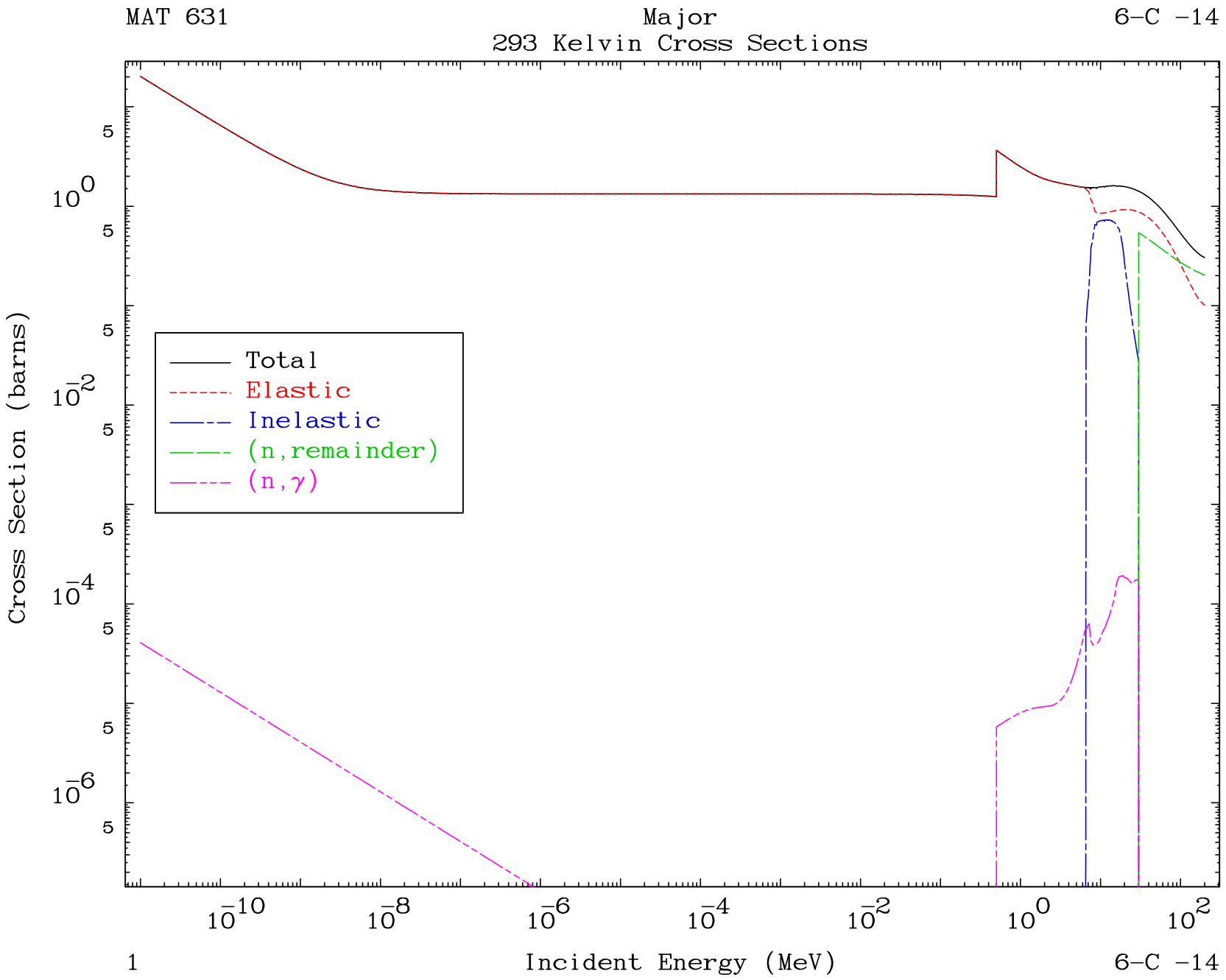
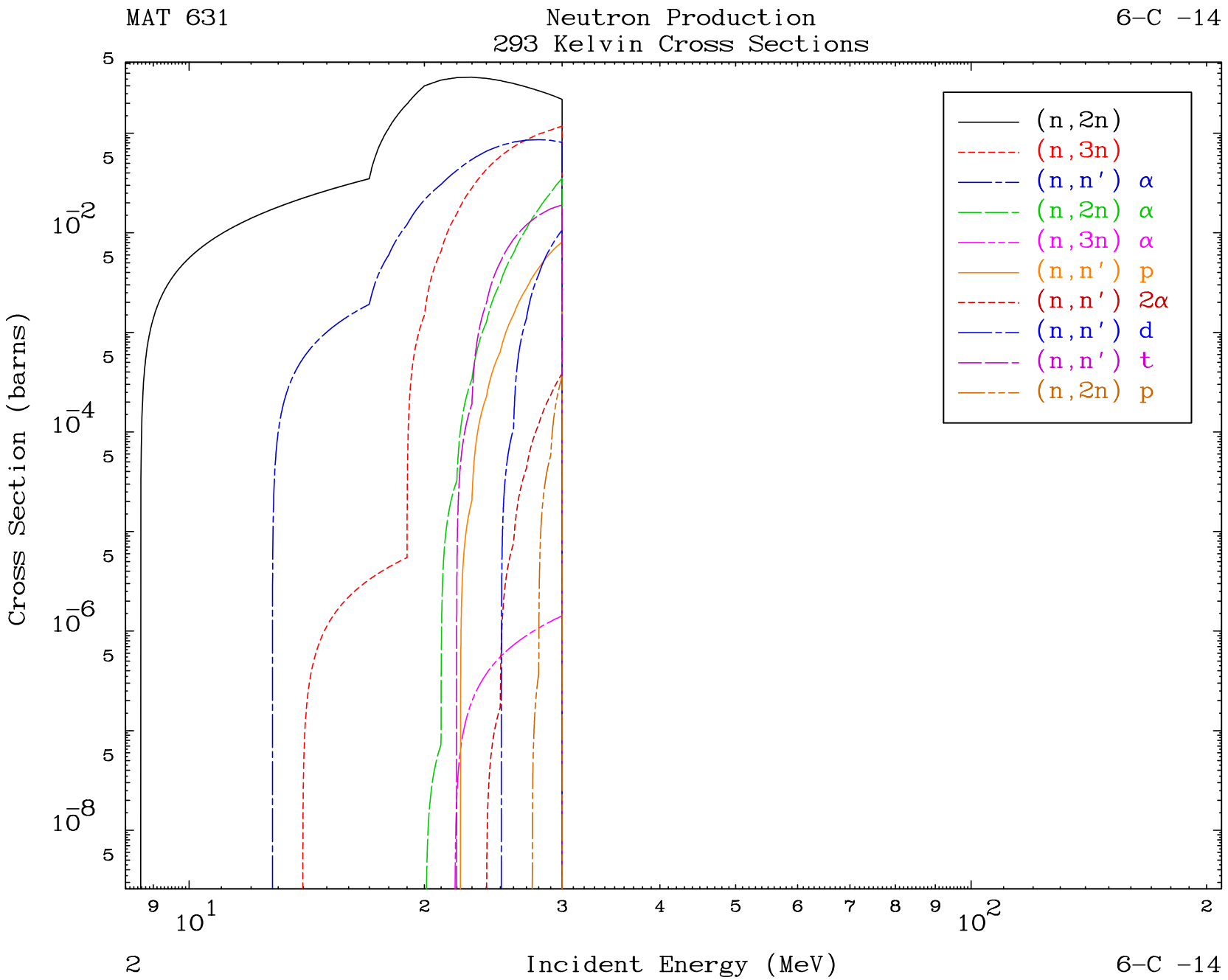
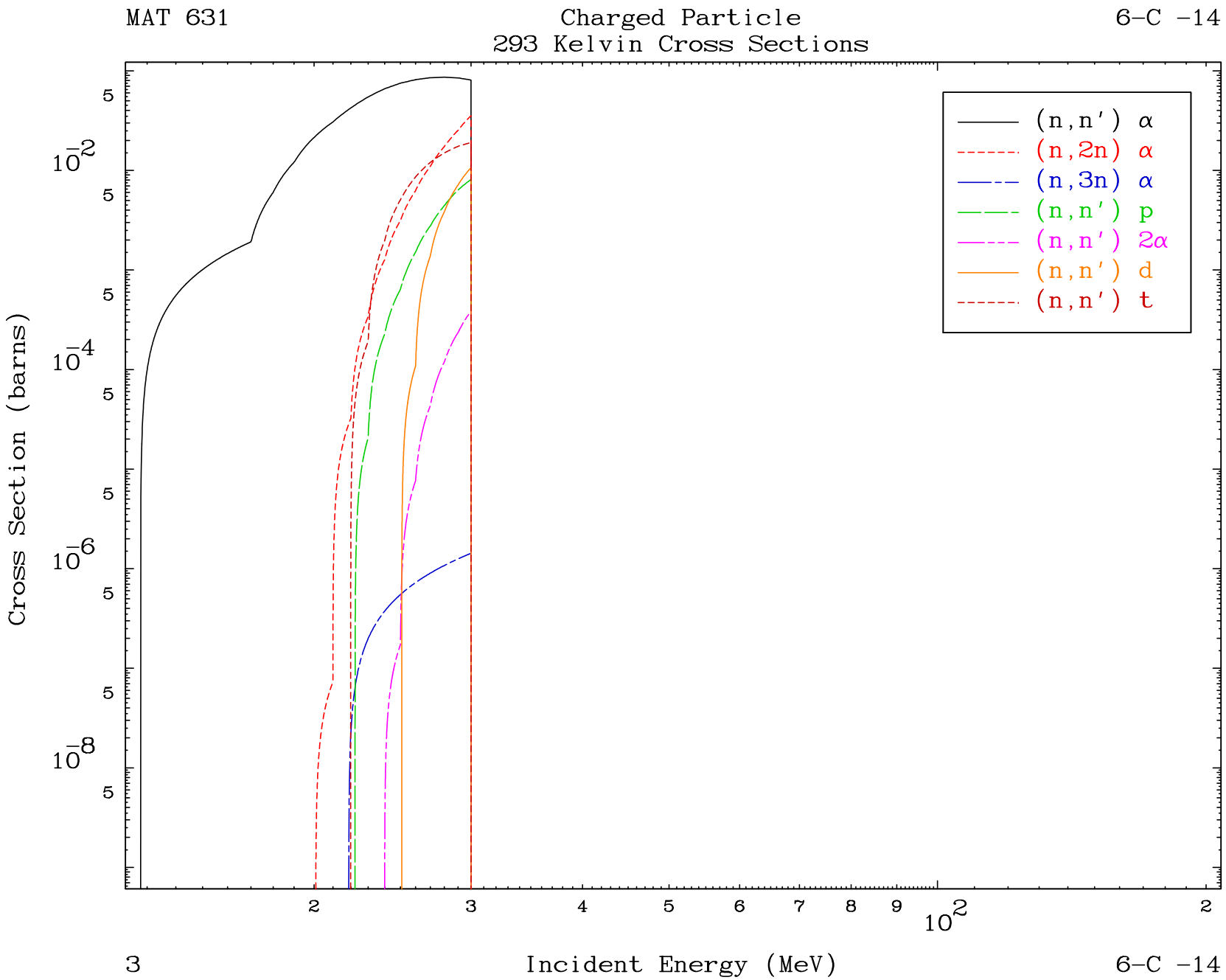
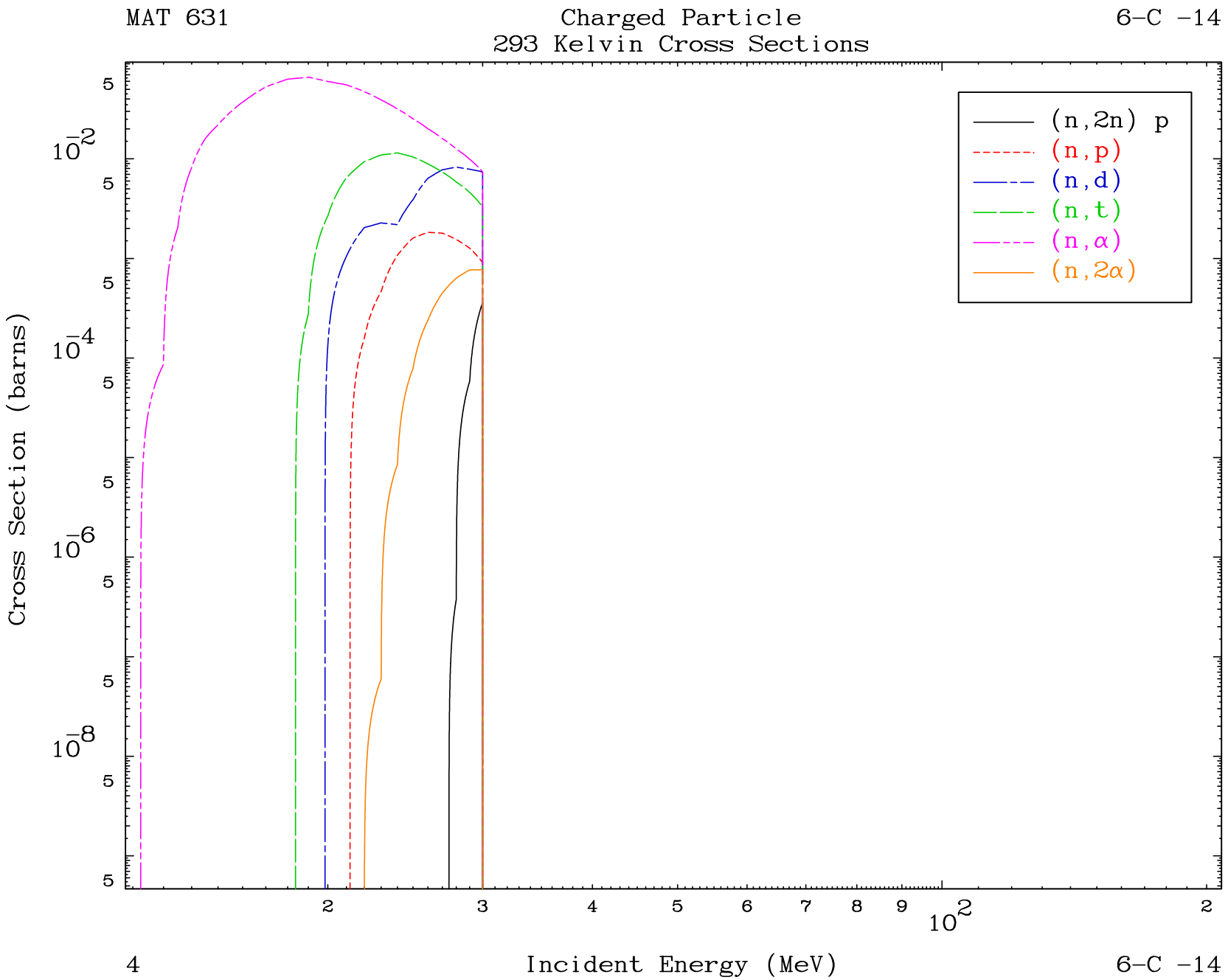
Program EVALPLOT
(Version 2017-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

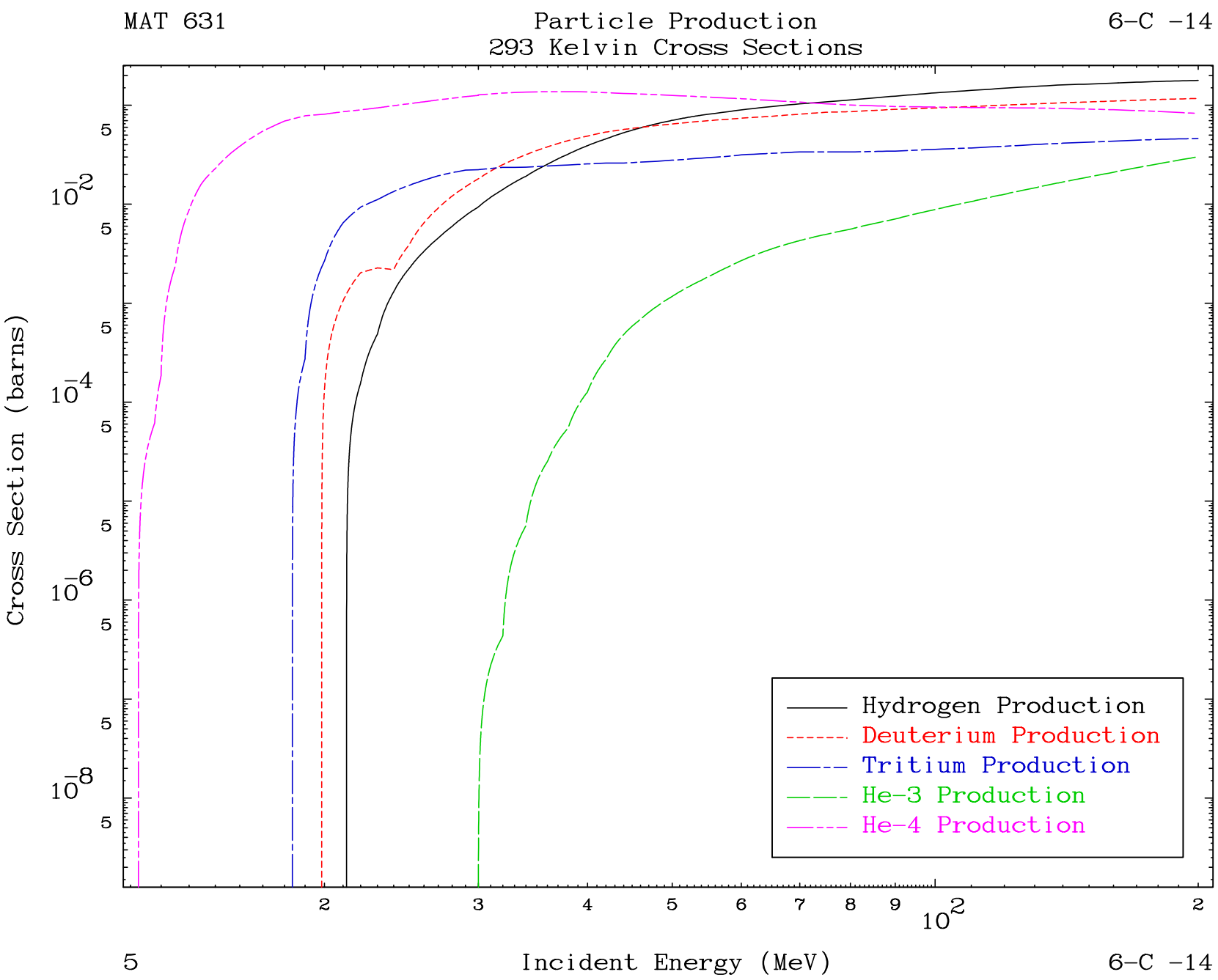
Press Mouse Button to Start

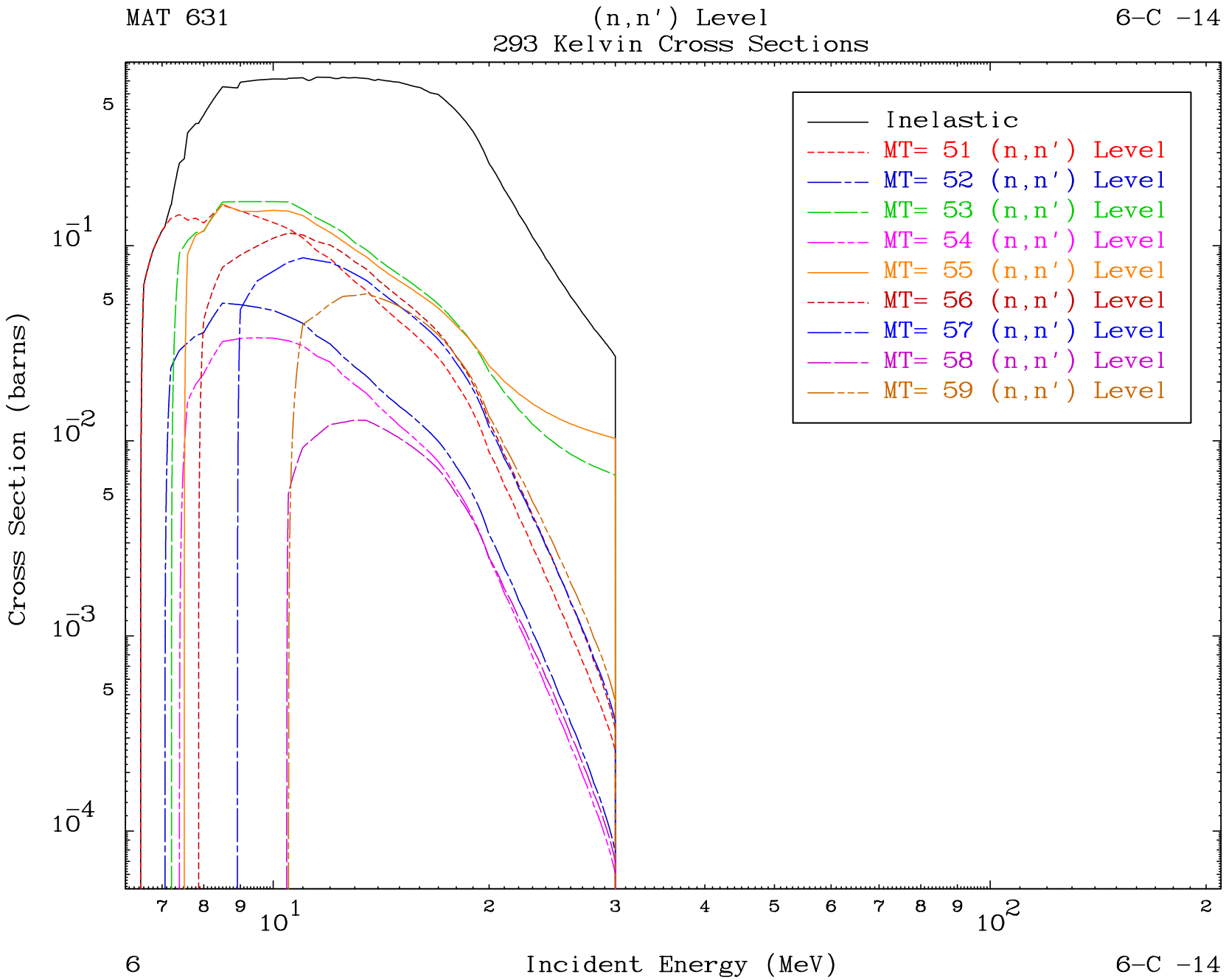

MAT 631
Major
6-C -14
293 Kelvin Cross Sections
Cross Section (barns)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
Incident Energy (MeV)
6-C -14
1

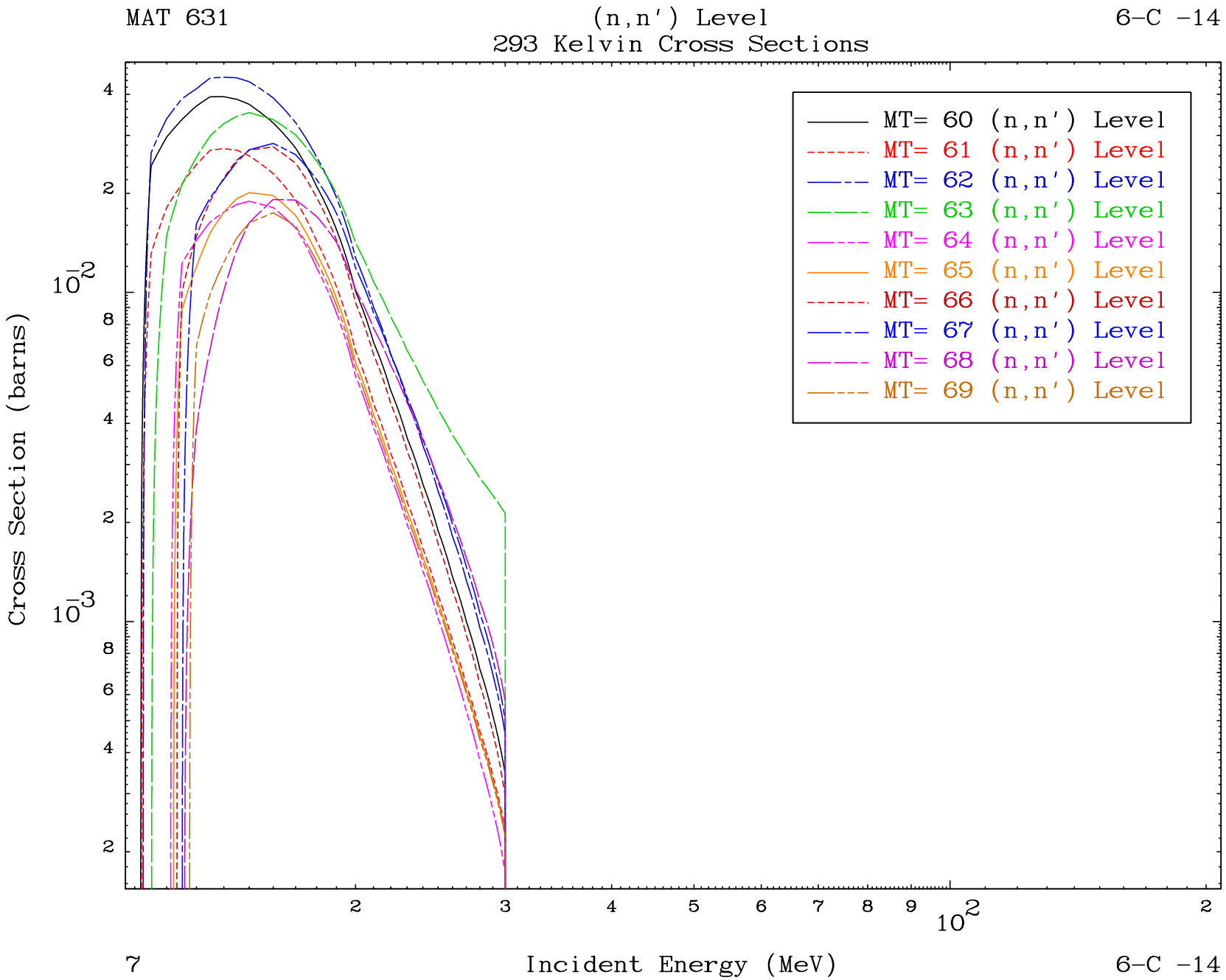

MAT 631
Neutron Production
293 Kelvin Cross Sections
6-C -14
Cross Section (barns)
Incident Energy (MeV)
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,2n) p

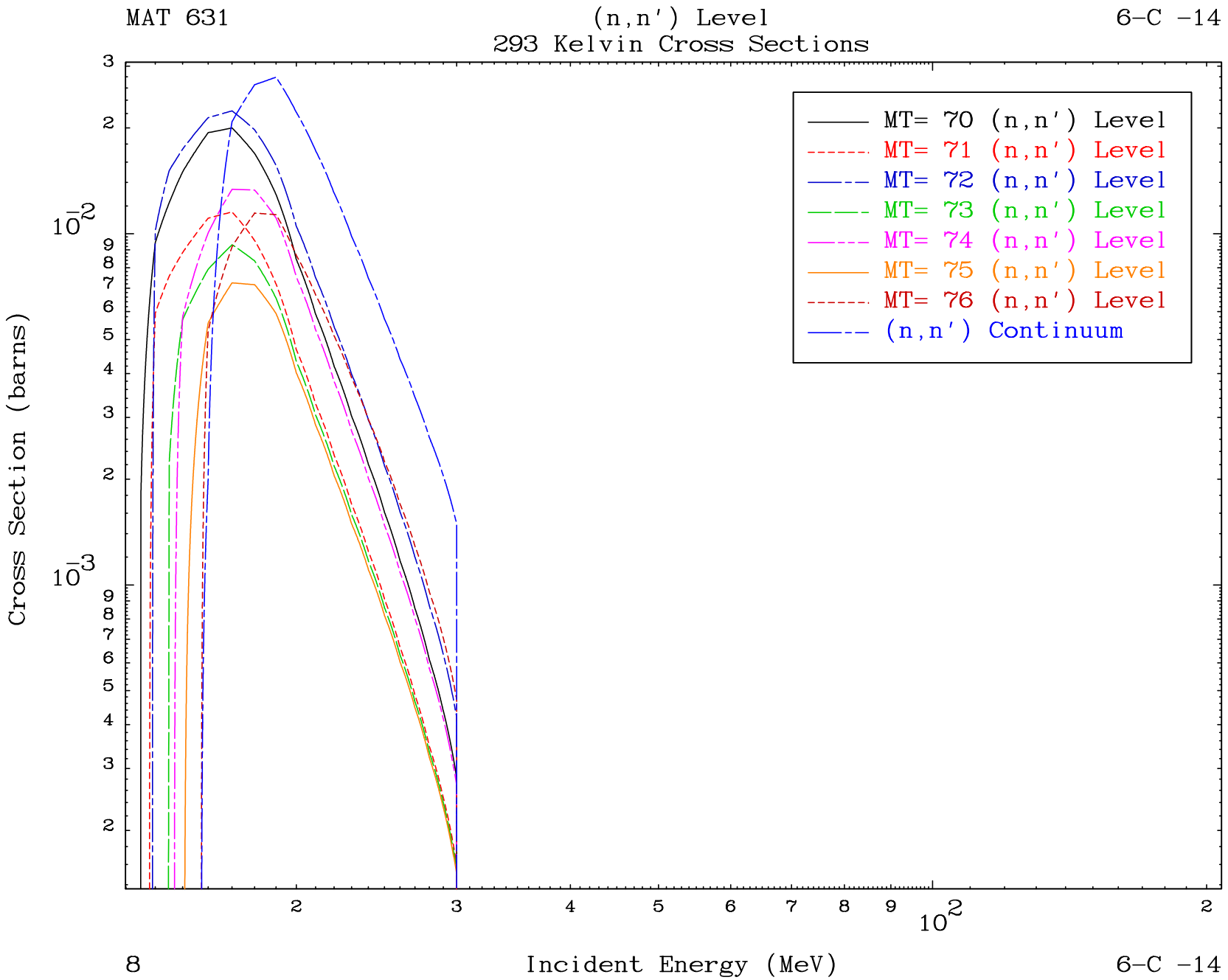

MAT 631
Charged Particle
293 Kelvin Cross Sections
6-C -14
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
Cross Section (barns)
Incident Energy (MeV)
3
6-C -14


MAT 631
Charged Particle
293 Kelvin Cross Sections
6-C -14
(n,2n) p
(n,p)
(n,d)
(n,t)
(n,α)
(n,2α)
Cross Section (barns)
Incident Energy (MeV)
4
6-C -14

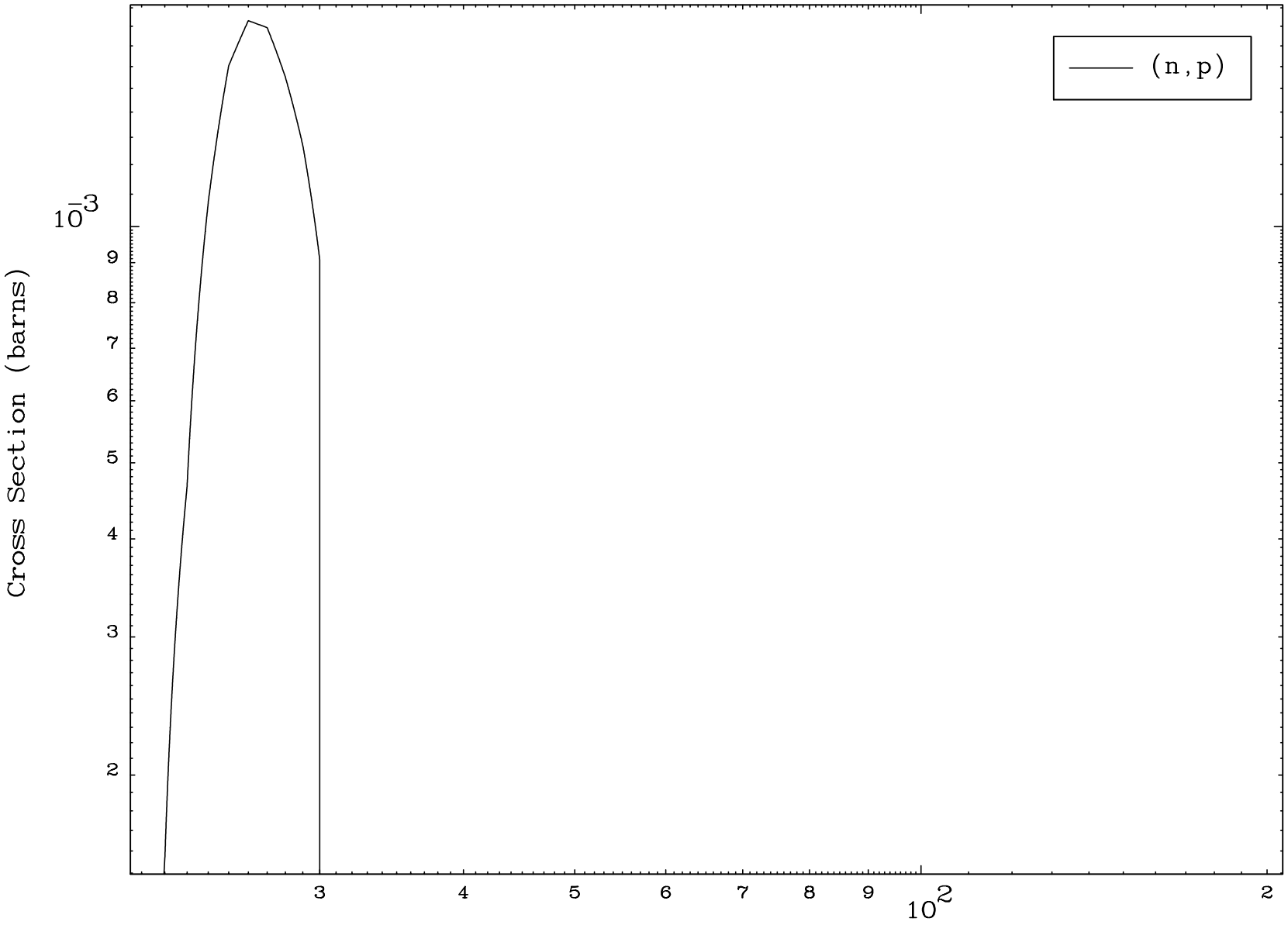

MAT 631
Particle Production
293 Kelvin Cross Sections
6-C -14
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
5
6-C -14

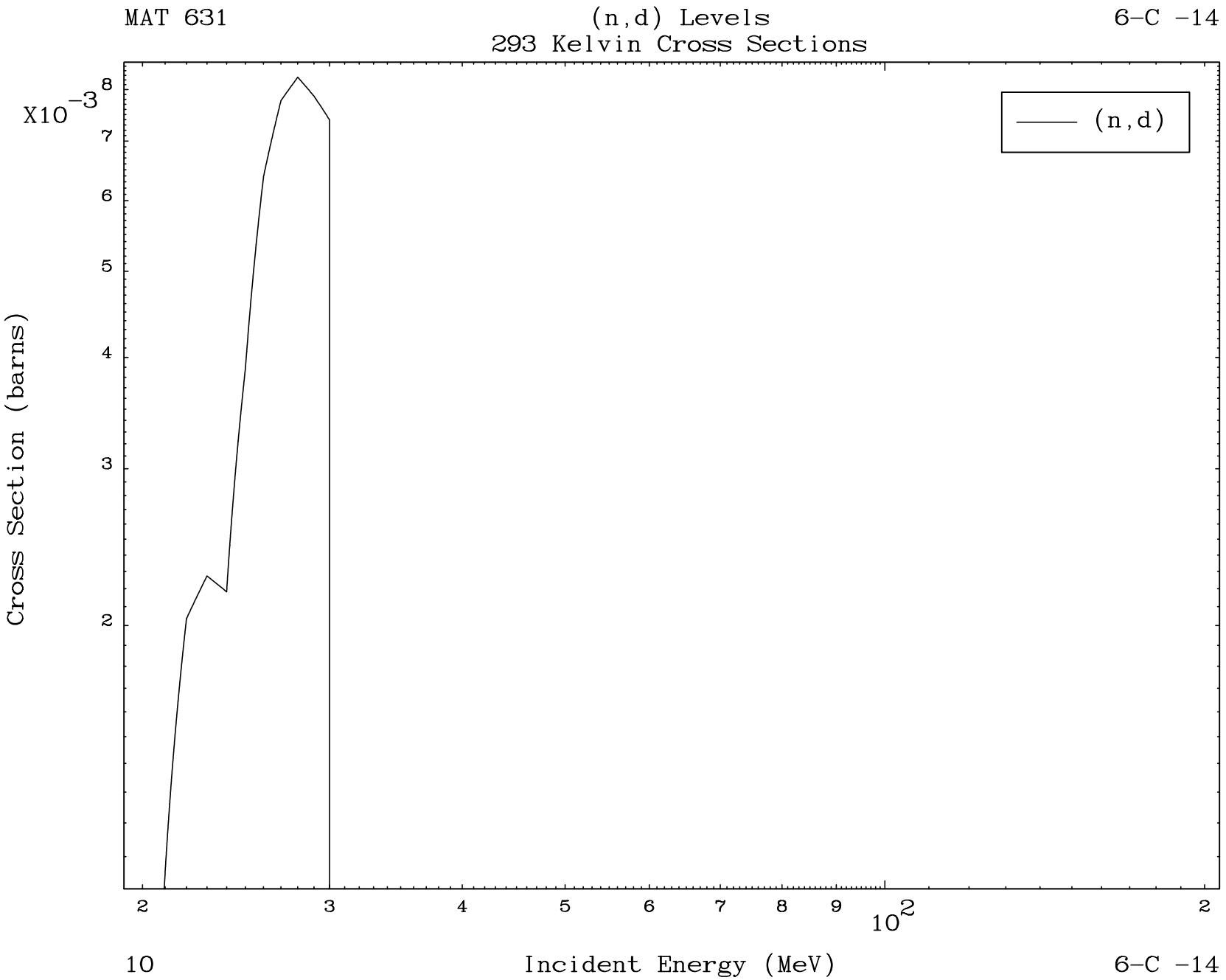

MAT 631
(n,n') Level
6-C -14
293 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
6
6-C -14


MAT 631
(n,n') Level
293 Kelvin Cross Sections
6-C -14
Cross Section (barns)
Incident Energy (MeV)
MT= 60 (n,n') Level
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
7
6-C -14

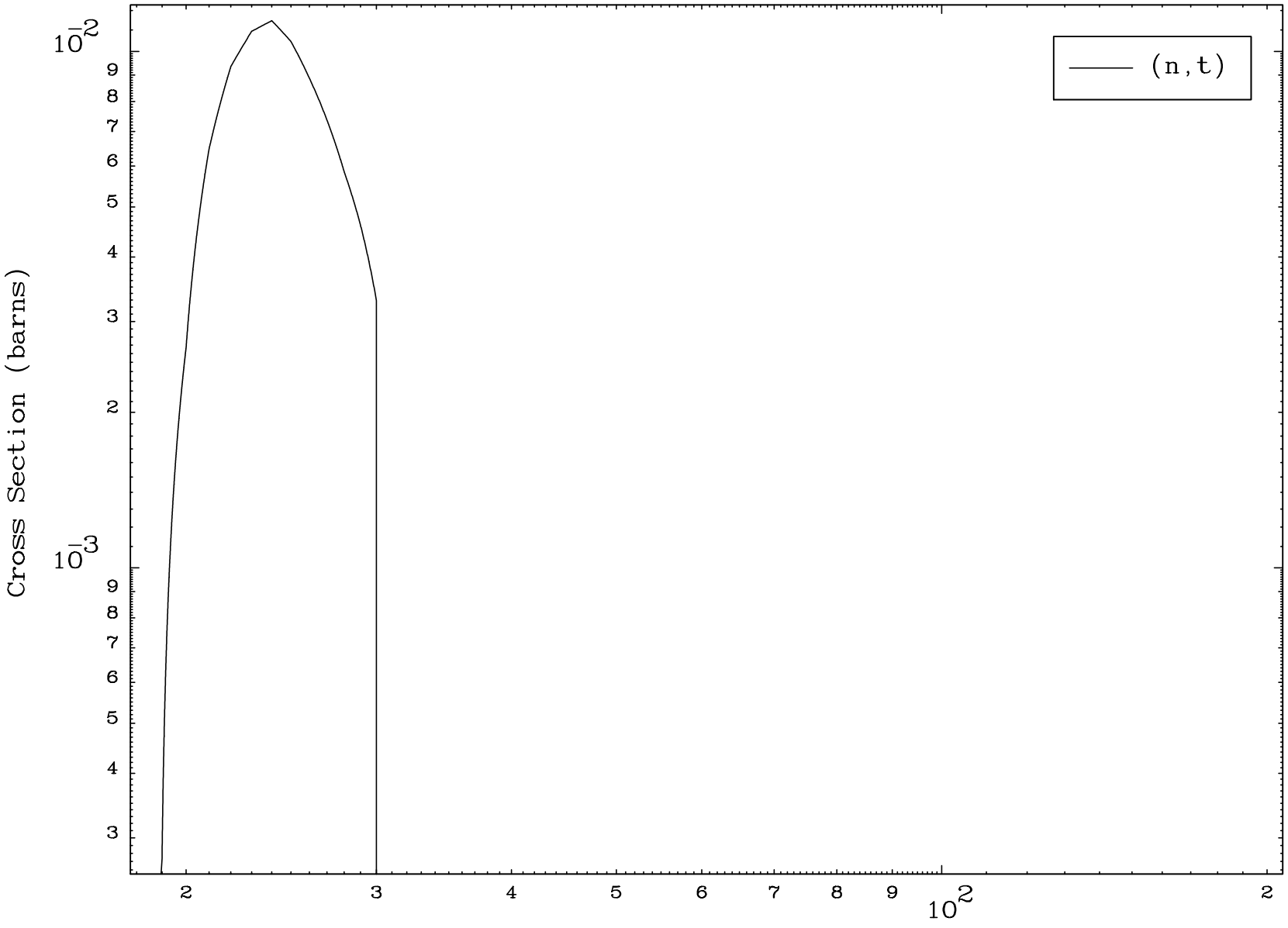

MAT 631
(n,n') Level
6-C -14
293 Kelvin Cross Sections
MT= 70 (n,n') Level
MT= 71 (n,n') Level
MT= 72 (n,n') Level
MT= 73 (n,n') Level
MT= 74 (n,n') Level
MT= 75 (n,n') Level
MT= 76 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
8
6-C -14

293 Kelvin Cross Sections

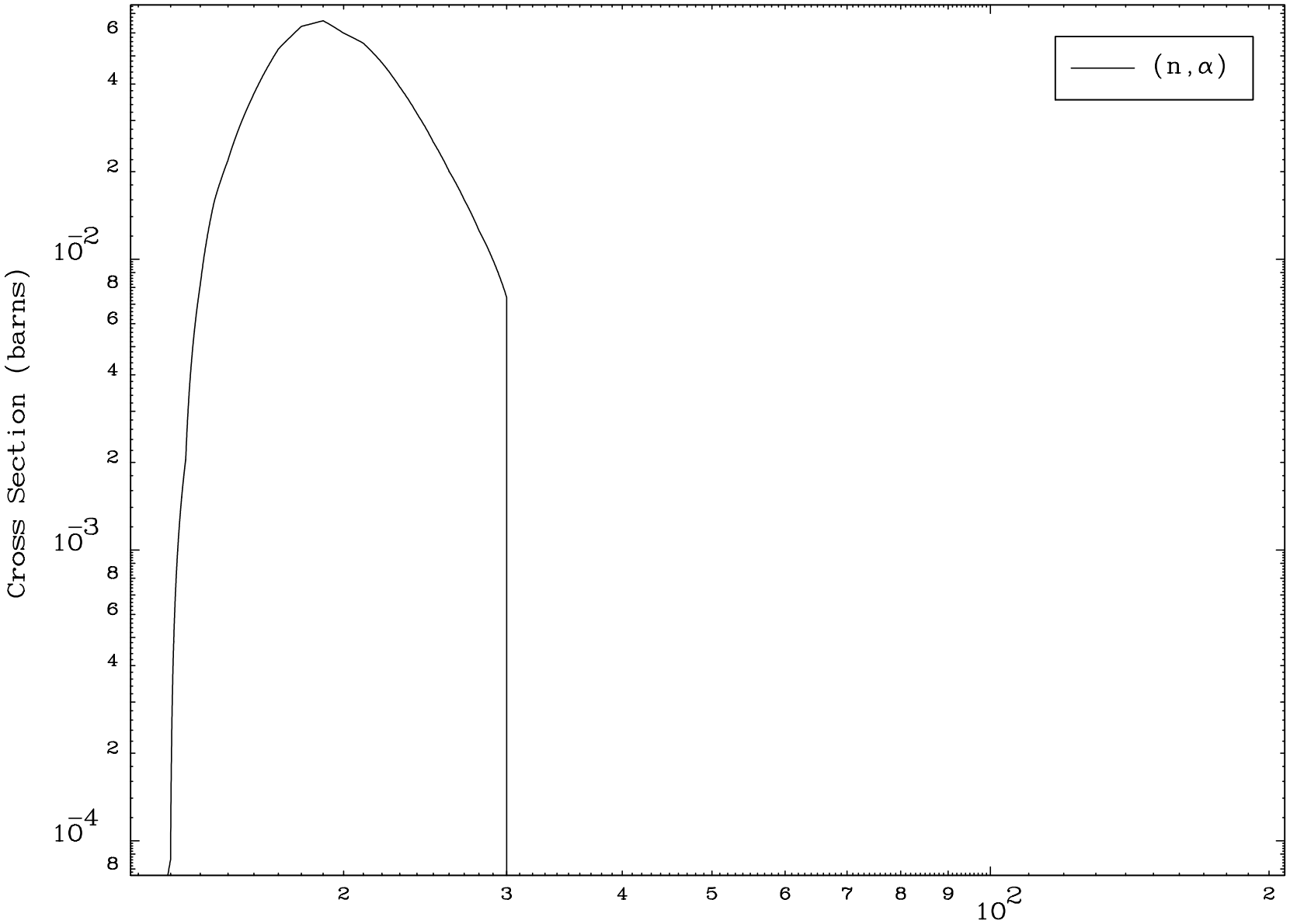


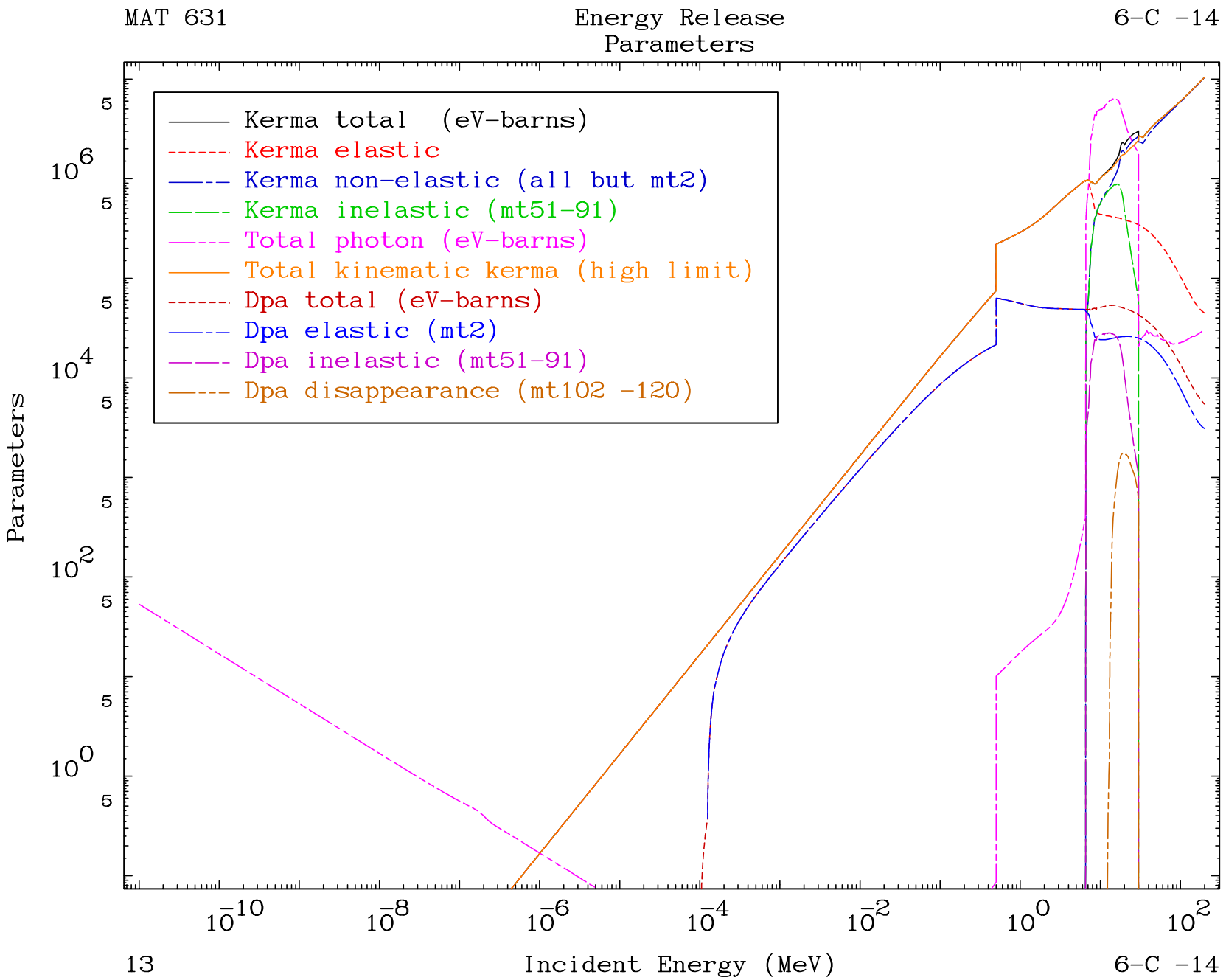

MAT 631
(n,d) Levels
6-C -14
293 Kelvin Cross Sections
X10^-3
8
7
6
5
4
3
2
Cross Section (barns)
(n,d)
2
3
4
5
6
7
8
9
10^2
2
10
Incident Energy (MeV)
6-C -14

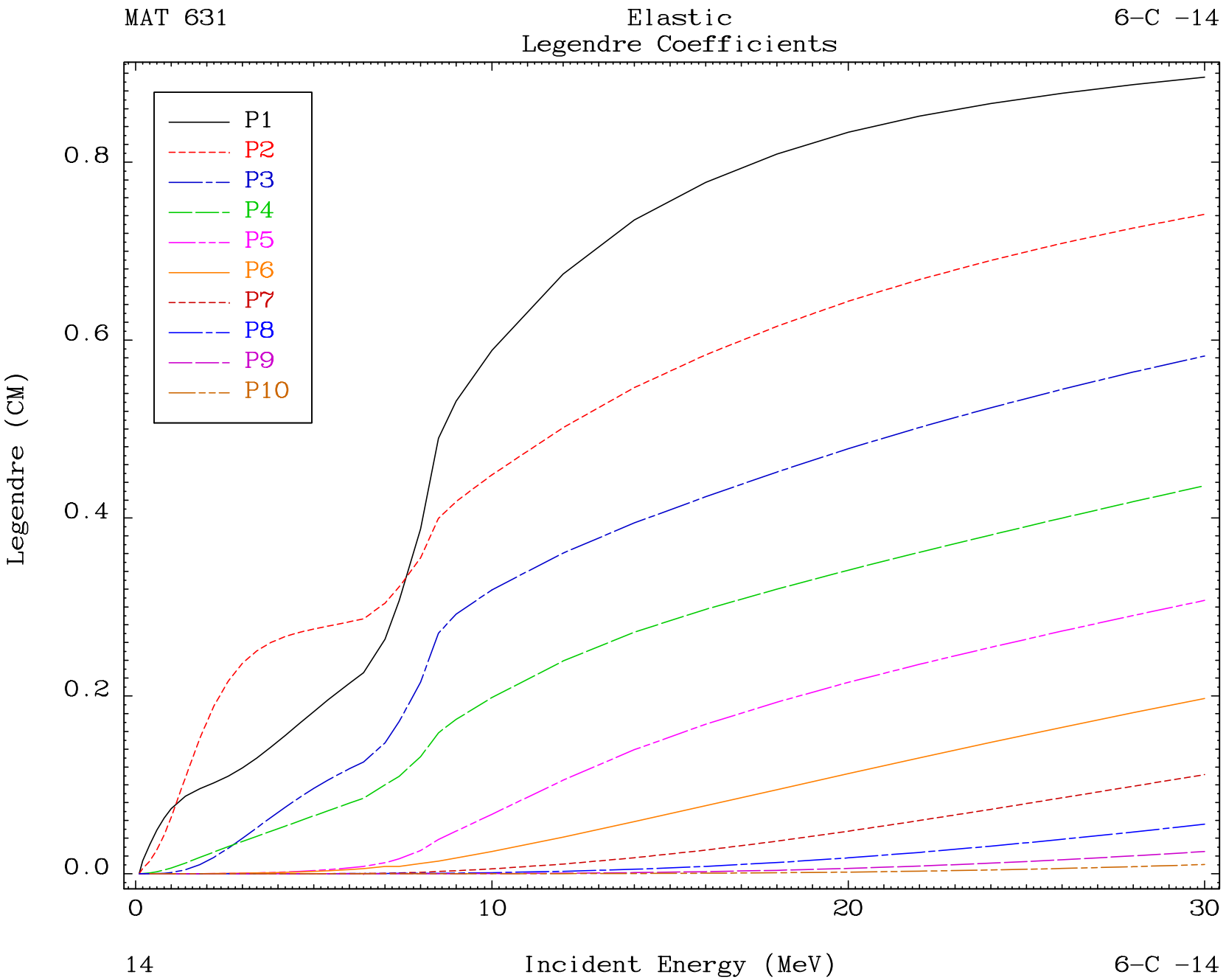
293 Kelvin Cross Sections

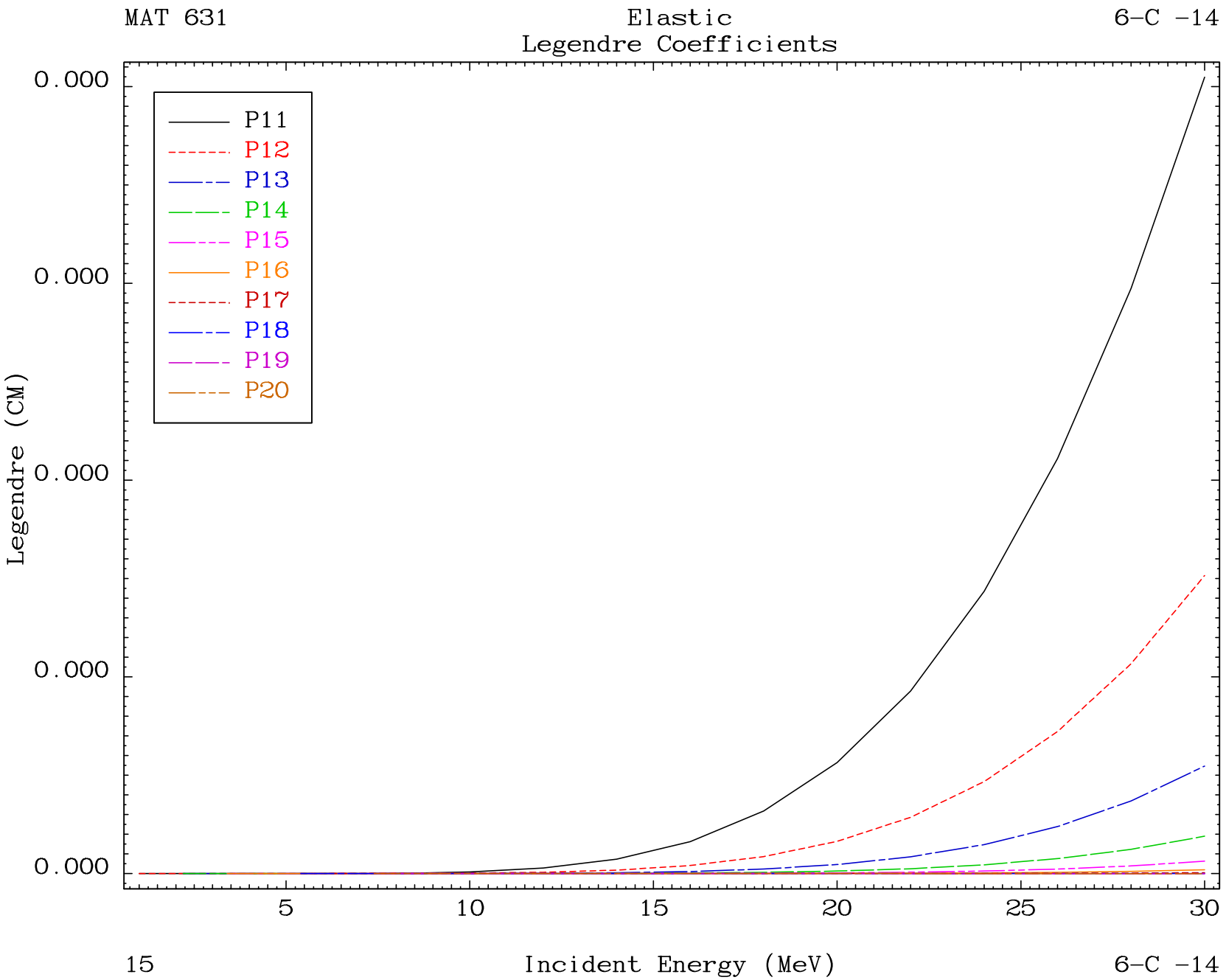


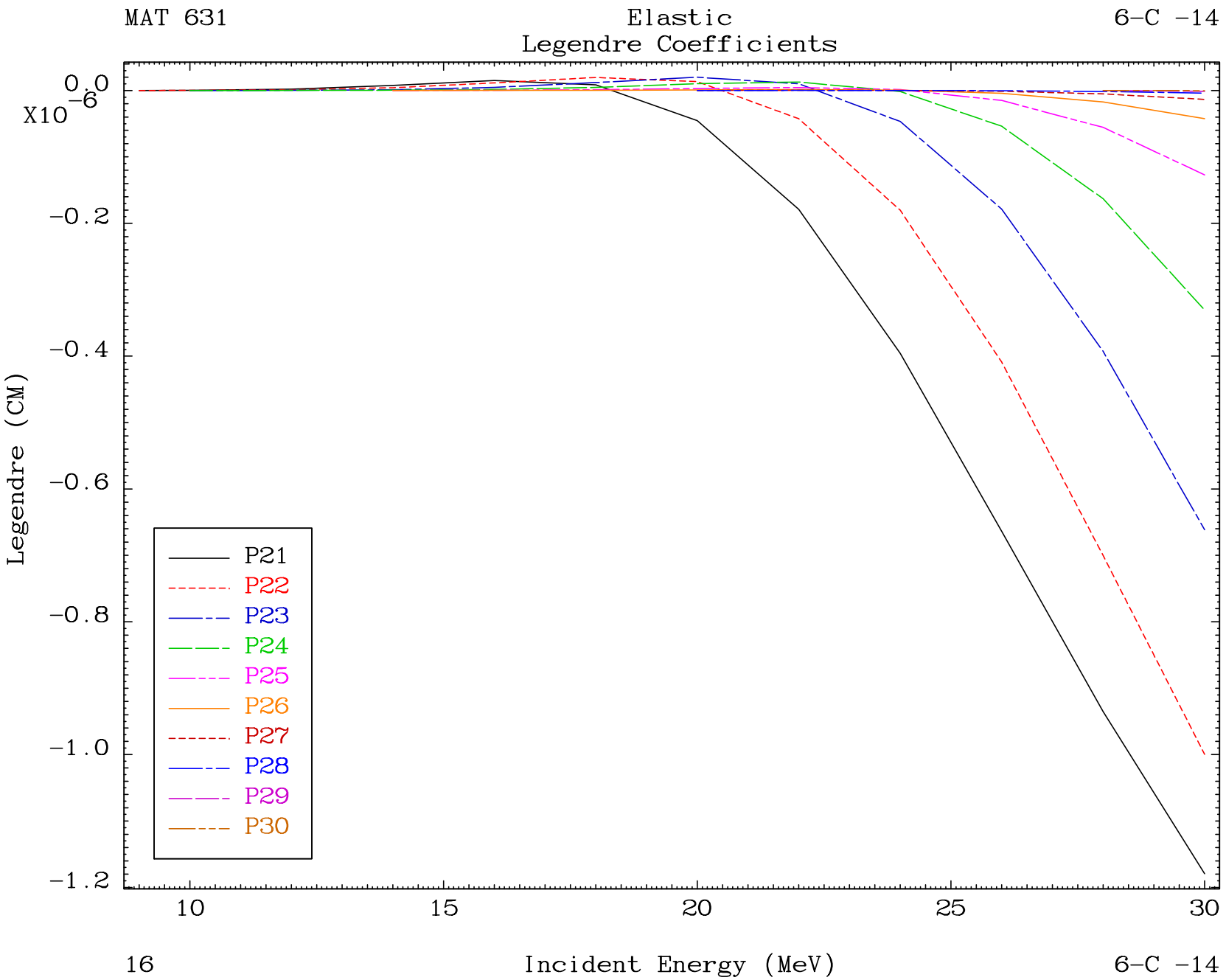
293 Kelvin Cross Sections

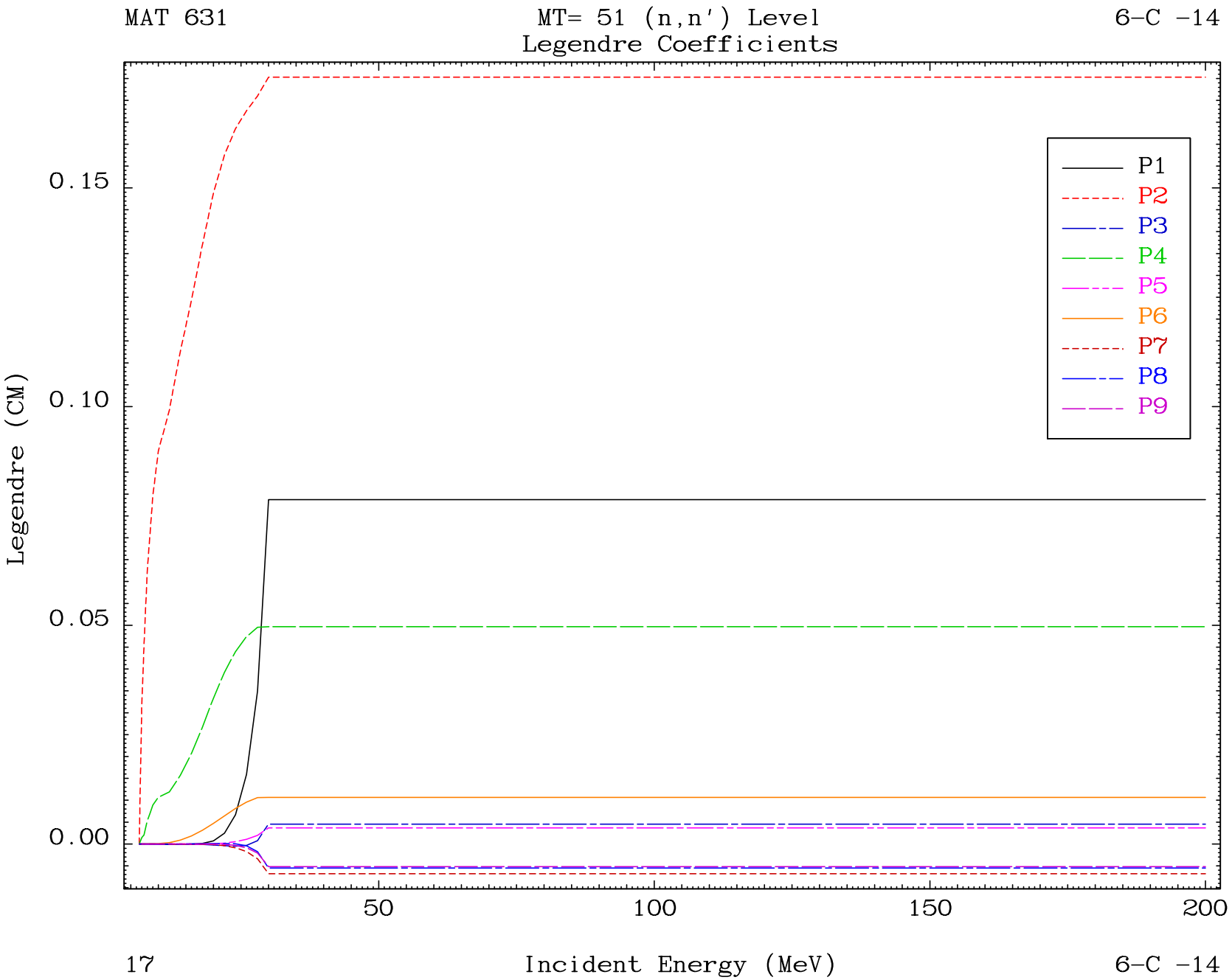


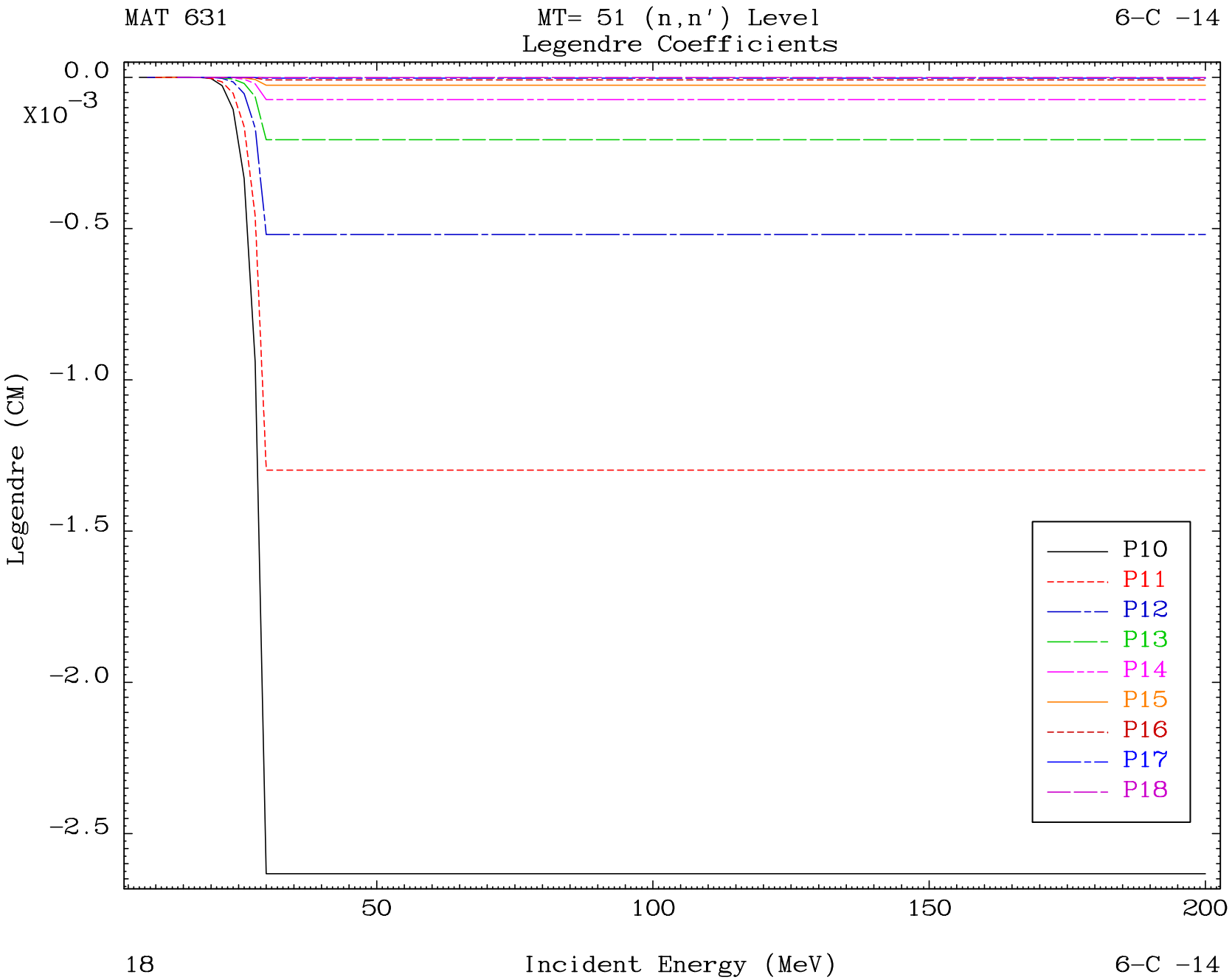

MAT 631
Energy Release
Parameters
6-C -14
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
Incident Energy (MeV)
13
6-C -14

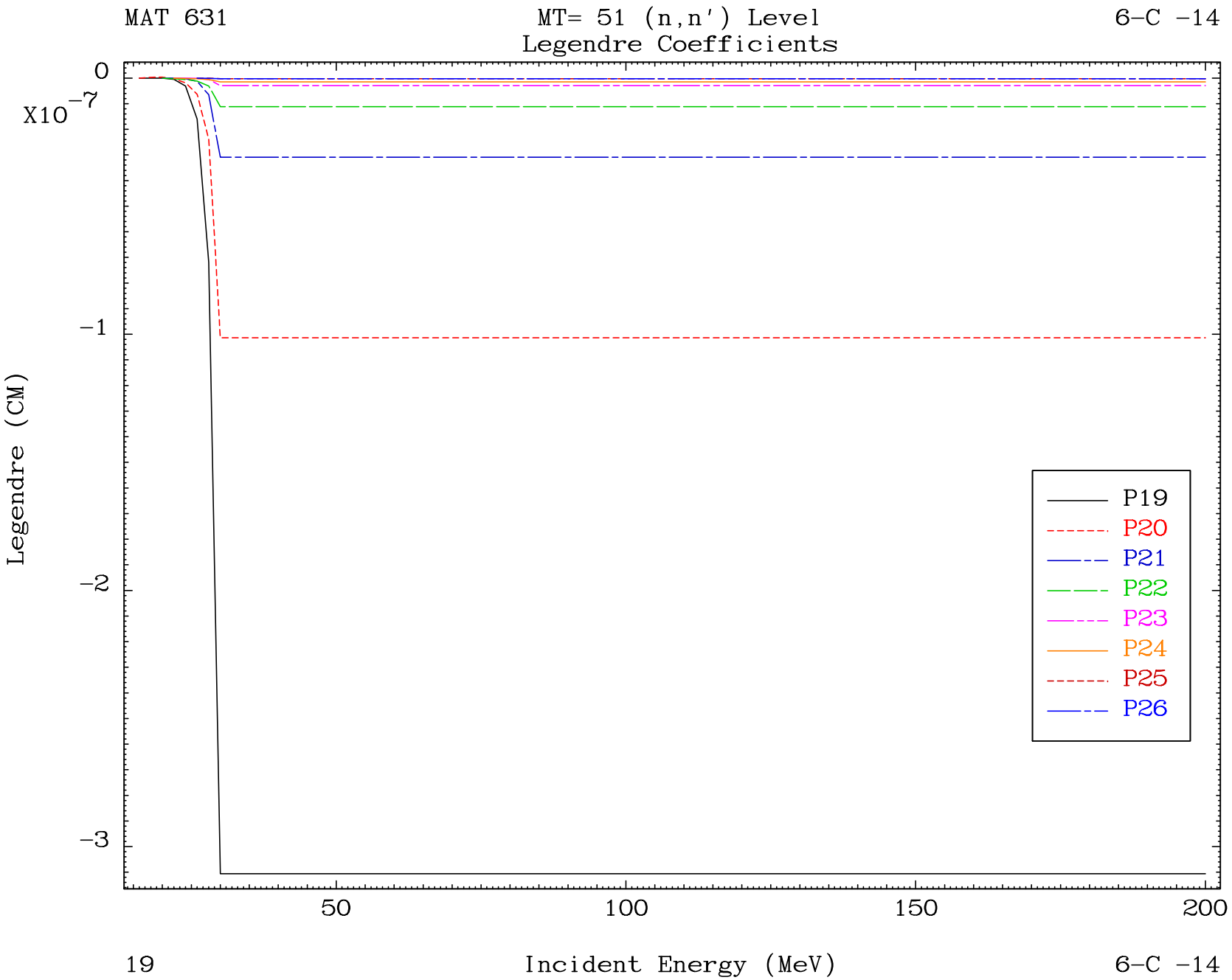

MAT 631
Elastic
Legendre Coefficients
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
14
Incident Energy (MeV)
6-C -14

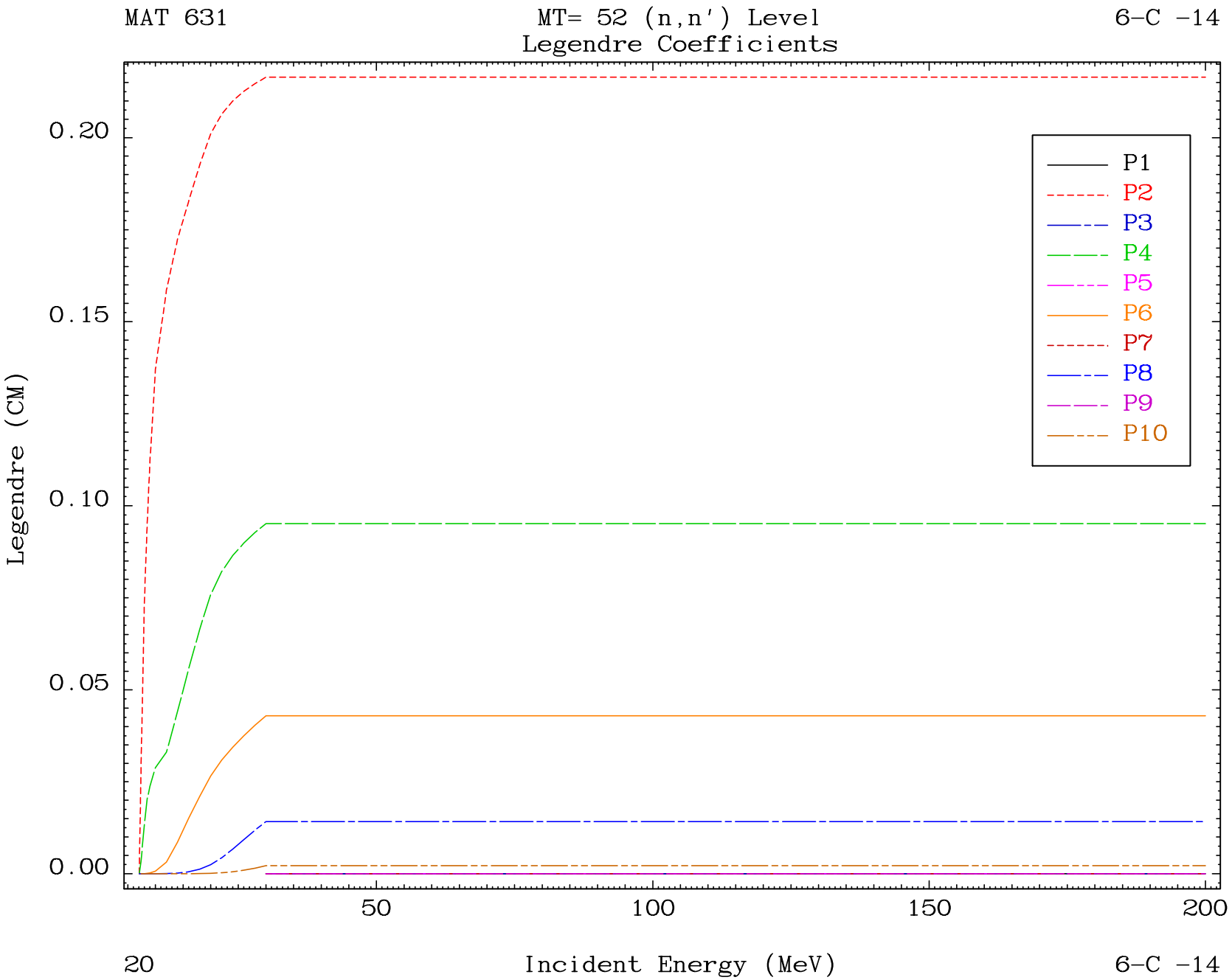

MAT 631
Elastic
Legendre Coefficients
6-C -14
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.000
0.000
0.000
0.000
Legendre (CM)
5
10
15
20
25
30
15
Incident Energy (MeV)
6-C -14

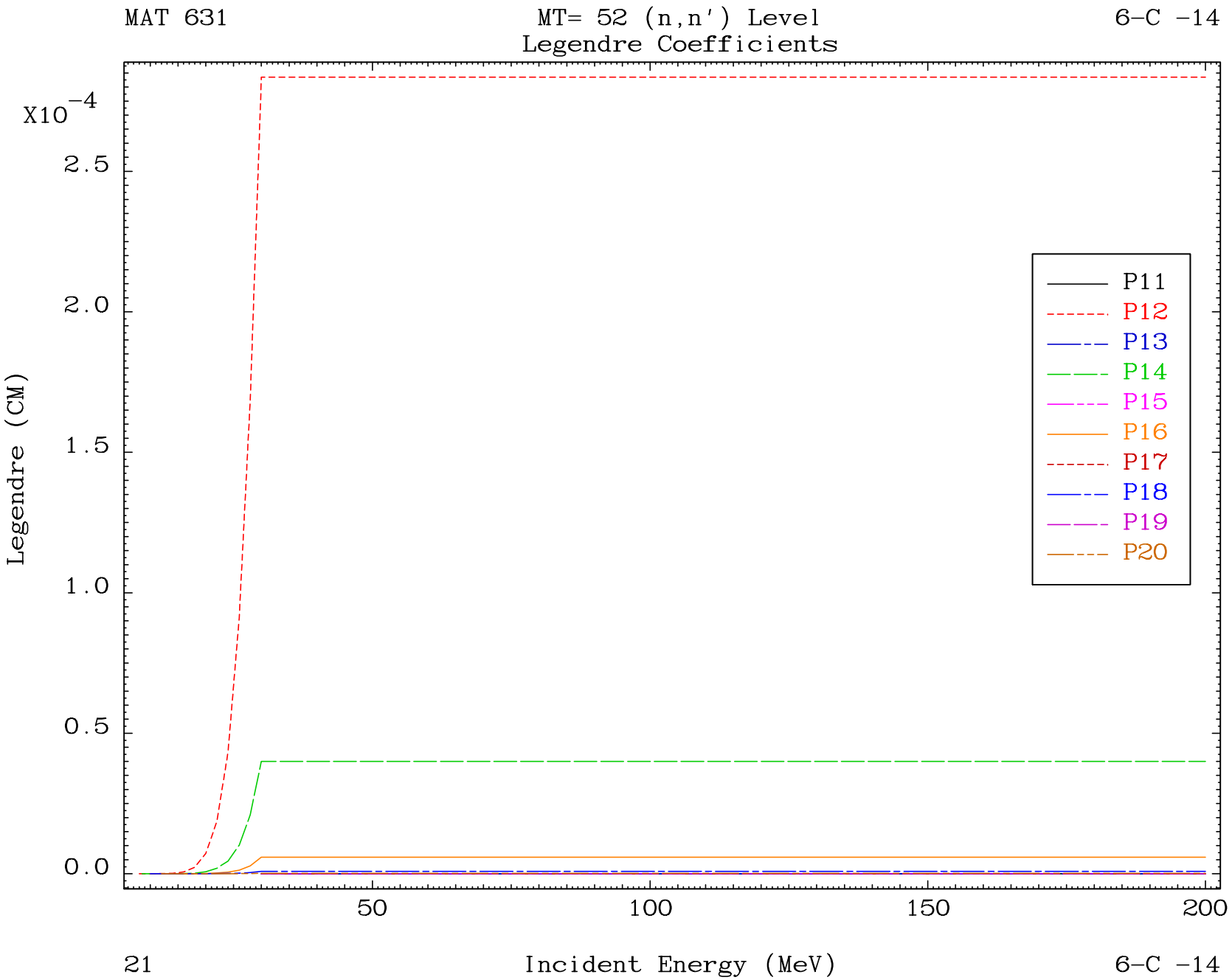

MAT 631
Elastic
Legendre Coefficients
6-C -14
X10 -6
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
10
15
20
25
30
16
Incident Energy (MeV)
6-C -14

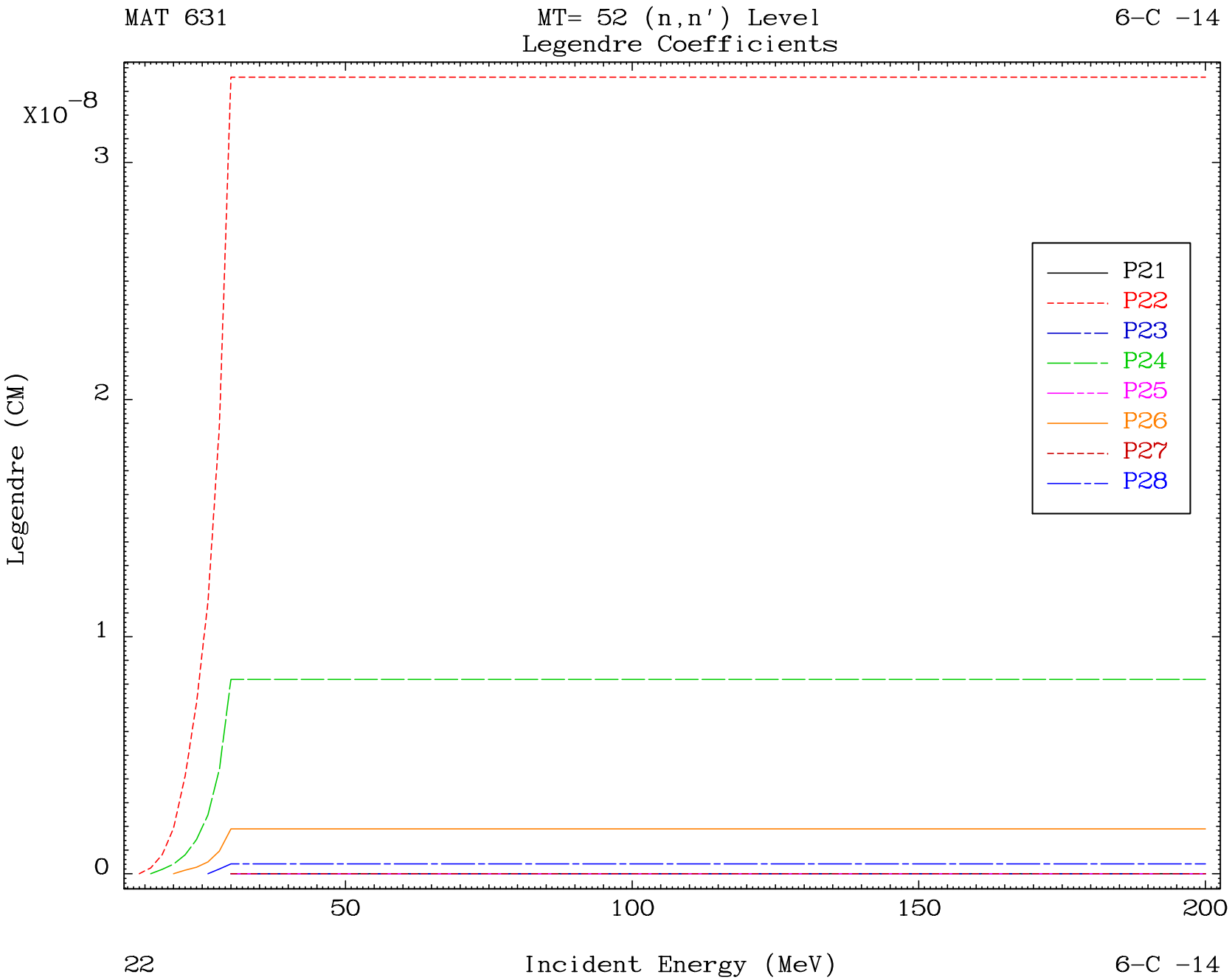

MAT 631
MT= 51 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
17
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9

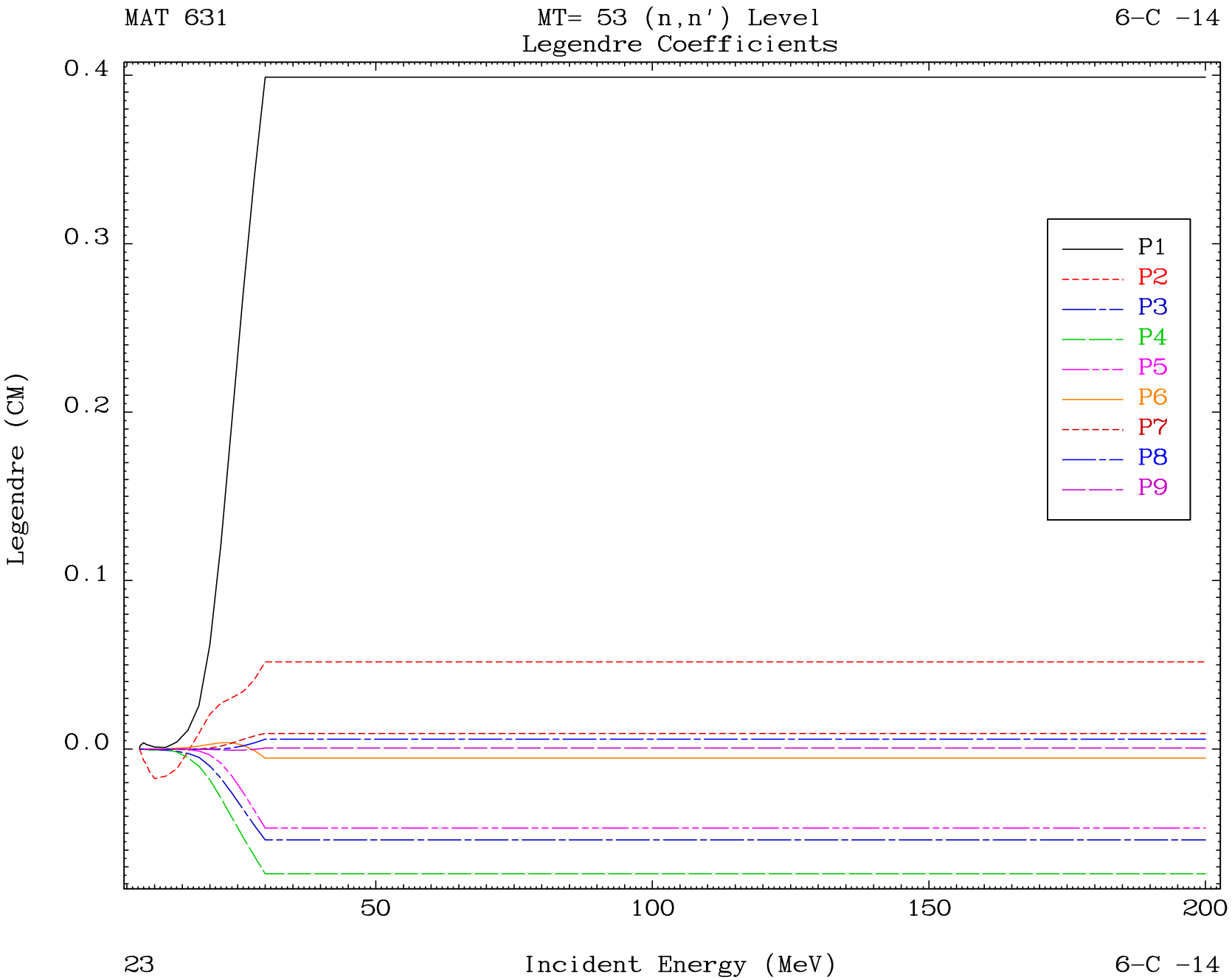

MAT 631
MT= 51 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-3
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P10
P11
P12
P13
P14
P15
P16
P17
P18

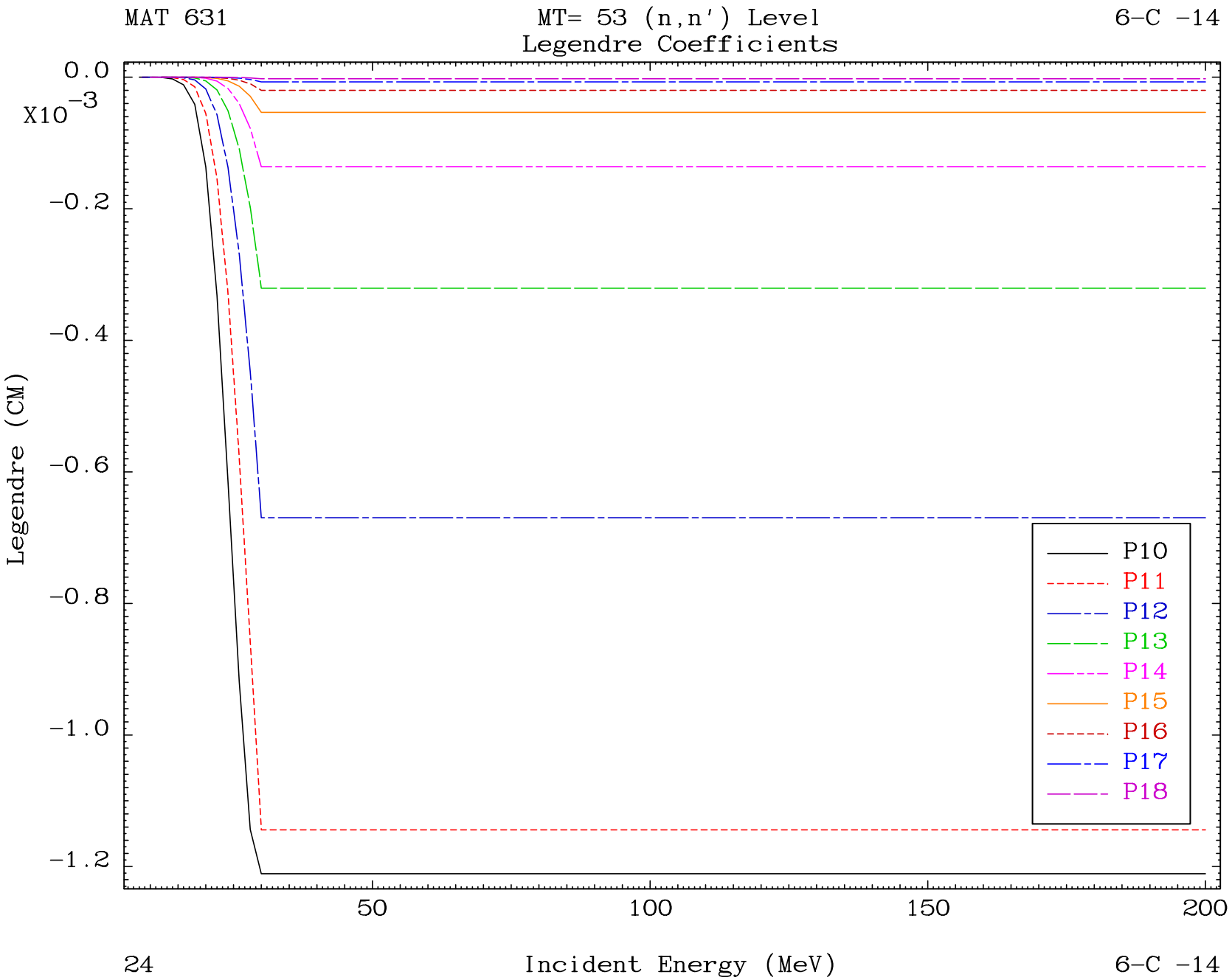

MAT 631
MT= 51 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-7
-1
-2
-3
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
19
Incident Energy (MeV)
6-C -14

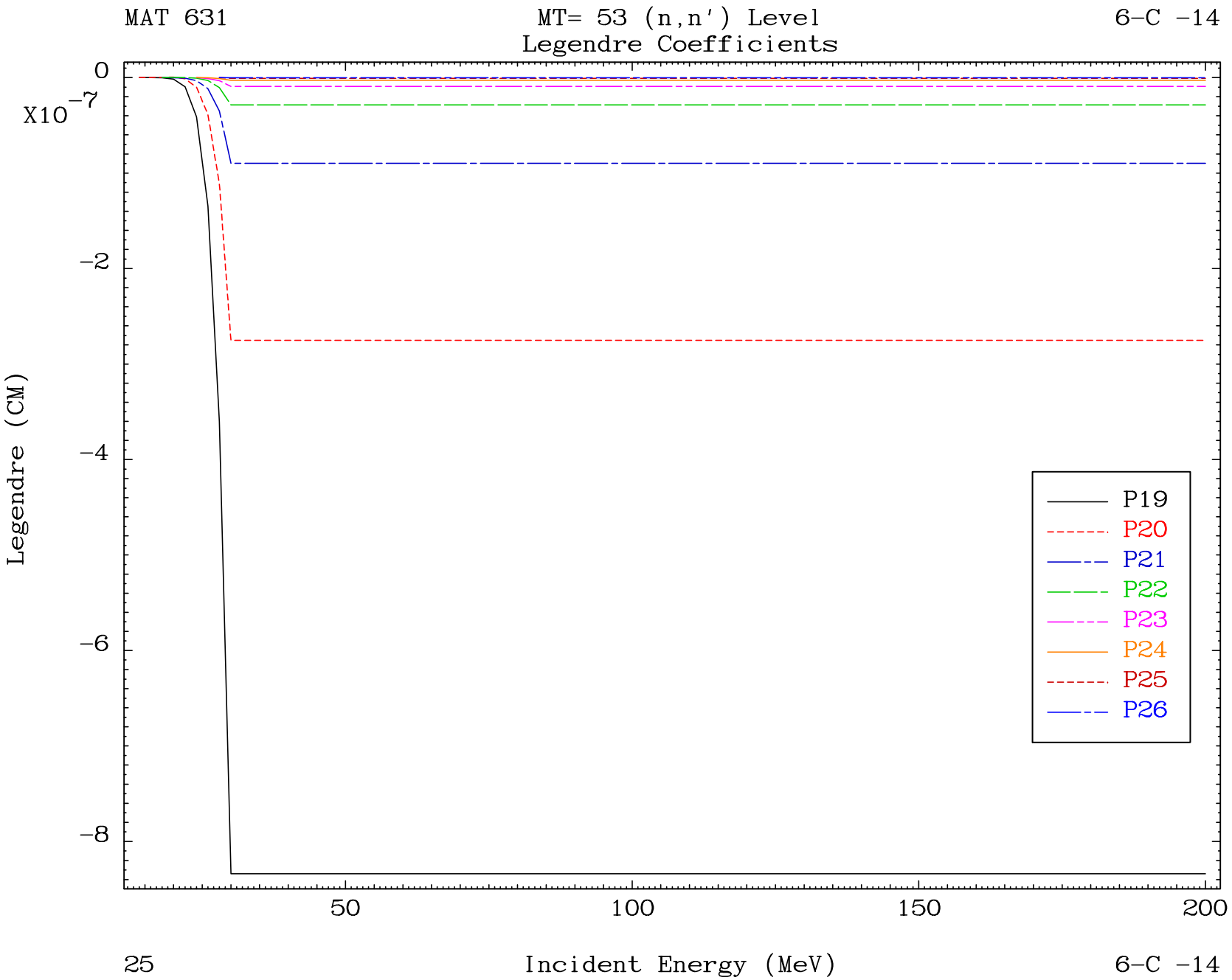

MAT 631
MT= 52 (n,n') Level
Legendre Coefficients
6-C -14
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
50
100
150
200
20
Incident Energy (MeV)
6-C -14

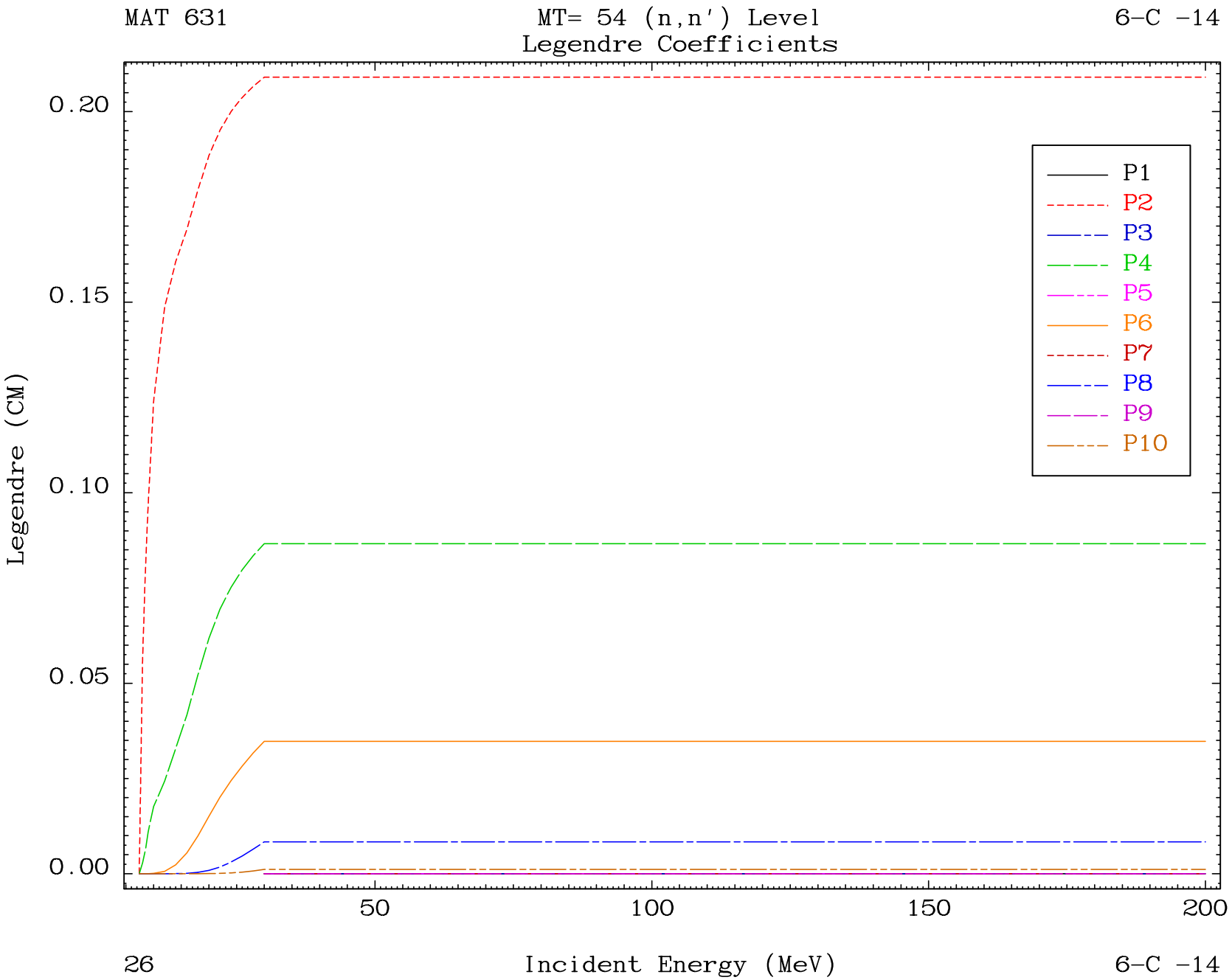

MAT 631
MT= 52 (n,n') Level
Legendre Coefficients
6-C -14
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
21
6-C -14
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

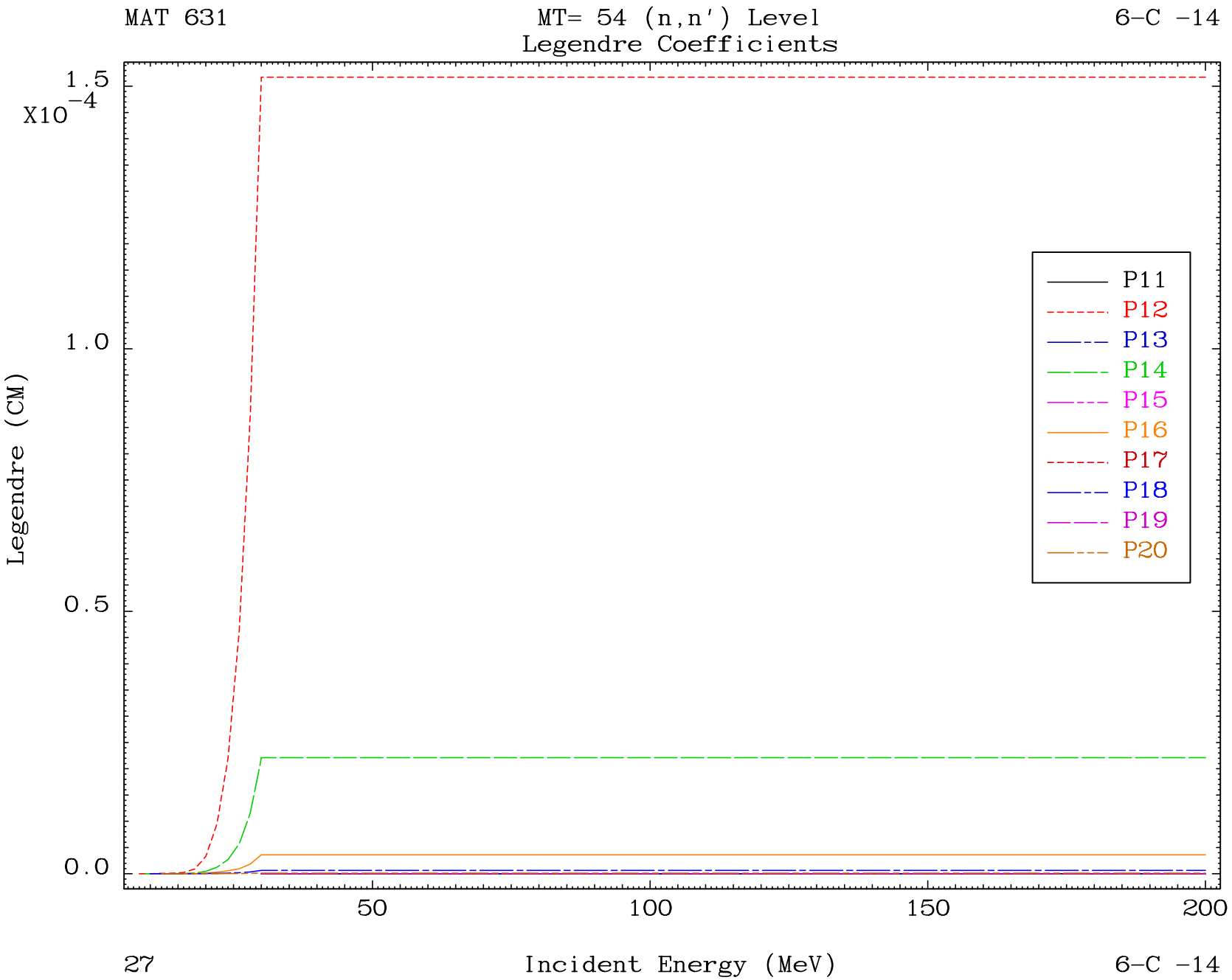

MAT 631
MT= 52 (n,n') Level
Legendre Coefficients
6-C -14
X10-8
3
2
1
0
Legendre (CM)
50
100
150
200
22
Incident Energy (MeV)
6-C -14
P21
P22
P23
P24
P25
P26
P27
P28

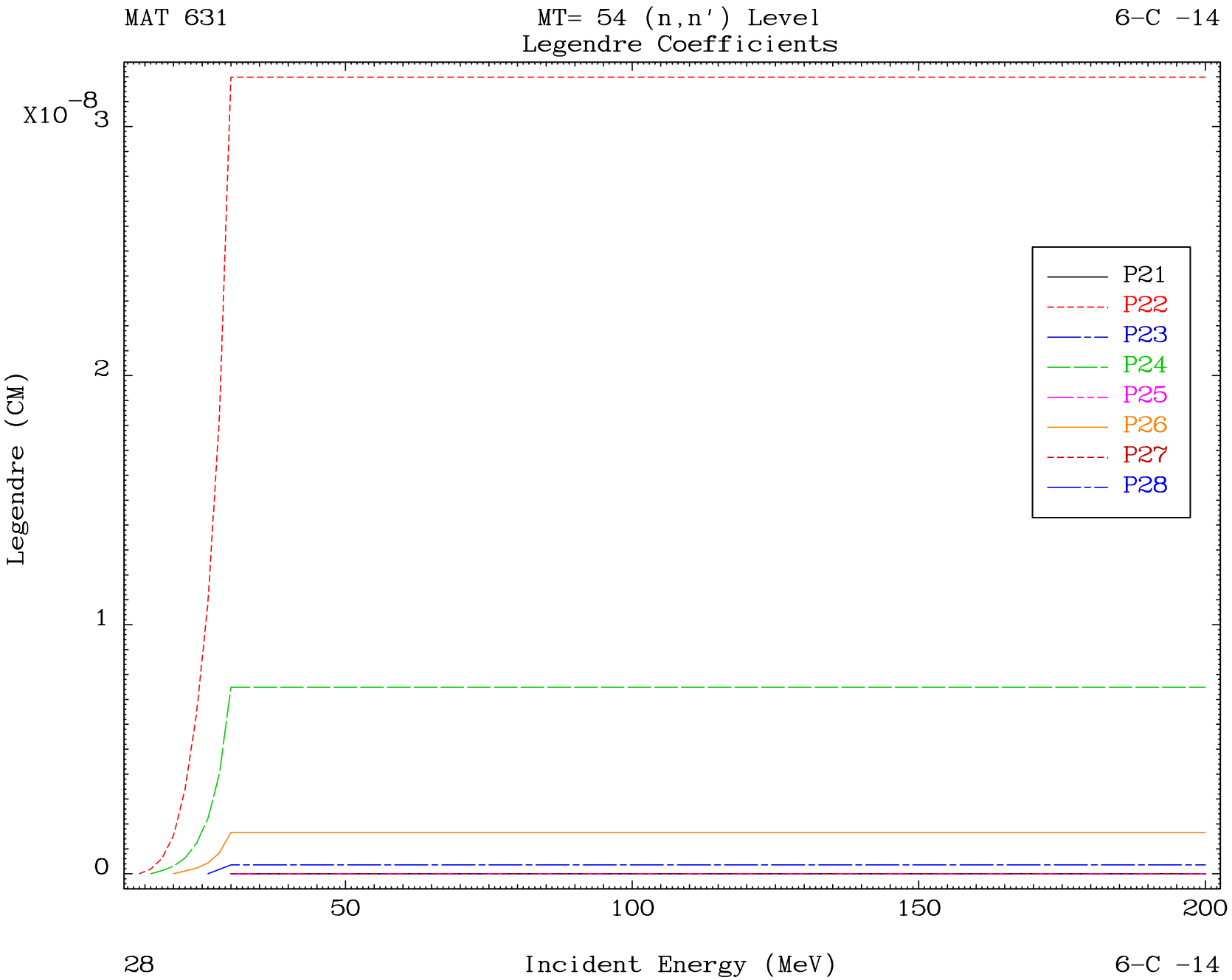

MAT 631
MT= 53 (n,n') Level
Legendre Coefficients
6-C -14
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
50
100
150
200
23
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9

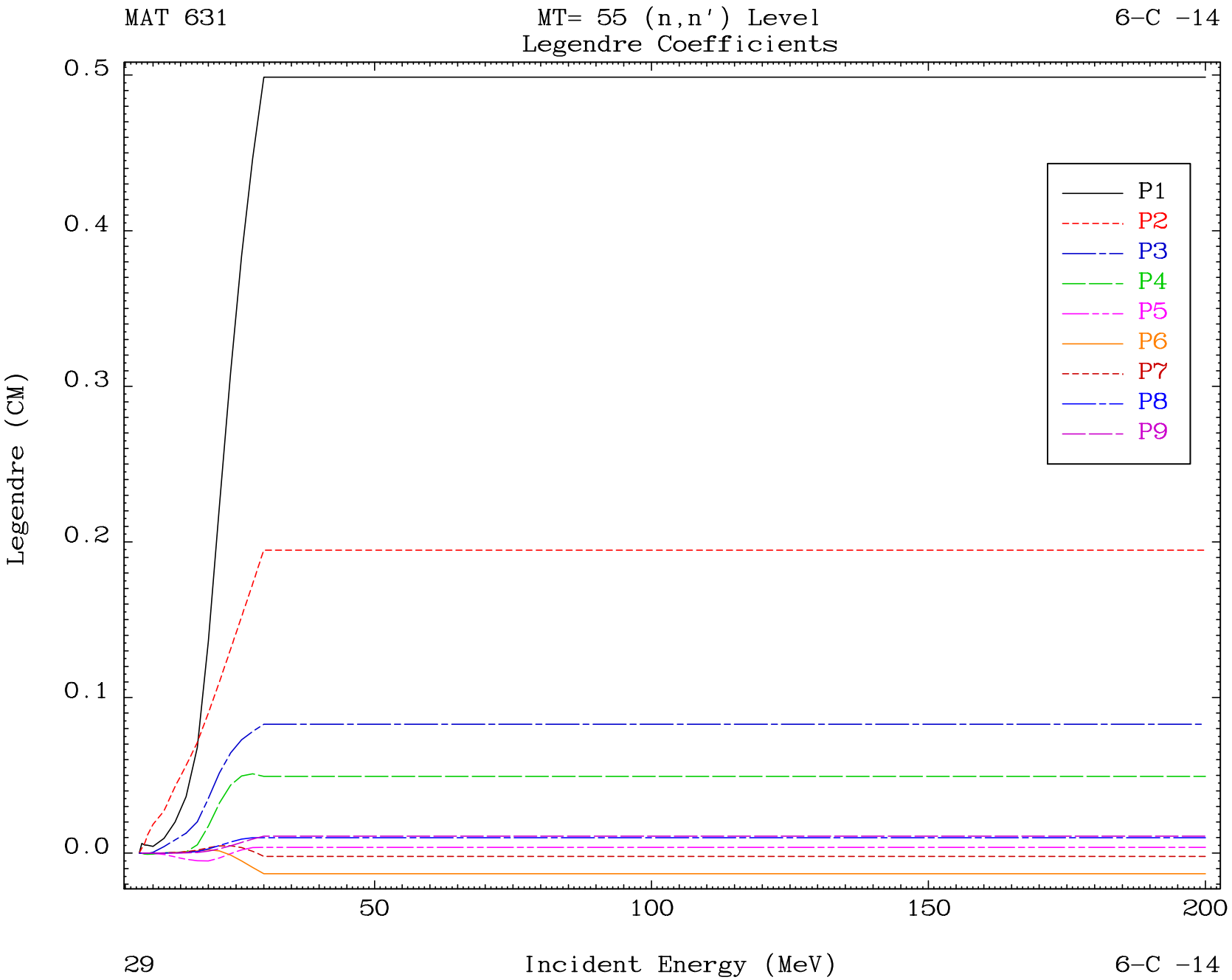

MAT 631
MT= 53 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
24
6-C -14
P10
P11
P12
P13
P14
P15
P16
P17
P18

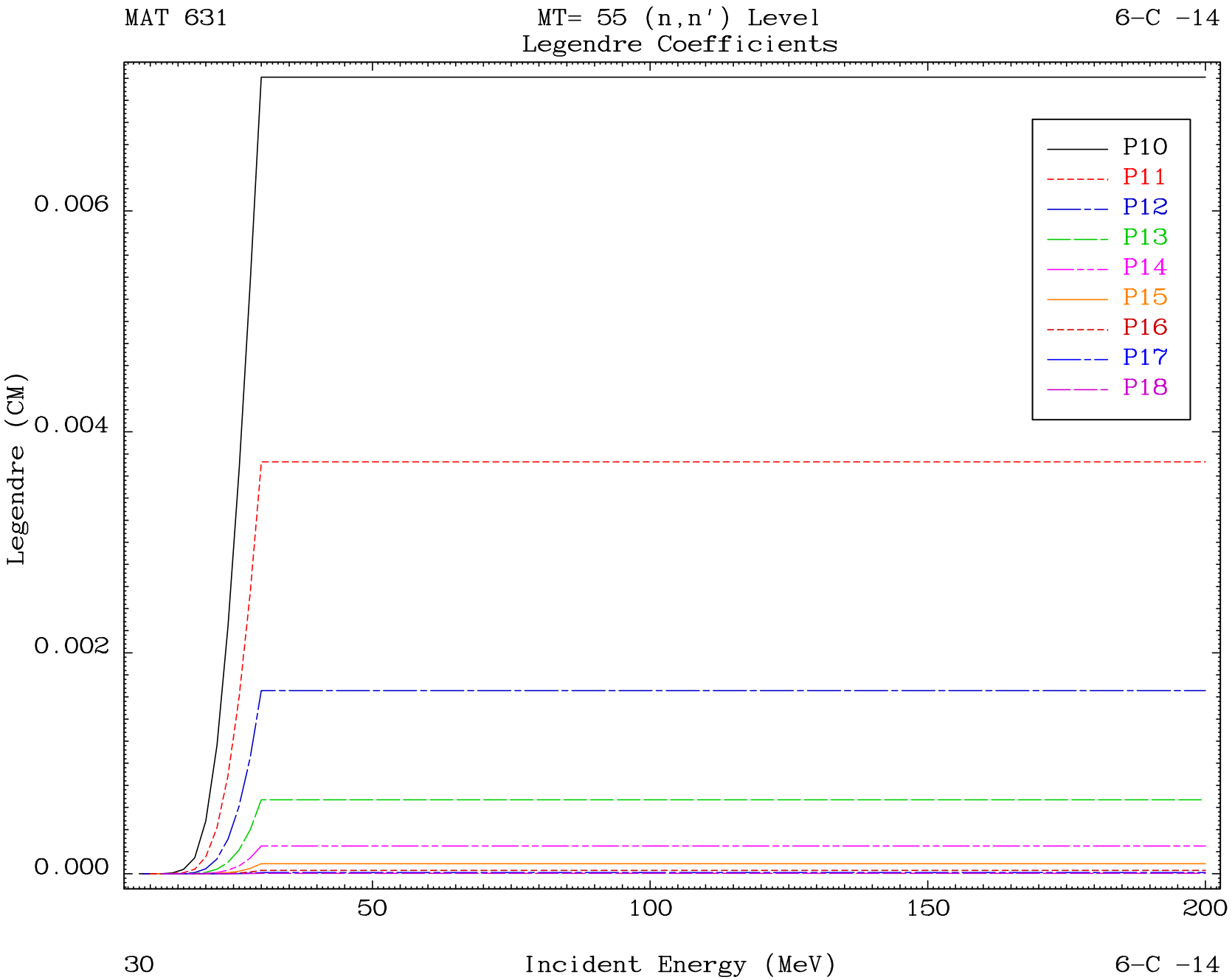

MAT 631
MT= 53 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-7
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
25
Incident Energy (MeV)
6-C -14
P19
P20
P21
P22
P23
P24
P25
P26

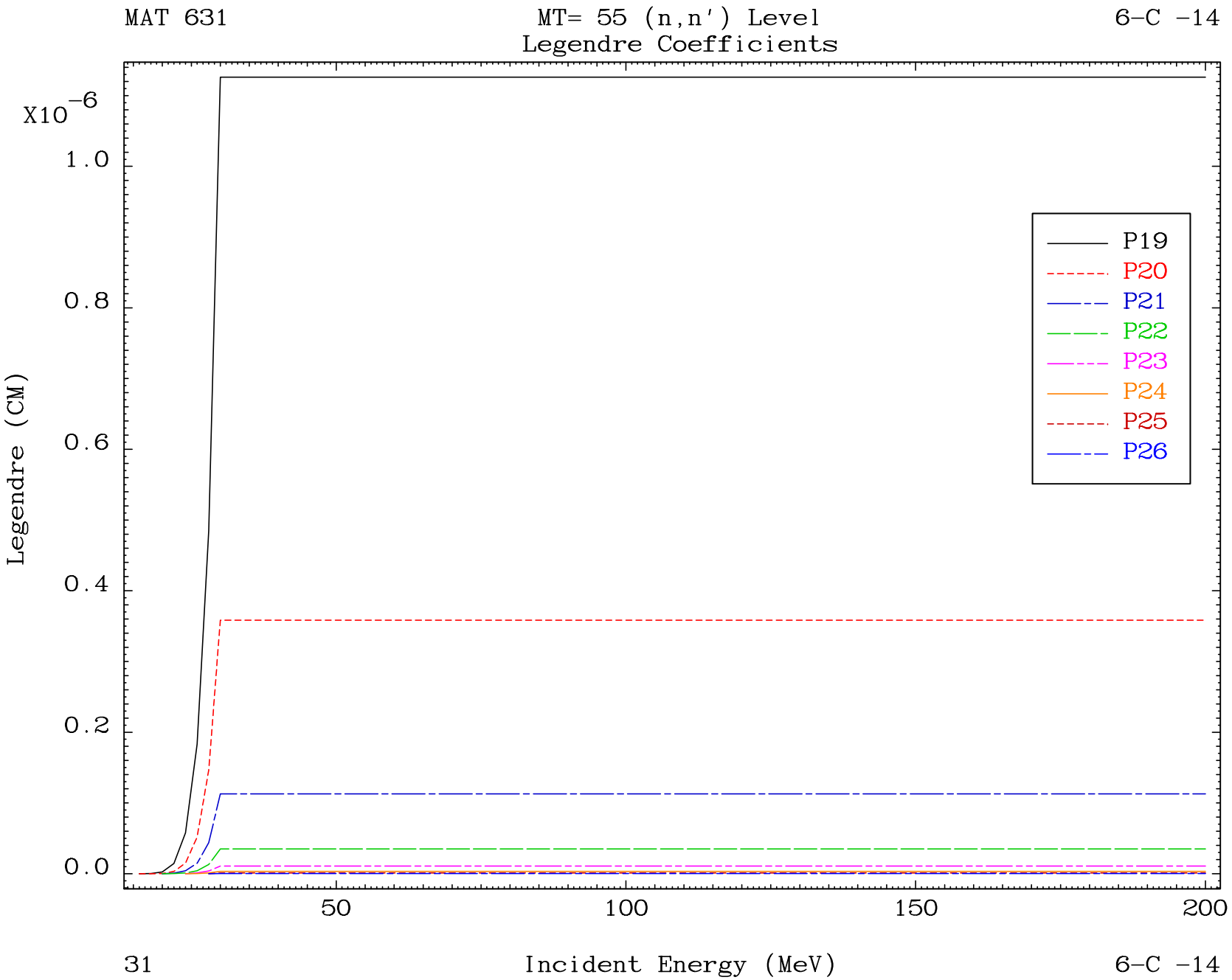

MAT 631
MT= 54 (n,n') Level
Legendre Coefficients
6-C -14
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
26
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

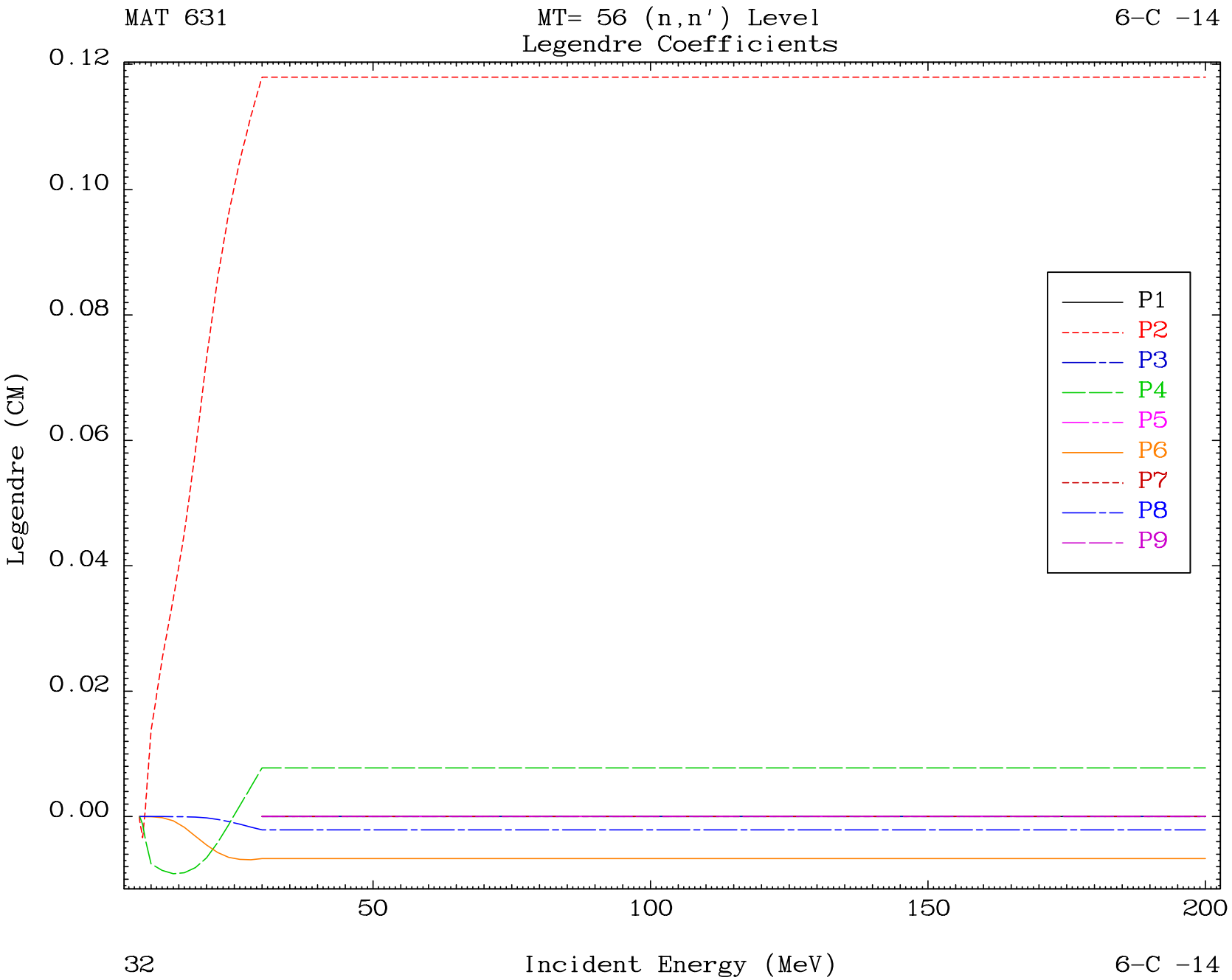

MAT 631
MT= 54 (n,n') Level
Legendre Coefficients
6-C -14
X10 -4
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
27
6-C -14
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

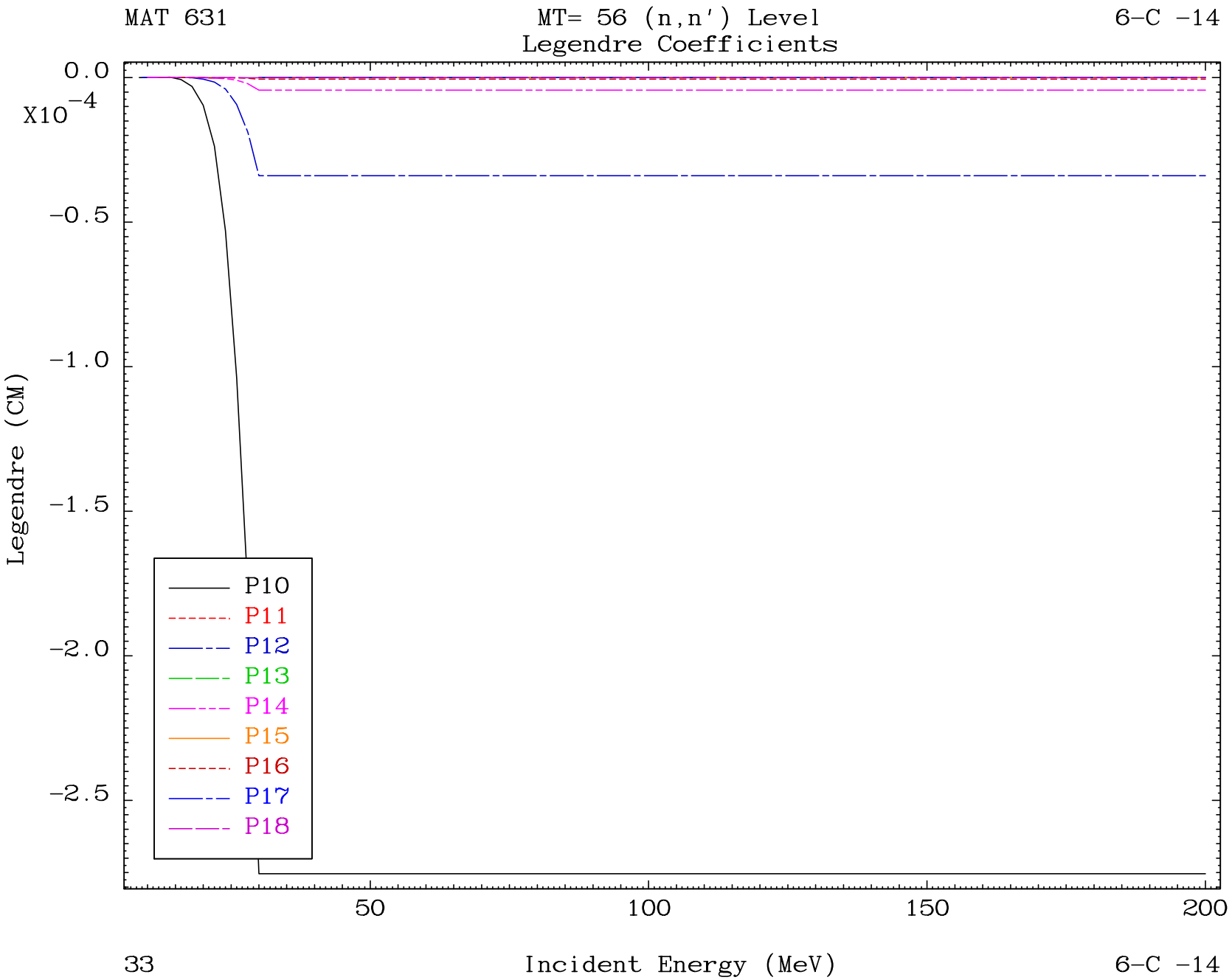

MAT 631
MT= 54 (n,n') Level
Legendre Coefficients
6-C -14
X10 -8
3
2
1
0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
28
6-C -14
P21
P22
P23
P24
P25
P26
P27
P28

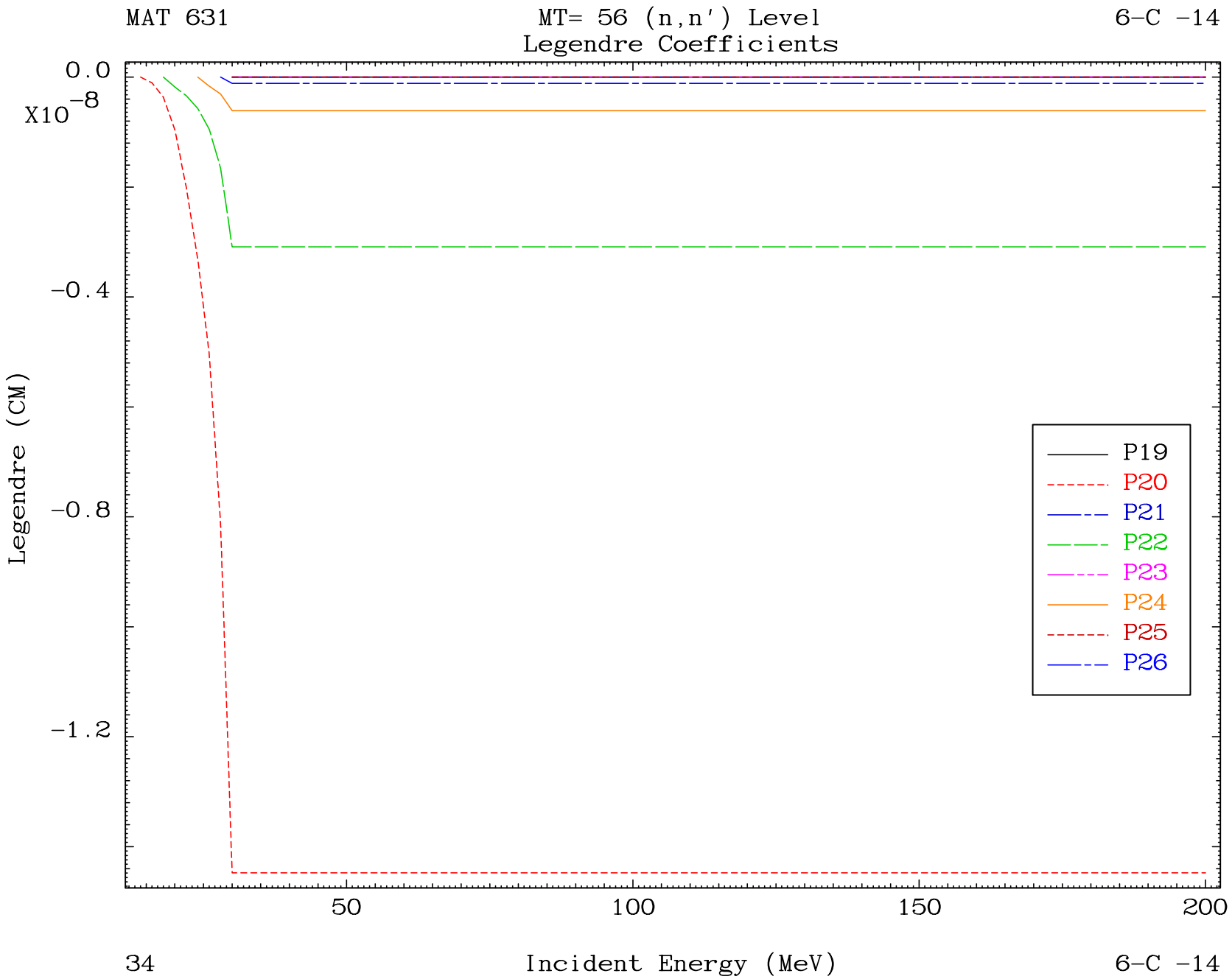

MAT 631
MT= 55 (n,n') Level
Legendre Coefficients
6-C -14
0.5
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
50
100
150
200
29
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9

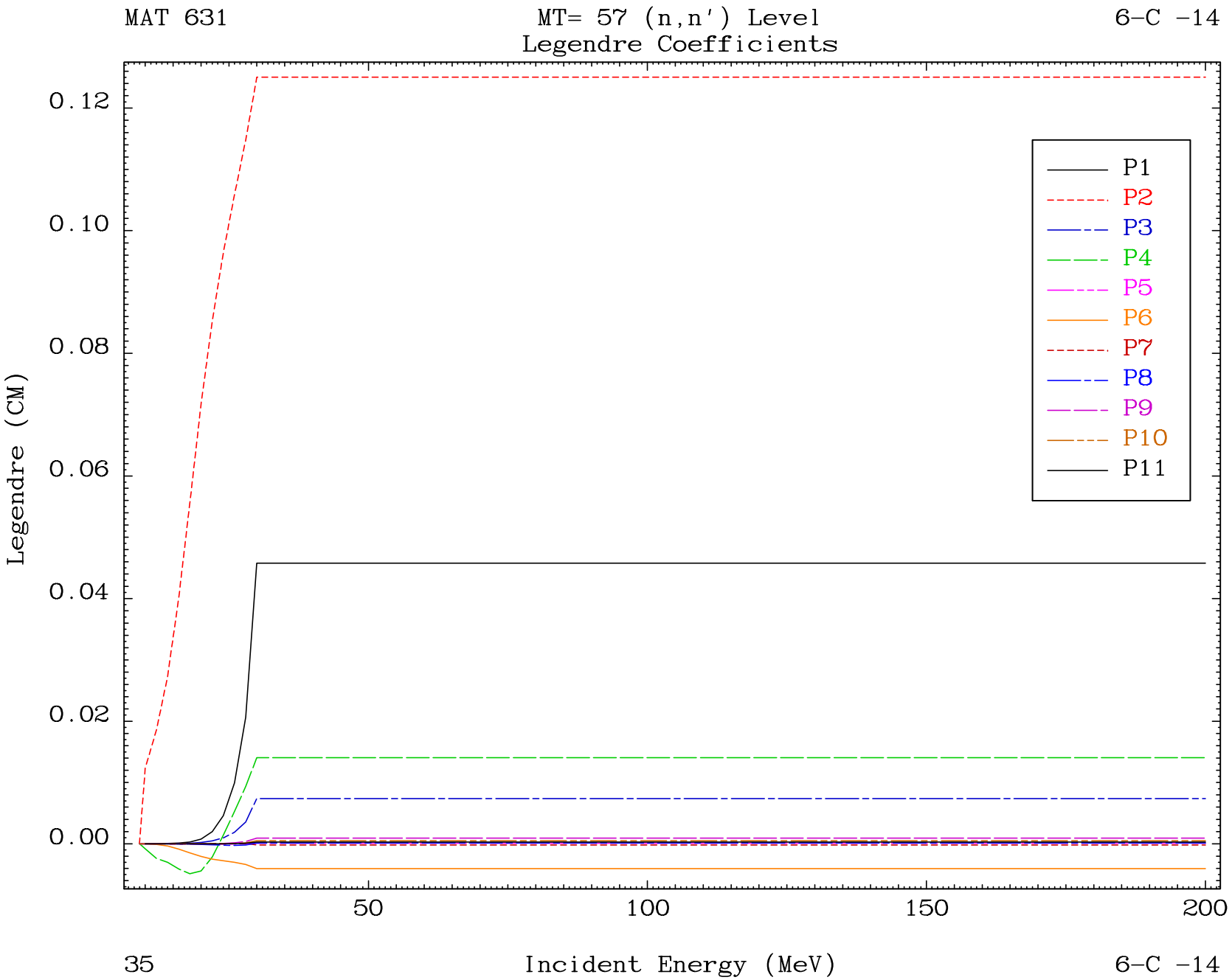

MAT 631
MT= 55 (n,n') Level
Legendre Coefficients
6-C -14
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.006
0.004
0.002
0.000
Legendre (CM)
50
100
150
200
30
Incident Energy (MeV)
6-C -14

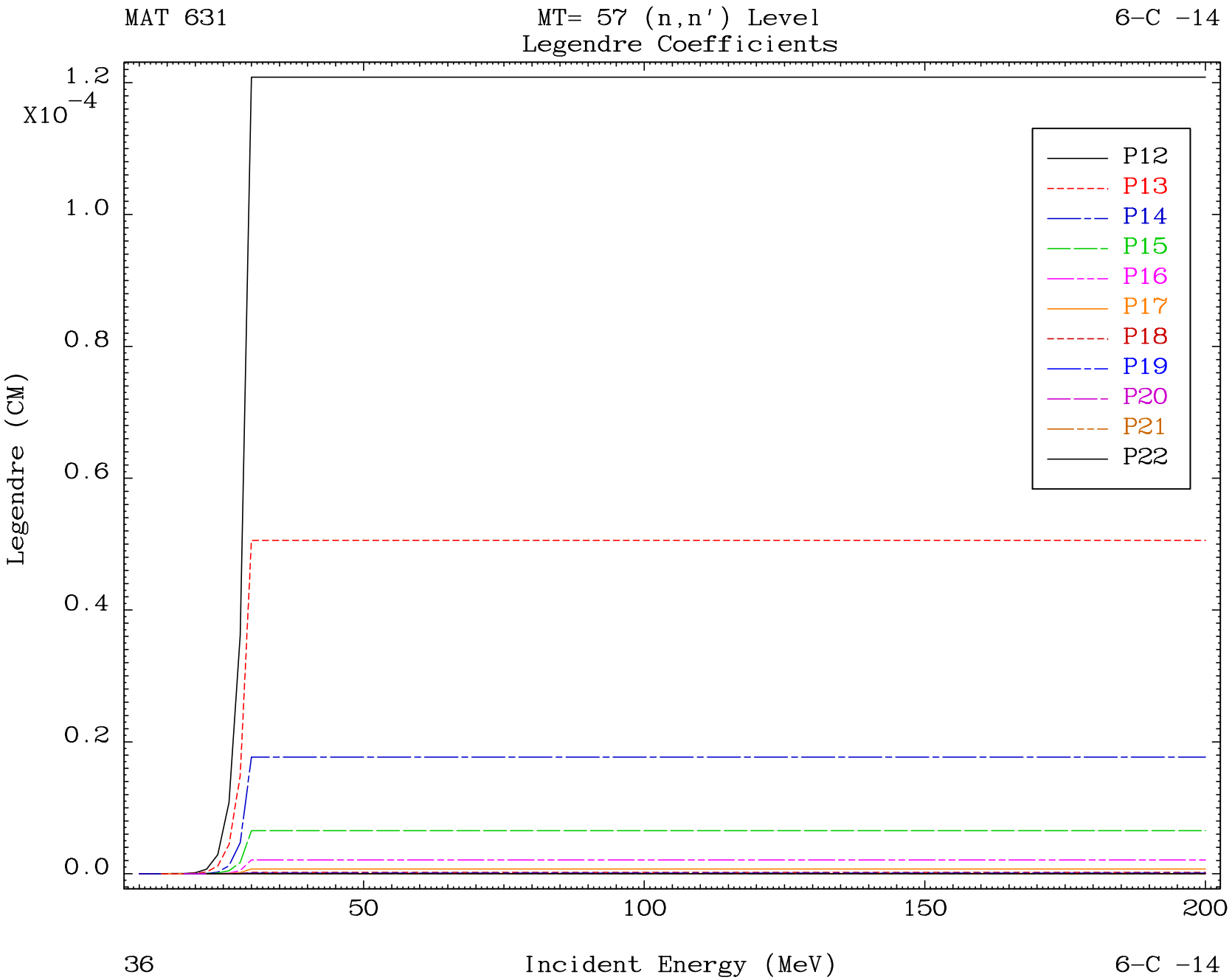

MAT 631
MT= 55 (n,n') Level
Legendre Coefficients
6-C -14
X10^-6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
31
Incident Energy (MeV)
6-C -14

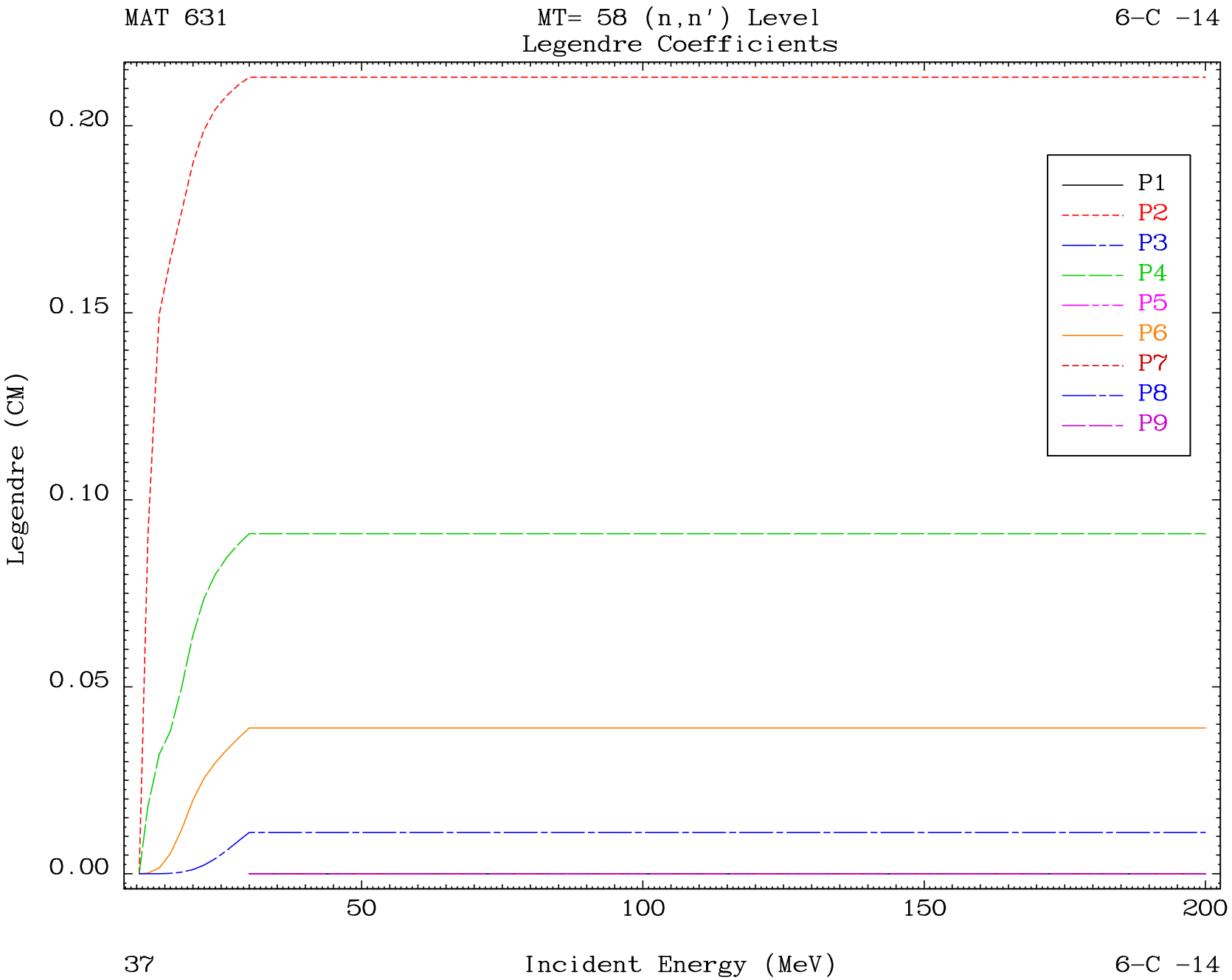

MAT 631
MT= 56 (n,n') Level
Legendre Coefficients
6-C -14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
50
100
150
200
32
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9

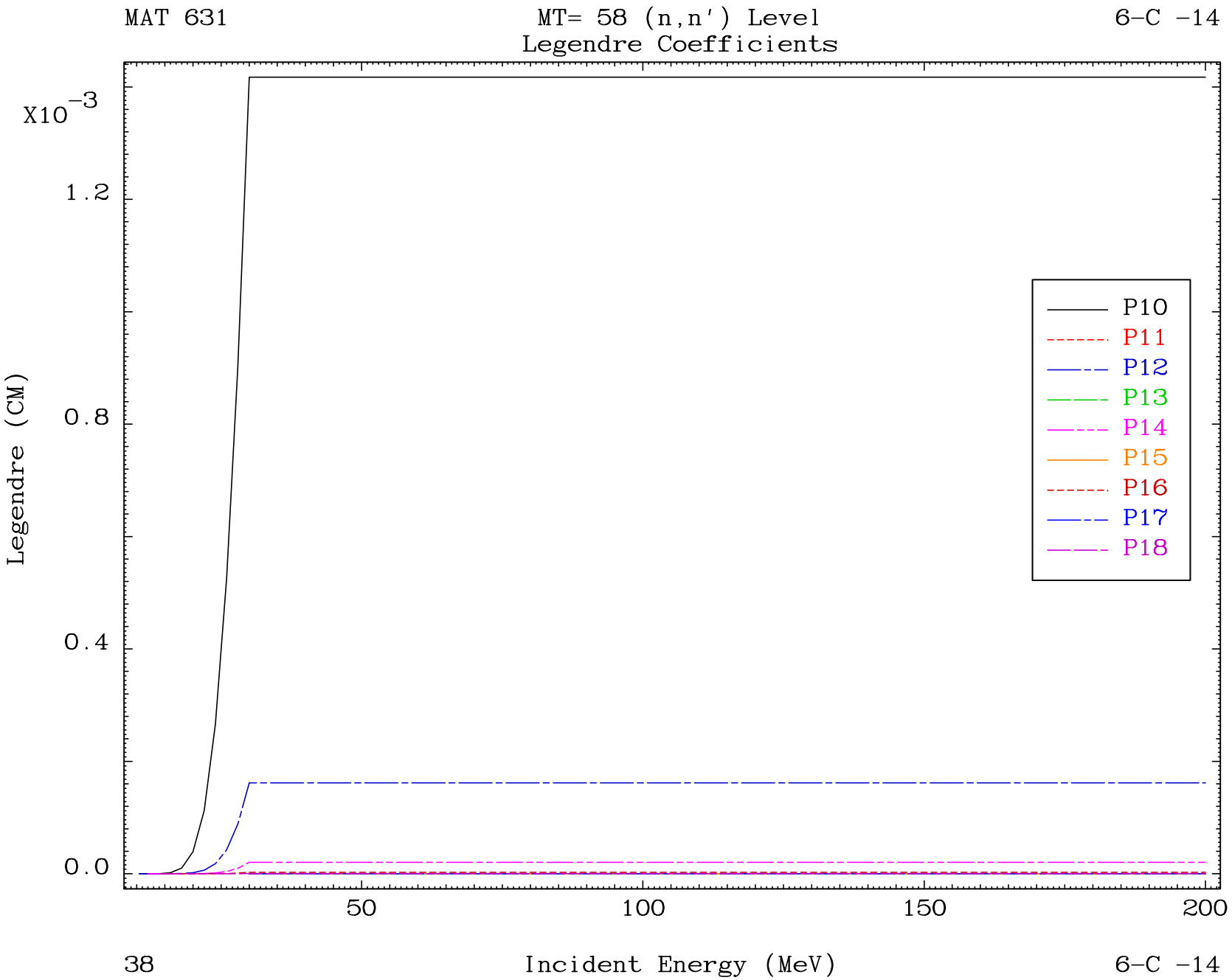

MAT 631
MT= 56 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-4
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
33
Incident Energy (MeV)
6-C -14

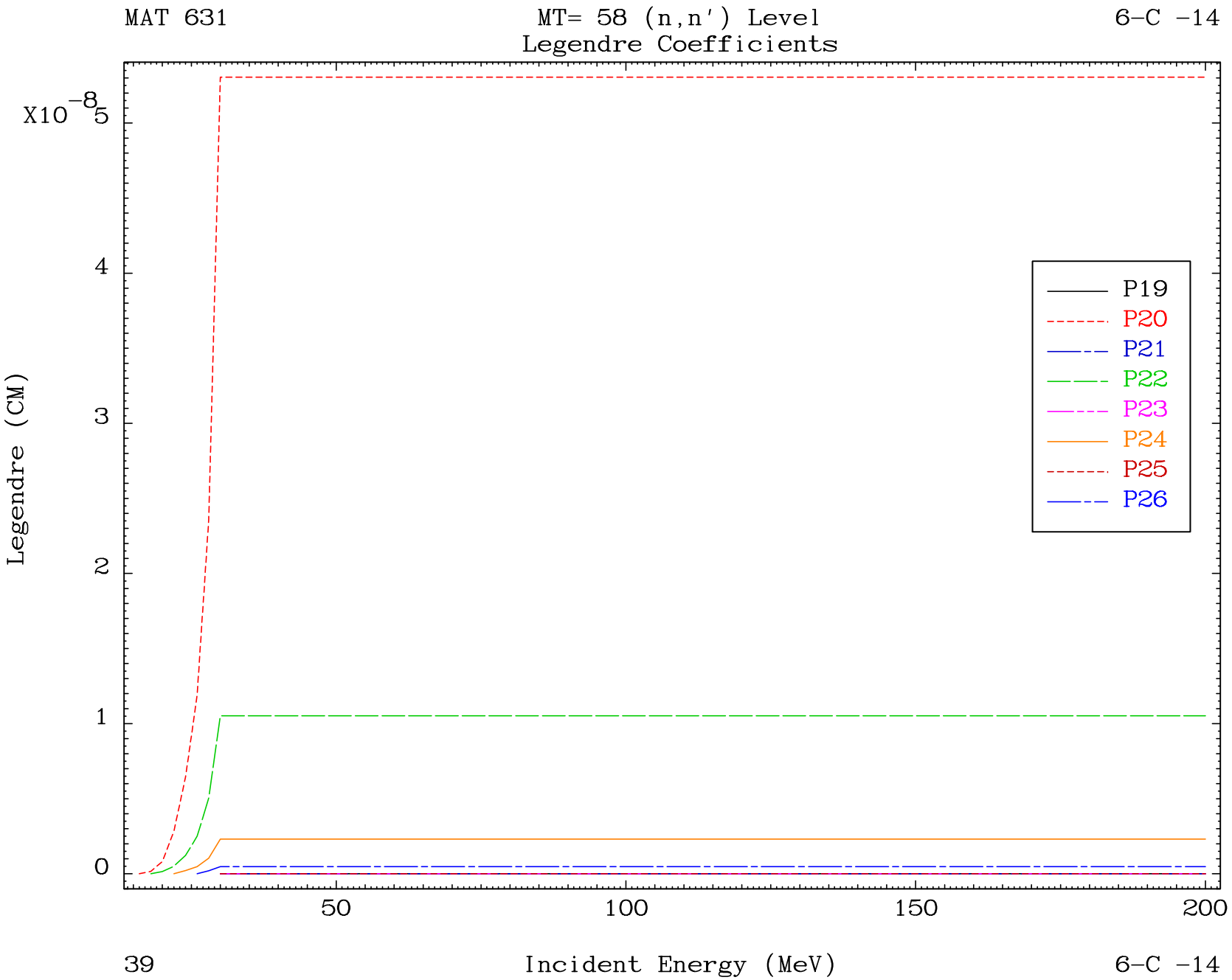

MAT 631
MT= 56 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-8
-0.4
-0.8
-1.2
Legendre (CM)
50
100
150
200
34
Incident Energy (MeV)
6-C -14
P19
P20
P21
P22
P23
P24
P25
P26

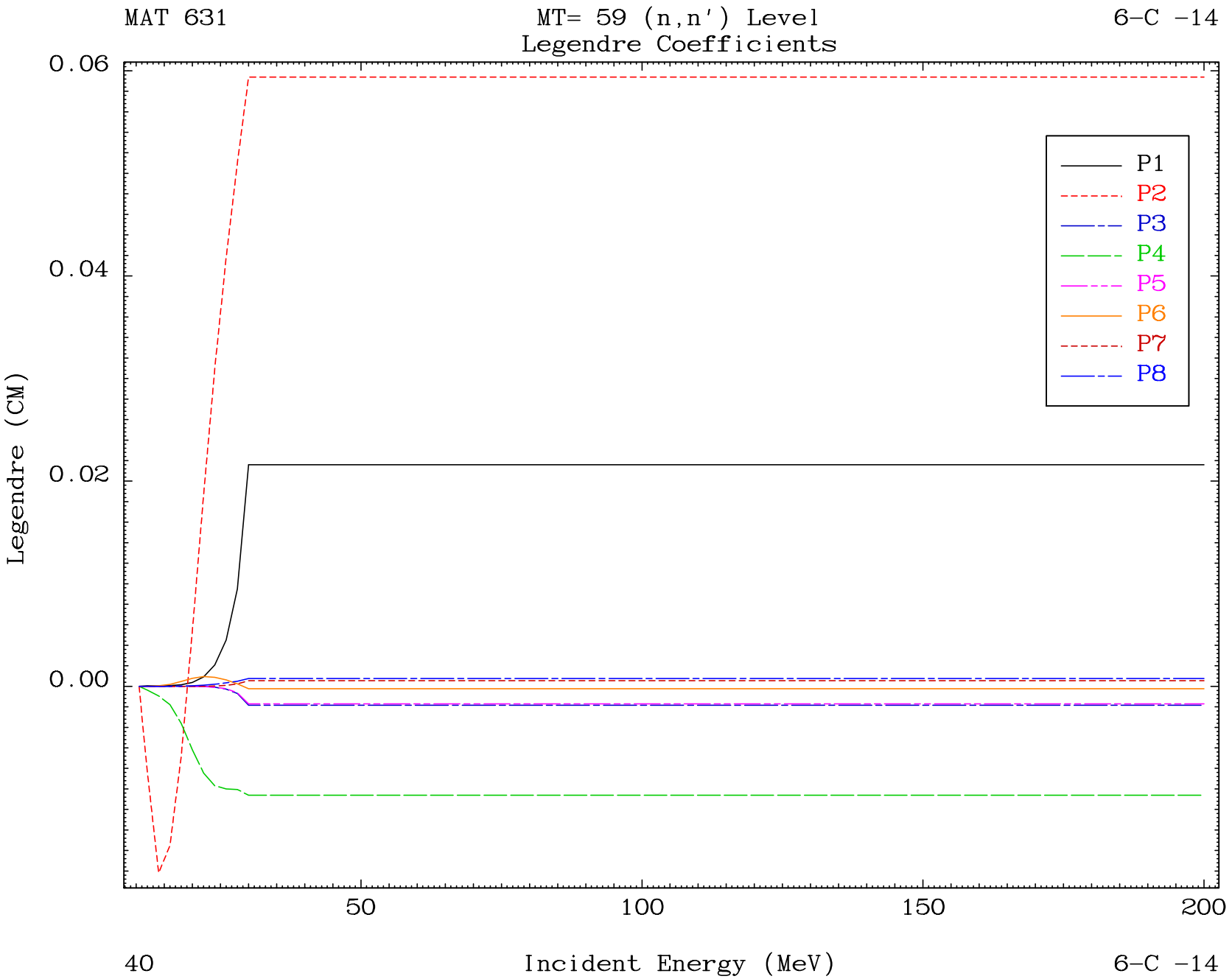

MAT 631
MT= 57 (n,n') Level
Legendre Coefficients
6-C -14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
50
100
150
200
35
Incident Energy (MeV)
6-C -14

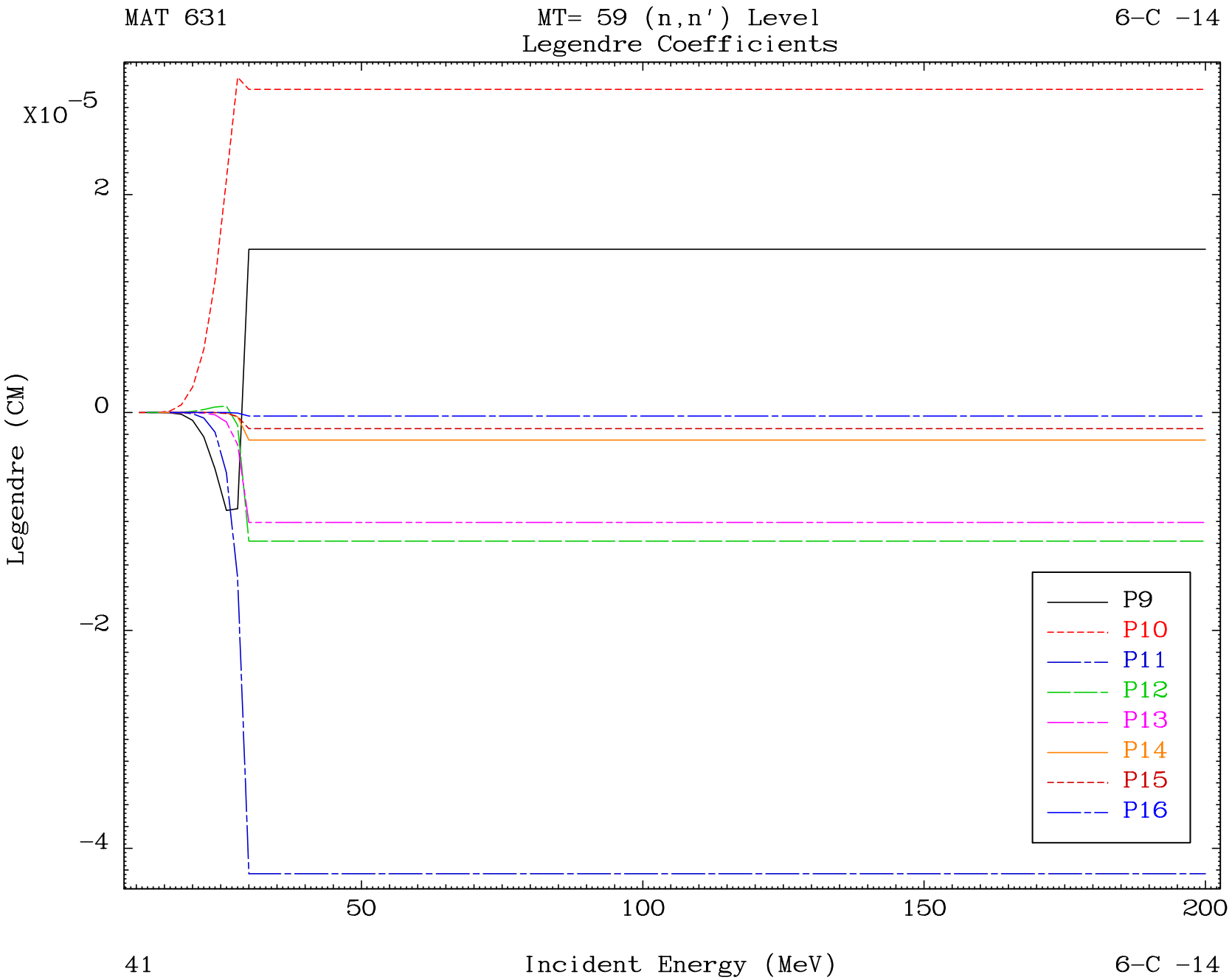

MAT 631
MT= 57 (n,n') Level
Legendre Coefficients
6-C -14
X10 -4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
50
100
150
200
36
Incident Energy (MeV)
6-C -14

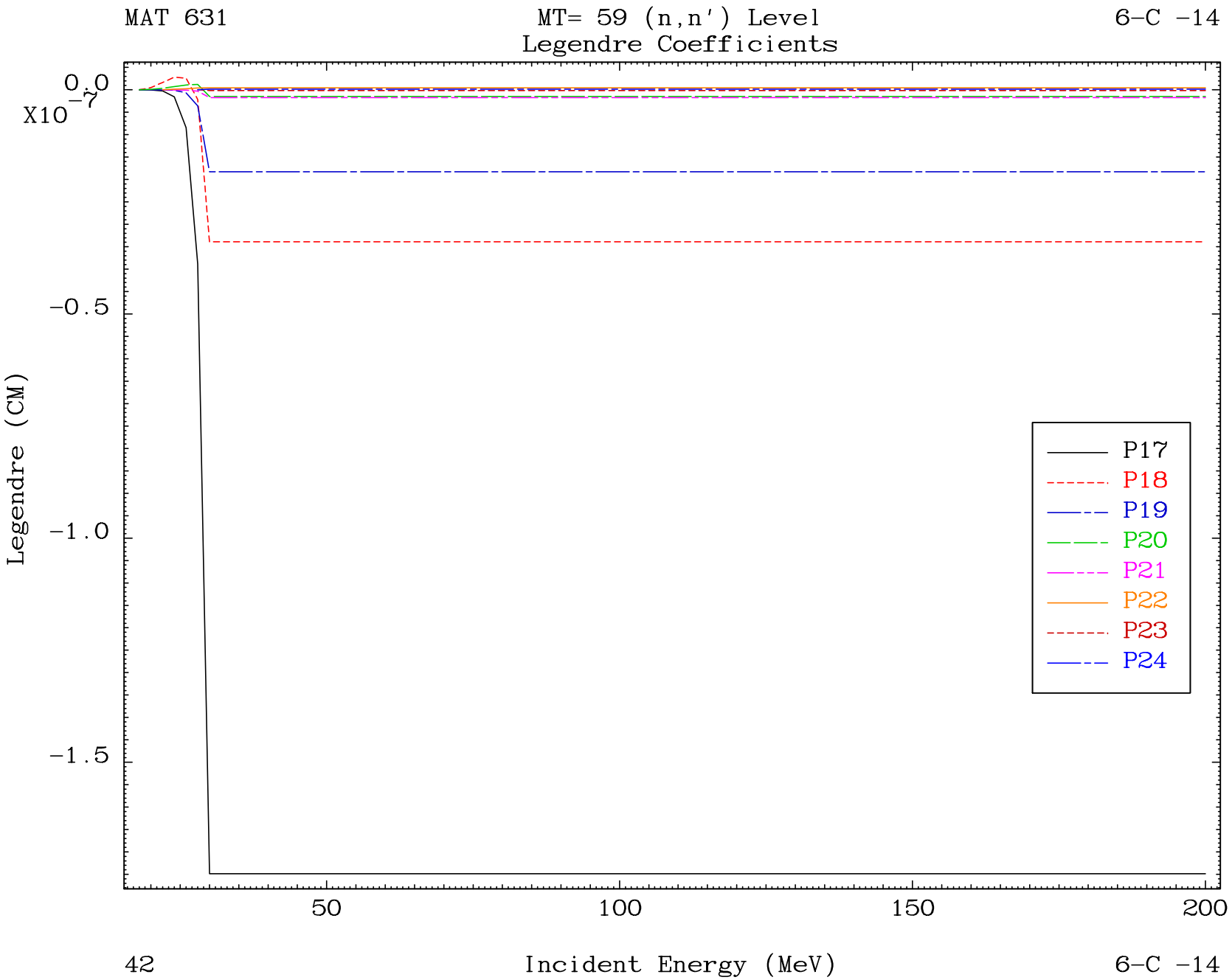

MAT 631
MT= 58 (n,n') Level
Legendre Coefficients
6-C -14
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
37
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9

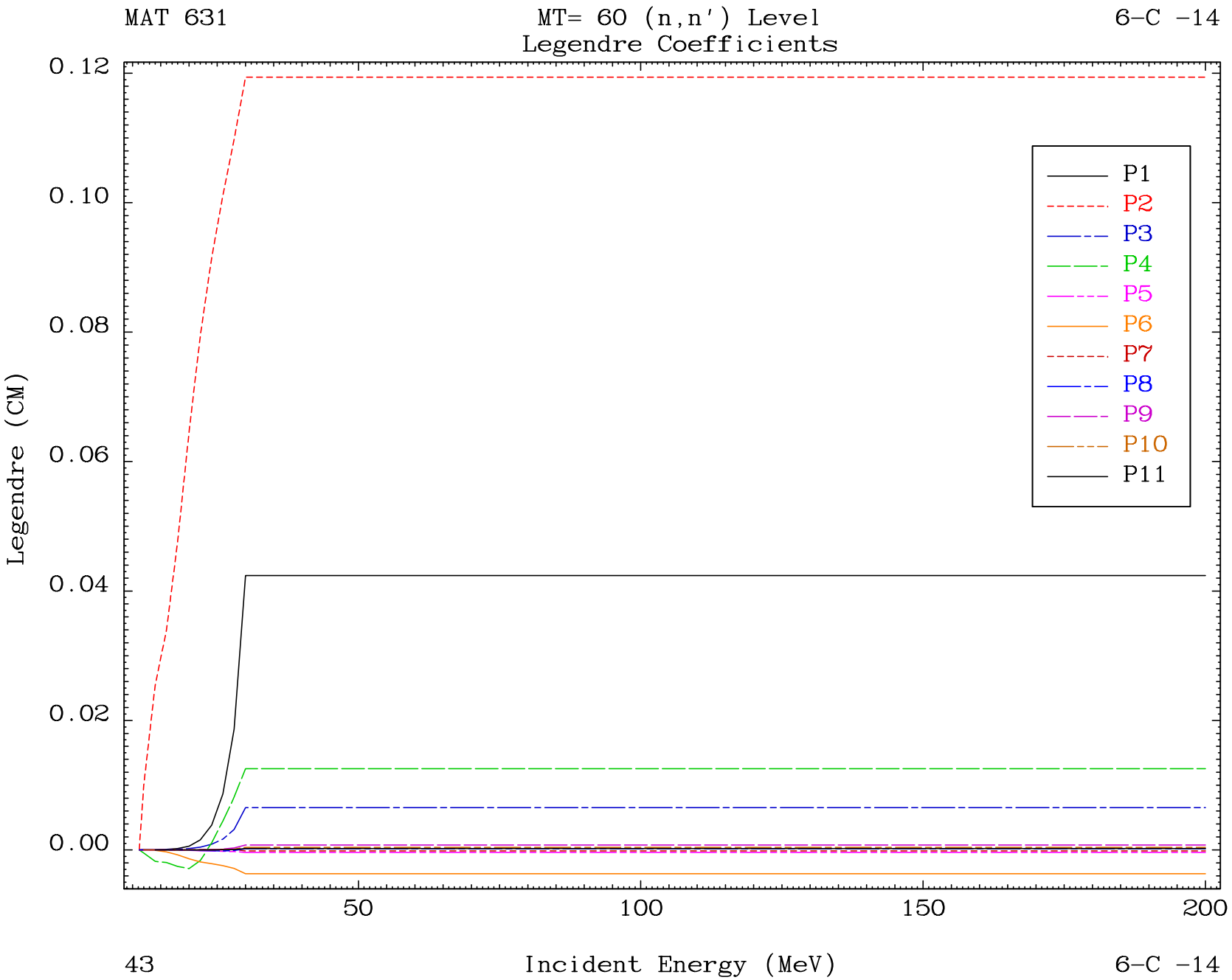

MAT 631
MT= 58 (n,n') Level
Legendre Coefficients
6-C -14
X10-3
1.2
0.8
0.4
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
38
Incident Energy (MeV)
6-C -14

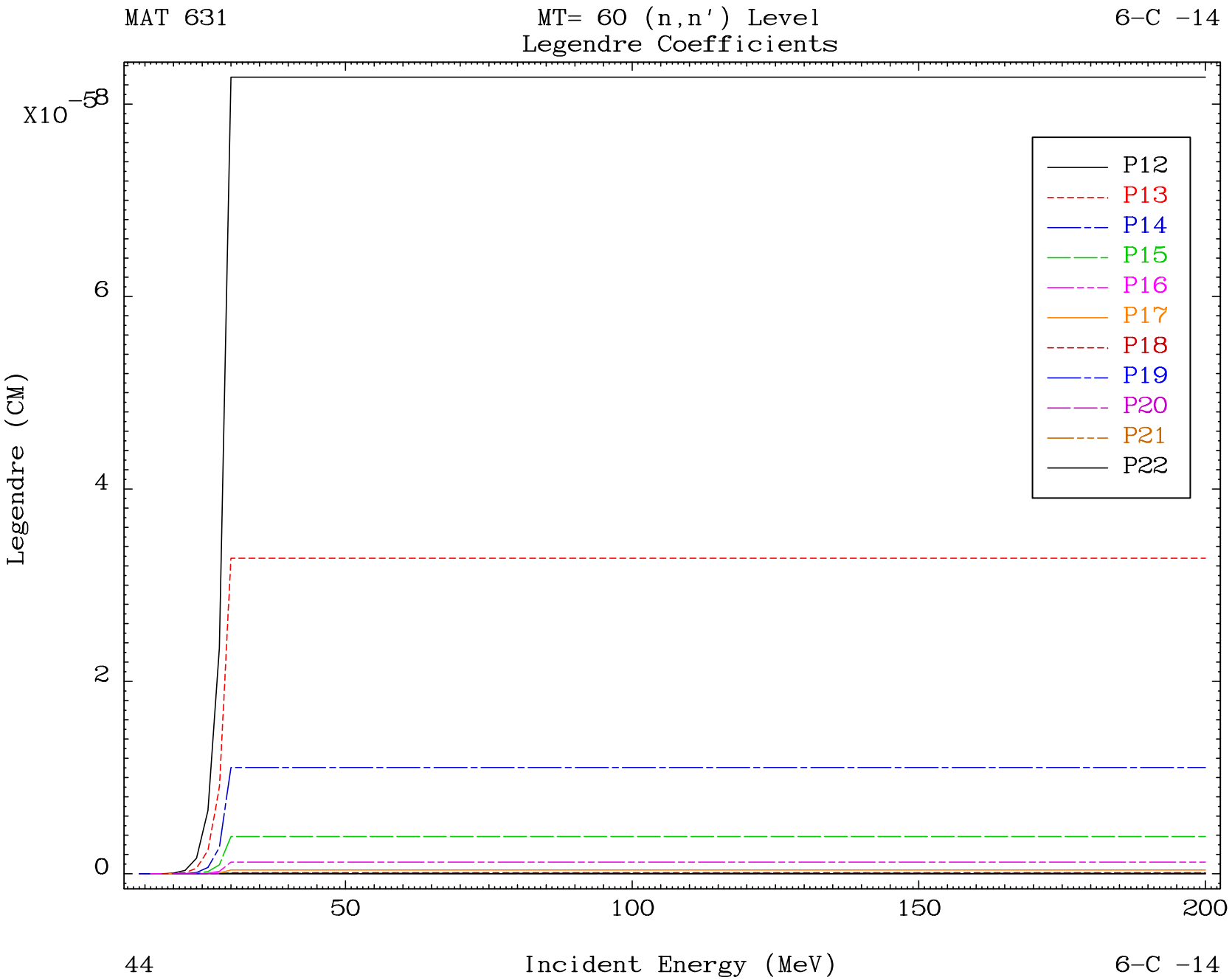

MAT 631
MT= 58 (n,n') Level
Legendre Coefficients
6-C -14
X10 -8
5
4
3
2
1
0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P19
P20
P21
P22
P23
P24
P25
P26
39
6-C -14

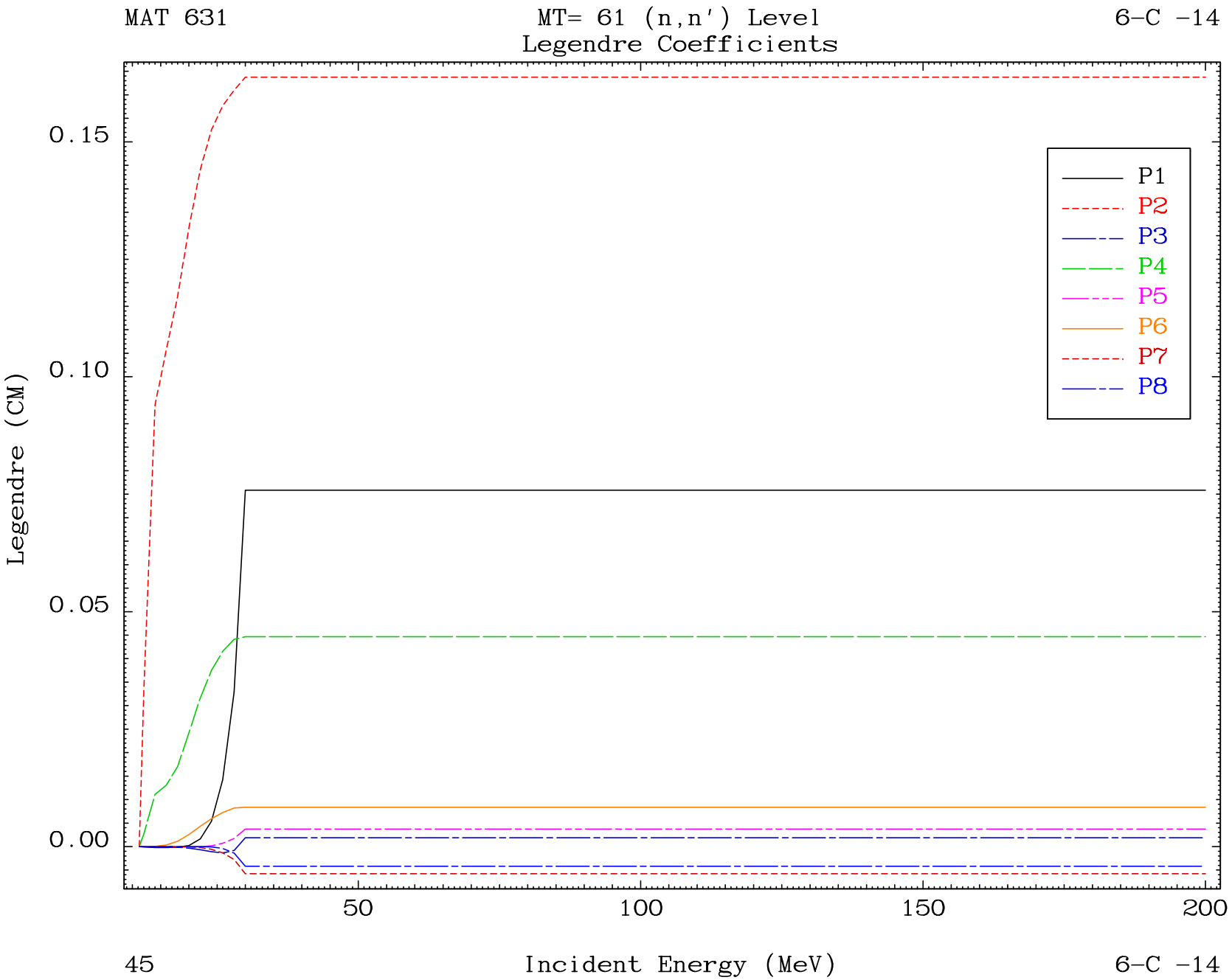

MAT 631
MT= 59 (n,n') Level
Legendre Coefficients
6-C -14
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
40
50
100
150
200
Incident Energy (MeV)
6-C -14

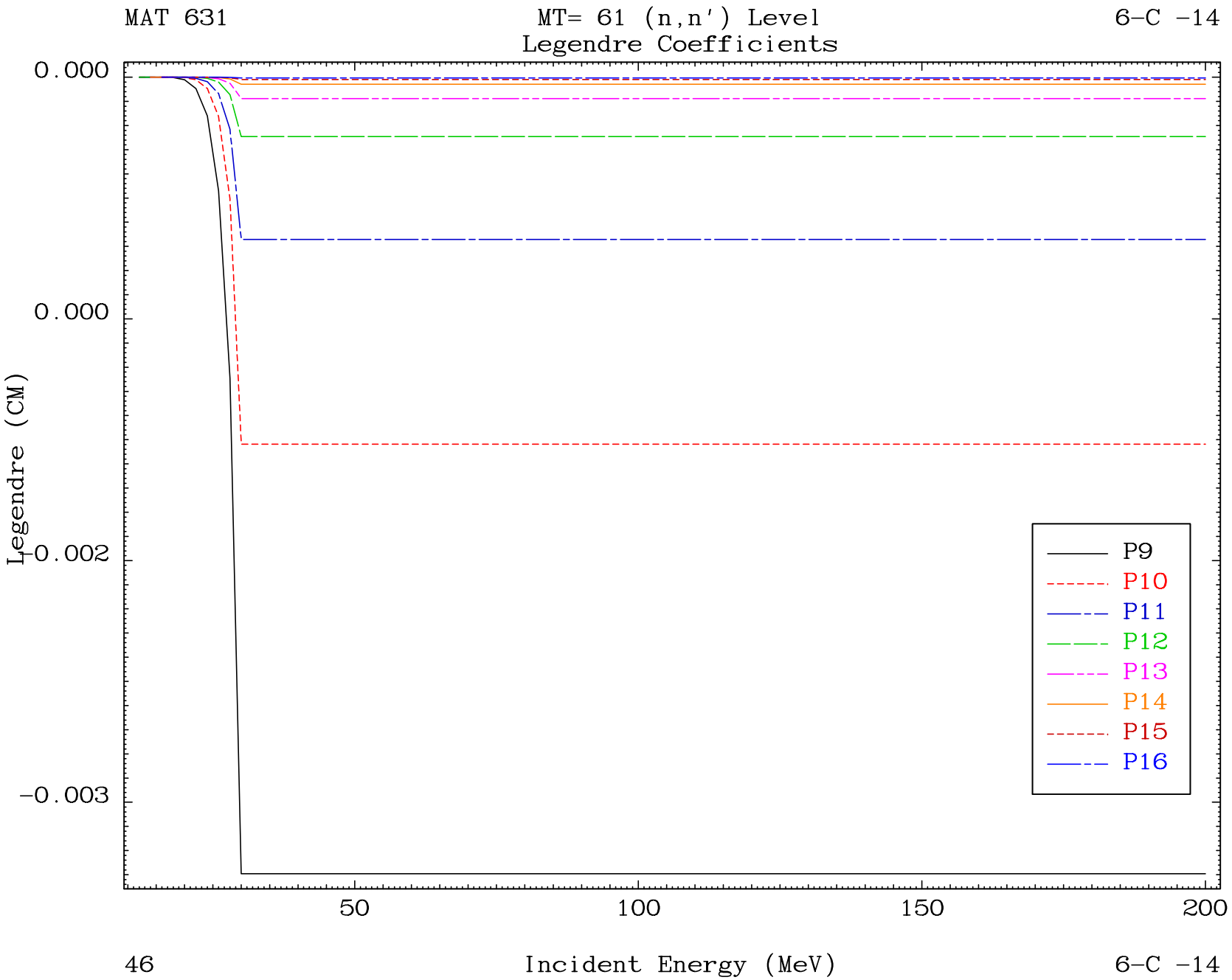

MAT 631
MT= 59 (n,n') Level
Legendre Coefficients
6-C -14
X10-5
2
0
-2
-4
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
41
6-C -14
P9
P10
P11
P12
P13
P14
P15
P16

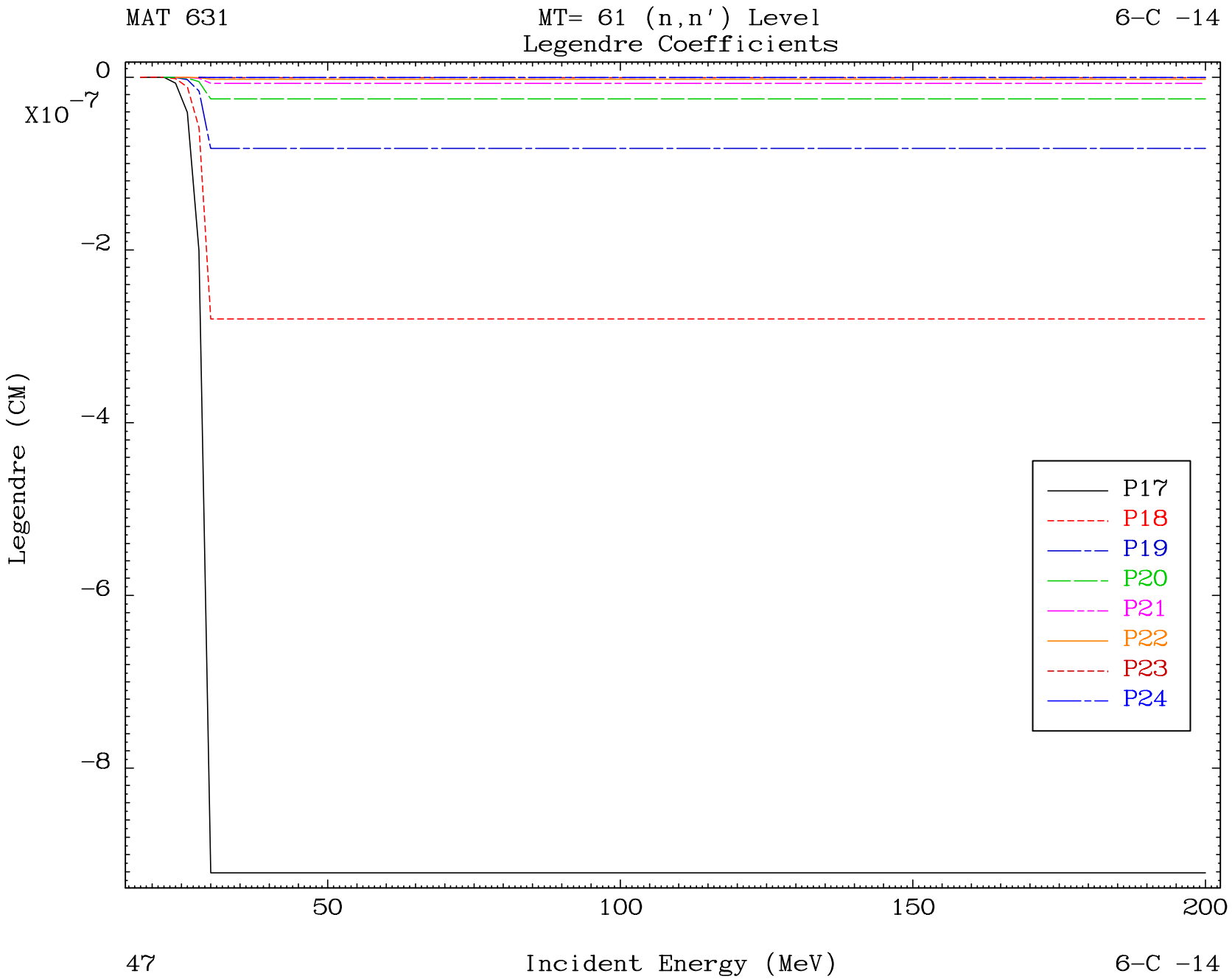

MAT 631
MT= 59 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10-7
-0.5
-1.0
-1.5
Legendre (CM)
50
100
150
200
42
Incident Energy (MeV)
6-C -14
P17
P18
P19
P20
P21
P22
P23
P24

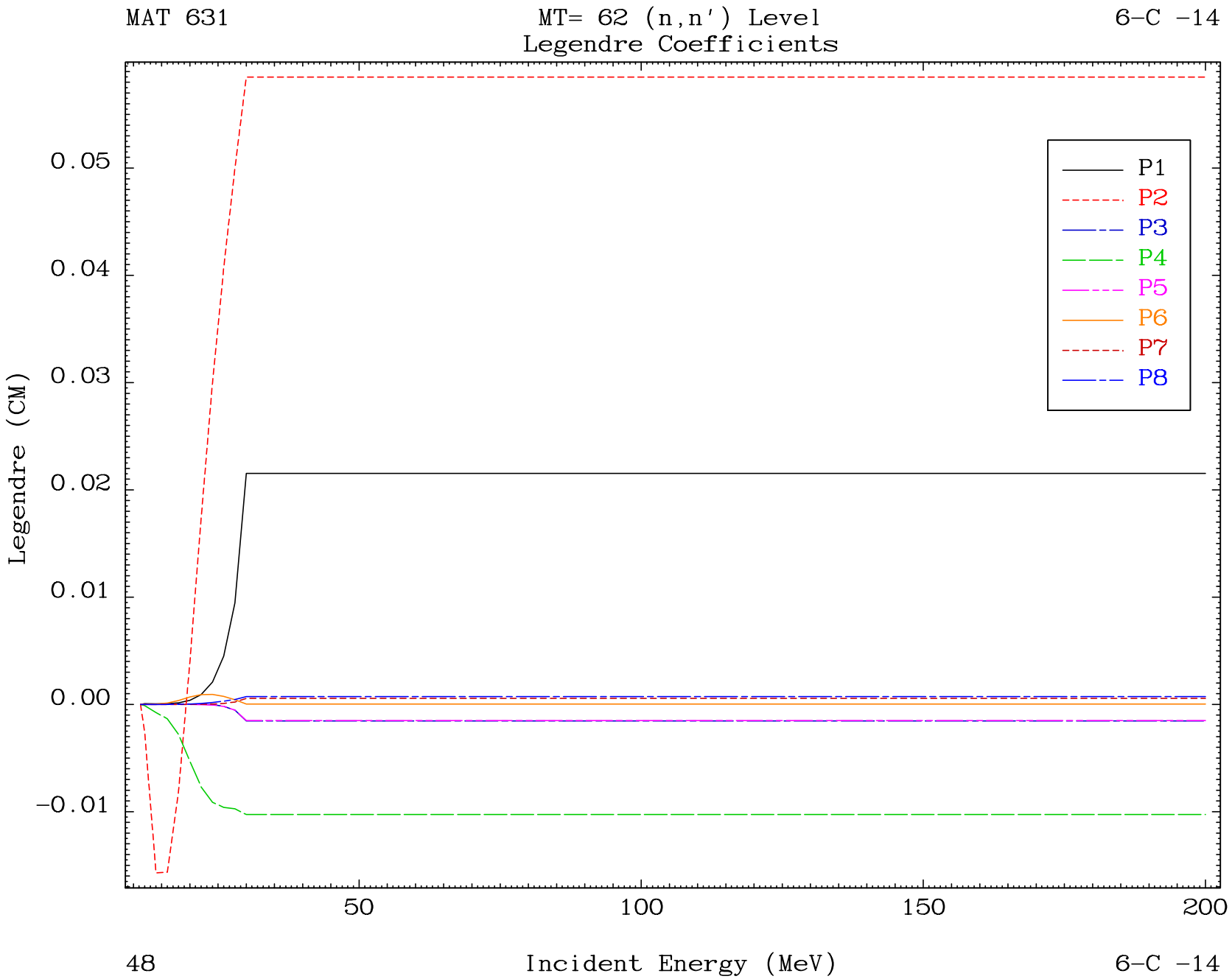

MAT 631
MT= 60 (n,n') Level
Legendre Coefficients
6-C -14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
43
Incident Energy (MeV)
6-C -14

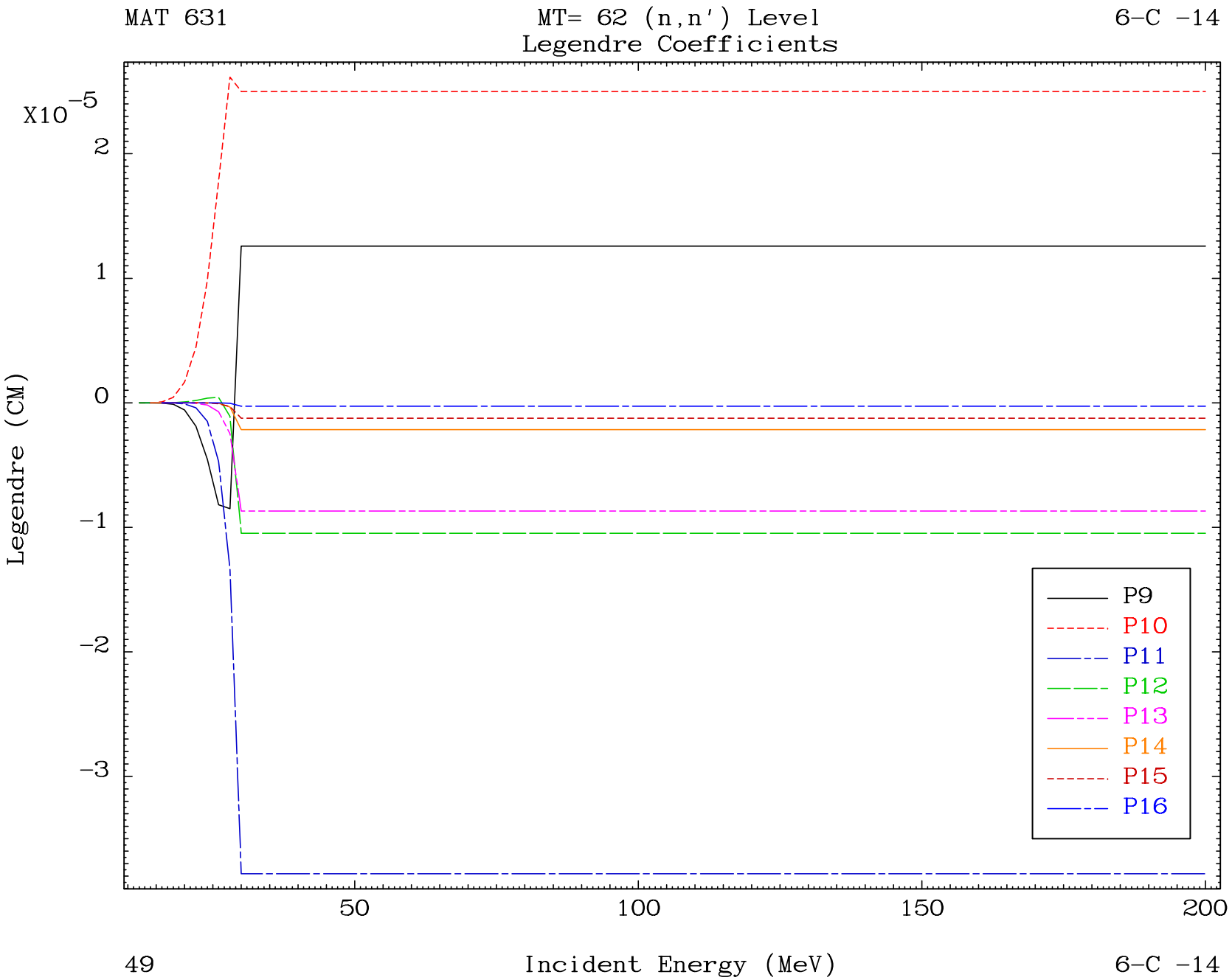

MAT 631
MT= 60 (n,n') Level
Legendre Coefficients
6-C -14
X10-5
8
6
4
2
0
Legendre (CM)
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
50
100
150
200
44
Incident Energy (MeV)
6-C -14


MAT 631
MT= 61 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
50
100
150
200
45
Incident Energy (MeV)
6-C -14

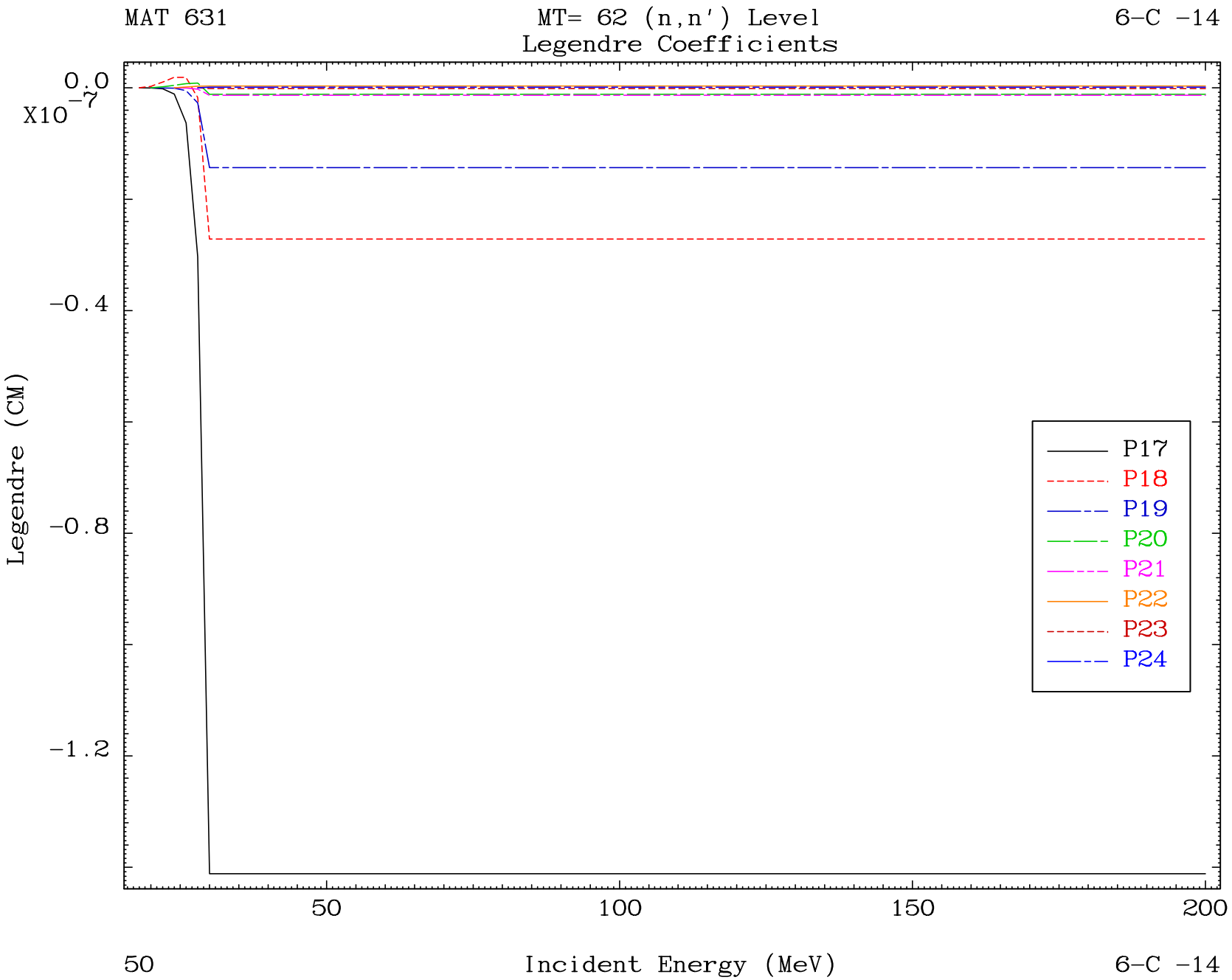

MAT 631
MT= 61 (n,n') Level
Legendre Coefficients
6-C -14
0.000
0.000
-0.002
-0.003
Legendre (CM)
50
100
150
200
46
Incident Energy (MeV)
6-C -14
P9
P10
P11
P12
P13
P14
P15
P16

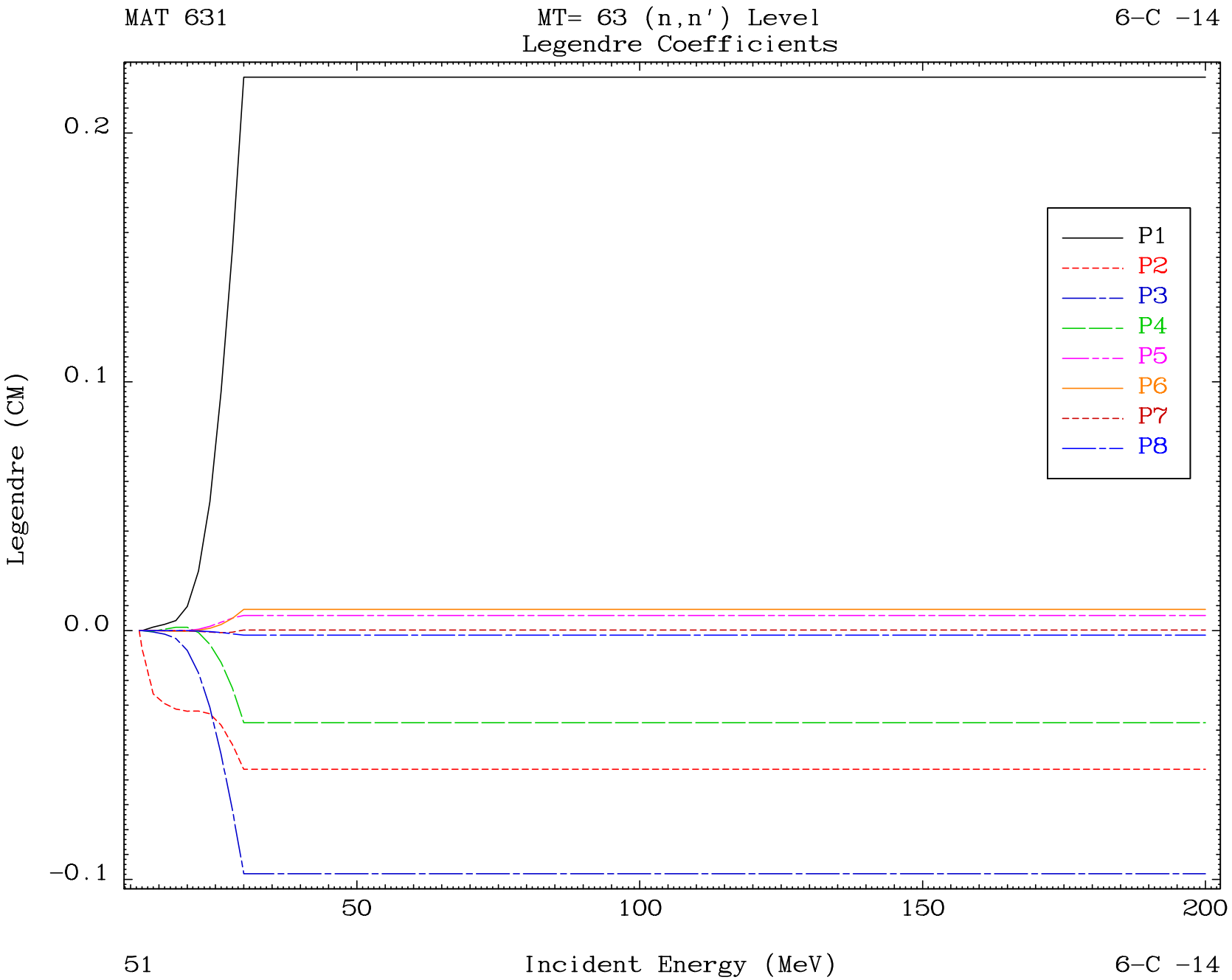

MAT 631
MT= 61 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-7
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
47
Incident Energy (MeV)
6-C -14
P17
P18
P19
P20
P21
P22
P23
P24

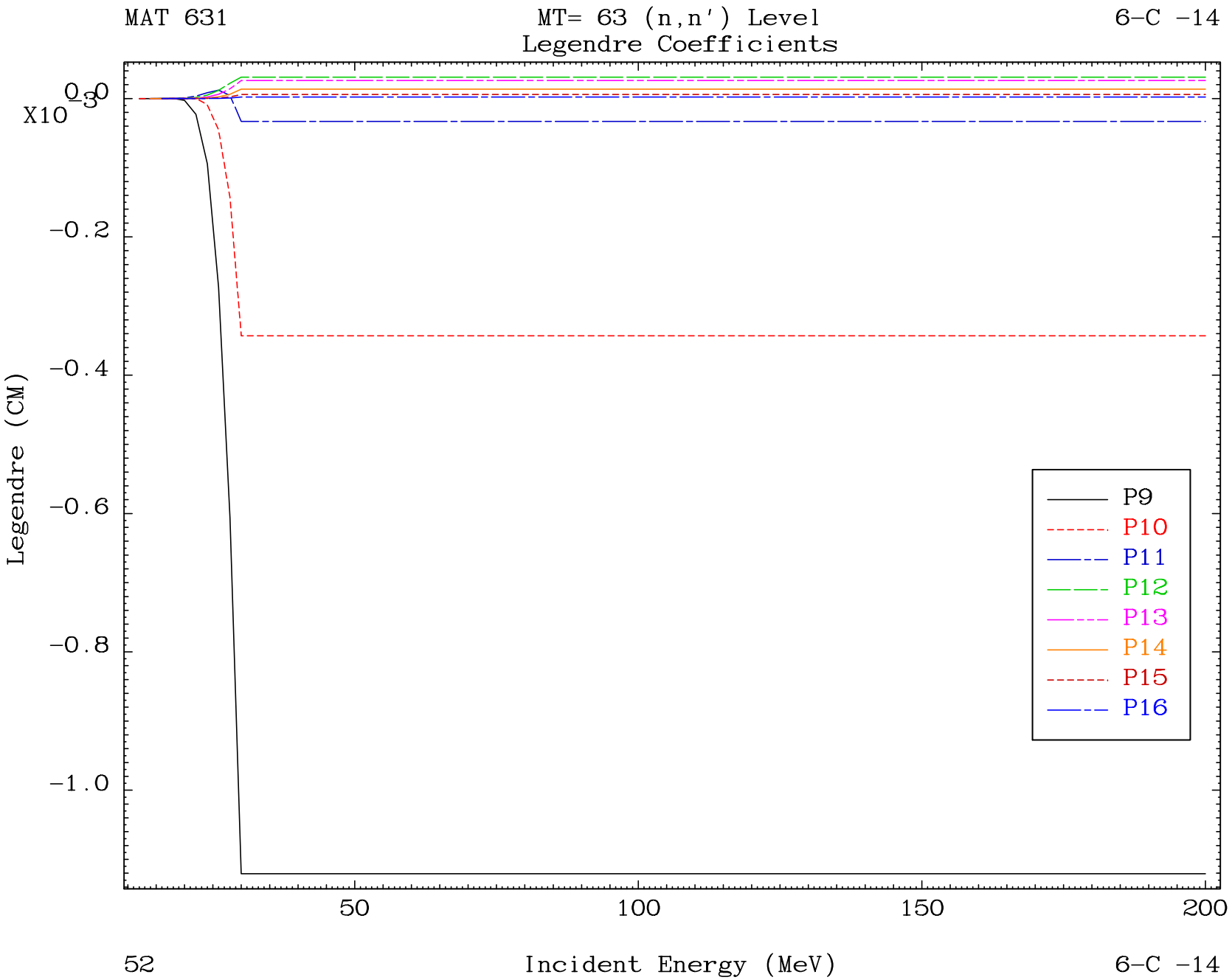

MAT 631
MT= 62 (n,n') Level
Legendre Coefficients
6-C -14
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P1
P2
P3
P4
P5
P6
P7
P8
48
6-C -14


MAT 631
MT= 62 (n,n') Level
Legendre Coefficients
6-C -14
X10 -5
2
1
0
-1
-2
-3
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P9
P10
P11
P12
P13
P14
P15
P16

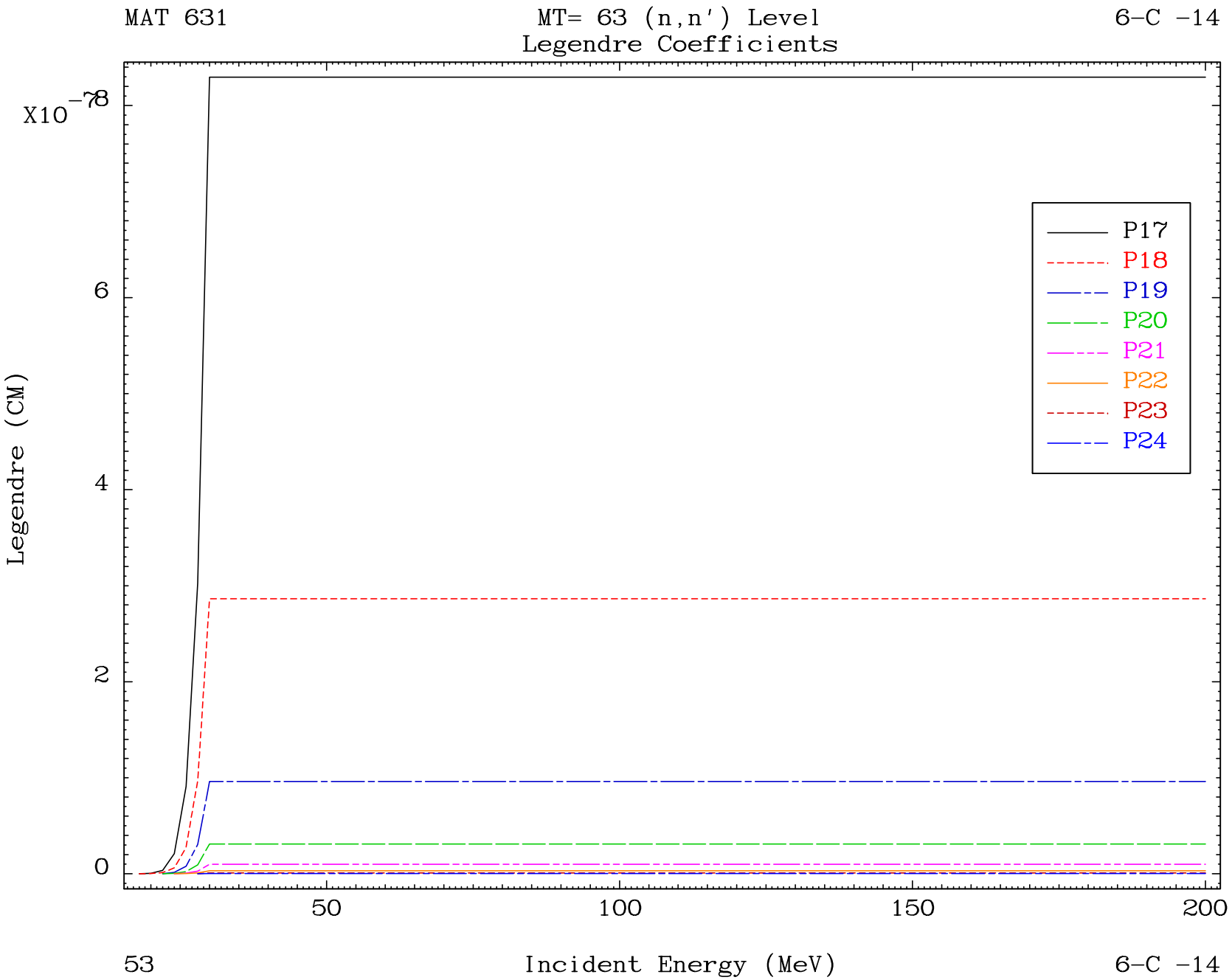
6-C -14

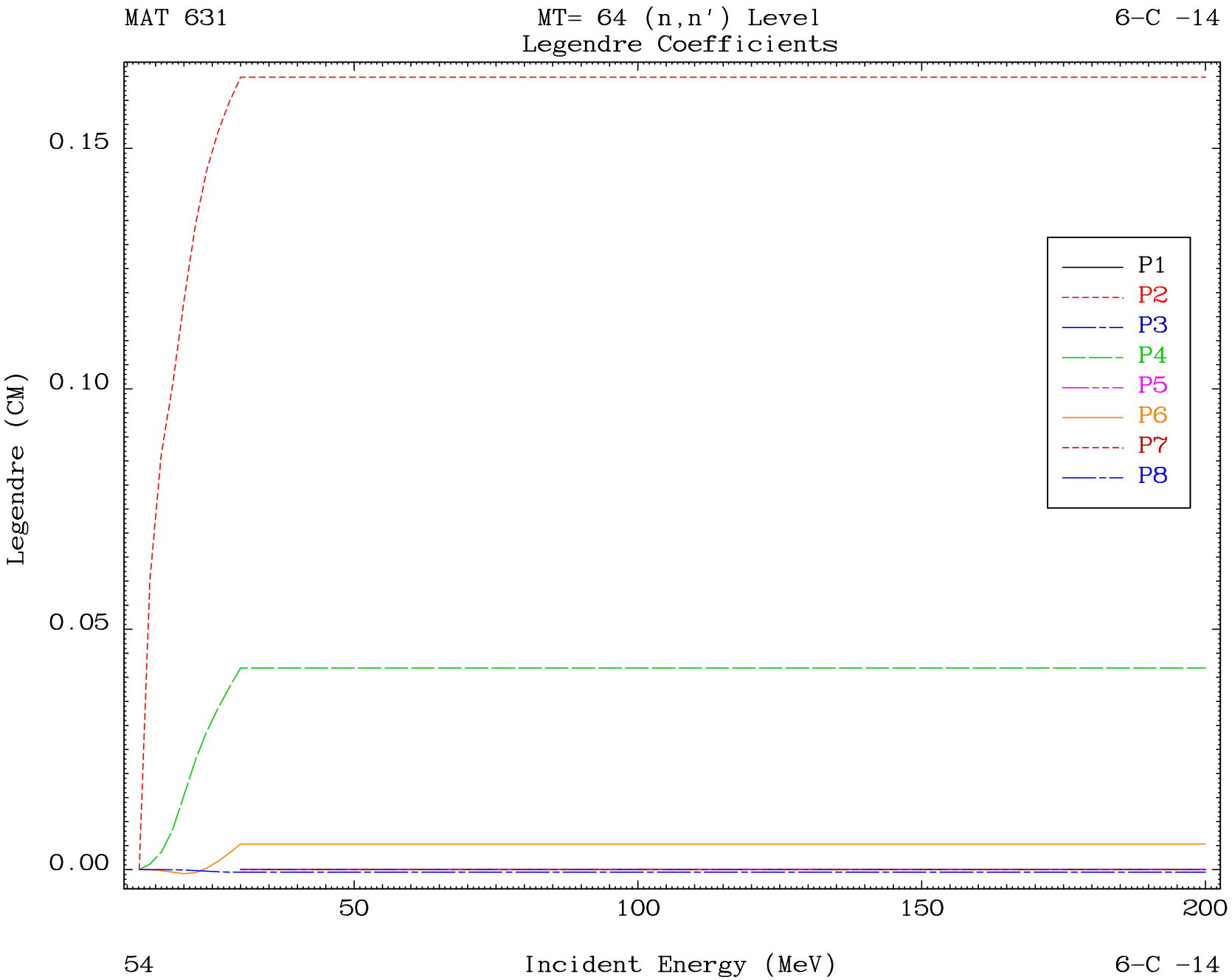

MAT 631
MT= 62 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10-7
-0.4
-0.8
-1.2
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
50
Incident Energy (MeV)
6-C -14

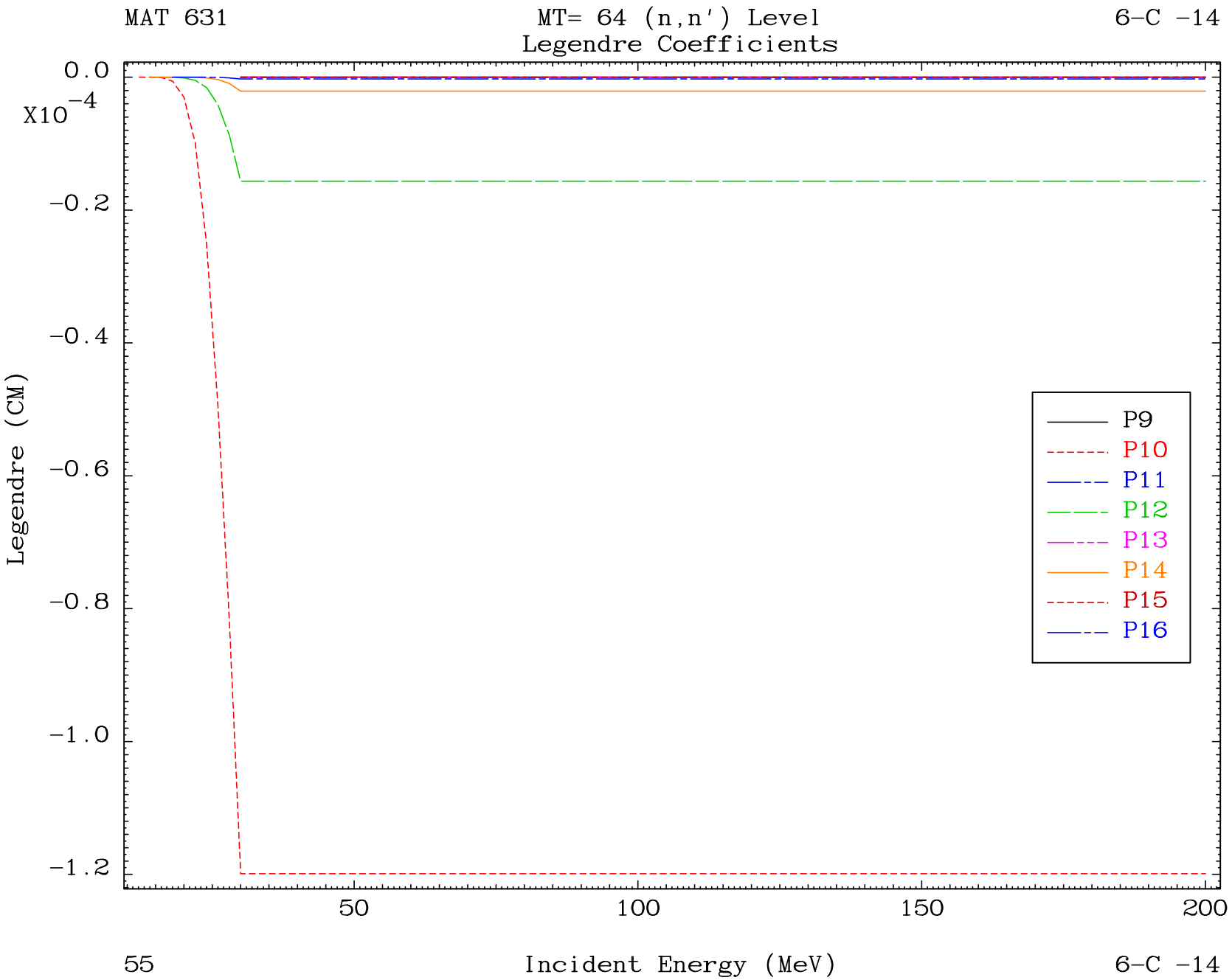

MAT 631
MT= 63 (n,n') Level
Legendre Coefficients
6-C -14
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
50
100
150
200
51
Incident Energy (MeV)
6-C -14

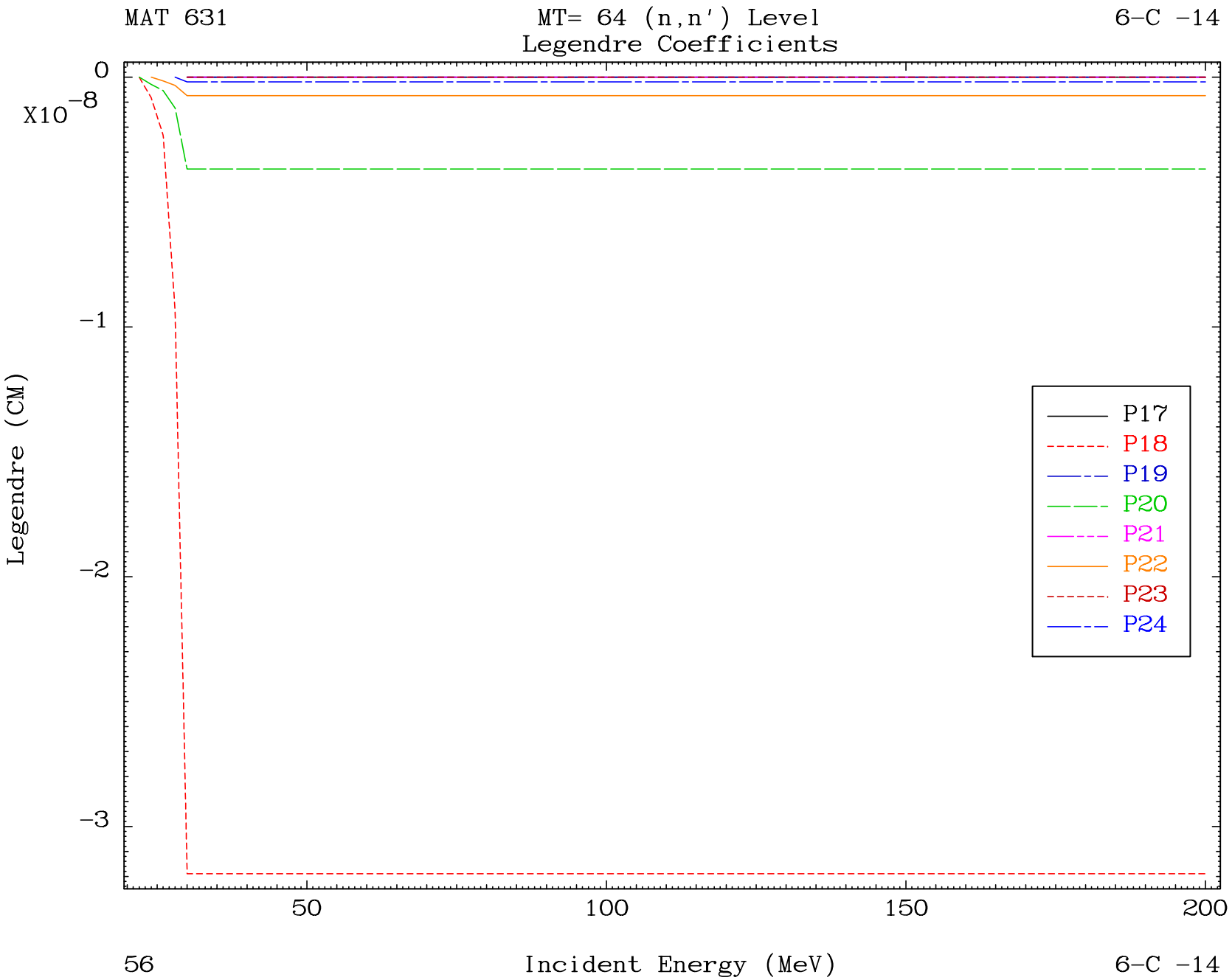

MAT 631
MT= 63 (n,n') Level
Legendre Coefficients
6-C -14
X10-3
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P9
P10
P11
P12
P13
P14
P15
P16

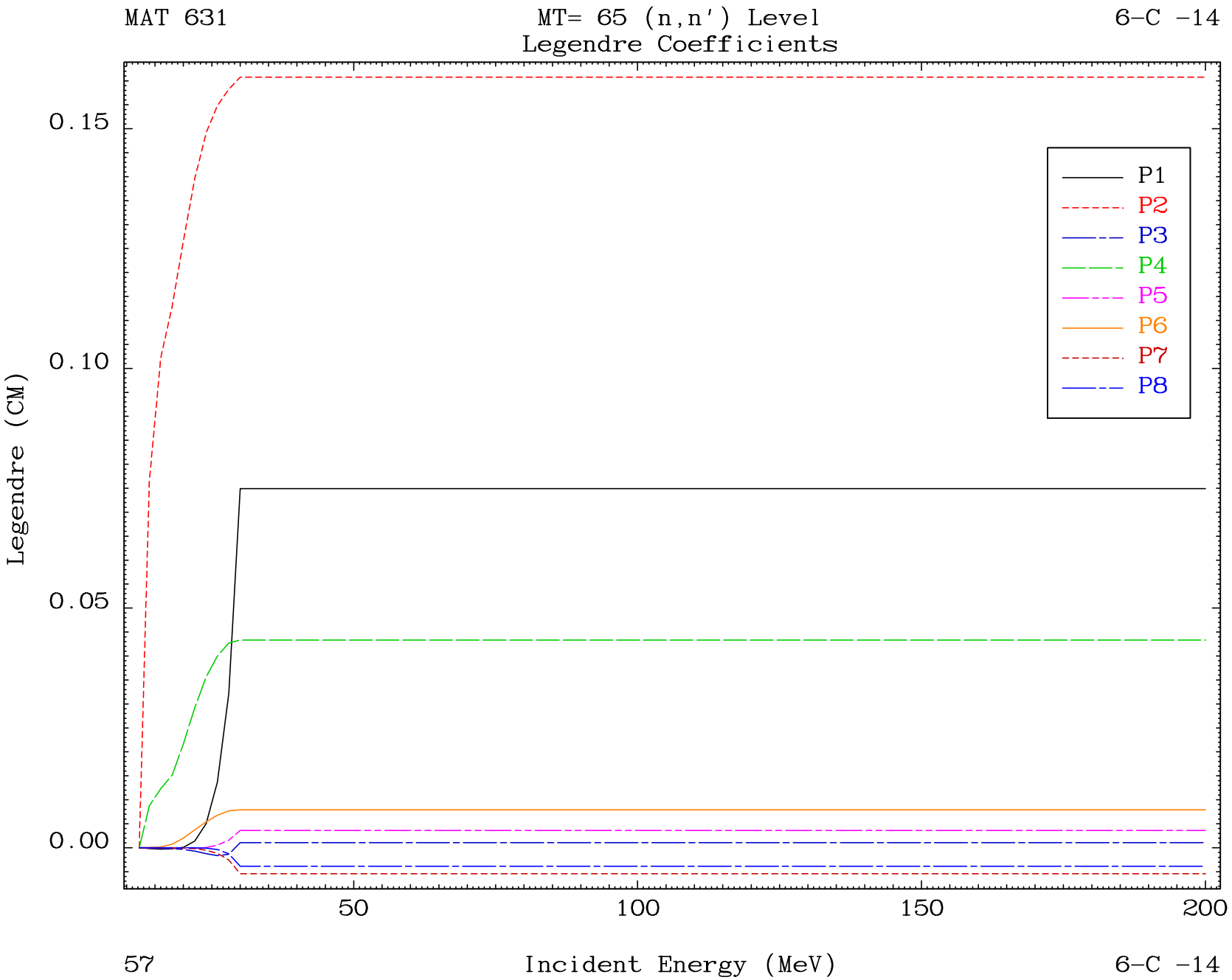
6-C -14

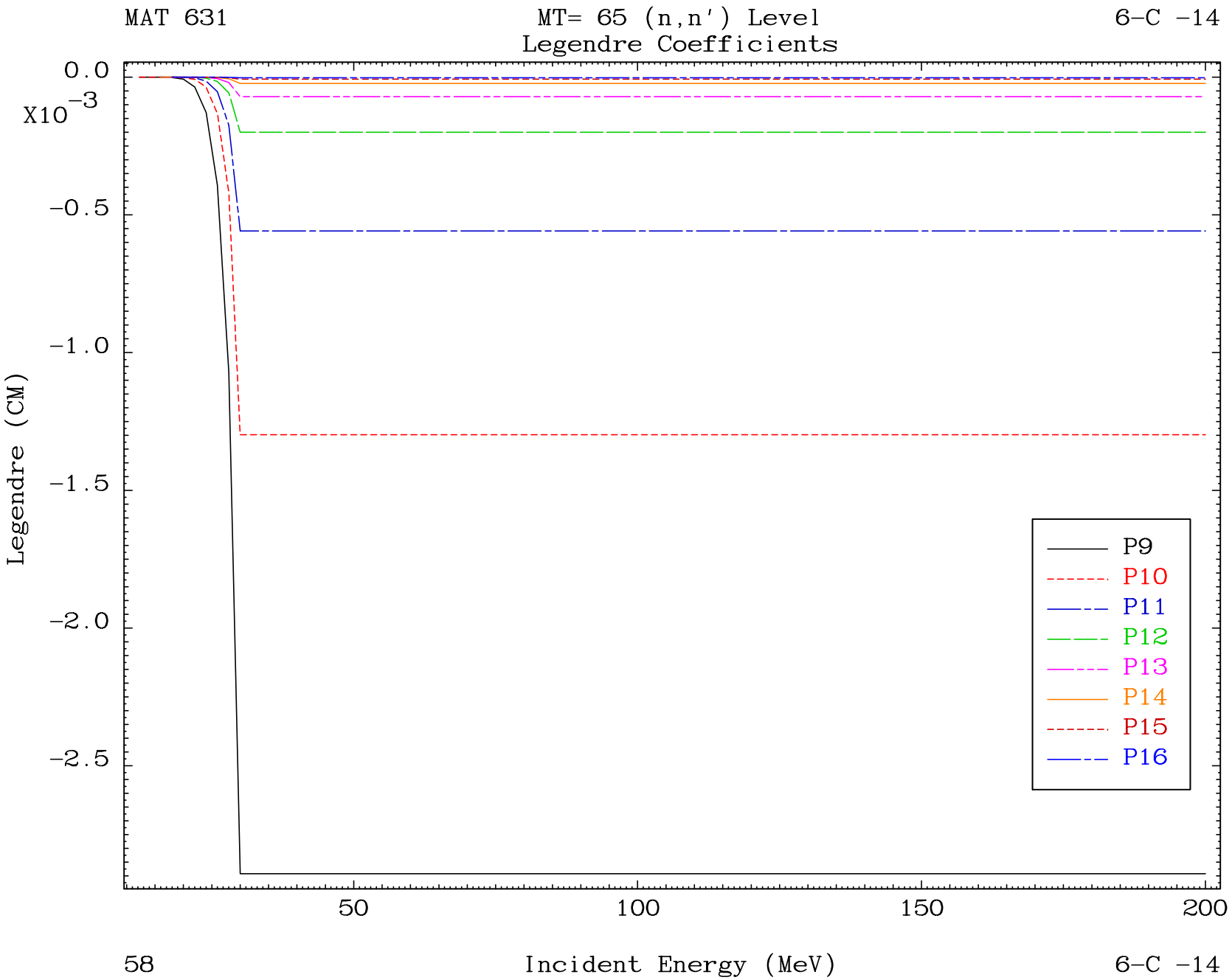

MAT 631
MT= 63 (n,n') Level
Legendre Coefficients
6-C -14
X10^-8
8
6
4
2
0
Legendre (CM)
P17
P18
P19
P20
P21
P22
P23
P24
50
100
150
200
53
Incident Energy (MeV)
6-C -14

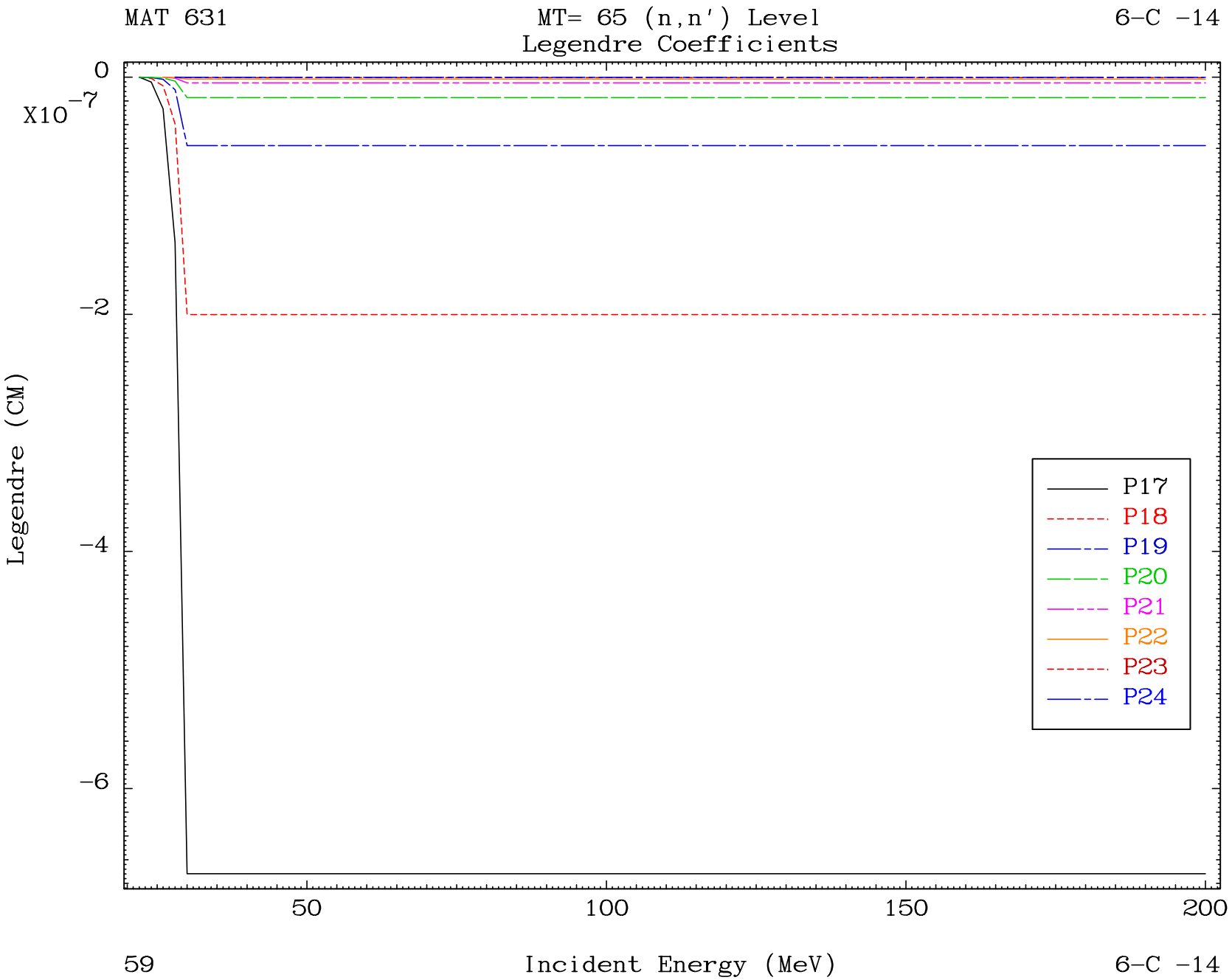

MAT 631
MT= 64 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
54
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8

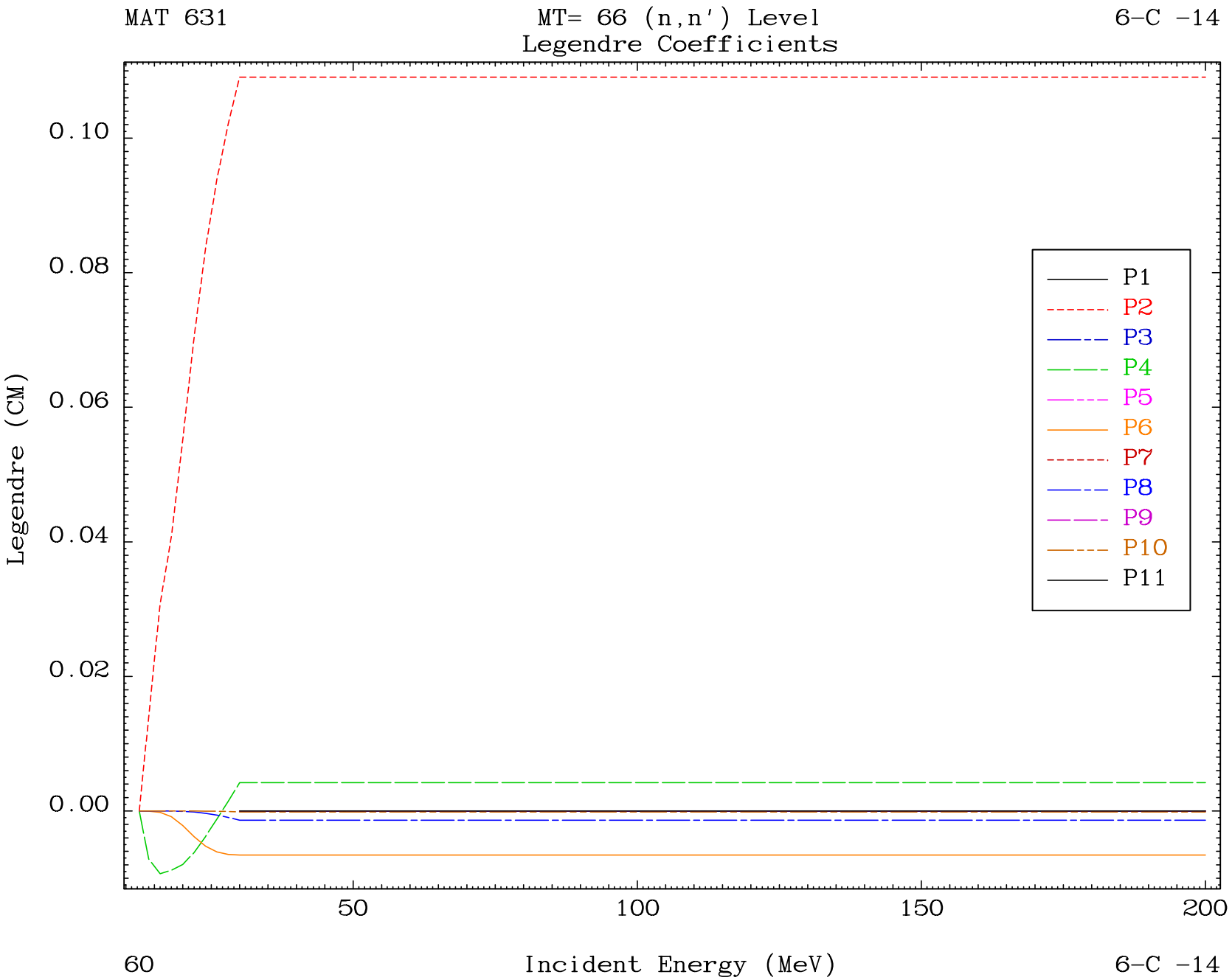

MAT 631
MT= 64 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-4
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
55
Incident Energy (MeV)
6-C -14
P9
P10
P11
P12
P13
P14
P15
P16

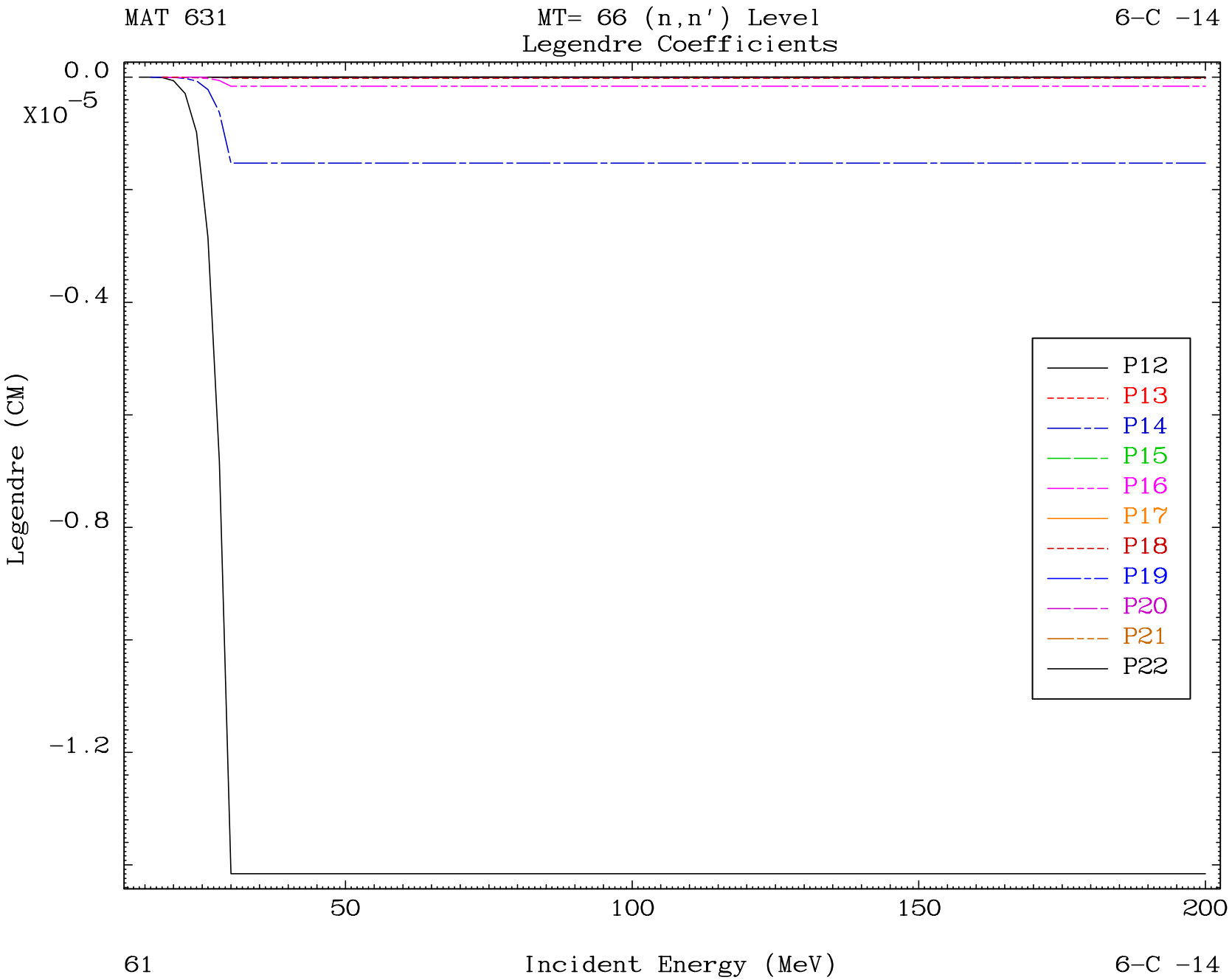

MAT 631
MT= 64 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-8
-1
-2
-3
Legendre (CM)
50
100
150
200
56
Incident Energy (MeV)
6-C -14
P17
P18
P19
P20
P21
P22
P23
P24

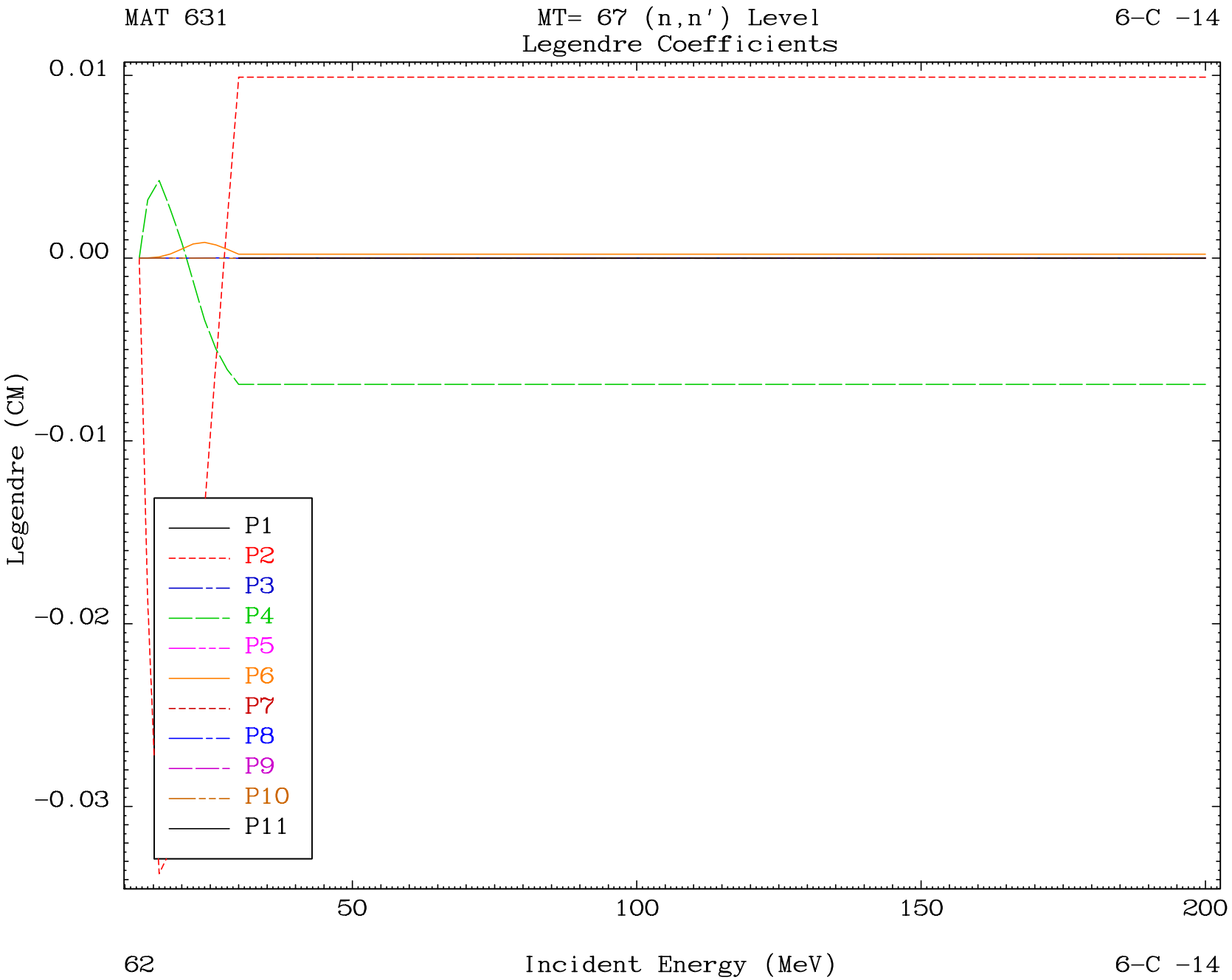

MAT 631
MT= 65 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
50
100
150
200
57
Incident Energy (MeV)
6-C -14

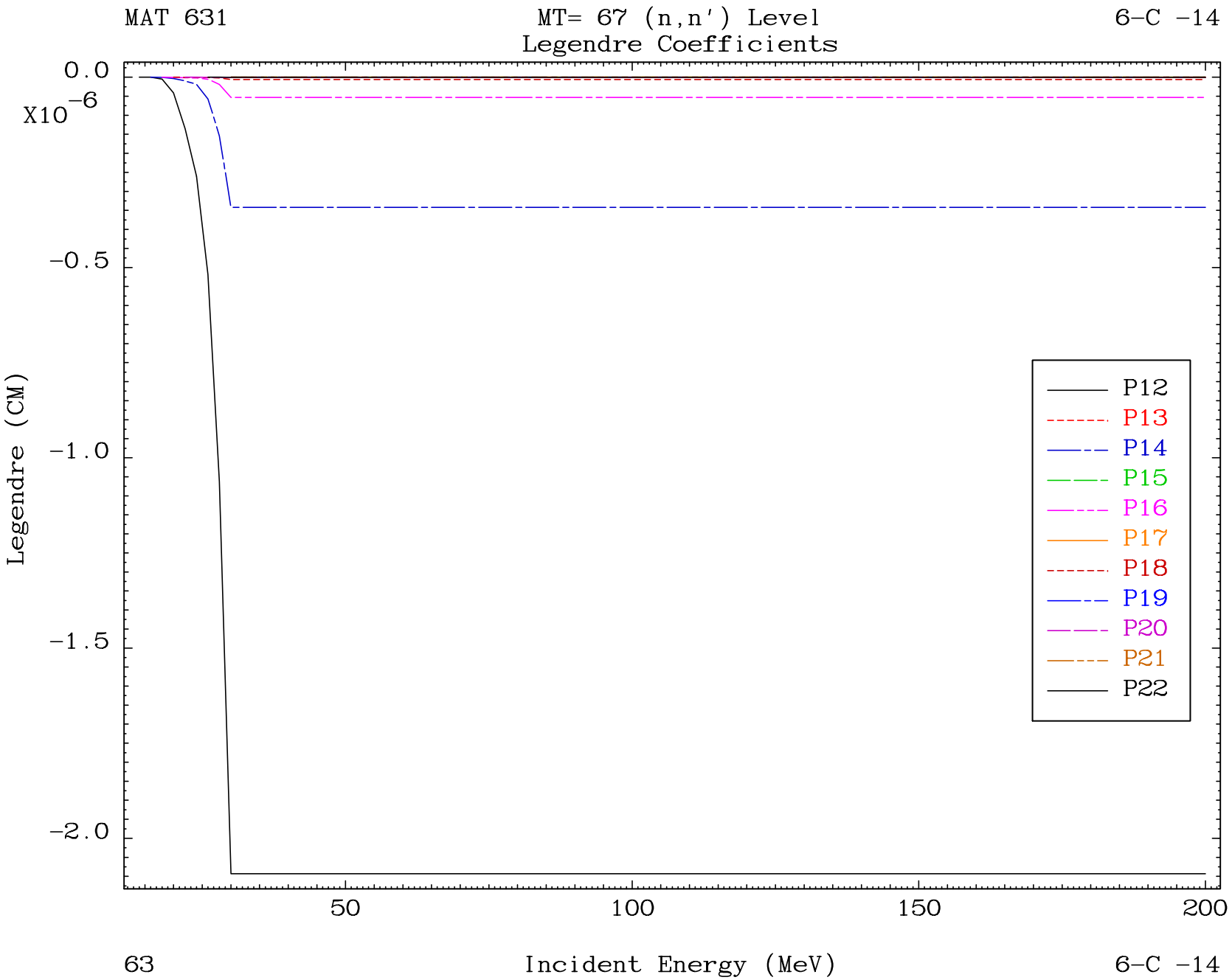

MAT 631
MT= 65 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-3
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
58
Incident Energy (MeV)
6-C -14
P9
P10
P11
P12
P13
P14
P15
P16

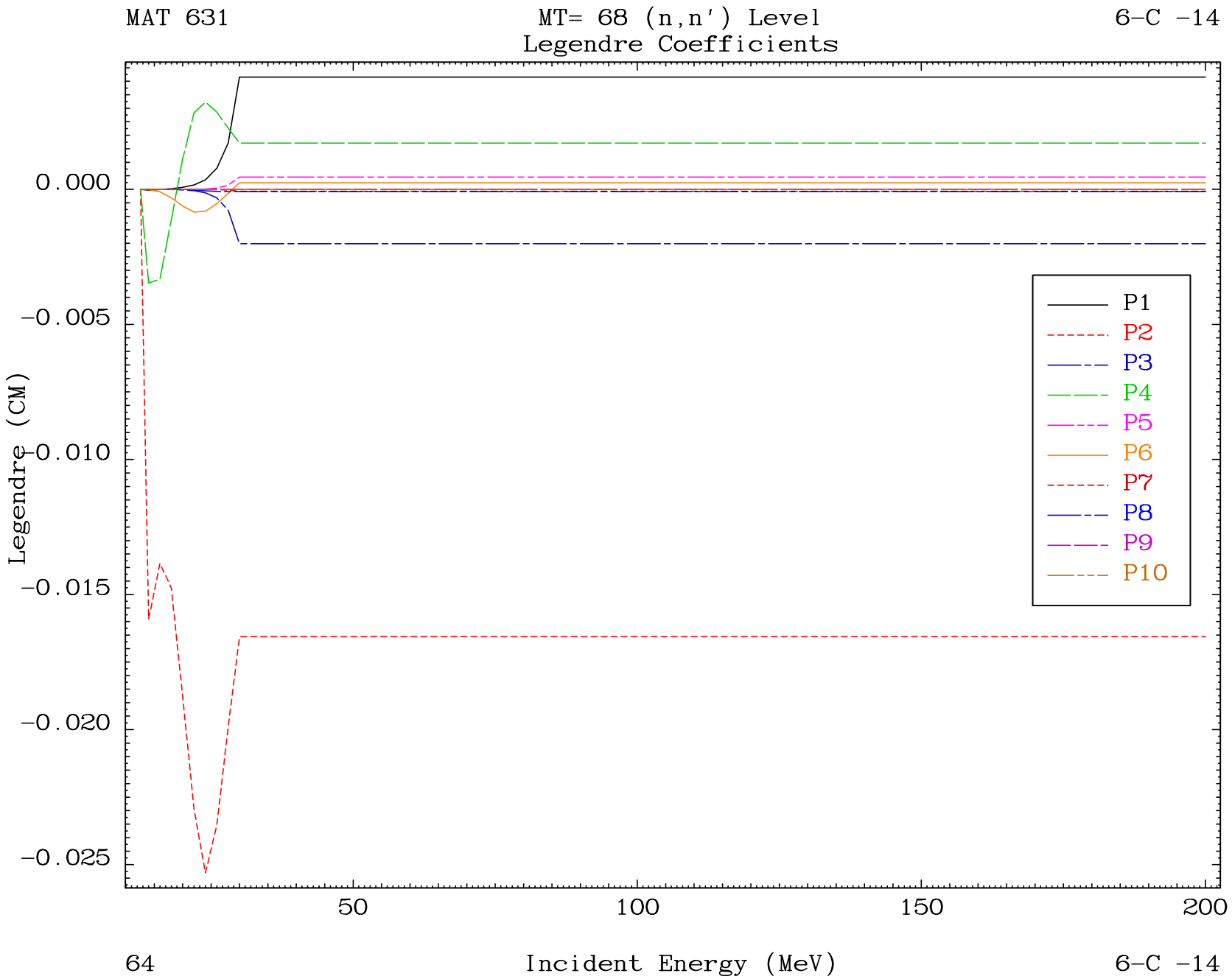

MAT 631
MT= 65 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-7
-2
-4
-6
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
59
Incident Energy (MeV)
6-C -14

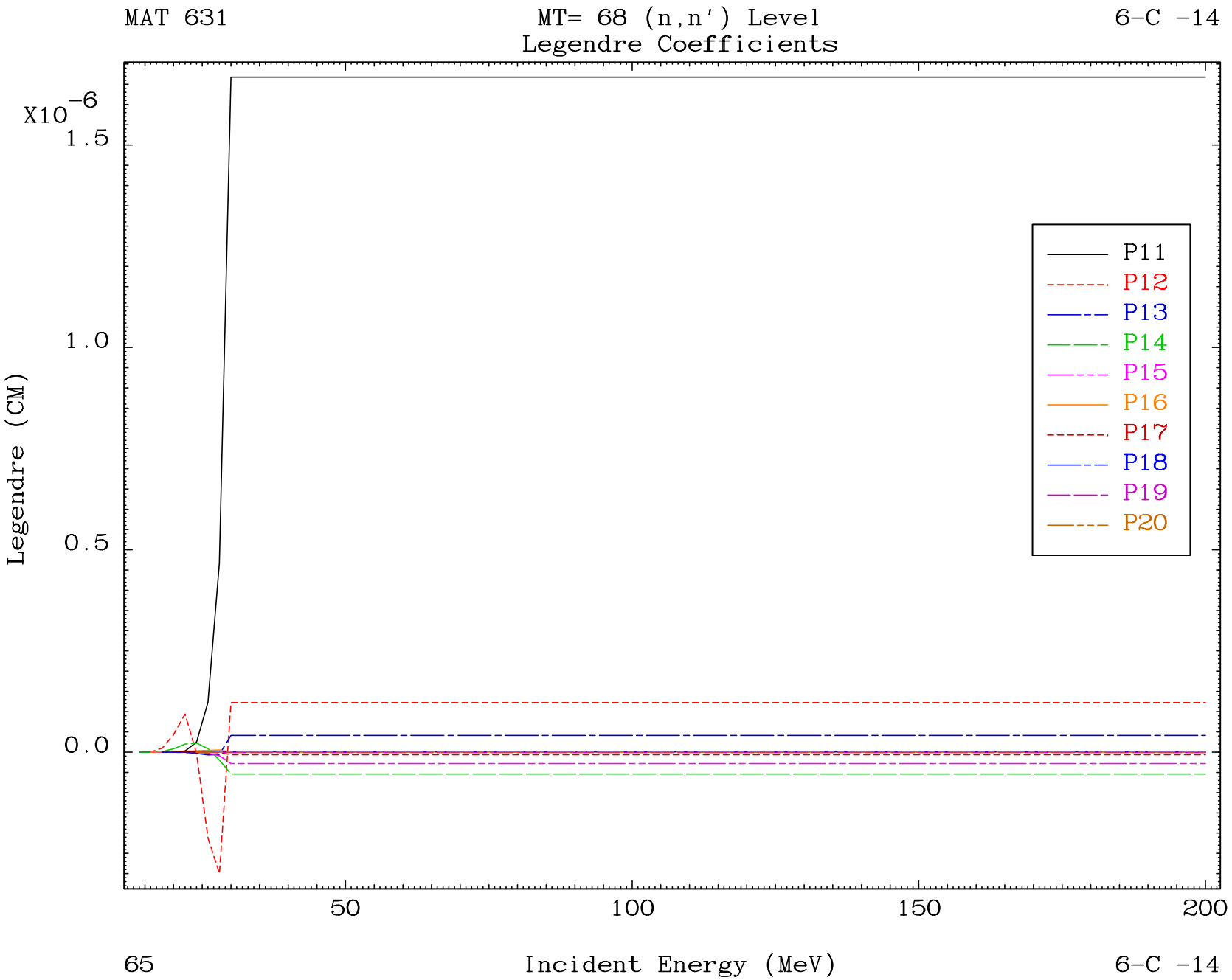

MAT 631
MT= 66 (n,n') Level
Legendre Coefficients
6-C -14
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
50
100
150
200
60
Incident Energy (MeV)
6-C -14

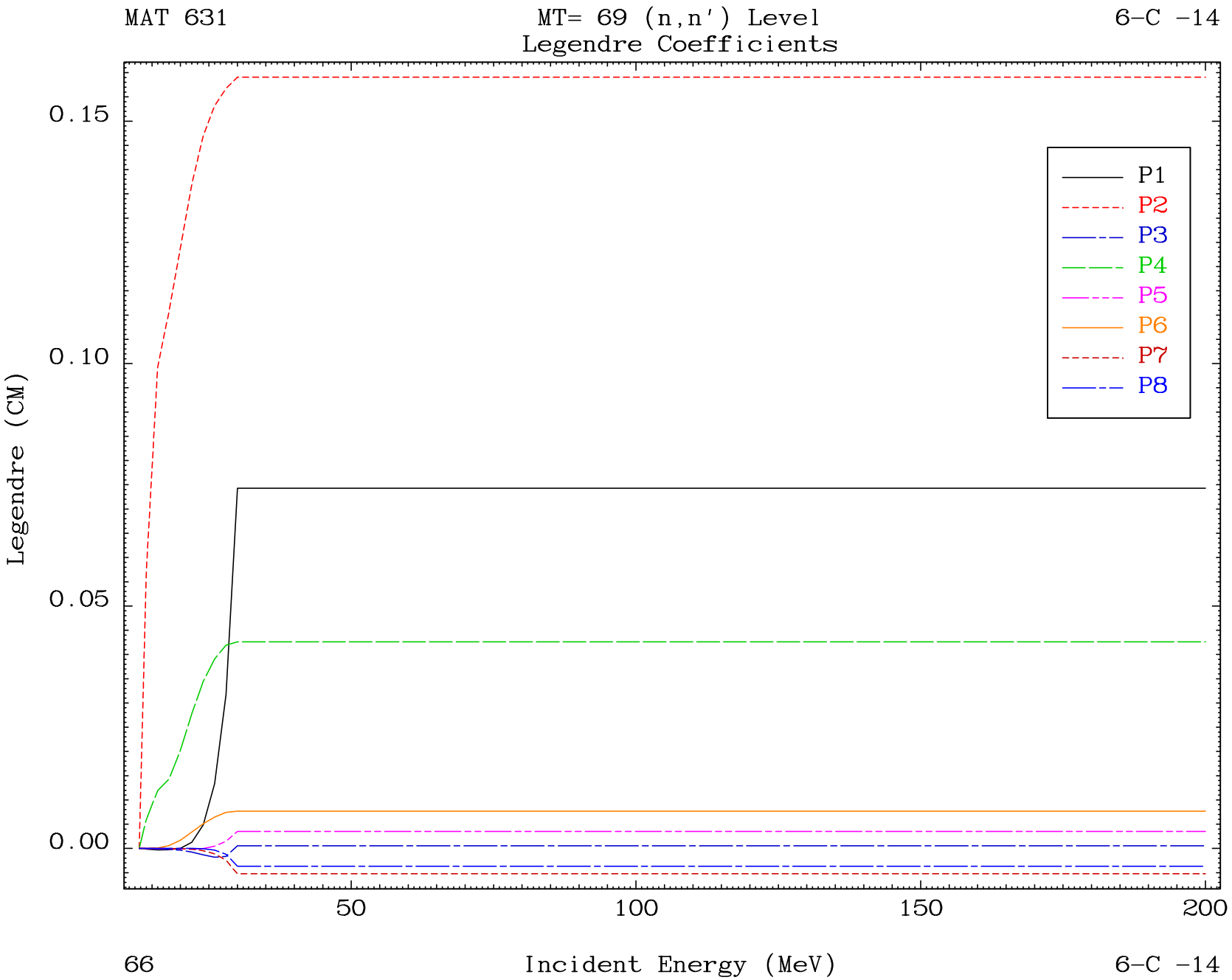

MAT 631
MT= 66 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10-5
-0.4
-0.8
-1.2
Legendre (CM)
50
100
150
200
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
61
Incident Energy (MeV)
6-C -14

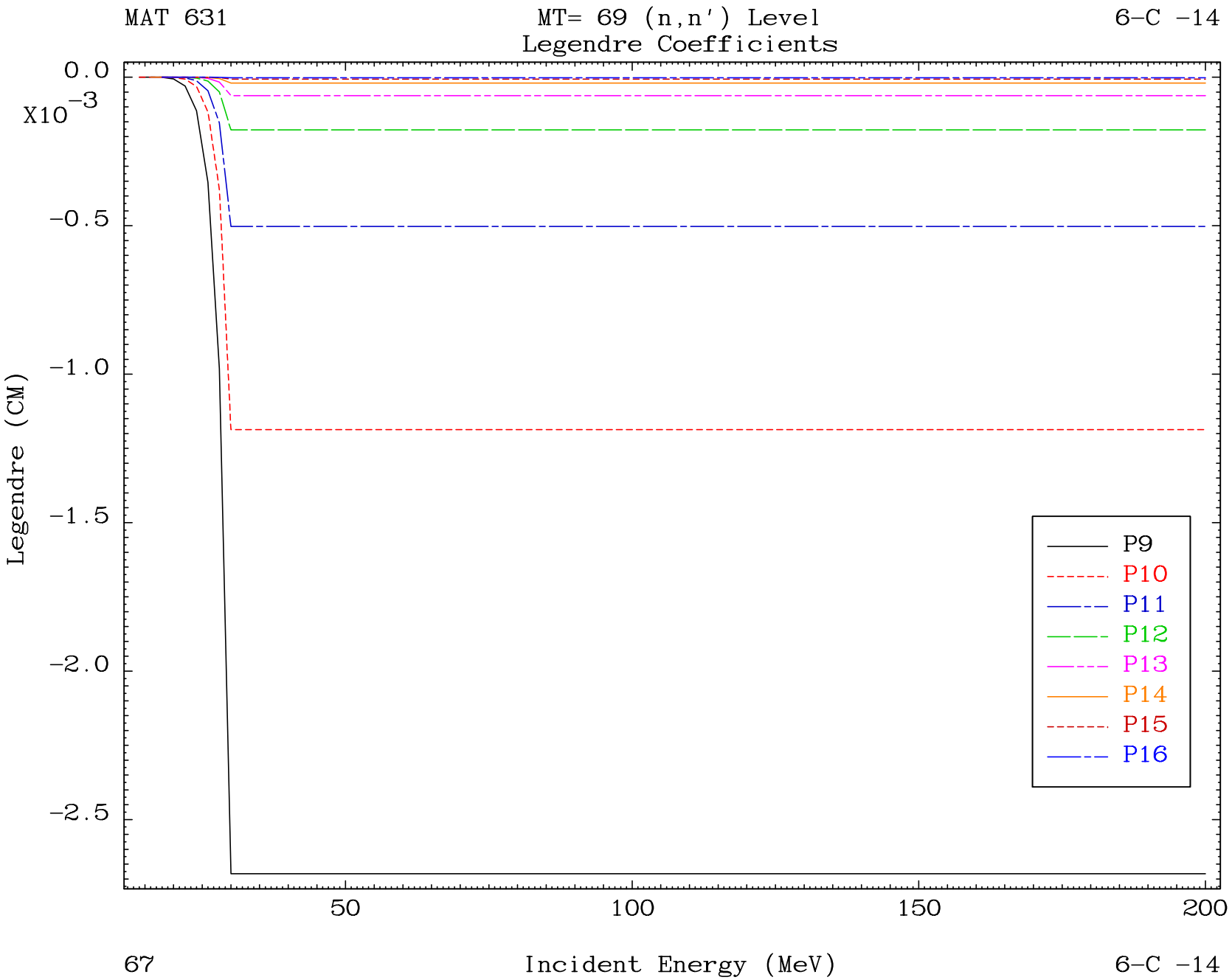

MAT 631
MT= 67 (n,n') Level
Legendre Coefficients
6-C -14
0.01
0.00
-0.01
-0.02
-0.03
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
50
100
150
200
62
Incident Energy (MeV)
6-C -14

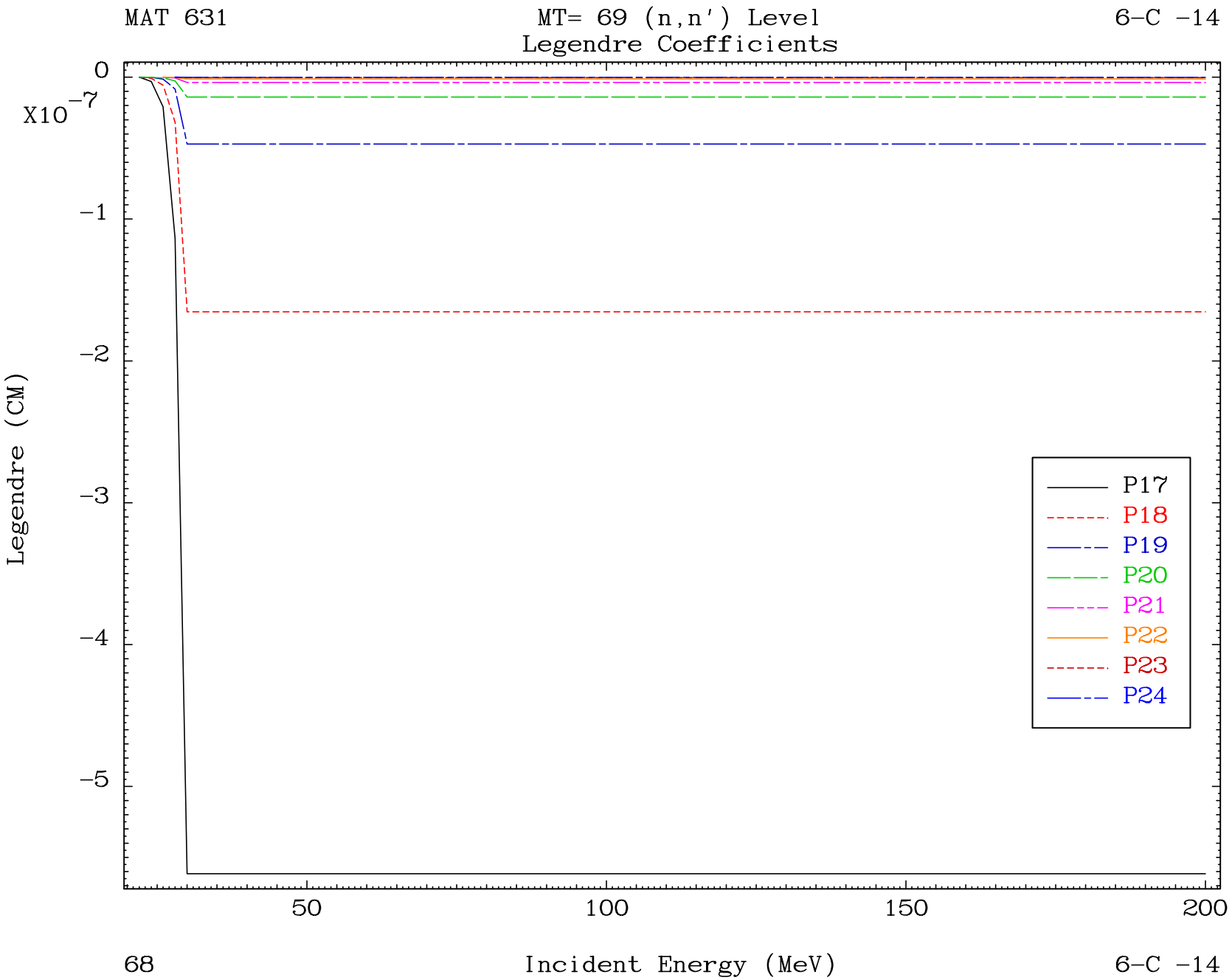

MAT 631
MT= 67 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
63
Incident Energy (MeV)
6-C -14
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

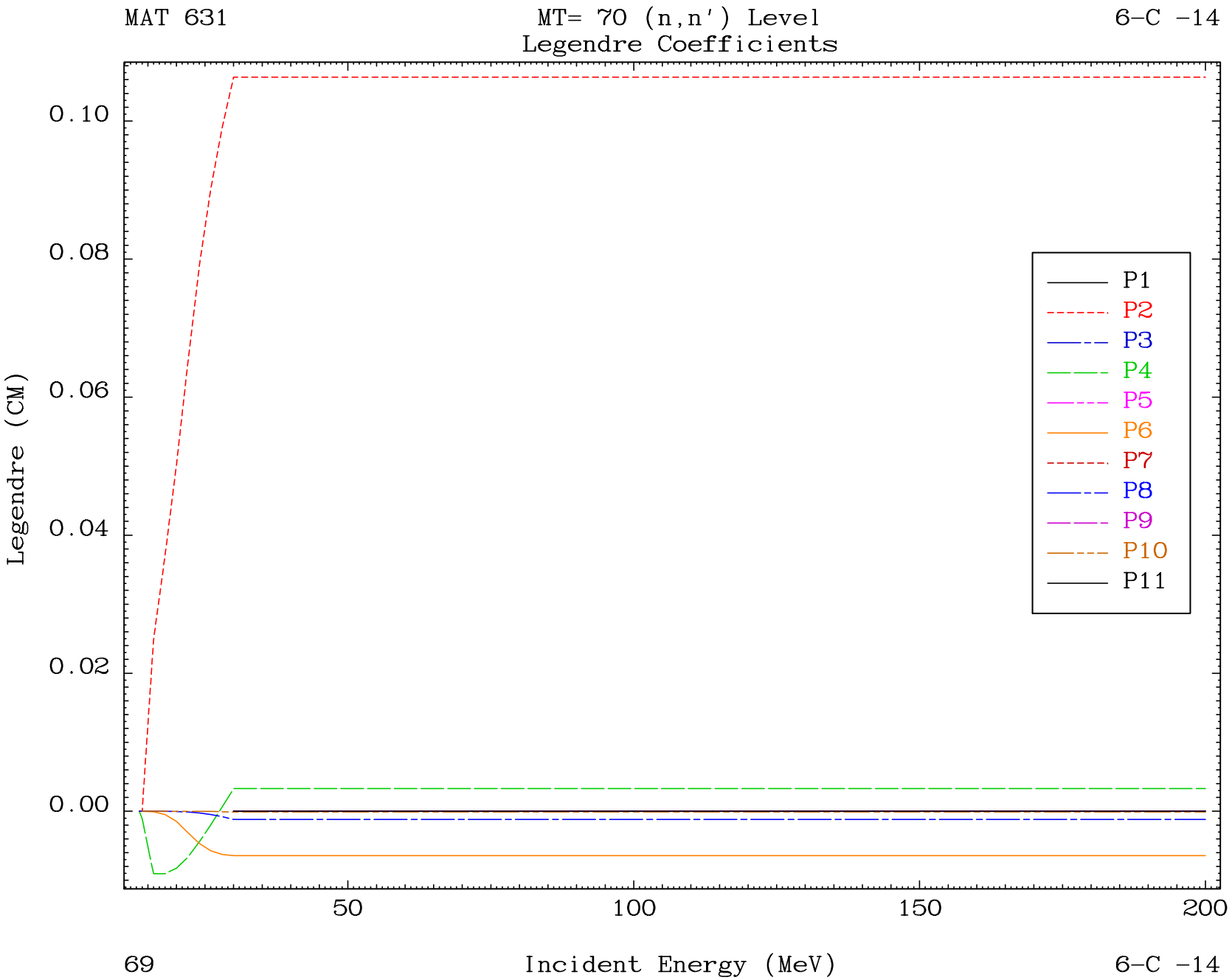

MAT 631
MT= 68 (n,n') Level
Legendre Coefficients
6-C -14
0.000
-0.005
-0.010
-0.015
-0.020
-0.025
Legendre (CM)
50
100
150
200
64
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

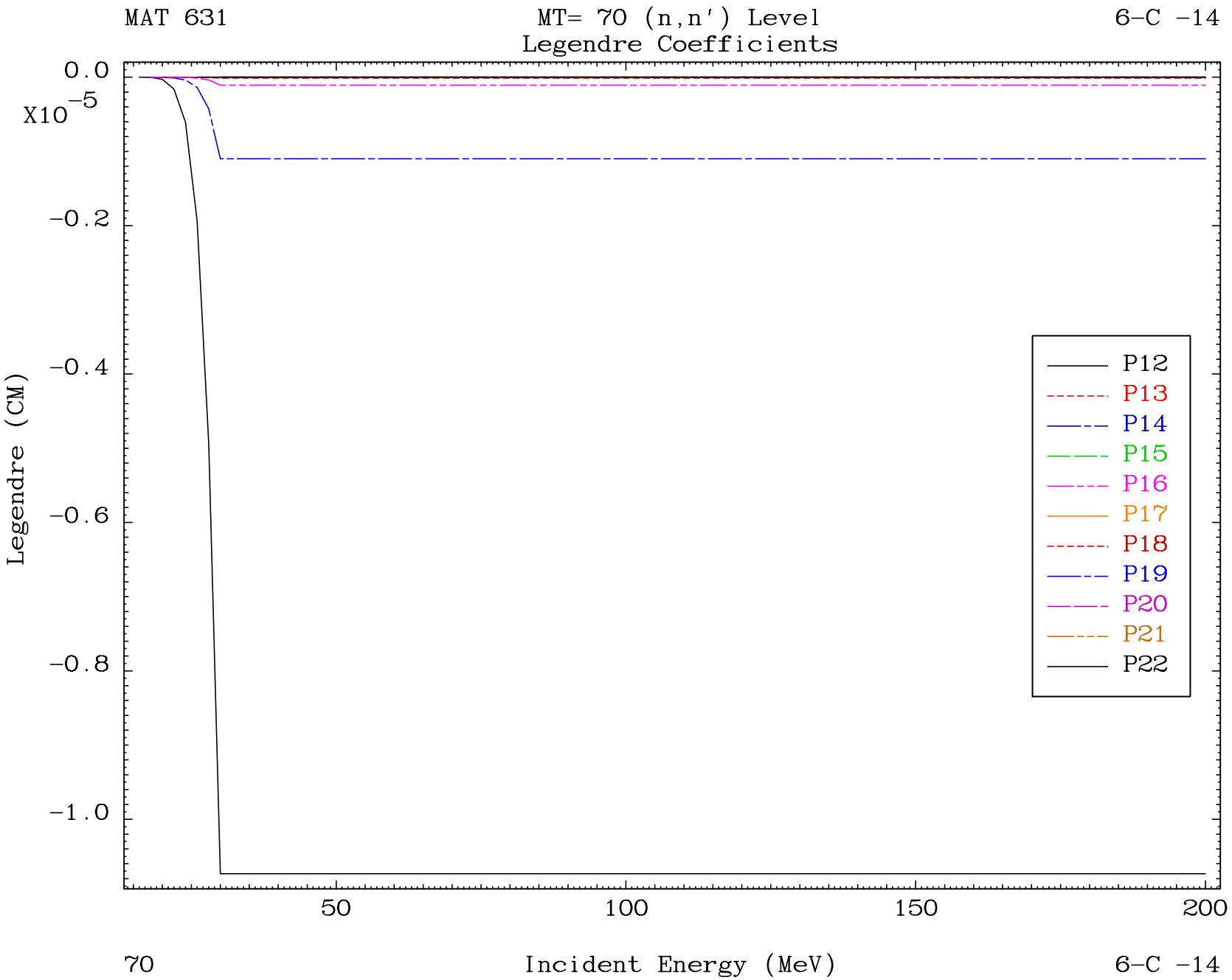

MAT 631
MT= 68 (n,n') Level
Legendre Coefficients
6-C -14
X10 -6
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
50
100
150
200
65
Incident Energy (MeV)
6-C -14

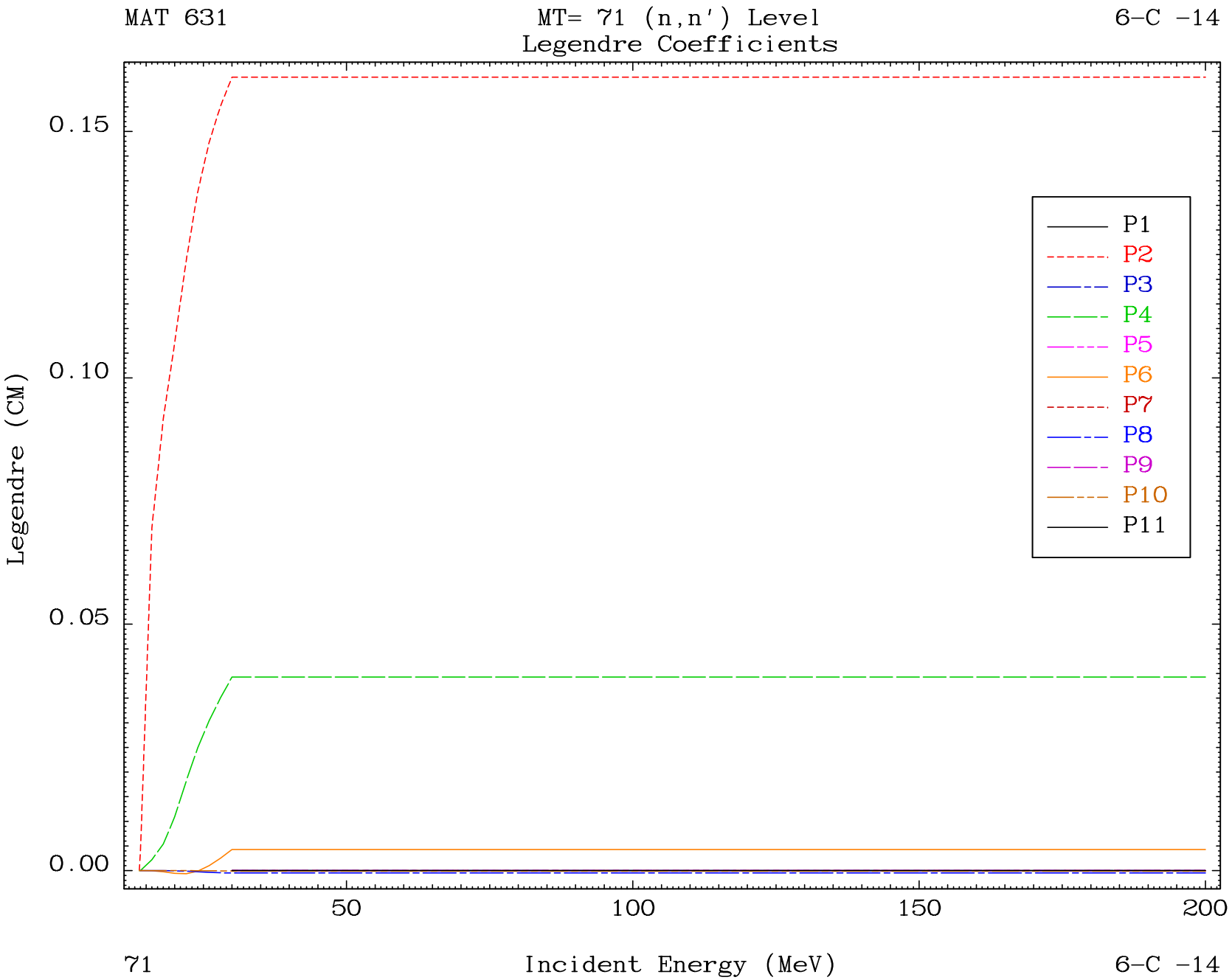

MAT 631
MT= 69 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
66
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8

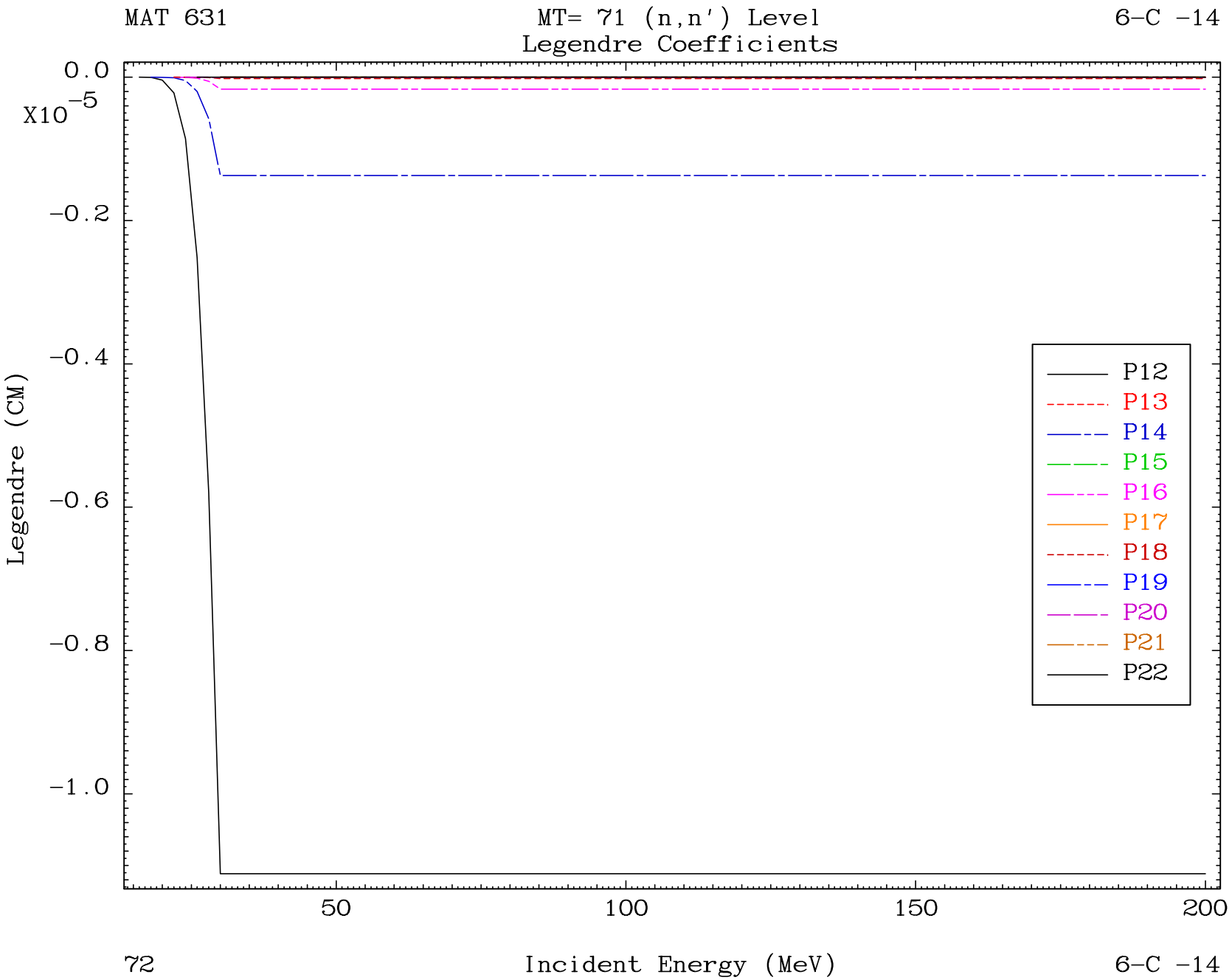

MAT 631
MT= 69 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-3
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
67
Incident Energy (MeV)
6-C -14
P9
P10
P11
P12
P13
P14
P15
P16

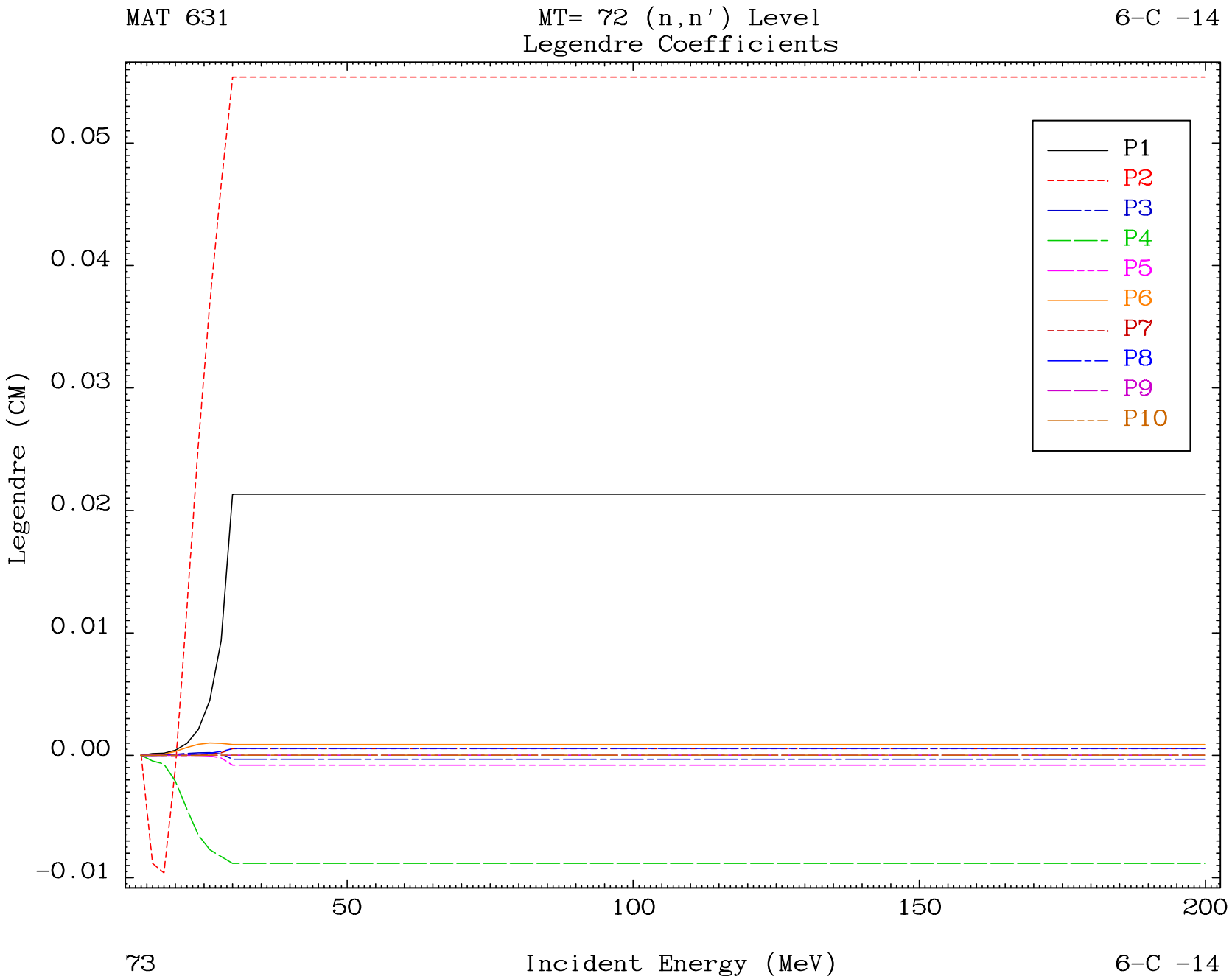

MAT 631
MT= 69 (n,n') Level
Legendre Coefficients
6-C -14
X10-7
0
-1
-2
-3
-4
-5
Legendre (CM)
50
100
150
200
68
Incident Energy (MeV)
6-C -14
P17
P18
P19
P20
P21
P22
P23
P24

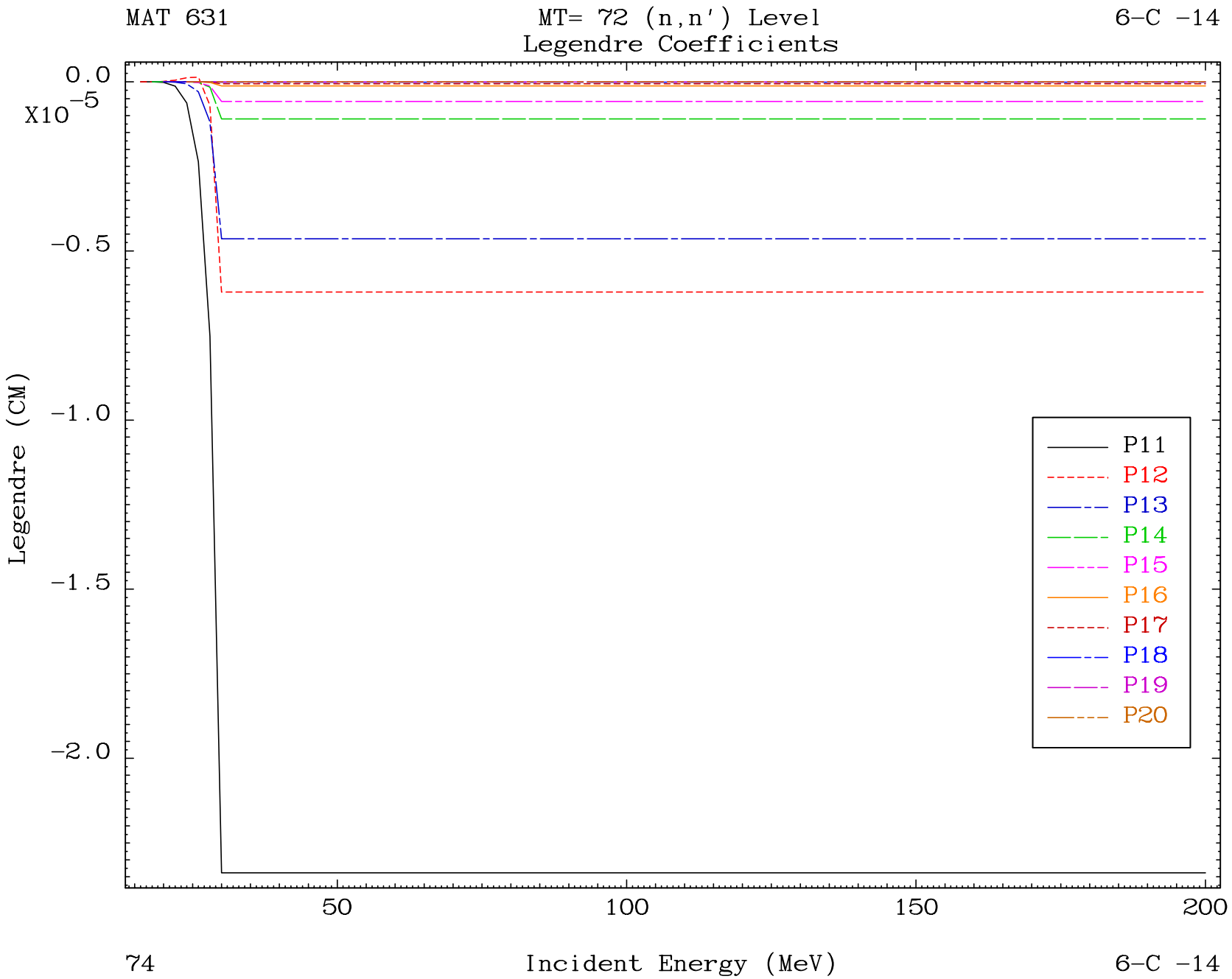

MAT 631
MT= 70 (n,n') Level
Legendre Coefficients
6-C -14
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
50
100
150
200
69
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11

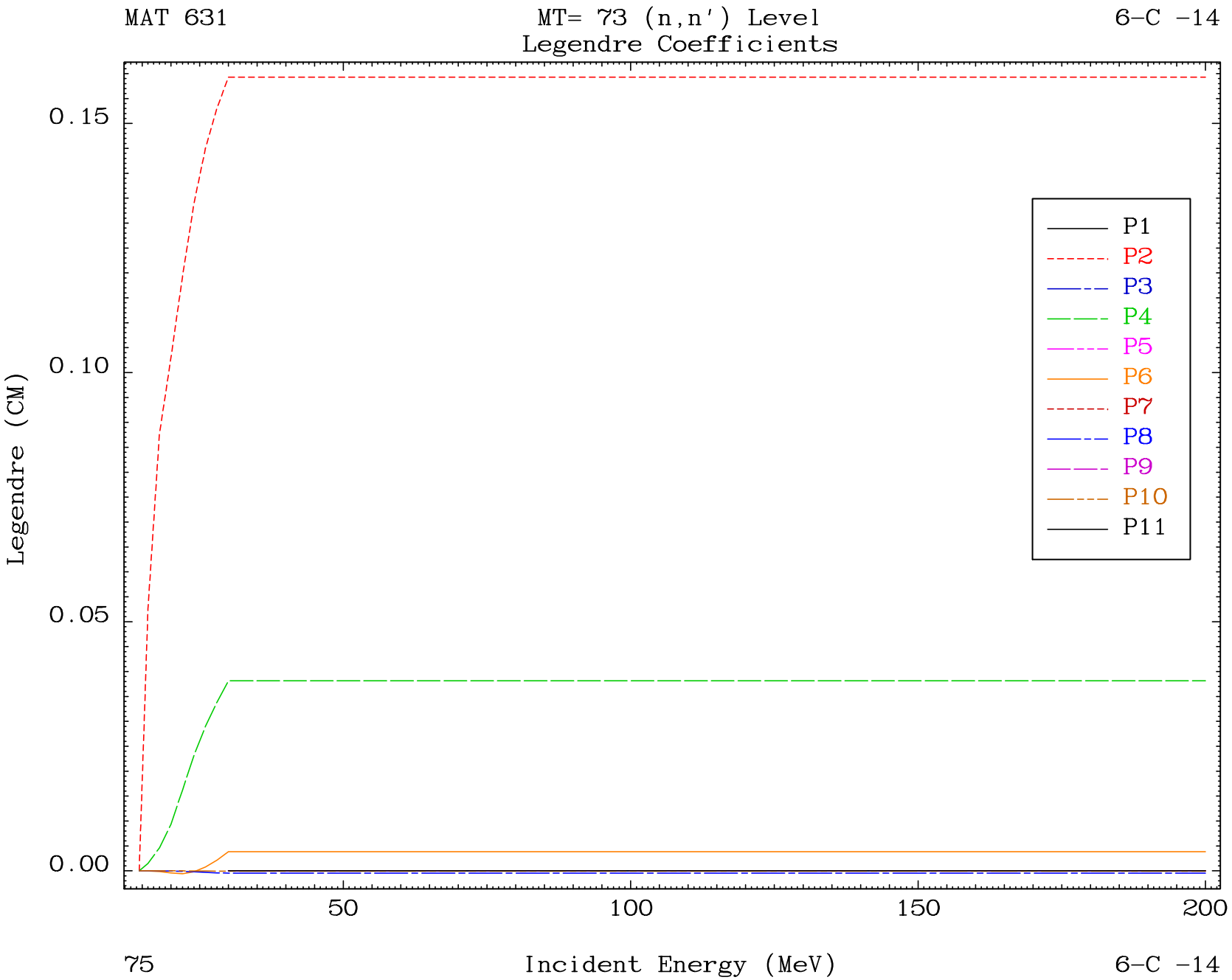

MAT 631
MT= 70 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10-5
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
70
Incident Energy (MeV)
6-C -14
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

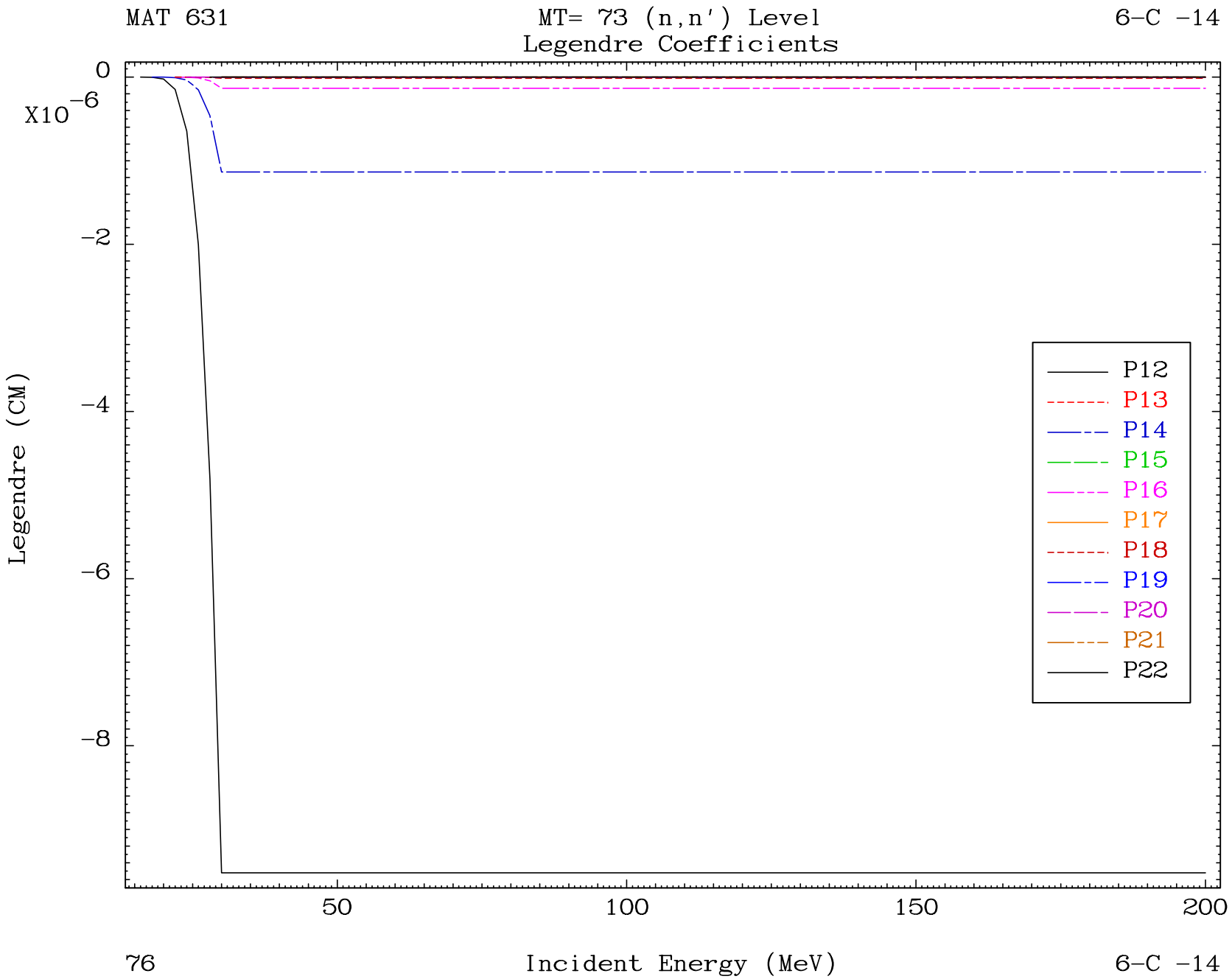

MAT 631
MT= 71 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
71
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11

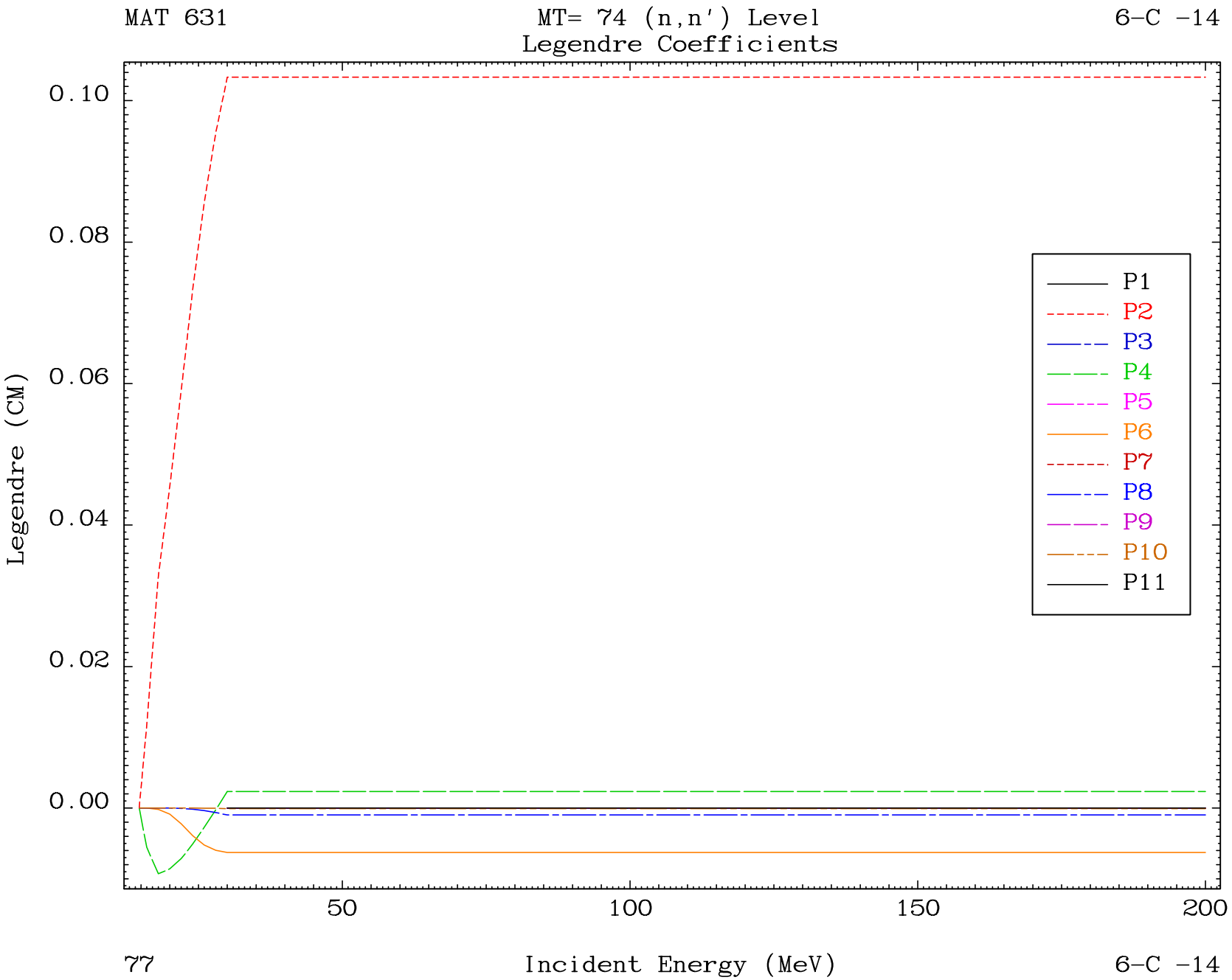

MAT 631
MT= 71 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
72
Incident Energy (MeV)
6-C -14
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

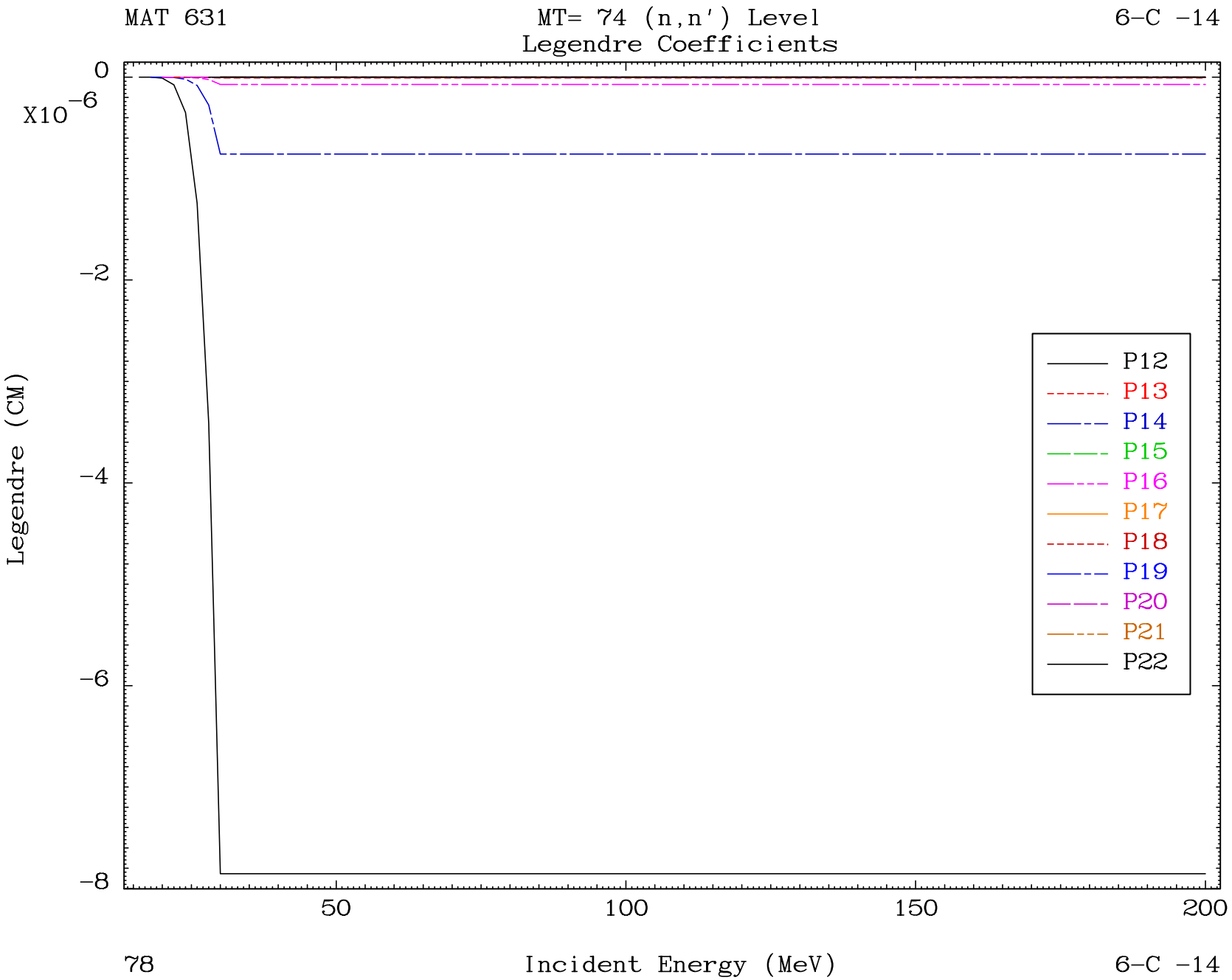

MAT 631
MT= 72 (n,n') Level
Legendre Coefficients
6-C -14
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
50
100
150
200
73
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

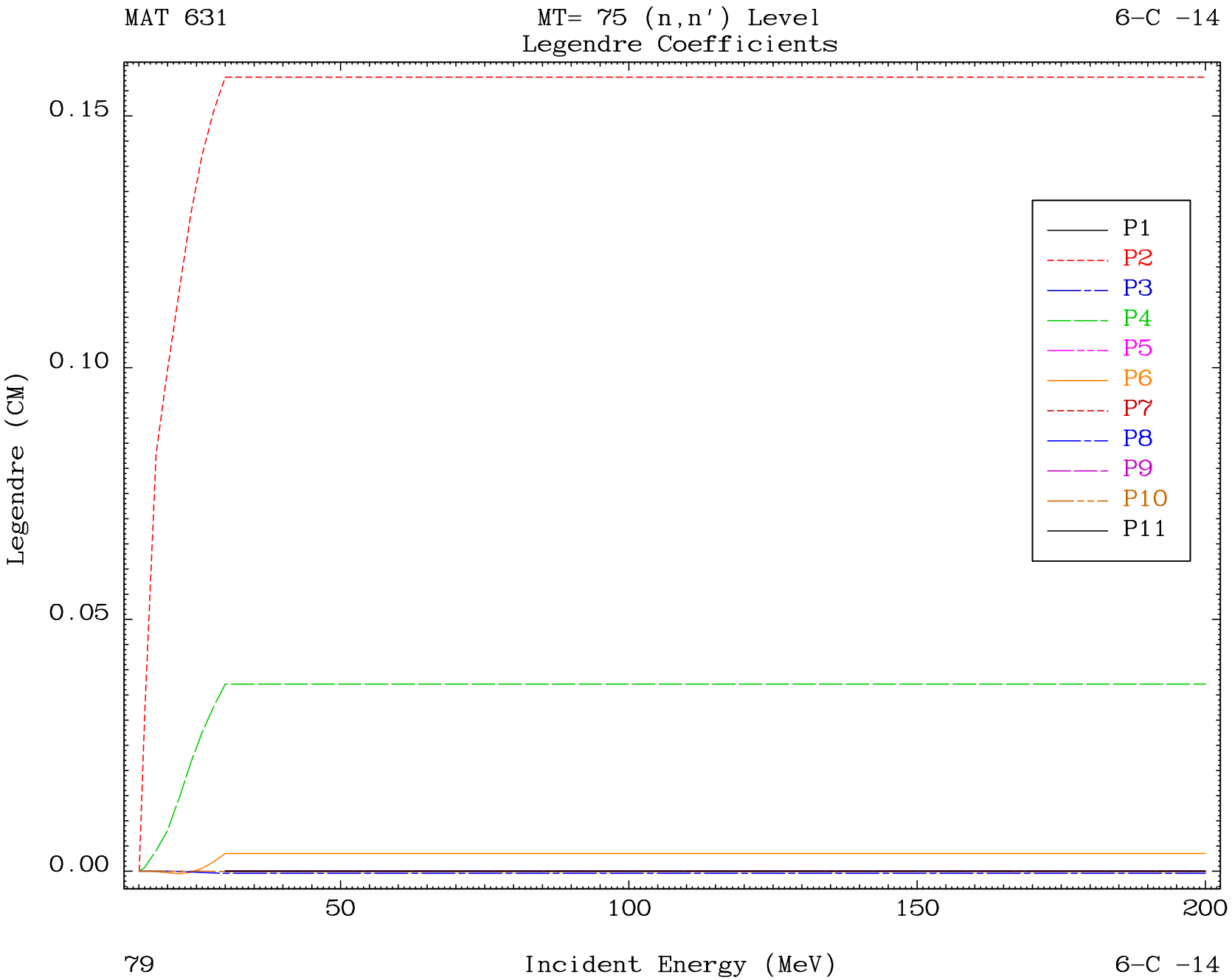

MAT 631
MT= 72 (n,n') Level
Legendre Coefficients
6-C -14
0.0
X10-5
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
74
Incident Energy (MeV)
6-C -14
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

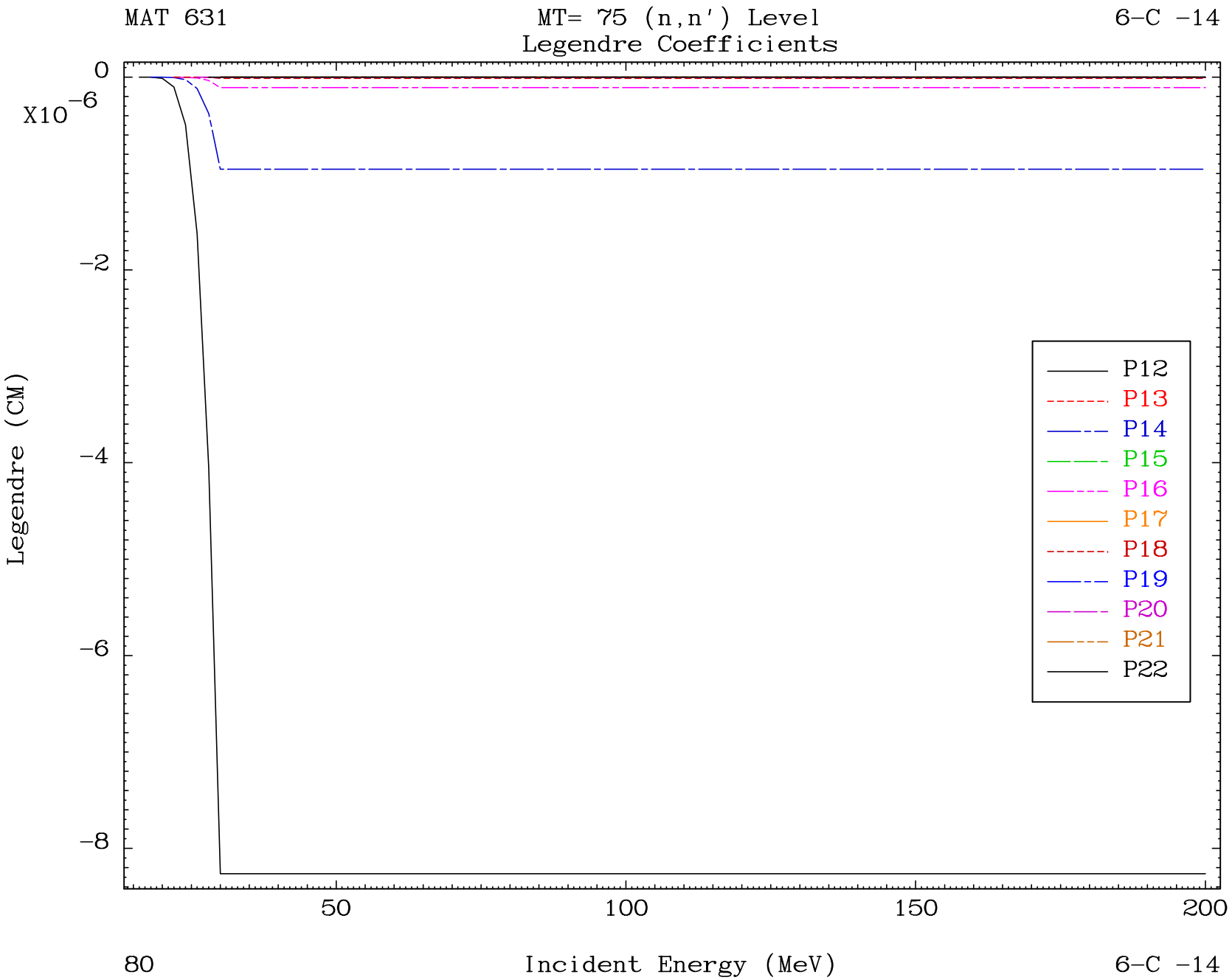

MAT 631
MT= 73 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
75
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11

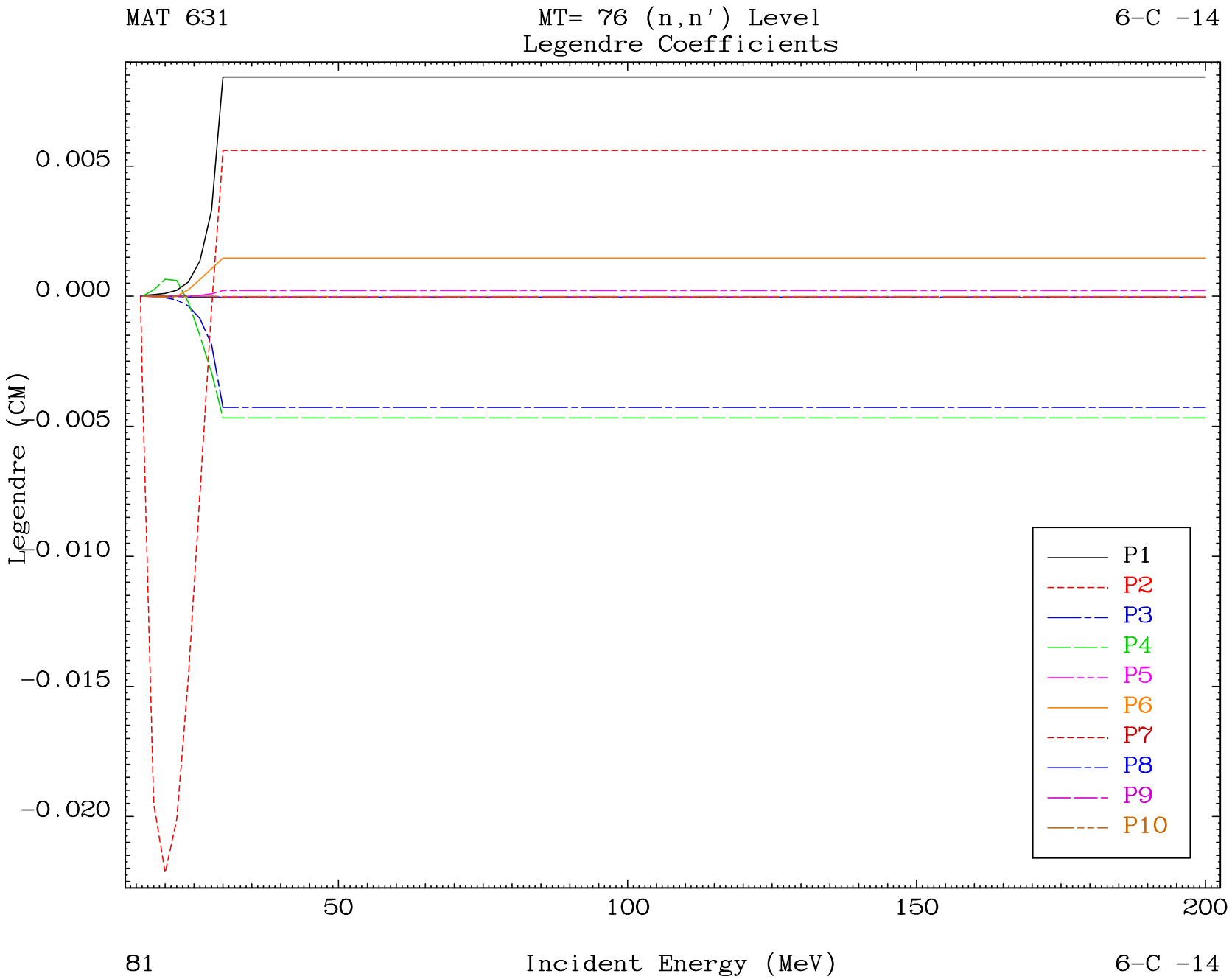

MAT 631
MT= 73 (n,n') Level
Legendre Coefficients
6-C -14
0
X10 -6
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
76
Incident Energy (MeV)
6-C -14

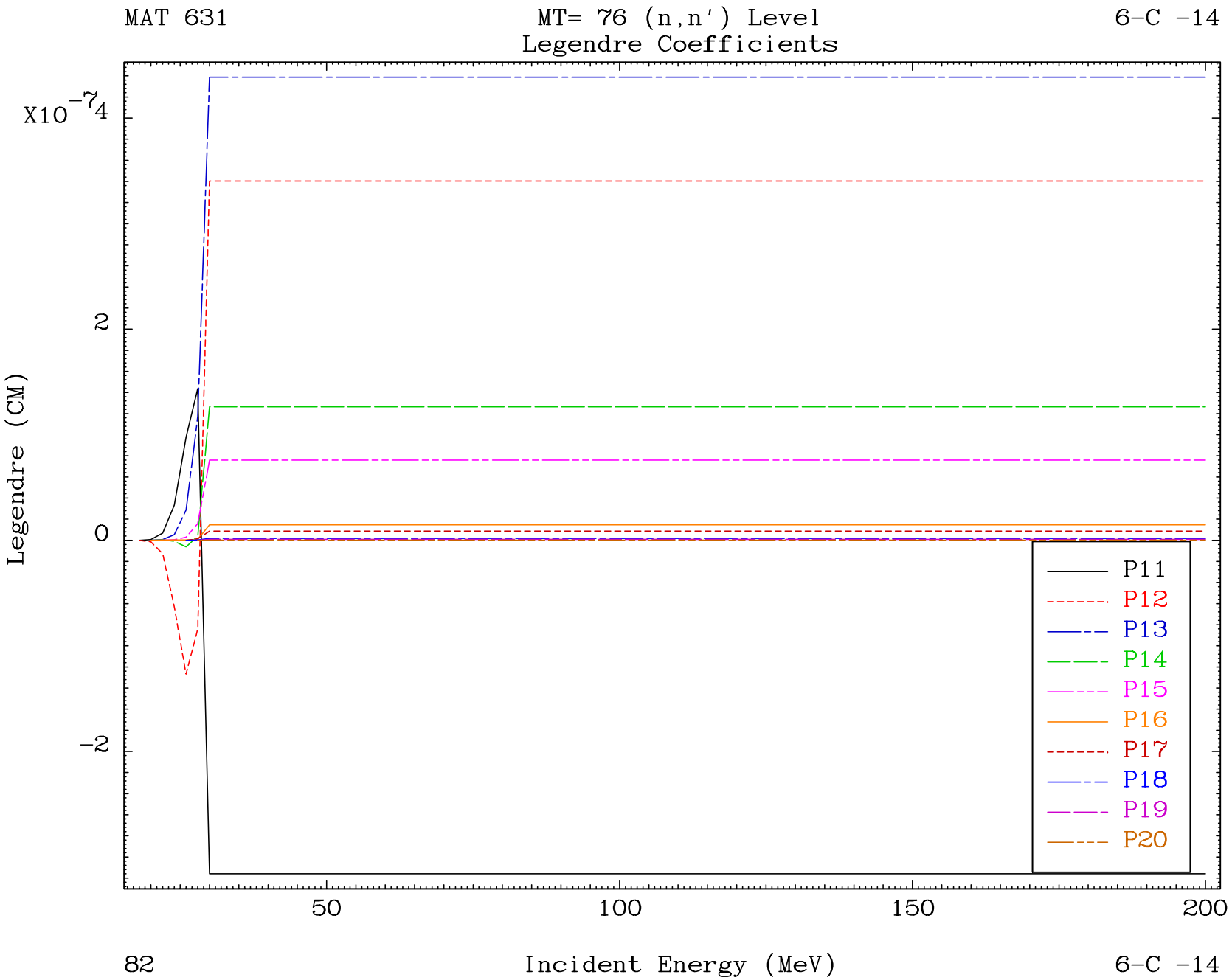

MAT 631
MT= 74 (n,n') Level
Legendre Coefficients
6-C -14
0.10
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
50
100
150
200
77
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11


MAT 631
MT= 74 (n,n') Level
Legendre Coefficients
6-C -14
0
X10-6
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
78
Incident Energy (MeV)
6-C -14
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22


MAT 631
MT= 75 (n,n') Level
Legendre Coefficients
6-C -14
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
79
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11


MAT 631
MT= 75 (n,n') Level
Legendre Coefficients
6-C -14
X10 -6
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
80
Incident Energy (MeV)
6-C -14
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22


MAT 631
MT= 76 (n,n') Level
Legendre Coefficients
6-C -14
0.005
0.000
-0.005
-0.010
-0.015
-0.020
Legendre (CM)
50
100
150
200
81
Incident Energy (MeV)
6-C -14
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10


MAT 631
MT= 76 (n,n') Level
Legendre Coefficients
6-C -14
X10^-7
4
2
0
-2
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
82
6-C -14
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20