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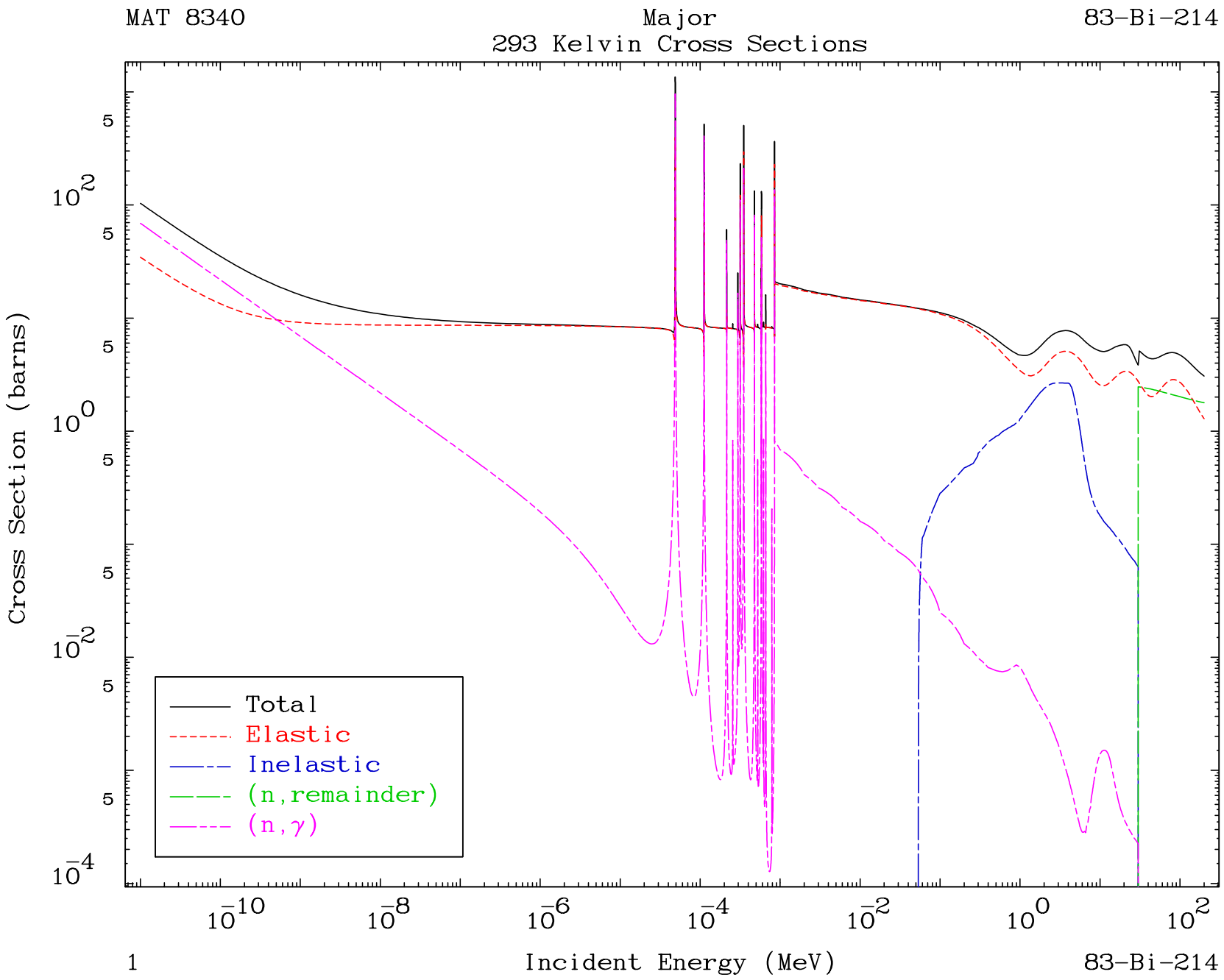
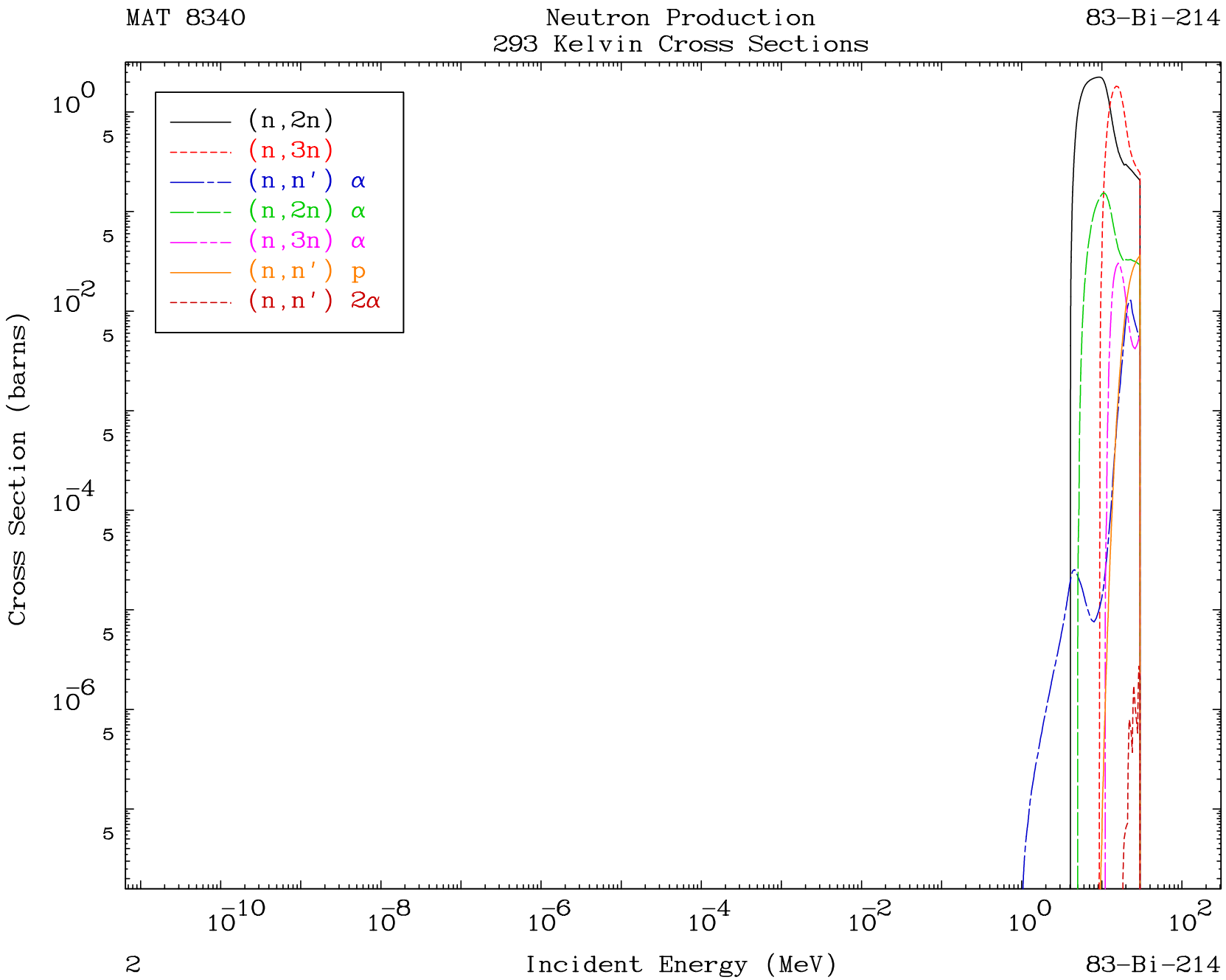
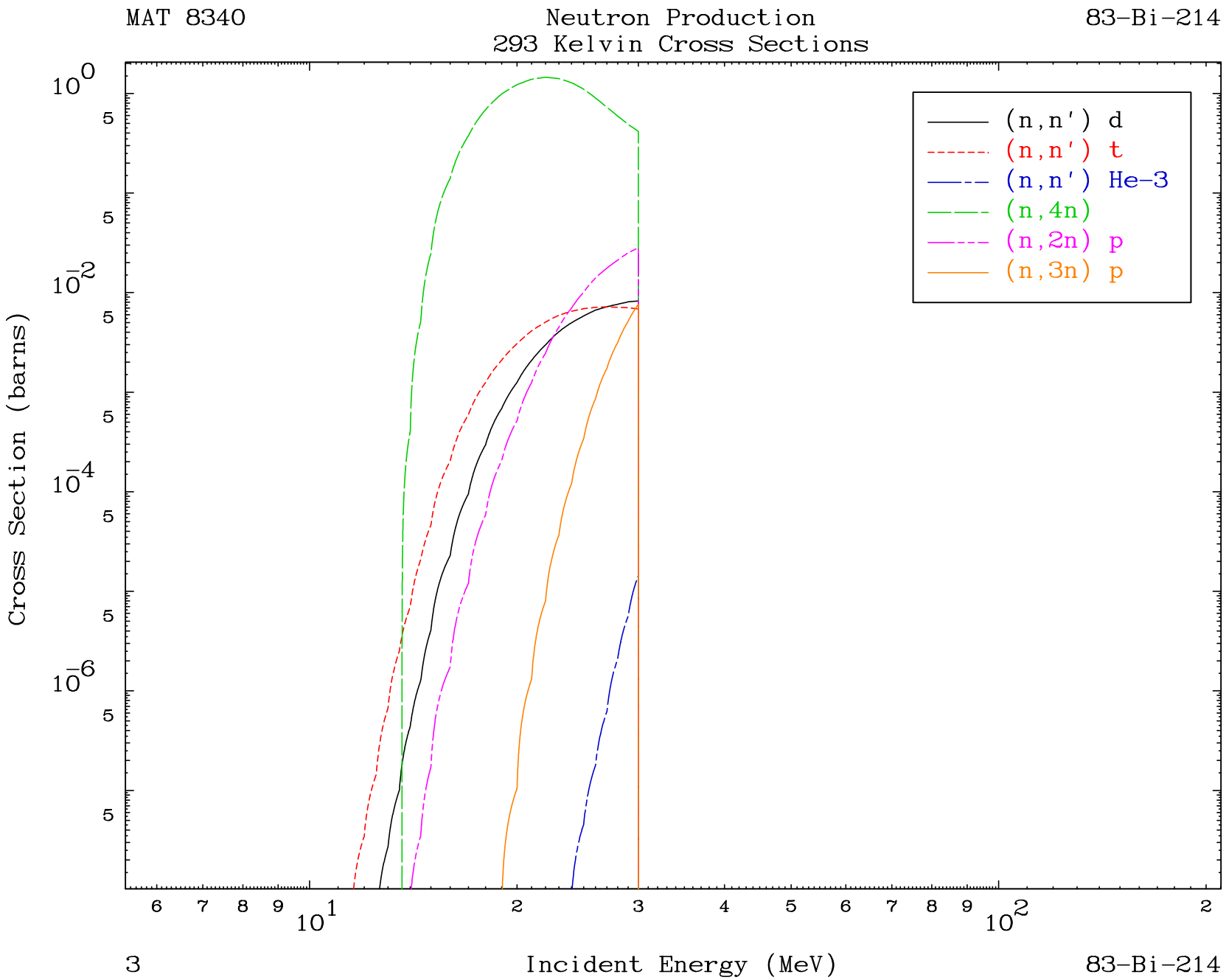
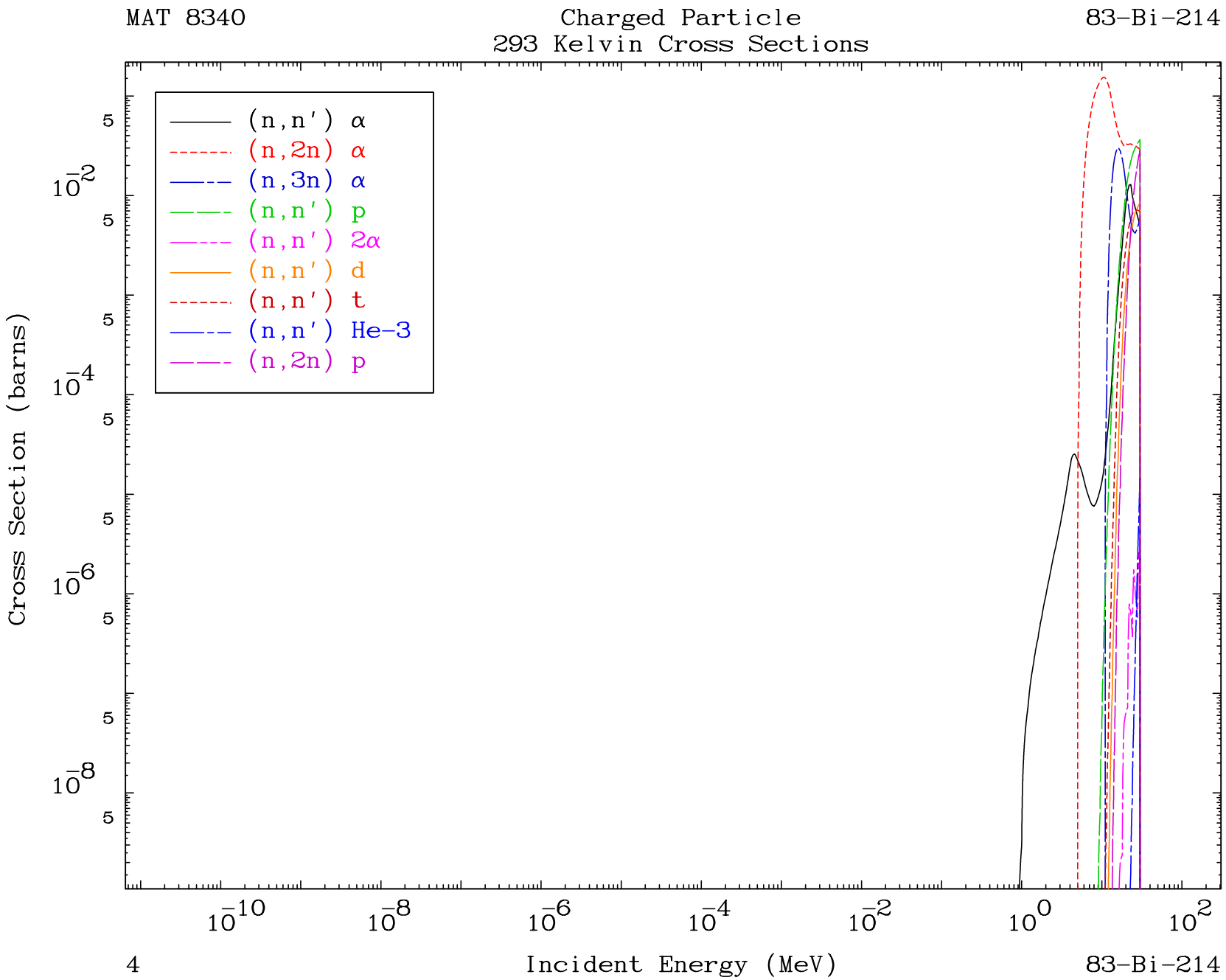
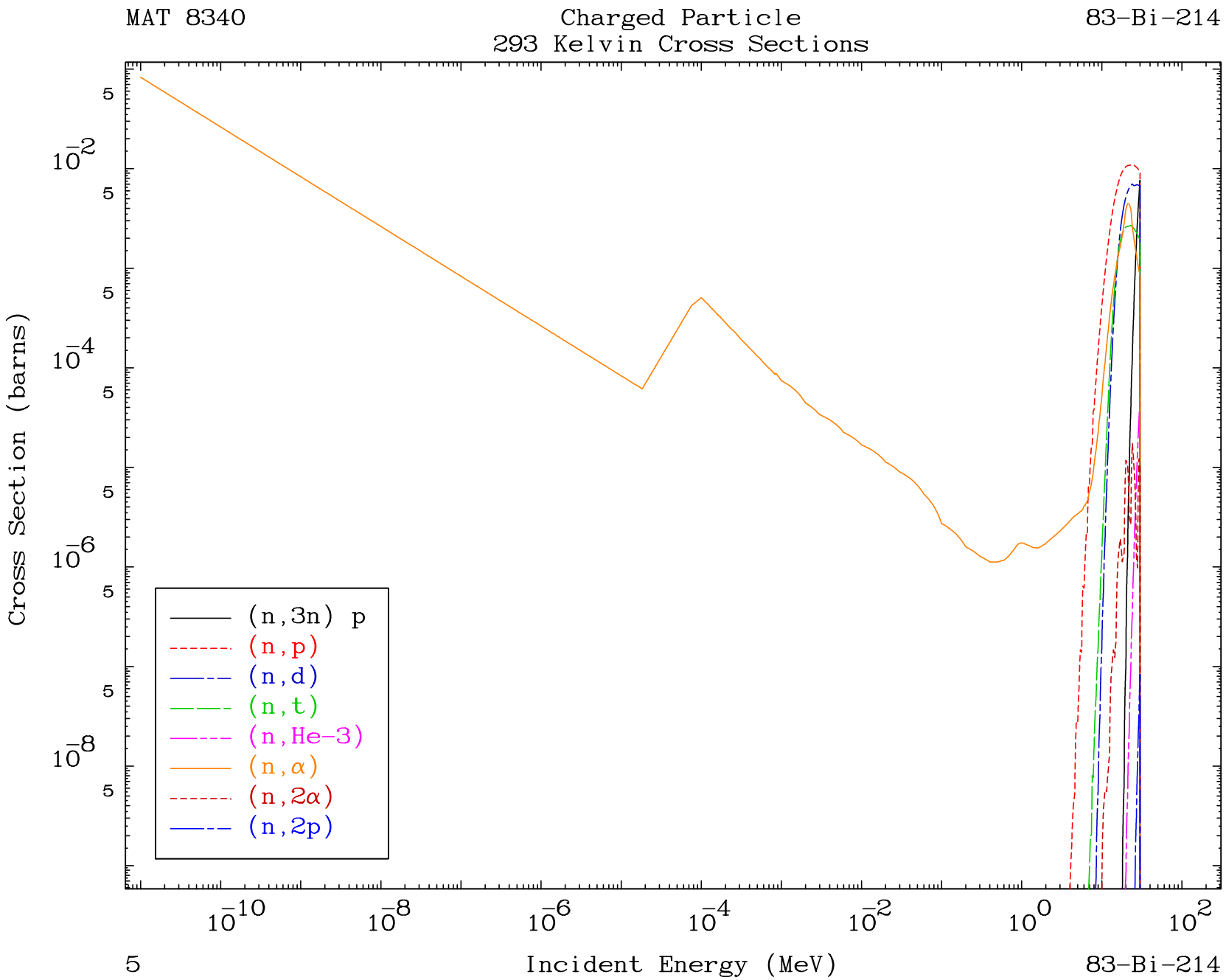
Press Mouse Button to Start

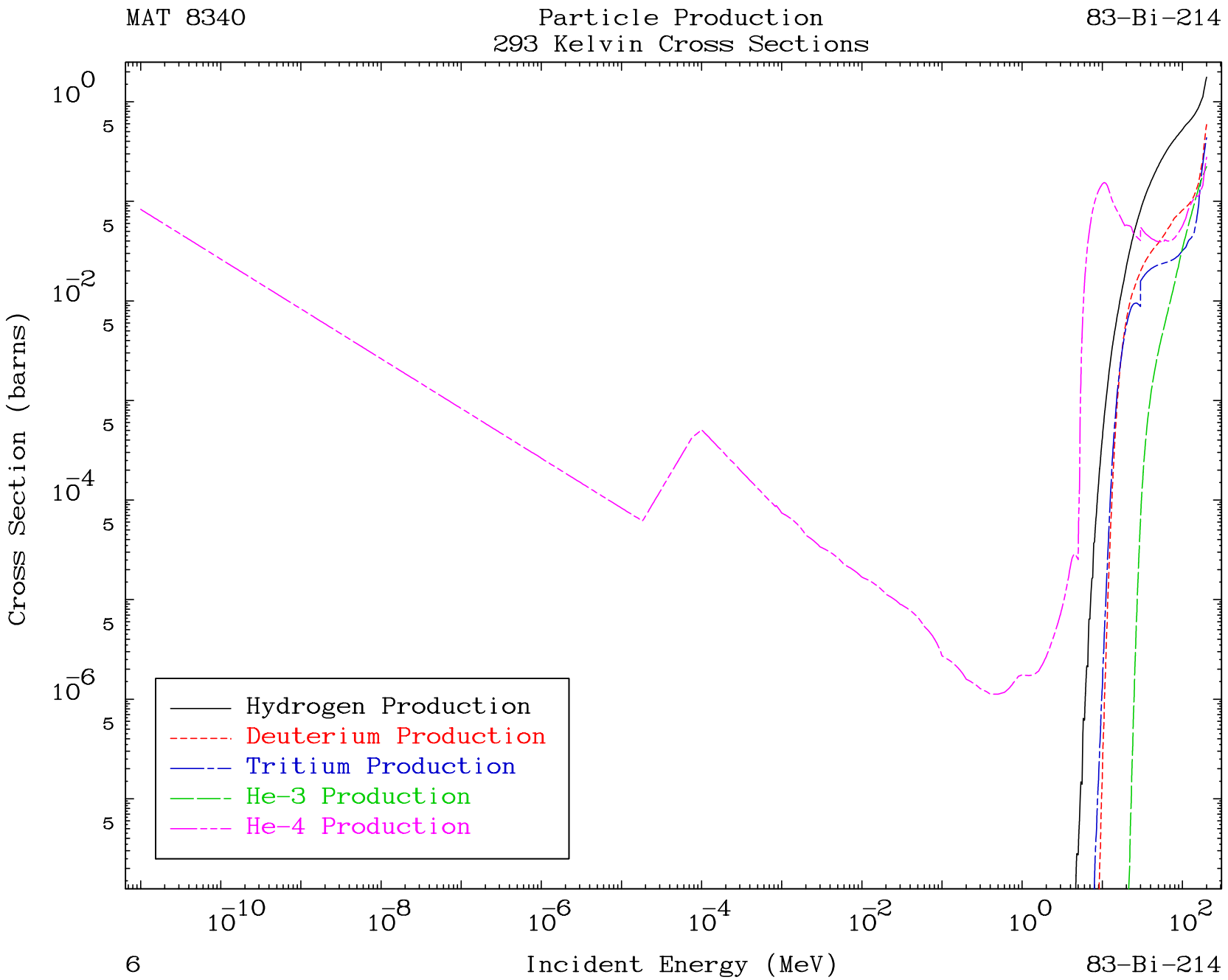

MAT 8340
Major
83-Bi-214
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
83-Bi-214

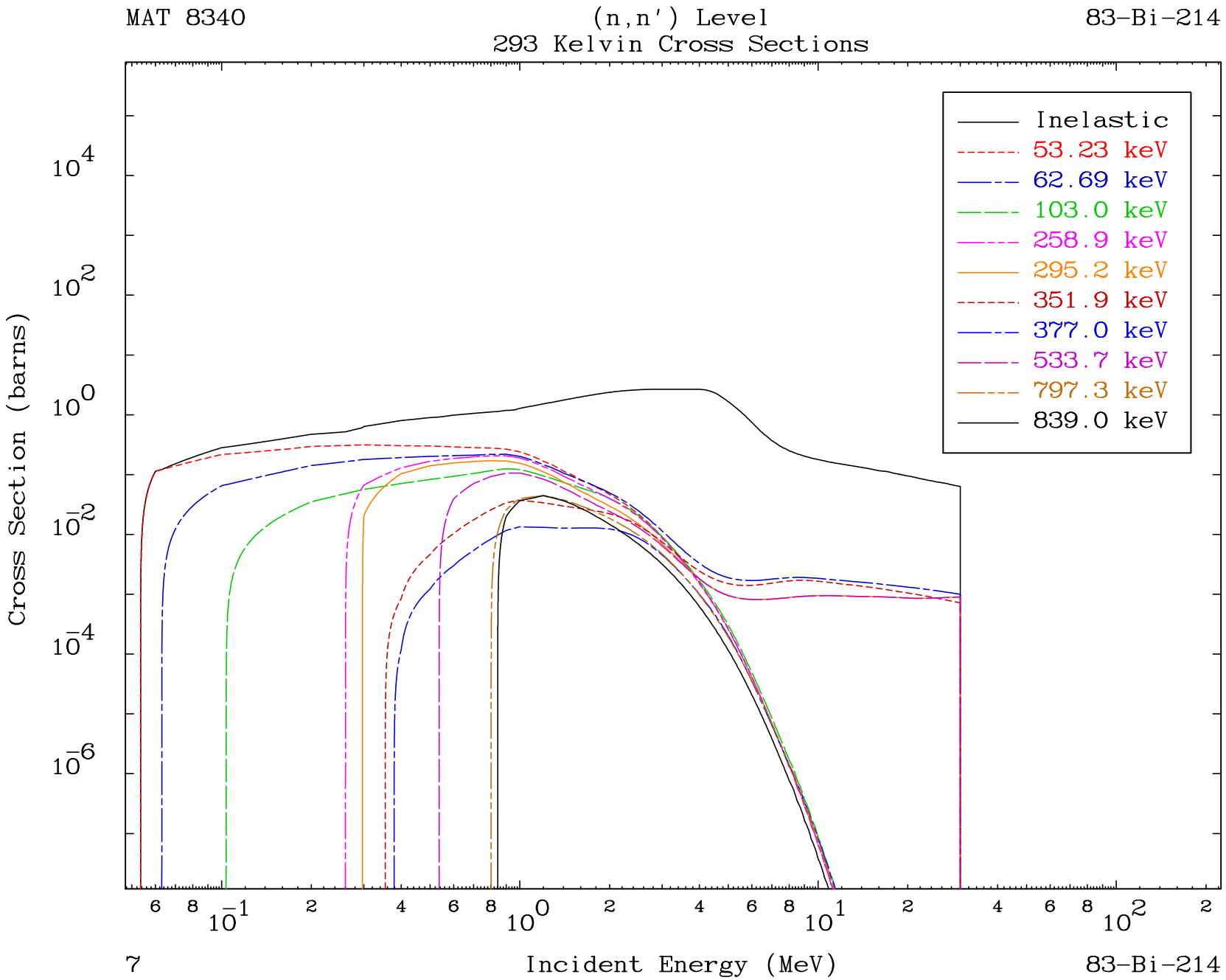

MAT 8340
Neutron Production
293 Kelvin Cross Sections
83-Bi-214
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
2
83-Bi-214

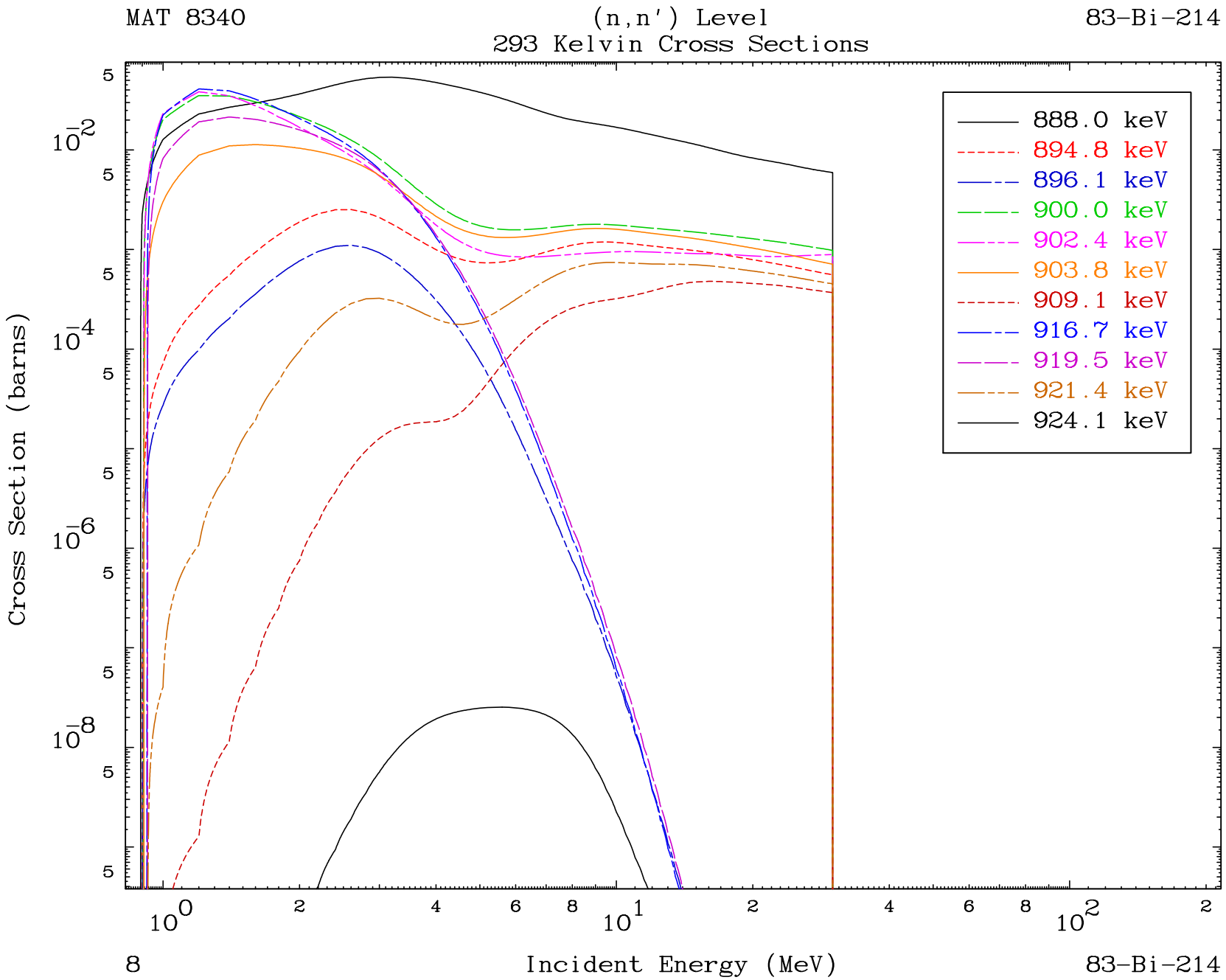

MAT 8340
Neutron Production
293 Kelvin Cross Sections
83-Bi-214
Cross Section (barns)
Incident Energy (MeV)
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
3
83-Bi-214

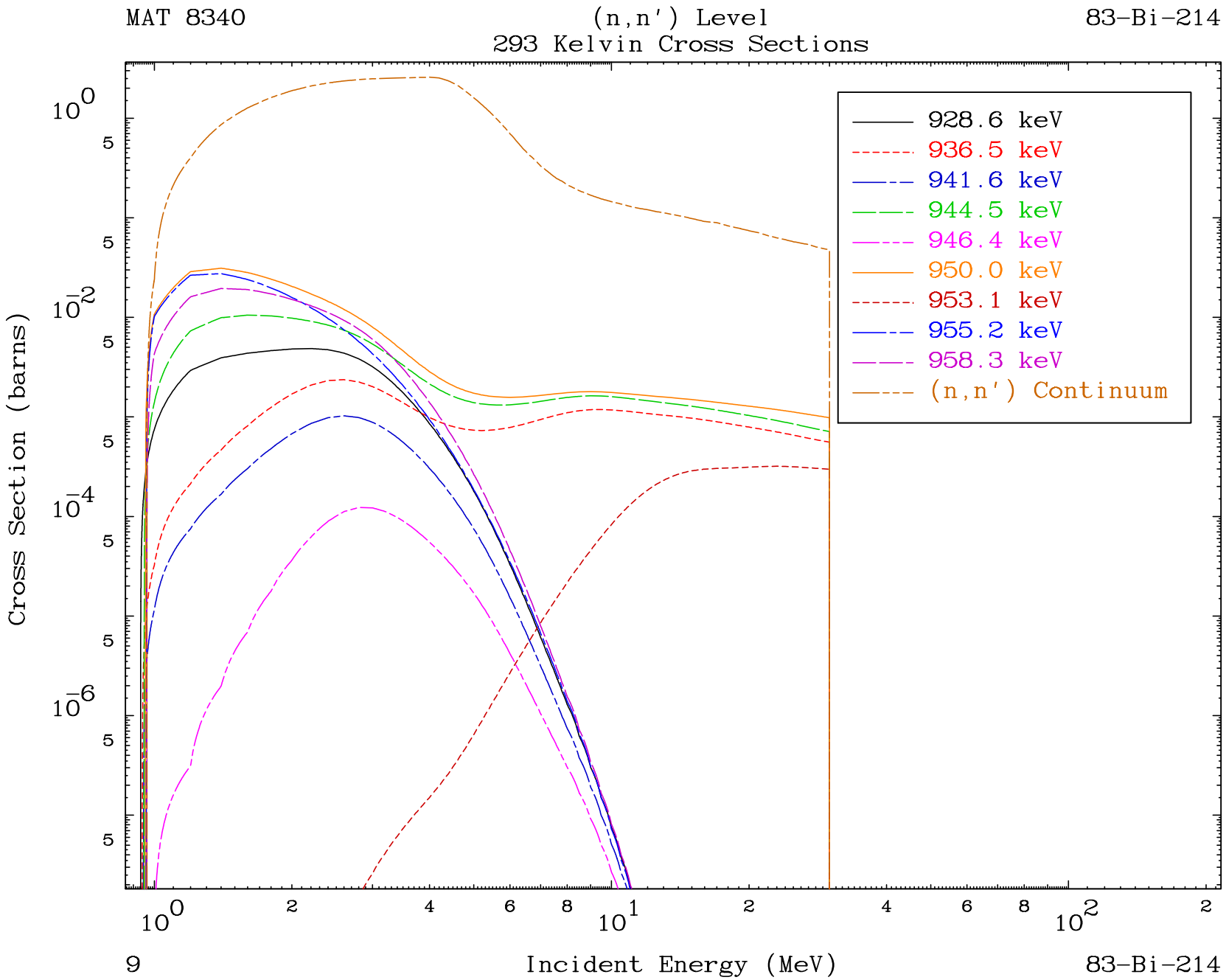

MAT 8340
Charged Particle
293 Kelvin Cross Sections
83-Bi-214
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
Cross Section (barns)
Incident Energy (MeV)
4
83-Bi-214

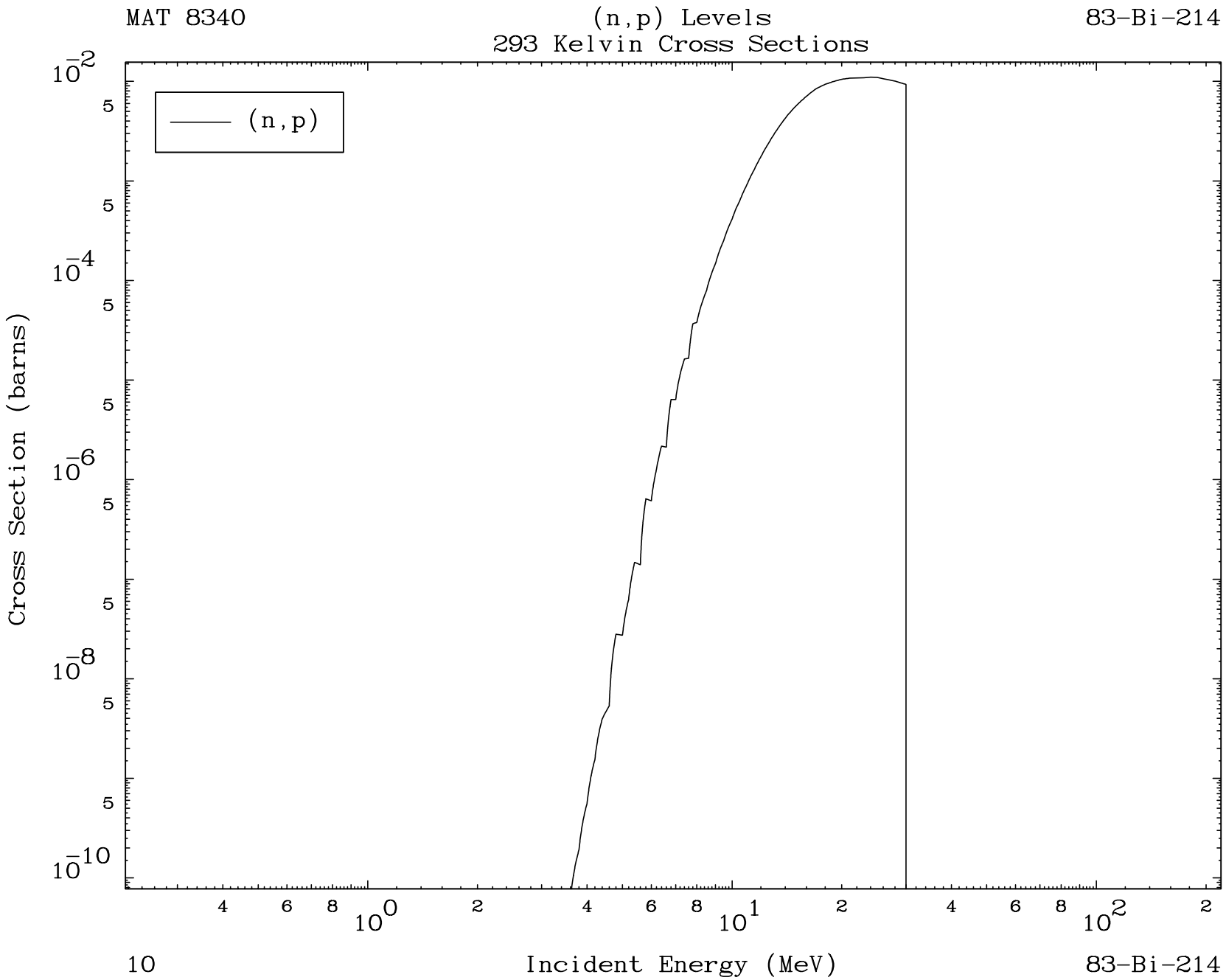

MAT 8340
Charged Particle
293 Kelvin Cross Sections
83-Bi-214
Cross Section (barns)
Incident Energy (MeV)
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)

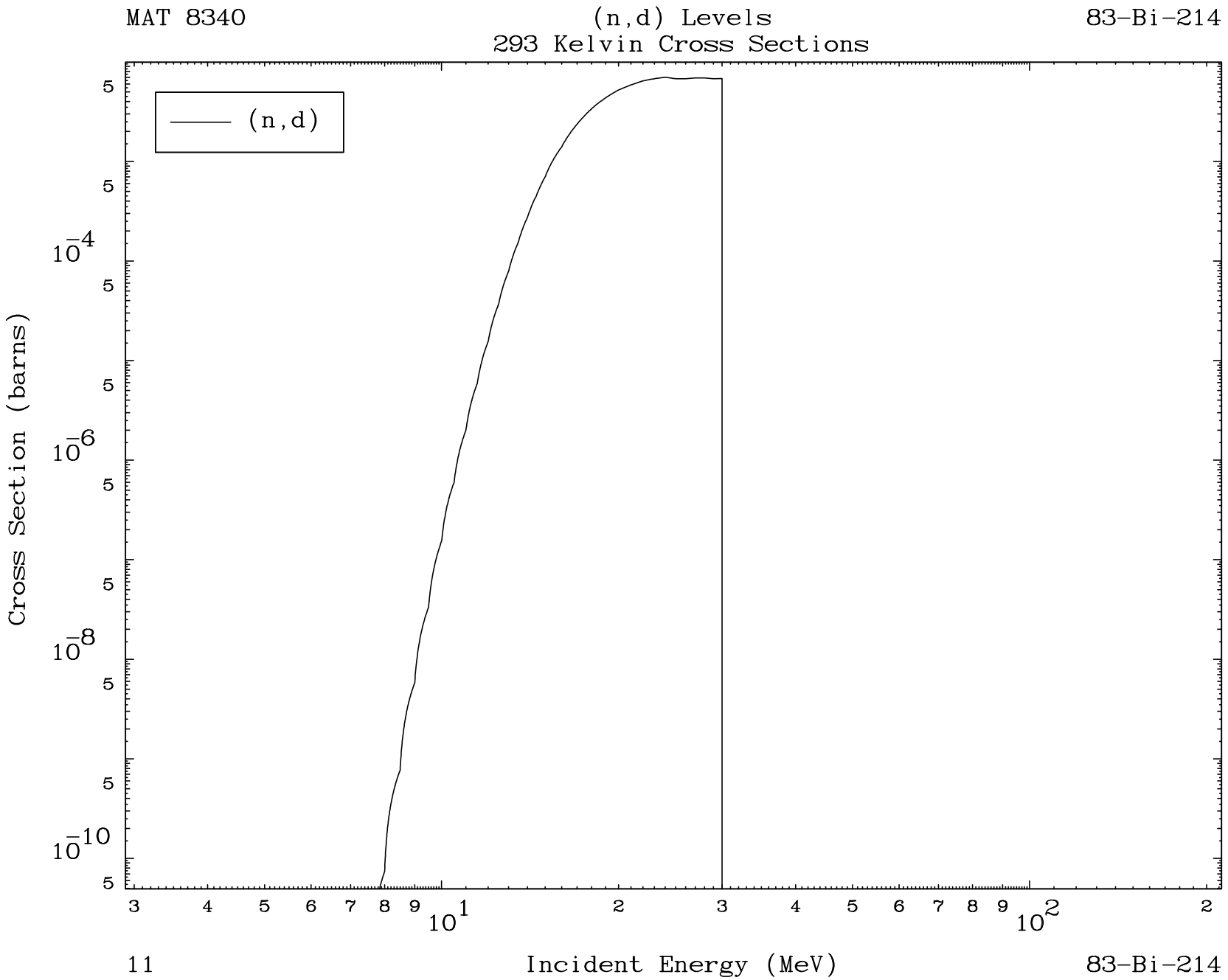

MAT 8340
Particle Production
293 Kelvin Cross Sections
83-Bi-214
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
6
83-Bi-214

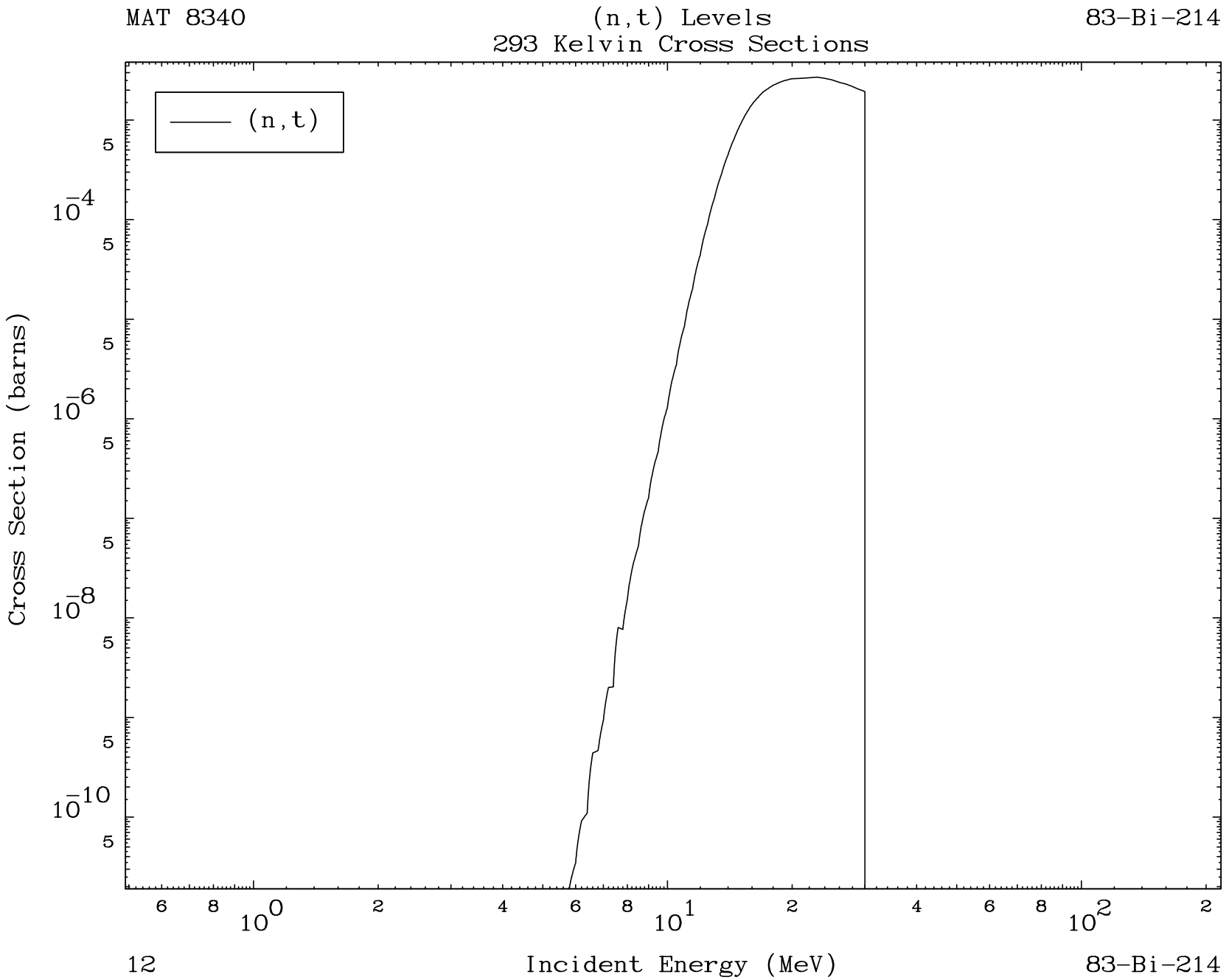

MAT 8340
(n,n') Level
293 Kelvin Cross Sections
83-Bi-214
Inelastic
53.23 keV
62.69 keV
103.0 keV
258.9 keV
295.2 keV
351.9 keV
377.0 keV
533.7 keV
797.3 keV
839.0 keV
Cross Section (barns)
Incident Energy (MeV)
7
83-Bi-214

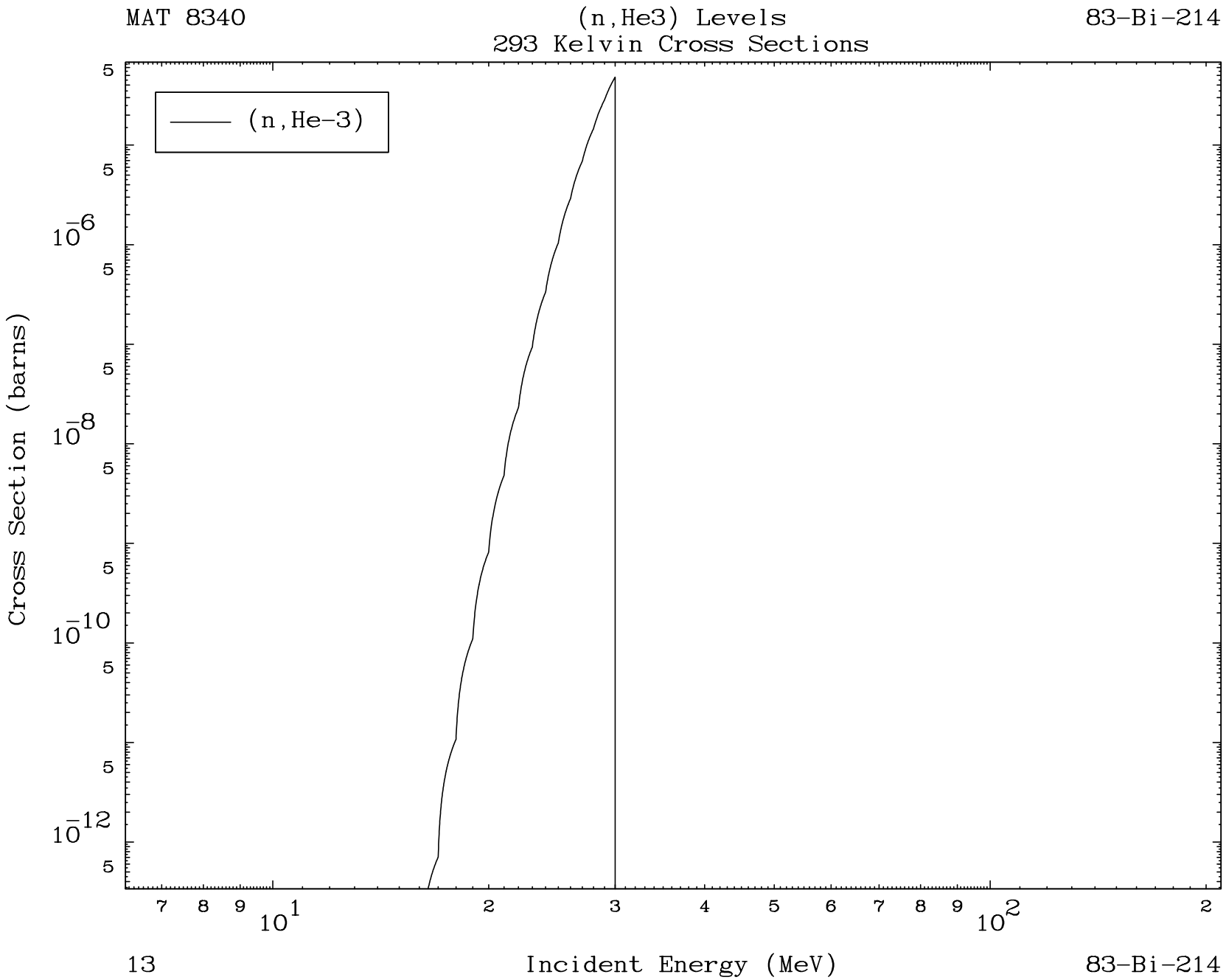

MAT 8340
(n,n') Level
293 Kelvin Cross Sections
83-Bi-214
Cross Section (barns)
Incident Energy (MeV)
888.0 keV
894.8 keV
896.1 keV
900.0 keV
902.4 keV
903.8 keV
909.1 keV
916.7 keV
919.5 keV
921.4 keV
924.1 keV
8
83-Bi-214

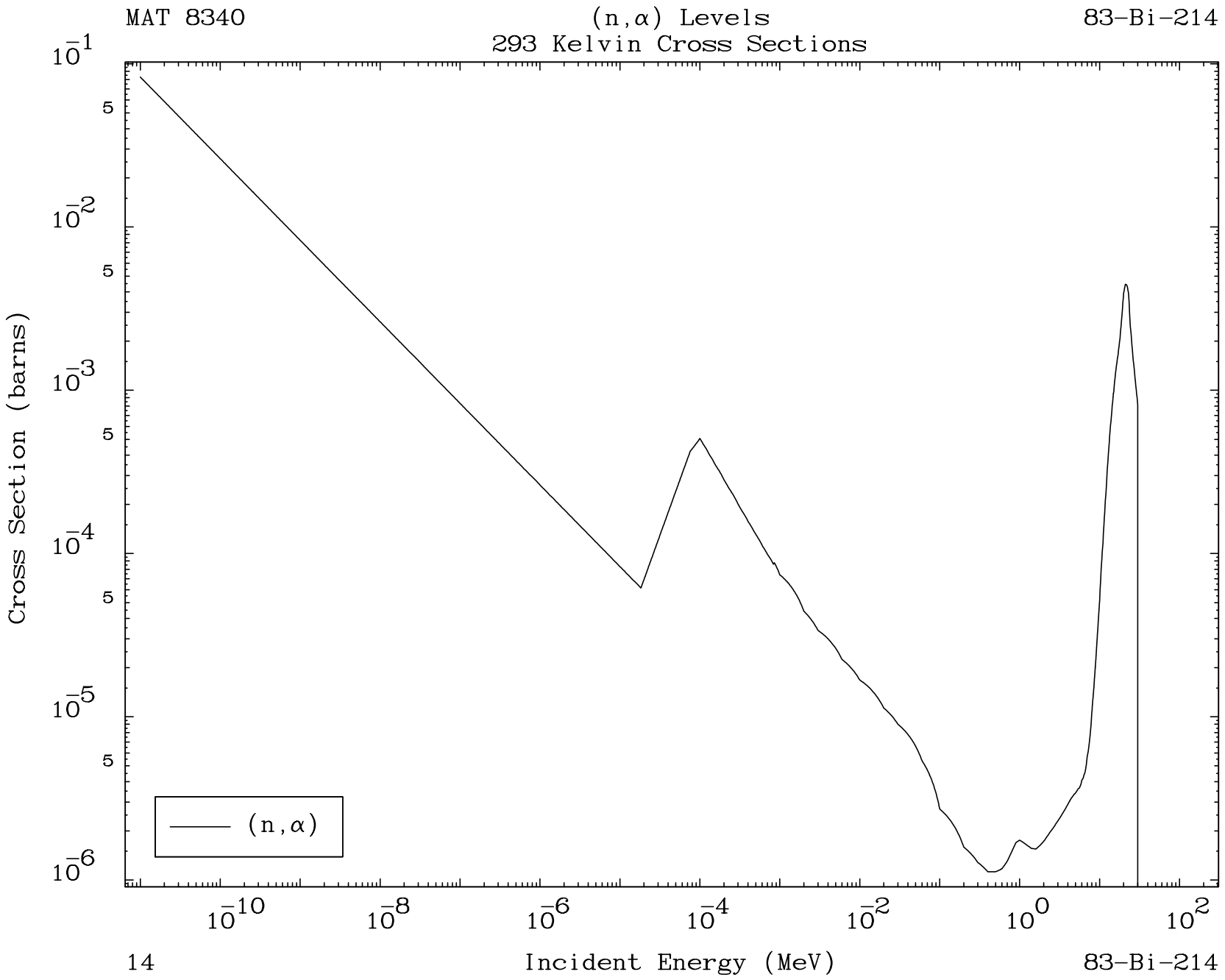

MAT 8340
(n,n') Level
293 Kelvin Cross Sections
83-Bi-214
928.6 keV
936.5 keV
941.6 keV
944.5 keV
946.4 keV
950.0 keV
953.1 keV
955.2 keV
958.3 keV
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
9
83-Bi-214

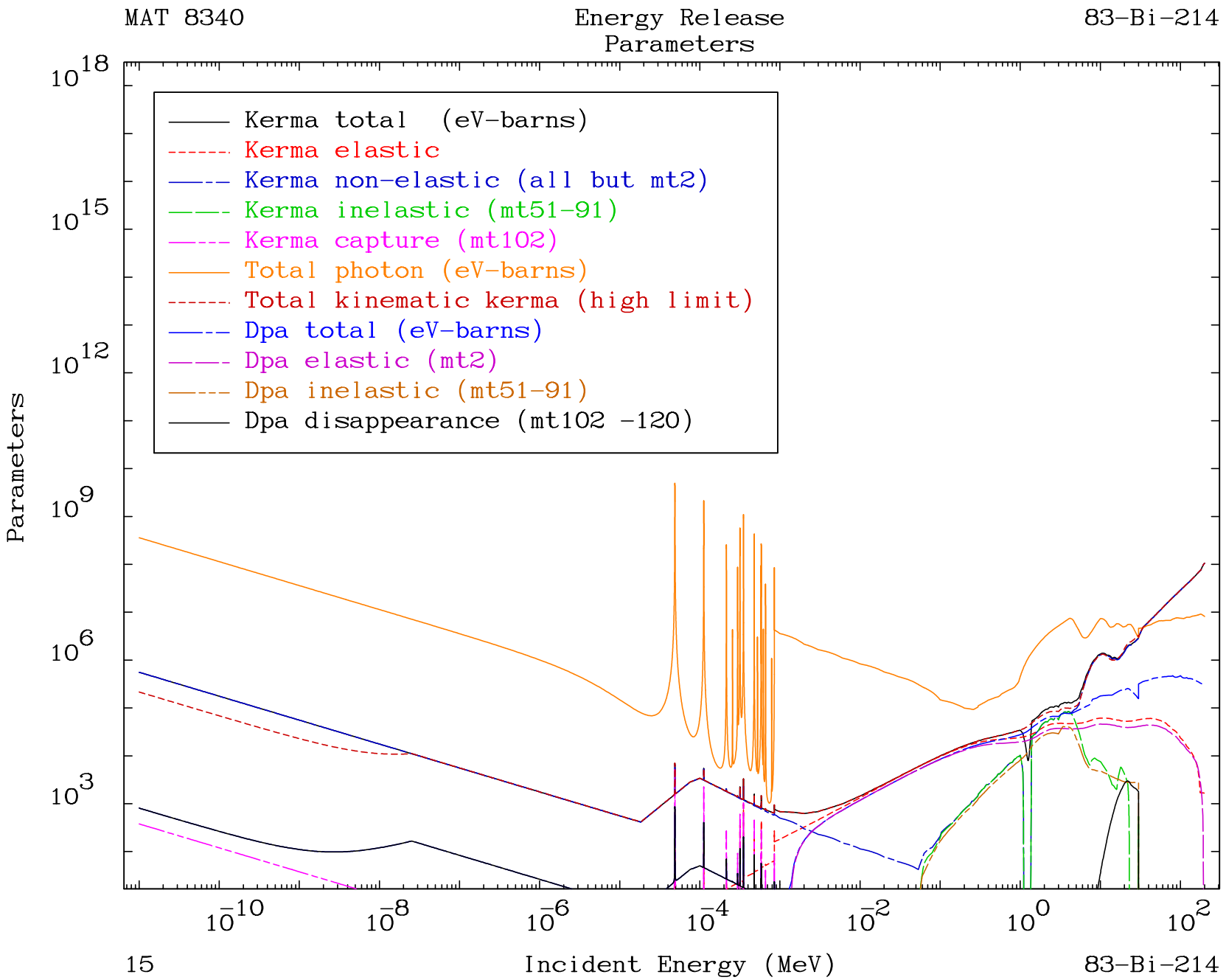

MAT 8340
(n,p) Levels
83-Bi-214
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
83-Bi-214

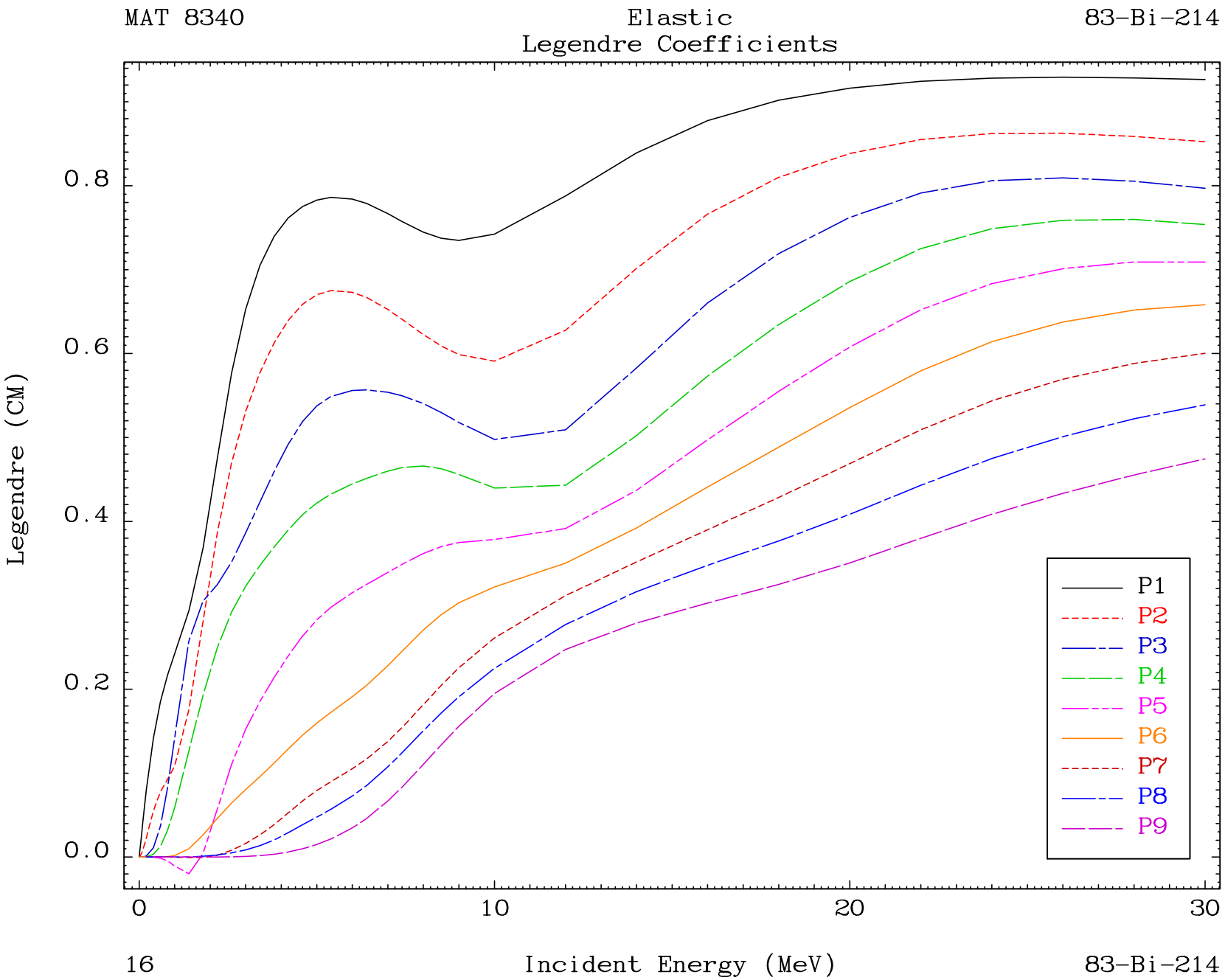

MAT 8340
(n,d) Levels
83-Bi-214
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
11
83-Bi-214

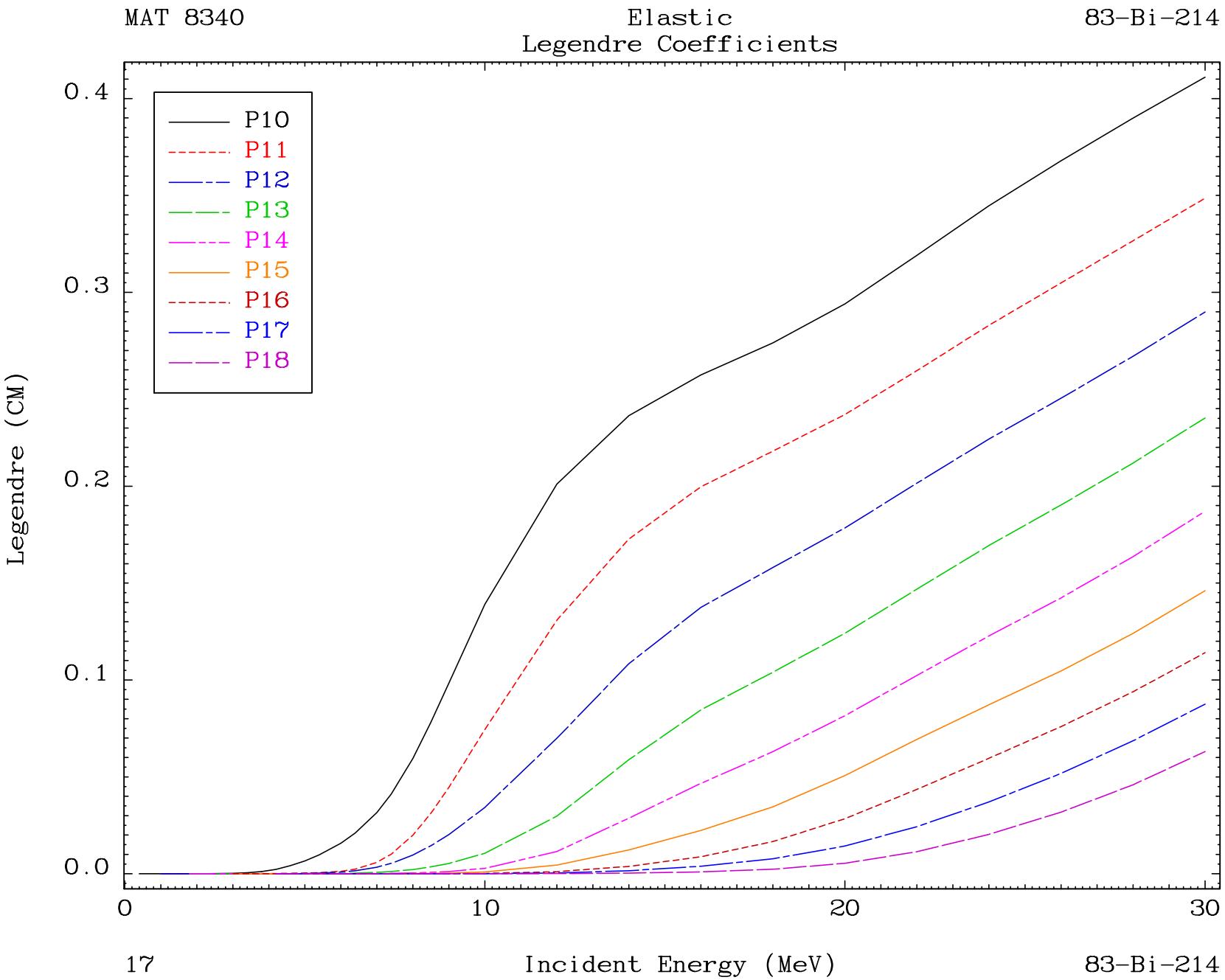

MAT 8340
(n,t) Levels
83-Bi-214
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10-4
10-6
10-8
10-10
100
101
102
Incident Energy (MeV)
12
83-Bi-214

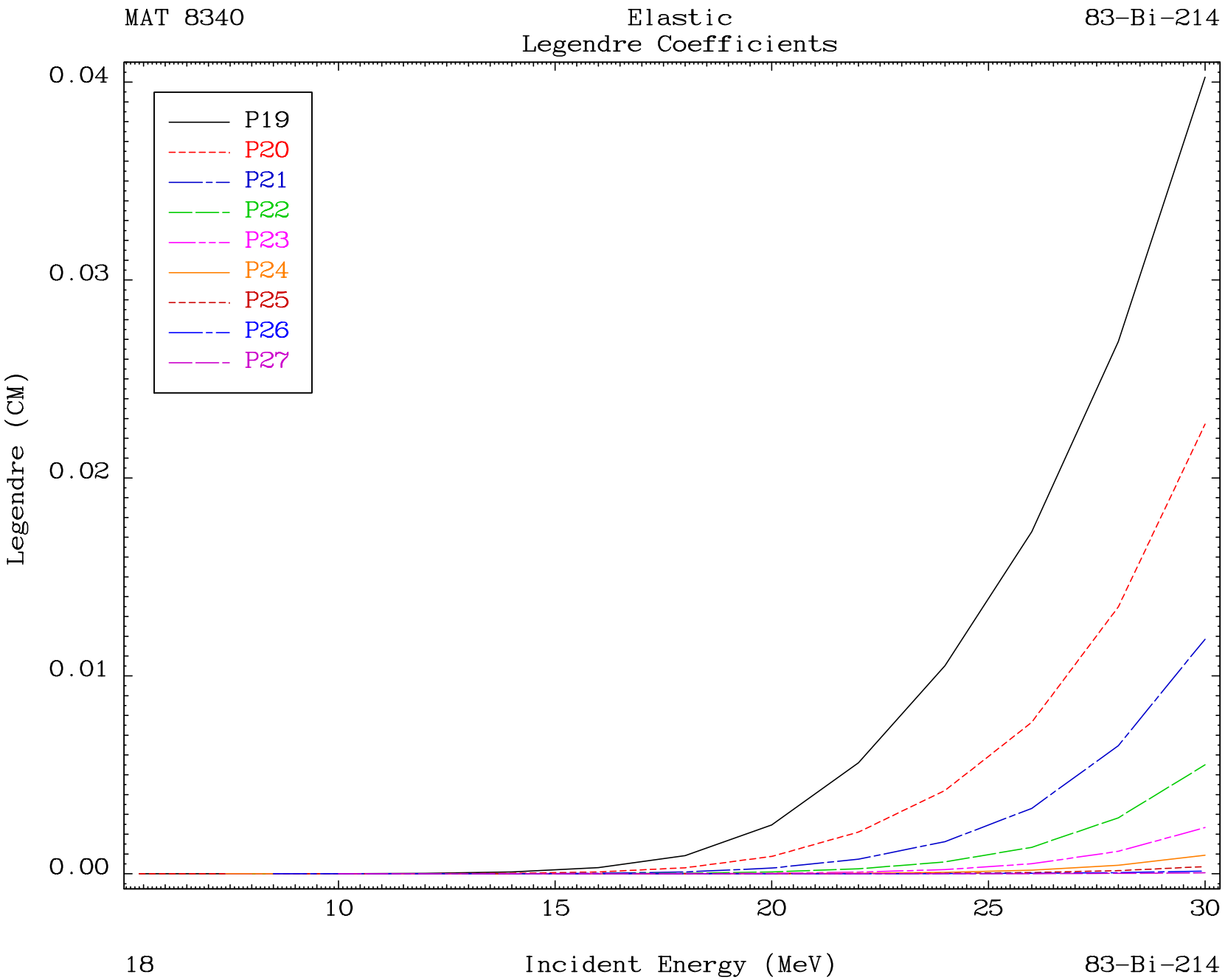

MAT 8340
(n,He3) Levels
293 Kelvin Cross Sections
83-Bi-214
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
13
83-Bi-214

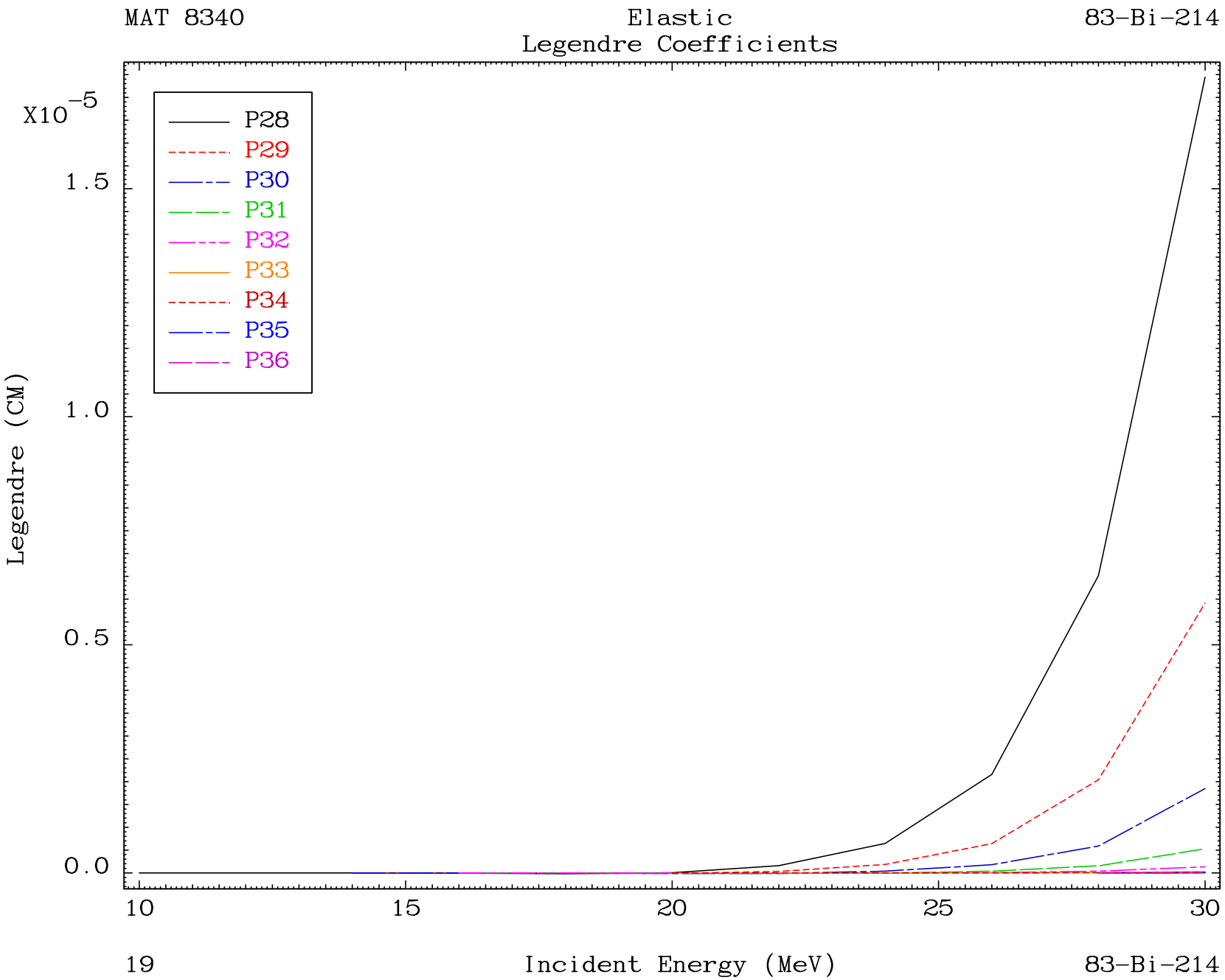

MAT 8340
(n,α) Levels
83-Bi-214
293 Kelvin Cross Sections
Cross Section (barns)
10^-1
5
10^-2
5
10^-3
5
10^-4
5
10^-5
5
10^-6
(n,α)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
14
Incident Energy (MeV)
83-Bi-214

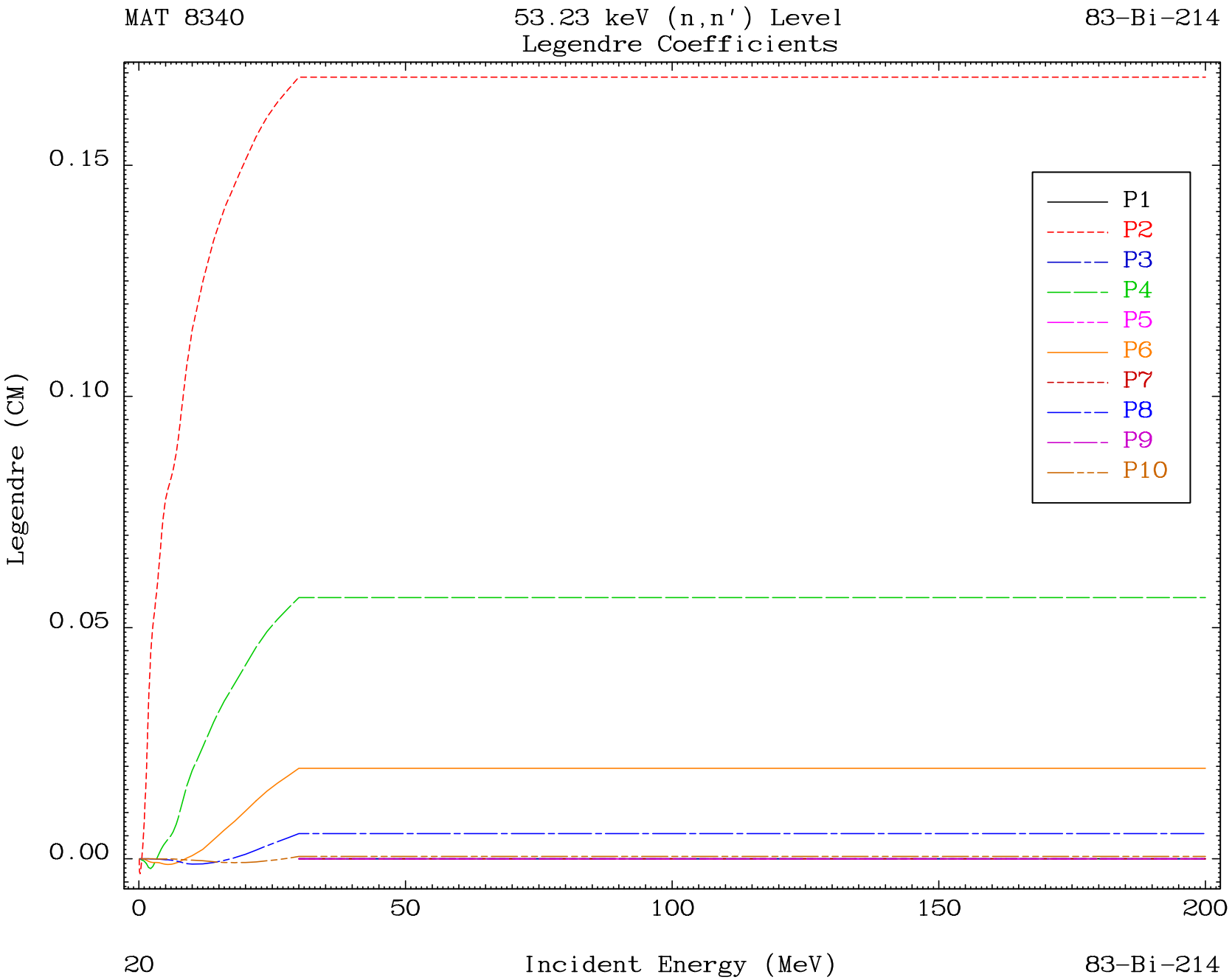

MAT 8340
Energy Release
Parameters
83-Bi-214
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{18}
10^{15}
10^{12}
10^{9}
10^{6}
10^{3}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
Incident Energy (MeV)
15
83-Bi-214

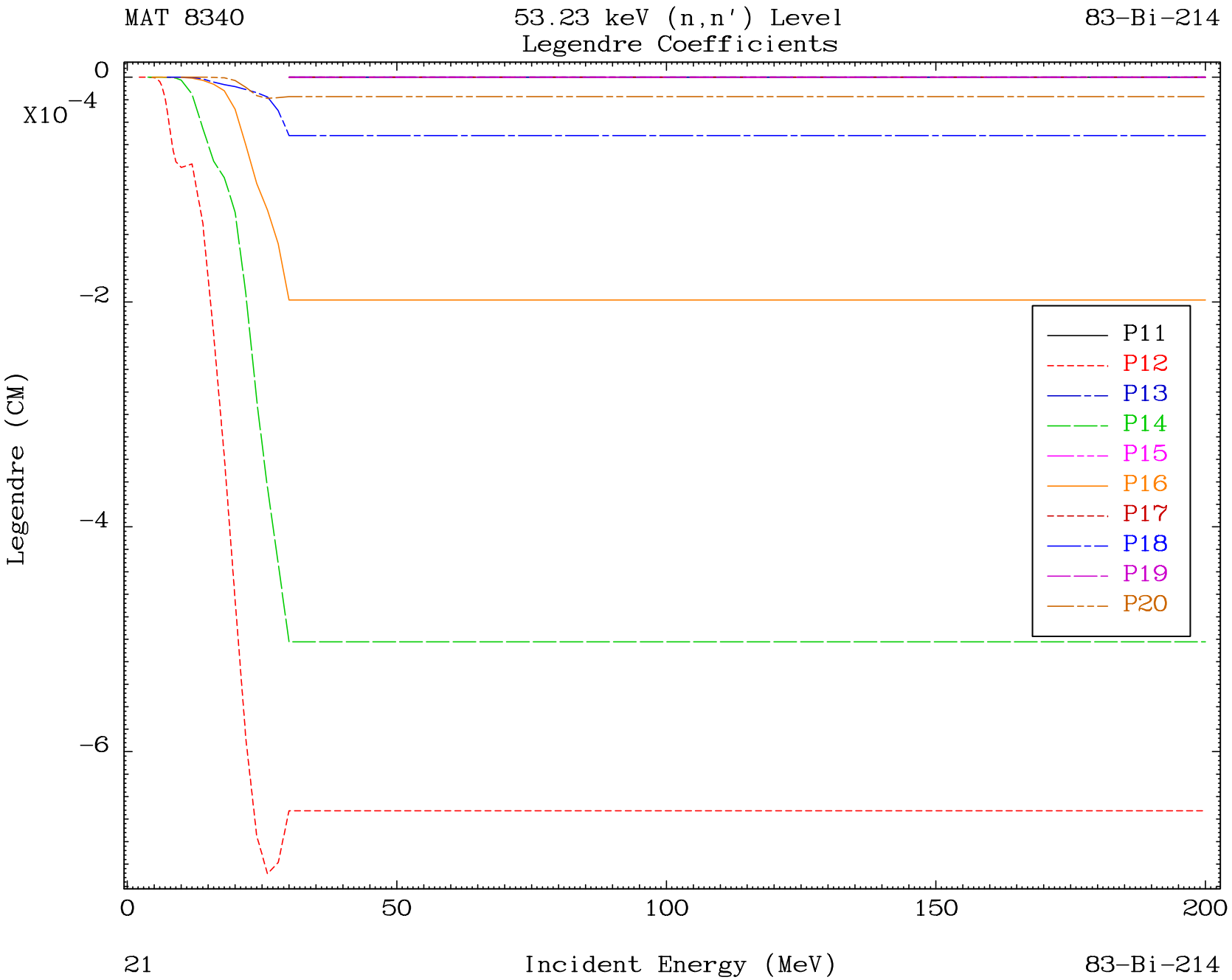

MAT 8340
Elastic
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
16
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9

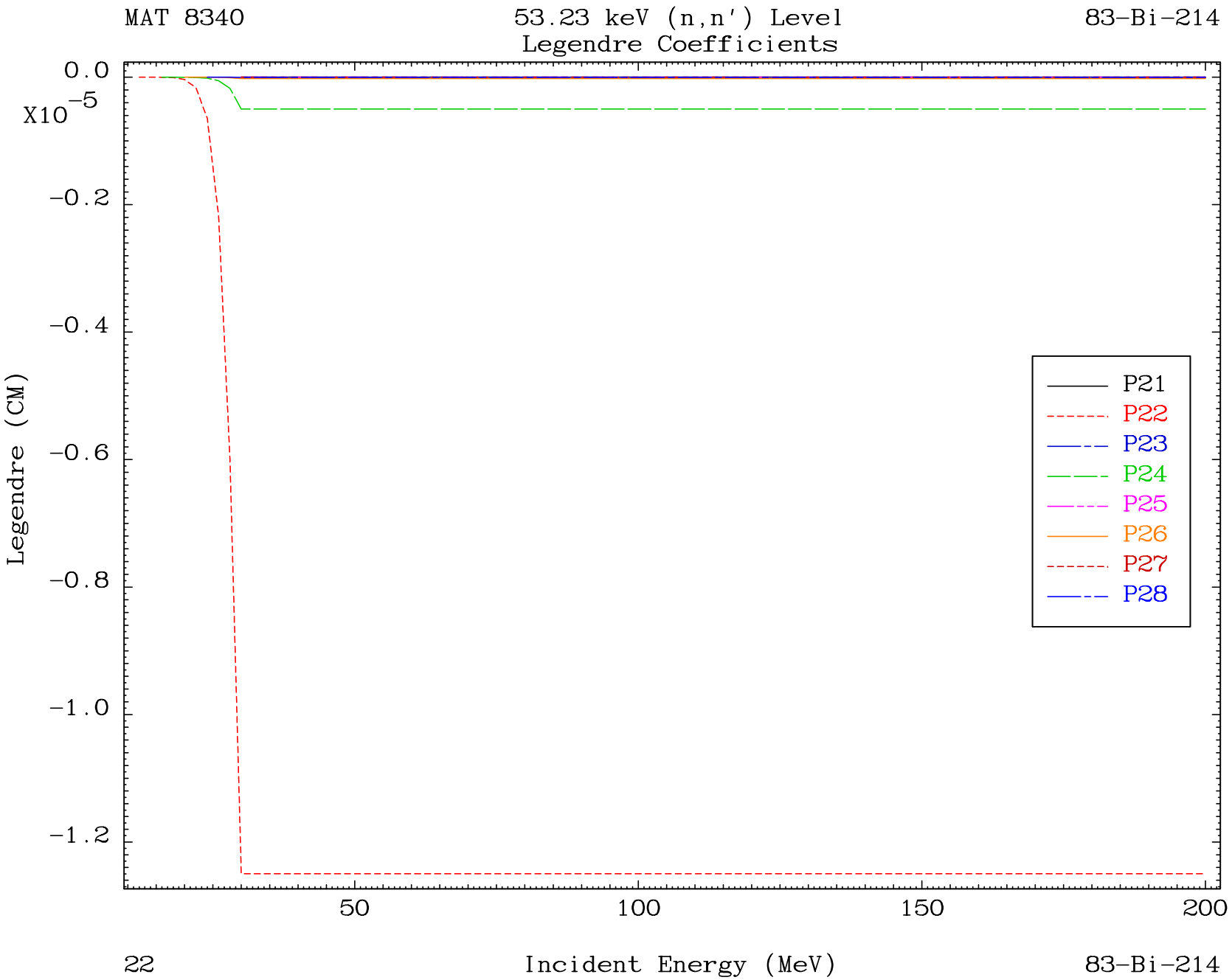

MAT 8340
Elastic
Legendre Coefficients
83-Bi-214
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
10
20
30
17
Incident Energy (MeV)
83-Bi-214

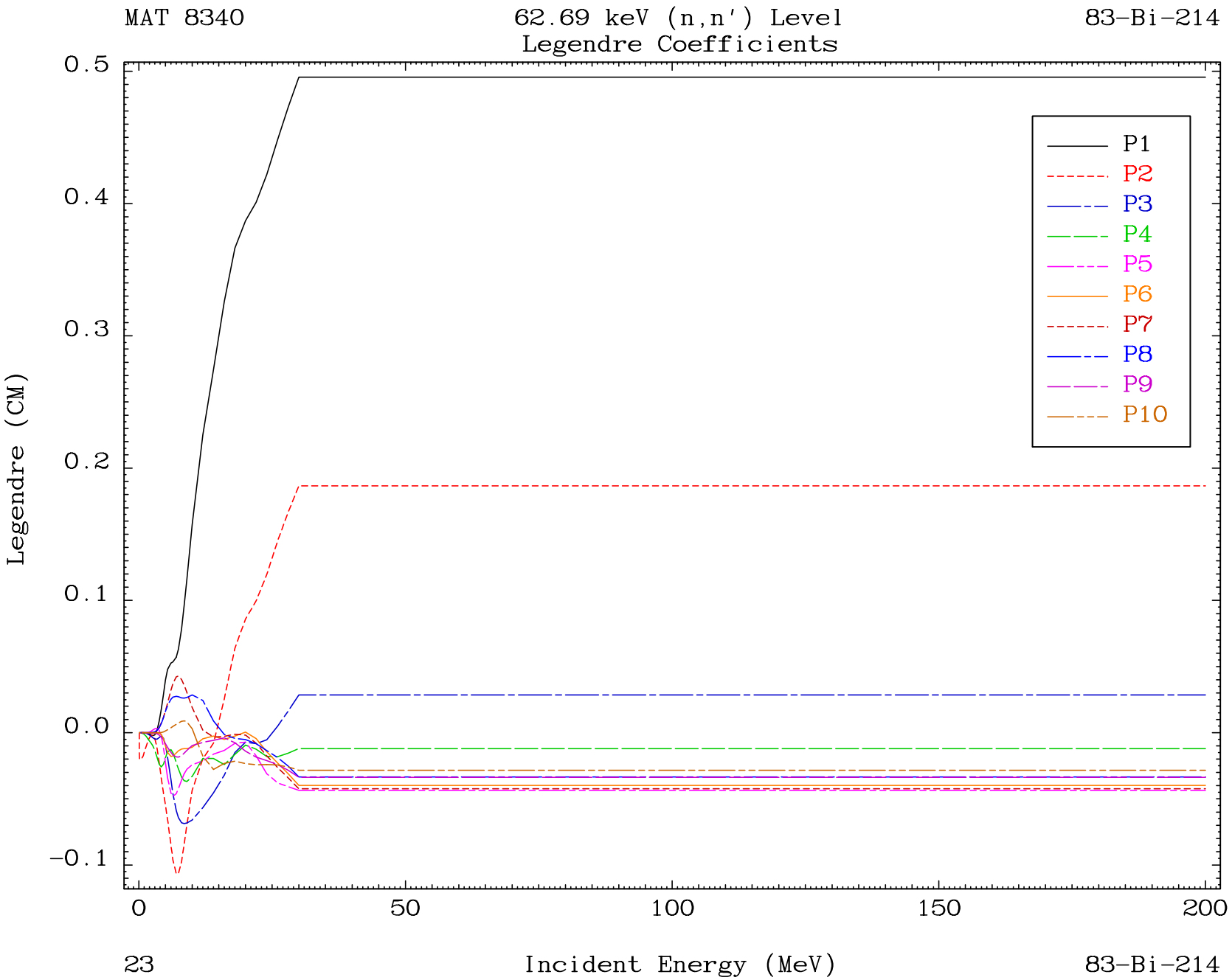

MAT 8340
Elastic
Legendre Coefficients
83-Bi-214
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
10
15
20
25
30
18
Incident Energy (MeV)
83-Bi-214

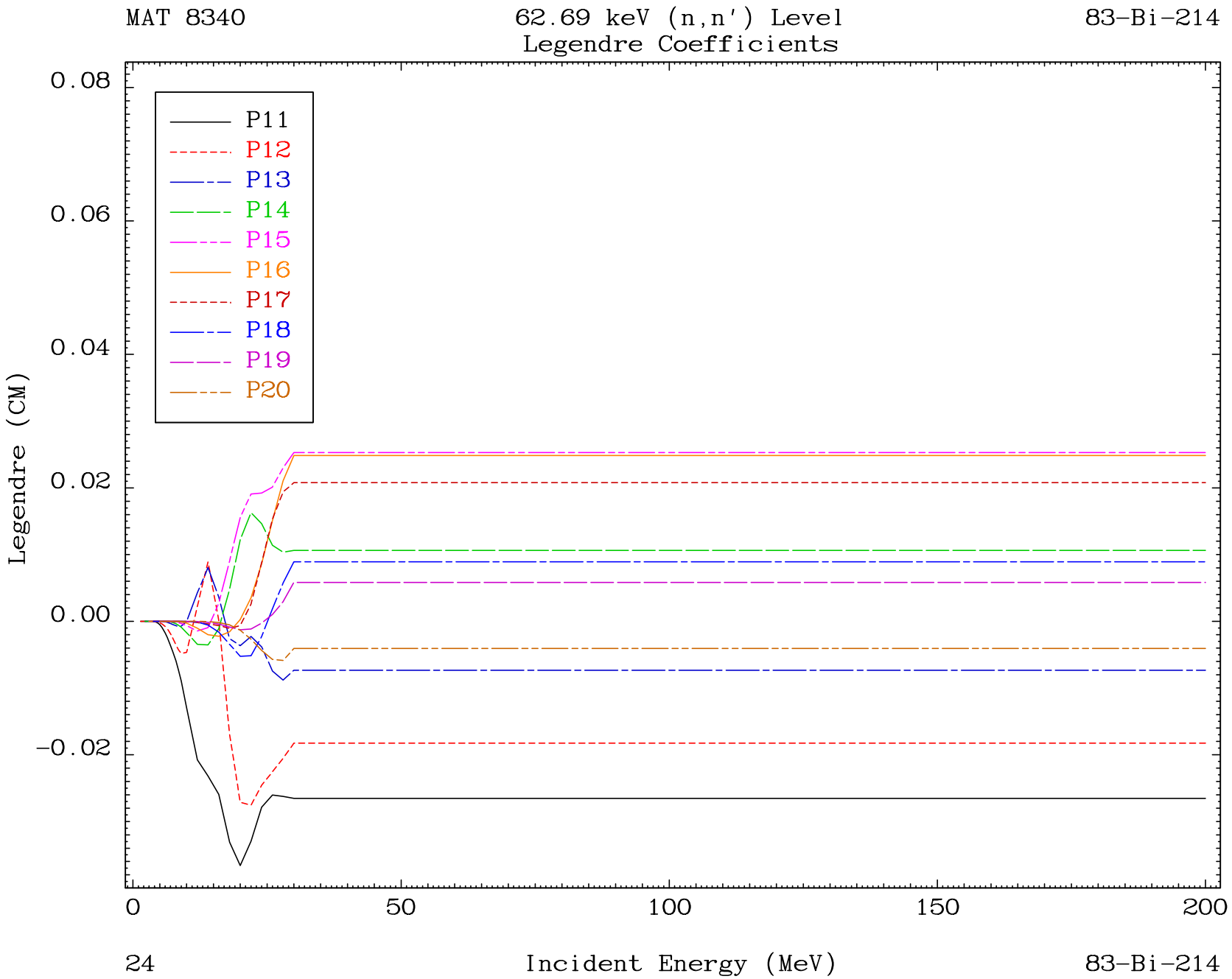

MAT 8340
Elastic
Legendre Coefficients
83-Bi-214
X10 −5
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
10
15
20
25
30
19
Incident Energy (MeV)
83-Bi-214

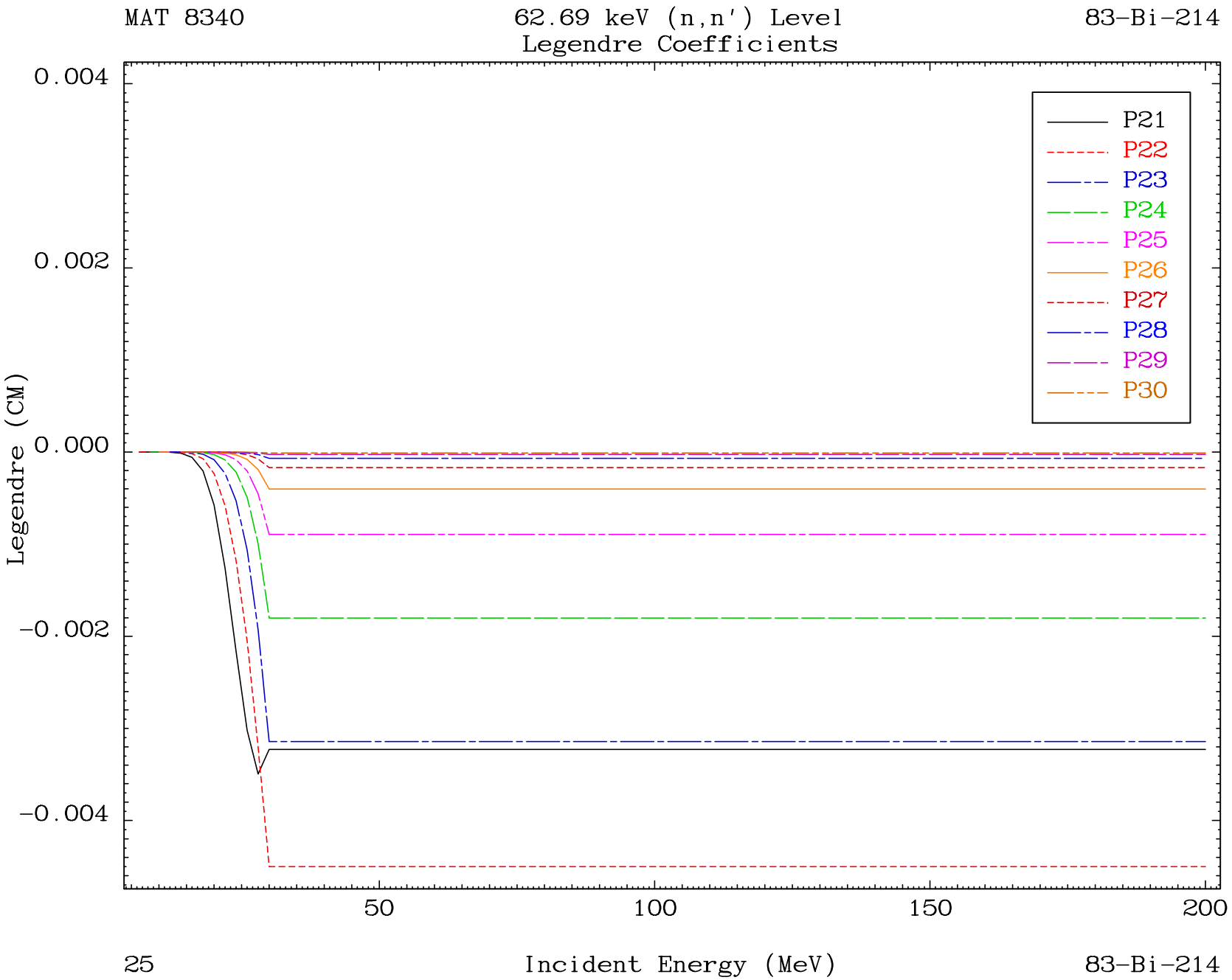

MAT 8340
53.23 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
20
Incident Energy (MeV)
83-Bi-214

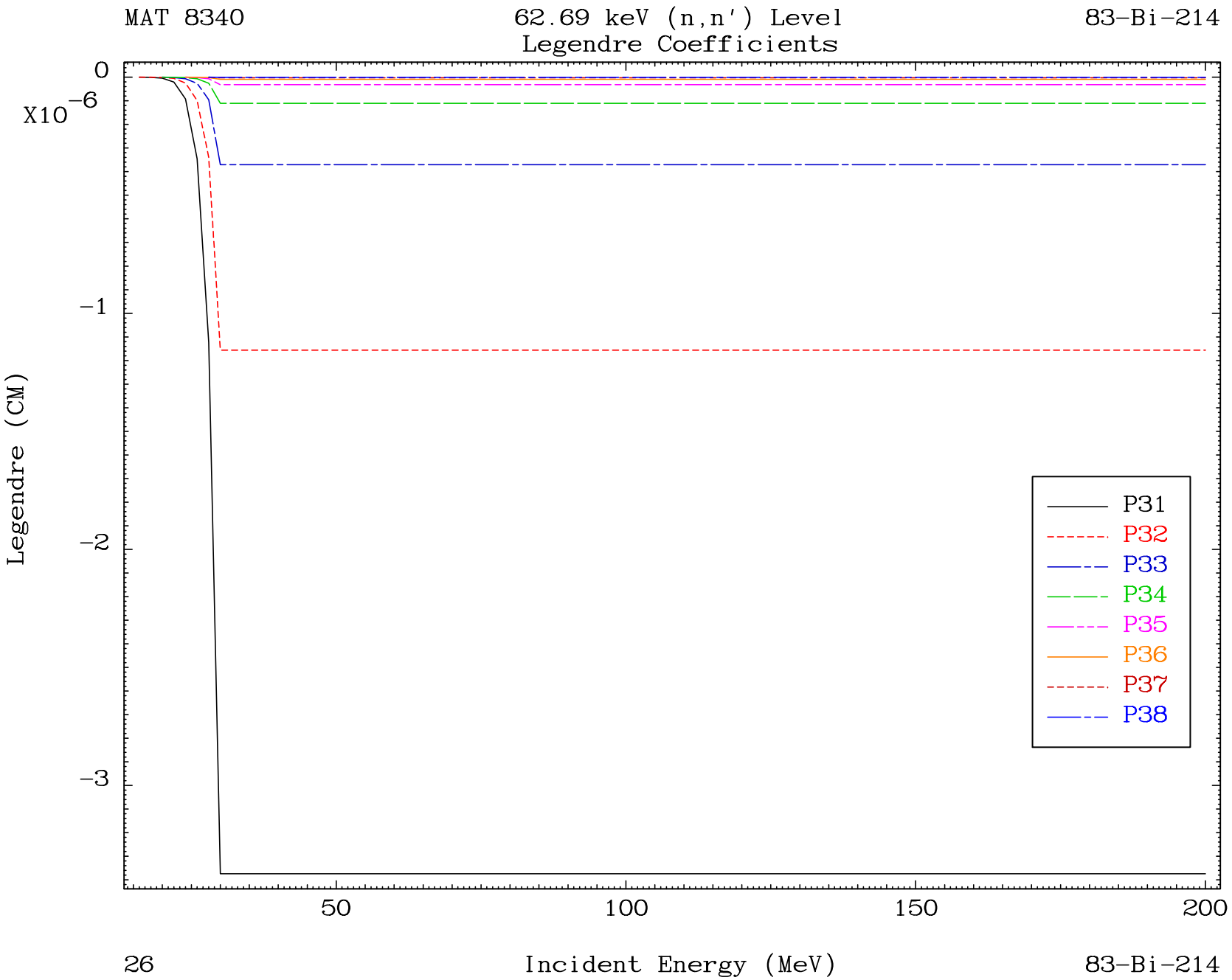

MAT 8340
53.23 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10^-4
-2
-4
-6
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
21
Incident Energy (MeV)
83-Bi-214

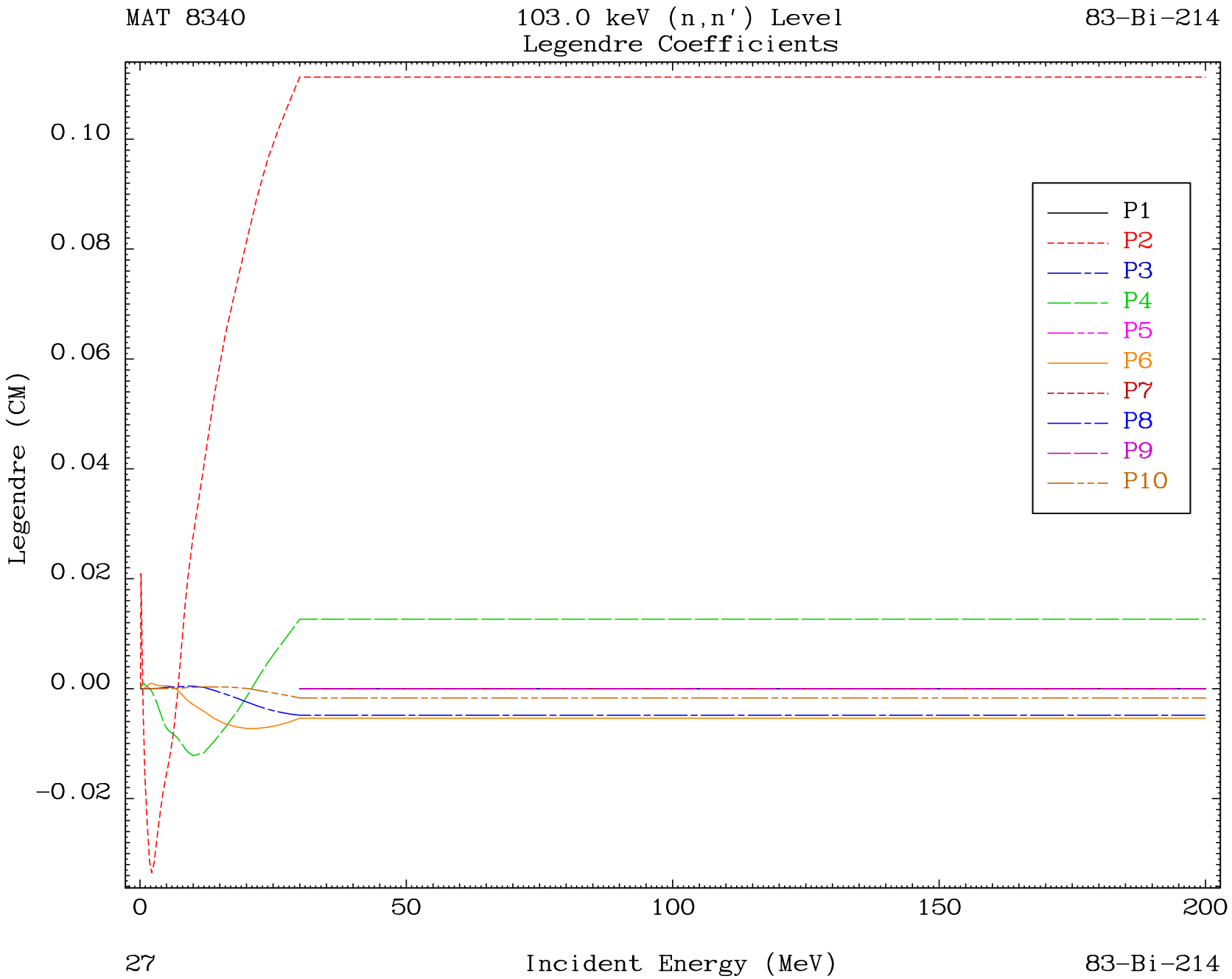

MAT 8340
53.23 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
22
Incident Energy (MeV)
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28

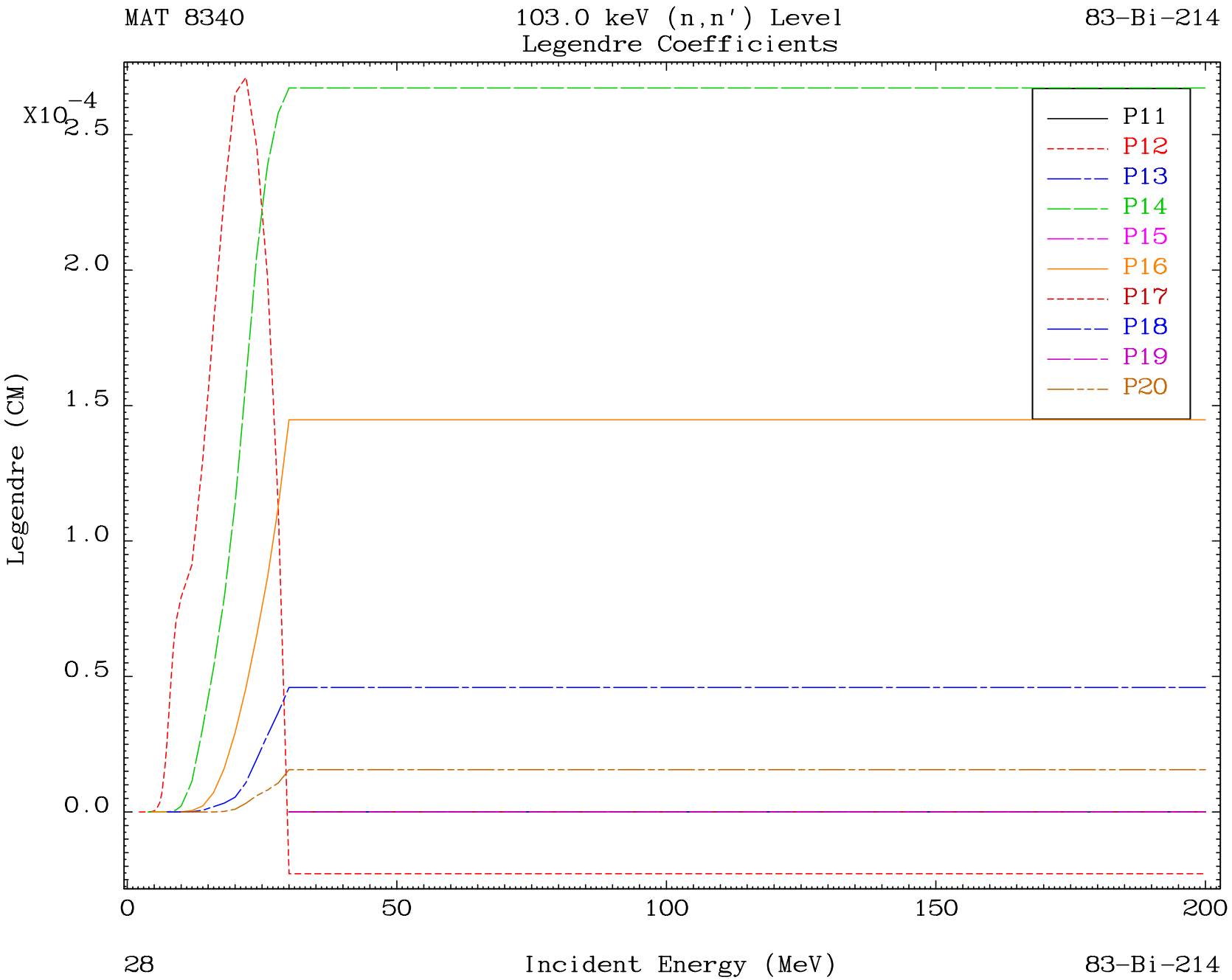

MAT 8340
62.69 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
23
Incident Energy (MeV)
83-Bi-214

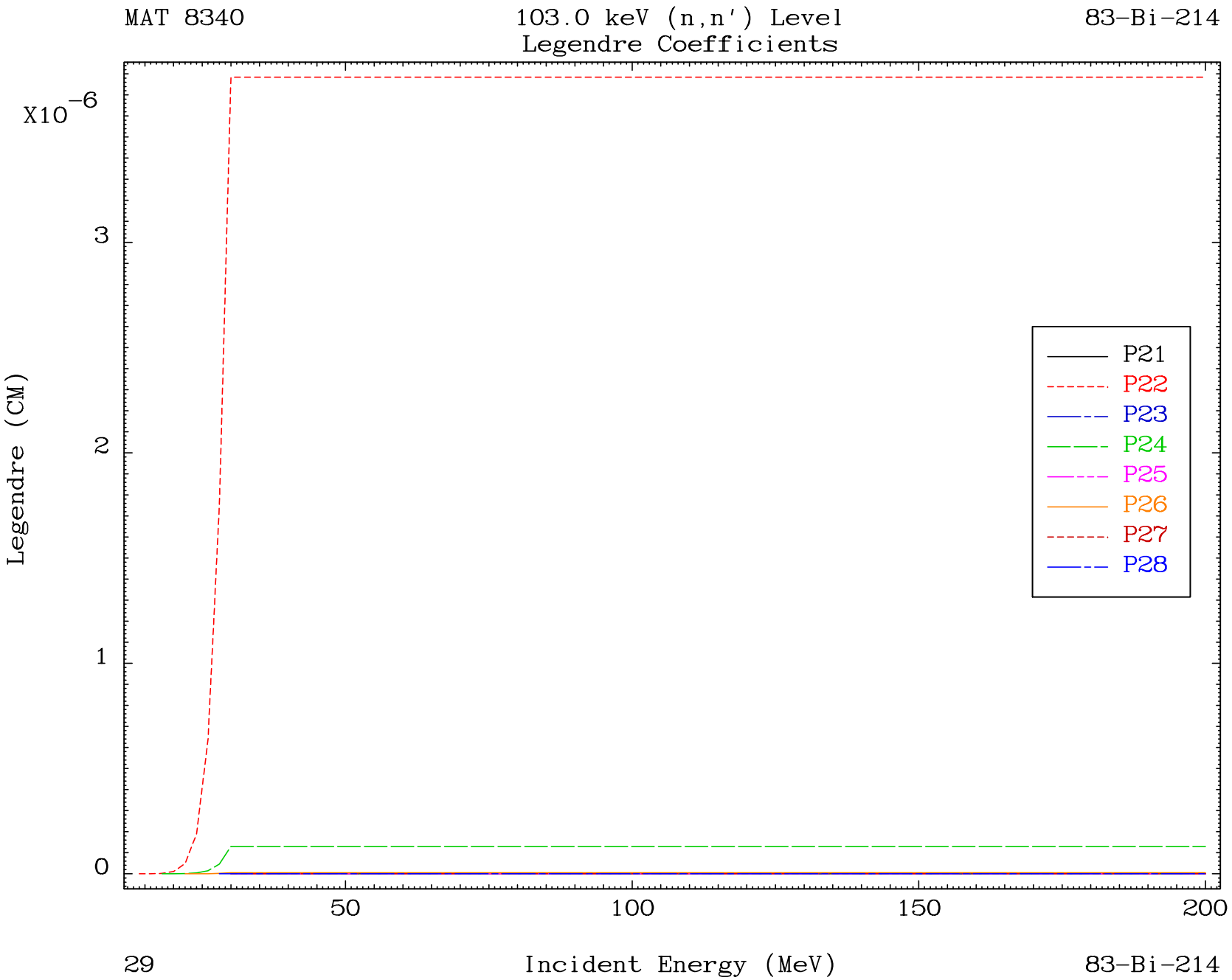

MAT 8340
62.69 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
24
Incident Energy (MeV)
83-Bi-214

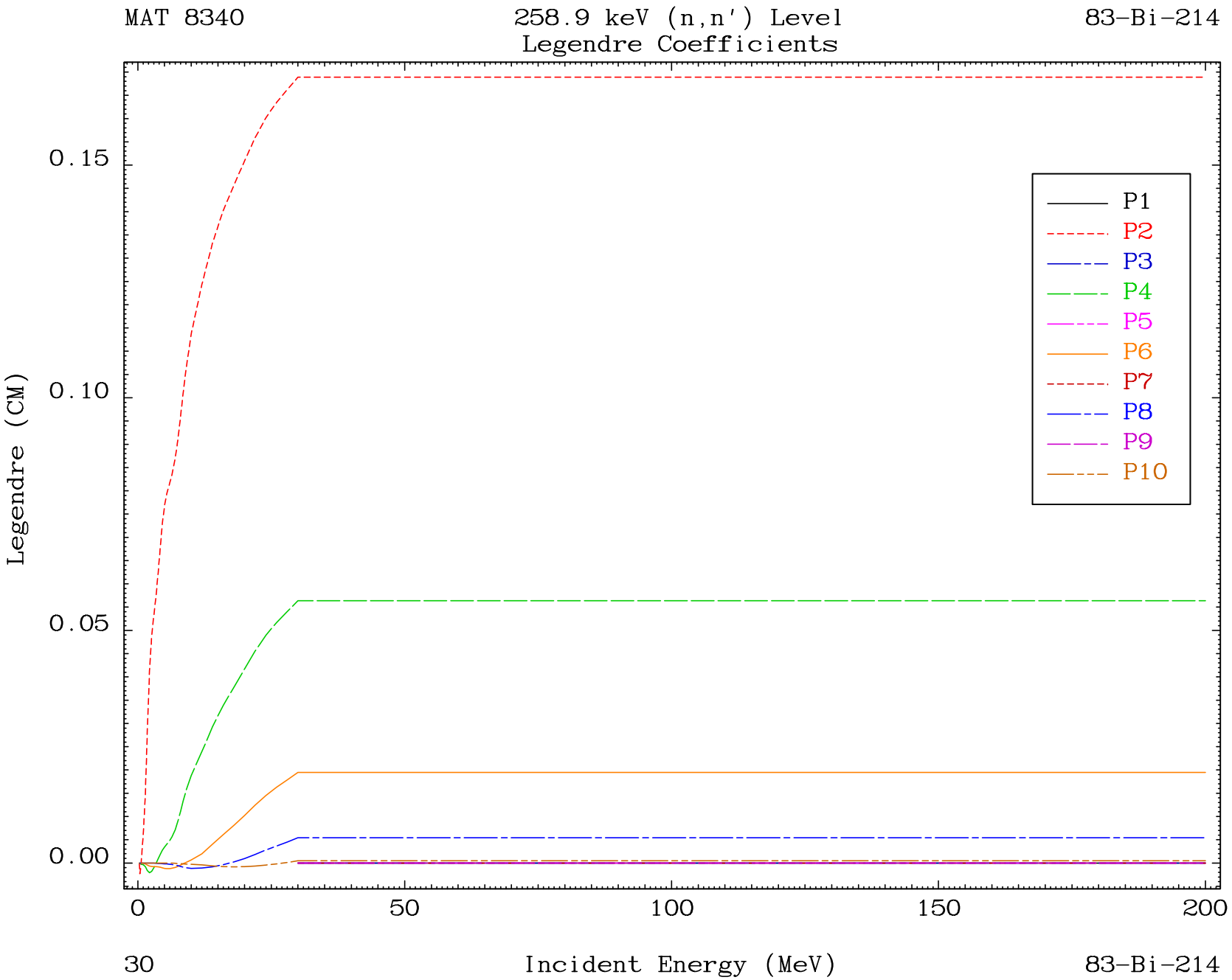

MAT 8340
62.69 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.004
0.002
0.000
-0.002
-0.004
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
25
Incident Energy (MeV)
83-Bi-214

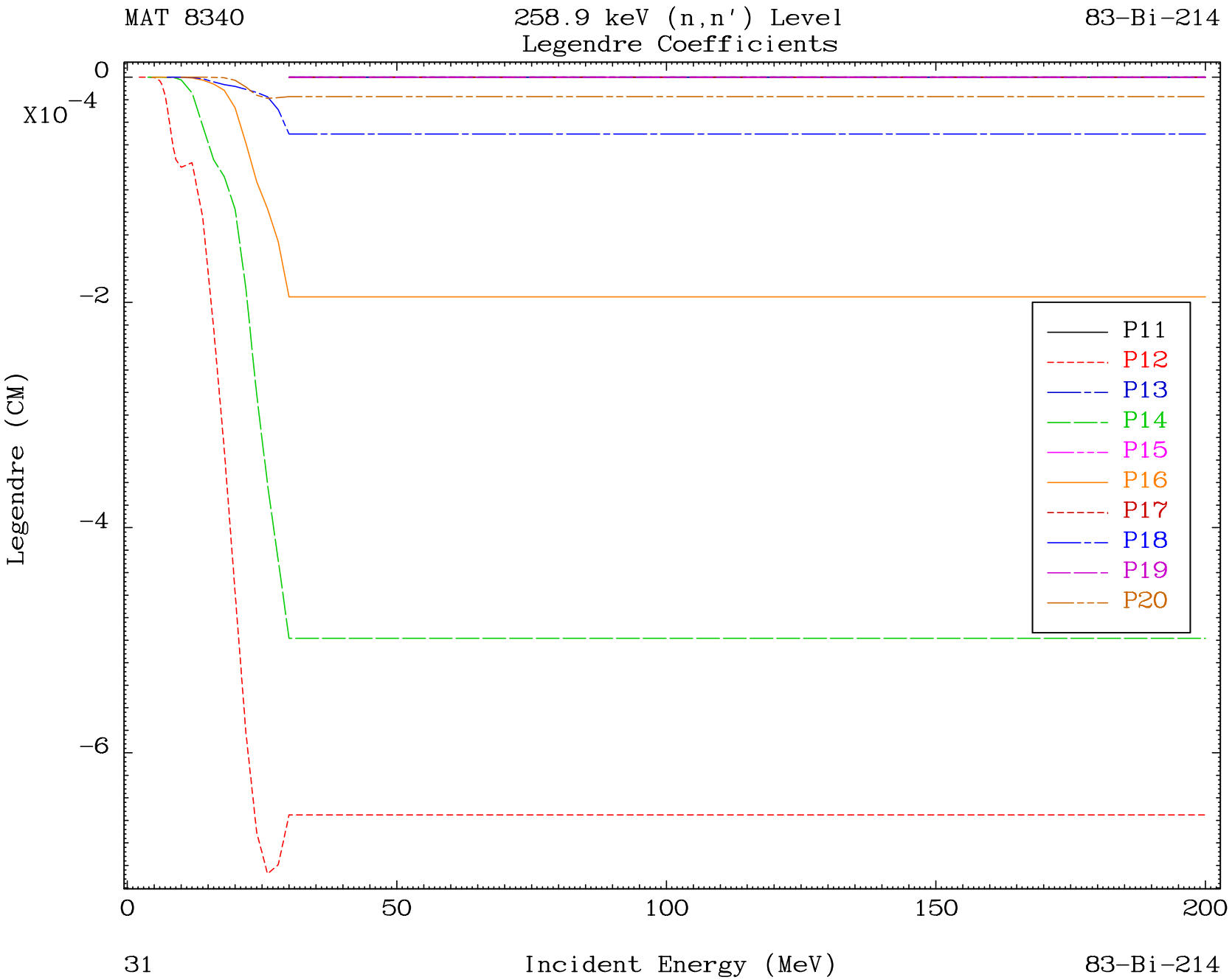

MAT 8340
62.69 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10 −6
−1
−2
−3
Legendre (CM)
50
100
150
200
26
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

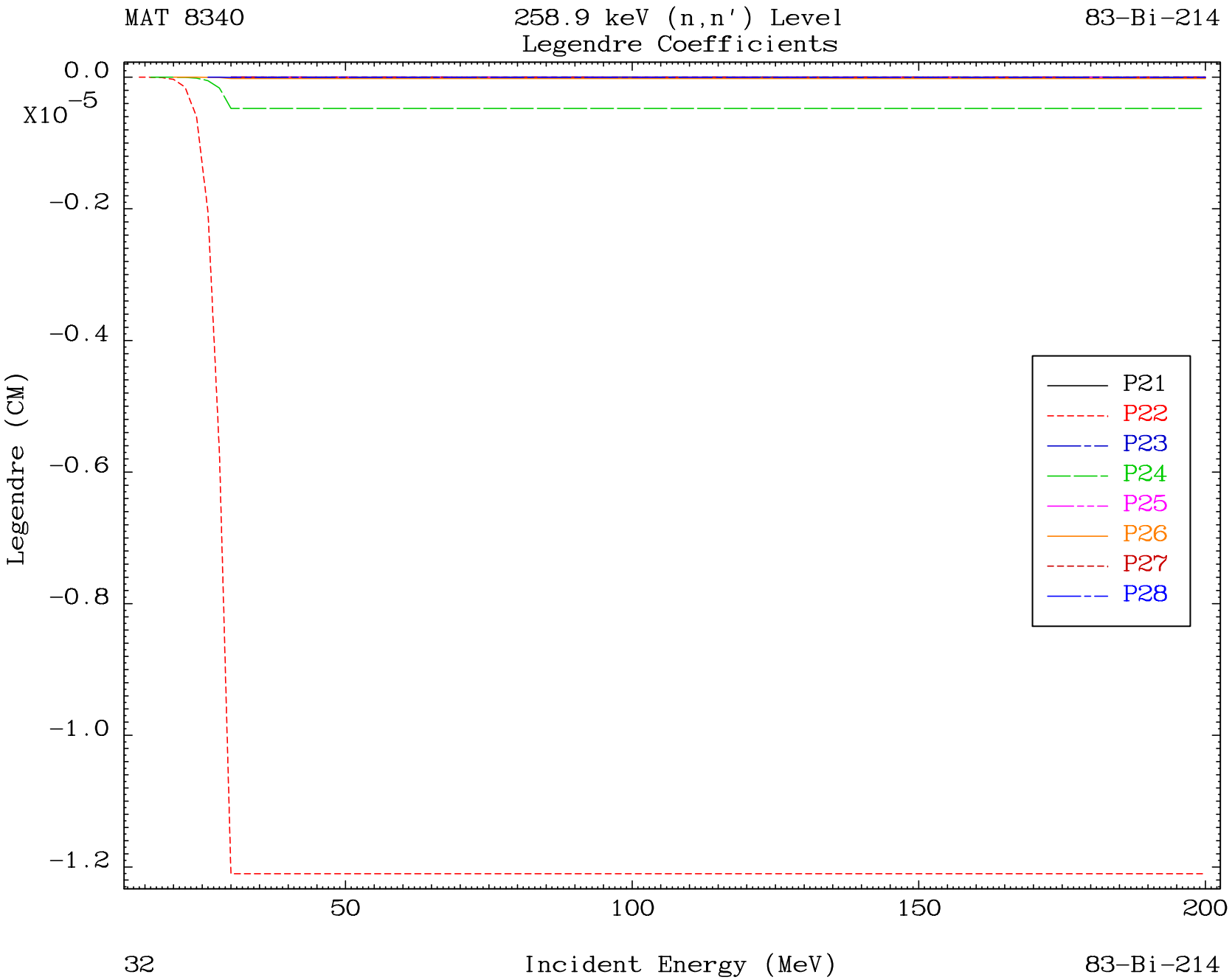

MAT 8340
103.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
27
Incident Energy (MeV)
83-Bi-214

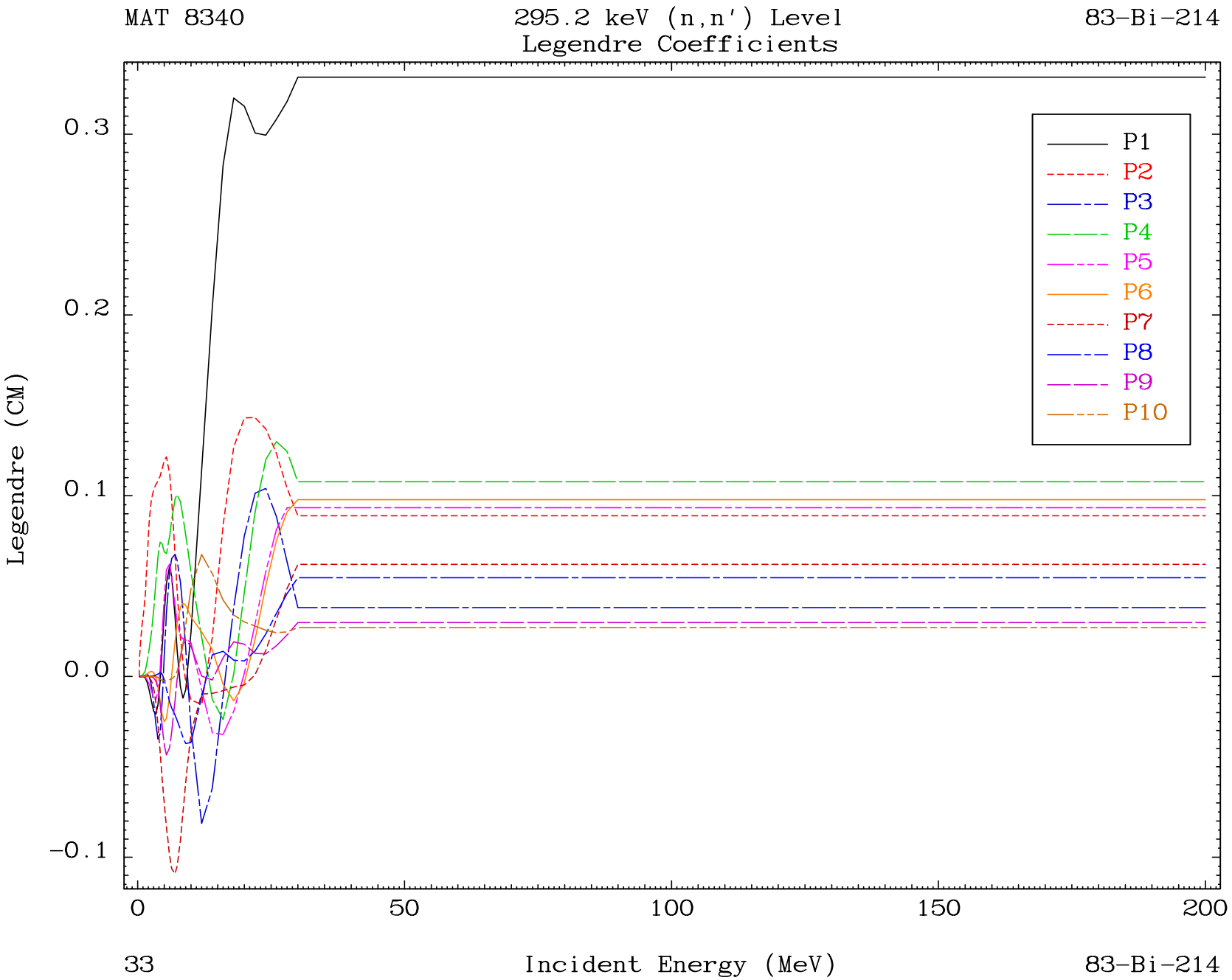

MAT 8340
103.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
28
Incident Energy (MeV)
83-Bi-214

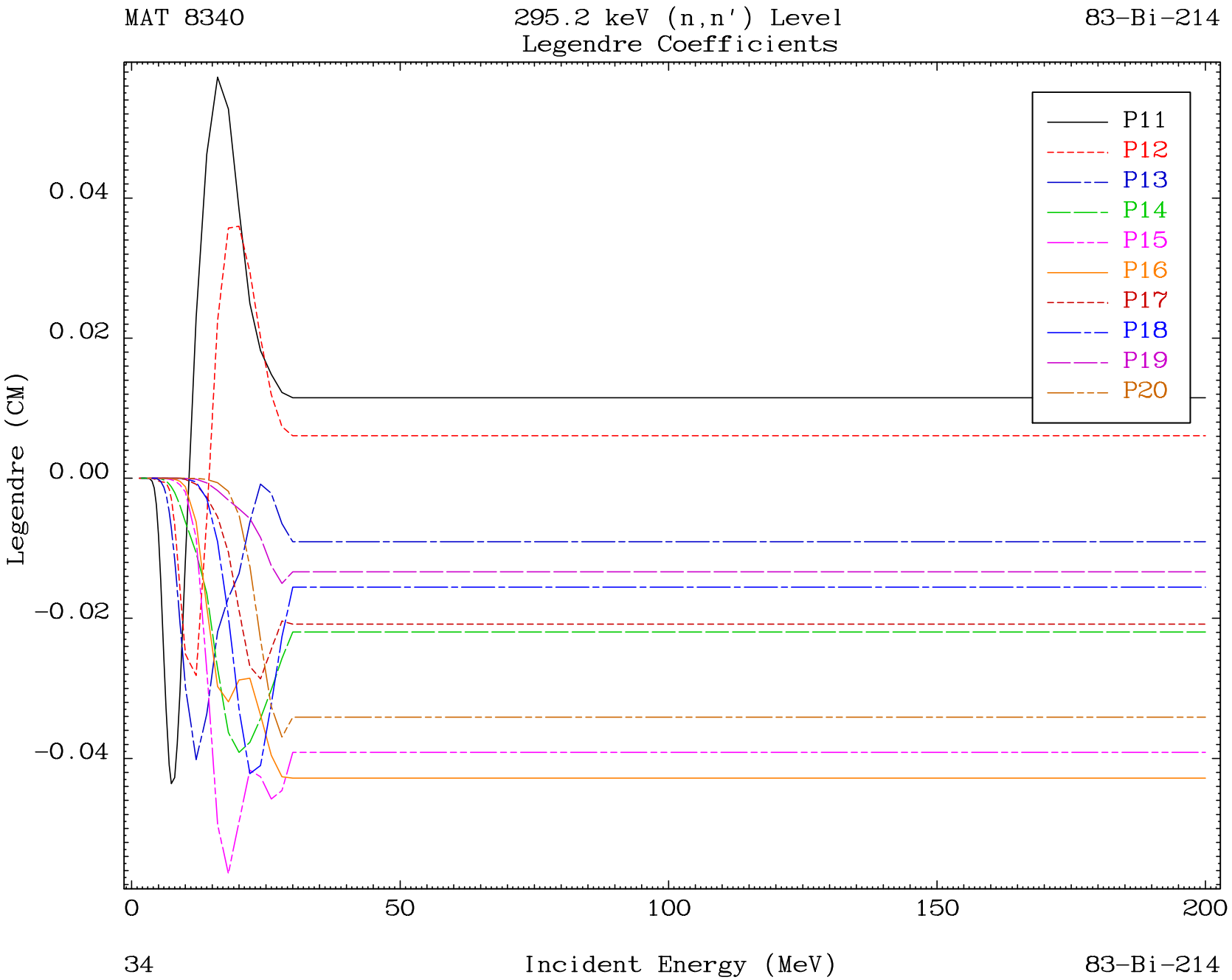

MAT 8340
103.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
29
Incident Energy (MeV)
83-Bi-214

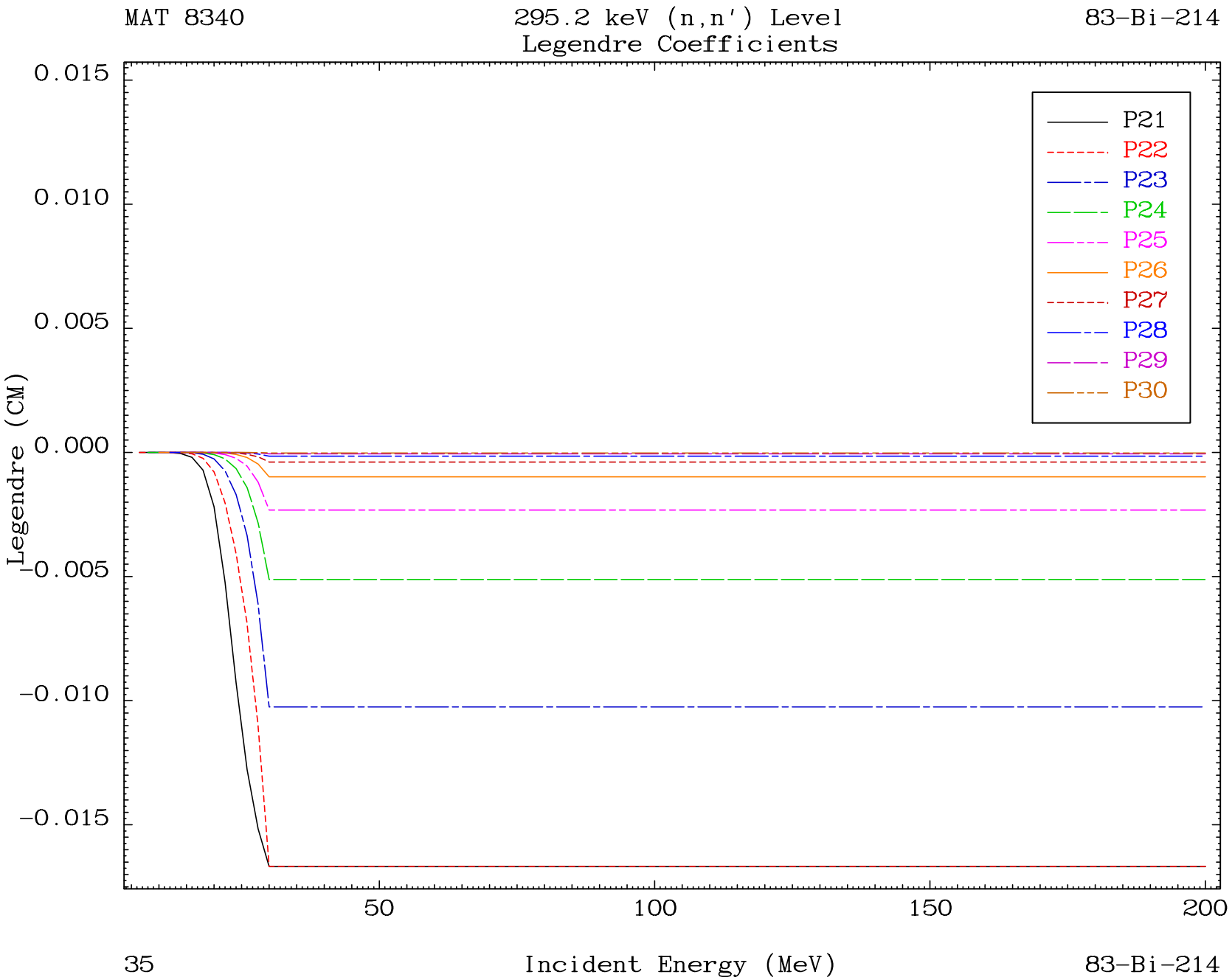

MAT 8340
258.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
30
Incident Energy (MeV)
83-Bi-214

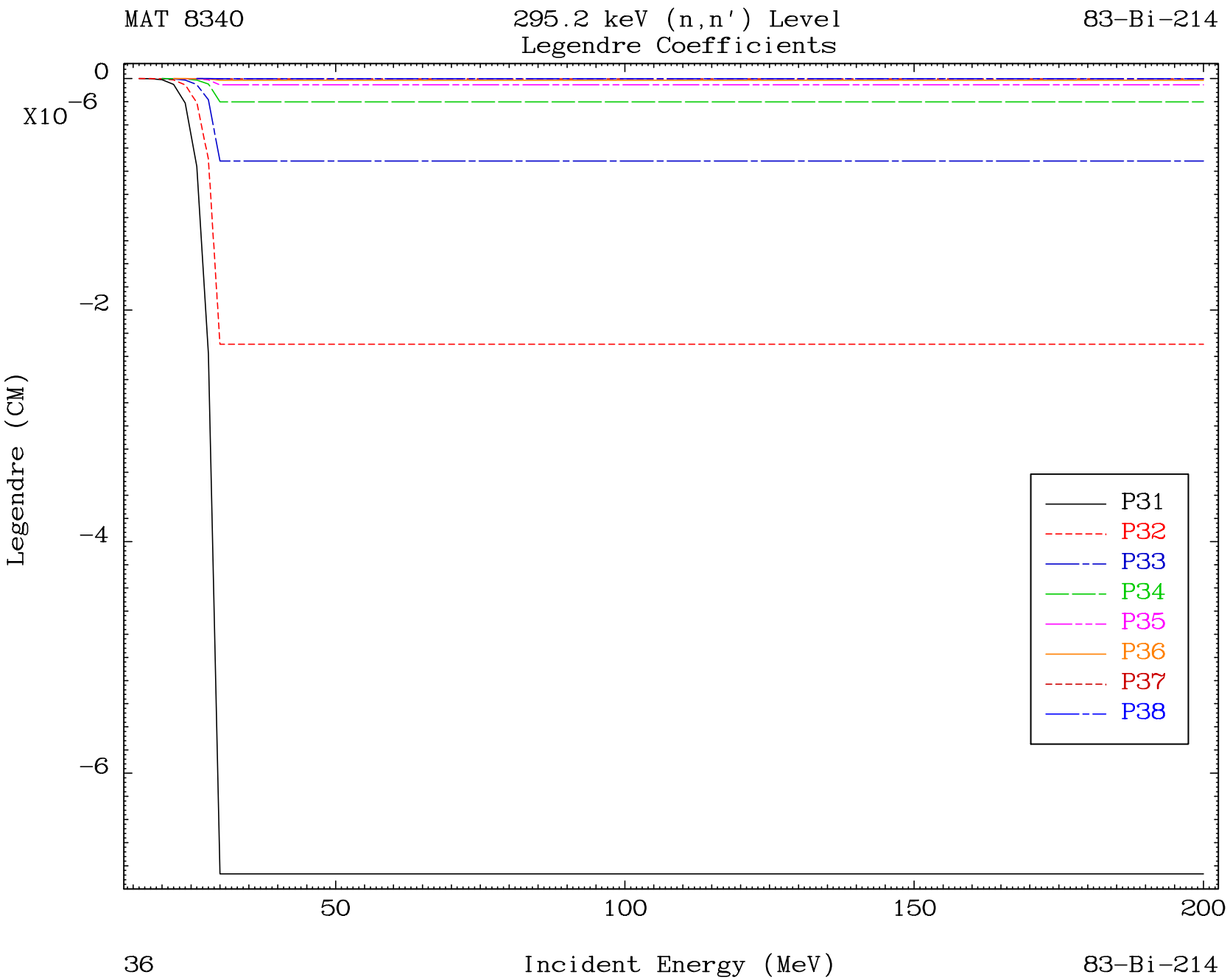

MAT 8340
258.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10^-4
-2
-4
-6
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
31
Incident Energy (MeV)
83-Bi-214

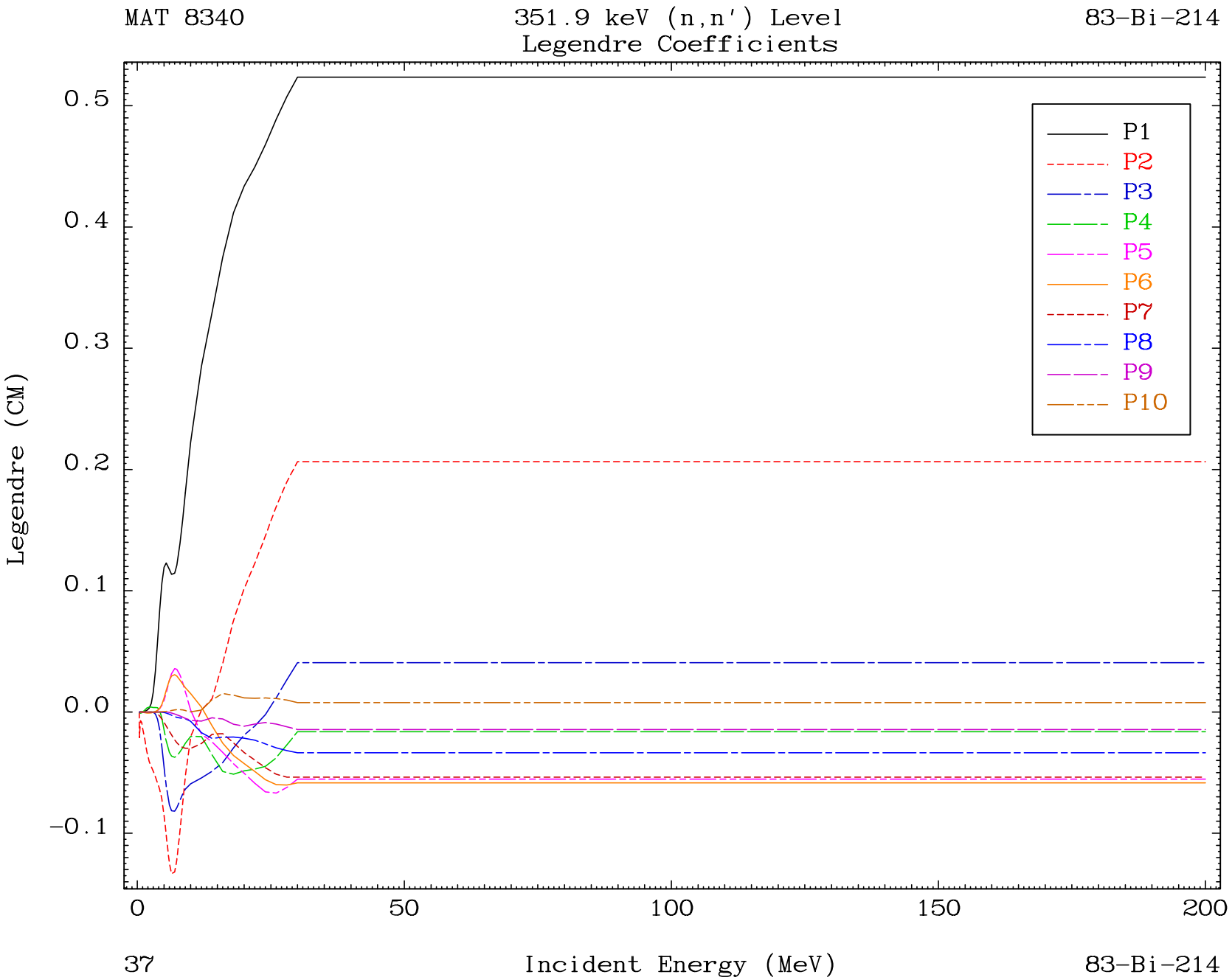

MAT 8340
258.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
32
Incident Energy (MeV)
83-Bi-214

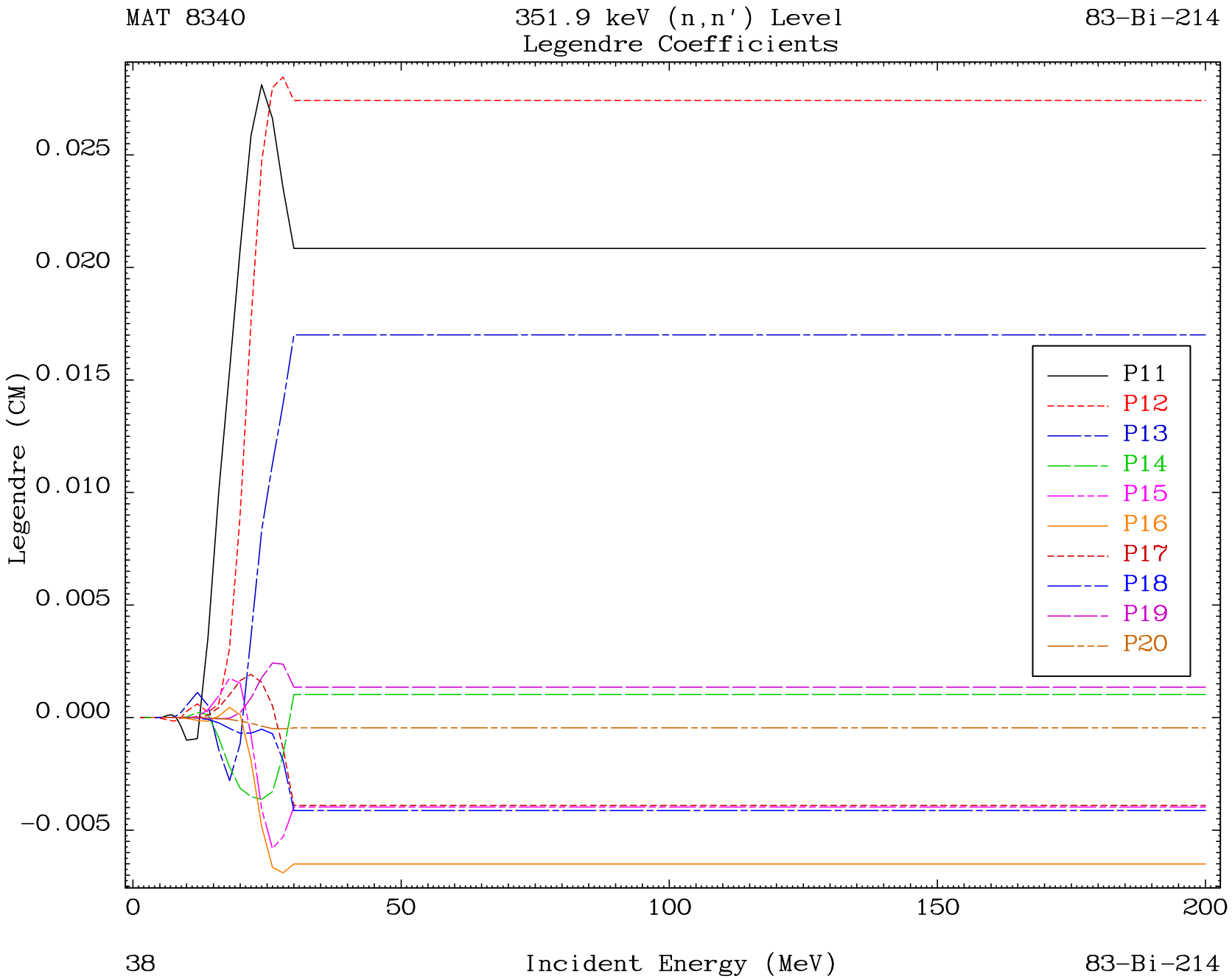

MAT 8340
295.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
33
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

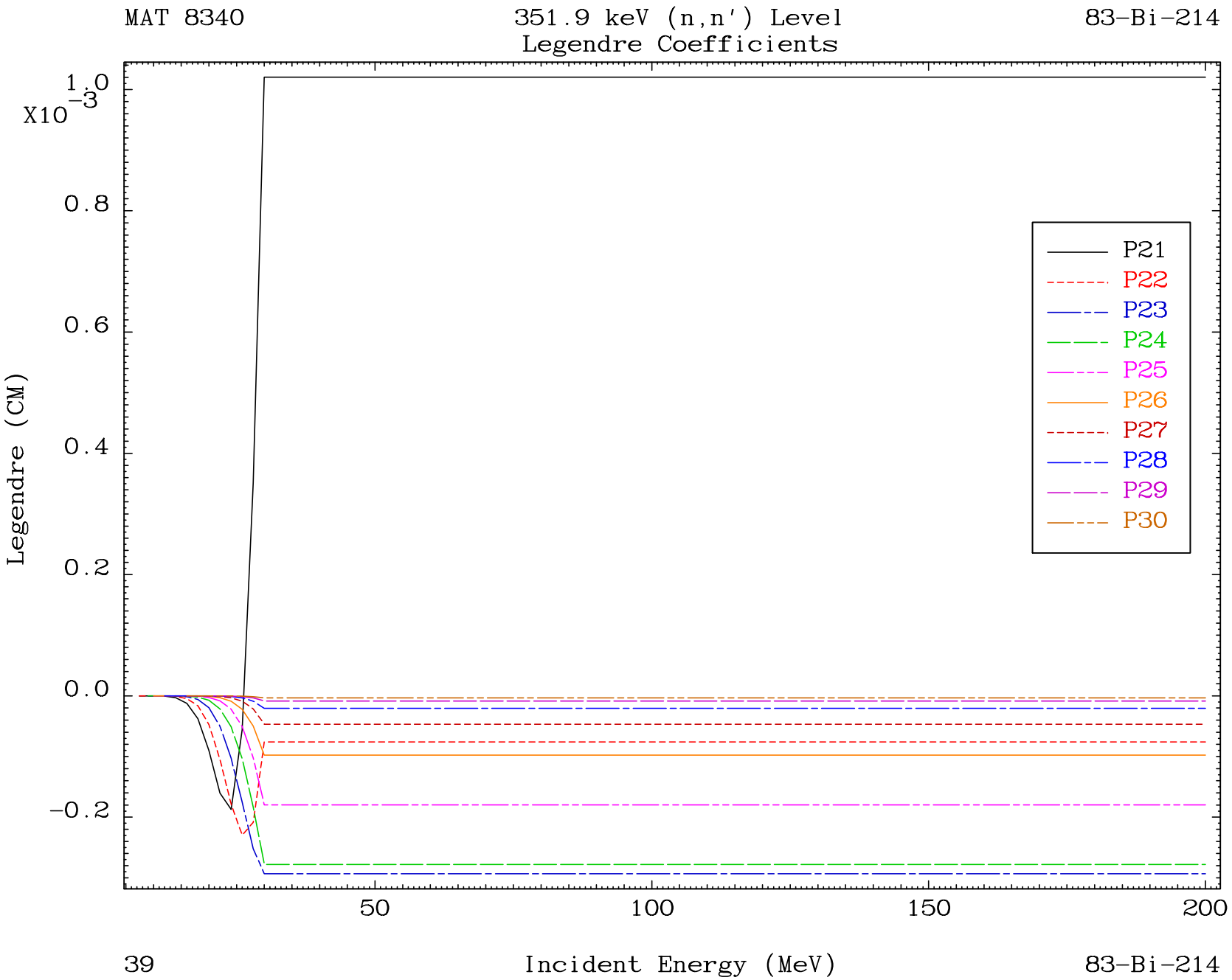

MAT 8340
295.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
34
Incident Energy (MeV)
83-Bi-214

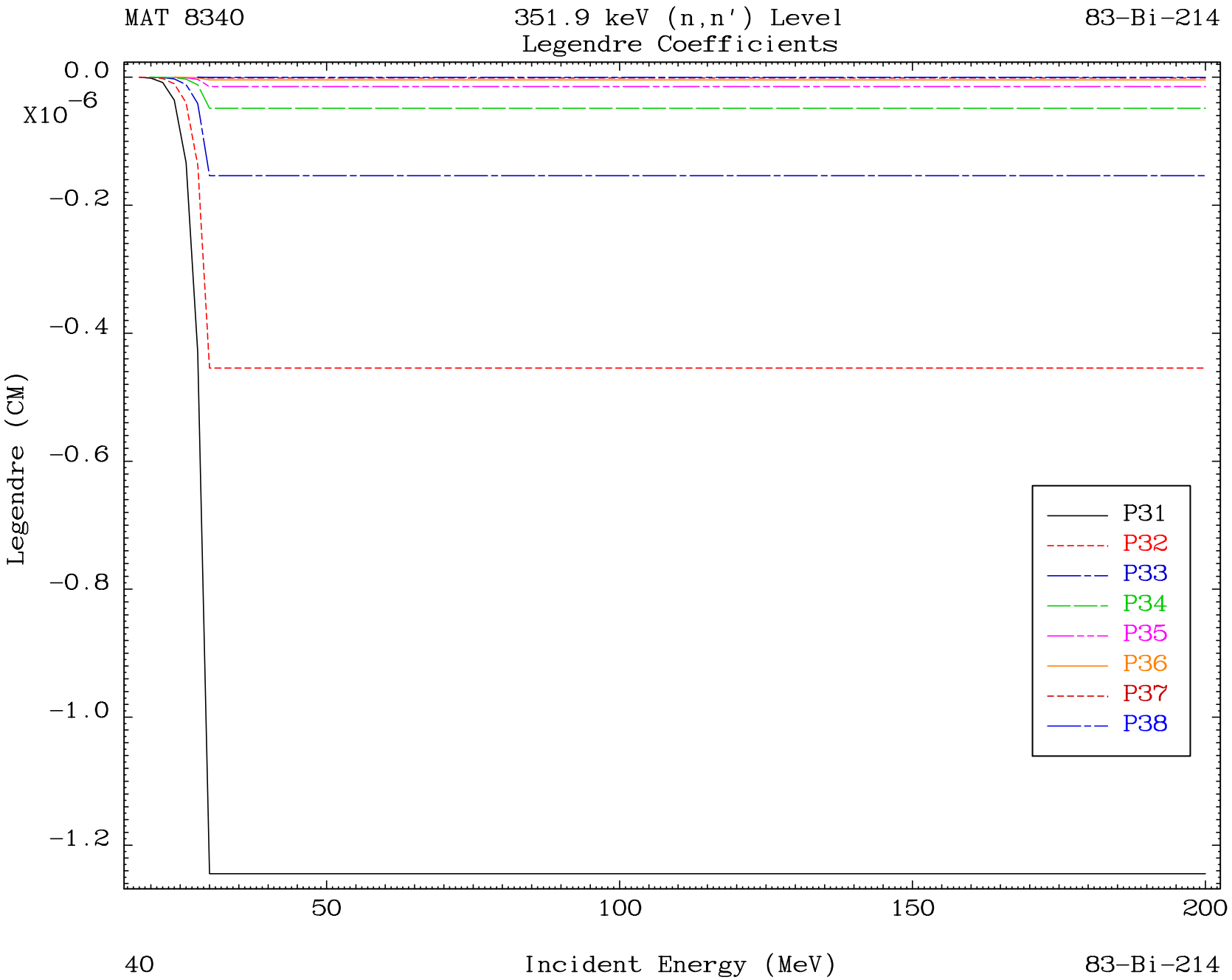

MAT 8340
295.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
35
Incident Energy (MeV)
83-Bi-214

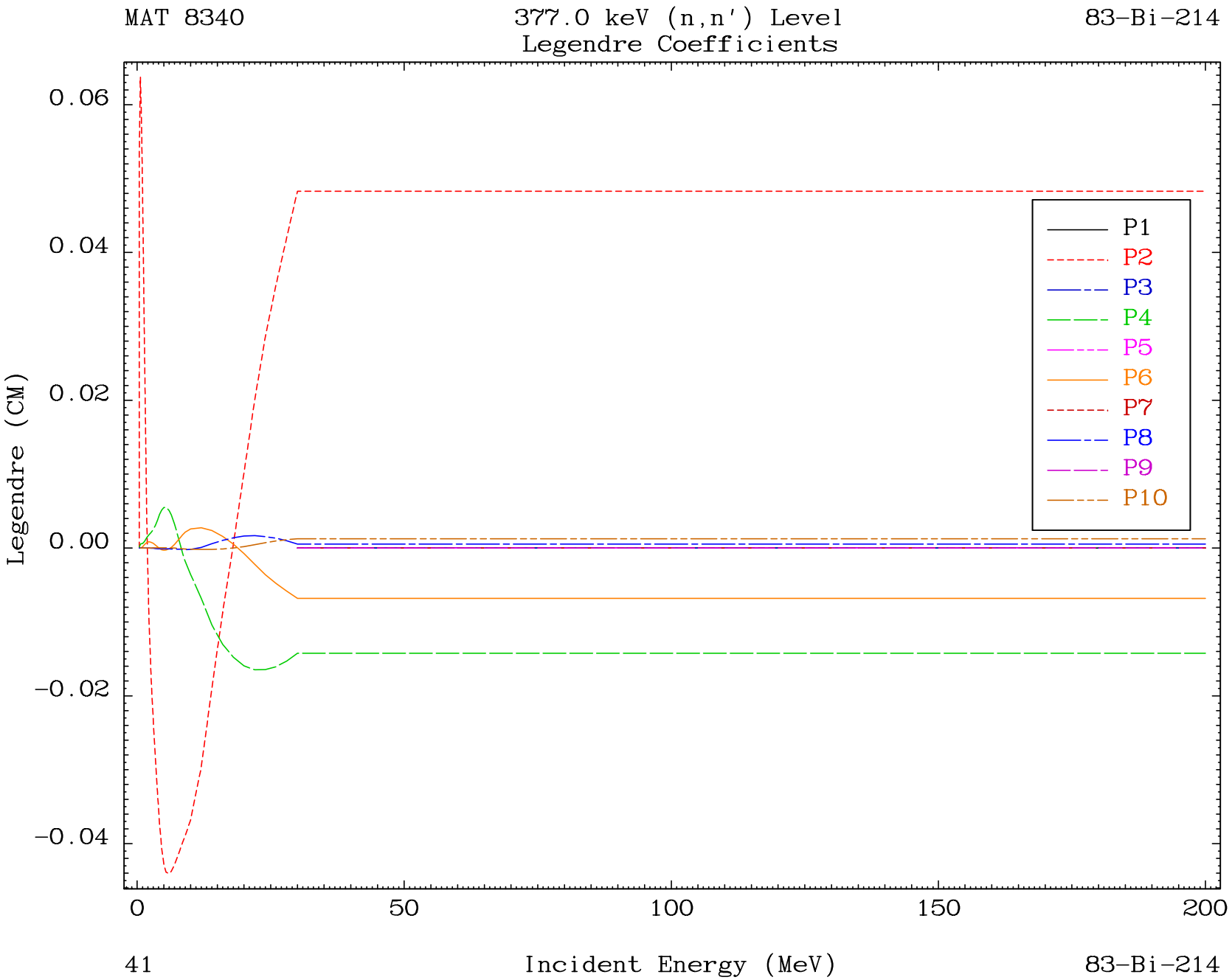

MAT 8340
295.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10 −6
−2
−4
−6
Legendre (CM)
50
100
150
200
36
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

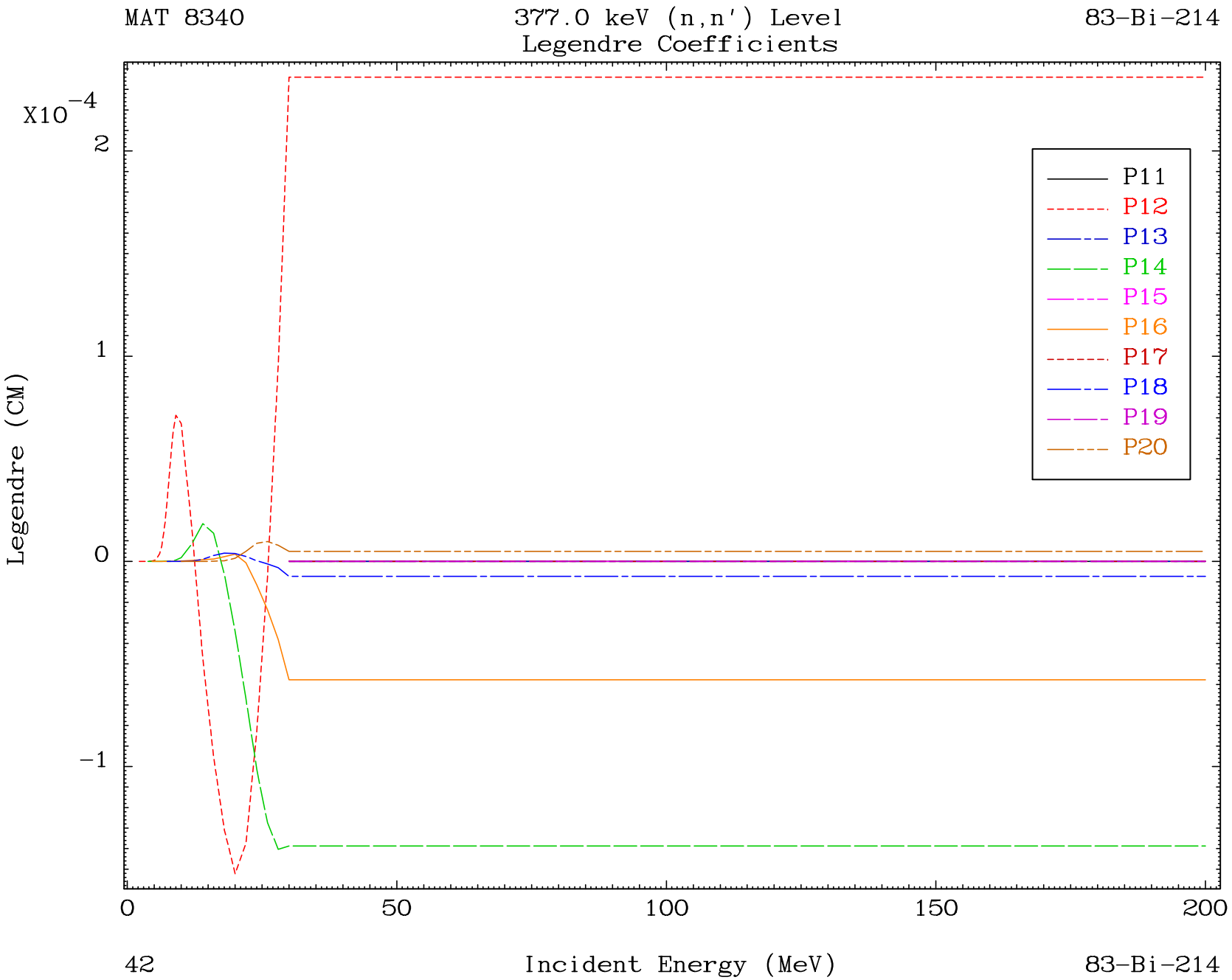

MAT 8340
351.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
37
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

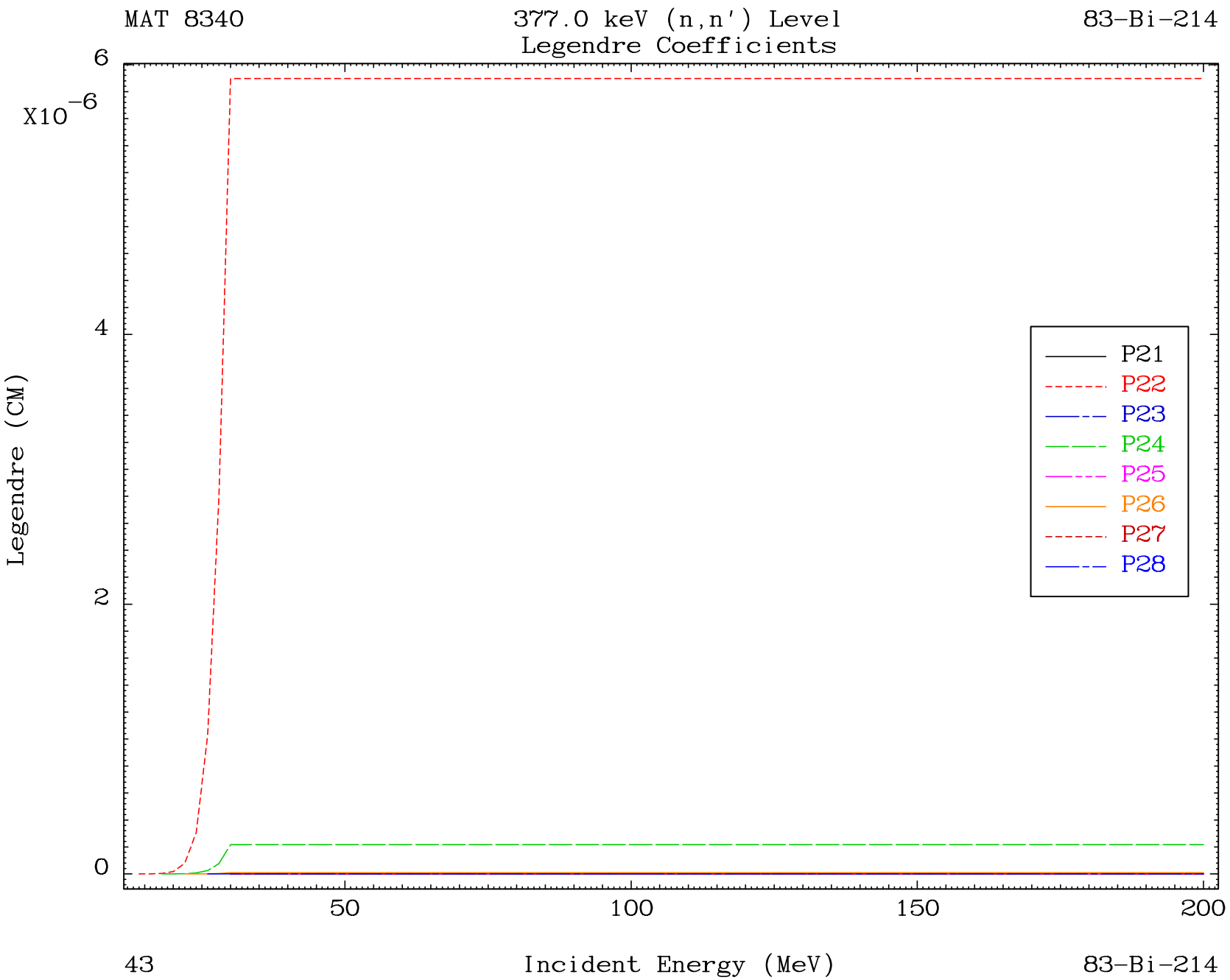

MAT 8340
351.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.025
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
0
50
100
150
200
38
Incident Energy (MeV)
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

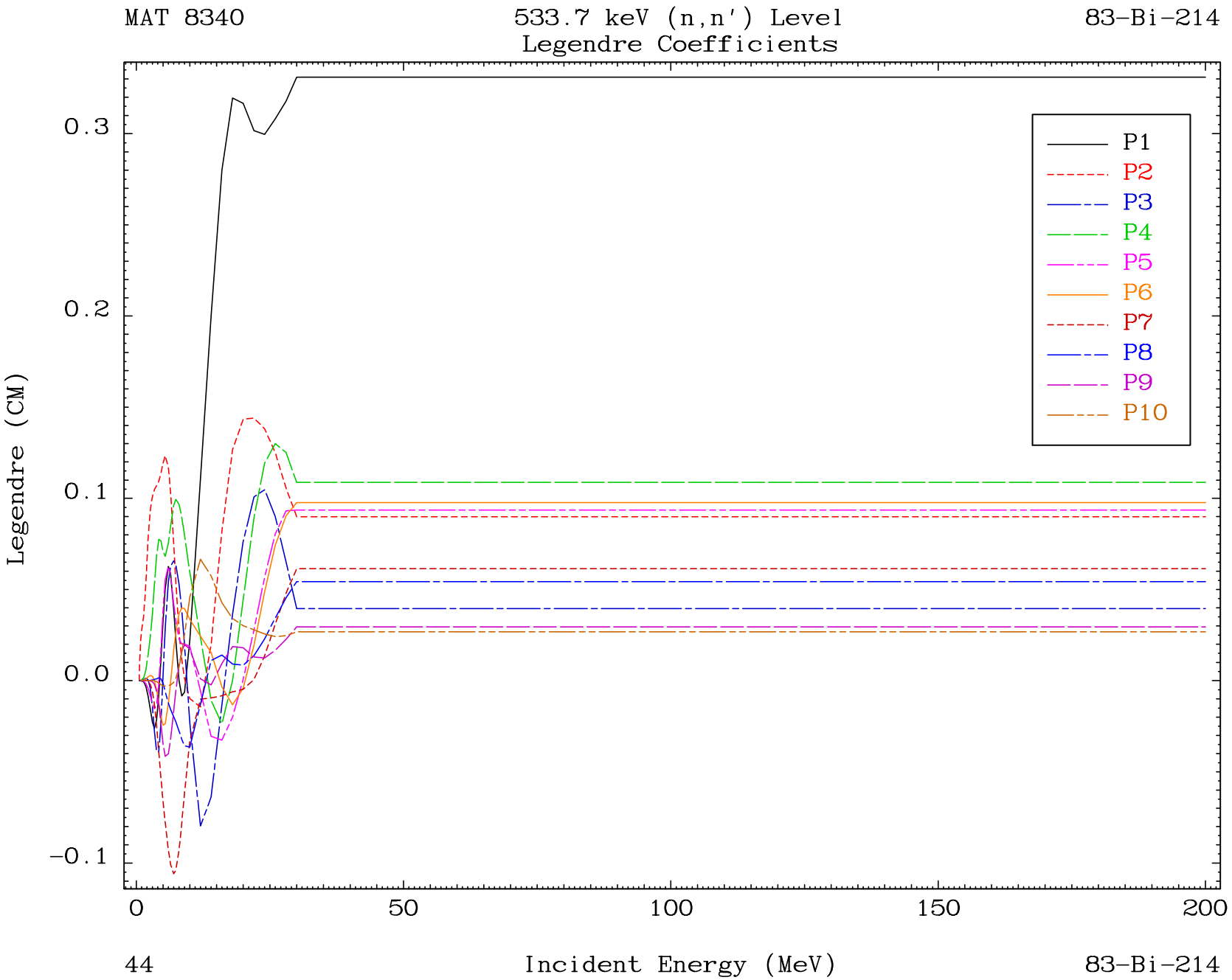

MAT 8340
351.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10 -3
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
Legendre (CM)
50
100
150
200
39
Incident Energy (MeV)
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30

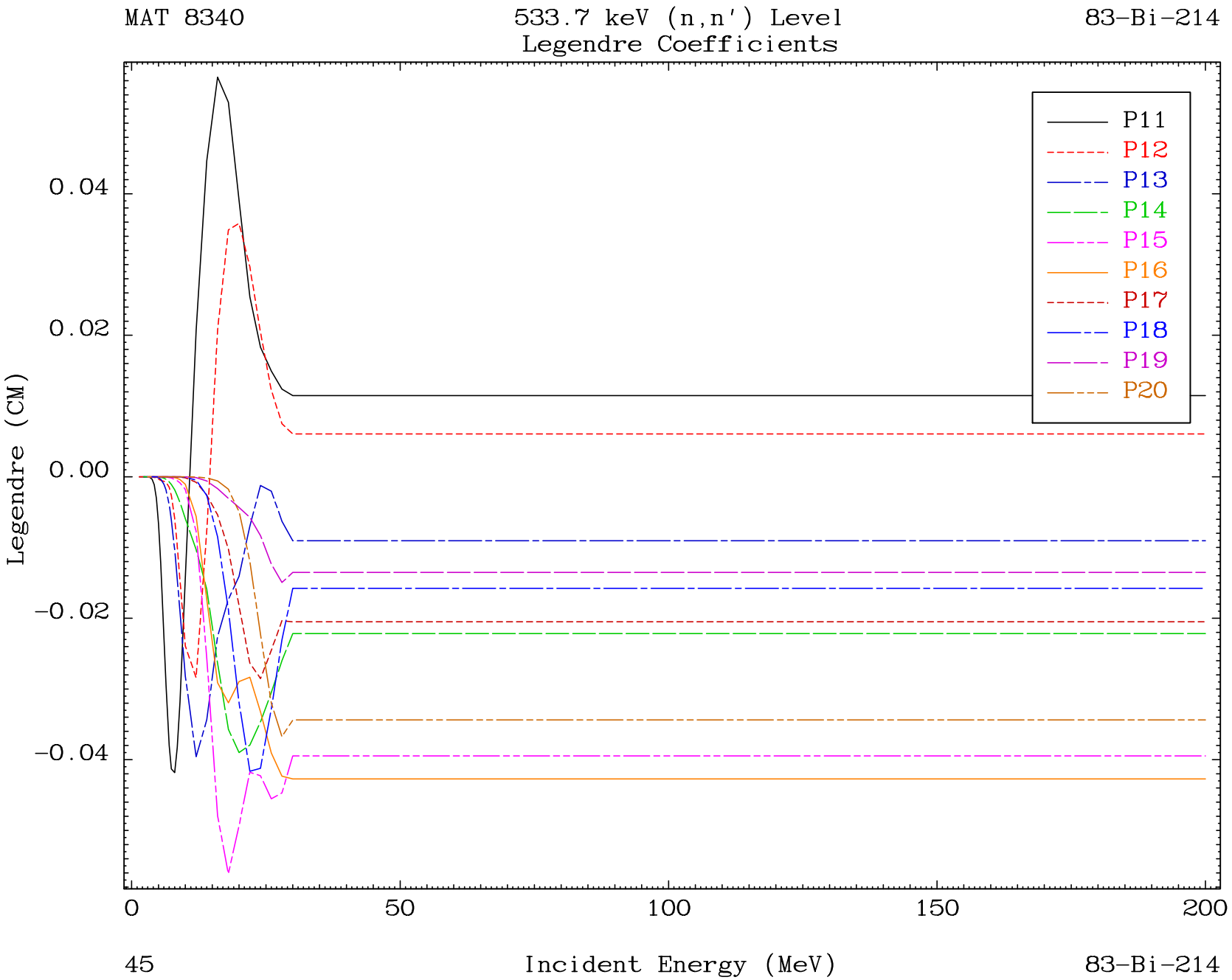

MAT 8340
351.9 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
40
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

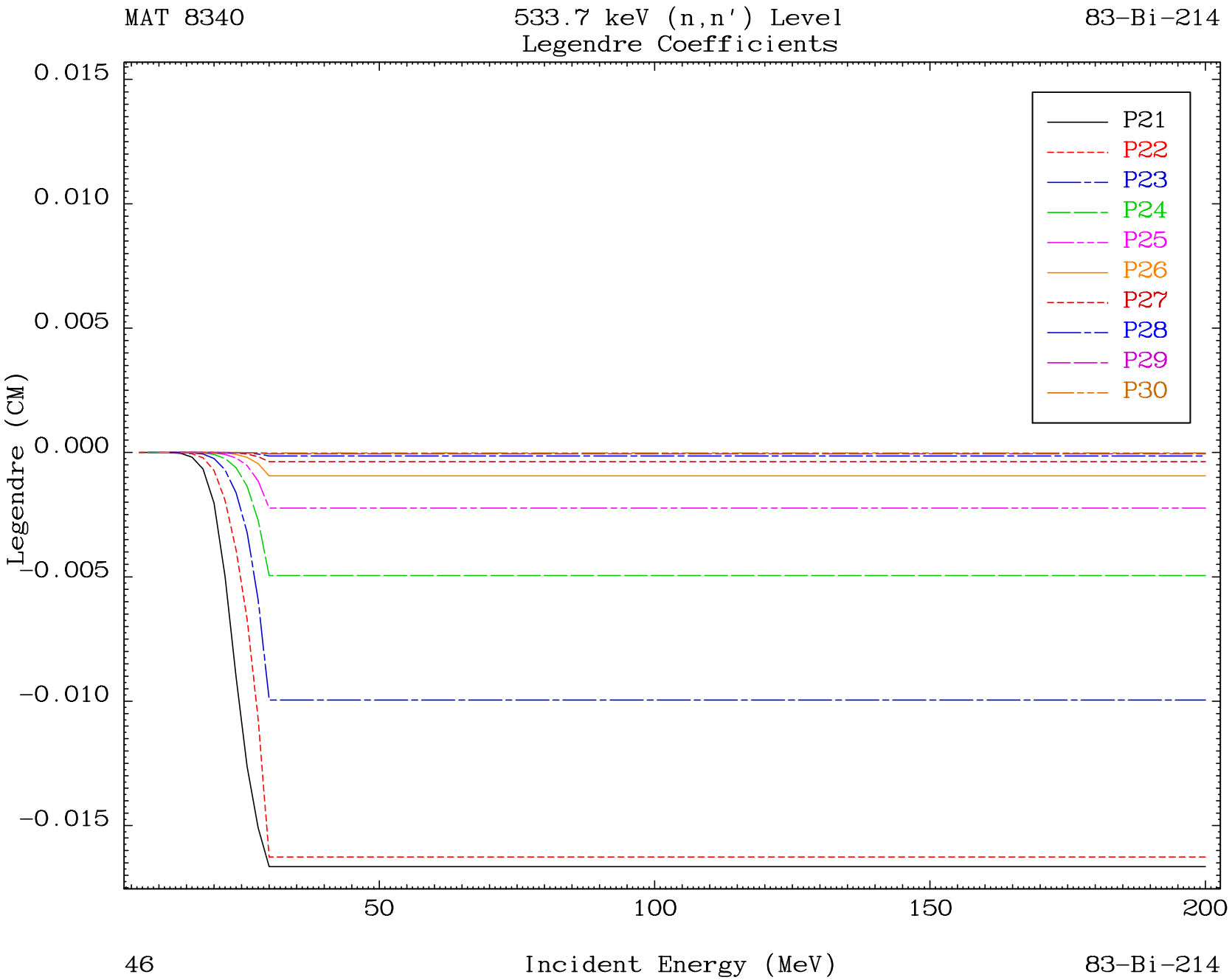

MAT 8340
377.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
41
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

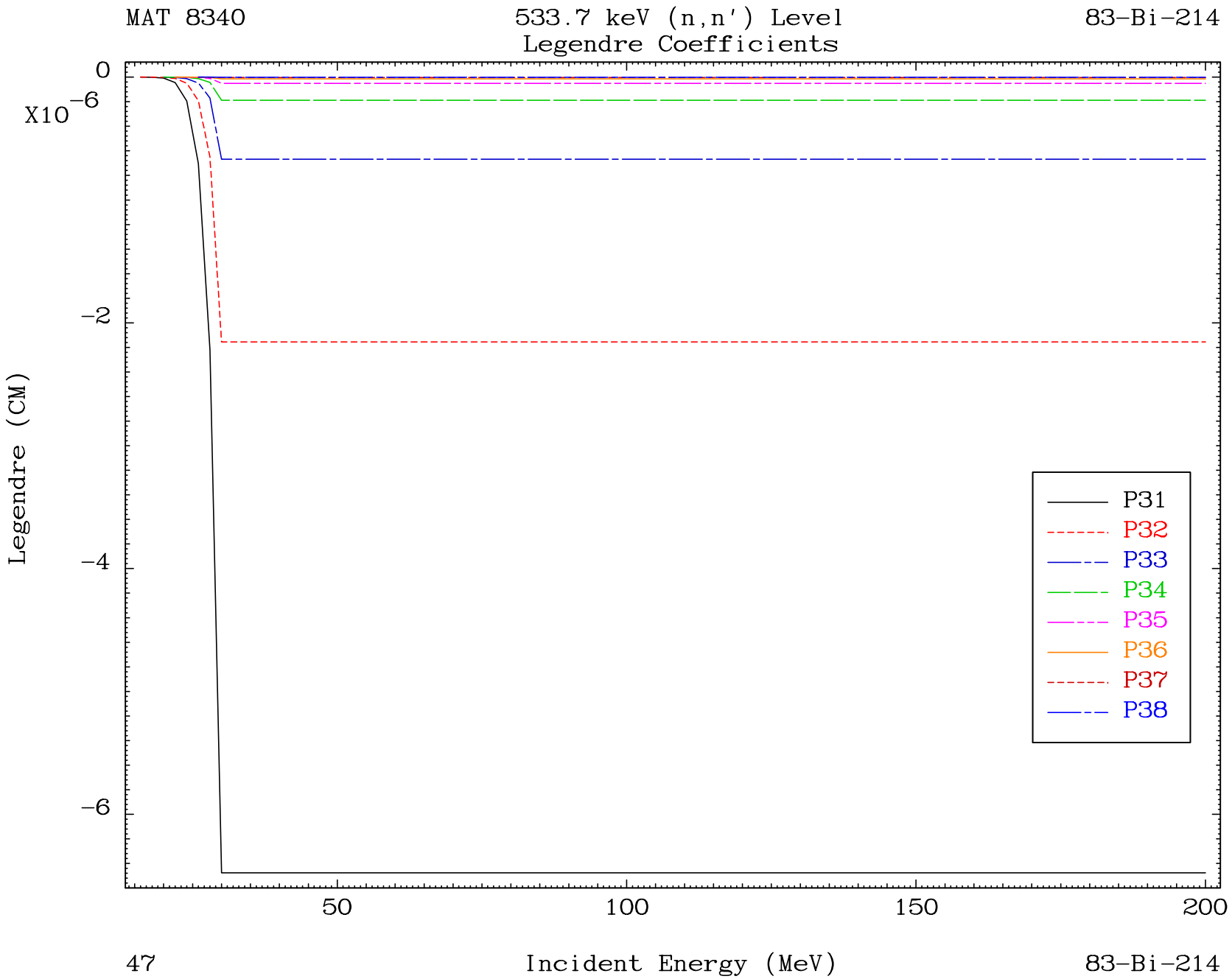

MAT 8340
377.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
2
1
0
-1
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
42
Incident Energy (MeV)
83-Bi-214

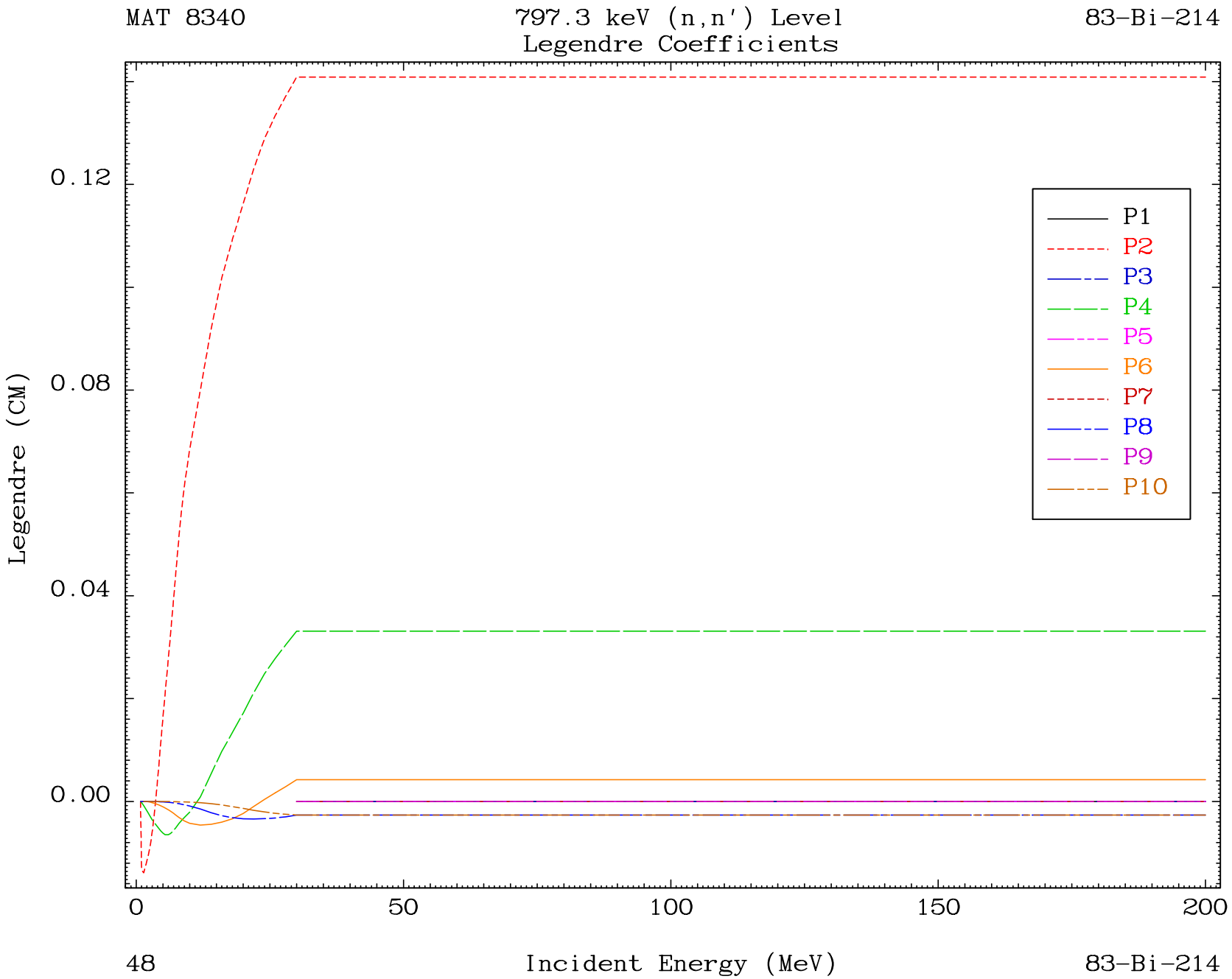

MAT 8340
377.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
6
4
2
0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
43
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28

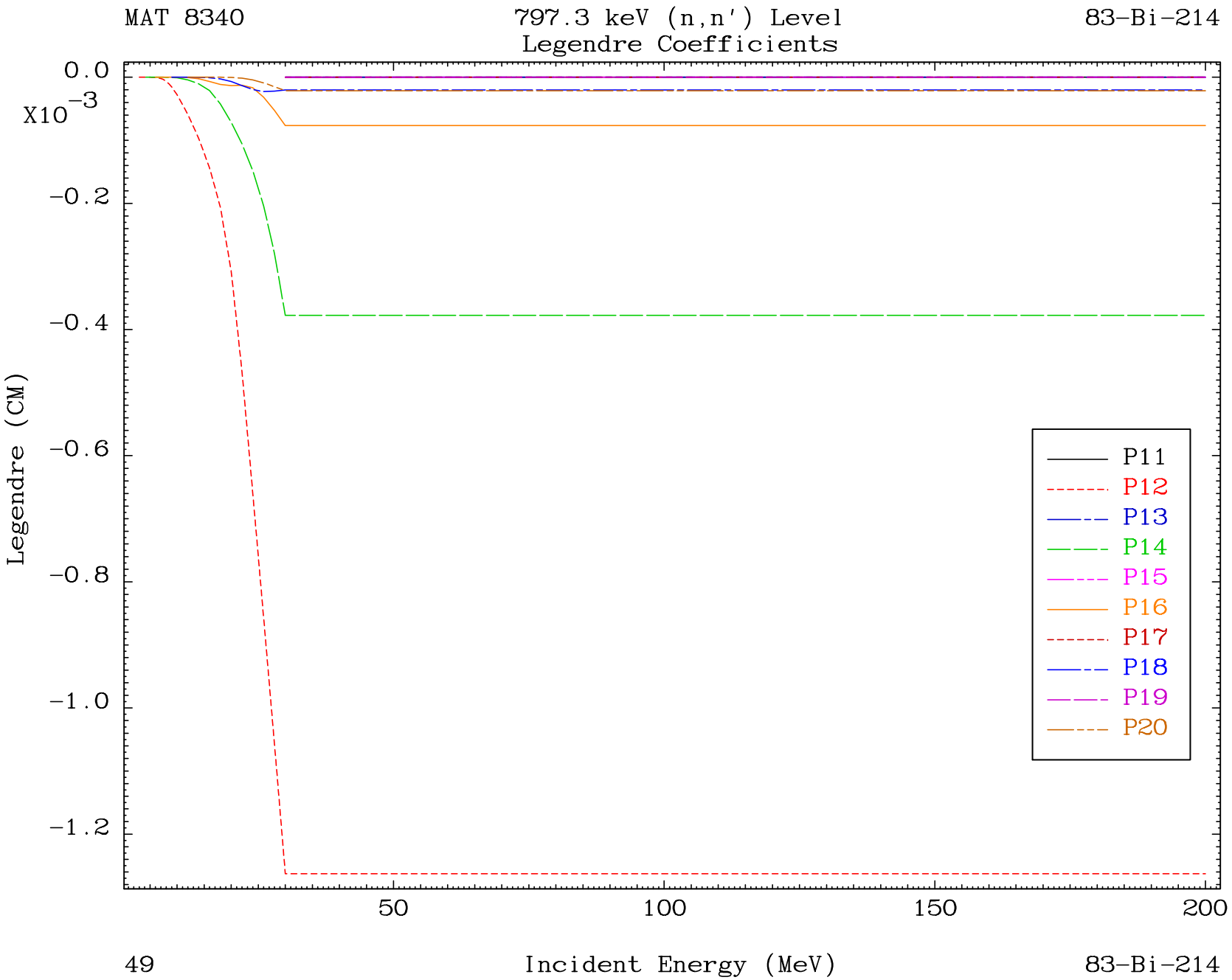

MAT 8340
533.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
44
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

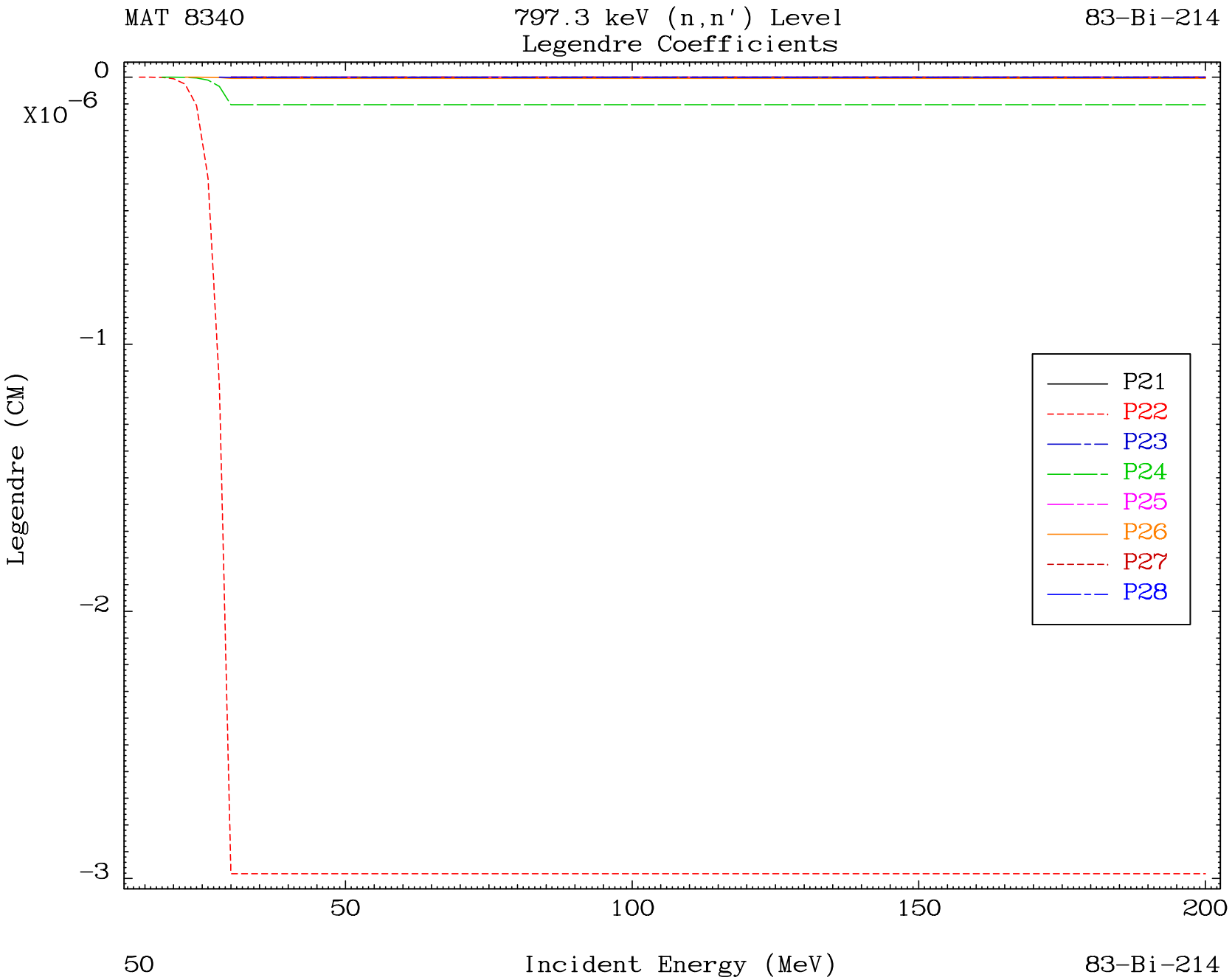

MAT 8340
533.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
45
Incident Energy (MeV)
83-Bi-214

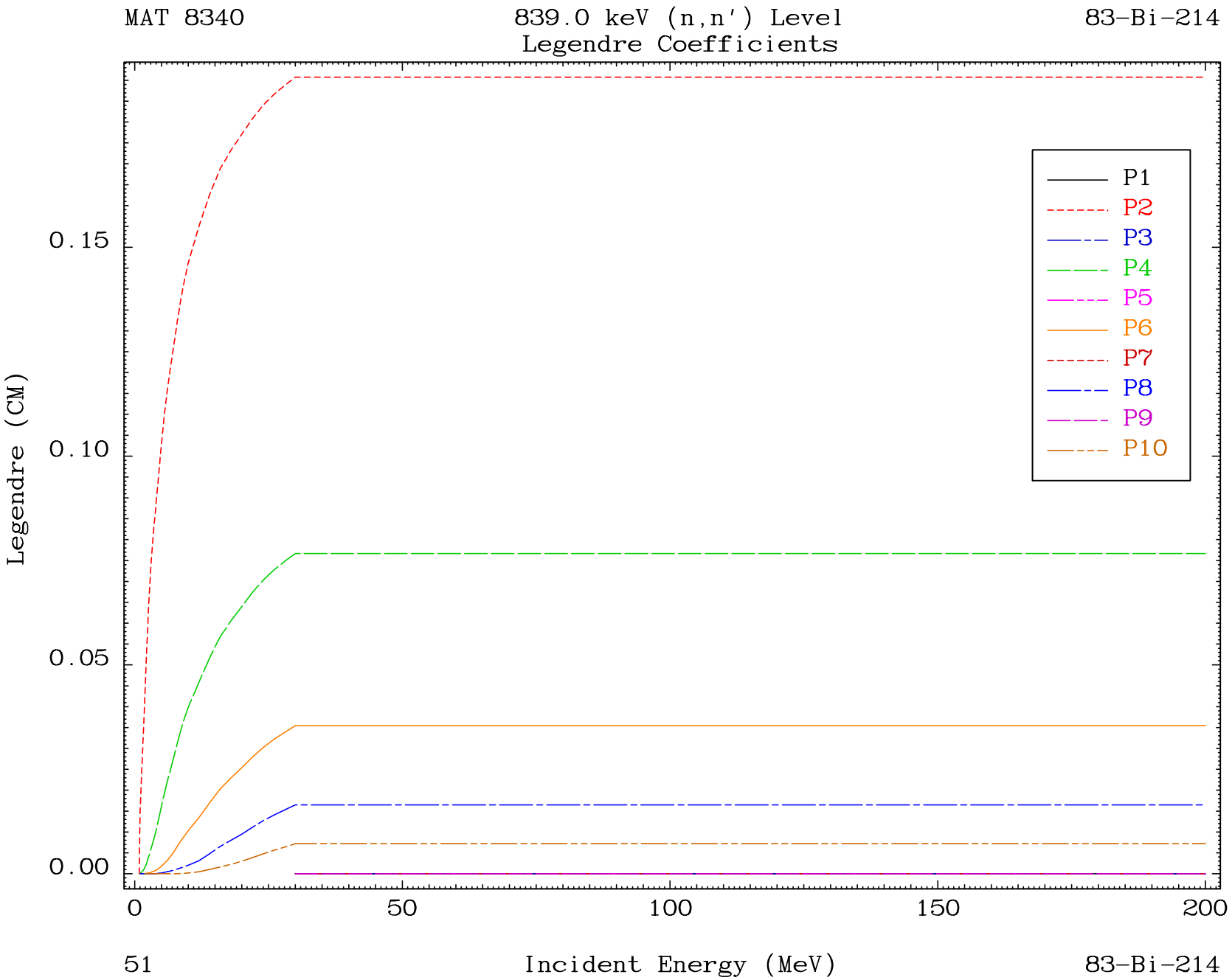

MAT 8340
533.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
46
Incident Energy (MeV)
83-Bi-214

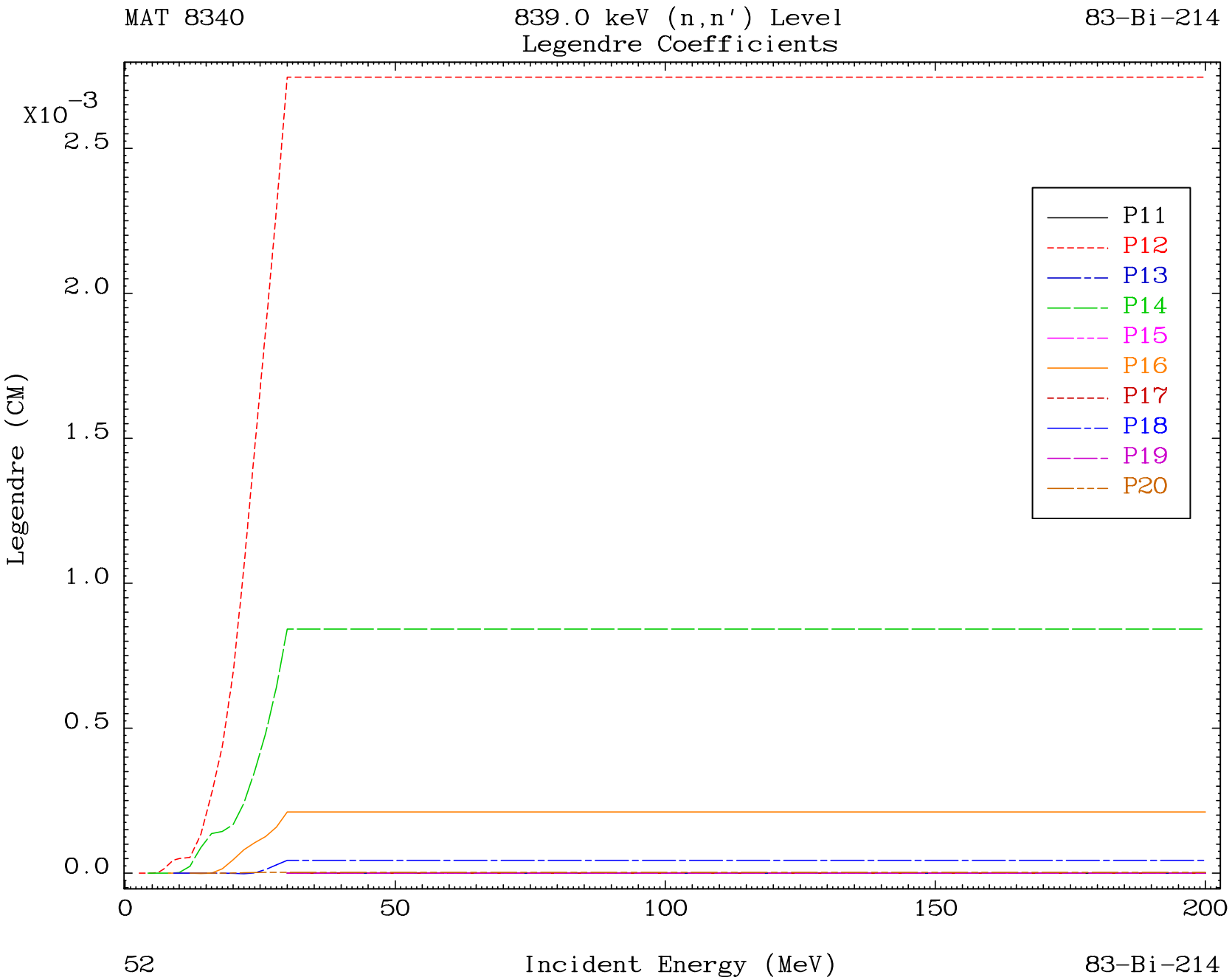

MAT 8340
533.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10 −6
−2
−4
−6
Legendre (CM)
50
100
150
200
47
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

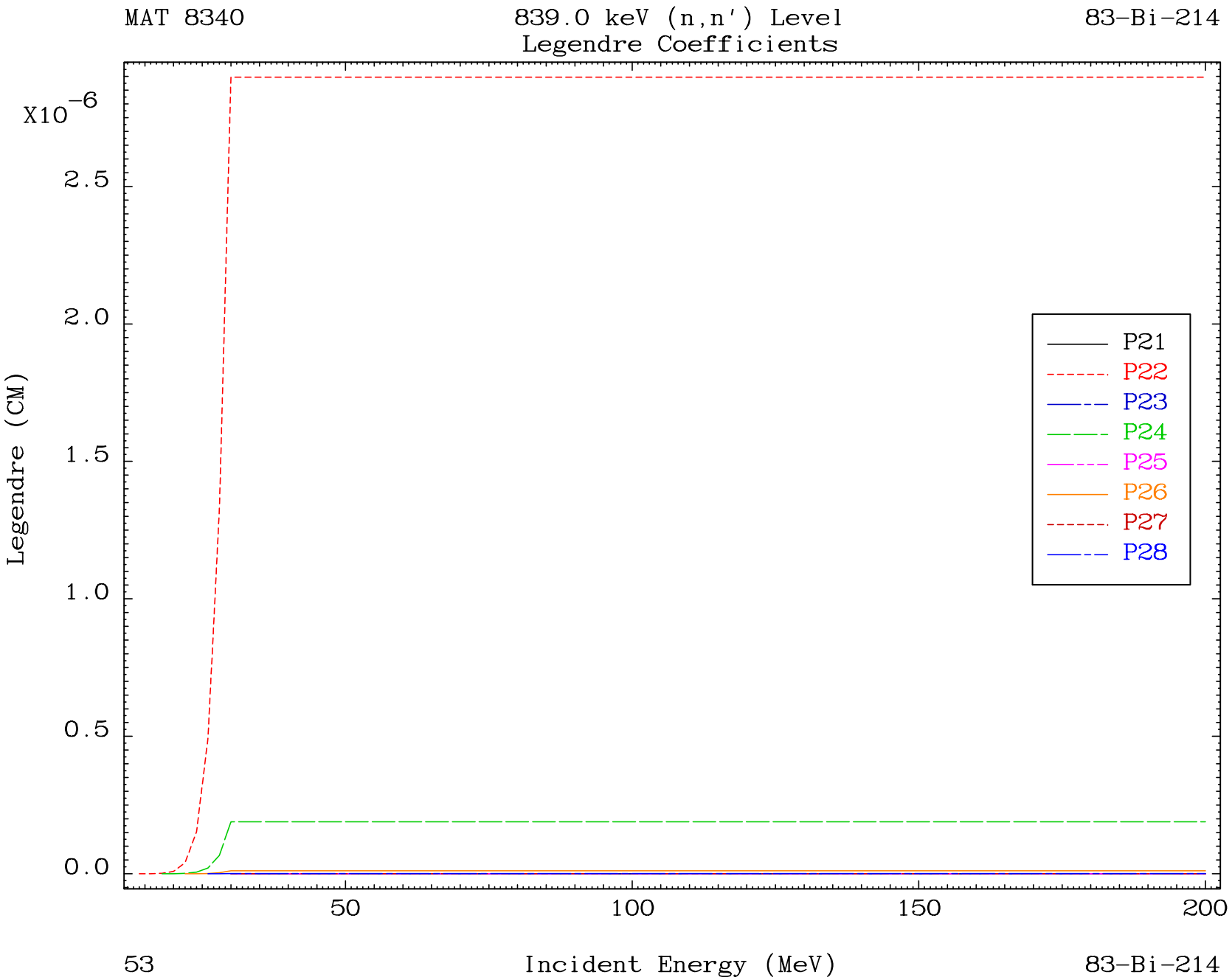

MAT 8340
797.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.12
0.08
0.04
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
48
Incident Energy (MeV)
83-Bi-214

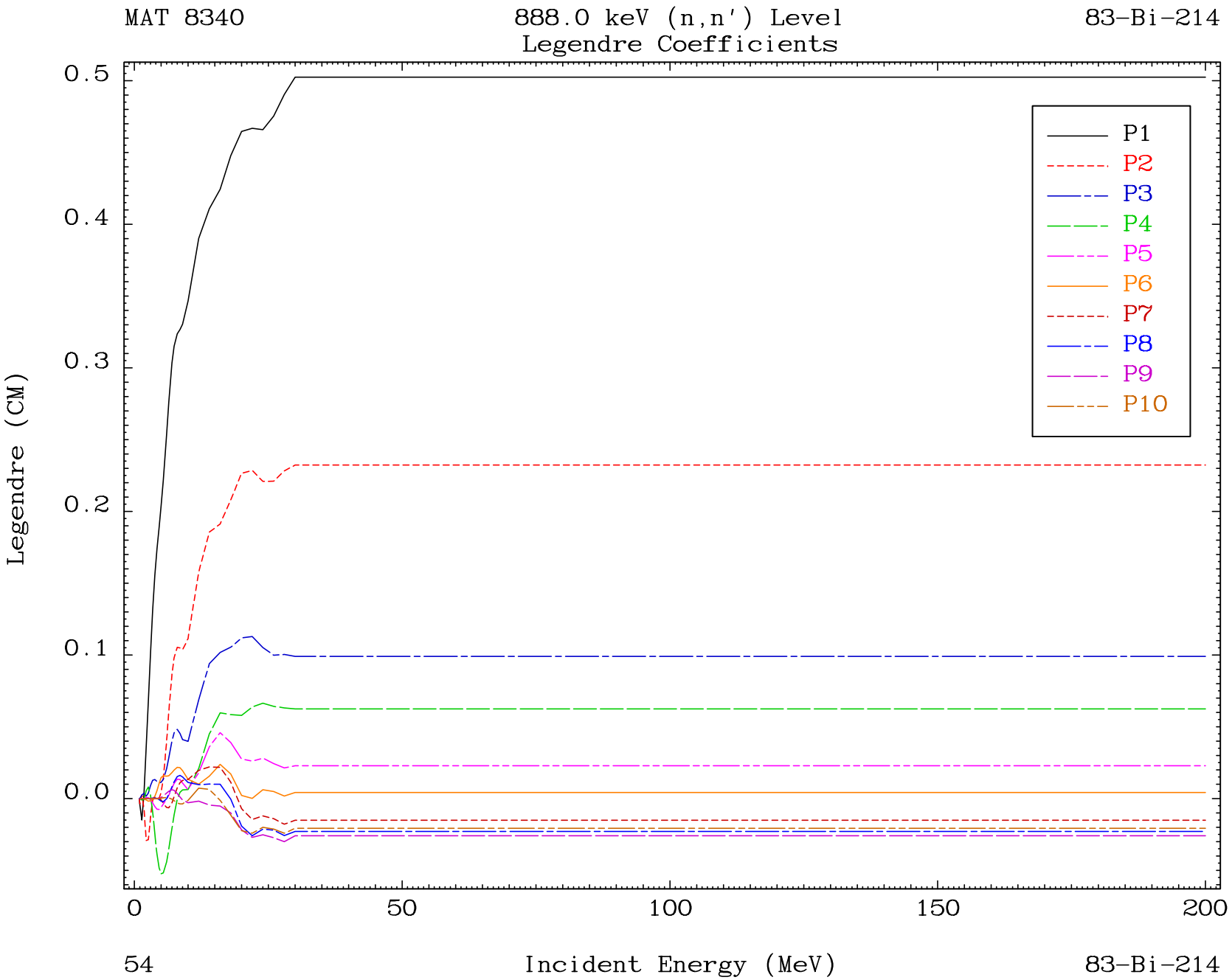

MAT 8340
797.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
49
Incident Energy (MeV)
83-Bi-214

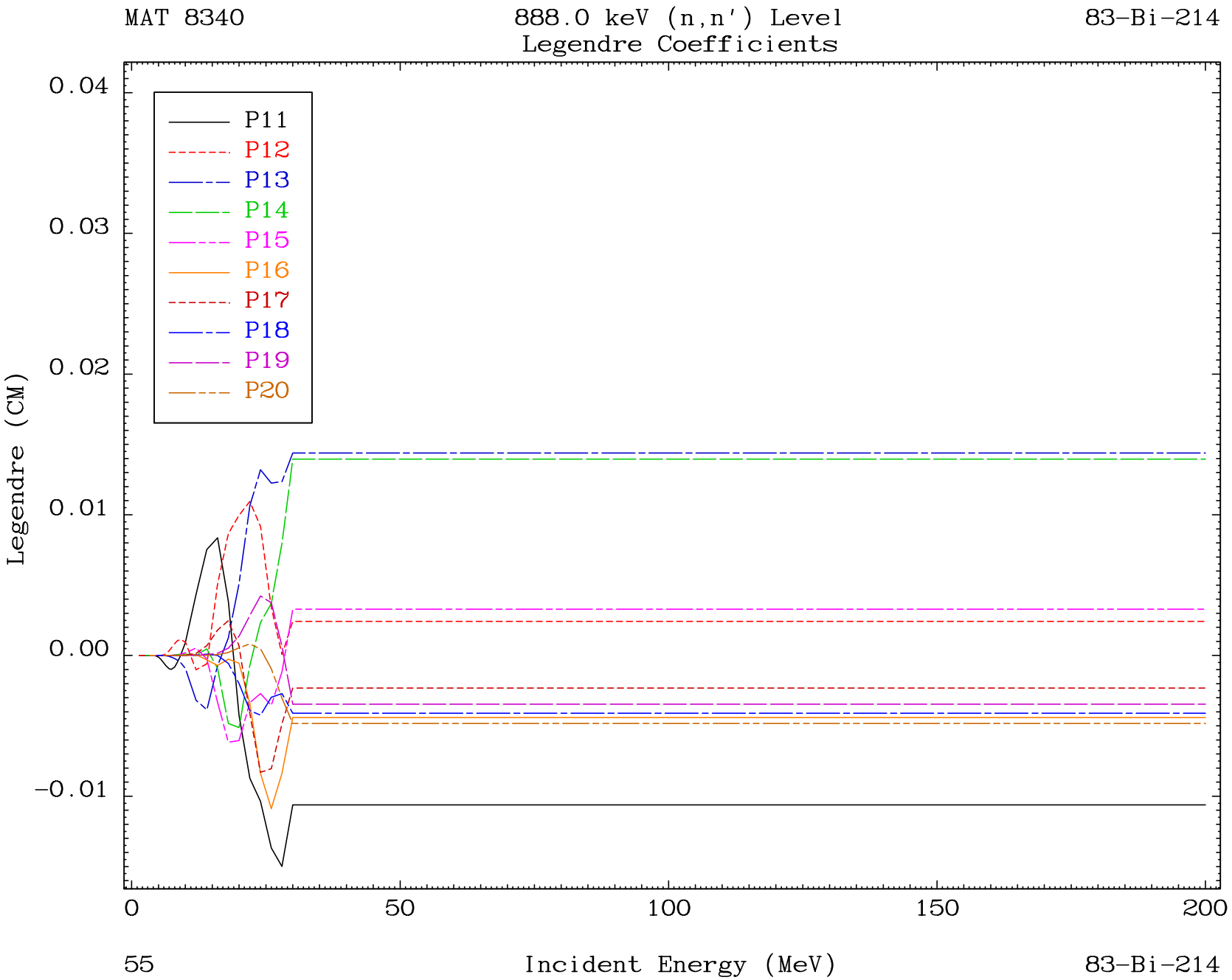

MAT 8340
797.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10 −6
−1
−2
−3
Legendre (CM)
50
100
150
200
50
Incident Energy (MeV)
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28

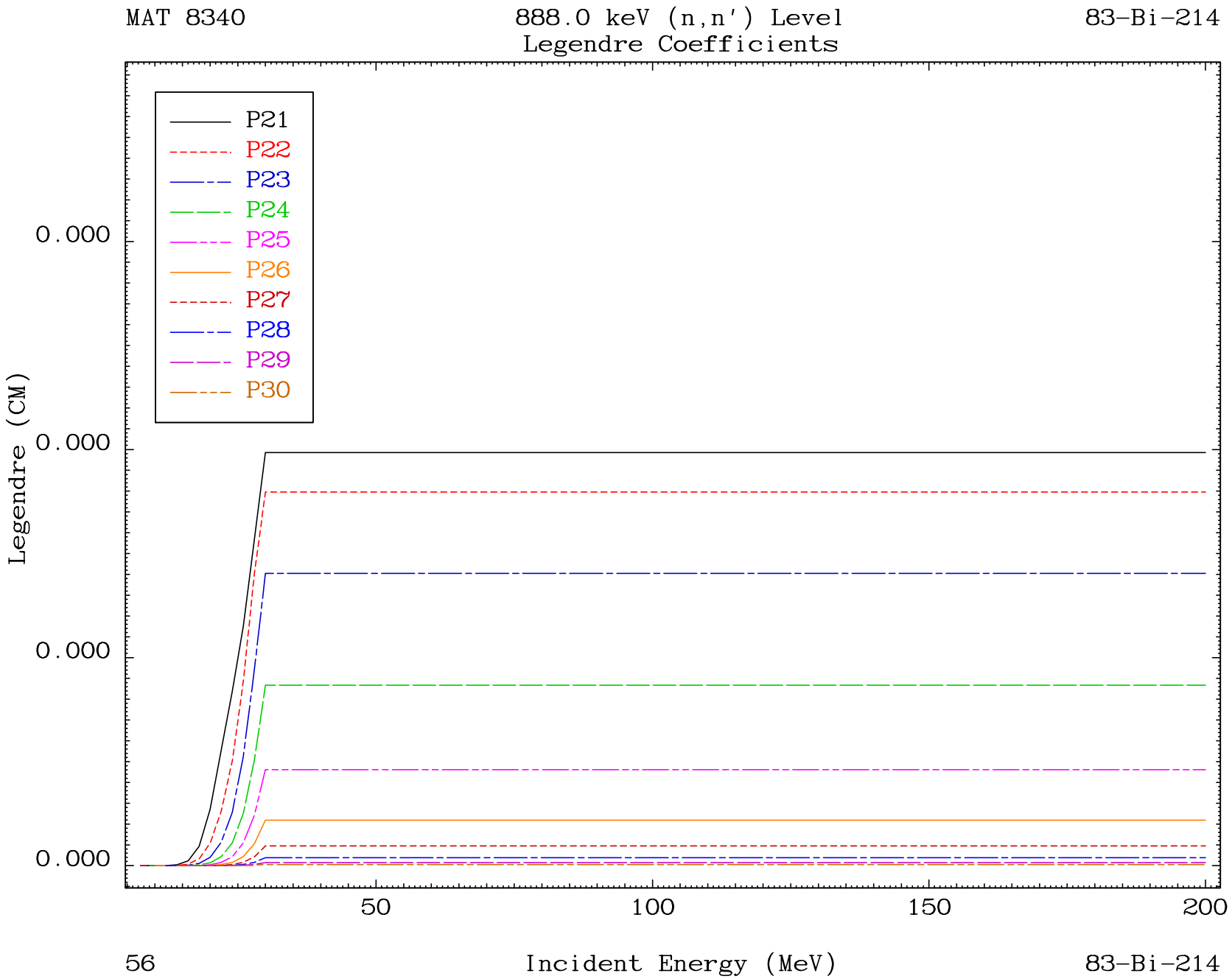

MAT 8340
839.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.15
0.10
0.05
0.00
0
50
100
150
200
Incident Energy (MeV)
51
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

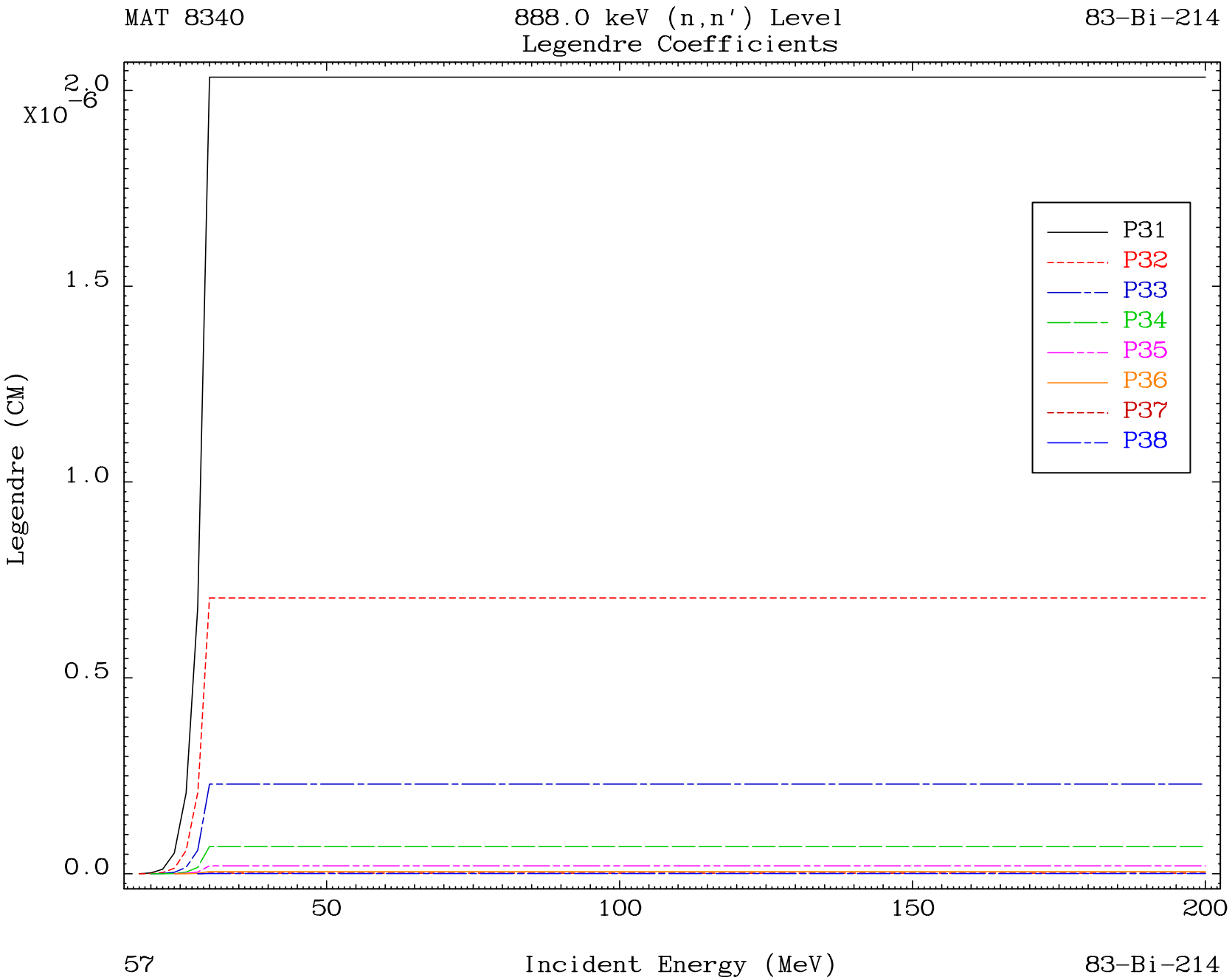

MAT 8340
839.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-3
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
52
Incident Energy (MeV)
83-Bi-214

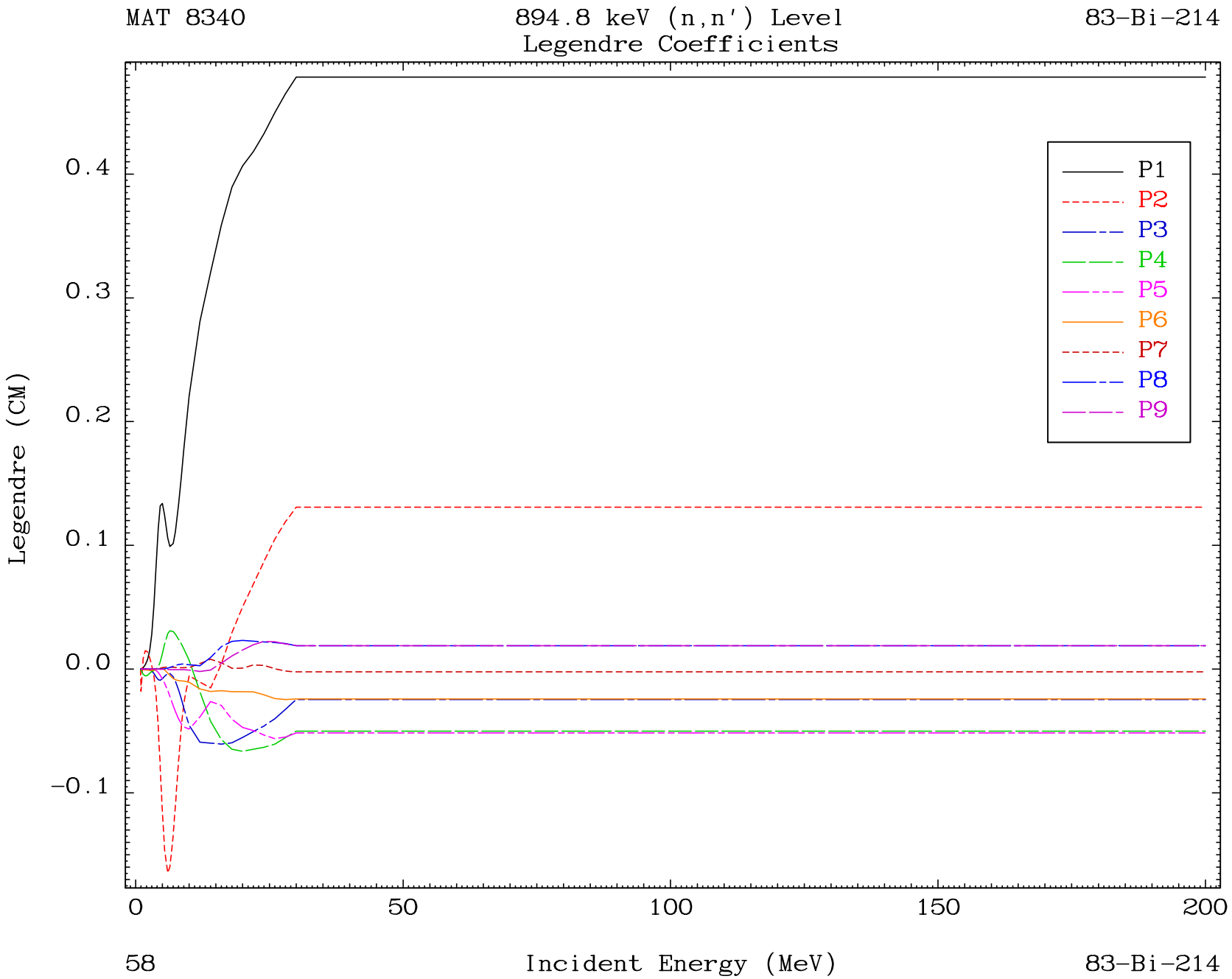

MAT 8340
839.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
53
Incident Energy (MeV)
83-Bi-214

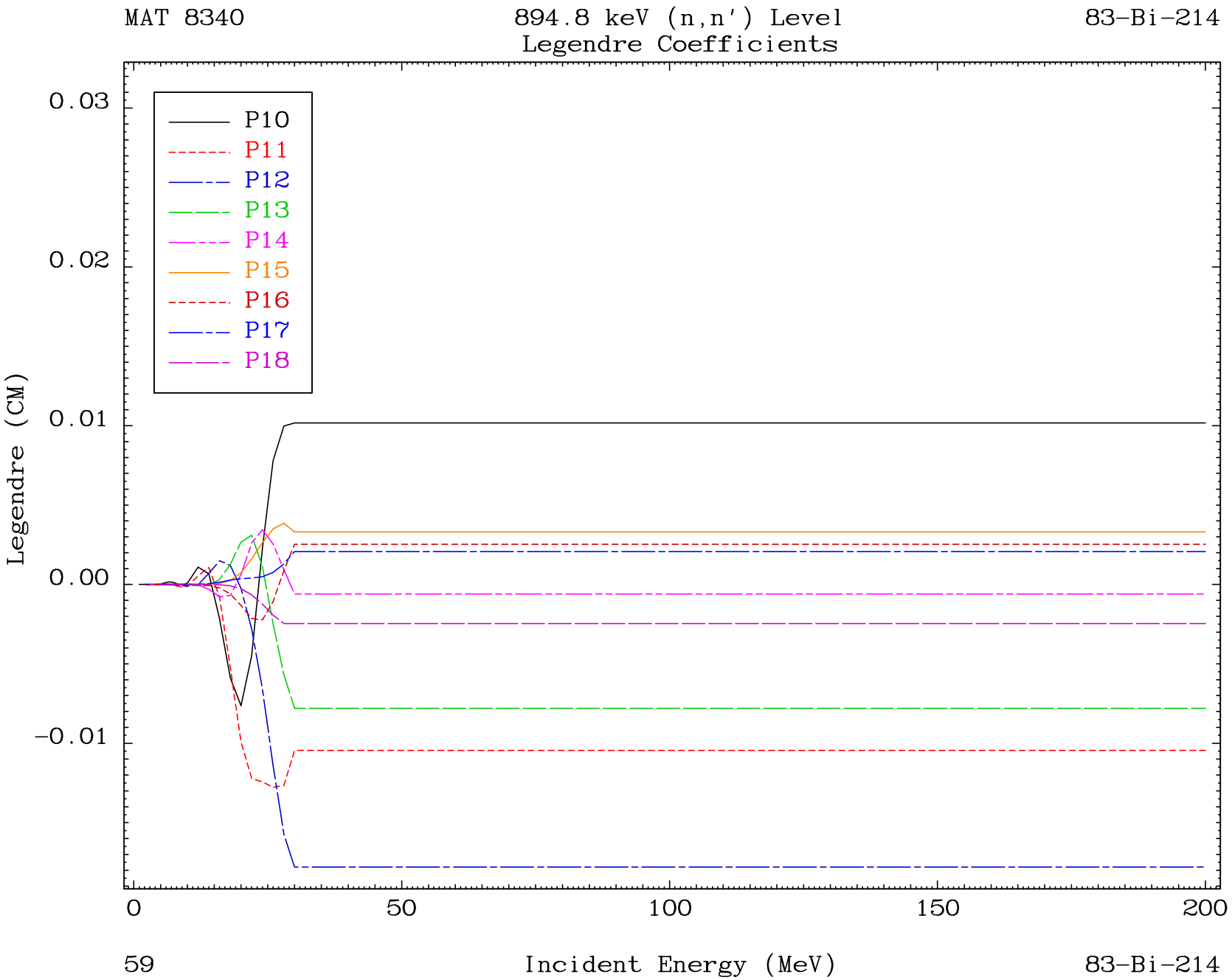

MAT 8340
888.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
54
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

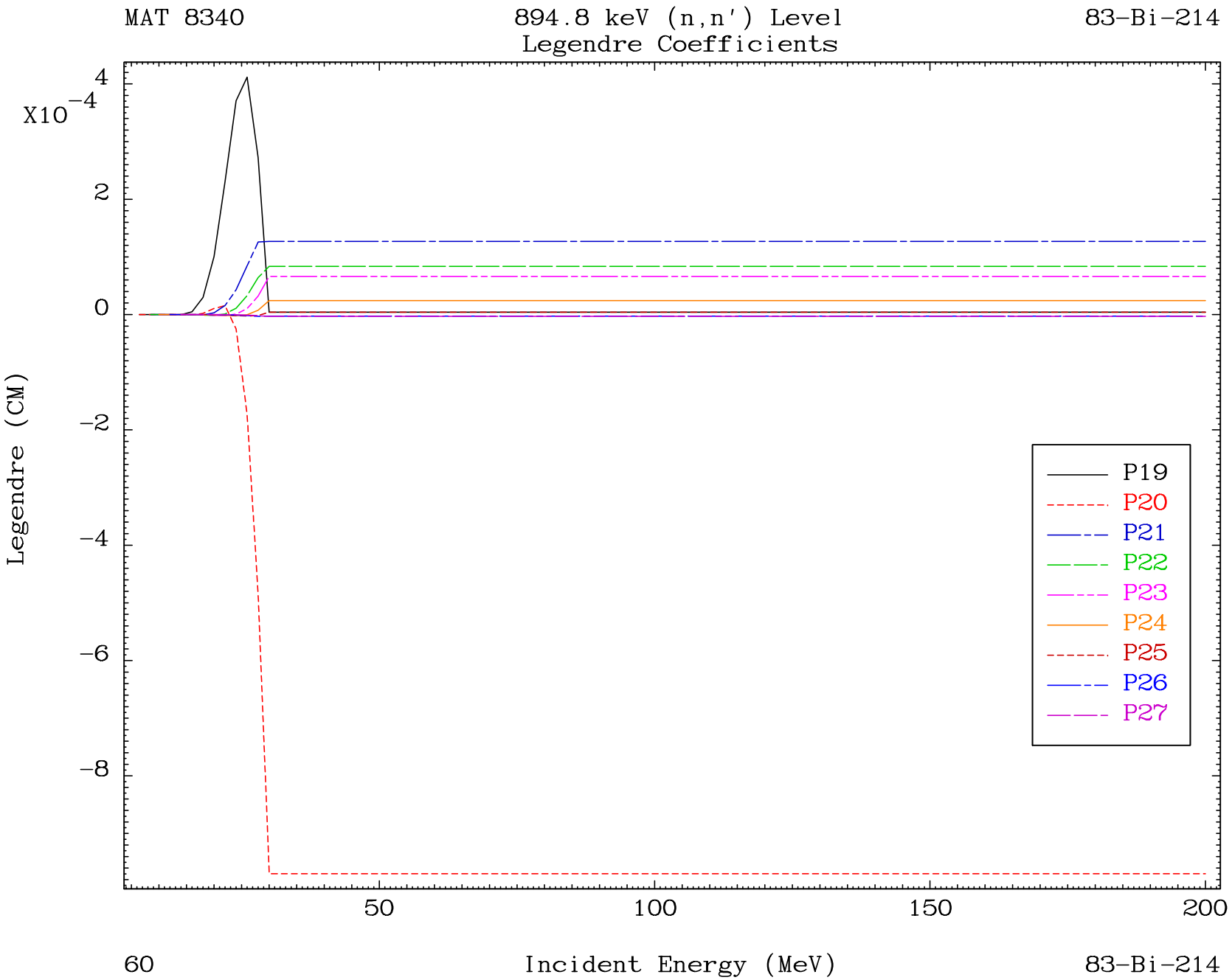

MAT 8340
888.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
55
Incident Energy (MeV)
83-Bi-214

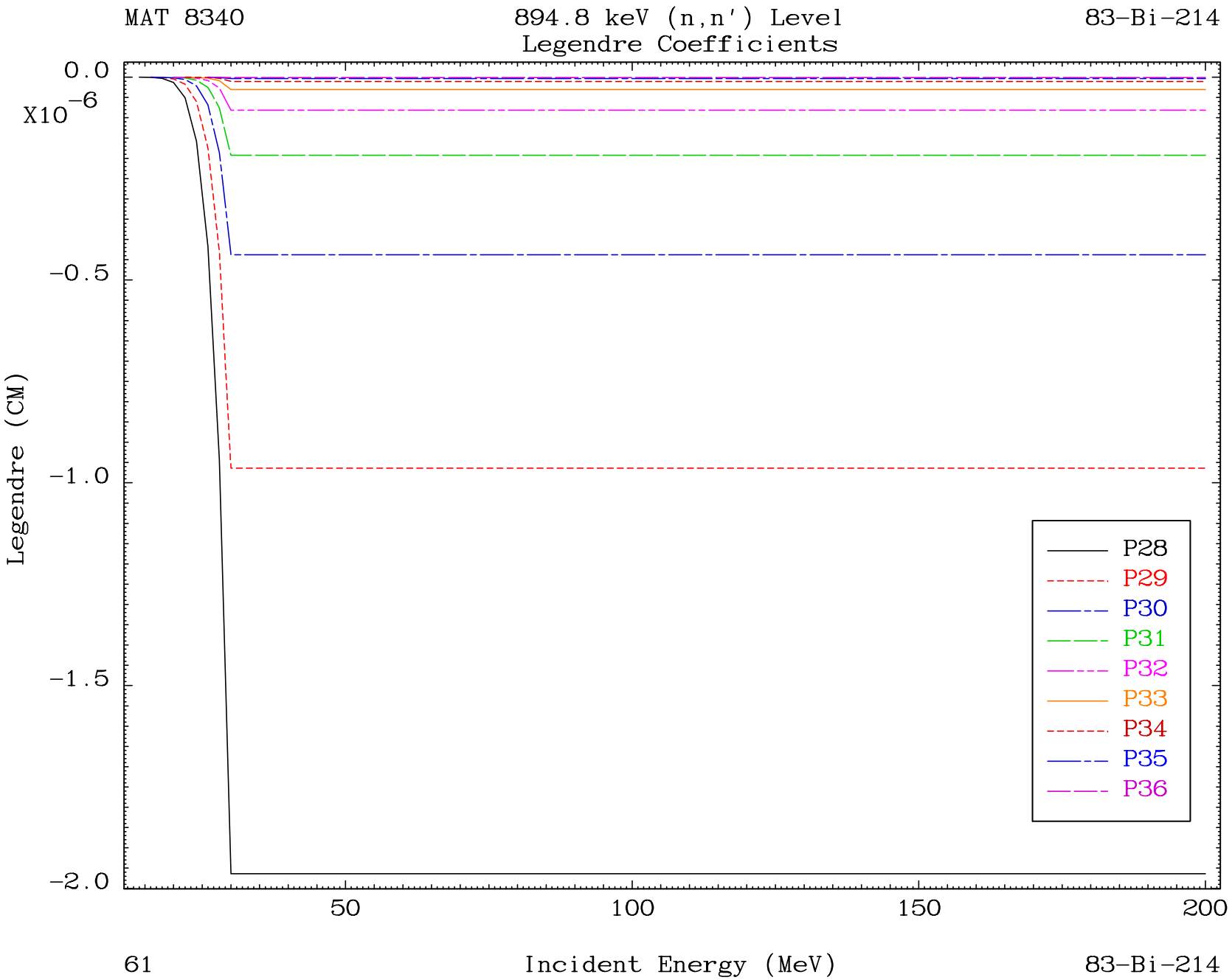

MAT 8340
888.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.000
0.000
0.000
0.000
Legendre (CM)
50
100
150
200
56
Incident Energy (MeV)
83-Bi-214

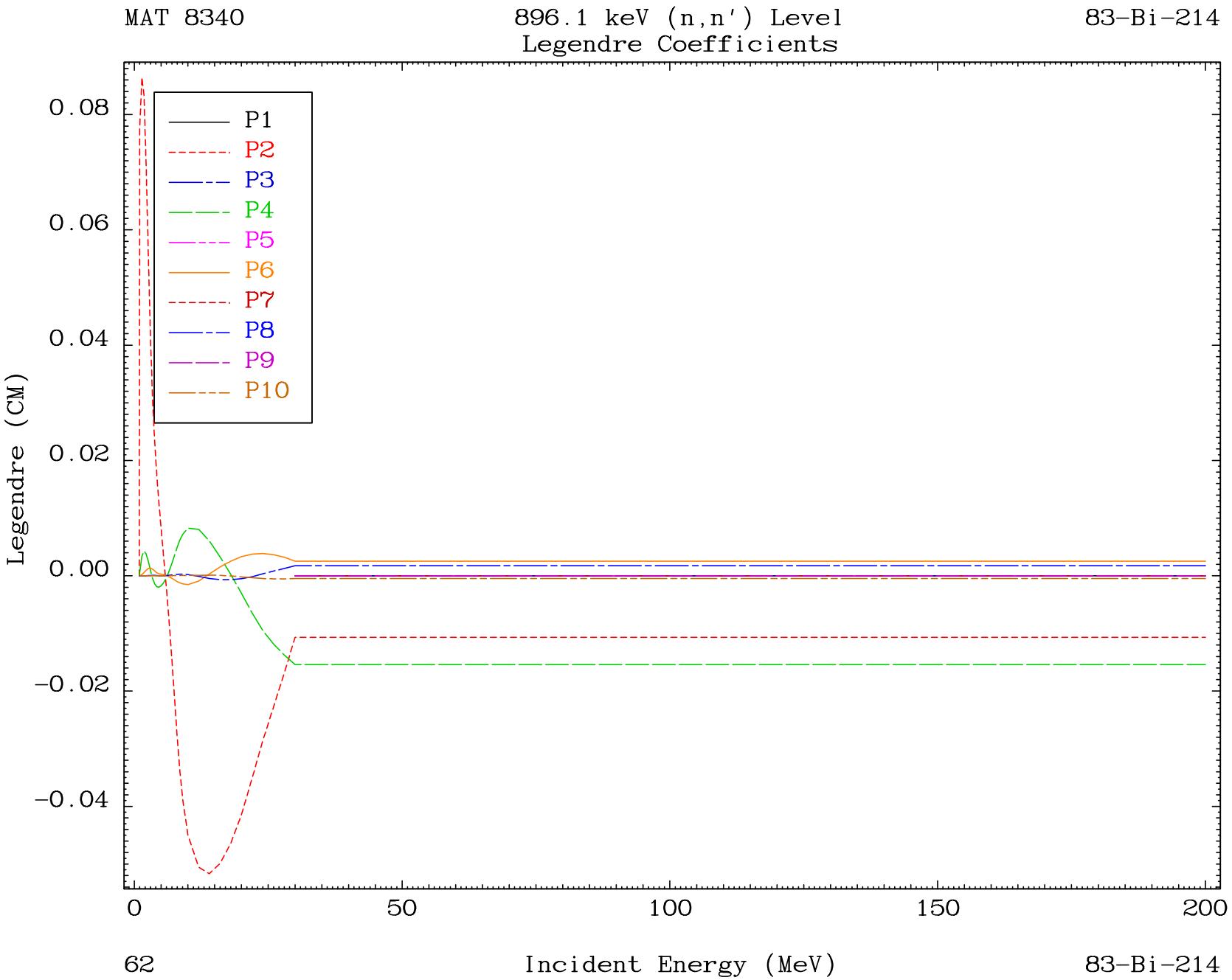

MAT 8340
888.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10 -6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
57
Incident Energy (MeV)
83-Bi-214

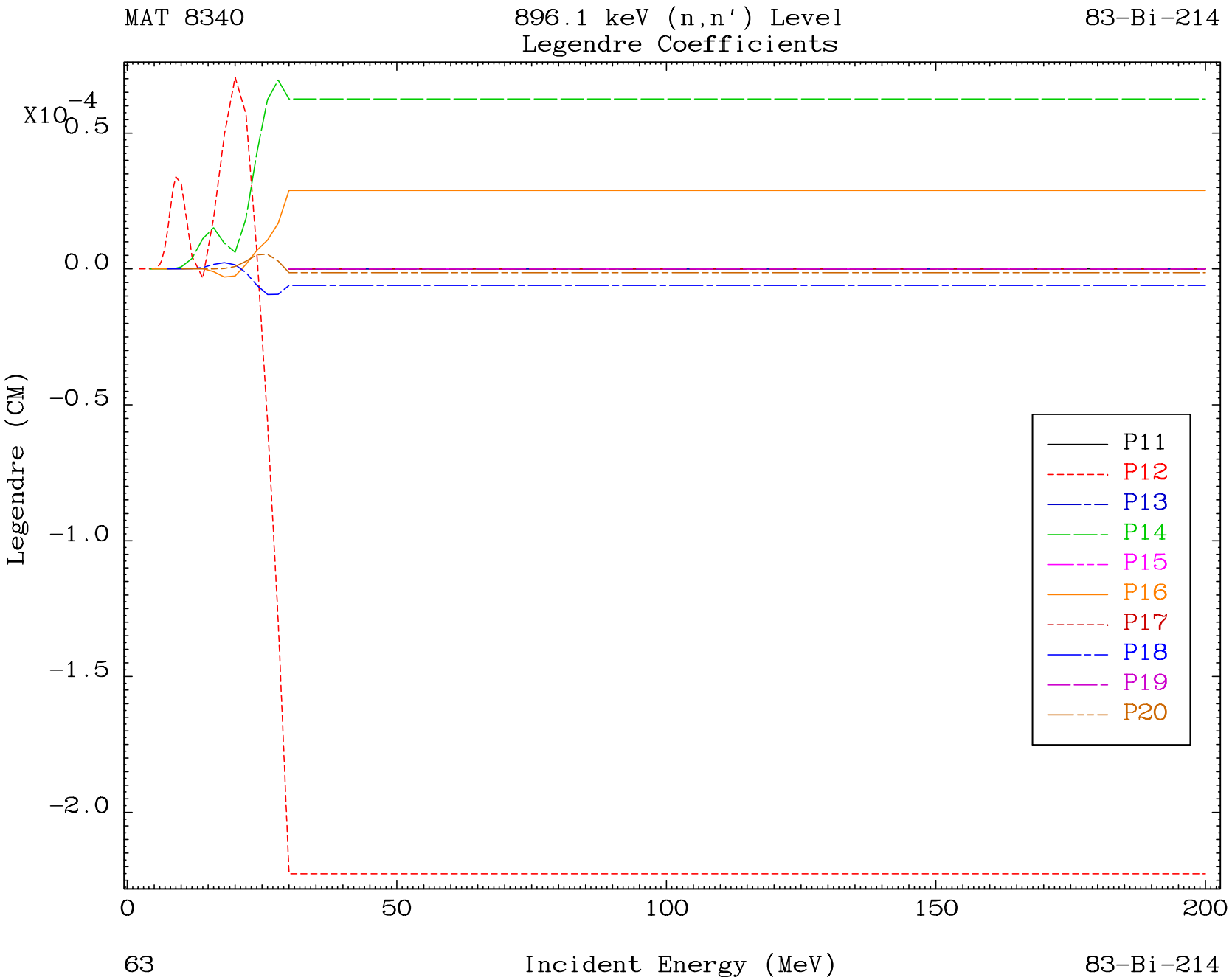

MAT 8340
894.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
58
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9

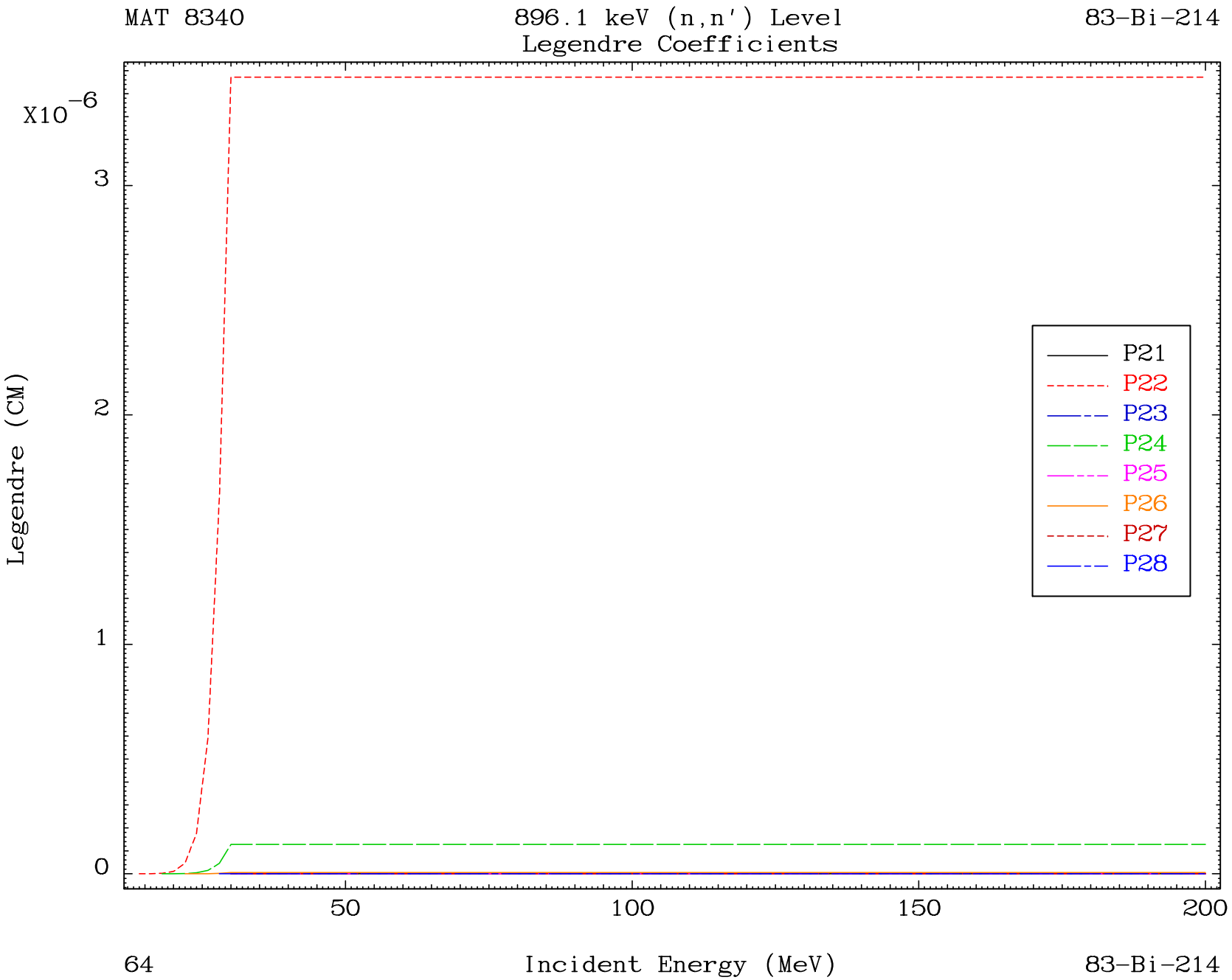

MAT 8340
894.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
59
Incident Energy (MeV)
83-Bi-214

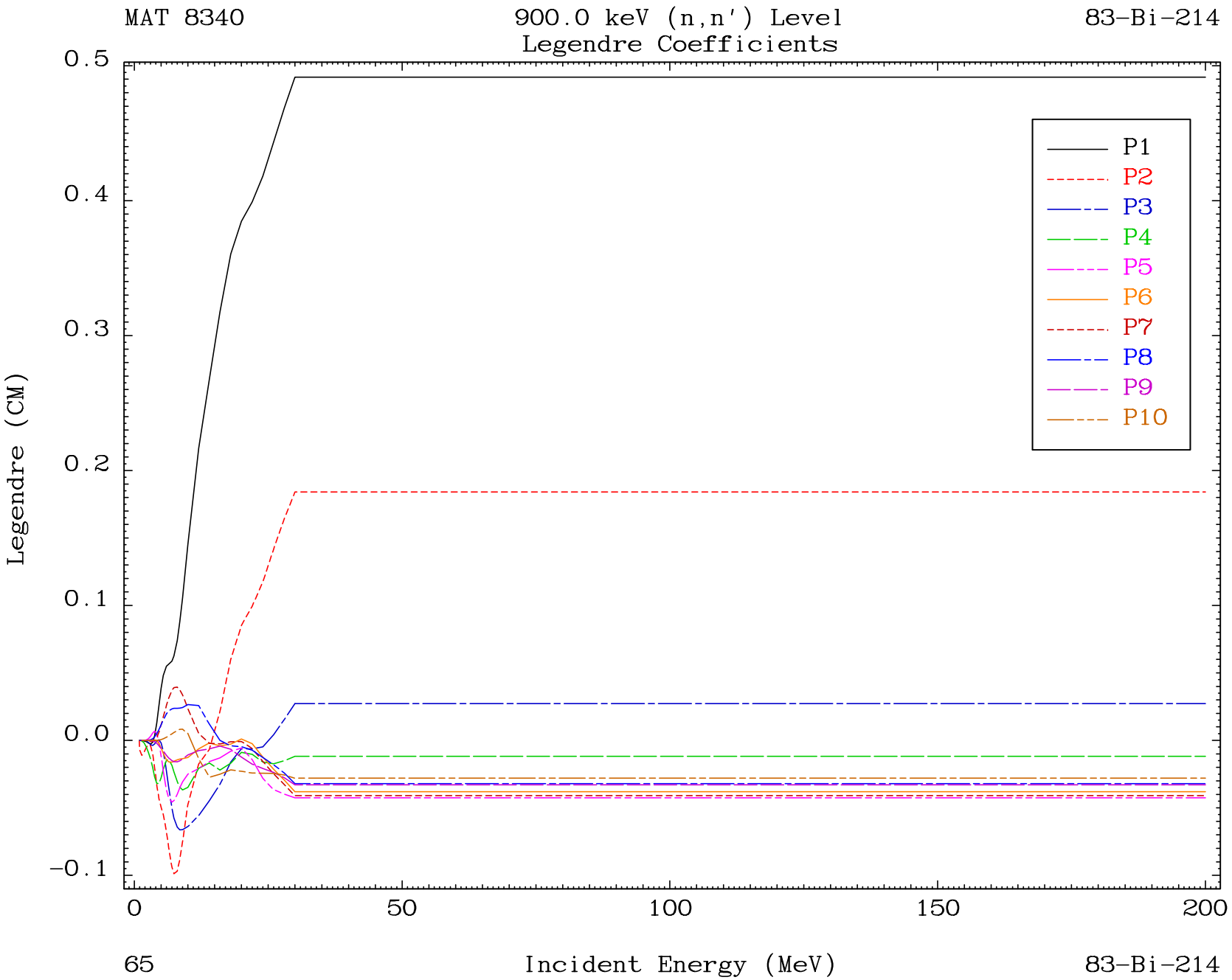

MAT 8340
894.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
4
2
0
-2
-4
-6
-8
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
60
Incident Energy (MeV)
83-Bi-214

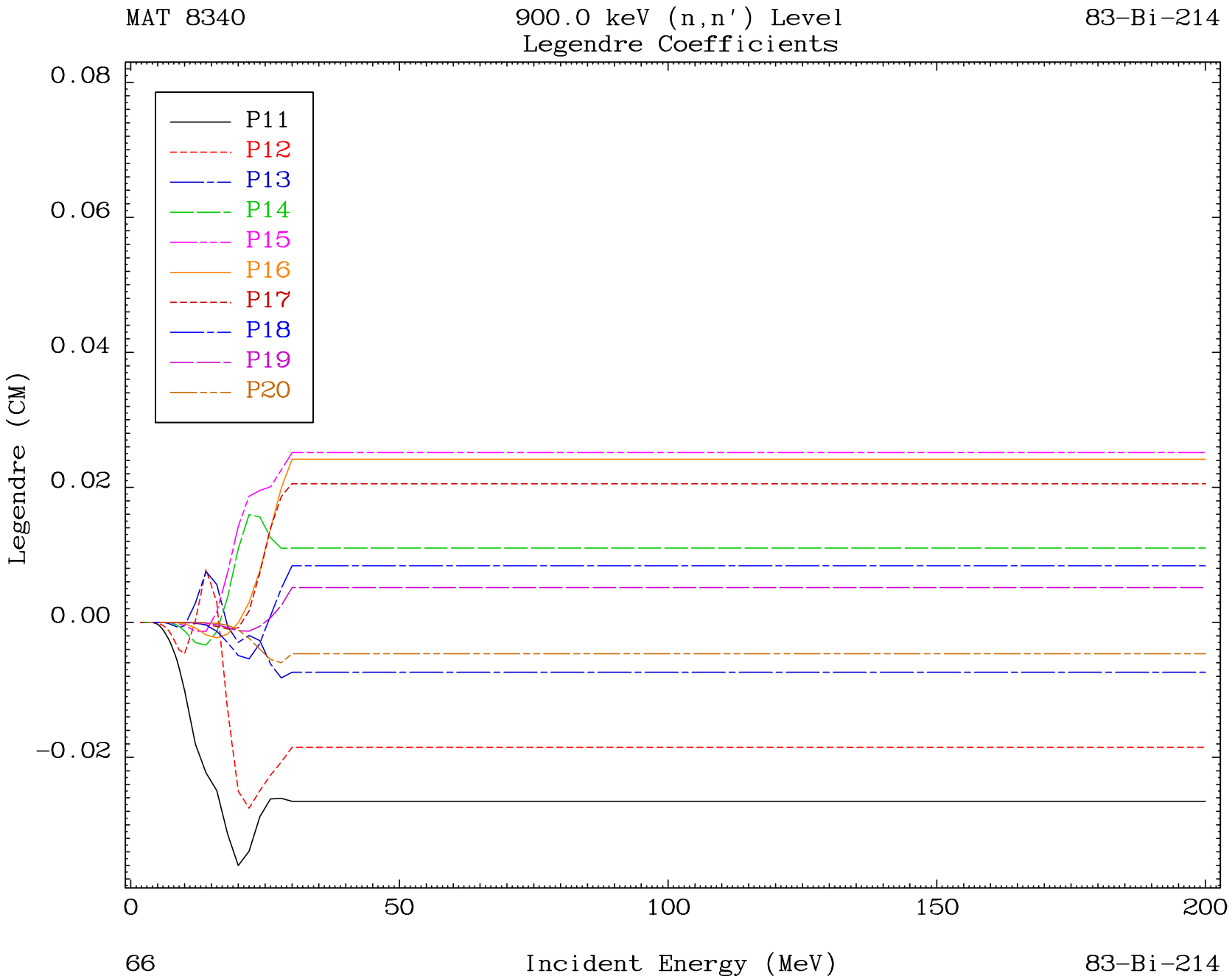

MAT 8340
894.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
61
Incident Energy (MeV)
83-Bi-214
P28
P29
P30
P31
P32
P33
P34
P35
P36

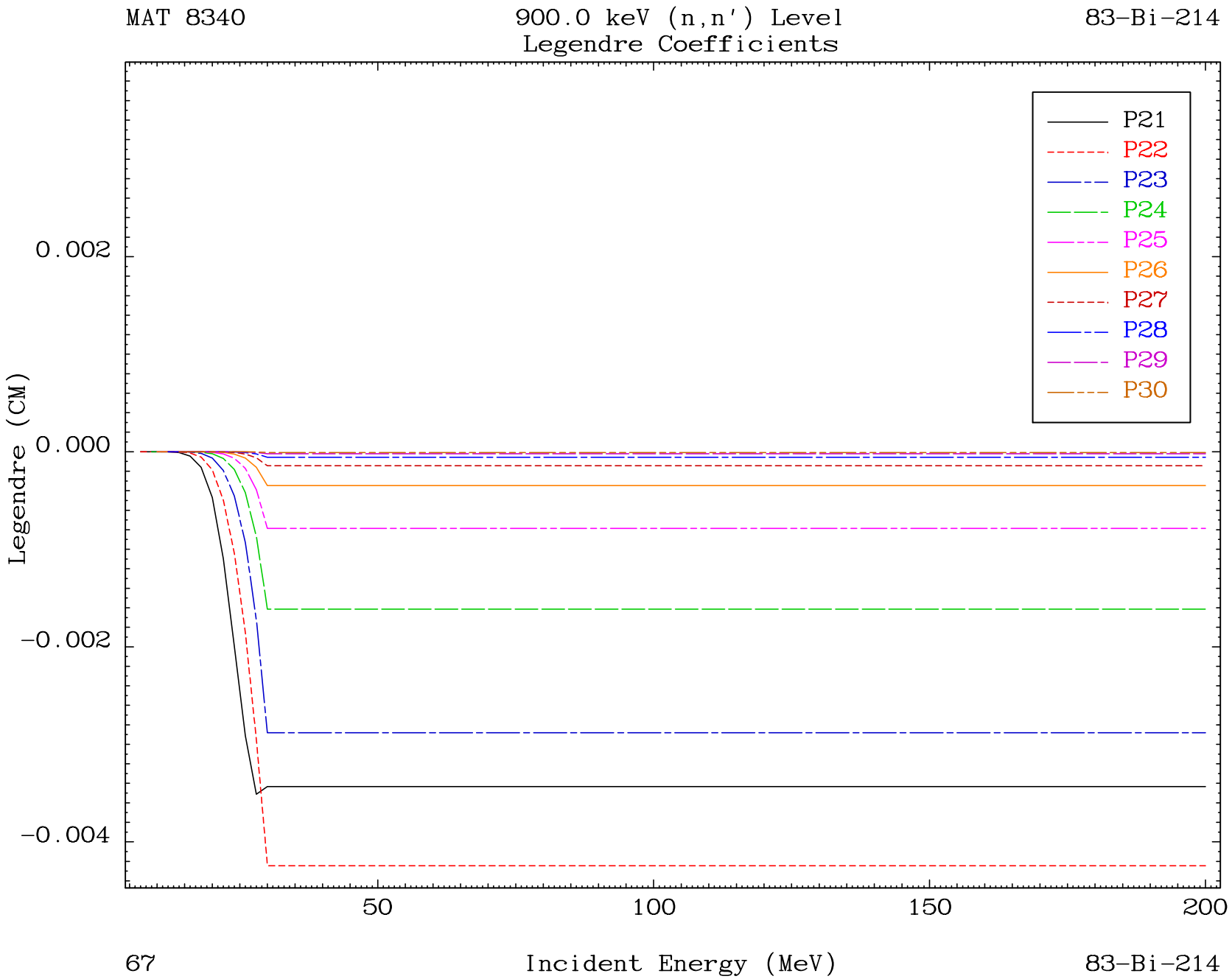

MAT 8340
896.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
62
Incident Energy (MeV)
83-Bi-214

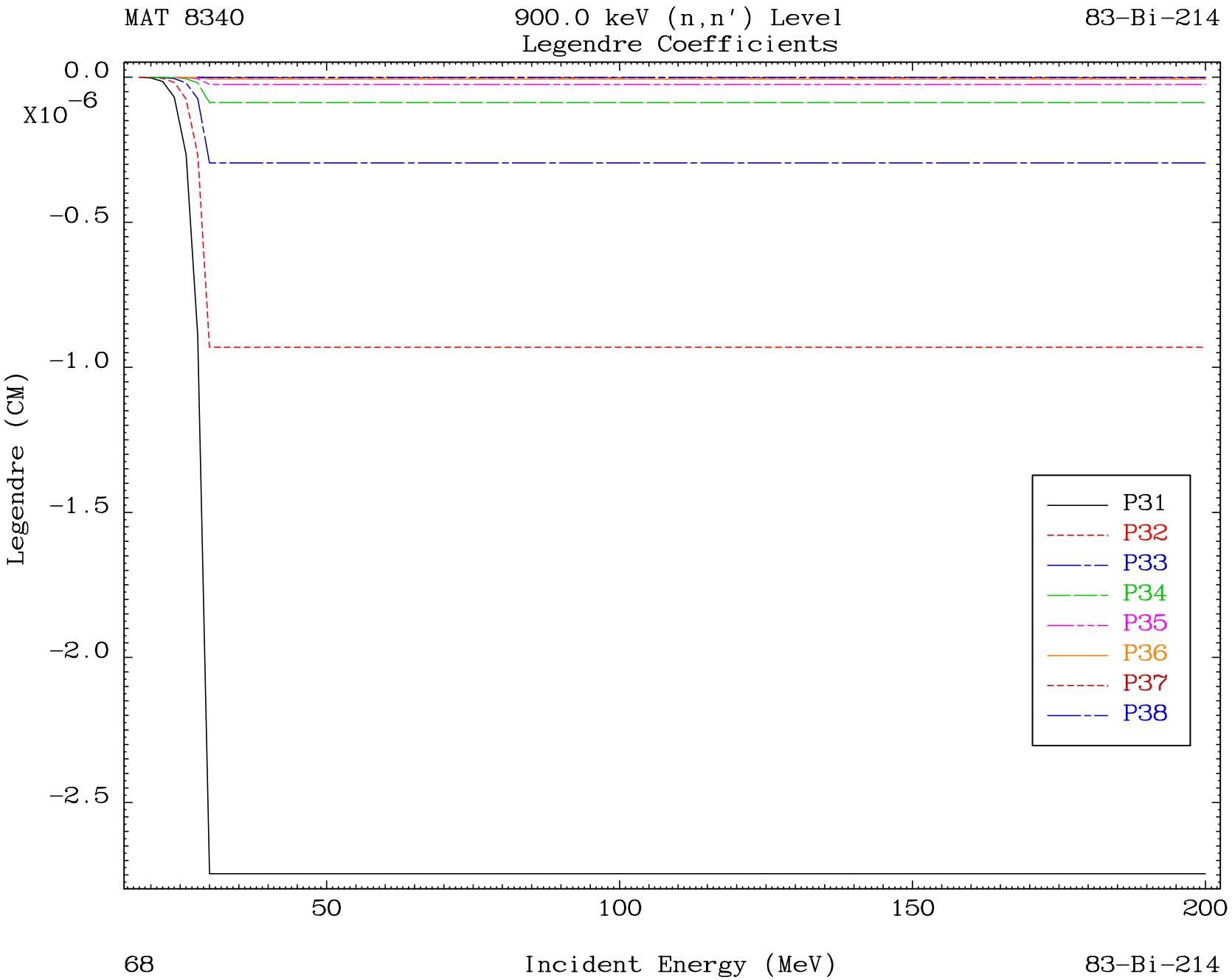

MAT 8340
896.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
0.5
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
0
50
100
150
200
63
Incident Energy (MeV)
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

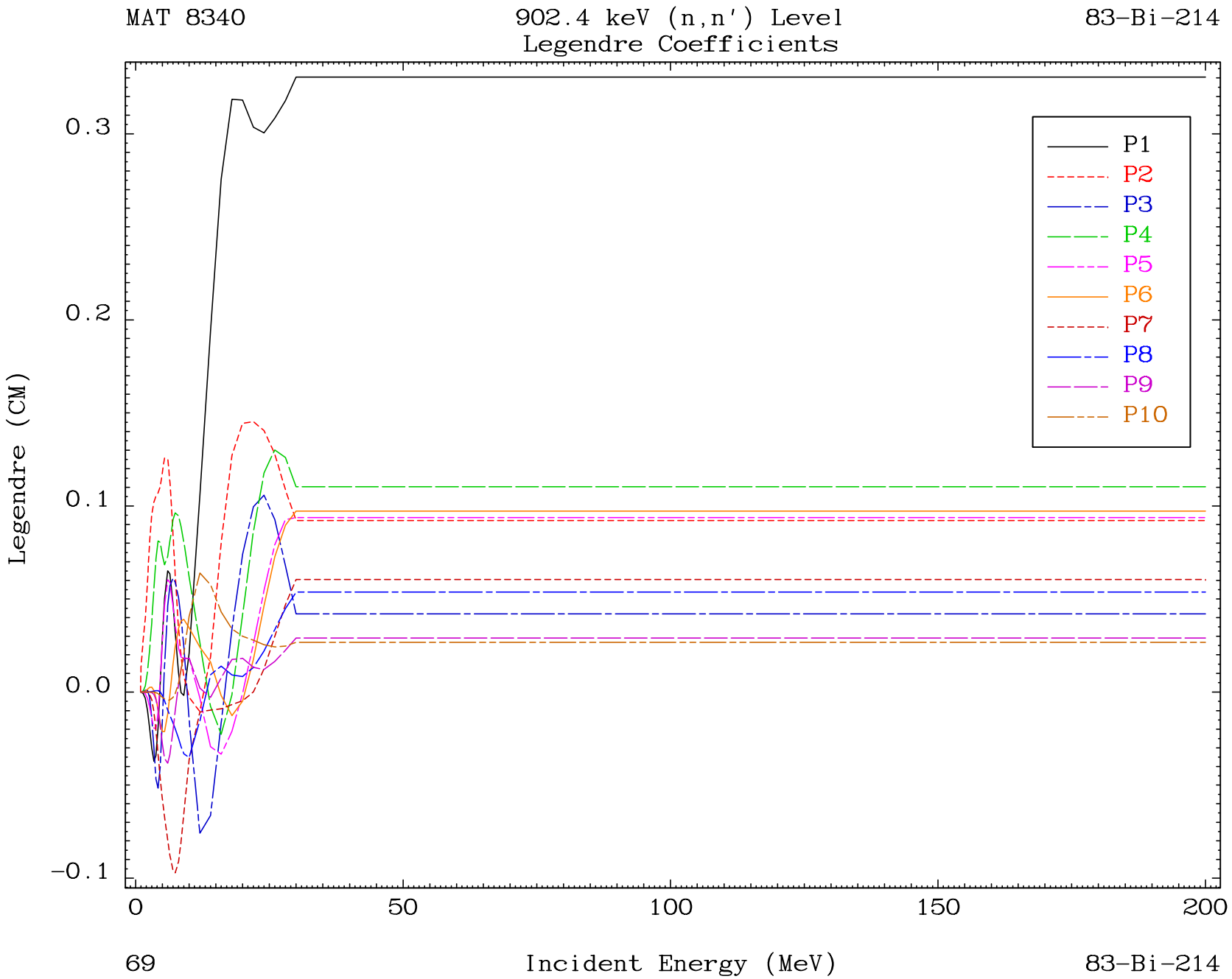

MAT 8340
896.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
64
Incident Energy (MeV)
83-Bi-214

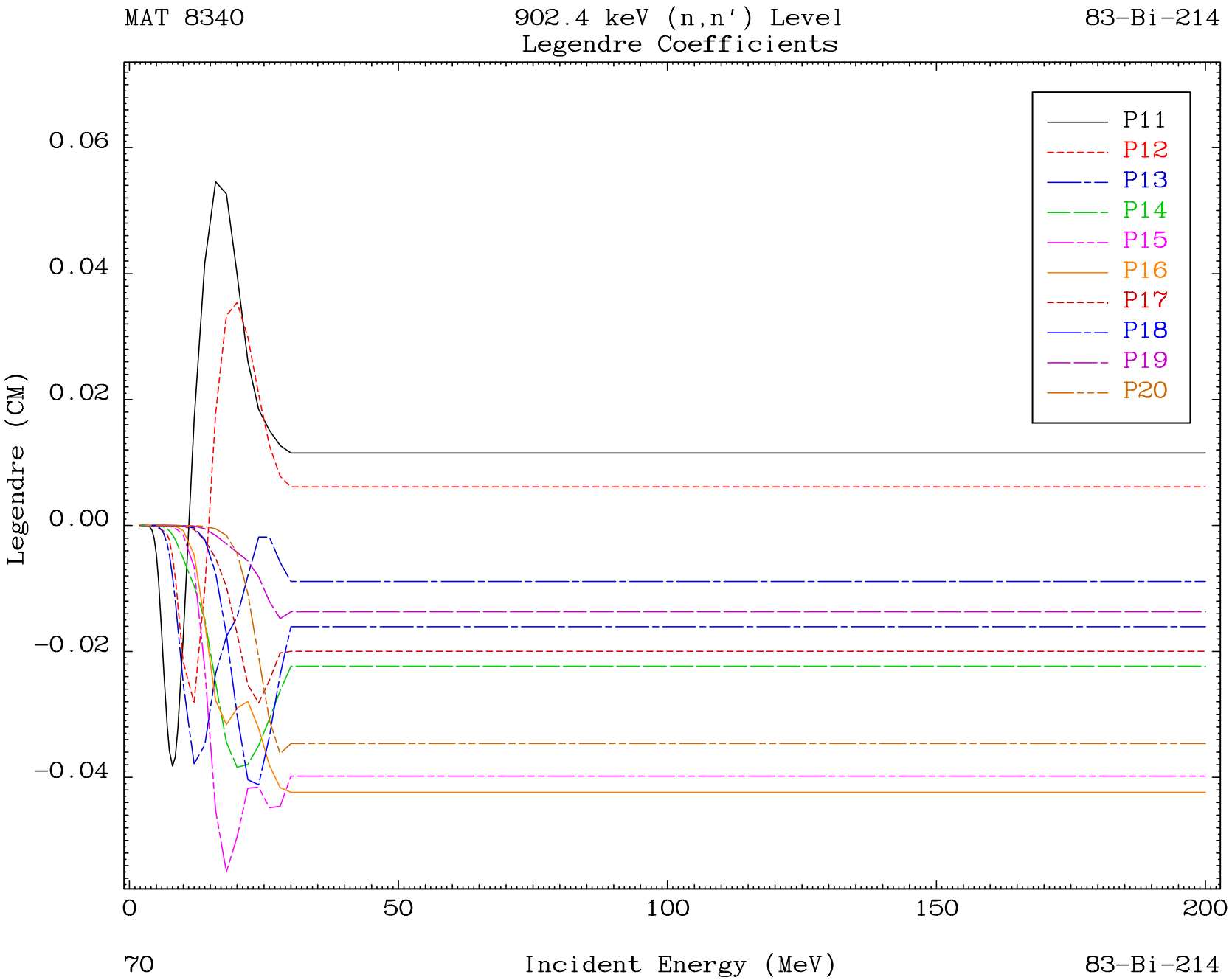

MAT 8340
900.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
65
Incident Energy (MeV)
83-Bi-214

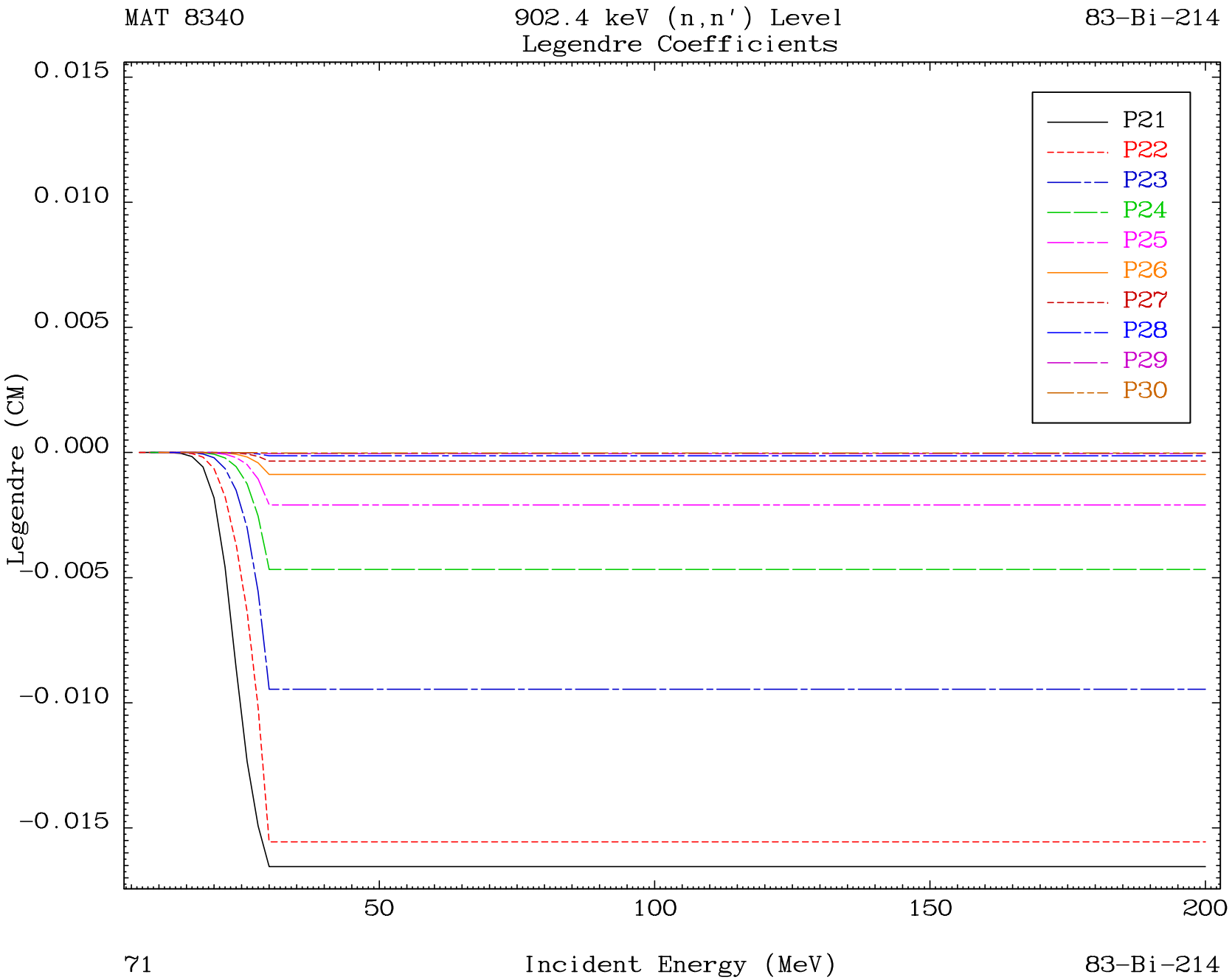

MAT 8340
900.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
66
Incident Energy (MeV)
83-Bi-214

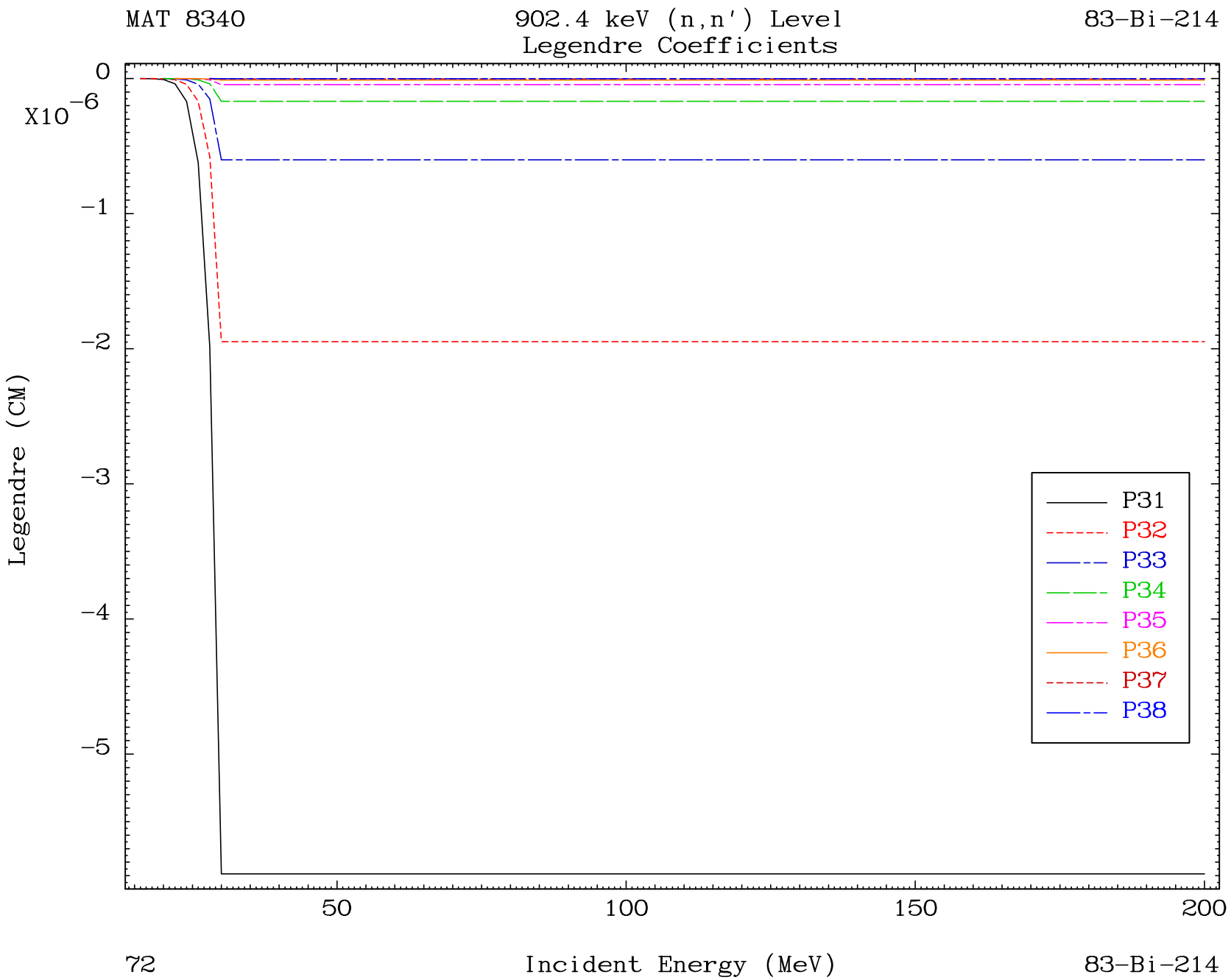

MAT 8340
900.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.002
0.000
-0.002
-0.004
Legendre (CM)
50
100
150
200
67
Incident Energy (MeV)
83-Bi-214

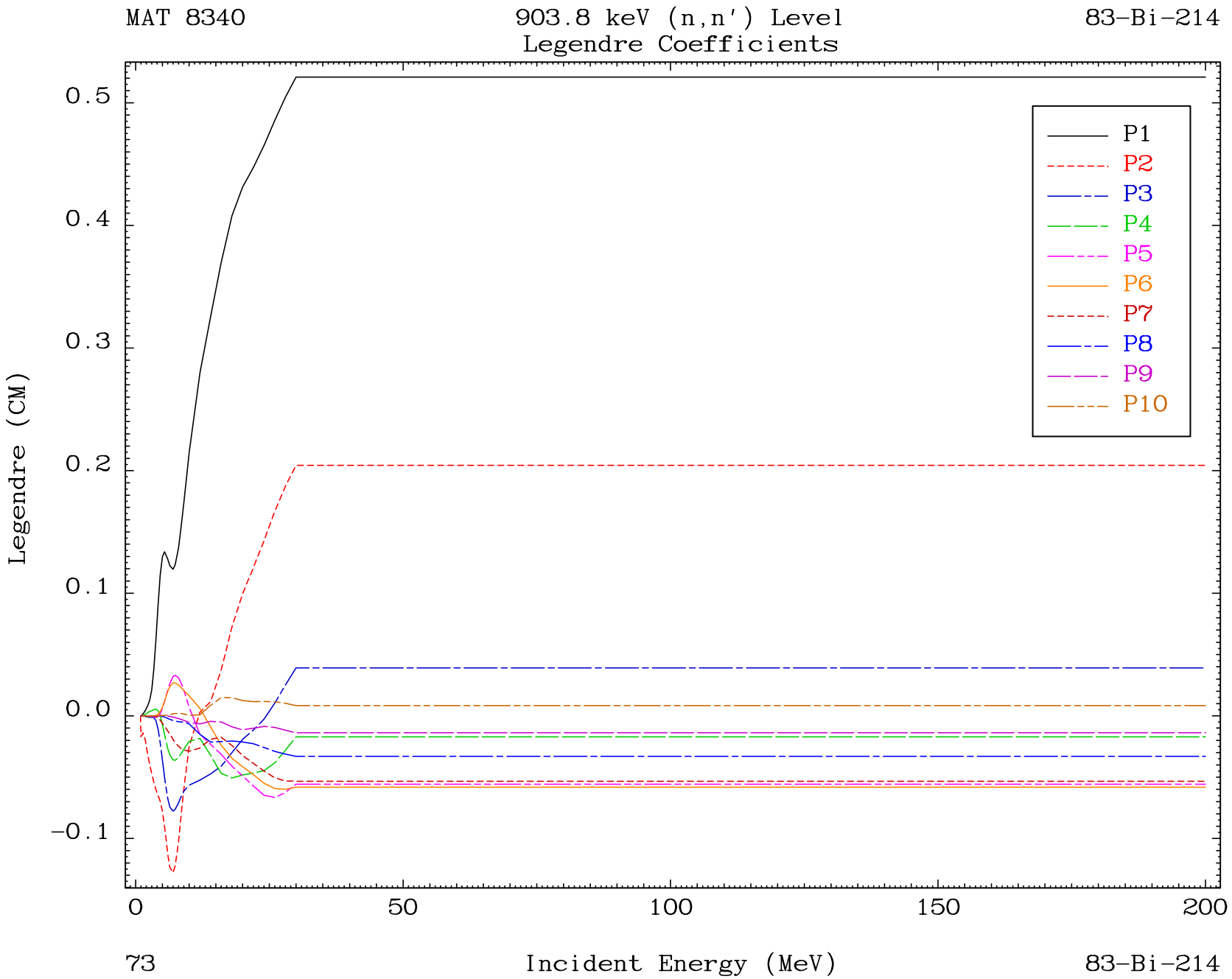

MAT 8340
900.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
68
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

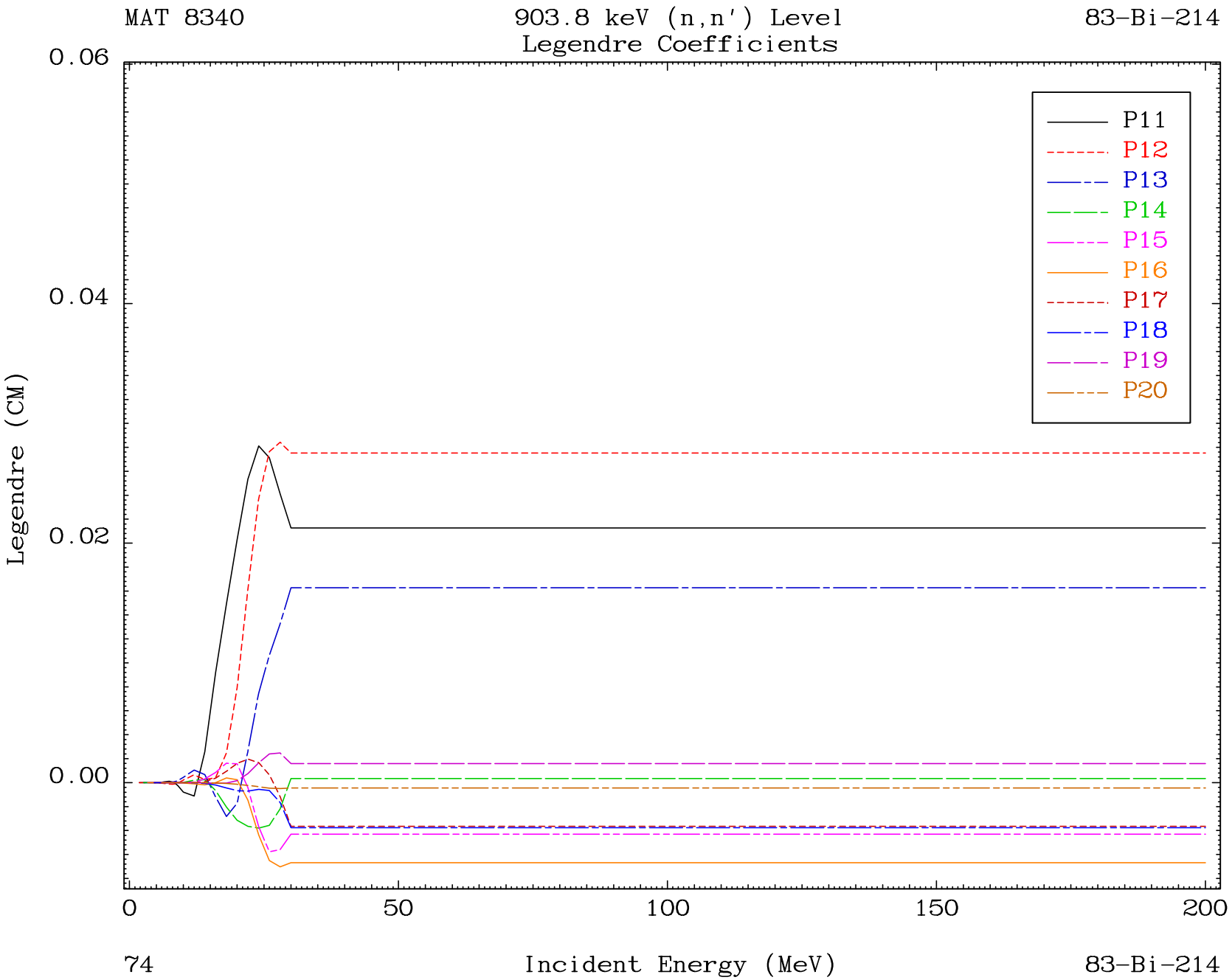

MAT 8340
902.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
69
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

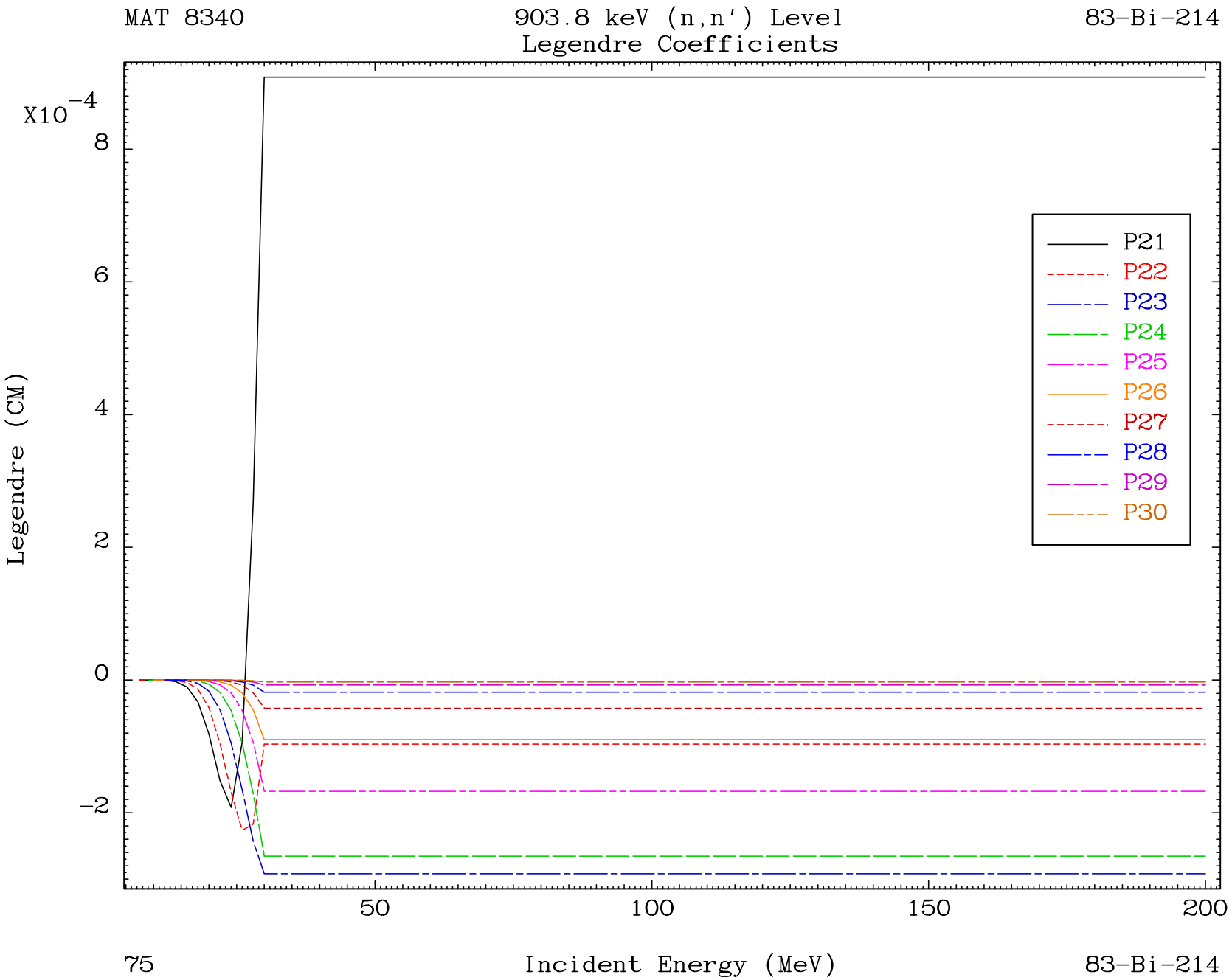

MAT 8340
902.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
70
Incident Energy (MeV)
83-Bi-214

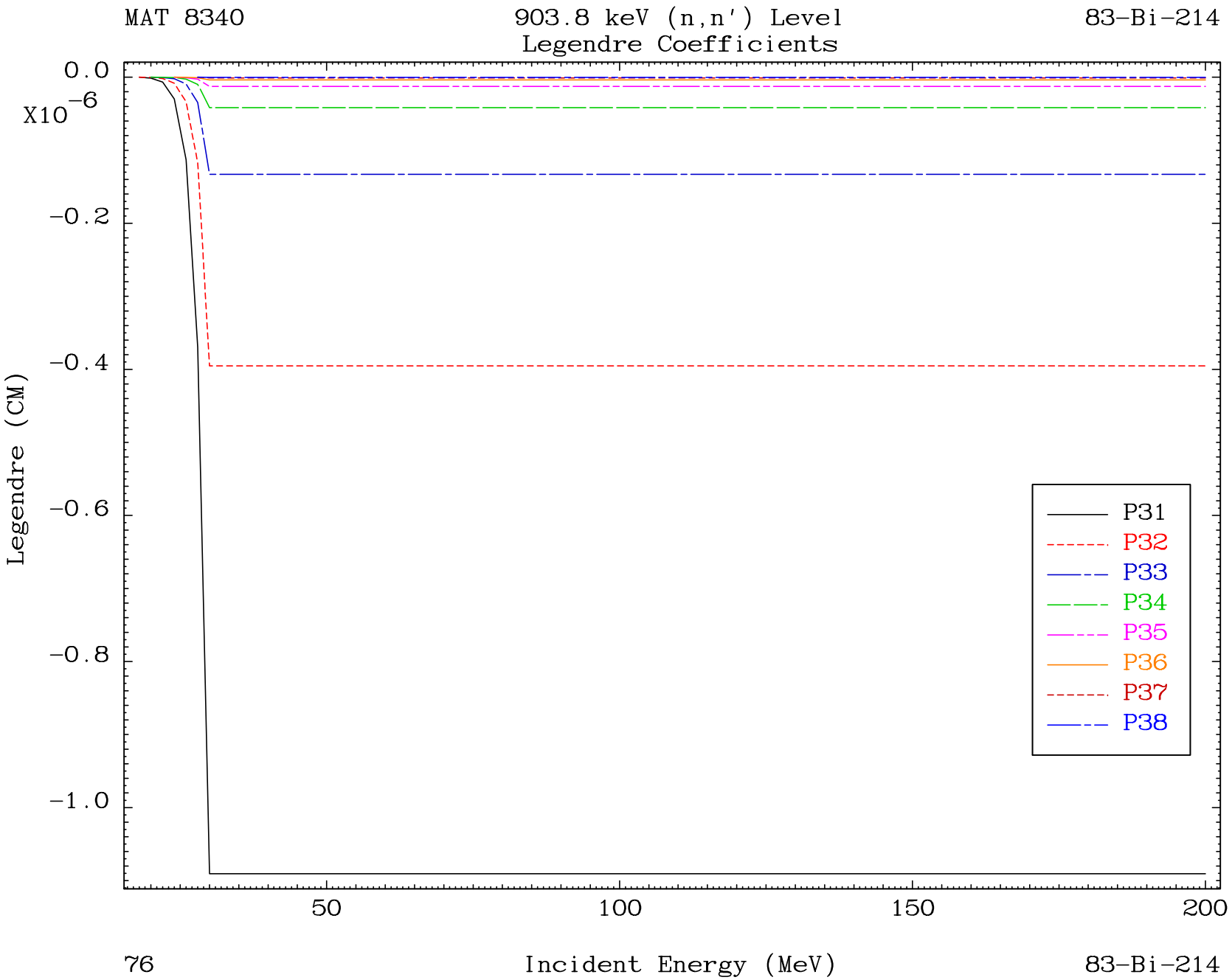

MAT 8340
902.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
71
Incident Energy (MeV)
83-Bi-214

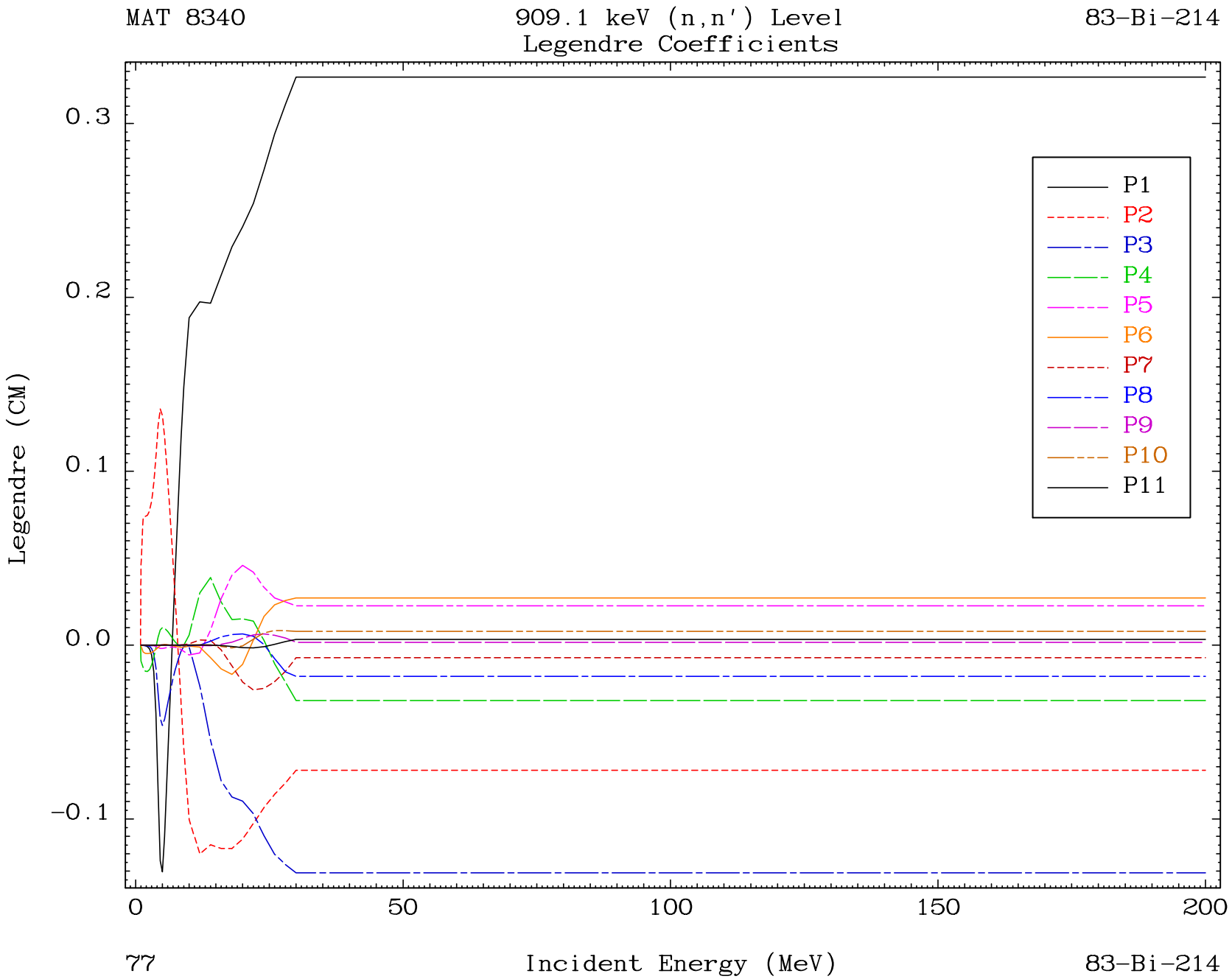

MAT 8340
902.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10 −6
−1
−2
−3
−4
−5
Legendre (CM)
50
100
150
200
72
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

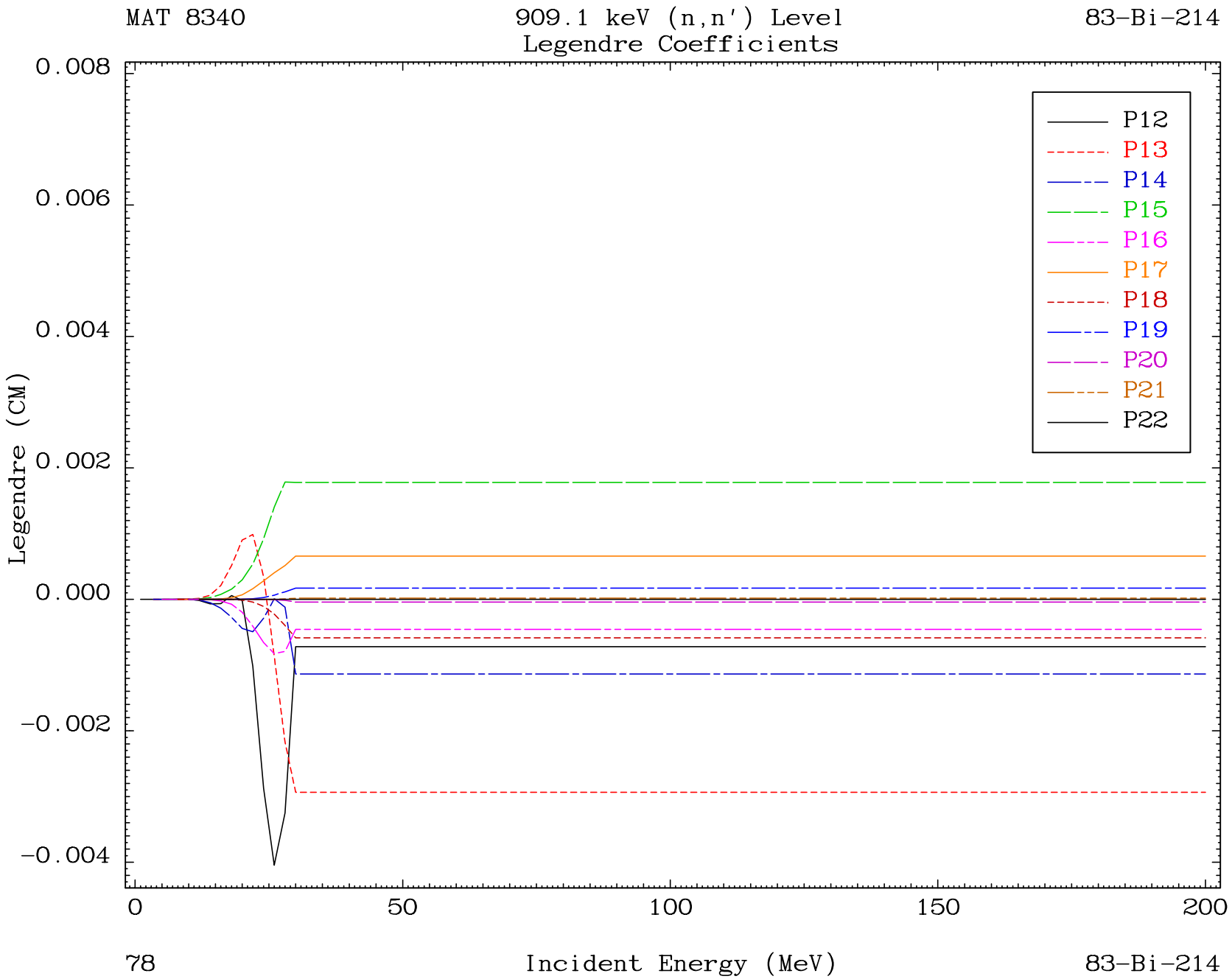

MAT 8340
903.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
73
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

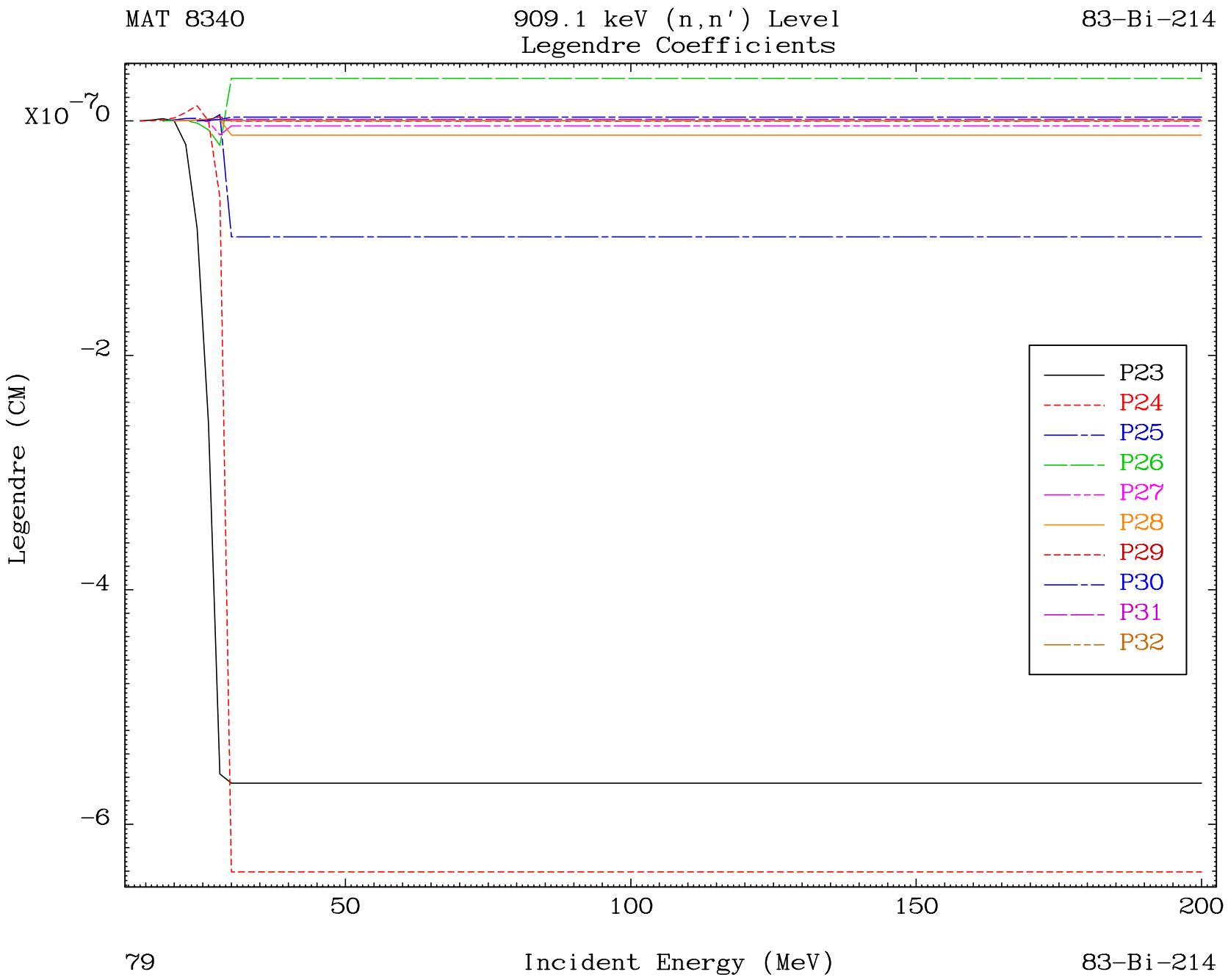

MAT 8340
903.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.06
0.04
0.02
0.00
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
74
Incident Energy (MeV)
83-Bi-214

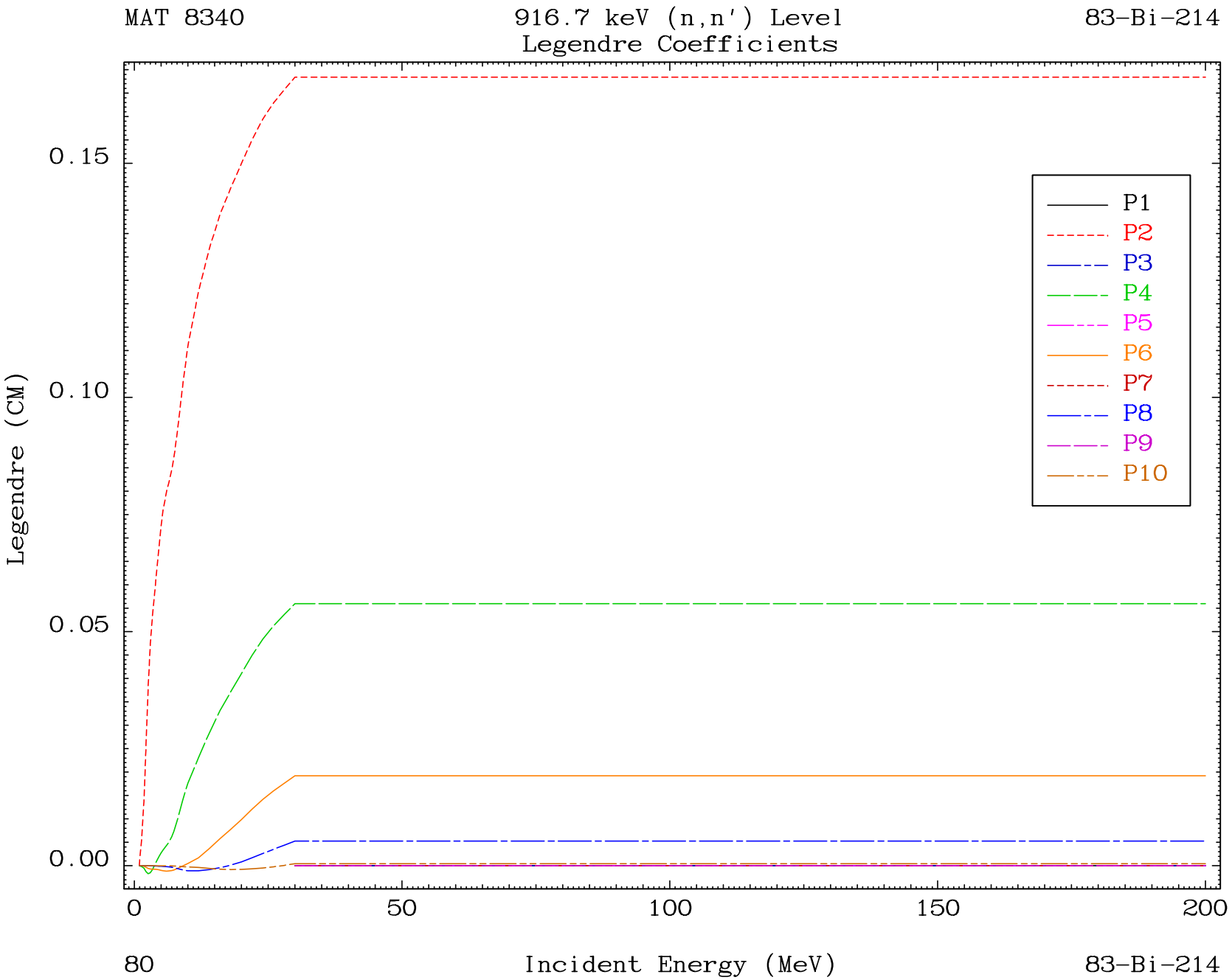

MAT 8340
903.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
8
6
4
2
0
-2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
75
Incident Energy (MeV)
83-Bi-214

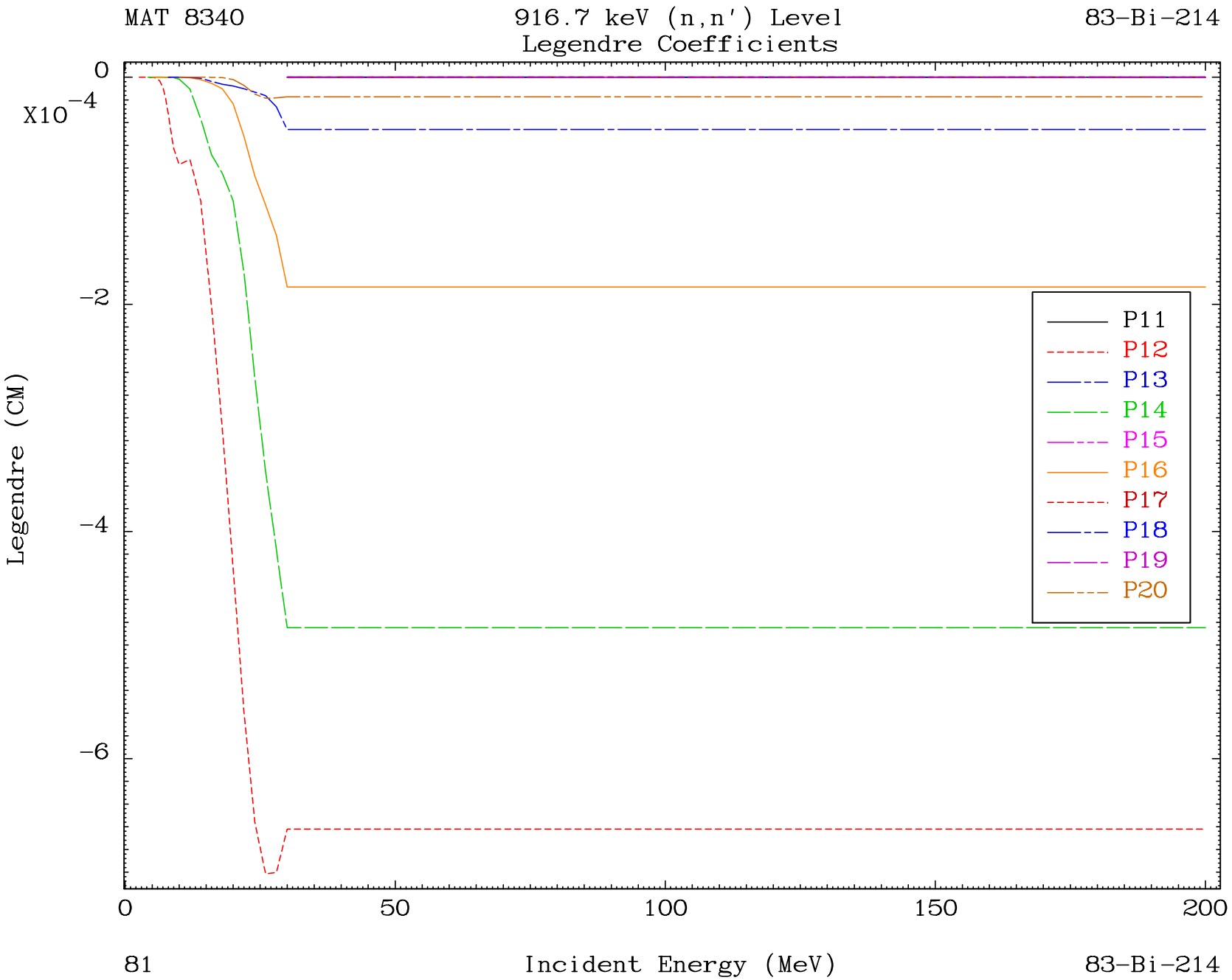

MAT 8340
903.8 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
76
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

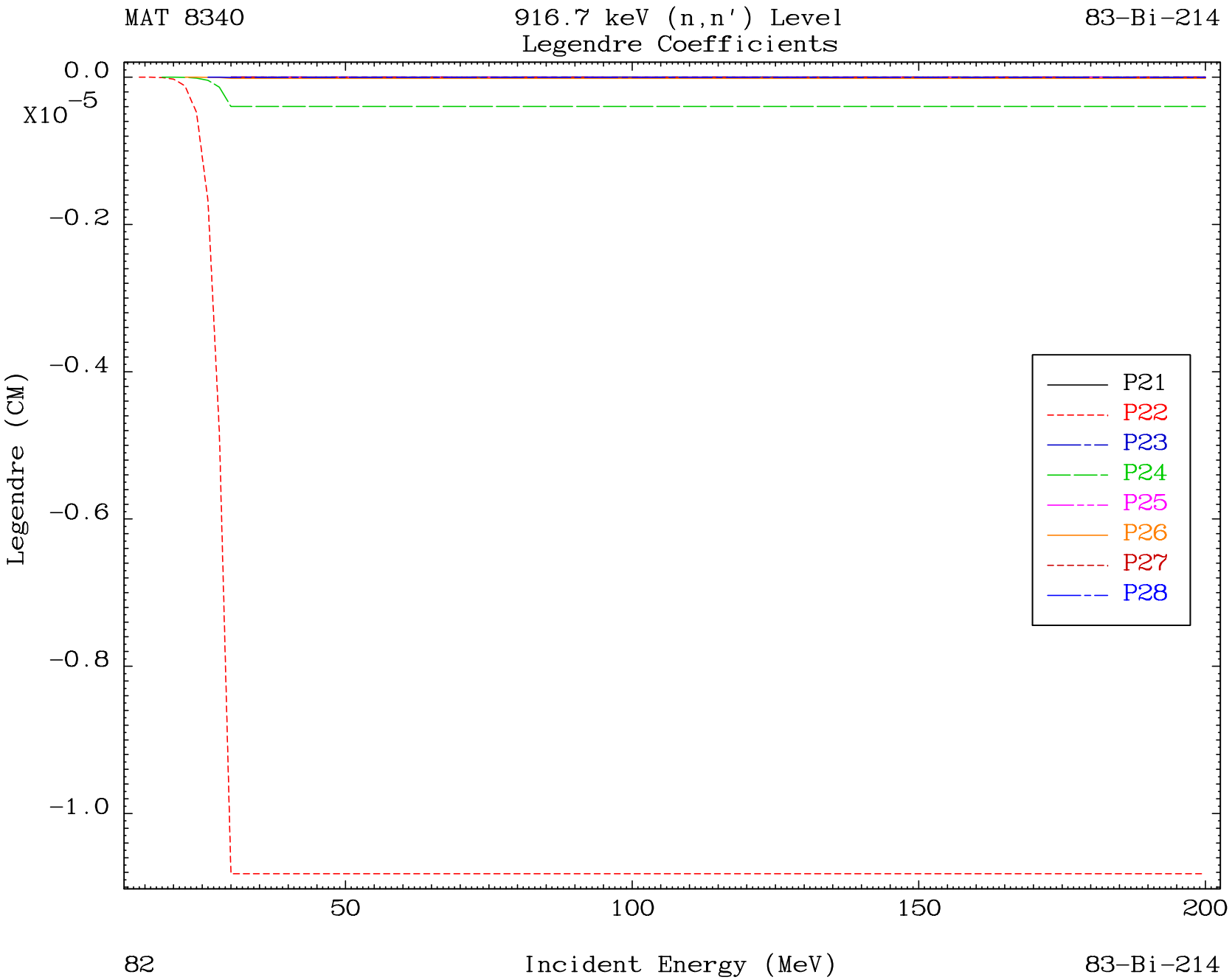

MAT 8340
909.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
77
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11

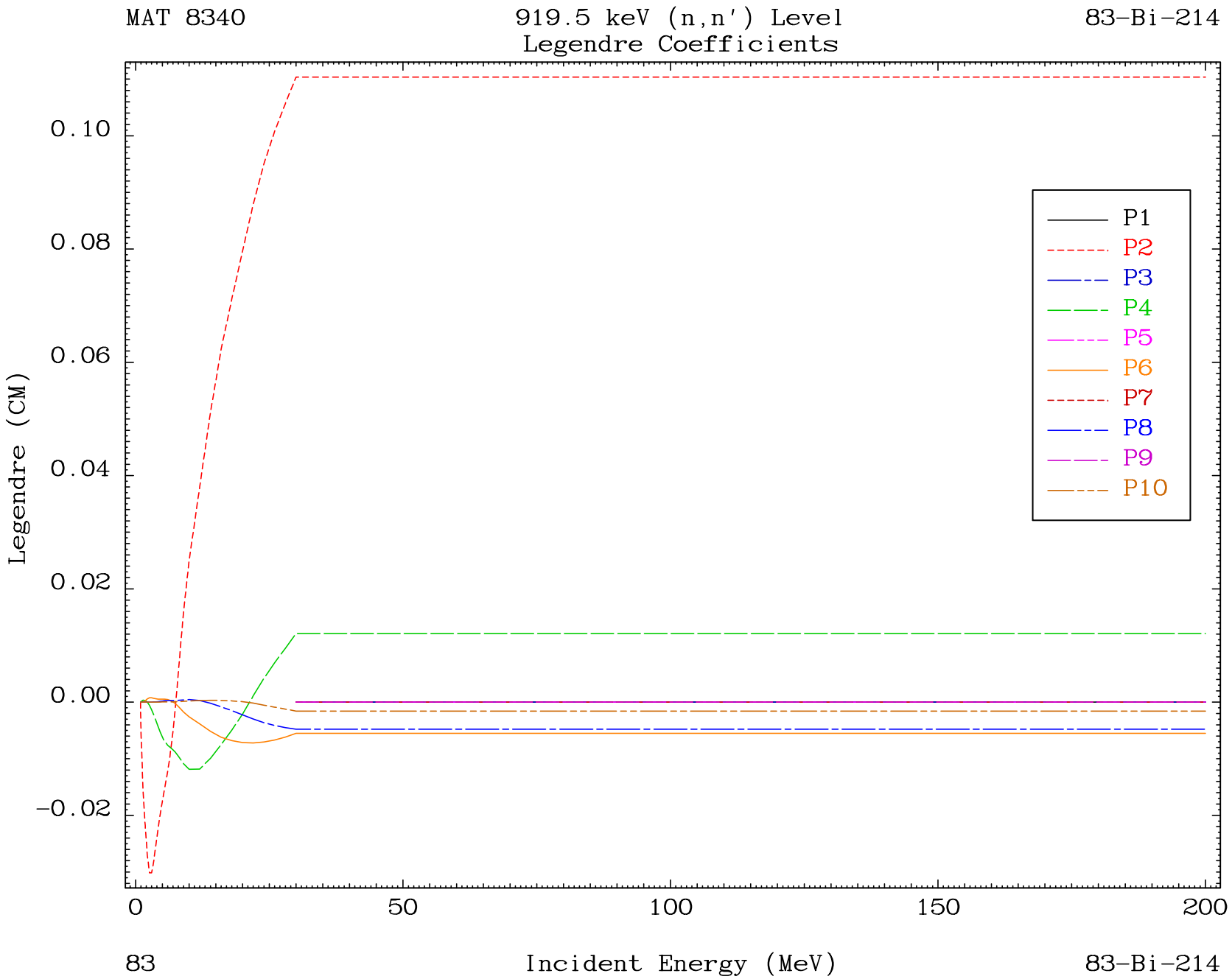

MAT 8340
909.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.008
0.006
0.004
0.002
0.000
-0.002
-0.004
Legendre (CM)
0
50
100
150
200
78
Incident Energy (MeV)
83-Bi-214
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

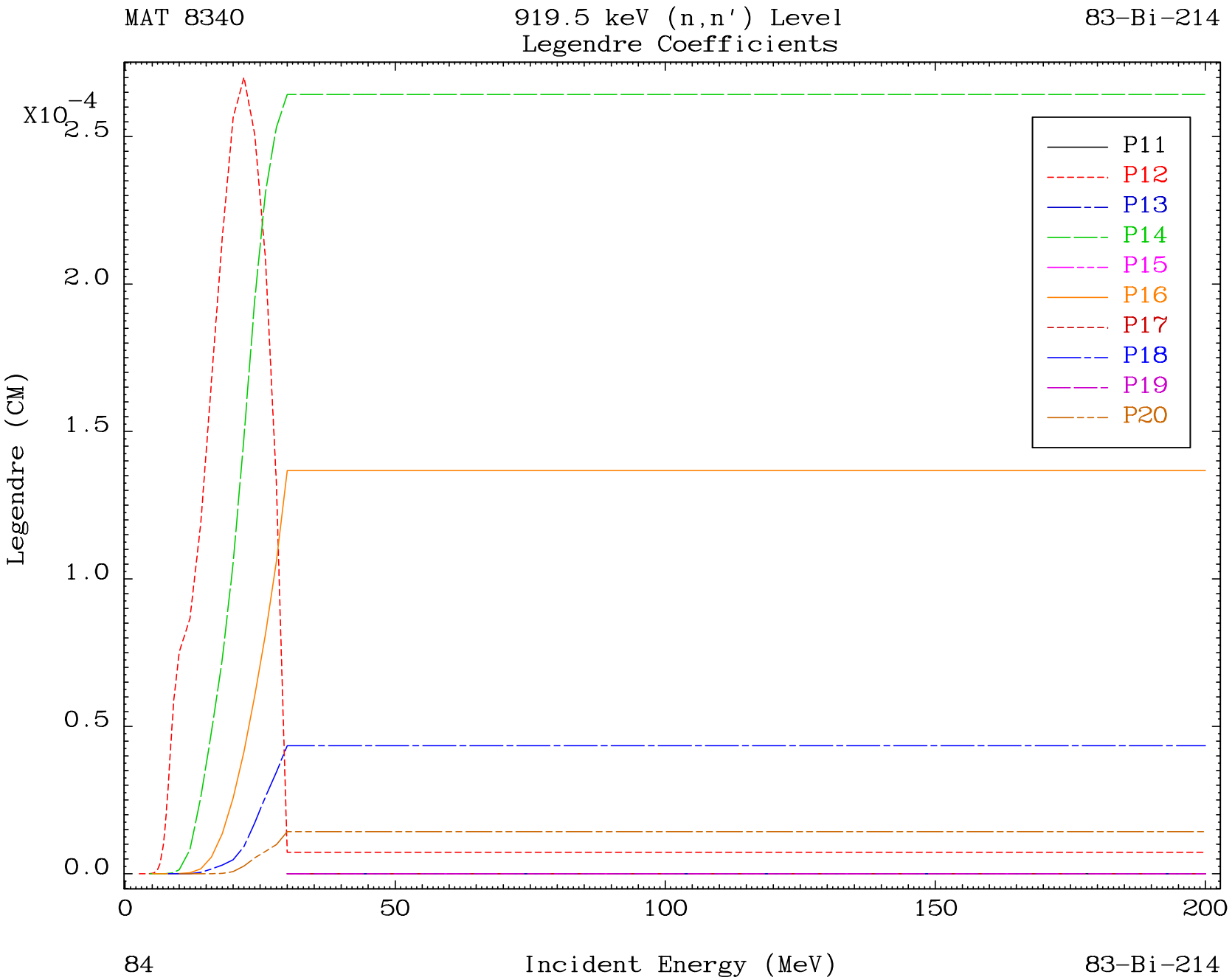

MAT 8340
909.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-7
0
-2
-4
-6
Legendre (CM)
50
100
150
200
79
Incident Energy (MeV)
83-Bi-214
P23
P24
P25
P26
P27
P28
P29
P30
P31
P32

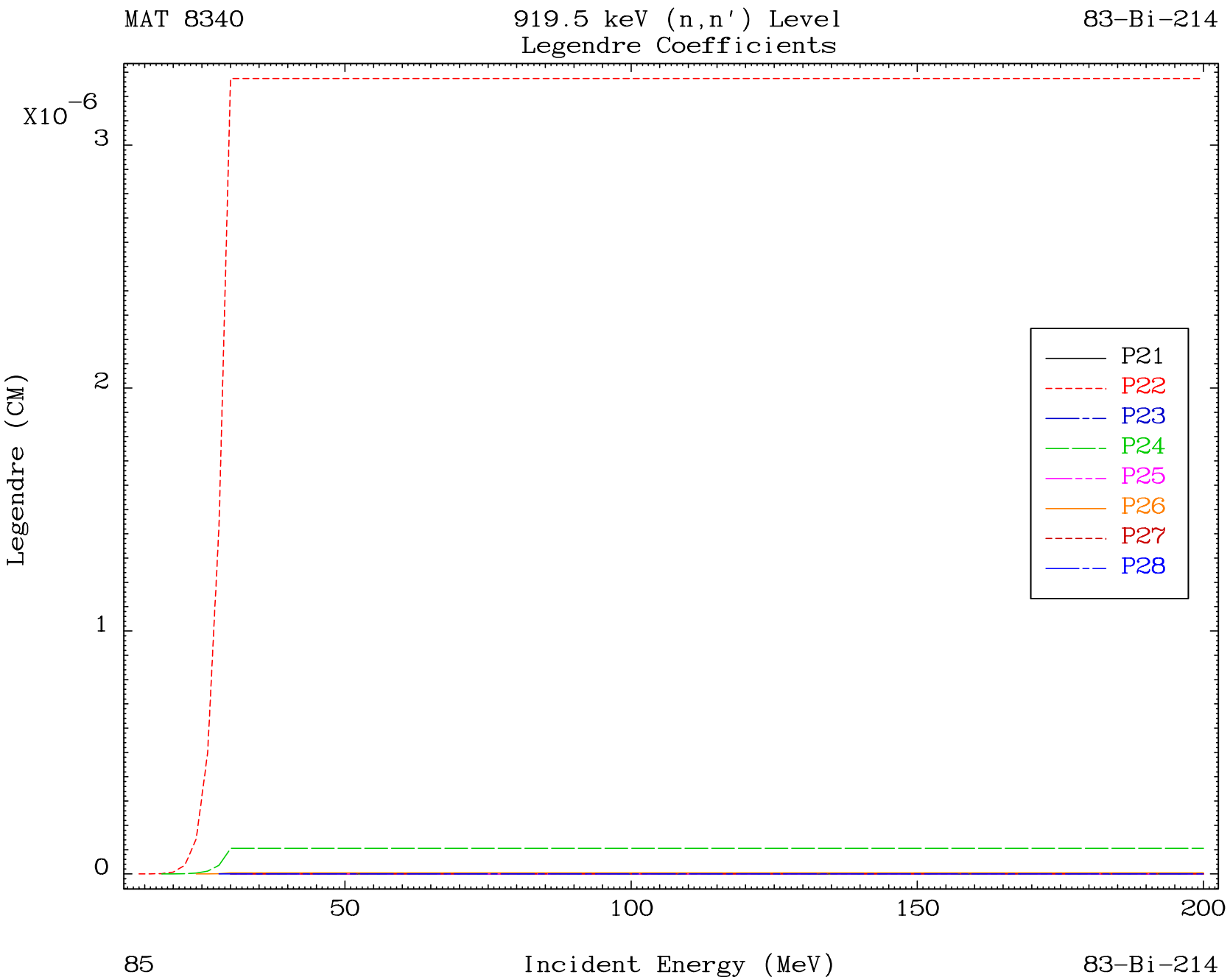

MAT 8340
916.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
80
Incident Energy (MeV)
83-Bi-214

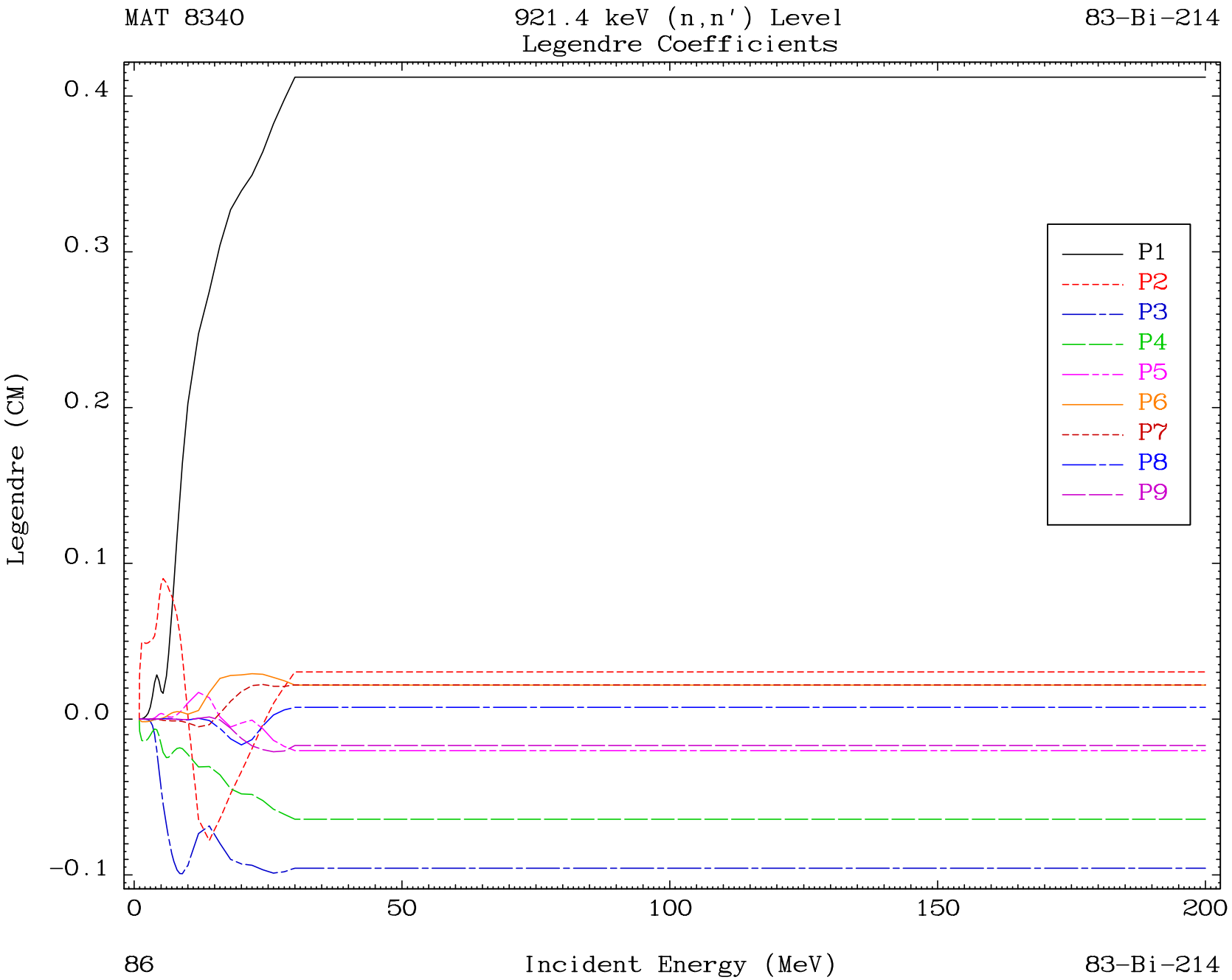

MAT 8340
916.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0
X10^-4
-2
-4
-6
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
81
Incident Energy (MeV)
83-Bi-214

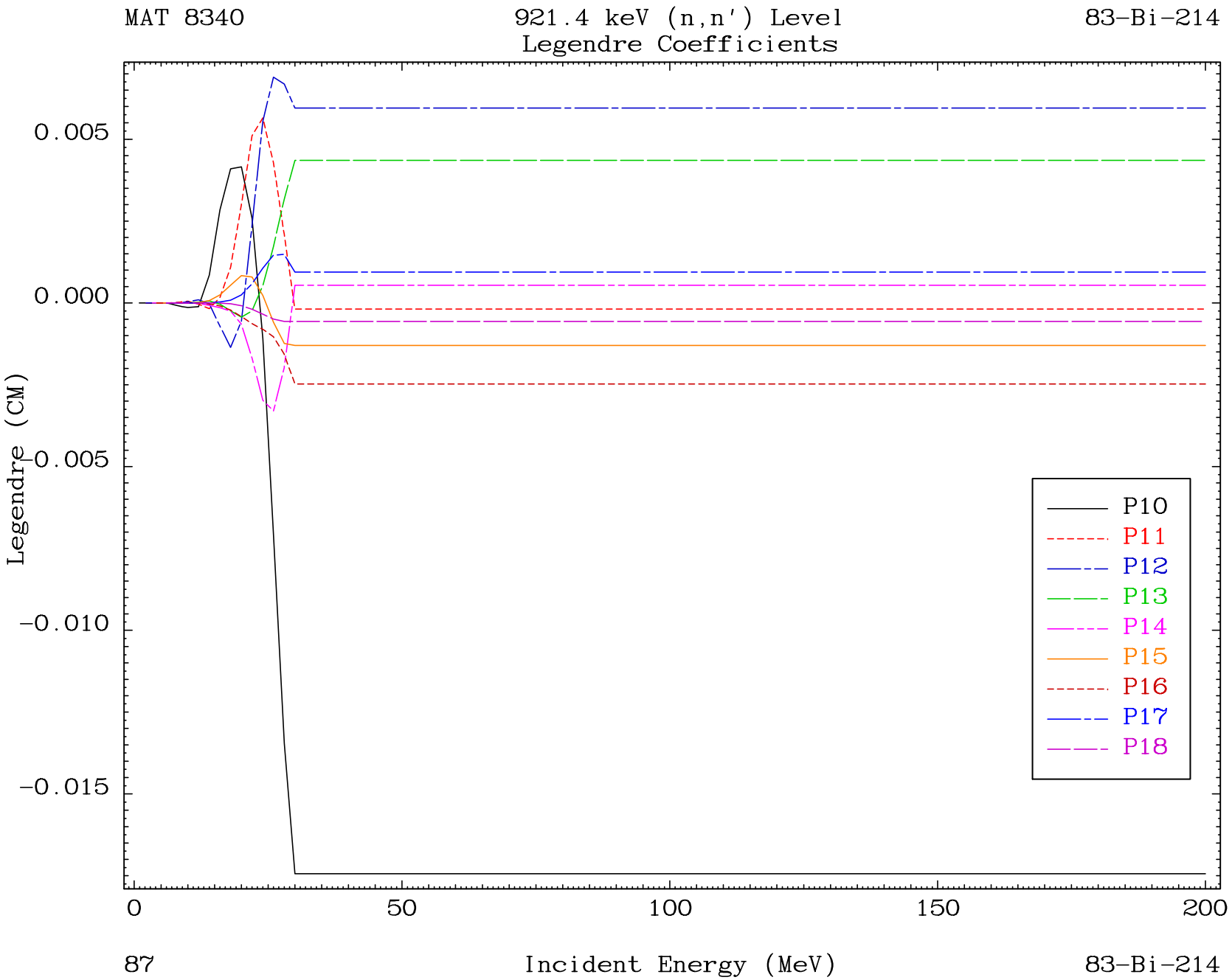

MAT 8340
916.7 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-5
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
82
Incident Energy (MeV)
83-Bi-214

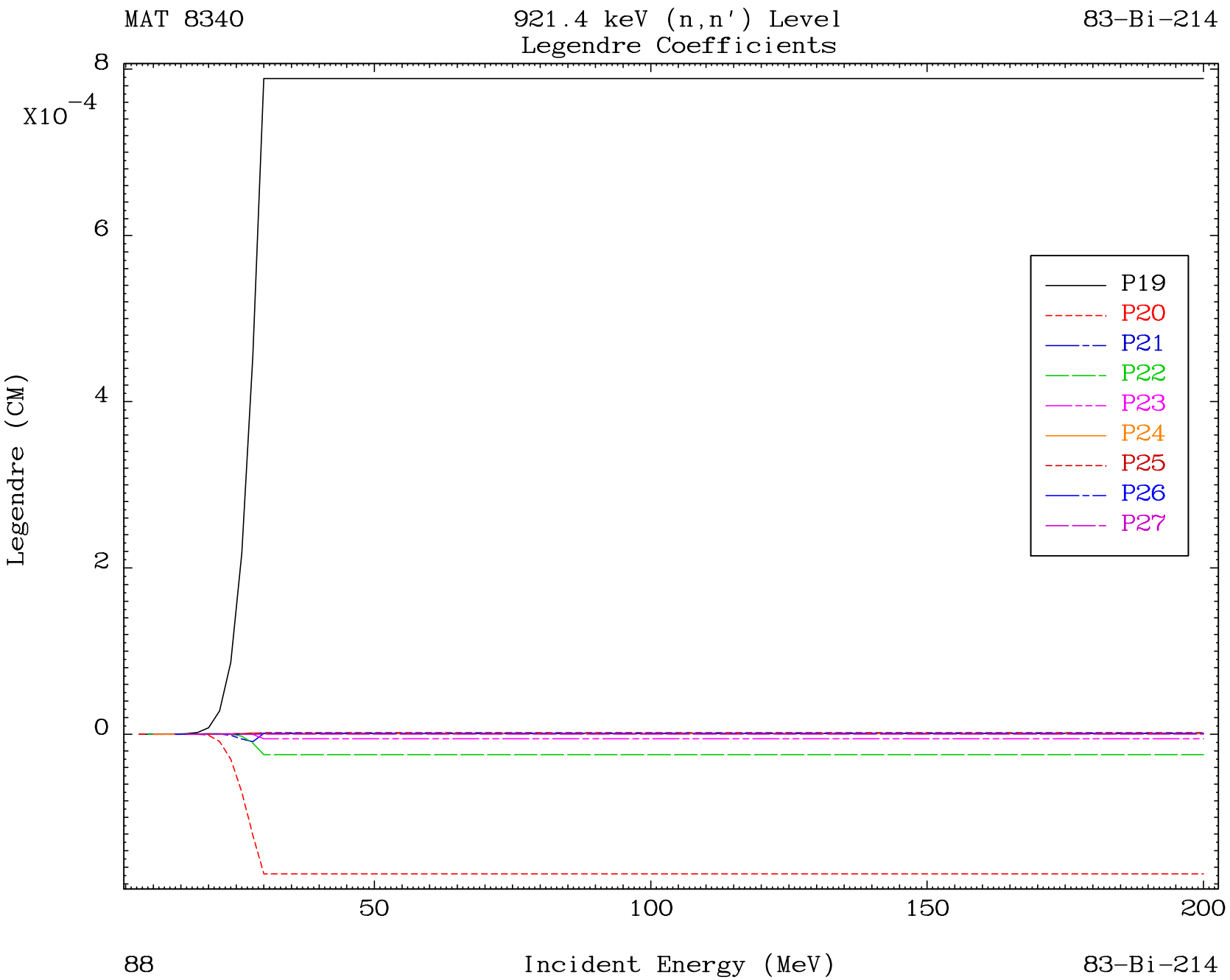

MAT 8340
919.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
83
Incident Energy (MeV)
83-Bi-214

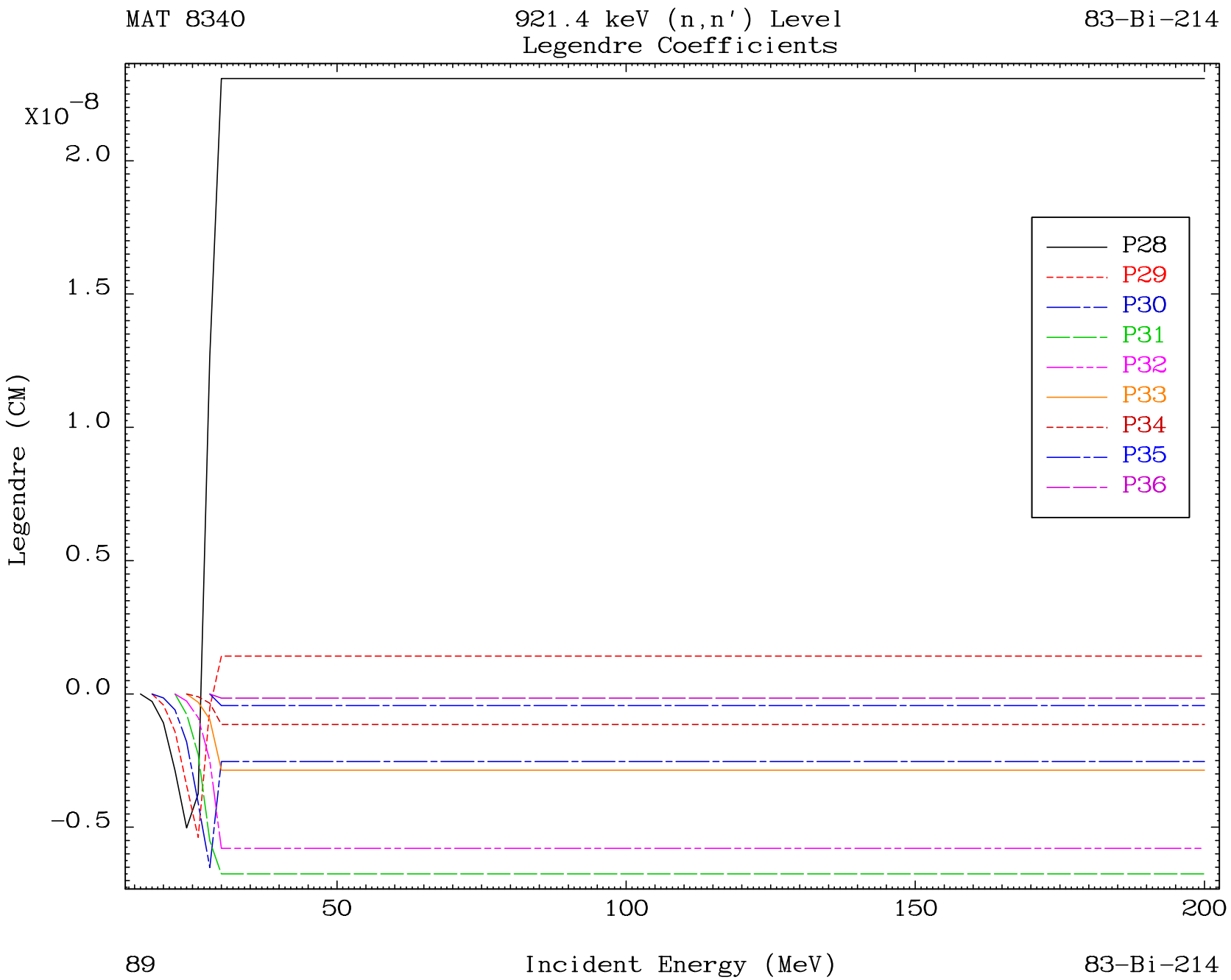

MAT 8340
919.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
84
Incident Energy (MeV)
83-Bi-214

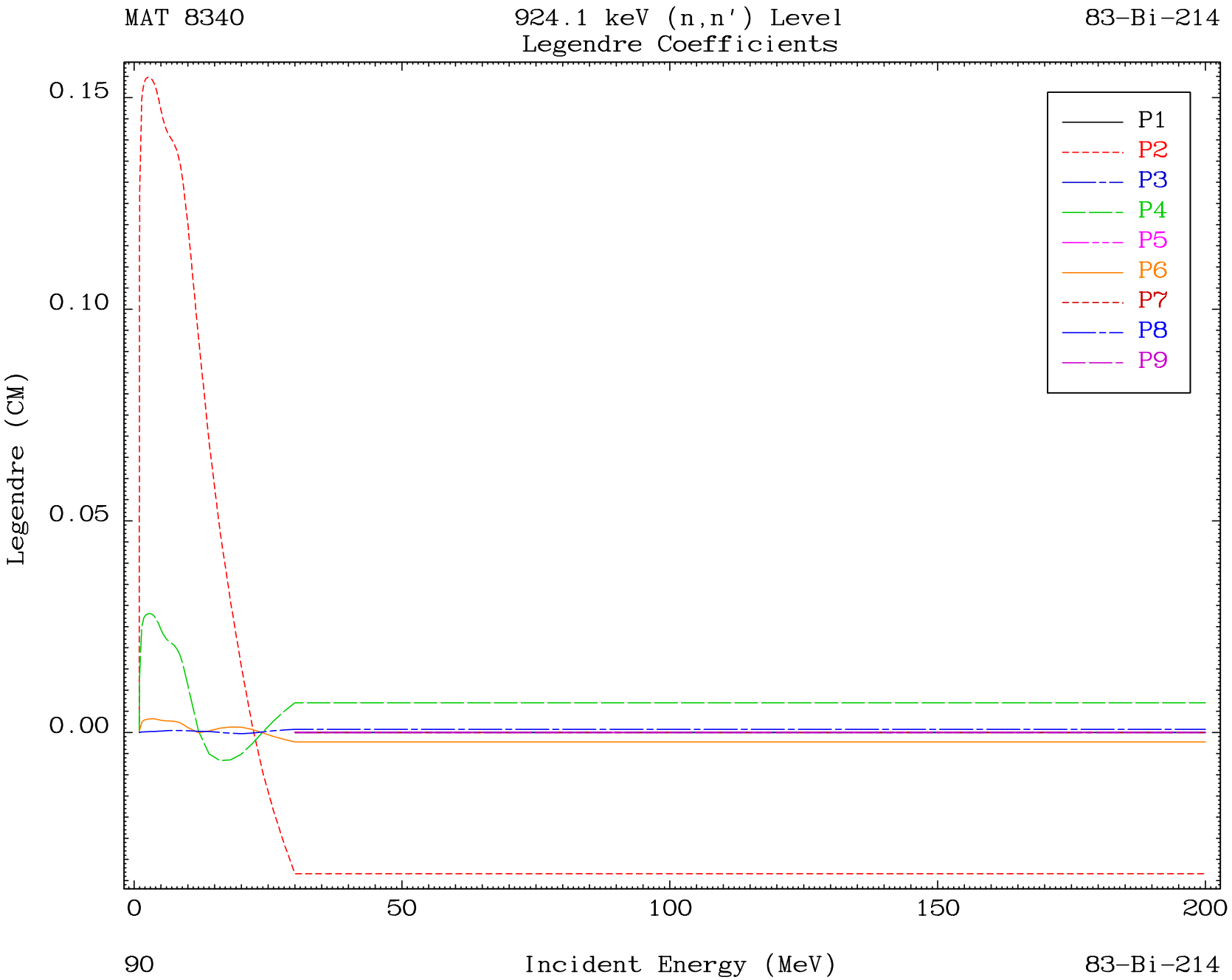

MAT 8340
919.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10 −6
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
85
Incident Energy (MeV)
83-Bi-214

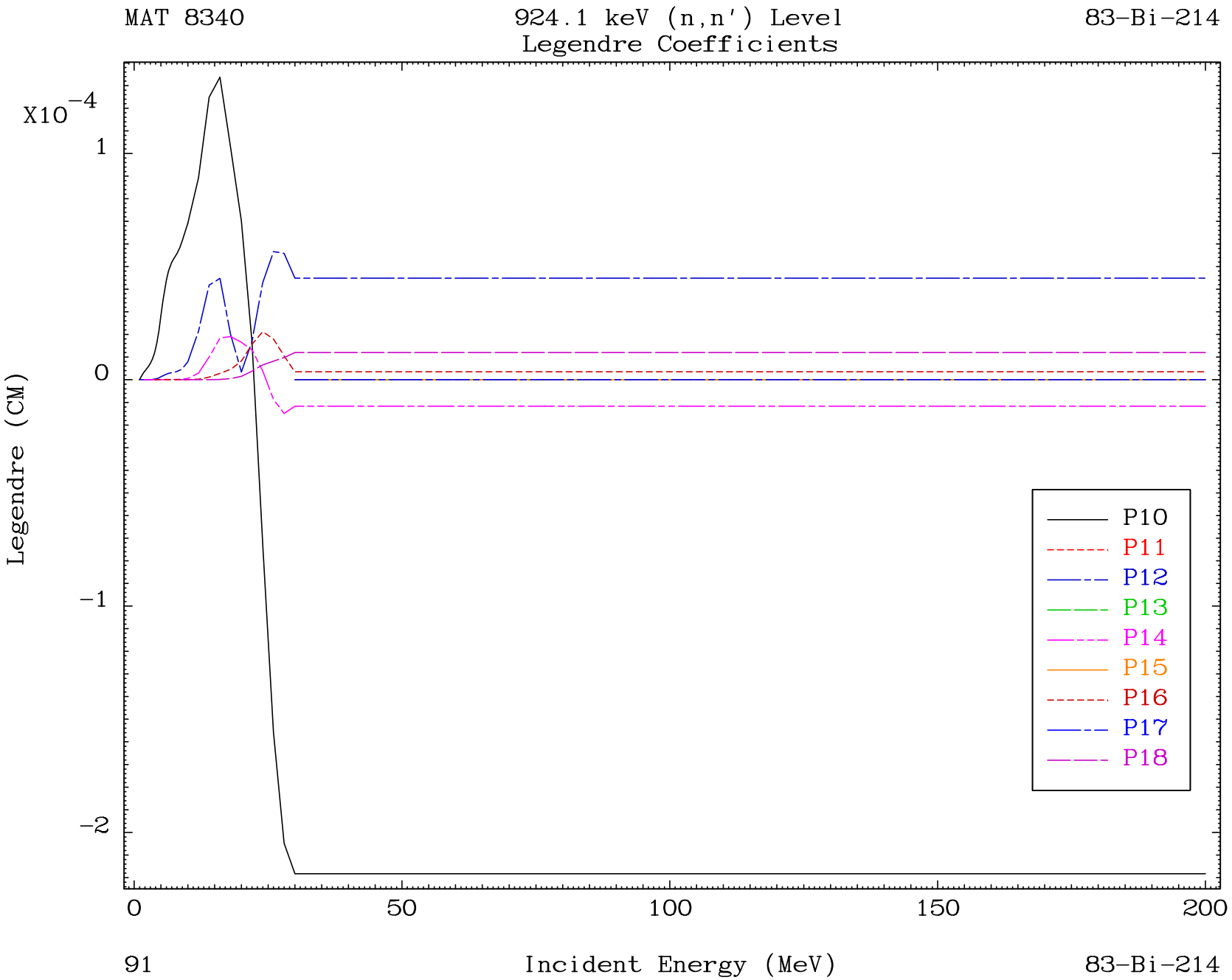

MAT 8340
921.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
86
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9

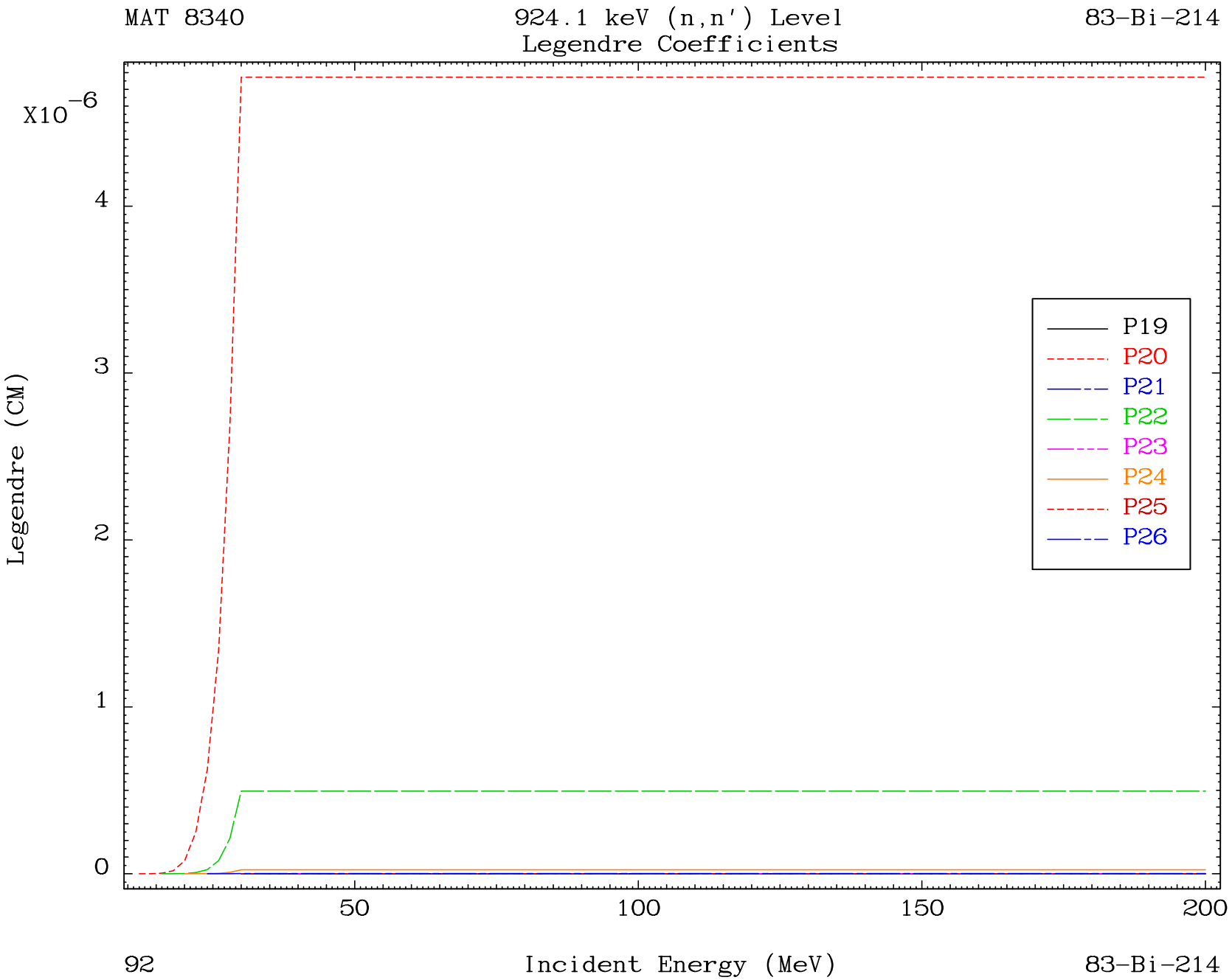

MAT 8340
921.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.005
0.000
-0.005
-0.010
-0.015
Legendre (CM)
0
50
100
150
200
87
Incident Energy (MeV)
83-Bi-214
P10
P11
P12
P13
P14
P15
P16
P17
P18

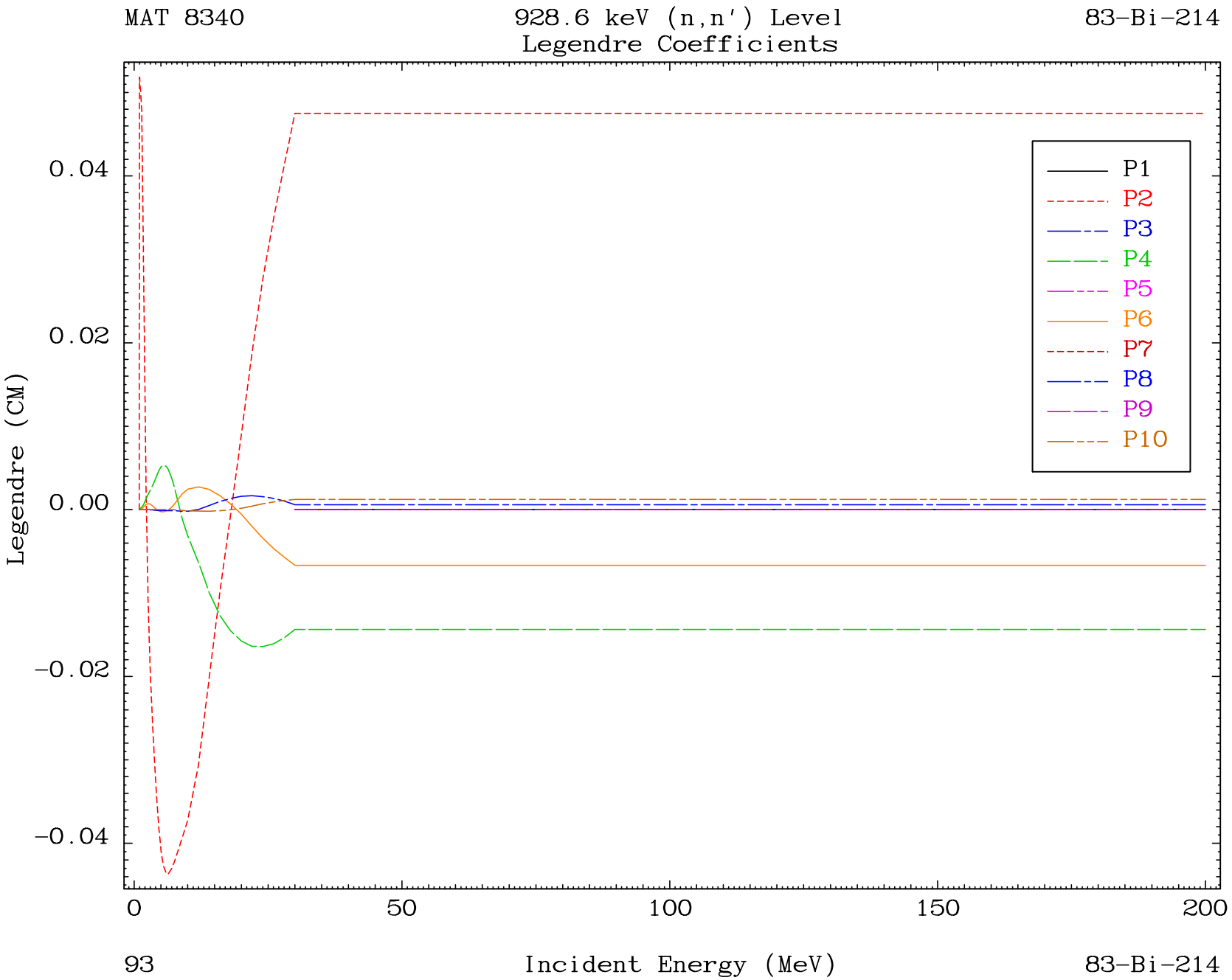

MAT 8340
921.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
8
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
88
Incident Energy (MeV)
83-Bi-214

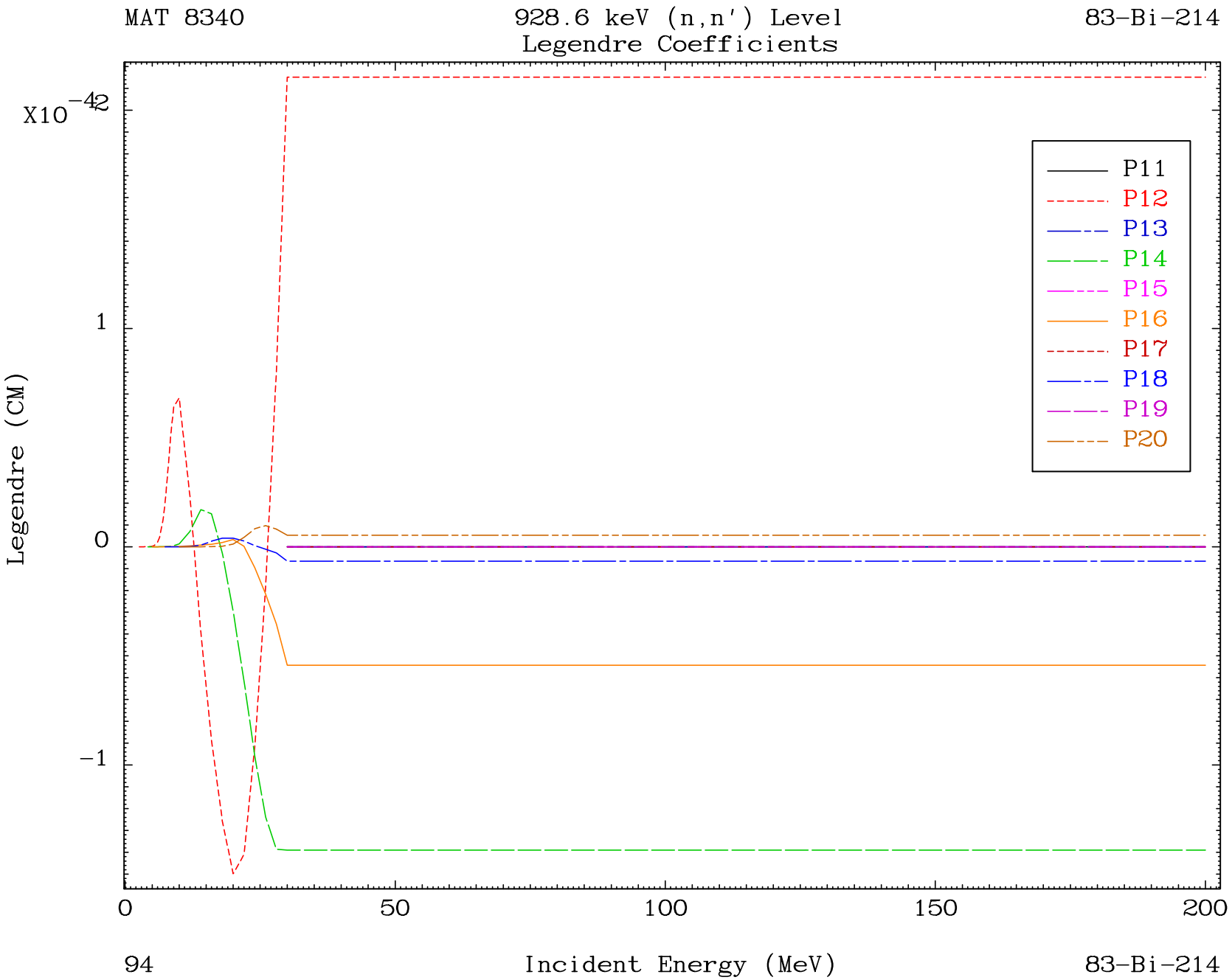

MAT 8340
921.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-8
2.0
1.5
1.0
0.5
0.0
-0.5
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
89
Incident Energy (MeV)
83-Bi-214

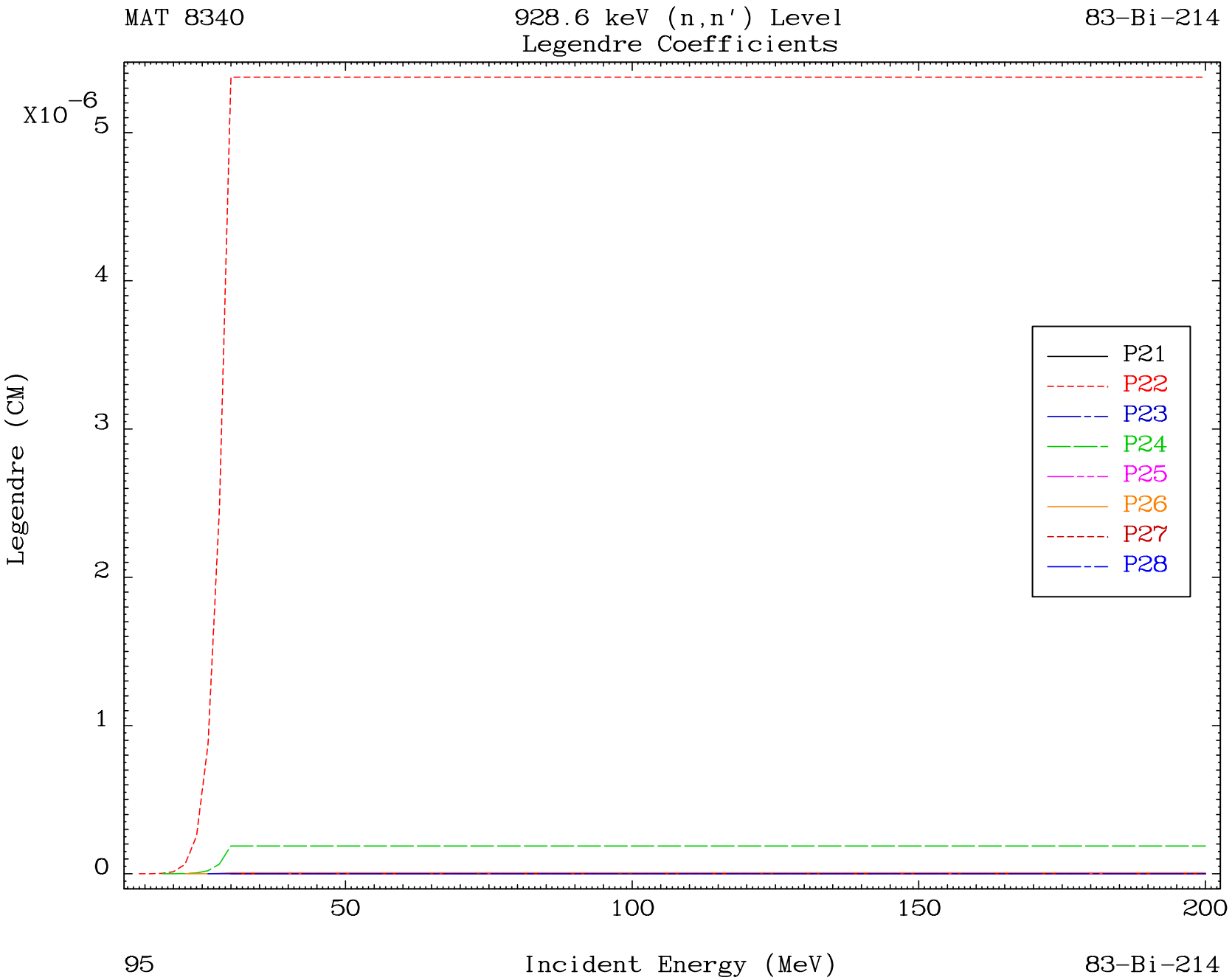

MAT 8340
924.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.15
0.10
0.05
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
90
Incident Energy (MeV)
83-Bi-214

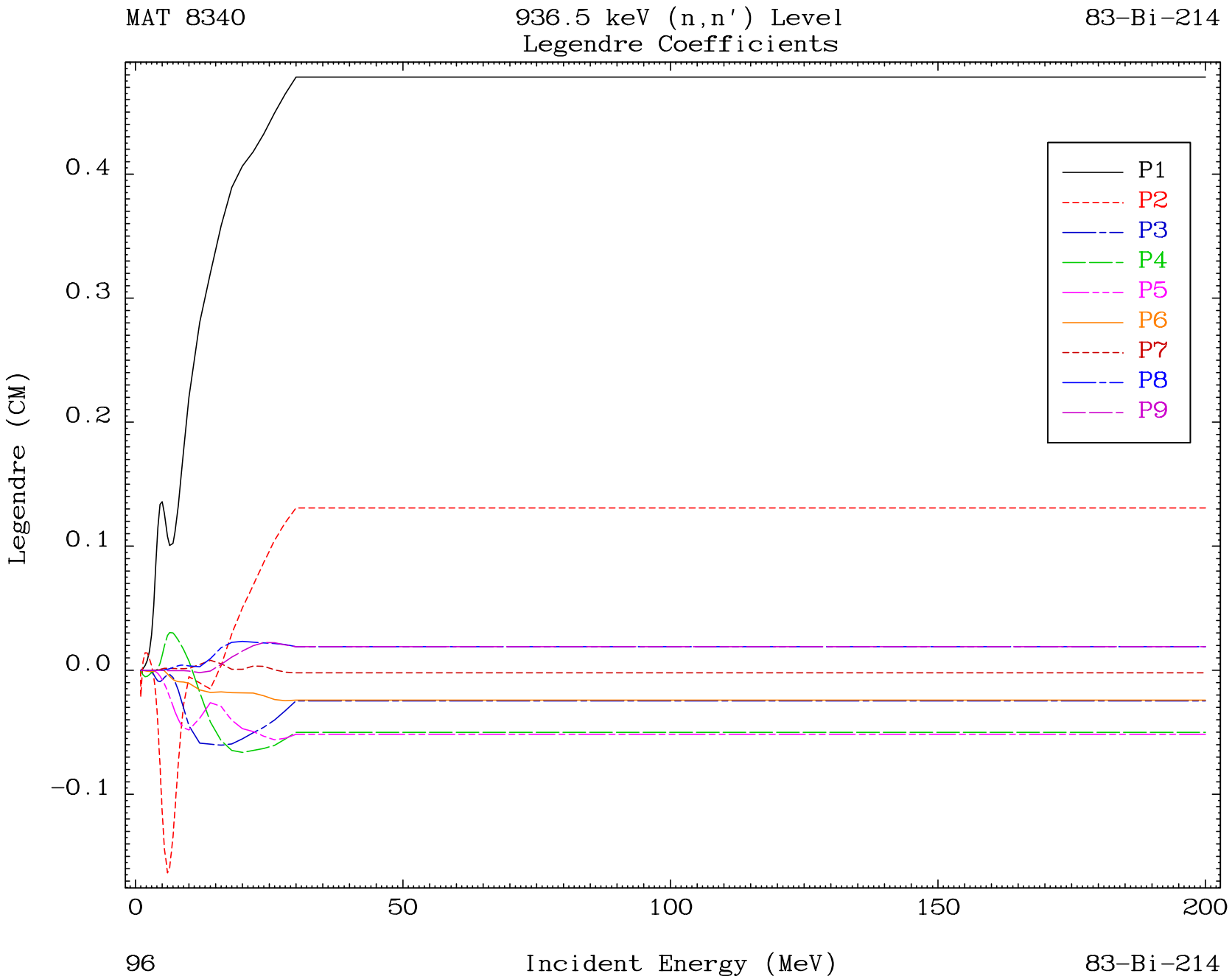

MAT 8340
924.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
1
0
-1
-2
Legendre (CM)
0
50
100
150
200
91
Incident Energy (MeV)
83-Bi-214
P10
P11
P12
P13
P14
P15
P16
P17
P18

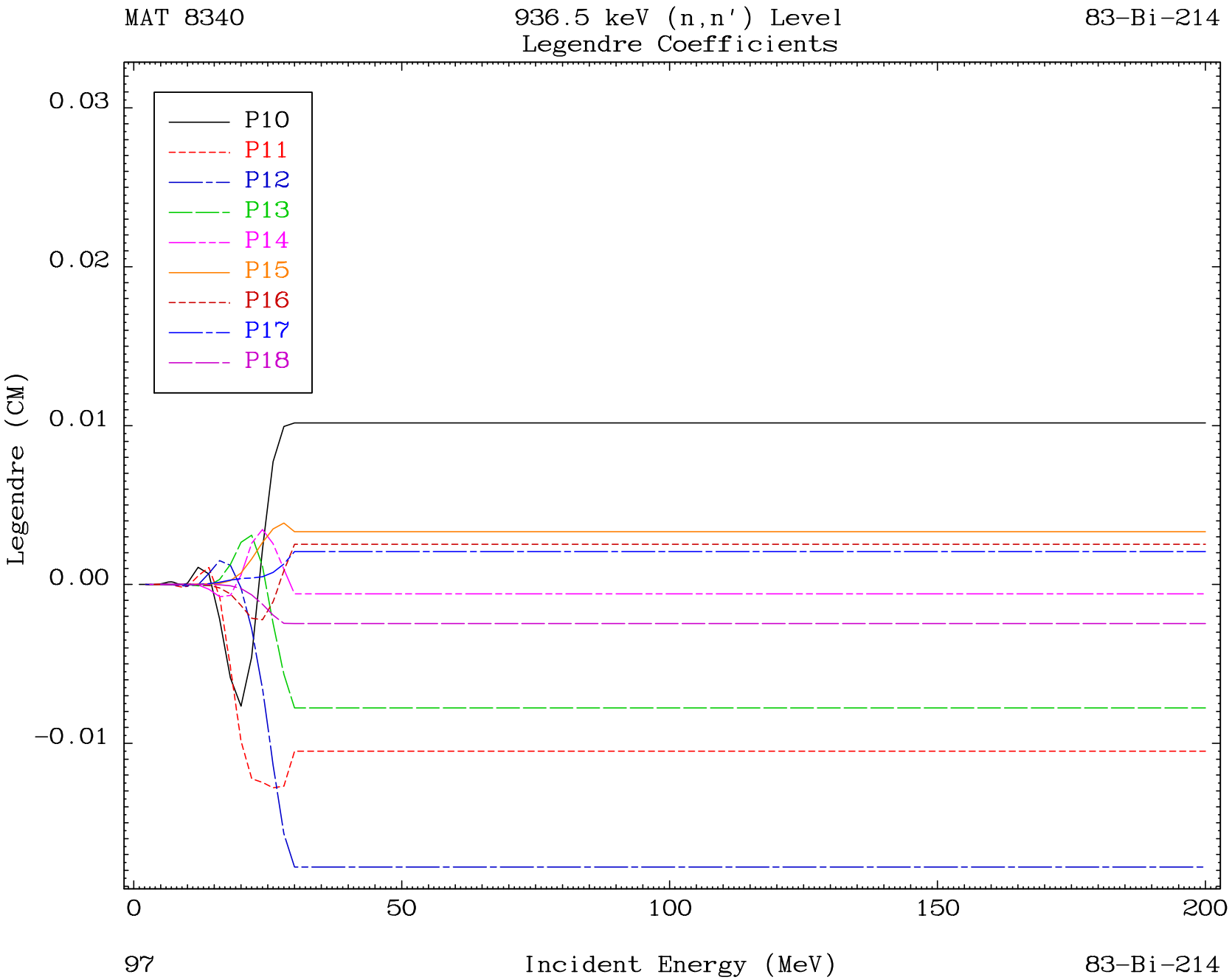

MAT 8340
924.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
92
Incident Energy (MeV)
83-Bi-214

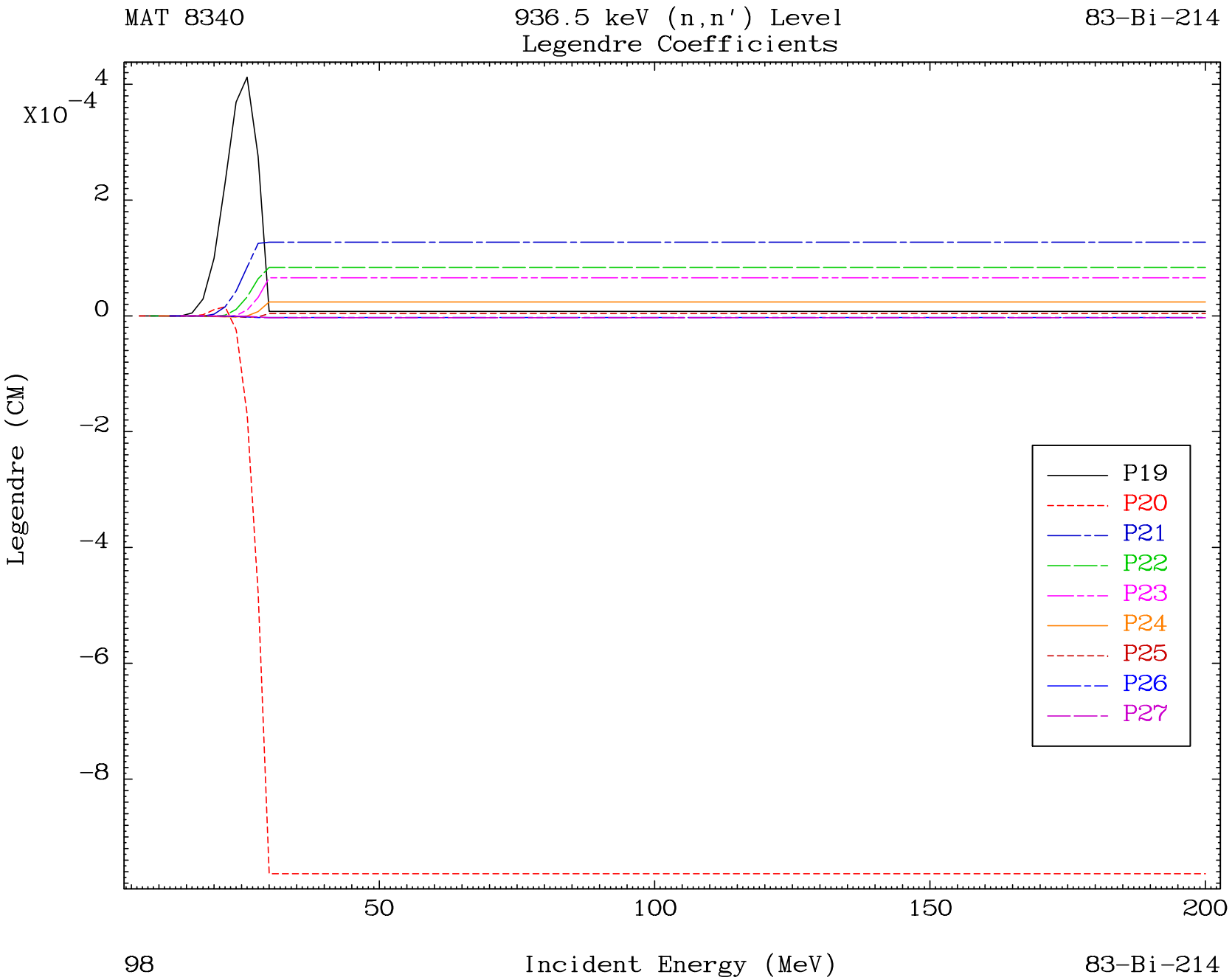

MAT 8340
928.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
93
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

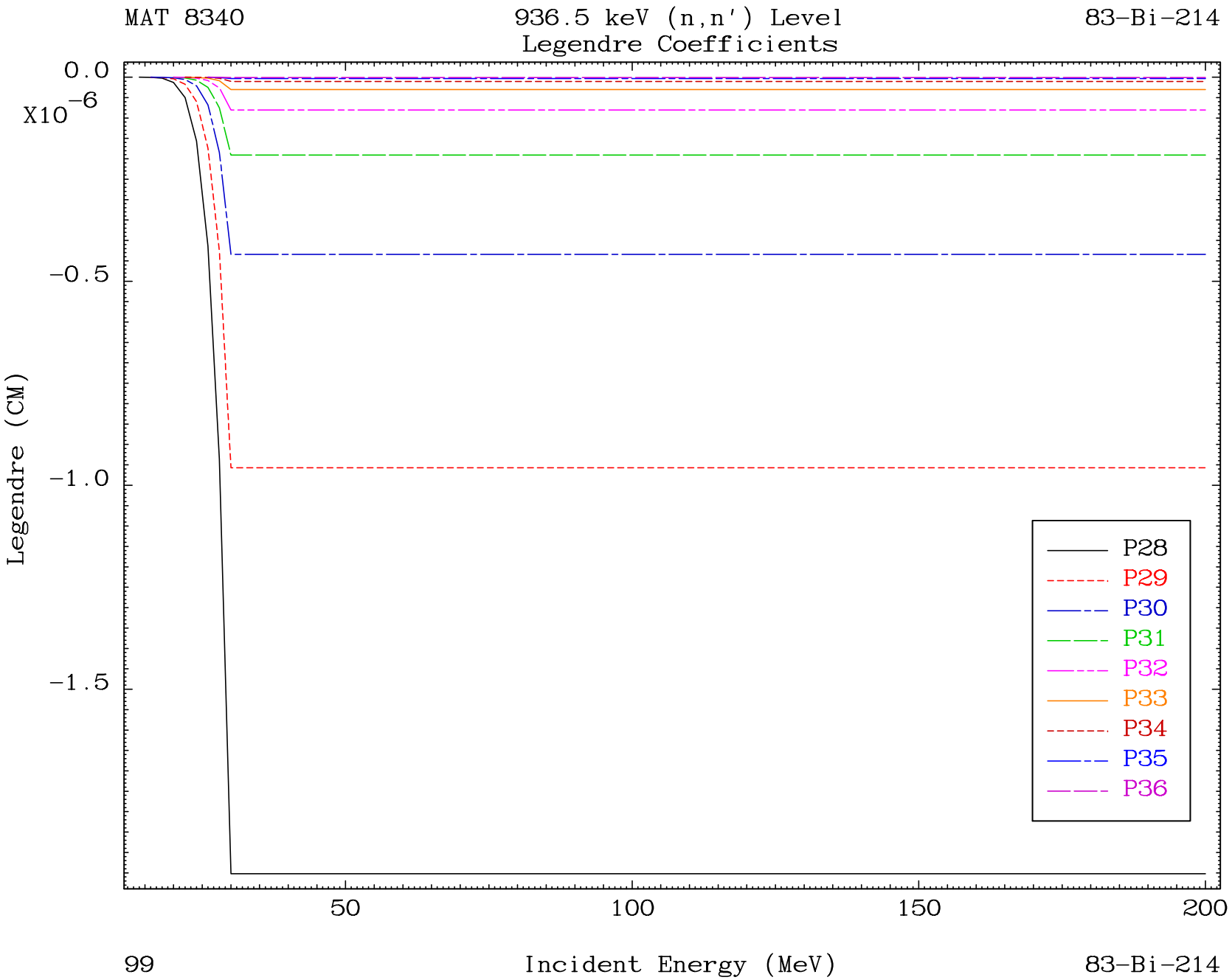

MAT 8340
928.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-42
1
0
-1
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
94
Incident Energy (MeV)
83-Bi-214

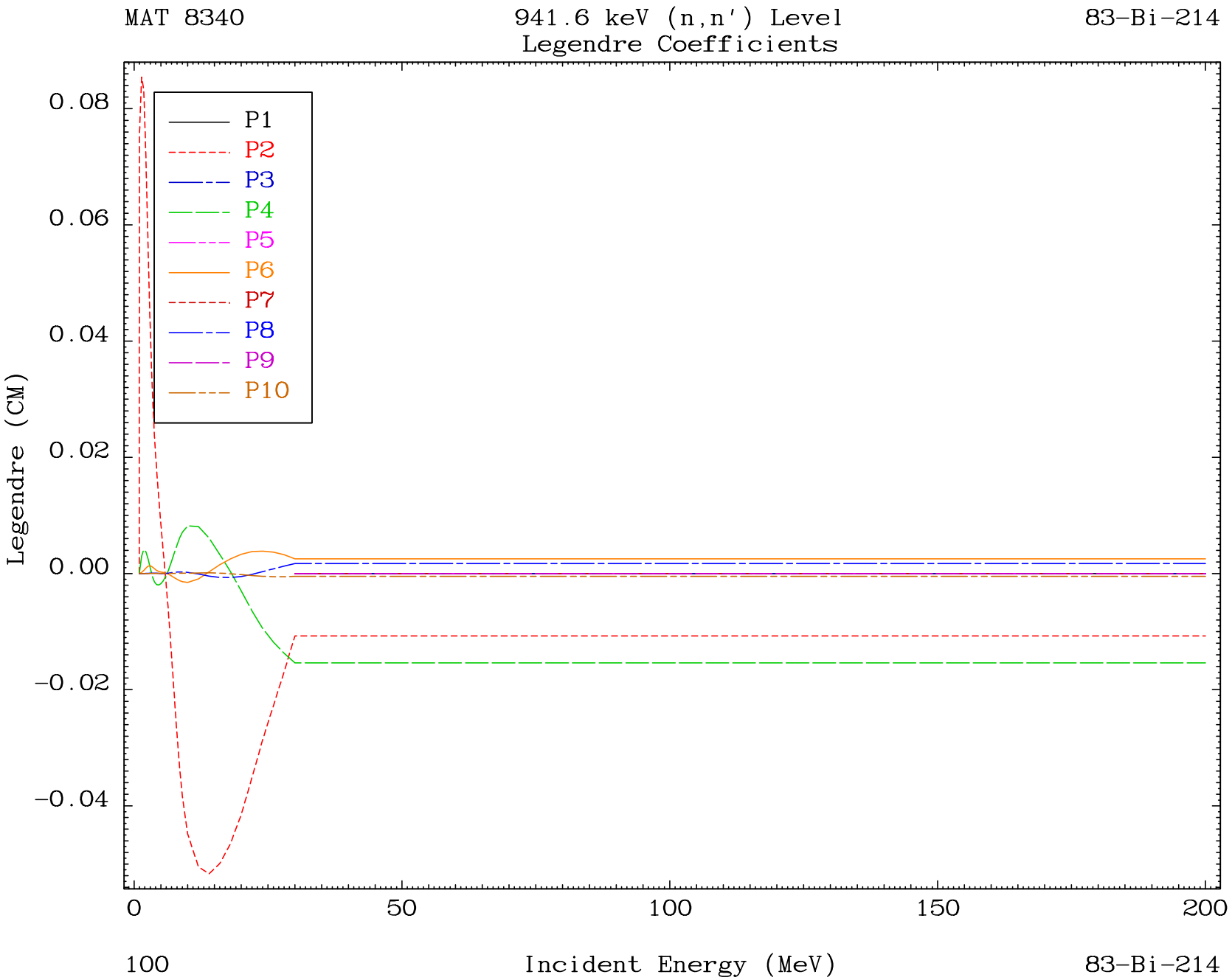

MAT 8340
928.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10 −6
5
4
3
2
1
0
Legendre (CM)
50
100
150
200
95
Incident Energy (MeV)
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28

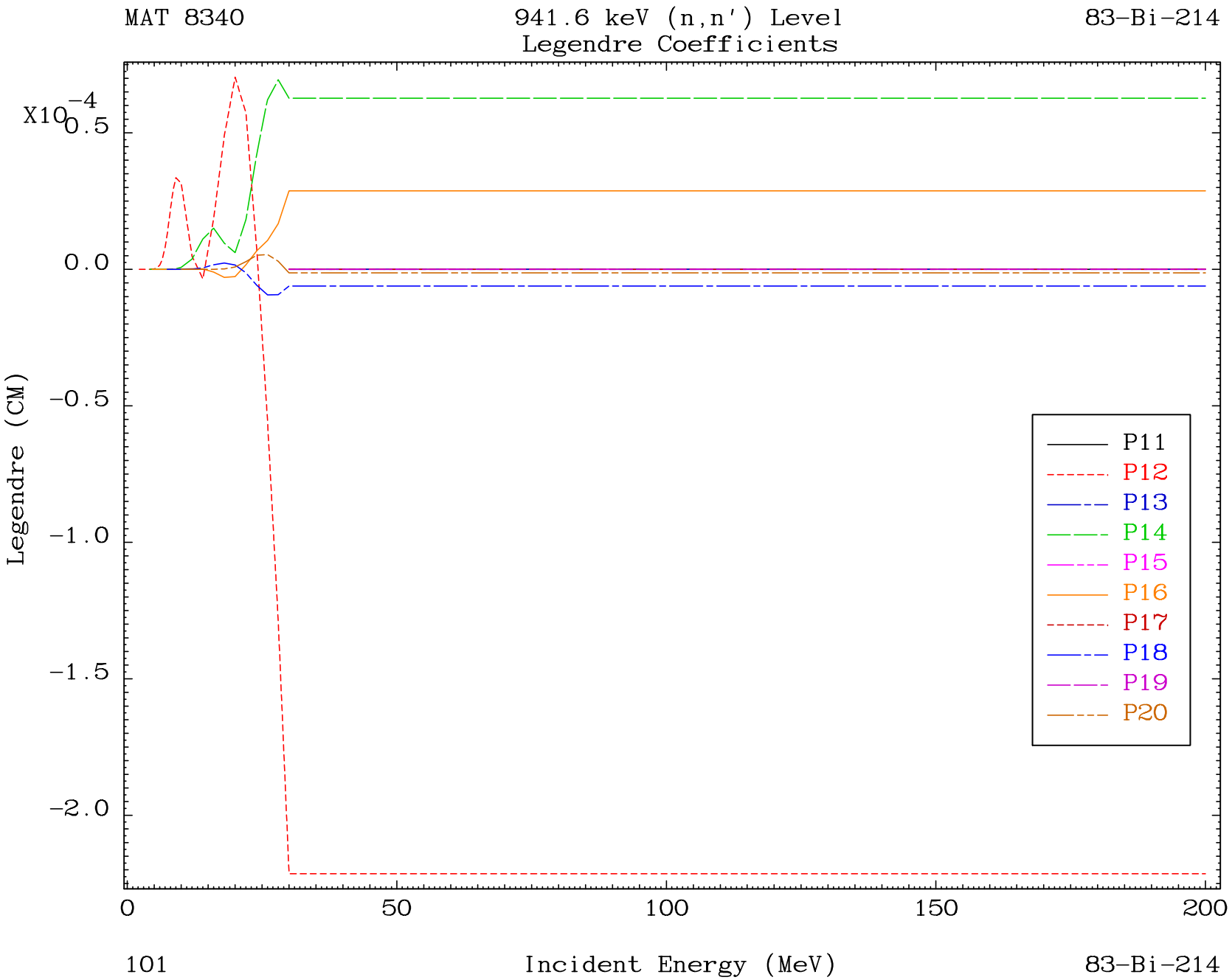

MAT 8340
936.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
96
Incident Energy (MeV)
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9

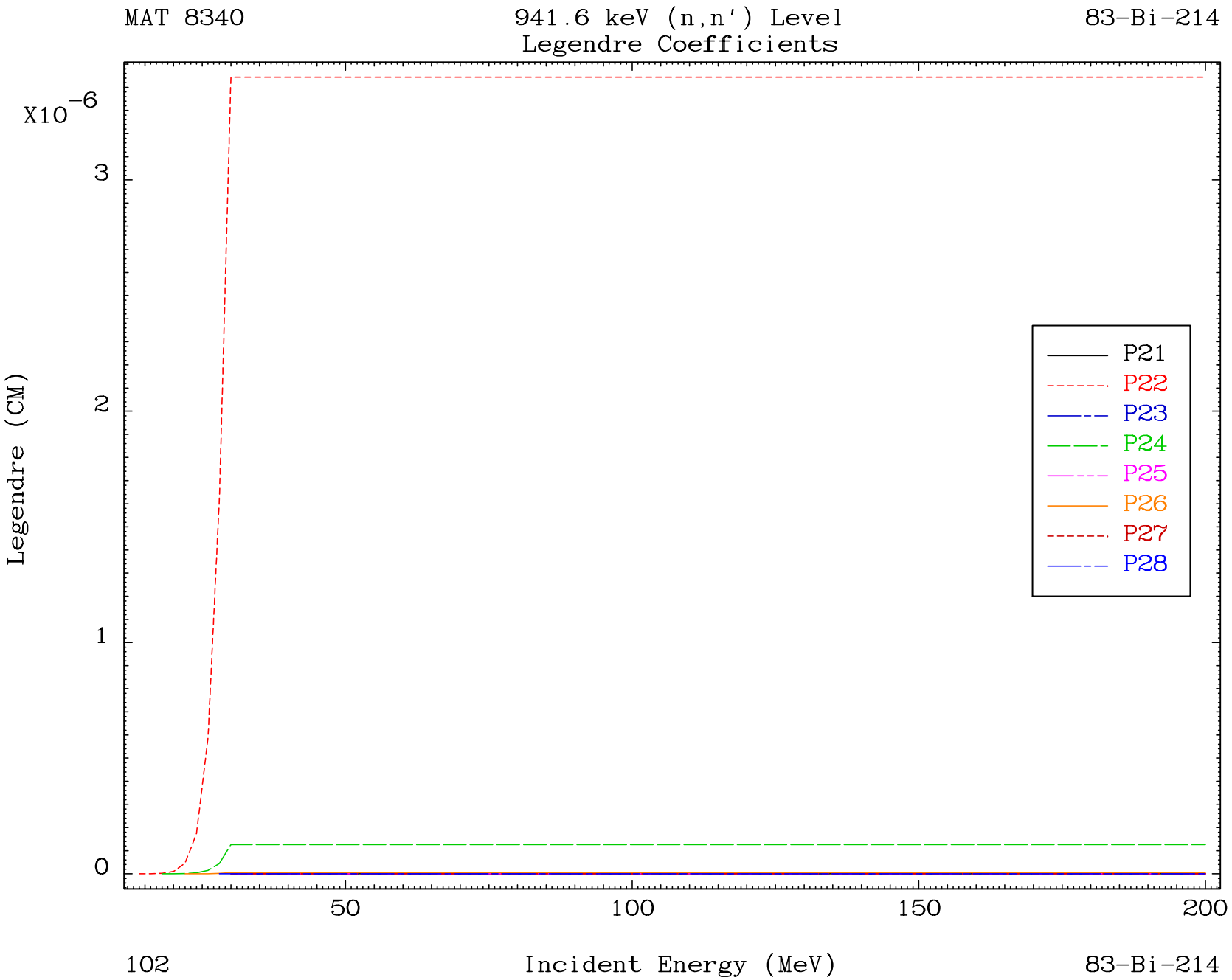

MAT 8340
936.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
97
Incident Energy (MeV)
83-Bi-214

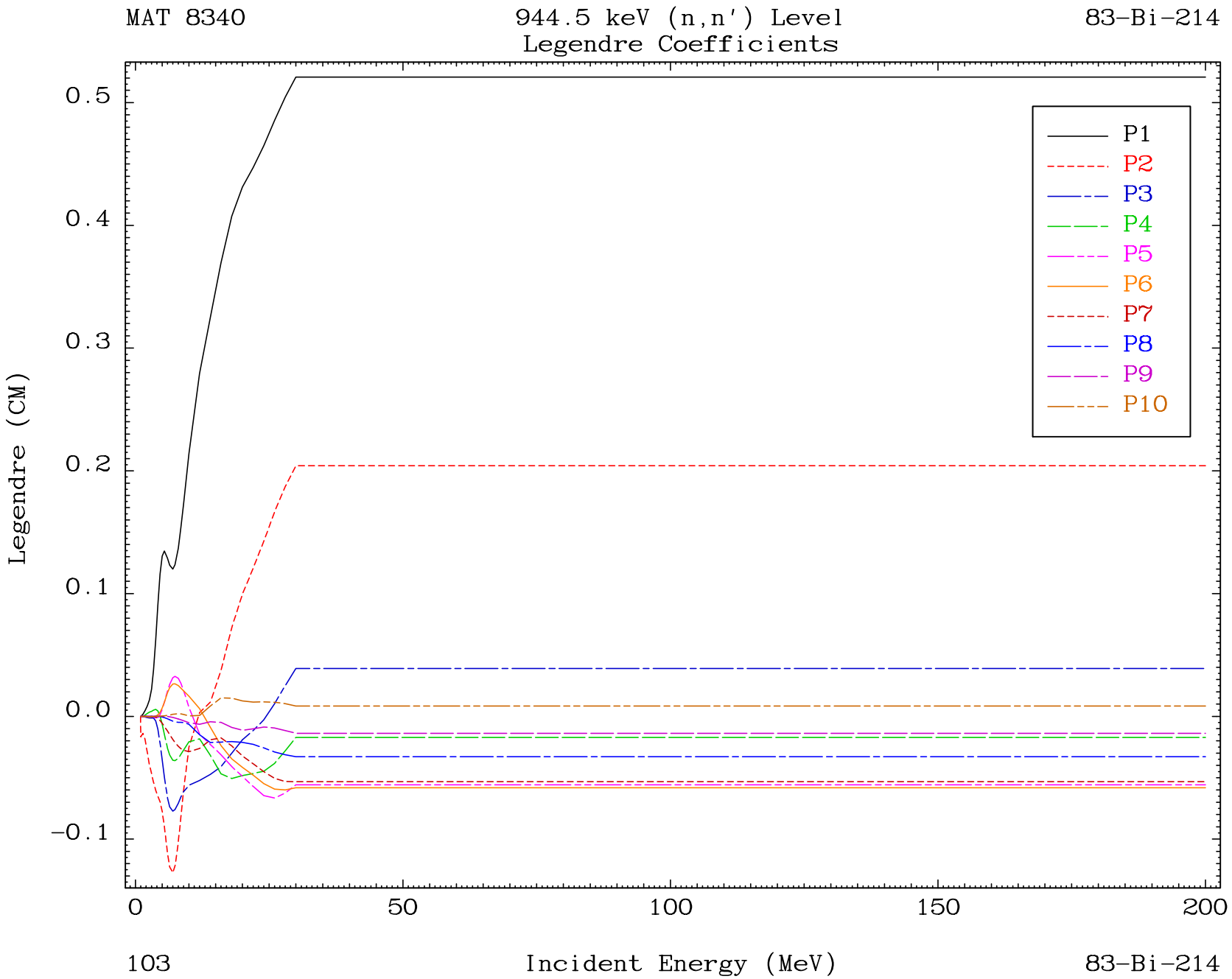

MAT 8340
936.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
4
2
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
98
Incident Energy (MeV)
83-Bi-214
P19
P20
P21
P22
P23
P24
P25
P26
P27

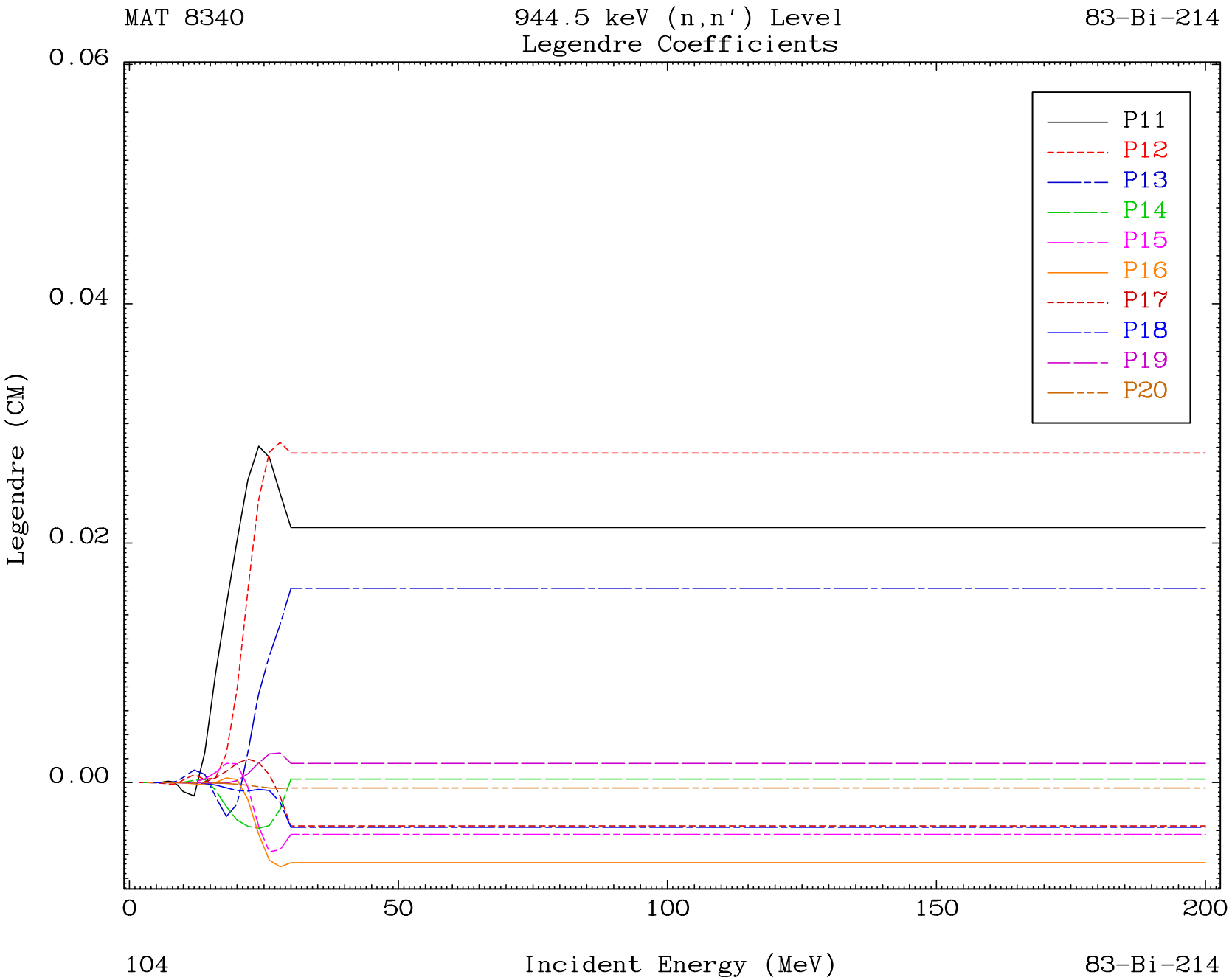

MAT 8340
936.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.5
-1.0
-1.5
Legendre (CM)
50
100
150
200
99
Incident Energy (MeV)
83-Bi-214
P28
P29
P30
P31
P32
P33
P34
P35
P36

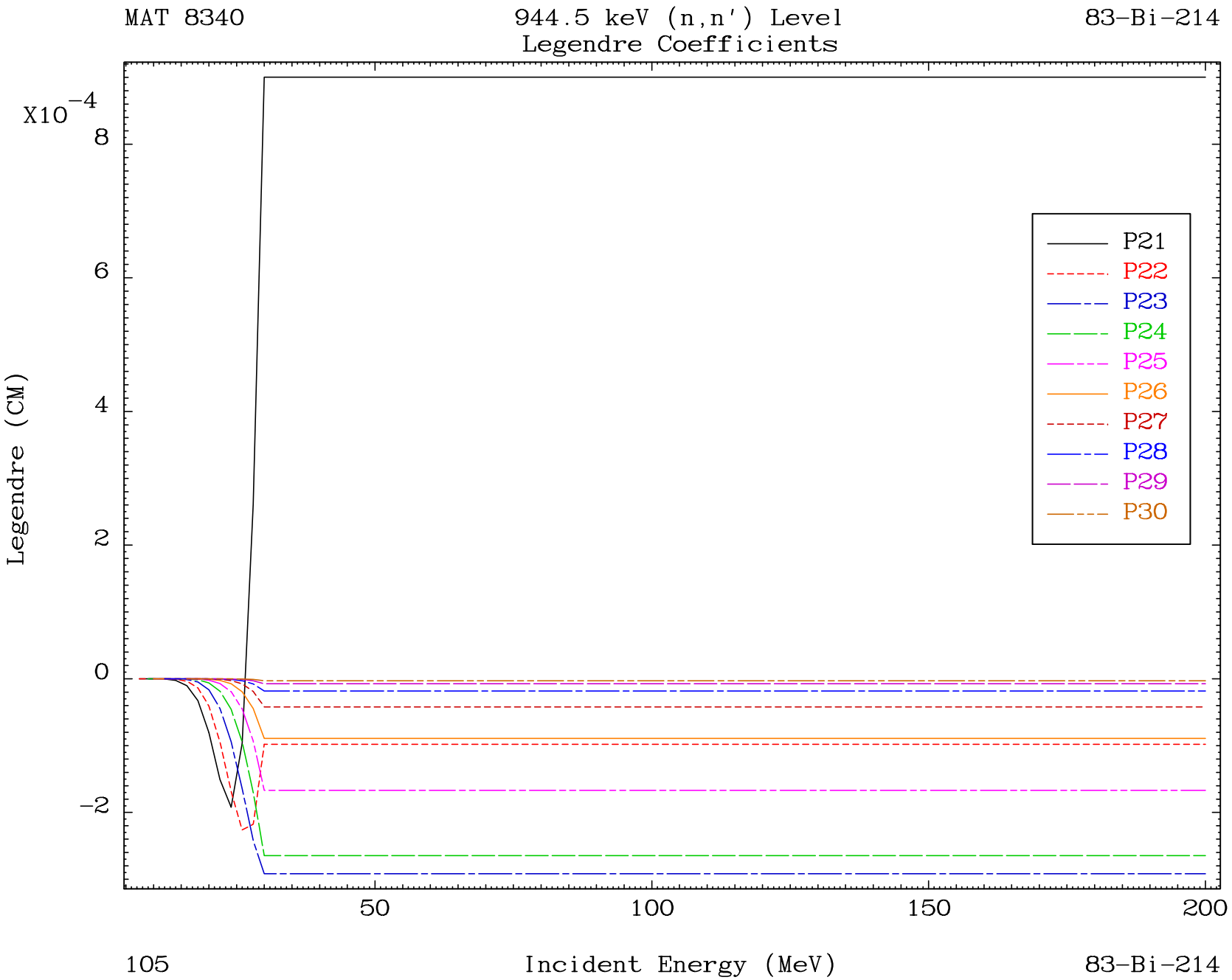

MAT 8340
941.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
100
Incident Energy (MeV)
83-Bi-214

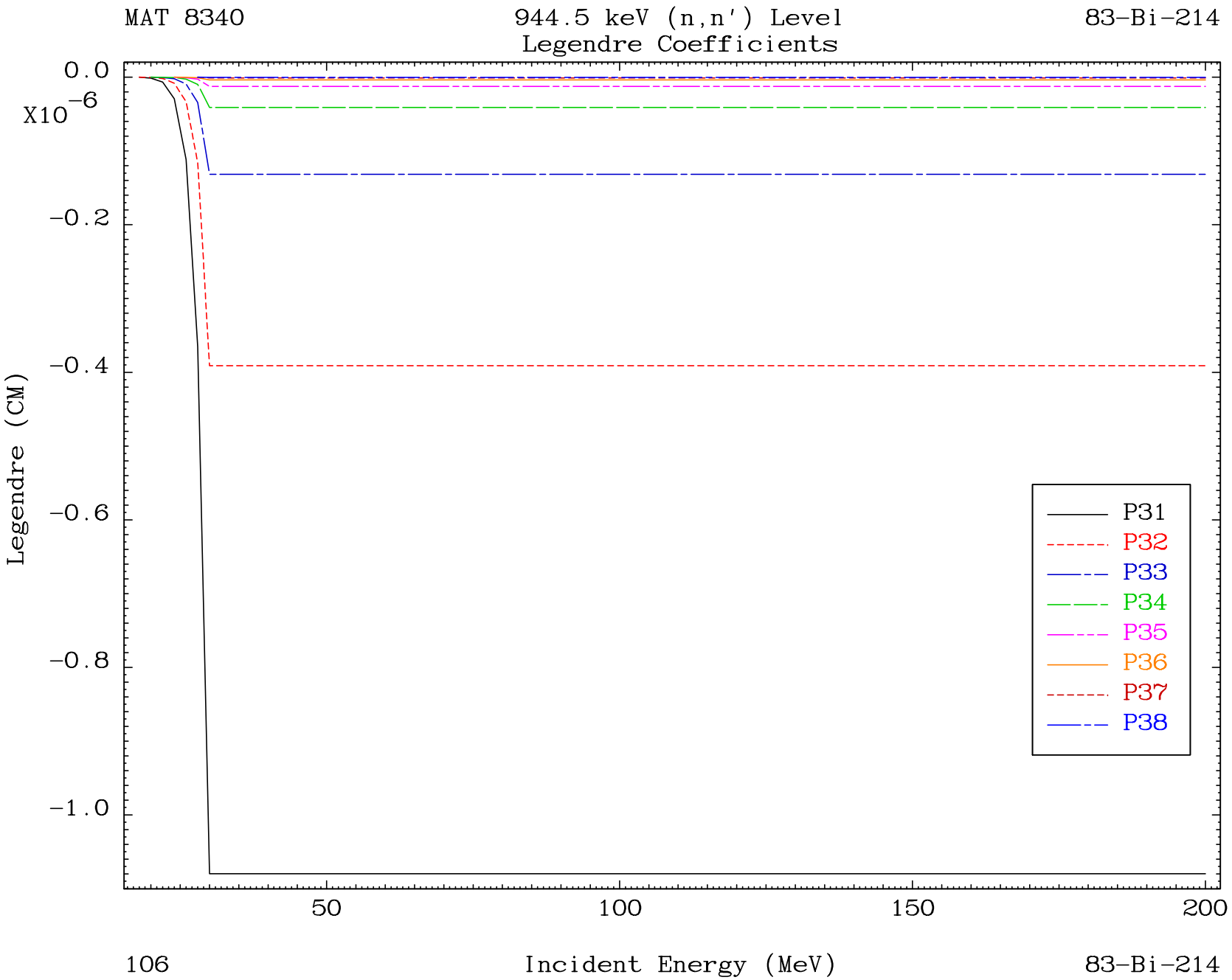

MAT 8340
941.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
0.5
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
0
50
100
150
200
101
Incident Energy (MeV)
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

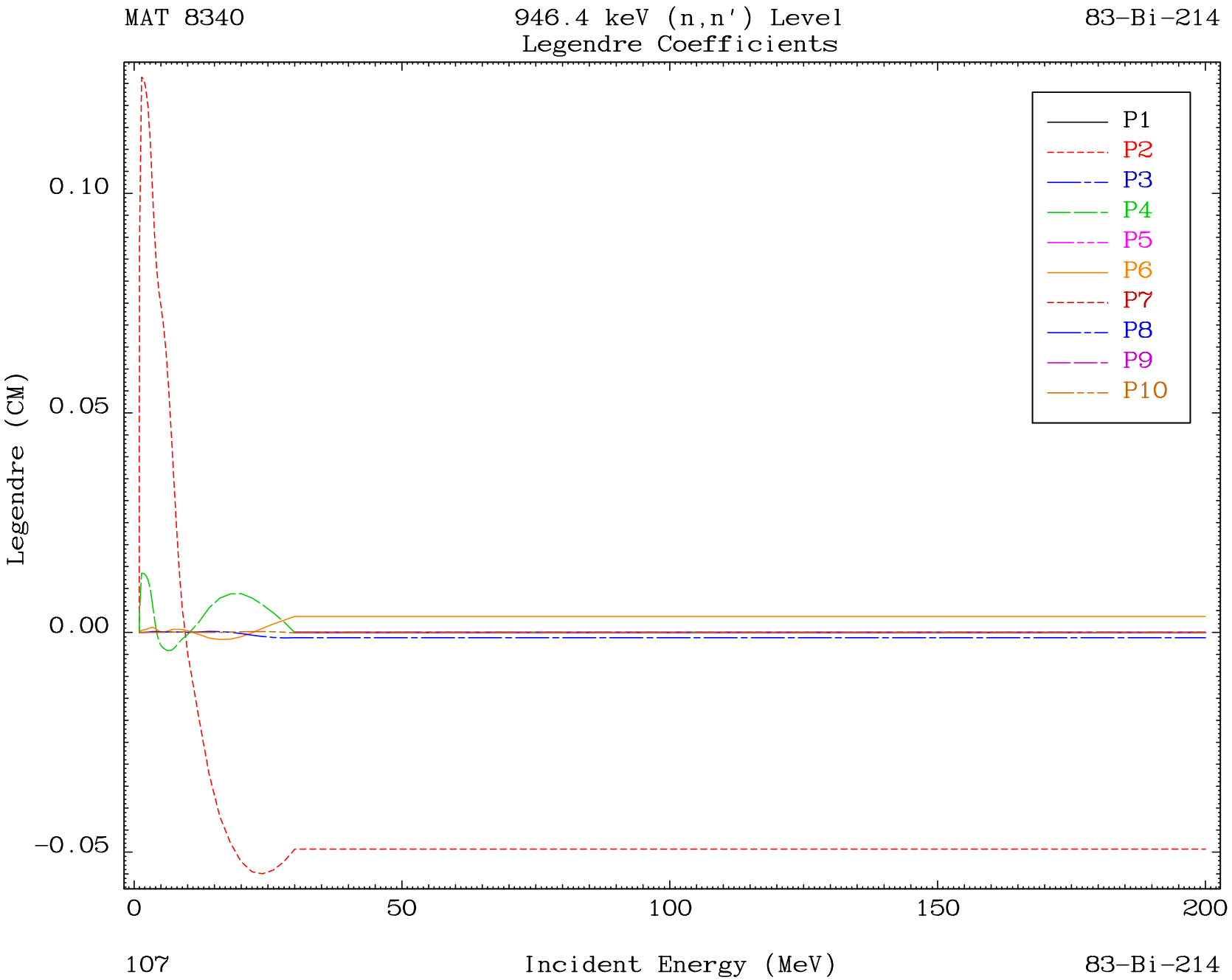

MAT 8340
941.6 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
102
Incident Energy (MeV)
83-Bi-214

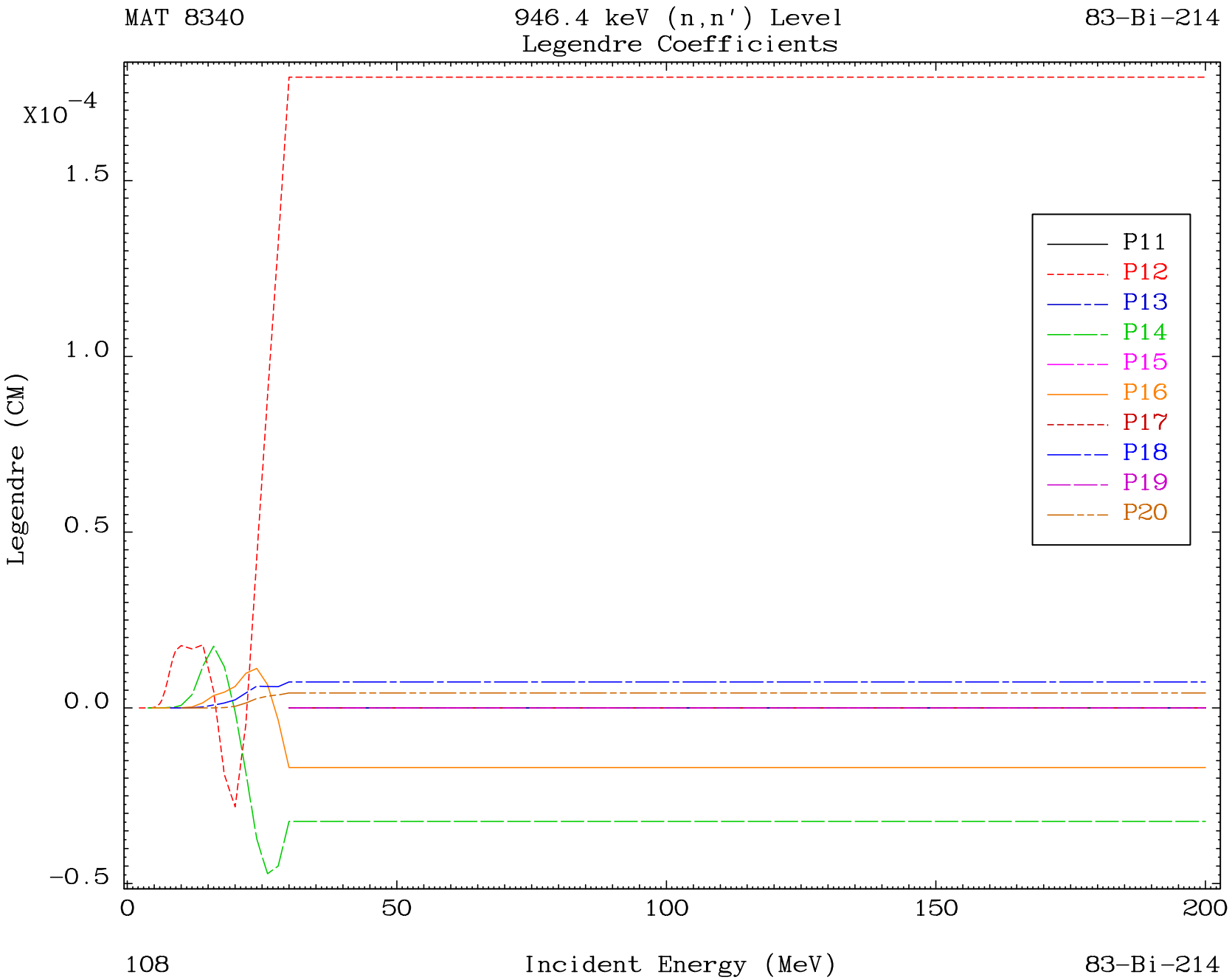

MAT 8340
944.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
103
Incident Energy (MeV)
83-Bi-214

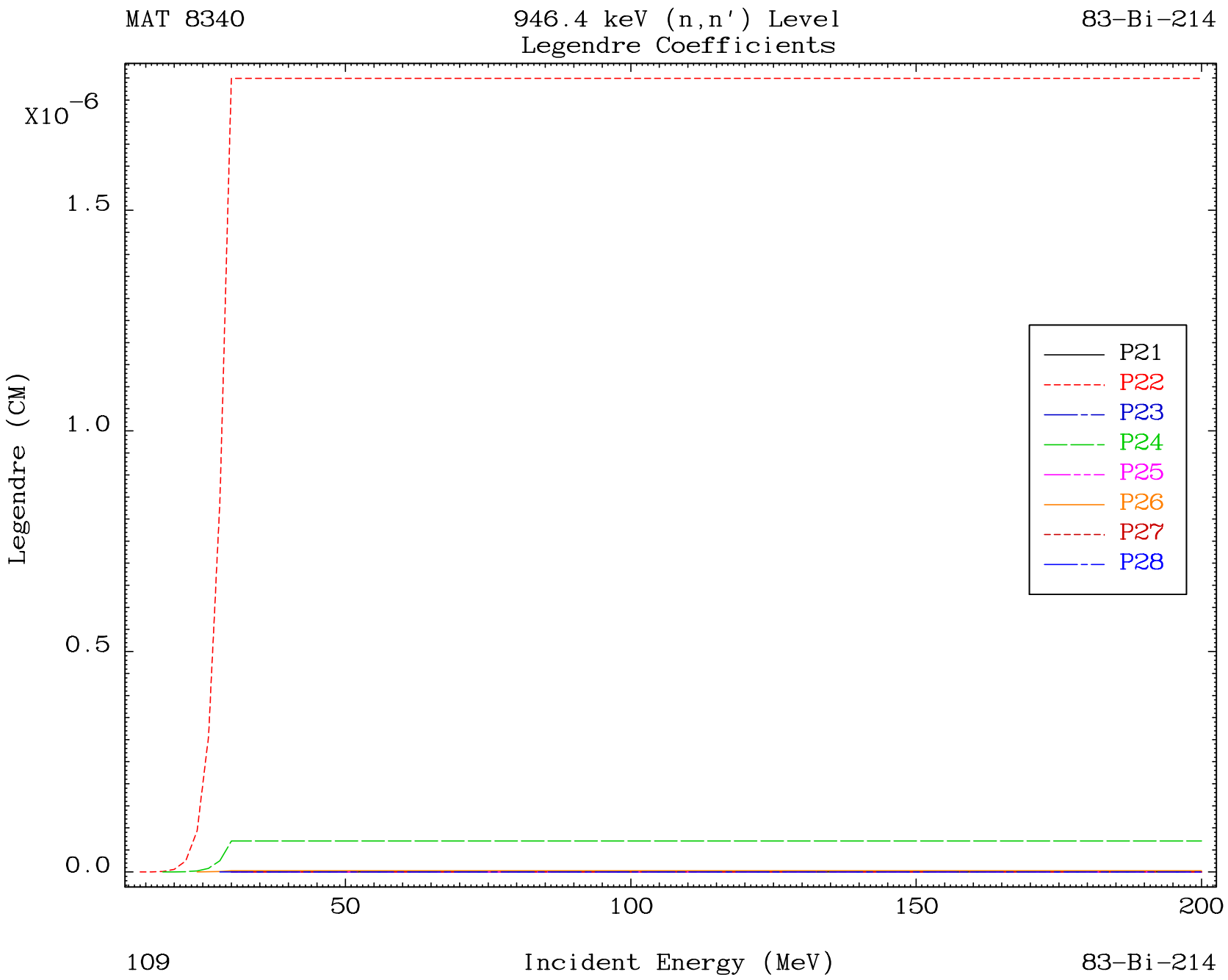

MAT 8340
944.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.06
0.04
0.02
0.00
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
104
Incident Energy (MeV)
83-Bi-214

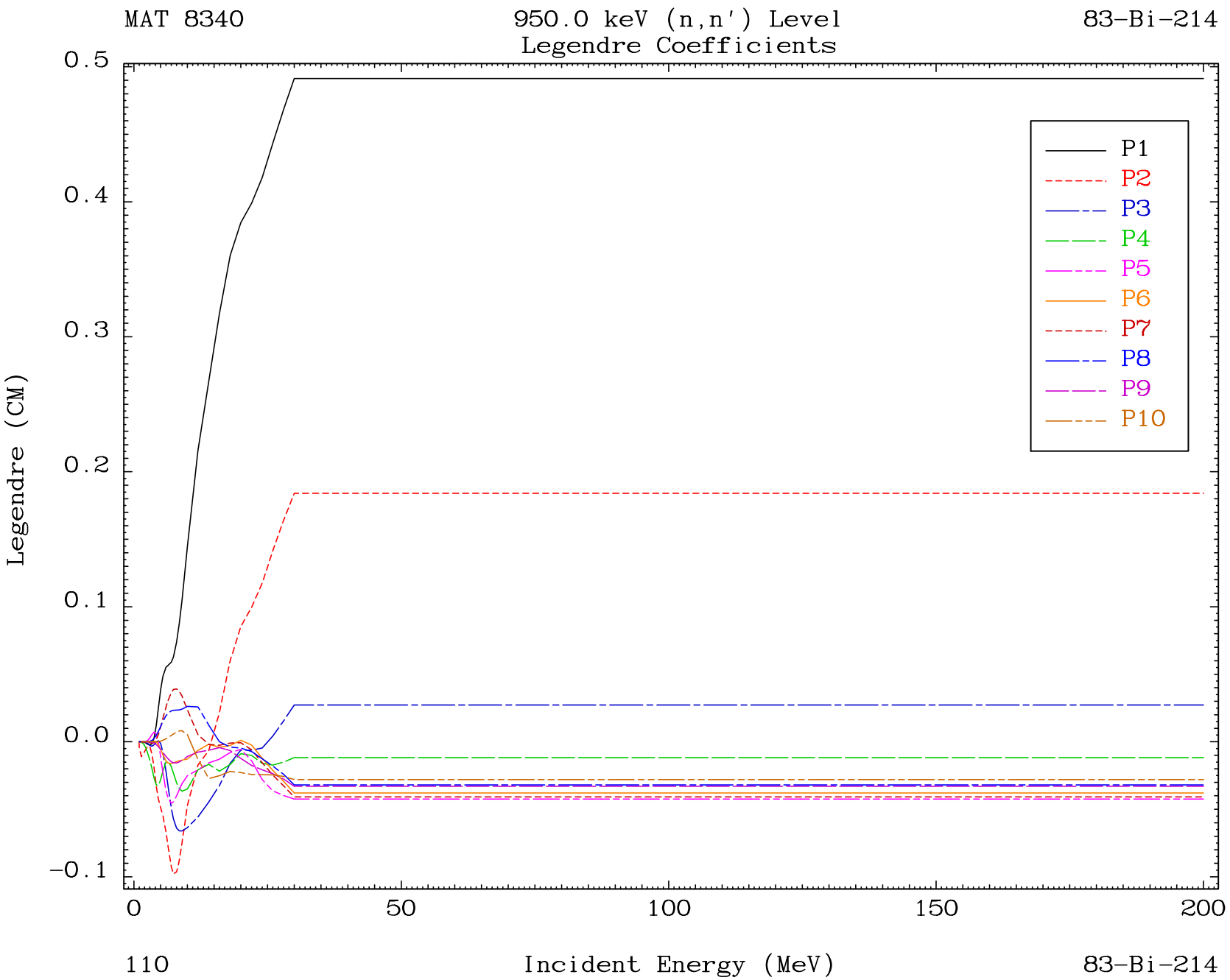

MAT 8340
944.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
8
6
4
2
0
-2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
105
Incident Energy (MeV)
83-Bi-214

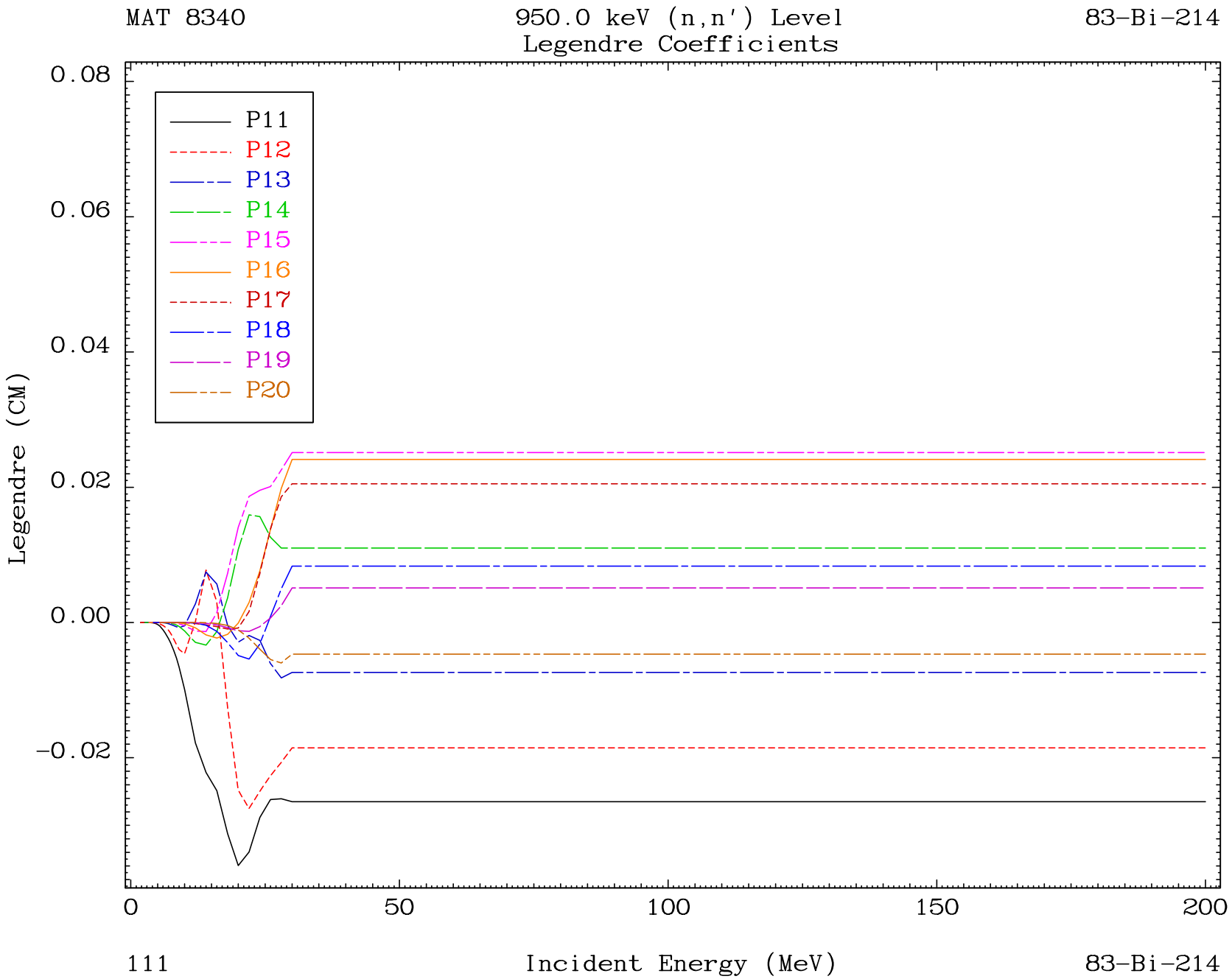

MAT 8340
944.5 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
106
Incident Energy (MeV)
83-Bi-214
P31
P32
P33
P34
P35
P36
P37
P38

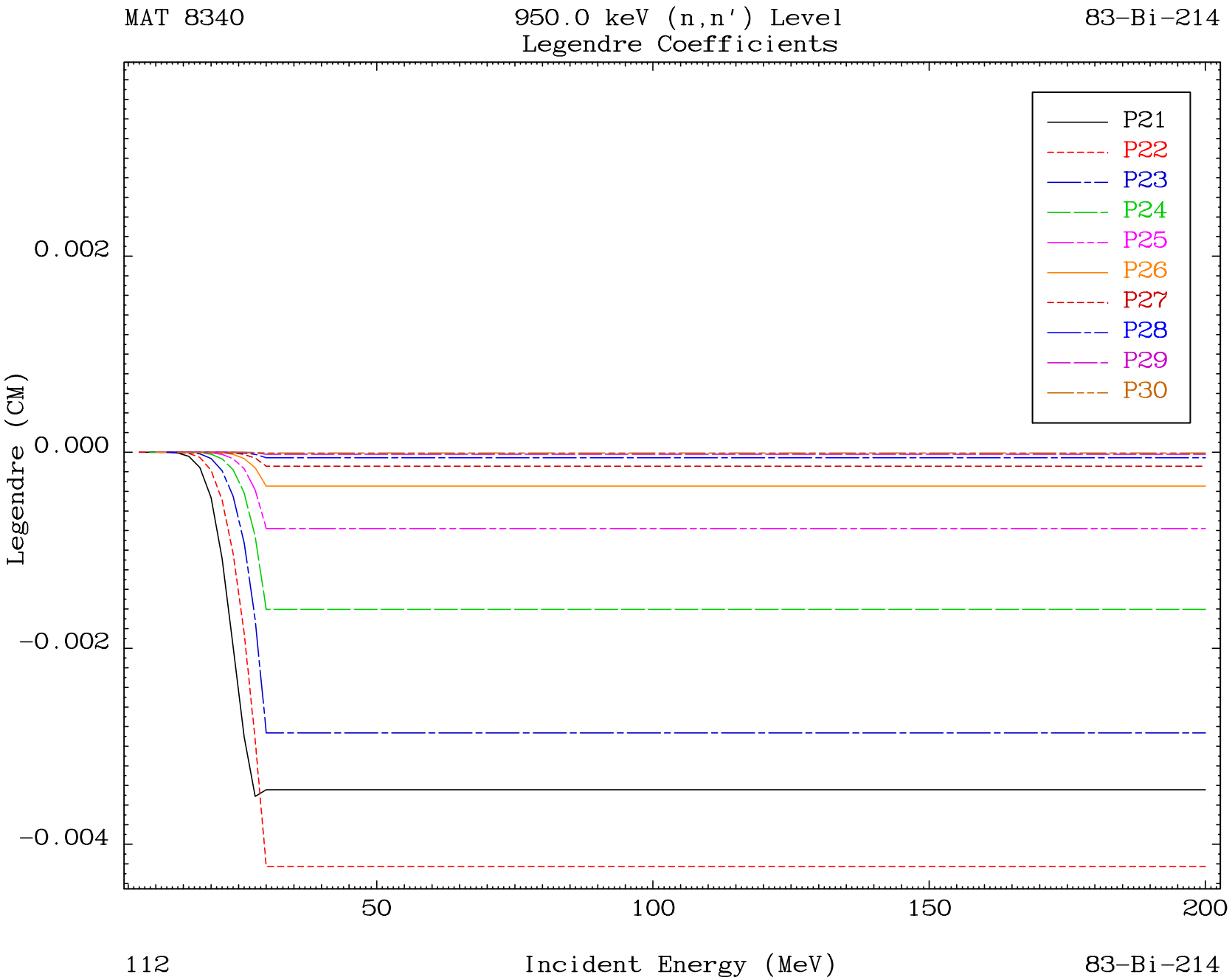

MAT 8340
946.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0.10
0.05
0.00
-0.05
Legendre (CM)
0
50
100
150
200
107
Incident Energy (MeV)
83-Bi-214

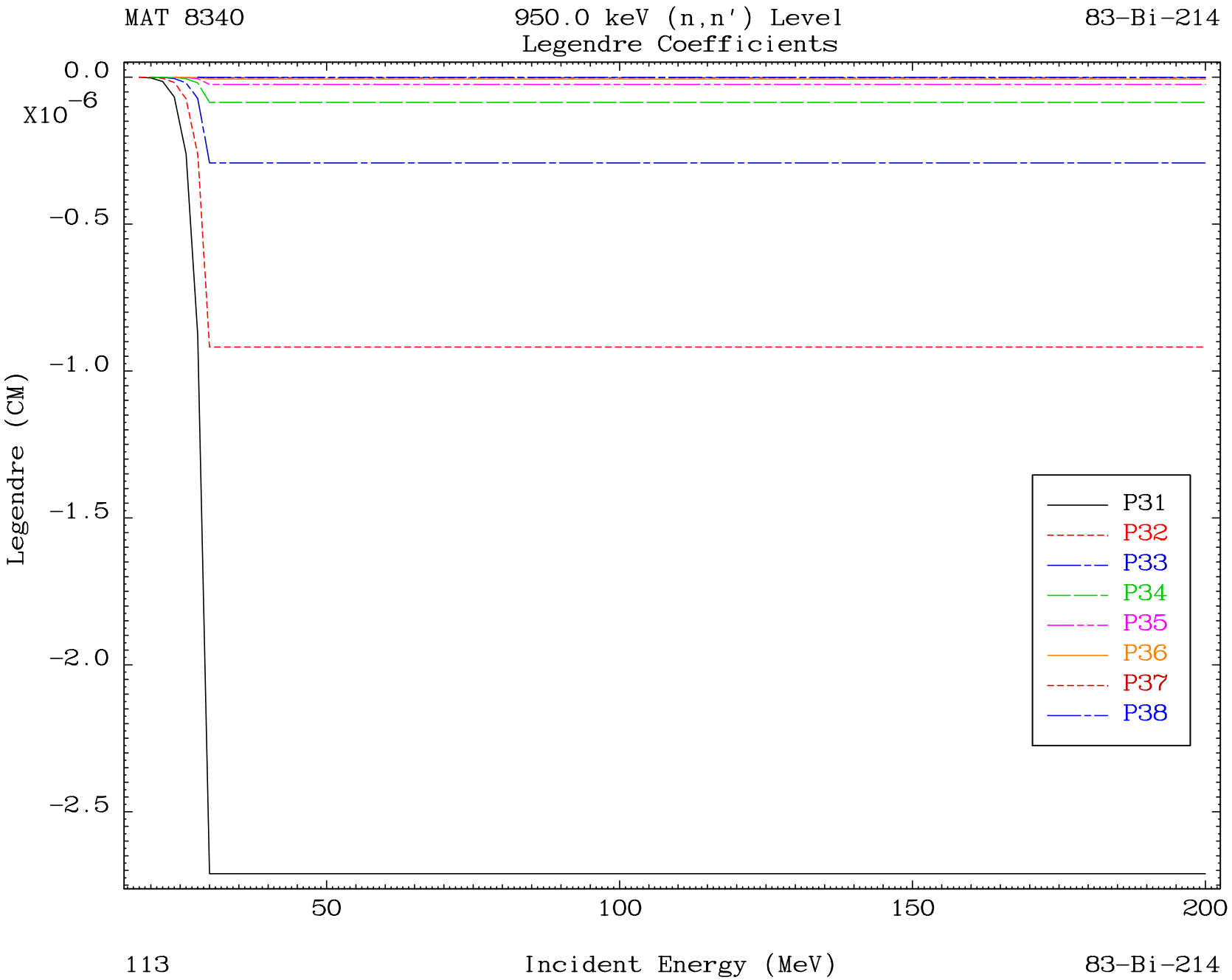

MAT 8340
946.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
1.5
1.0
0.5
0.0
-0.5
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
108
Incident Energy (MeV)
83-Bi-214

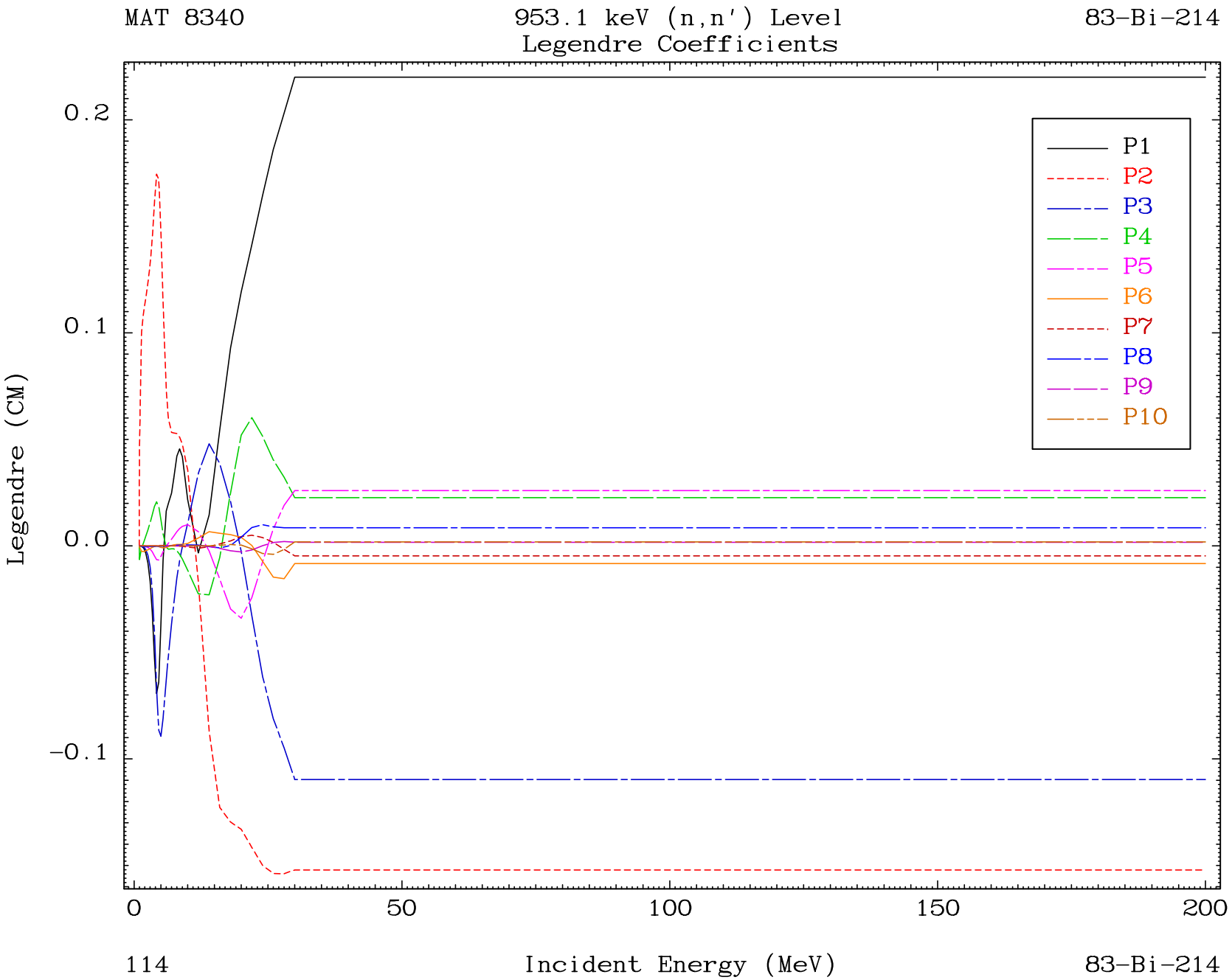

MAT 8340
946.4 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-6
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
109
Incident Energy (MeV)
83-Bi-214

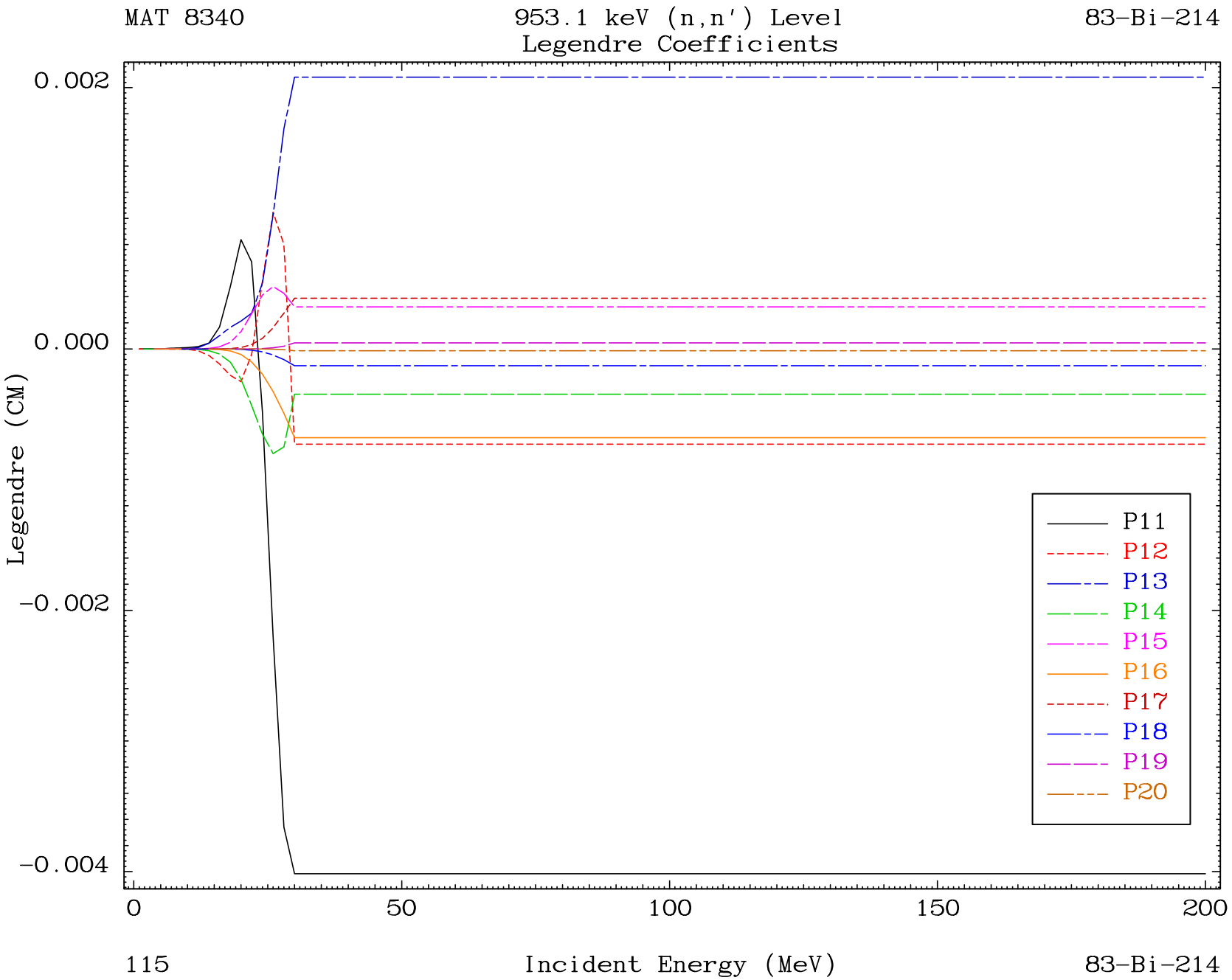

MAT 8340
950.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
110
Incident Energy (MeV)
83-Bi-214

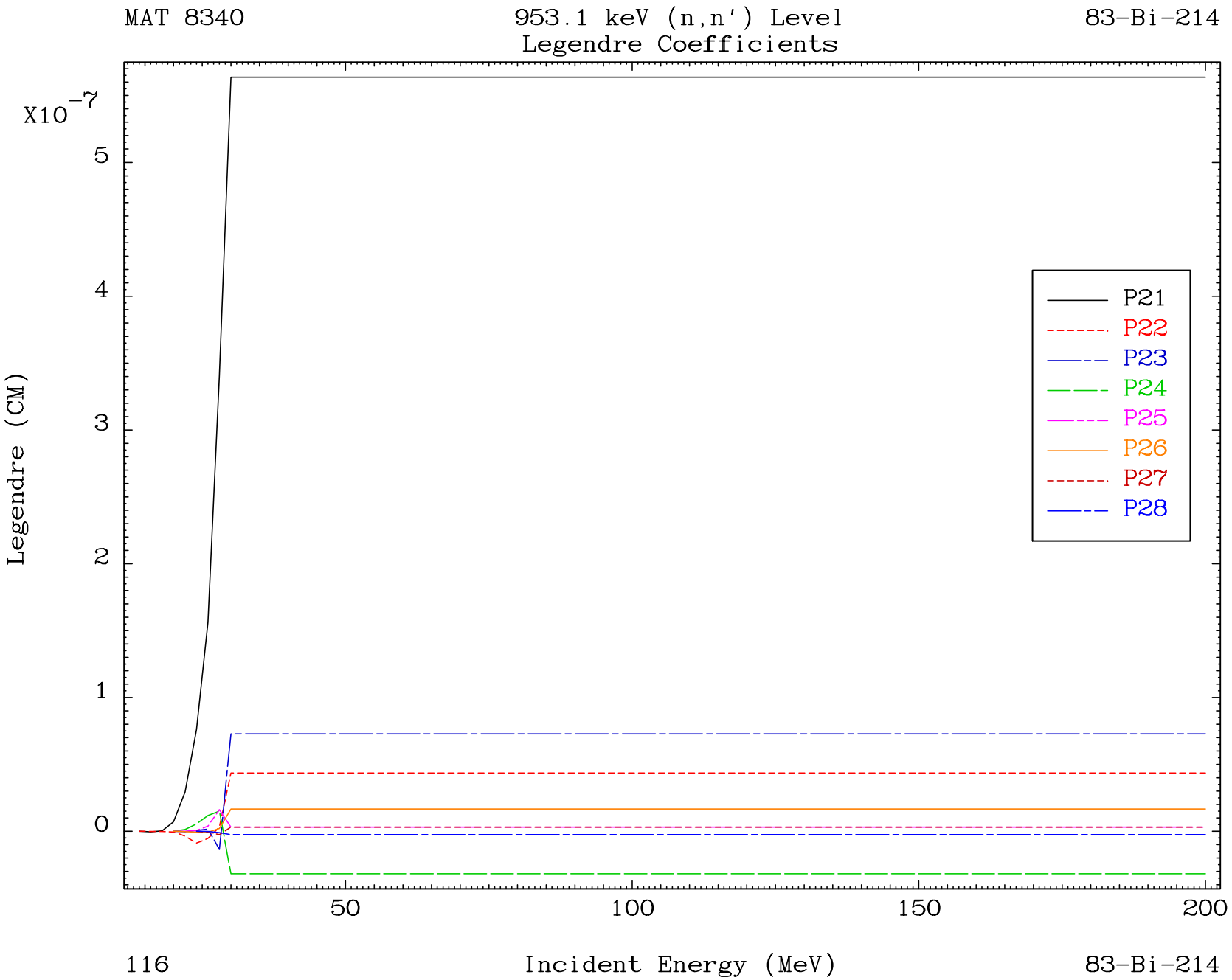

MAT 8340
950.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
111
Incident Energy (MeV)
83-Bi-214

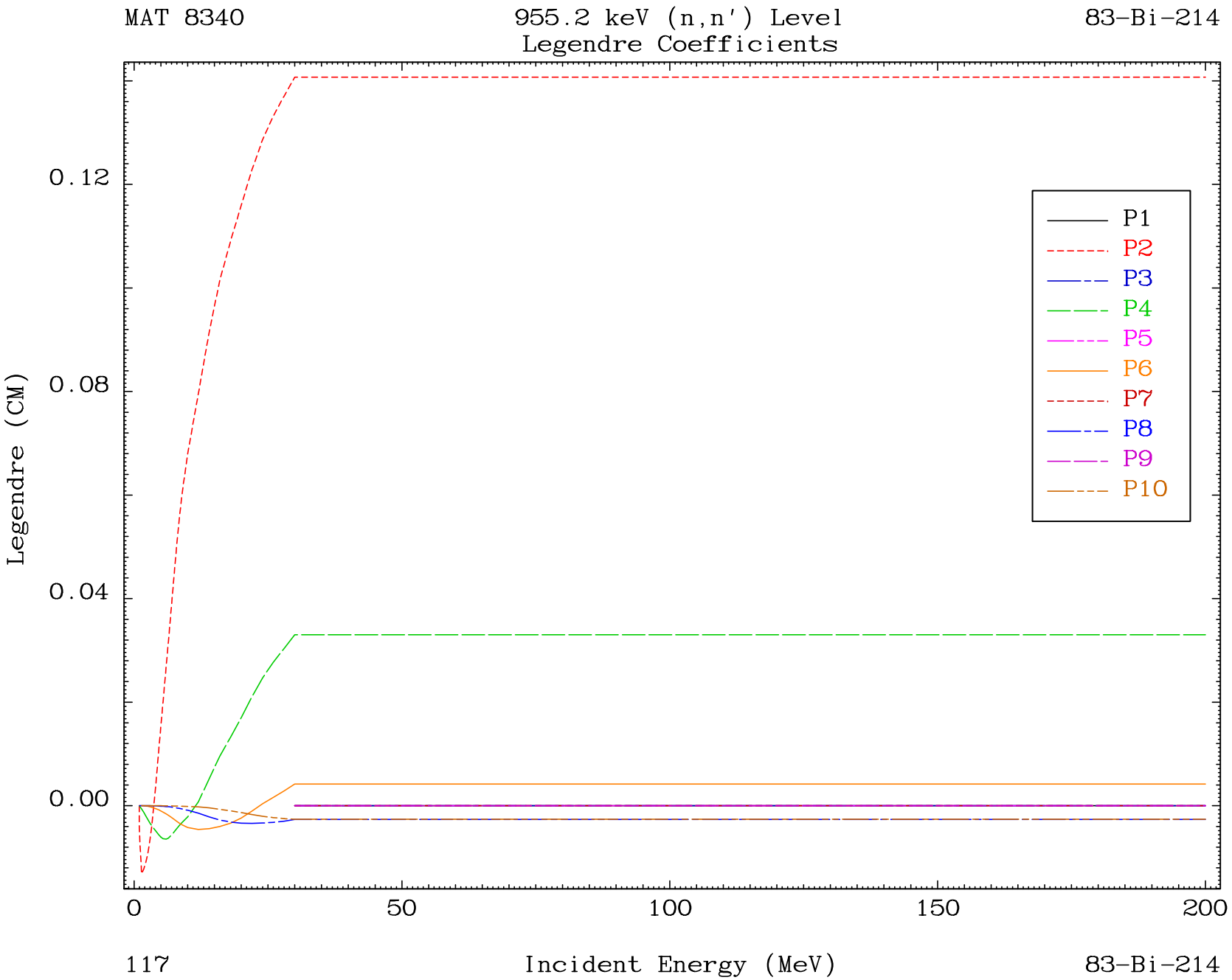

MAT 8340
950.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.002
0.000
−0.002
−0.004
Legendre (CM)
50
100
150
200
112
Incident Energy (MeV)
83-Bi-214

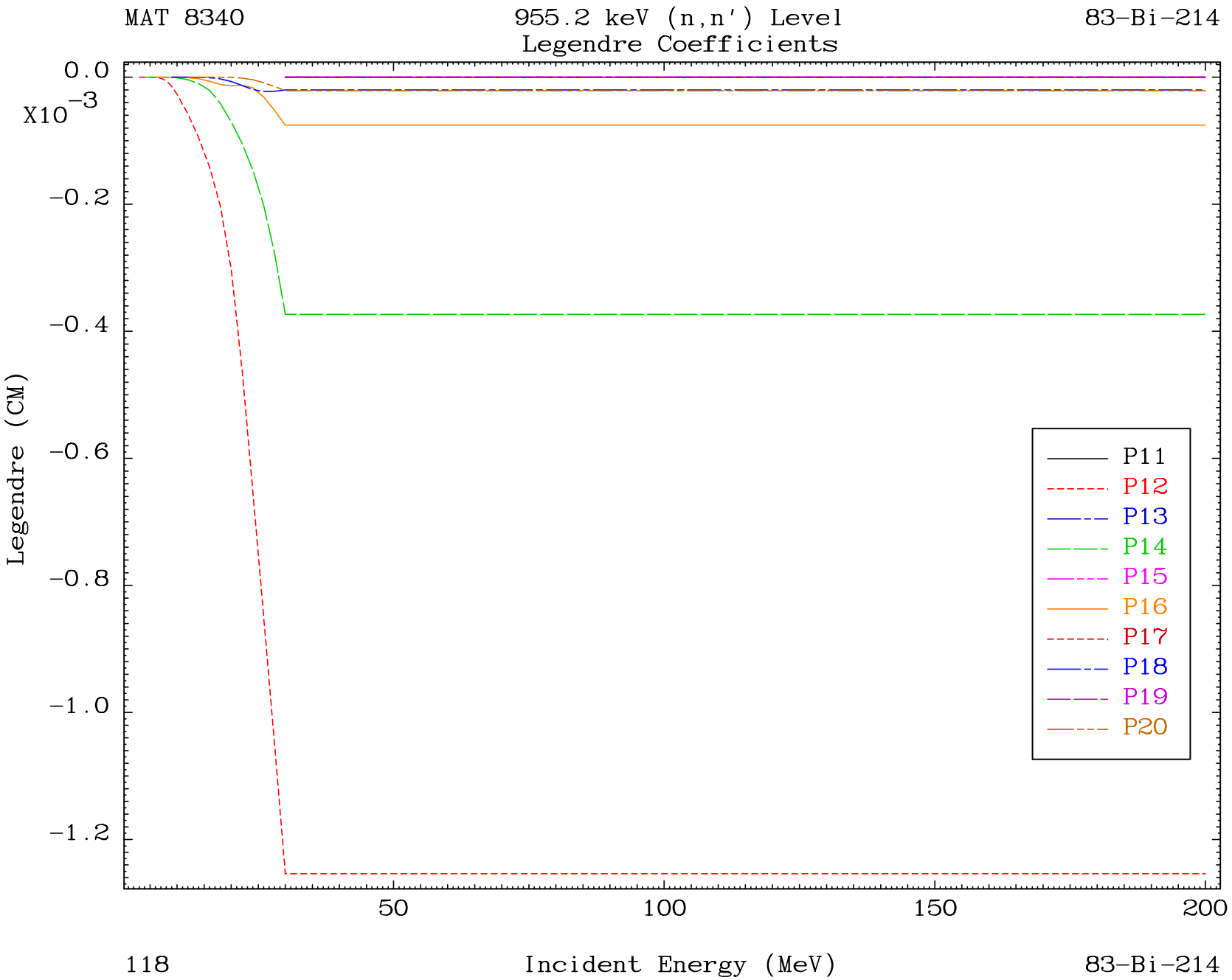

MAT 8340
950.0 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
P31
P32
P33
P34
P35
P36
P37
P38
113
Incident Energy (MeV)
83-Bi-214

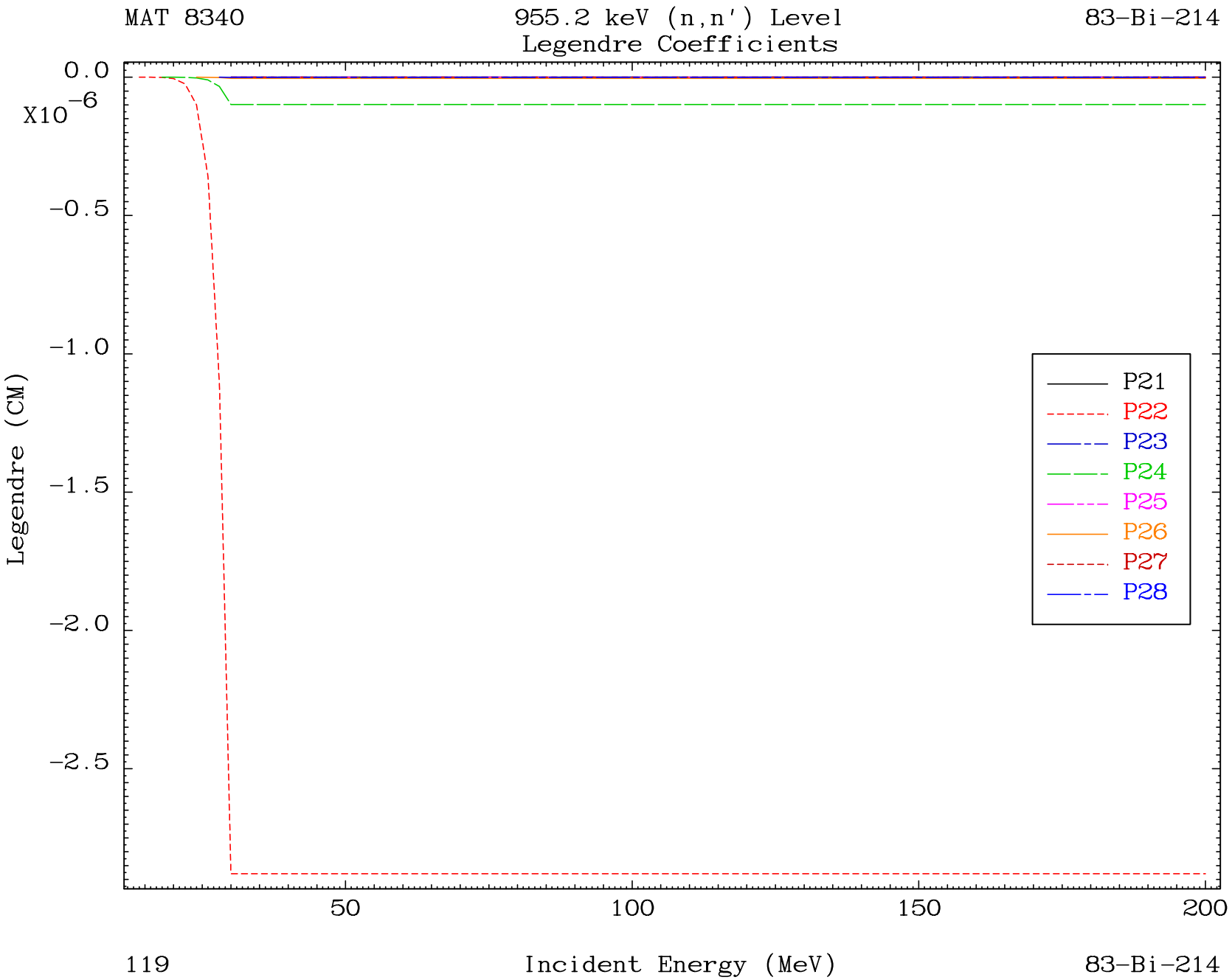

MAT 8340
953.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
Legendre (CM)
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
114
83-Bi-214
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

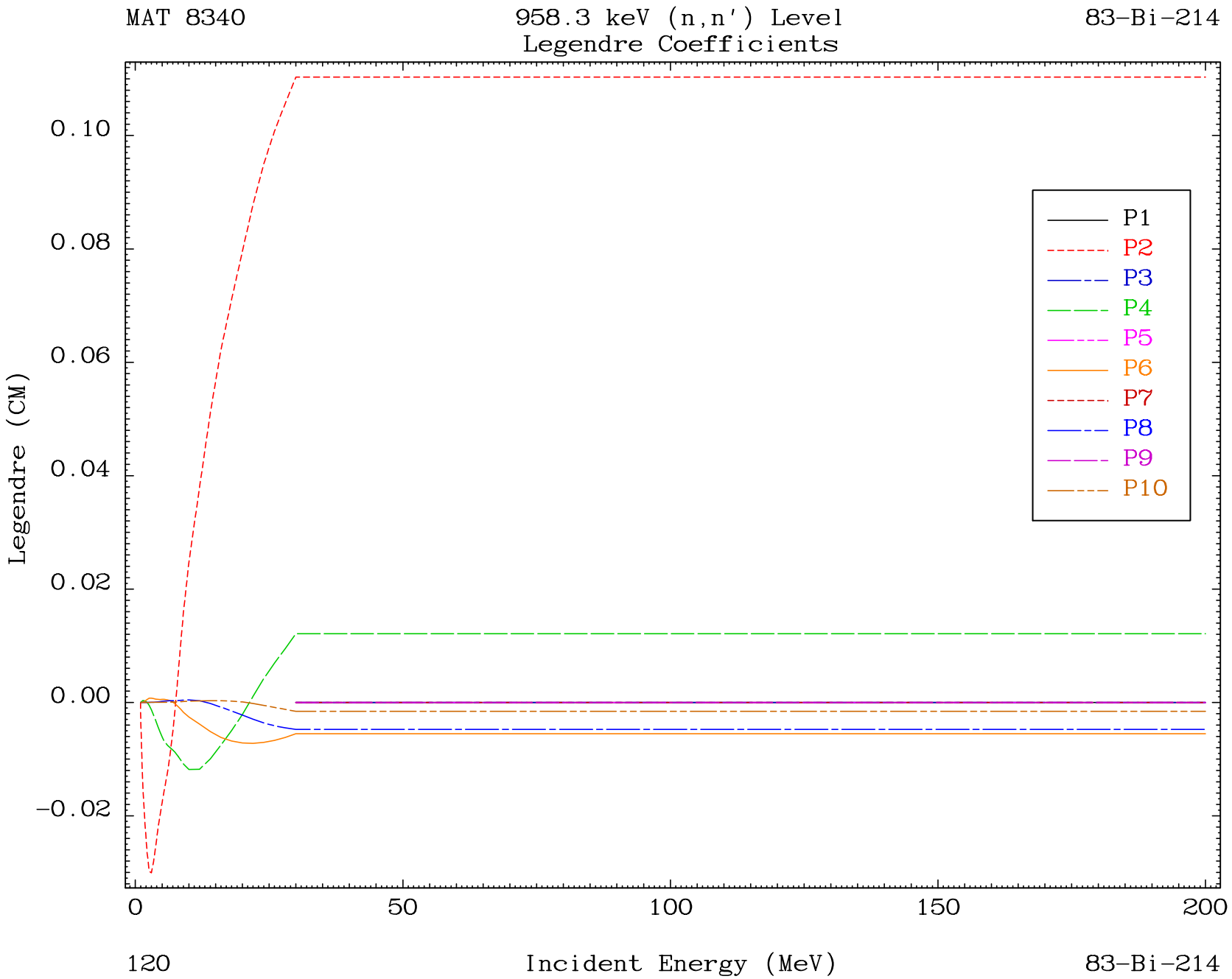

MAT 8340
953.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.002
0.000
-0.002
-0.004
Legendre (CM)
0
50
100
150
200
115
Incident Energy (MeV)
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

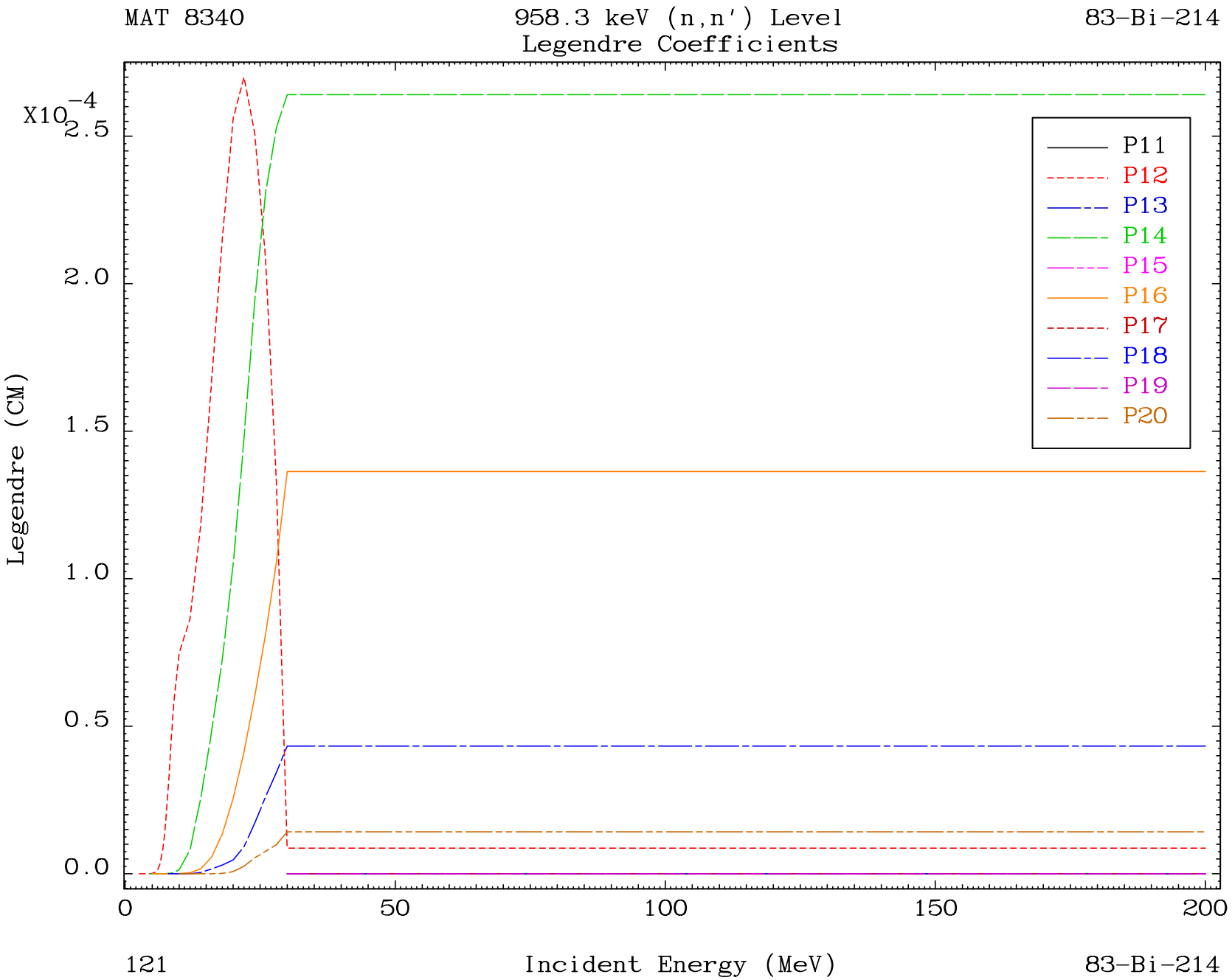

MAT 8340
953.1 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-7
5
4
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
116
Incident Energy (MeV)
83-Bi-214

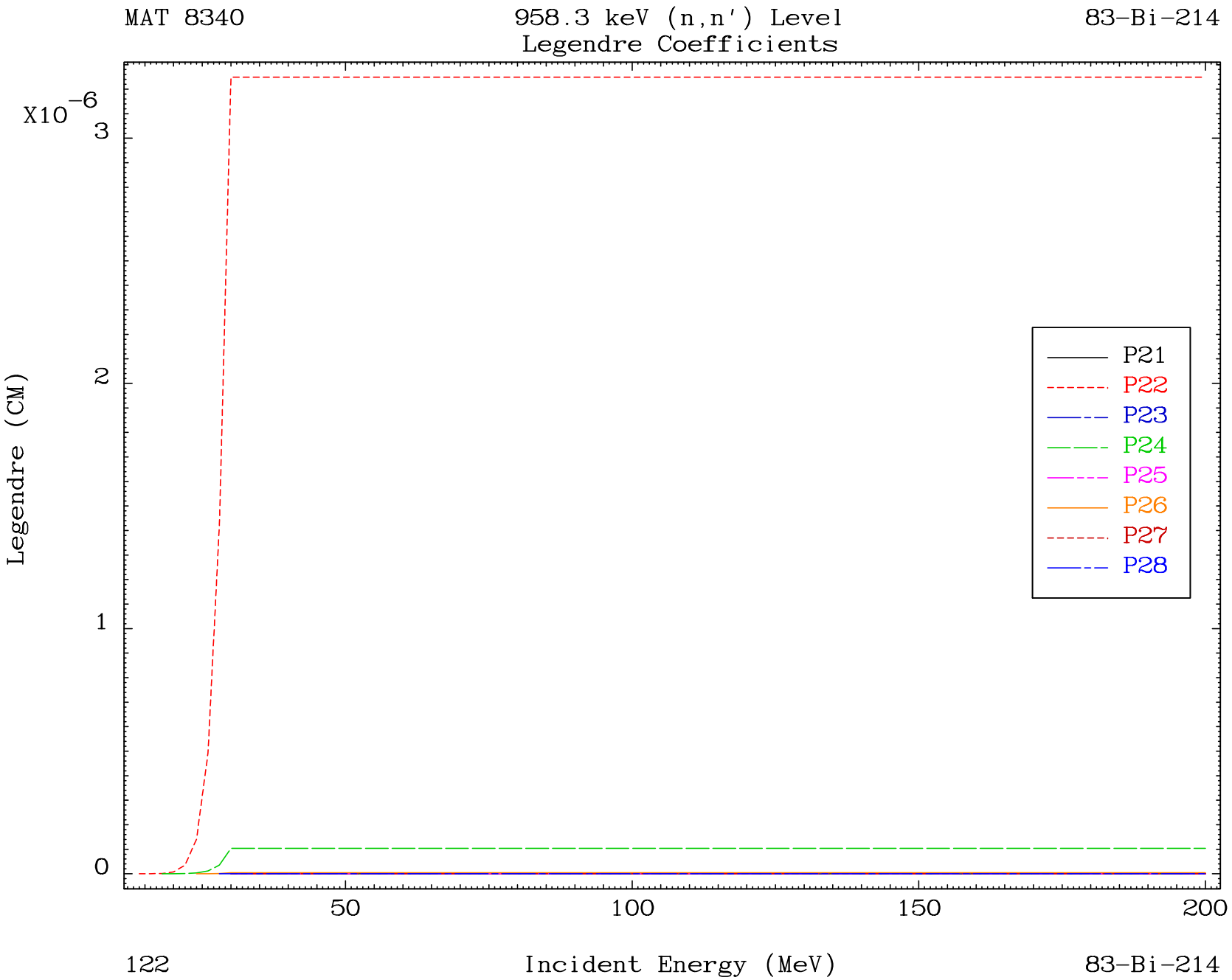

MAT 8340
955.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.12
0.08
0.04
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
117
Incident Energy (MeV)
83-Bi-214

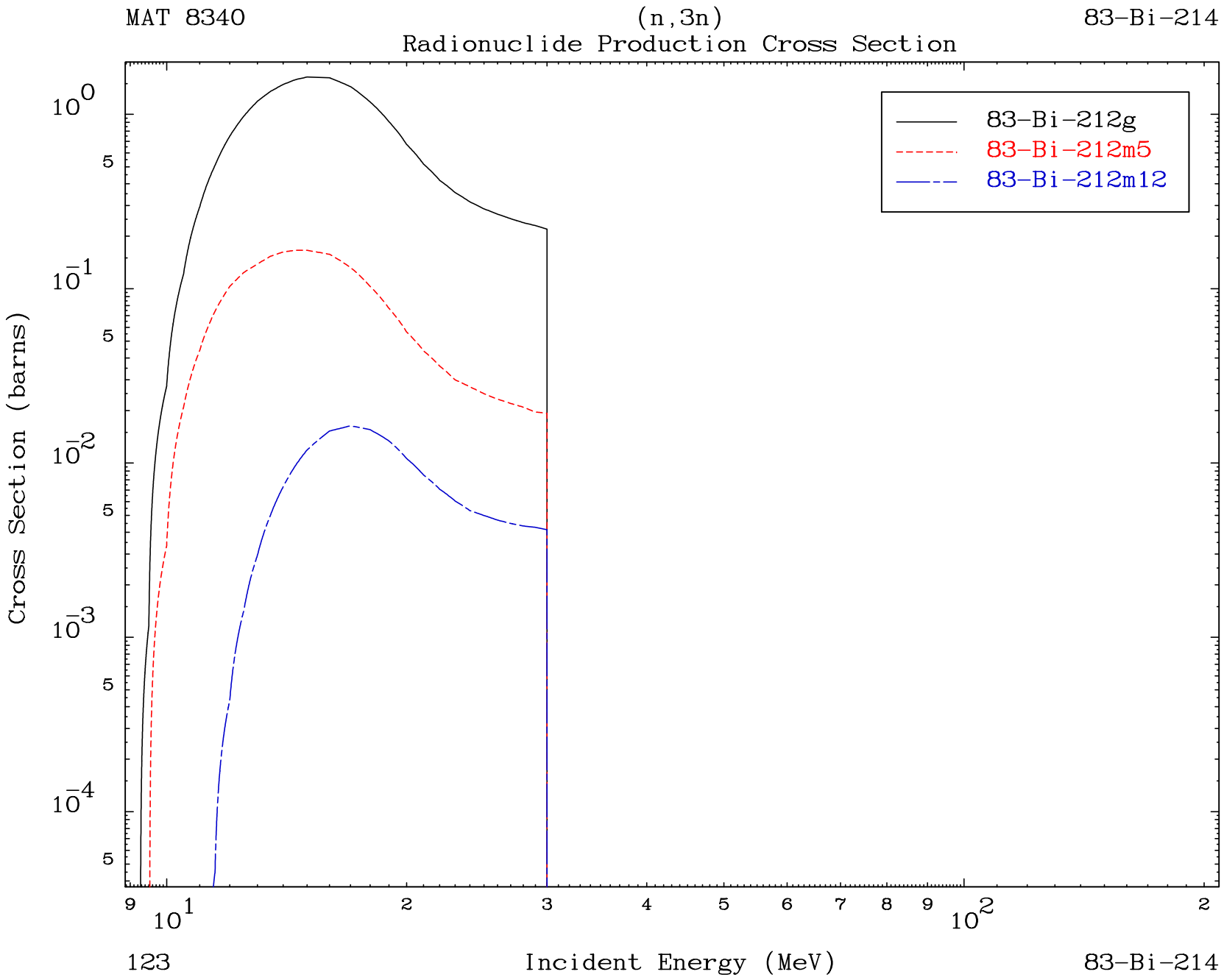

MAT 8340
955.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
118
Incident Energy (MeV)
83-Bi-214
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

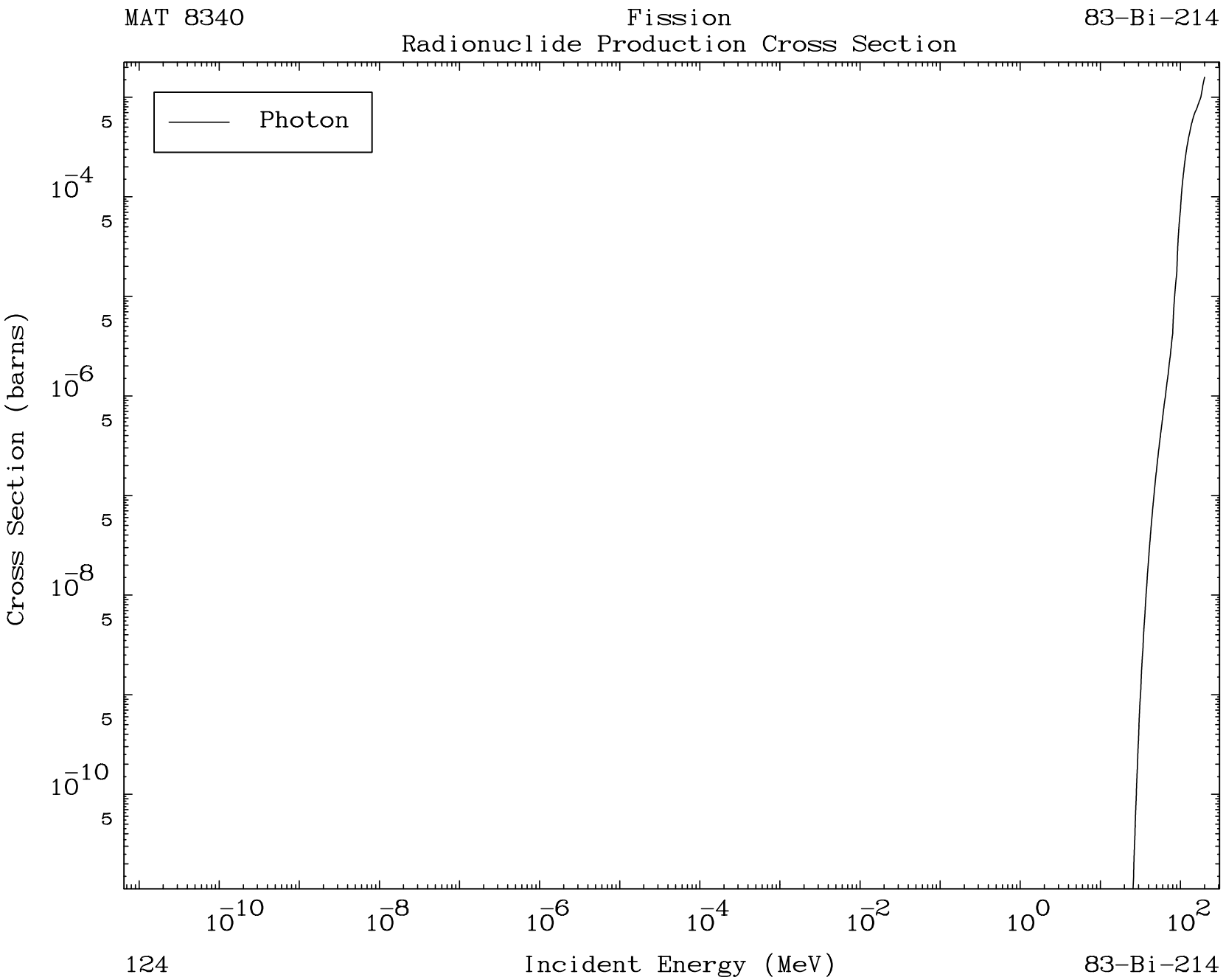

MAT 8340
955.2 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
119
Incident Energy (MeV)
83-Bi-214

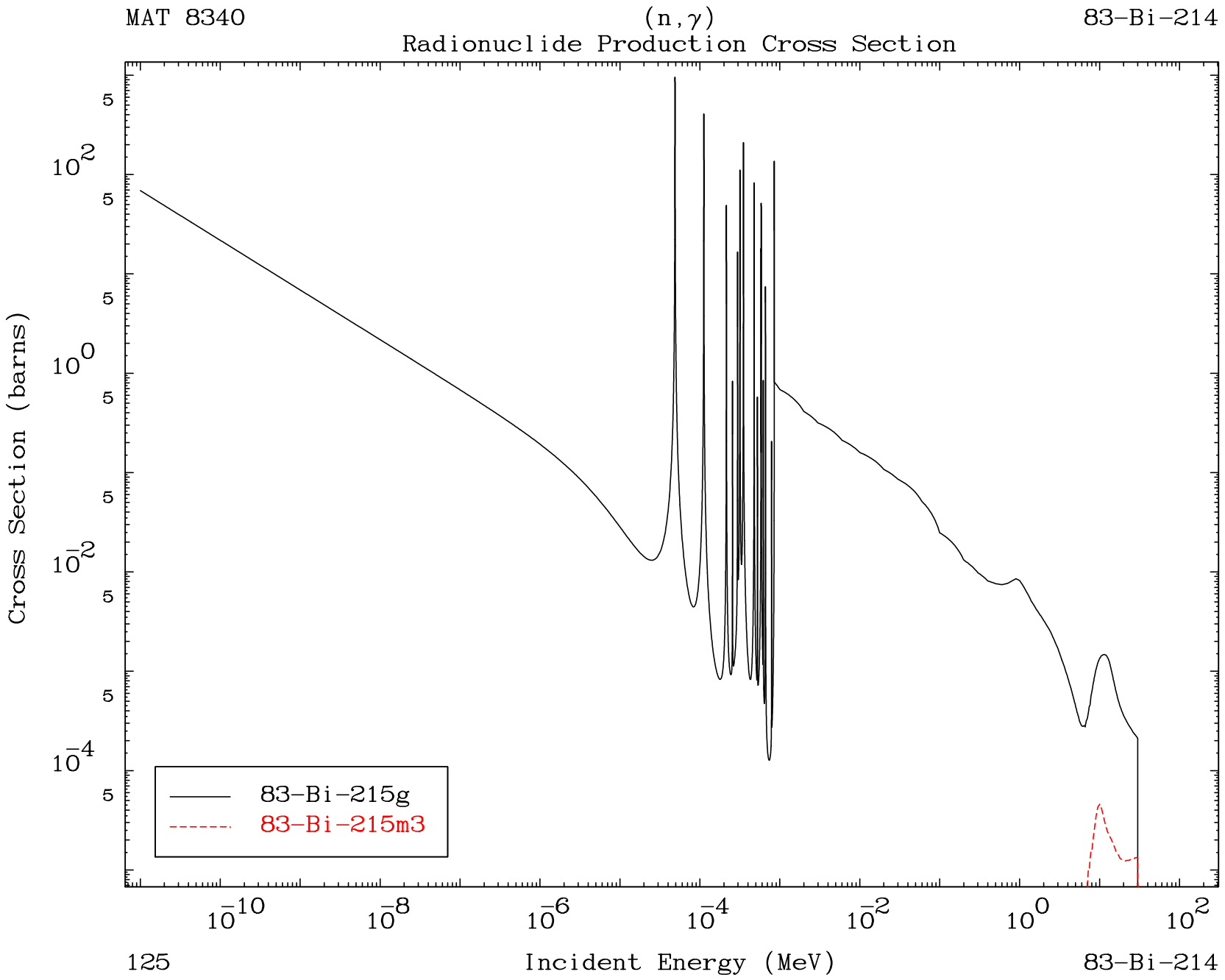

MAT 8340
958.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
120
Incident Energy (MeV)
83-Bi-214


MAT 8340
958.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10^-4
2.5
2.0
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
121
Incident Energy (MeV)
83-Bi-214


MAT 8340
958.3 keV (n,n') Level
Legendre Coefficients
83-Bi-214
X10 -6
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
122
Incident Energy (MeV)
83-Bi-214


MAT 8340
(n,3n)
83-Bi-214
Radionuclide Production Cross Section
83-Bi-212g
83-Bi-212m5
83-Bi-212m12
Cross Section (barns)
Incident Energy (MeV)
123
83-Bi-214


MAT 8340
Fission
83-Bi-214
Radionuclide Production Cross Section
Photon
Cross Section (barns)
Incident Energy (MeV)
124
83-Bi-214


MAT 8340
(n,γ)
83-Bi-214
Radionuclide Production Cross Section
Cross Section (barns)
10^2
10^0
10^-2
10^-4
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
83-Bi-215g
83-Bi-215m3
125
83-Bi-214