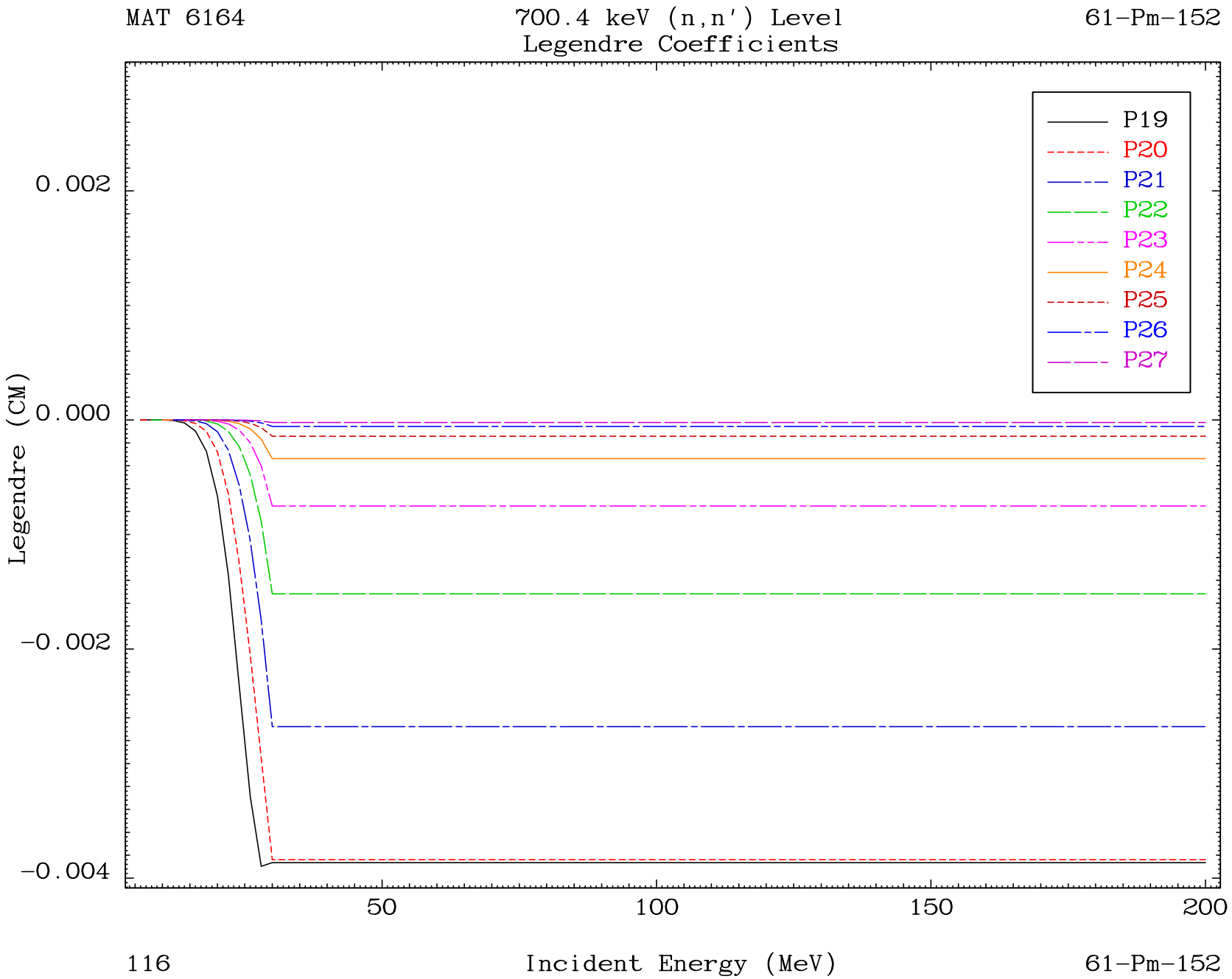

MAT 6164
699.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.10
0.05
0.00
-0.05
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
111
Incident Energy (MeV)
61-Pm-152

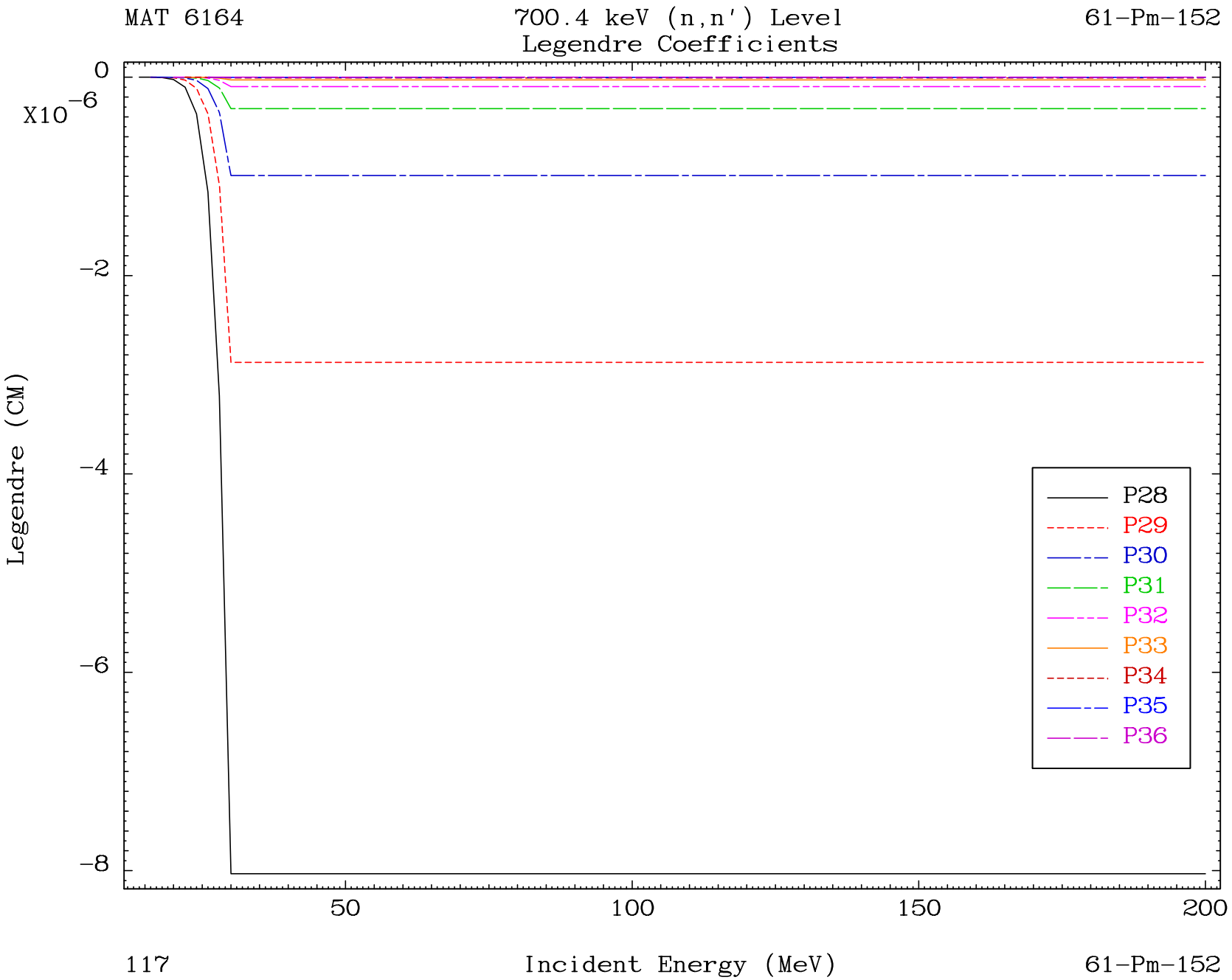

MAT 6164
699.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10 -4
2
1
0
-1
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
112
Incident Energy (MeV)
61-Pm-152

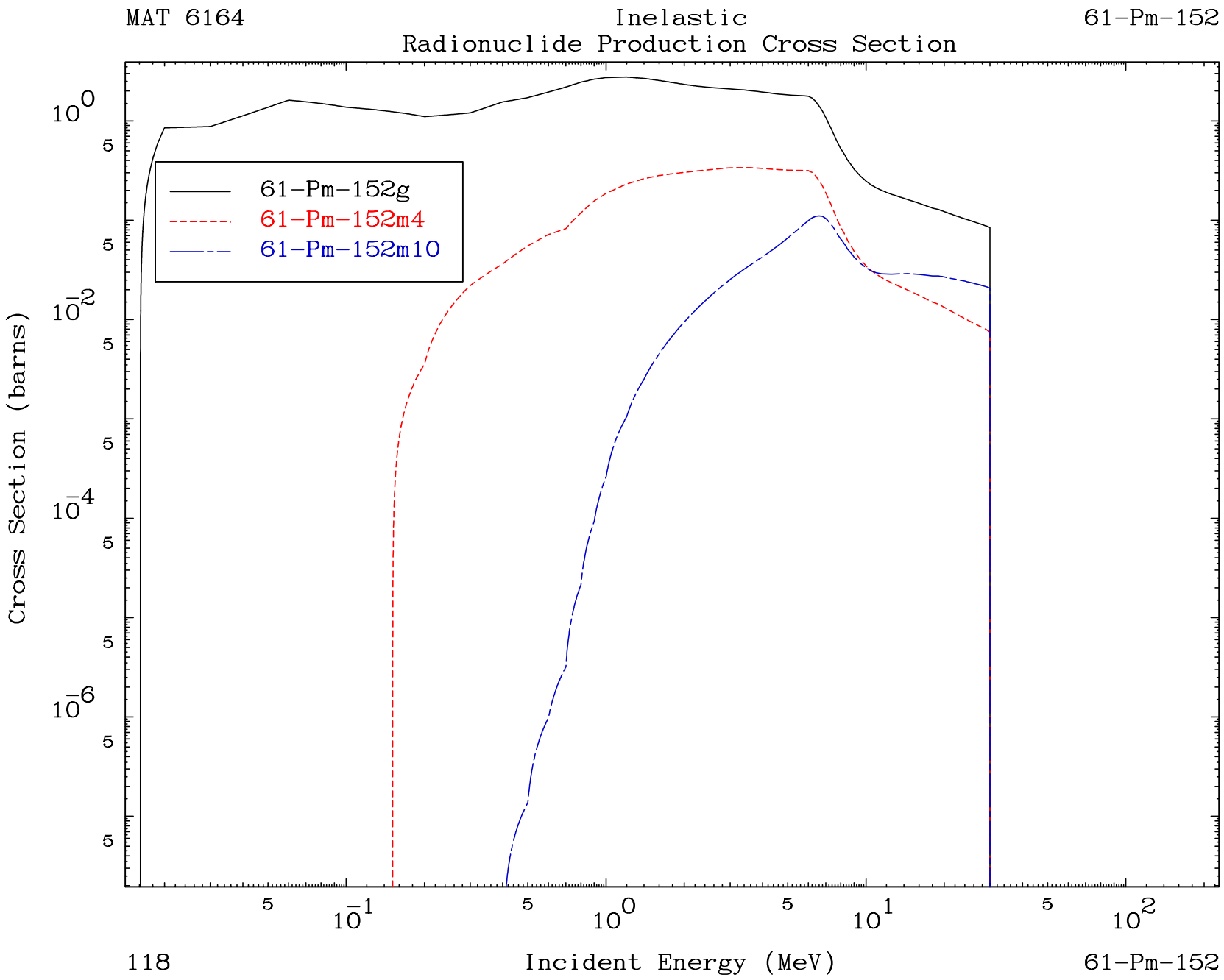

MAT 6164
699.8 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
113
Incident Energy (MeV)
61-Pm-152

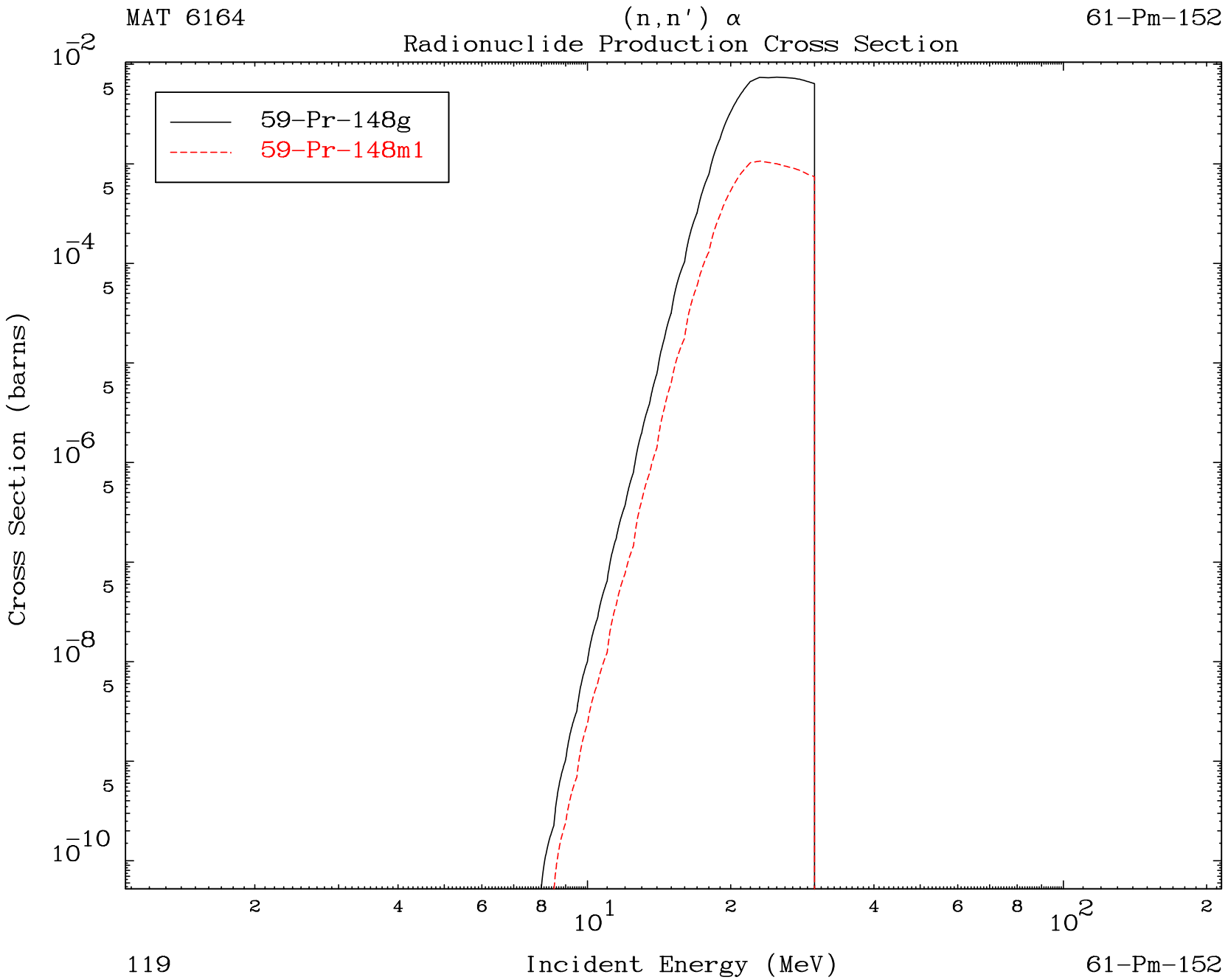

MAT 6164
700.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
114
Incident Energy (MeV)
61-Pm-152


MAT 6164
700.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
115
Incident Energy (MeV)
61-Pm-152


MAT 6164
700.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.002
0.000
-0.002
-0.004
Legendre (CM)
50
100
150
200
116
Incident Energy (MeV)
61-Pm-152


MAT 6164
700.4 keV (n,n') Level
Legendre Coefficients
61-Pm-152
X10^-6
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
117
Incident Energy (MeV)
61-Pm-152
P28
P29
P30
P31
P32
P33
P34
P35
P36


MAT 6164
Inelastic
61-Pm-152
Radionuclide Production Cross Section
61-Pm-152g
61-Pm-152m4
61-Pm-152m10
Cross Section (barns)
Incident Energy (MeV)
118
61-Pm-152


MAT 6164
(n,n') α
61-Pm-152
Radionuclide Production Cross Section
59-Pr-148g
59-Pr-148m1
Cross Section (barns)
Incident Energy (MeV)
119
61-Pm-152