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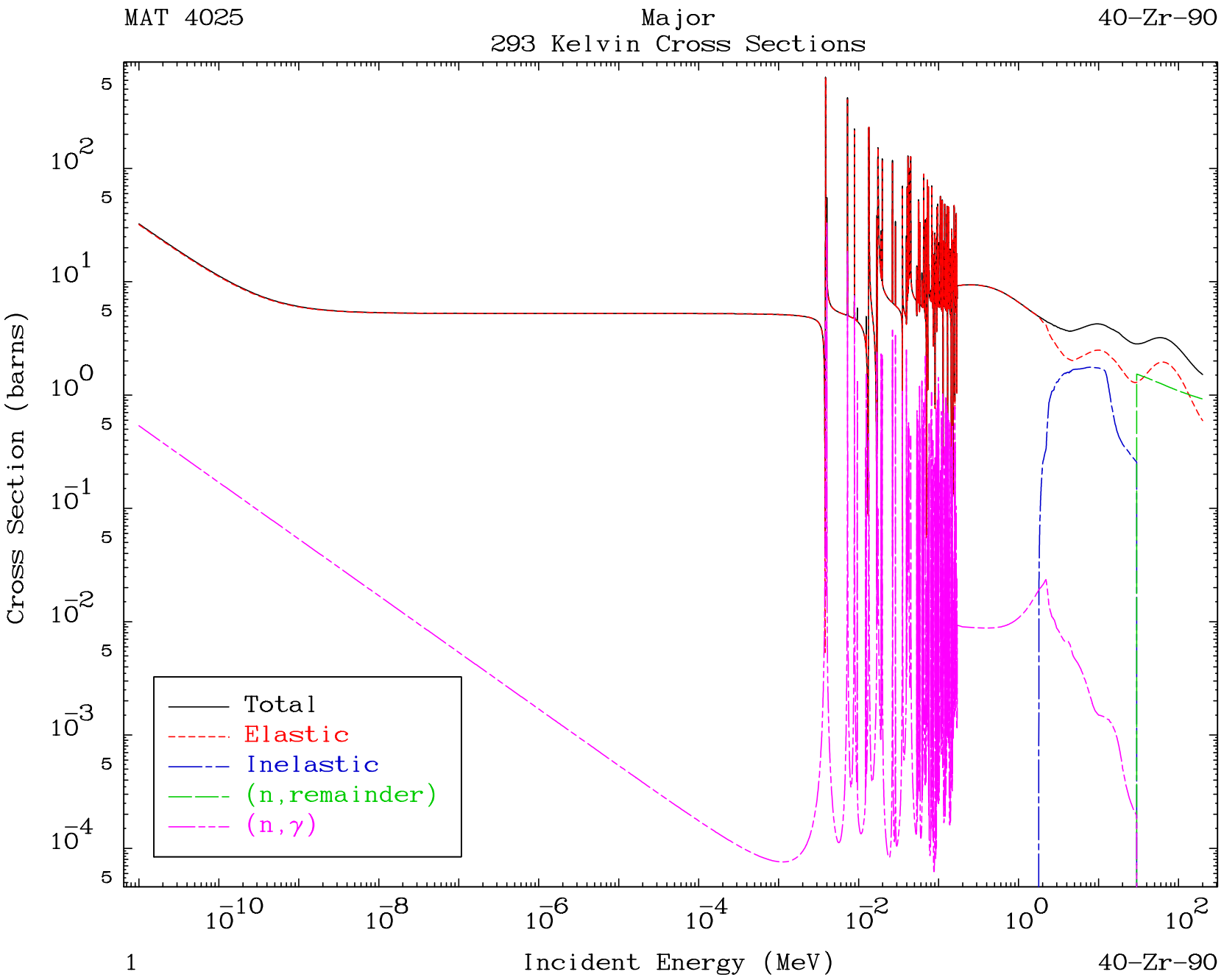
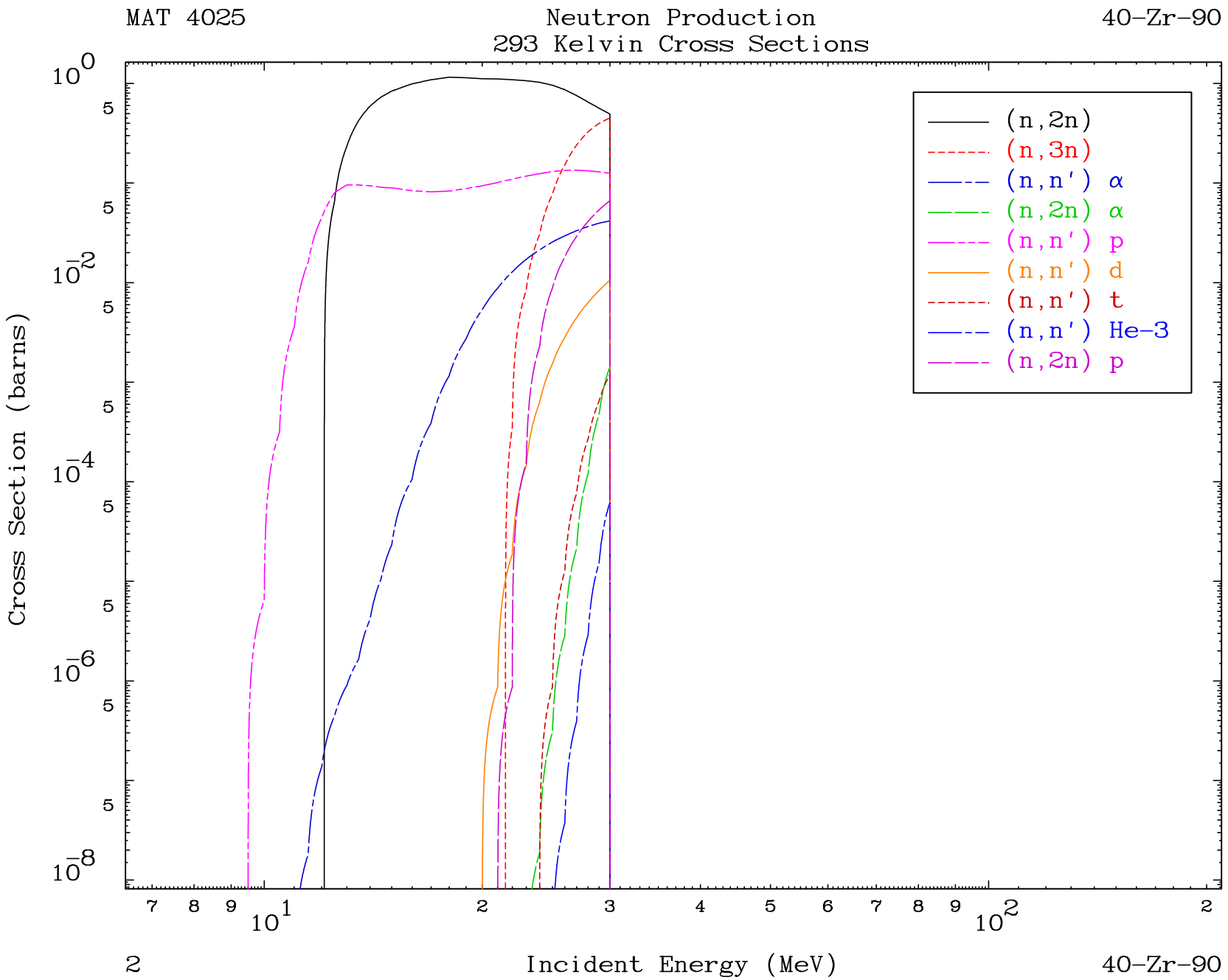
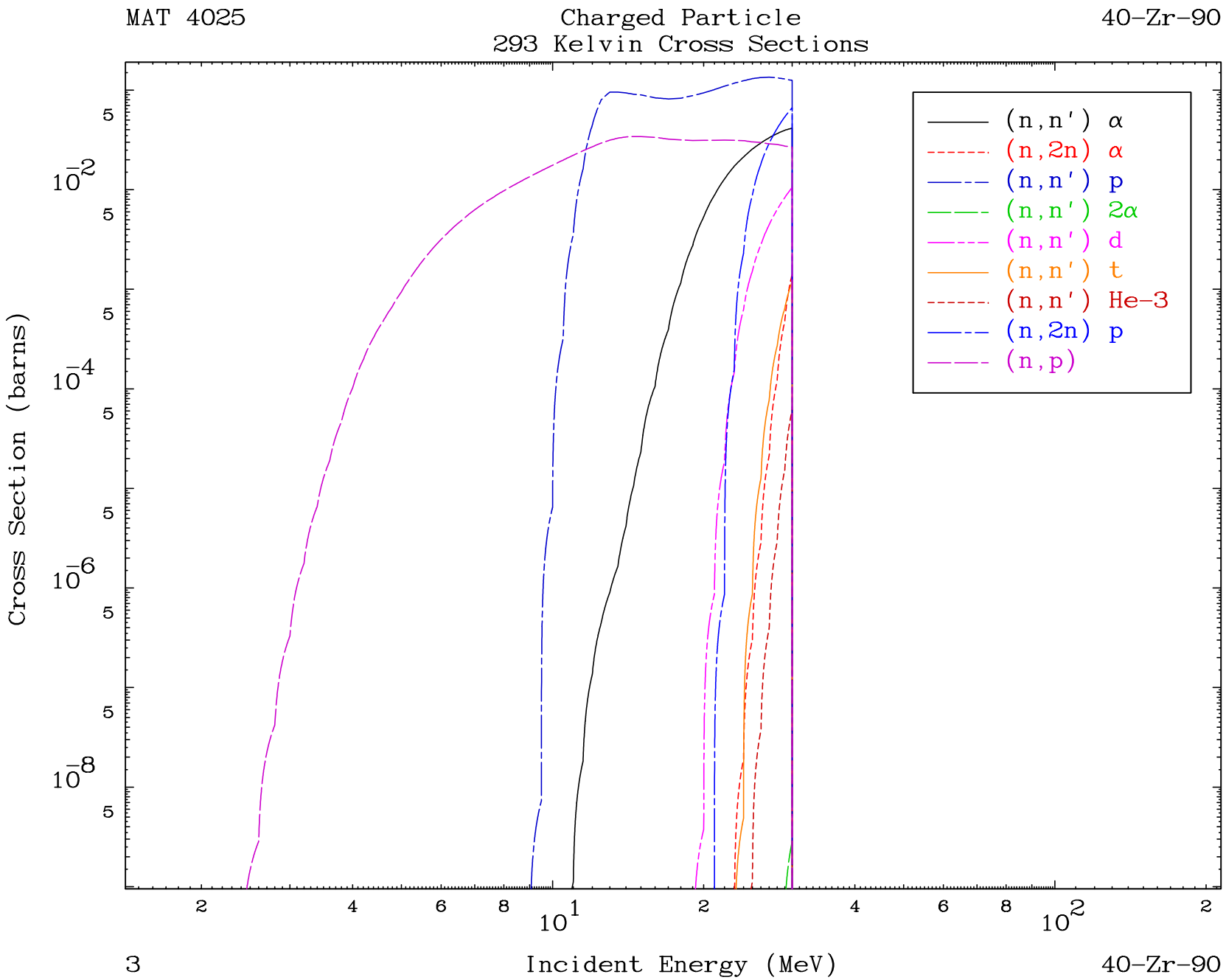
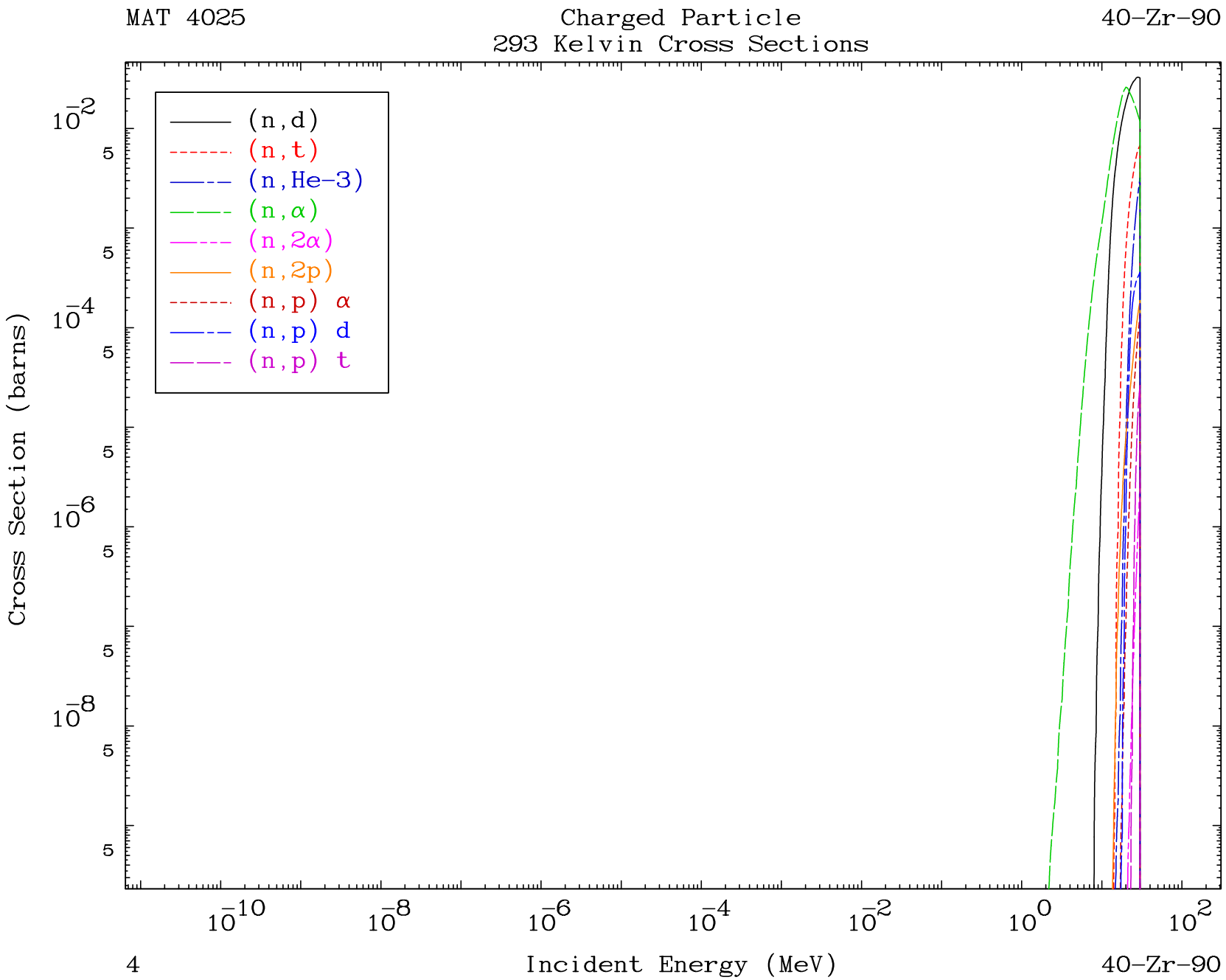
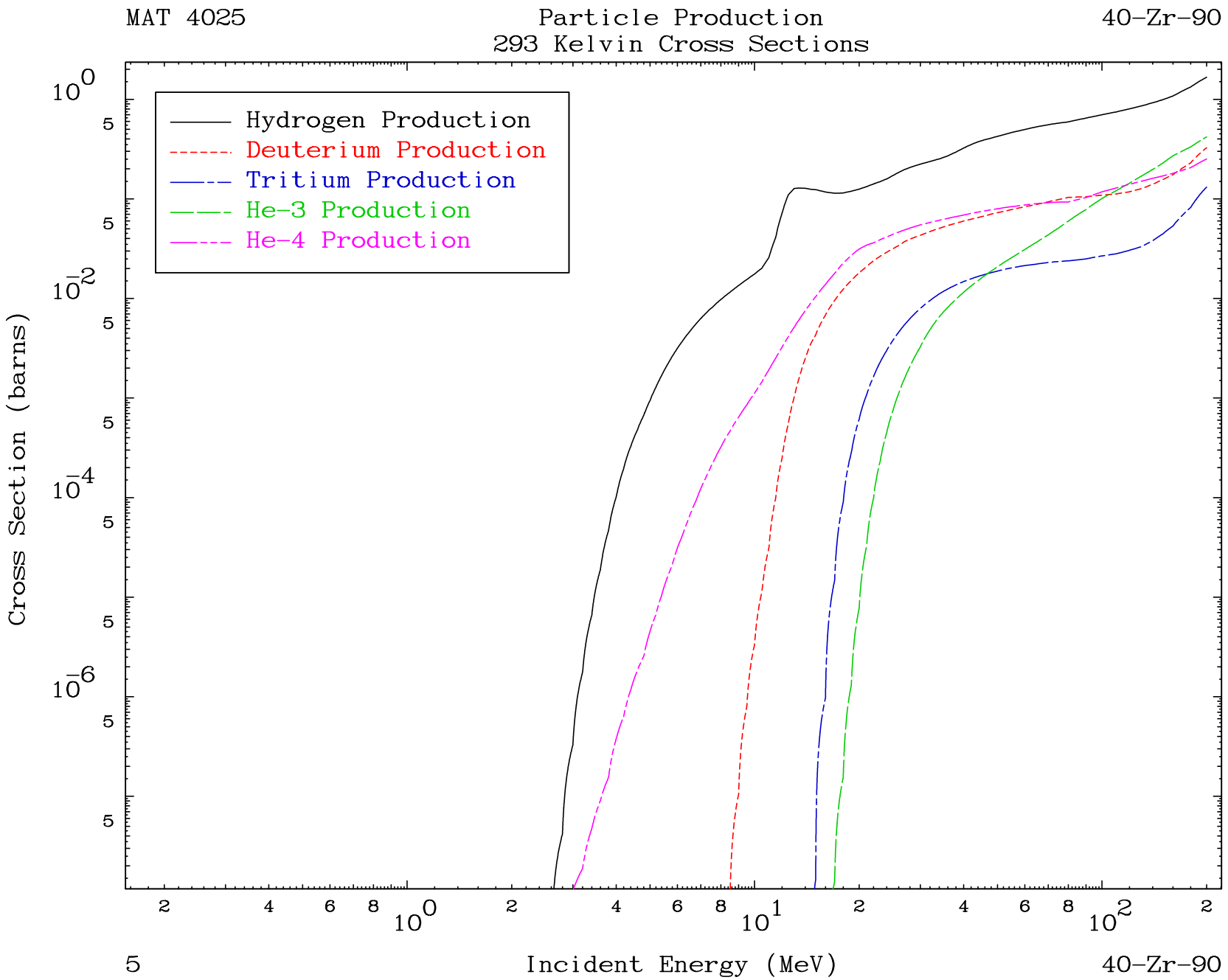
Press Mouse Button to Start

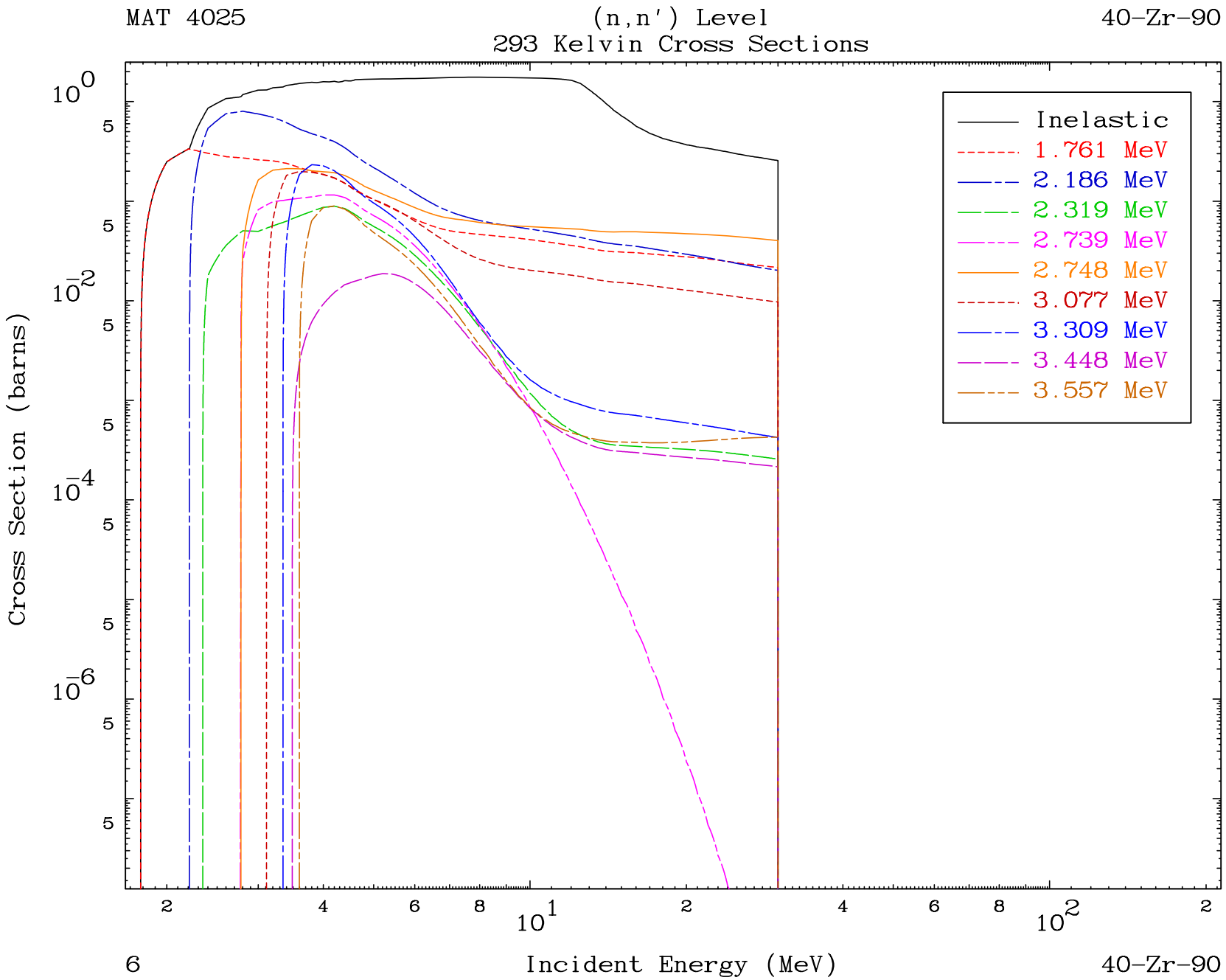

MAT 4025
Major
40-Zr-90
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
40-Zr-90

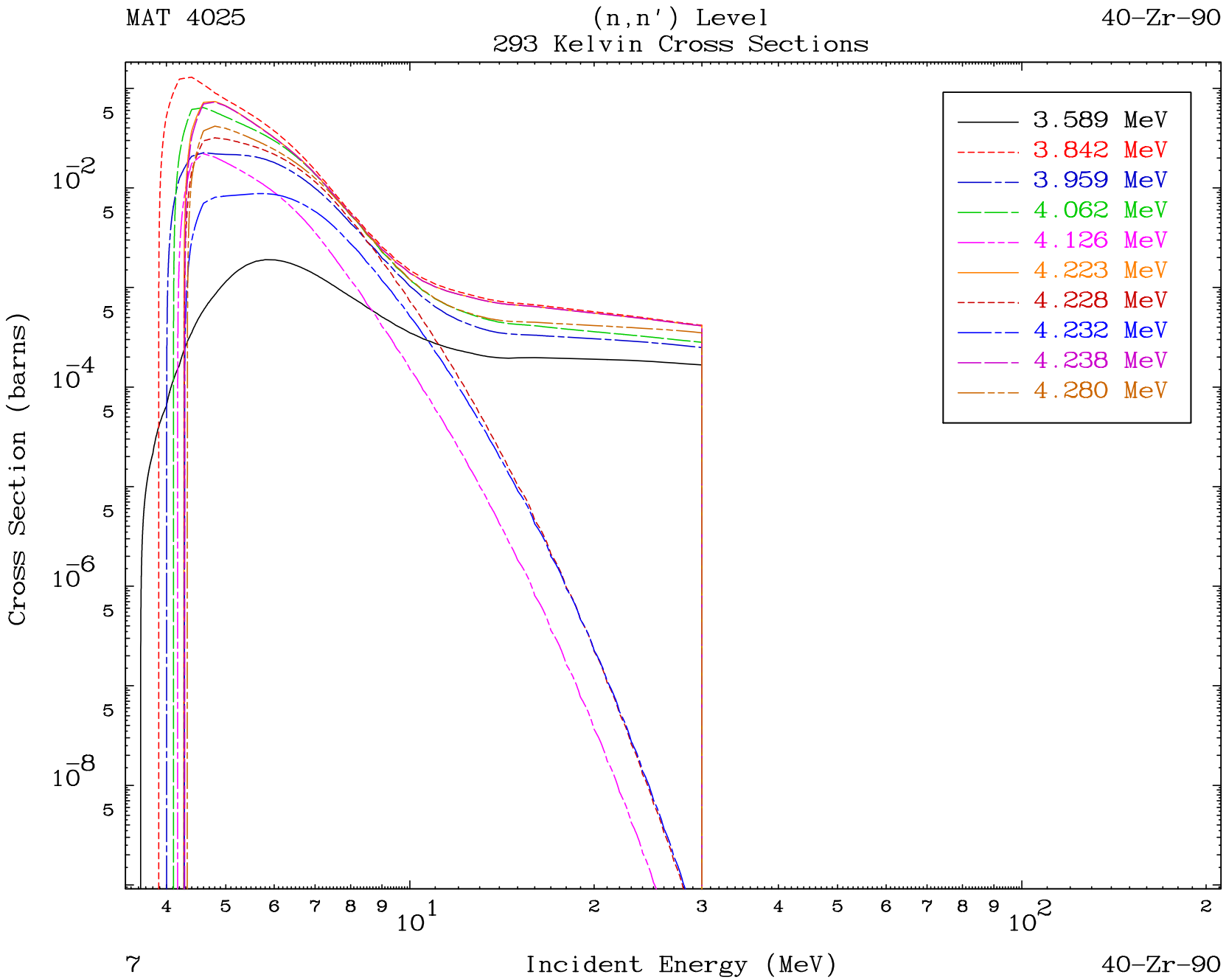

MAT 4025
Neutron Production
293 Kelvin Cross Sections
40-Zr-90
Cross Section (barns)
Incident Energy (MeV)
40-Zr-90
2
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,n') p
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p

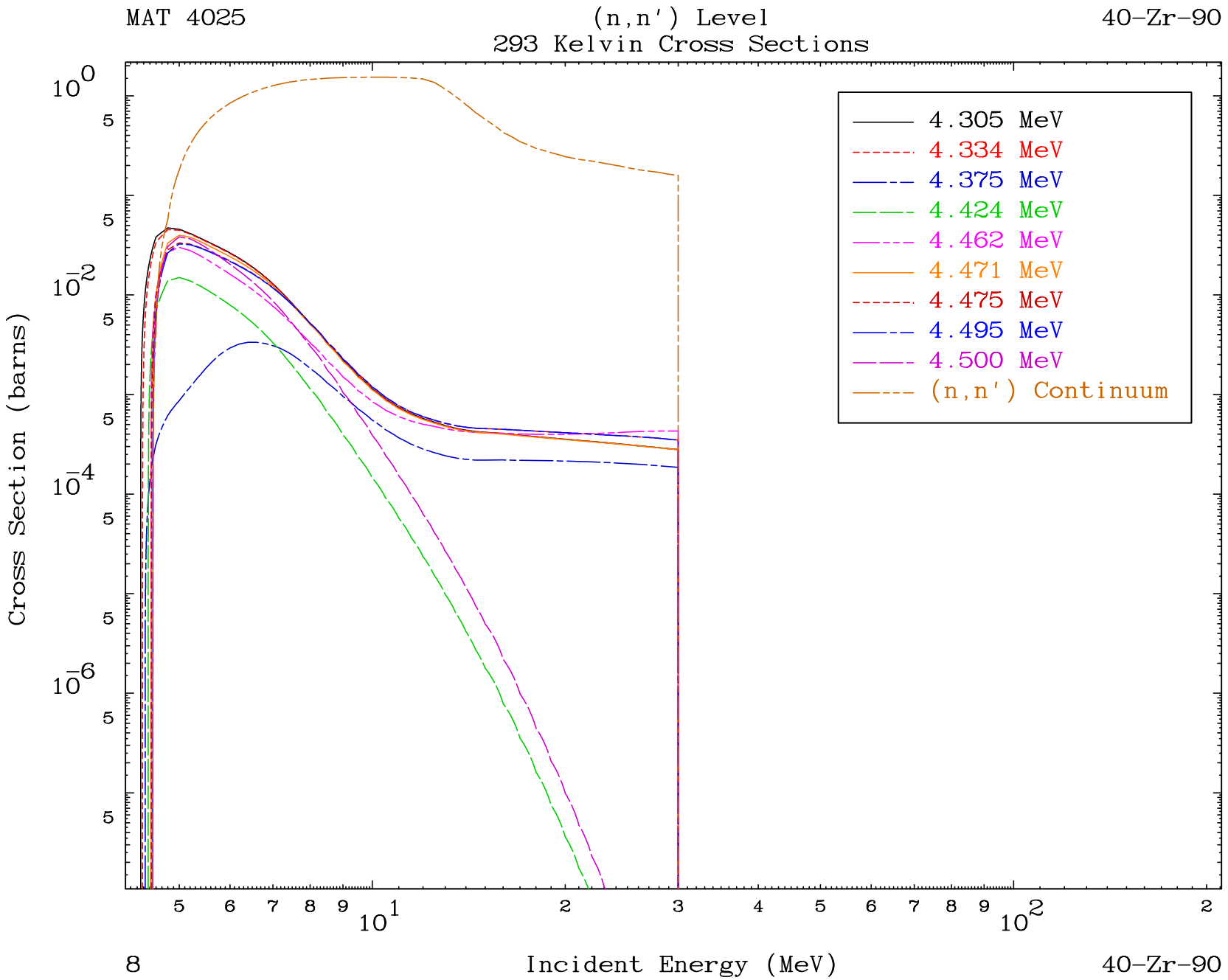

MAT 4025
Charged Particle
293 Kelvin Cross Sections
40-Zr-90
Cross Section (barns)
10-2
10-4
10-6
10-8
5
2
4
6
8
101
102
(n,n') α
(n,2n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,p)
3
Incident Energy (MeV)
40-Zr-90

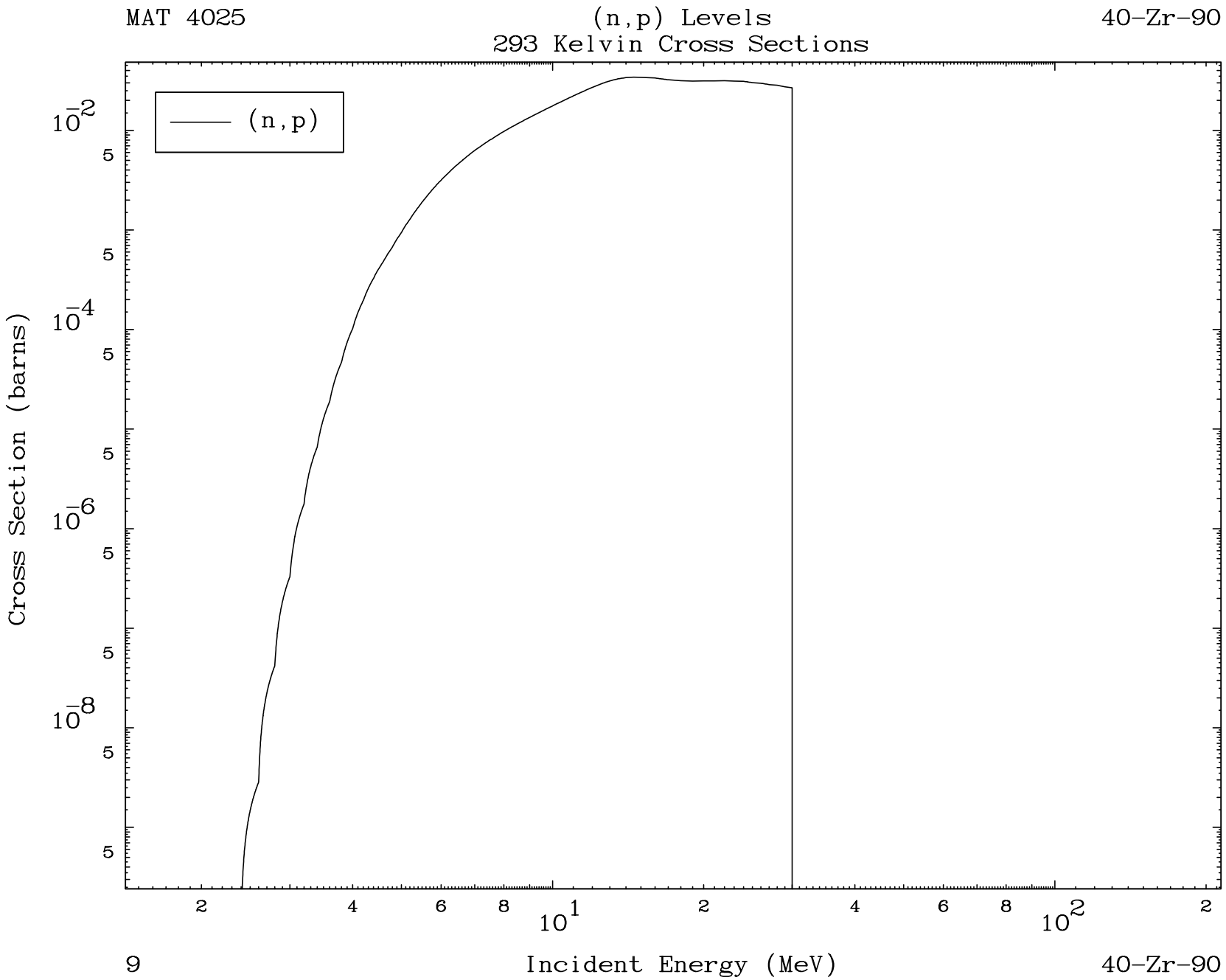

MAT 4025
Charged Particle
40-Zr-90
293 Kelvin Cross Sections
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t
Cross Section (barns)
Incident Energy (MeV)
4
40-Zr-90

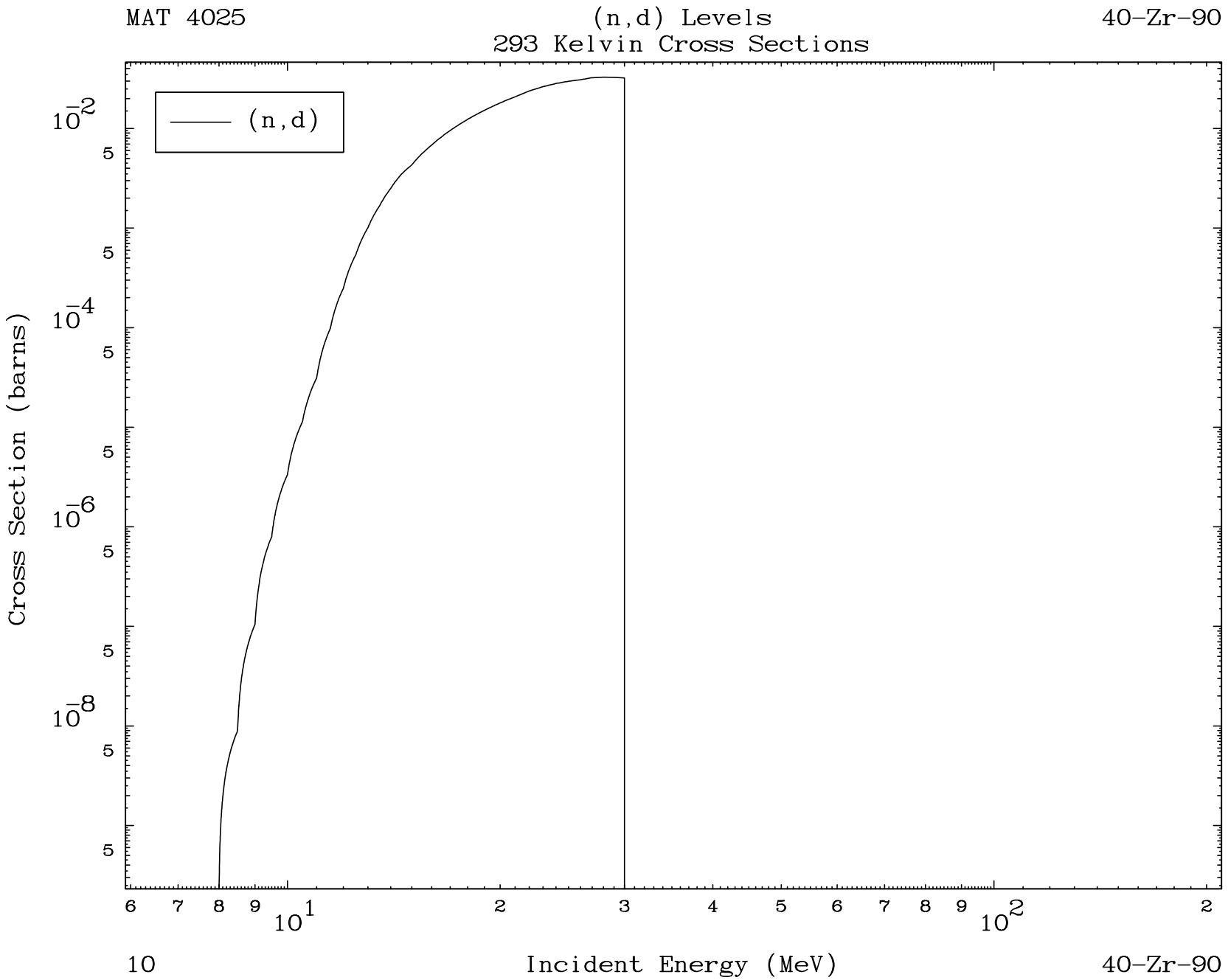

MAT 4025
Particle Production
40-Zr-90
293 Kelvin Cross Sections
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
5
40-Zr-90

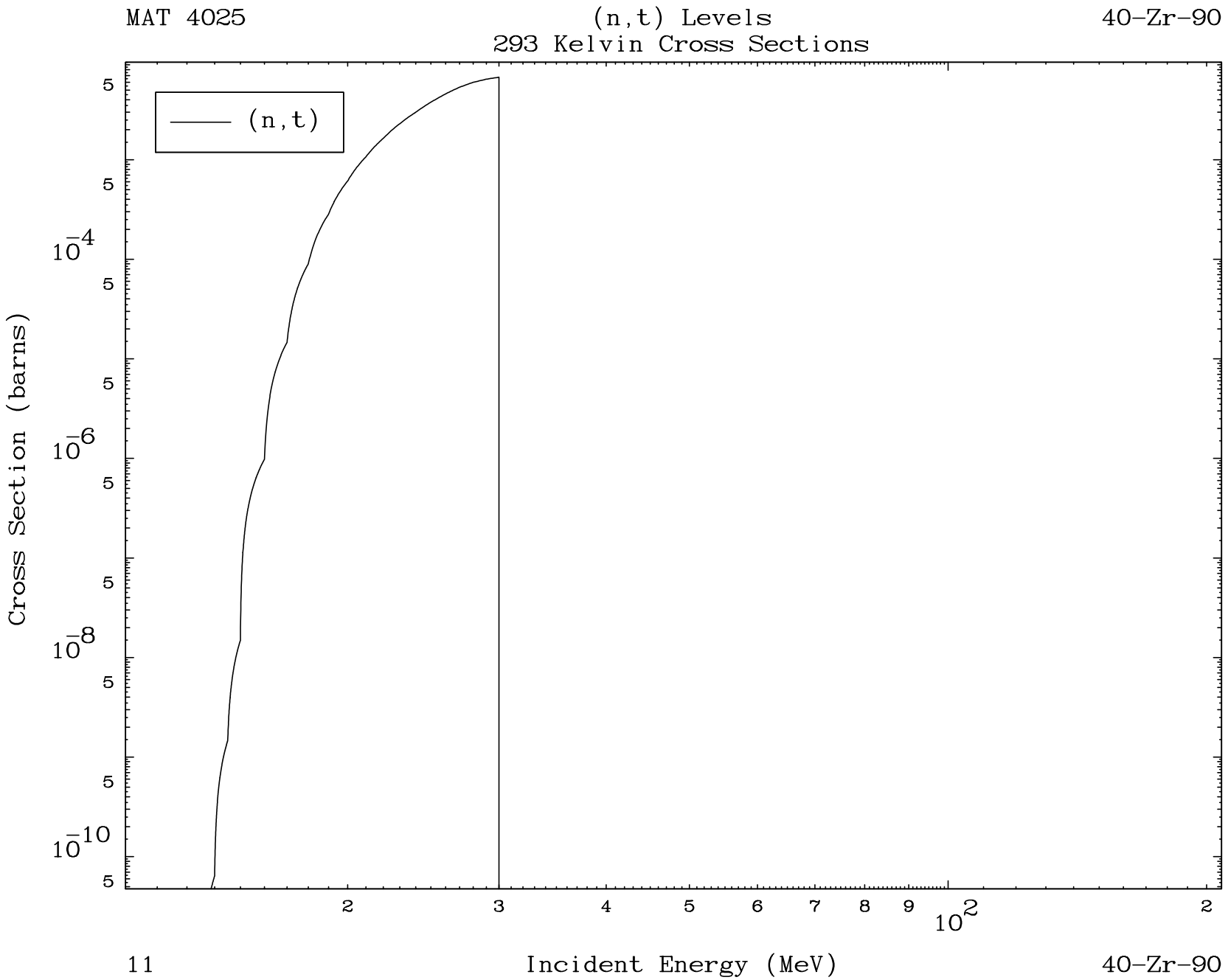

MAT 4025
(n,n') Level
293 Kelvin Cross Sections
40-Zr-90
Cross Section (barns)
Incident Energy (MeV)
Inelastic
1.761 MeV
2.186 MeV
2.319 MeV
2.739 MeV
2.748 MeV
3.077 MeV
3.309 MeV
3.448 MeV
3.557 MeV
6
40-Zr-90

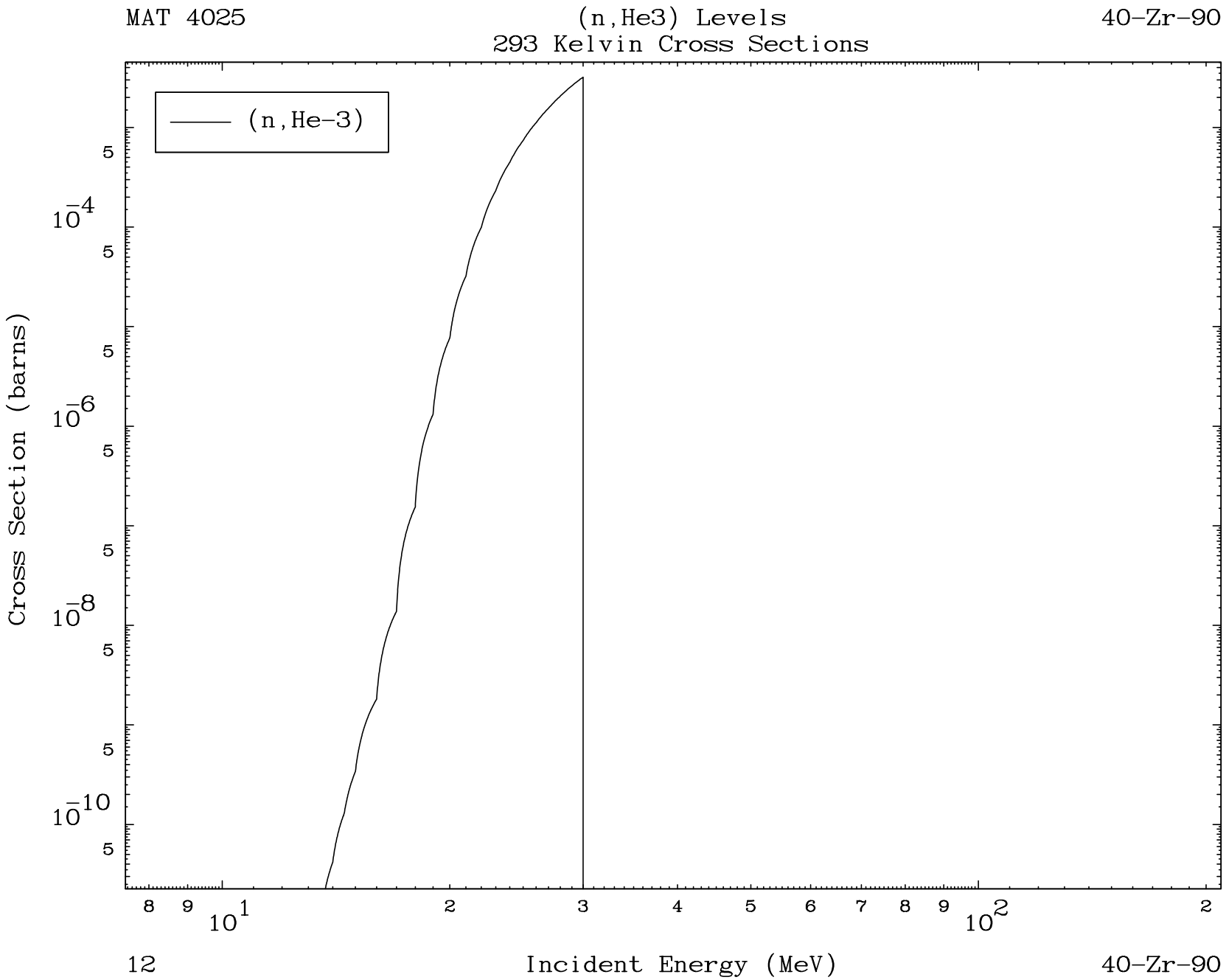

MAT 4025
(n,n') Level
293 Kelvin Cross Sections
40-Zr-90
3.589 MeV
3.842 MeV
3.959 MeV
4.062 MeV
4.126 MeV
4.223 MeV
4.228 MeV
4.232 MeV
4.238 MeV
4.280 MeV
Cross Section (barns)
Incident Energy (MeV)
40-Zr-90
7

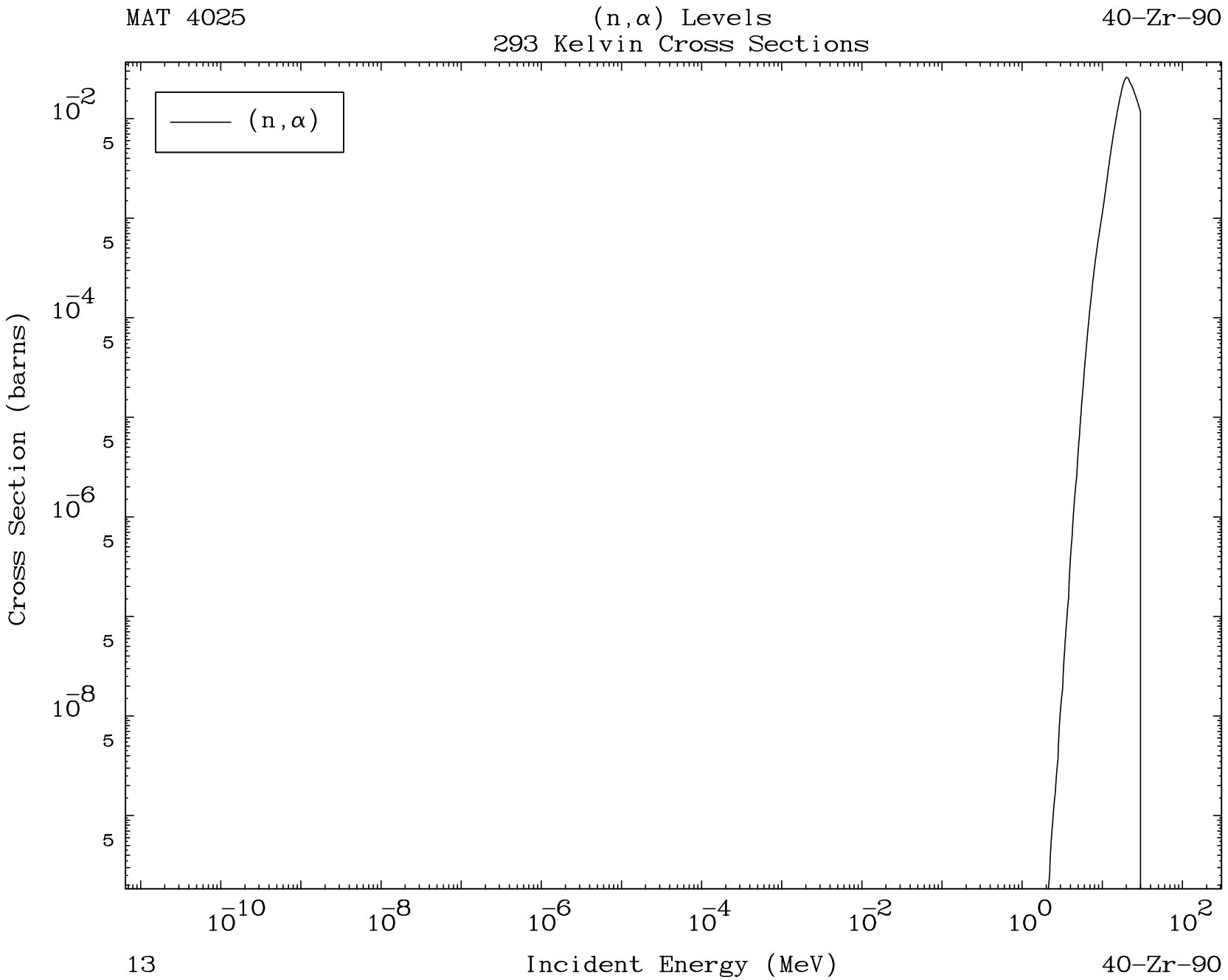

MAT 4025
(n,n') Level
40-Zr-90
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
4.305 MeV
4.334 MeV
4.375 MeV
4.424 MeV
4.462 MeV
4.471 MeV
4.475 MeV
4.495 MeV
4.500 MeV
(n,n') Continuum
8
40-Zr-90

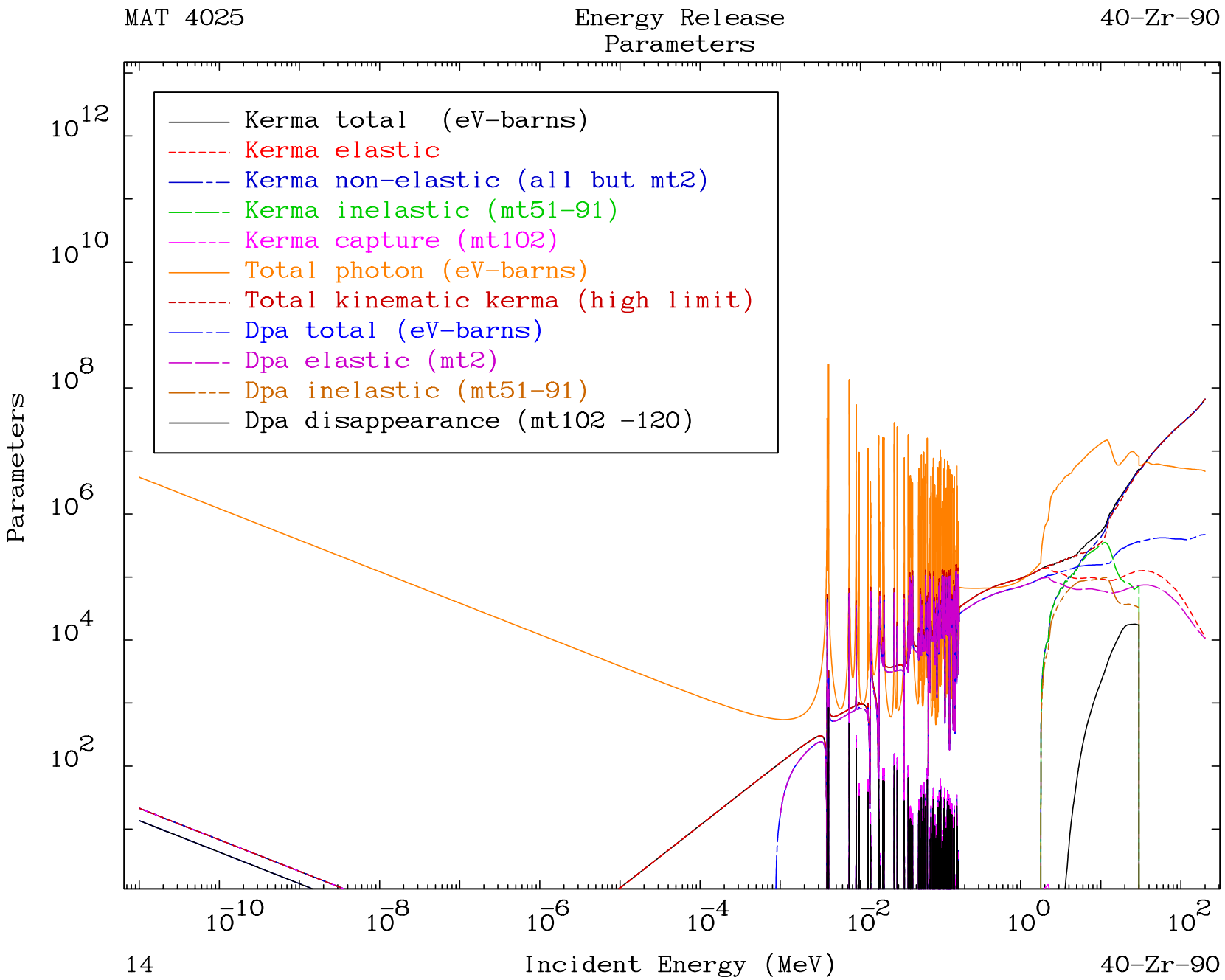

MAT 4025
(n,p) Levels
40-Zr-90
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
9
40-Zr-90

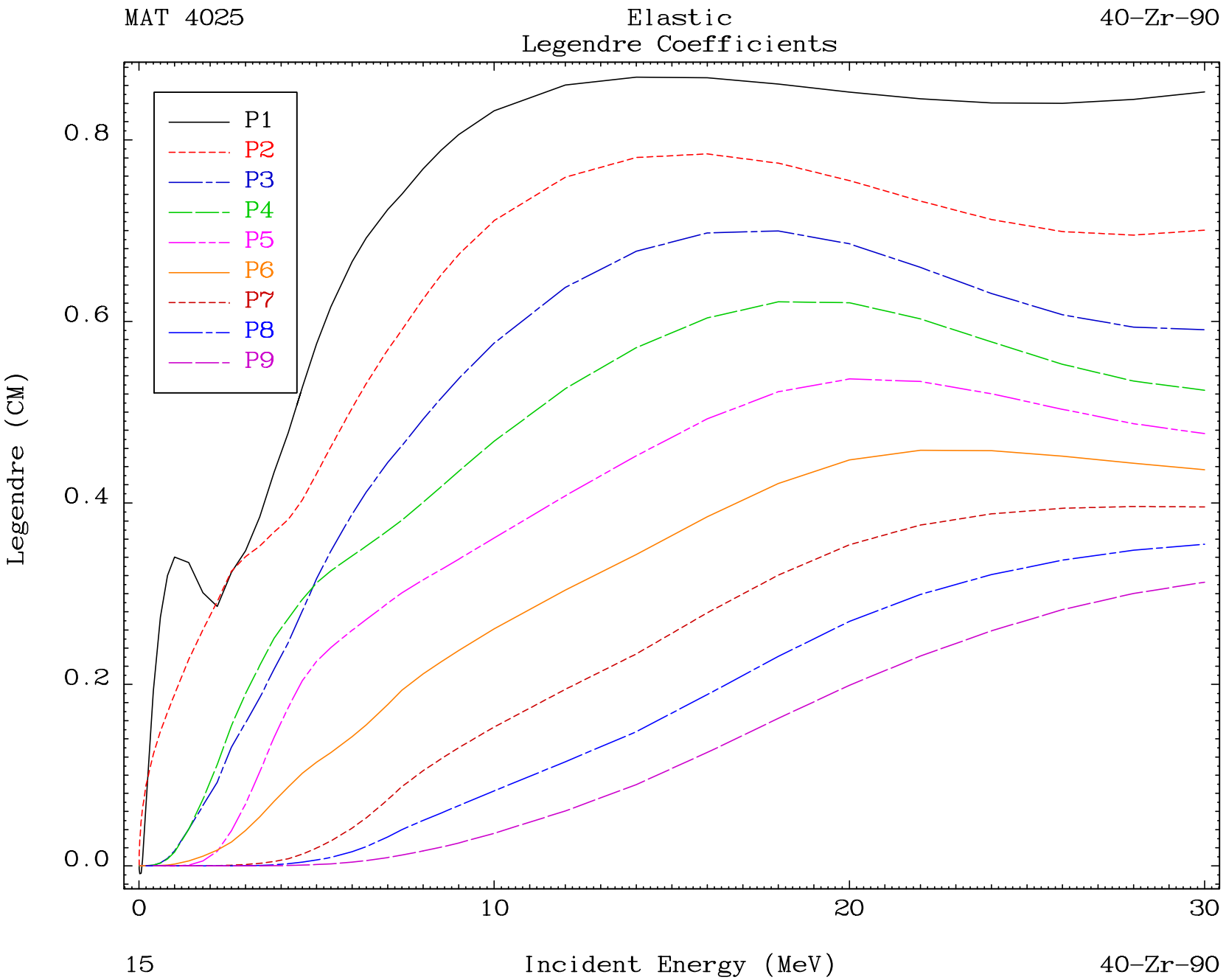

MAT 4025
(n,d) Levels
40-Zr-90
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
40-Zr-90

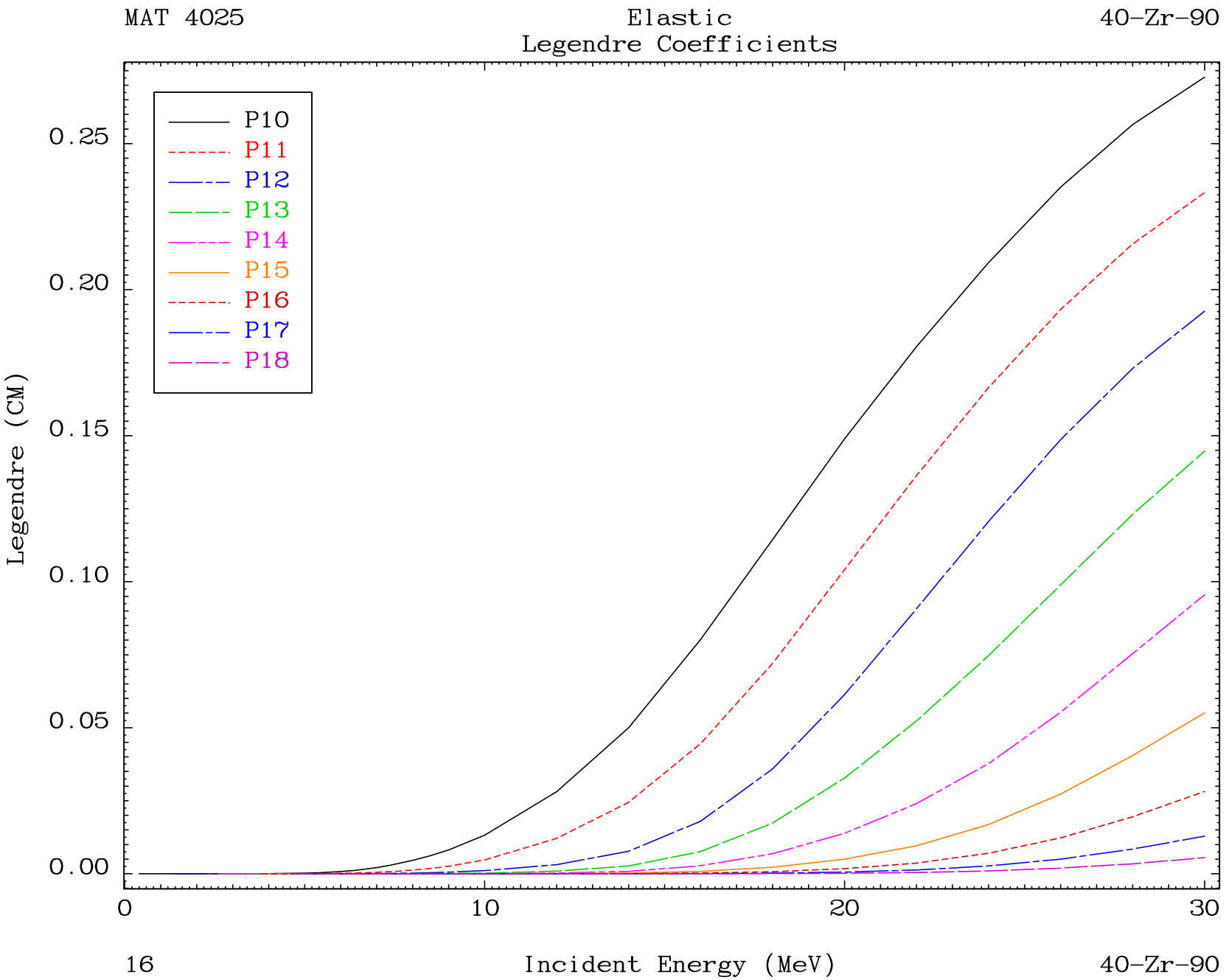

MAT 4025
(n,t) Levels
40-Zr-90
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
2
3
4
5
6
7
8
9
10^2
2
11
Incident Energy (MeV)
40-Zr-90

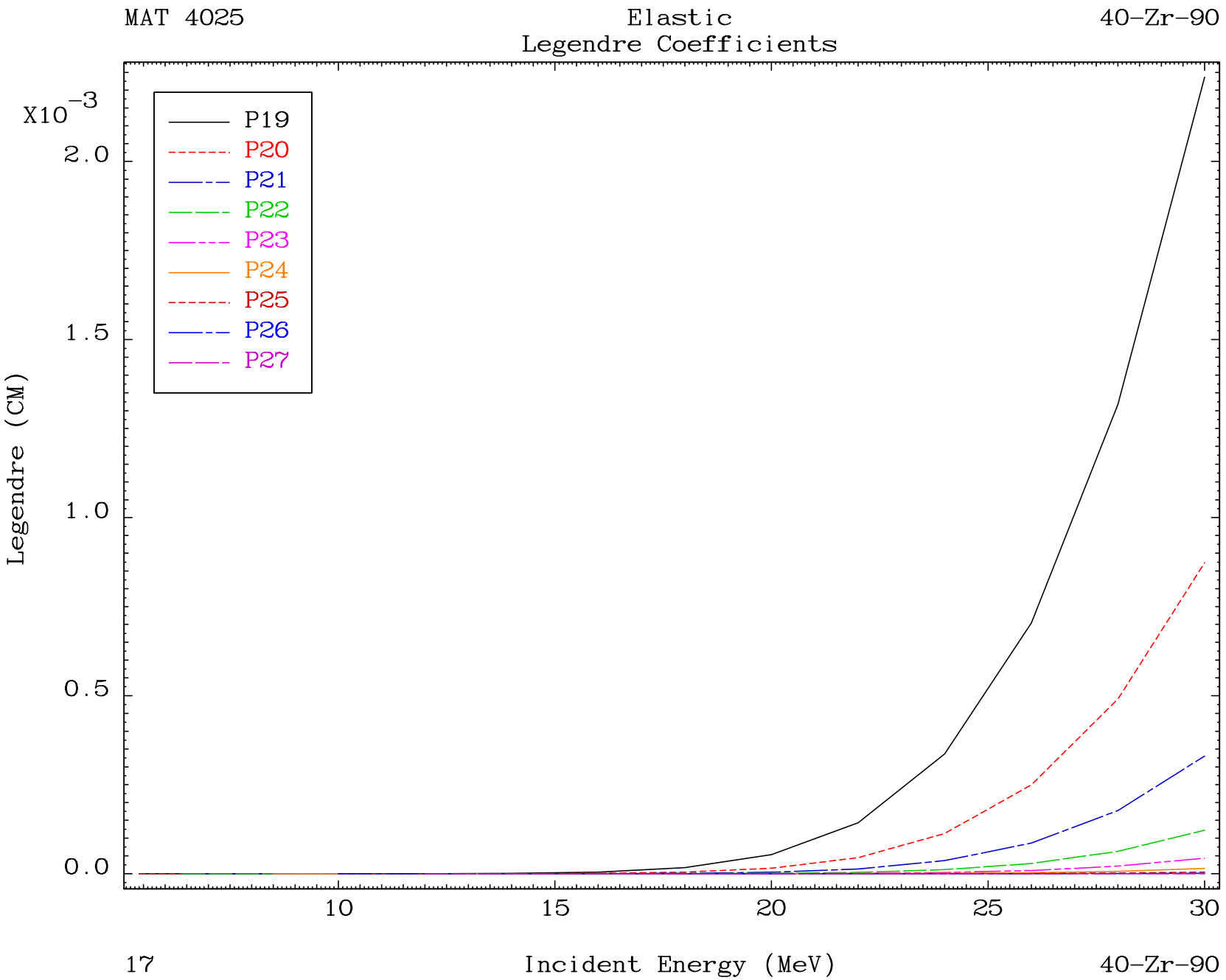

MAT 4025
(n,He3) Levels
40-Zr-90
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
Incident Energy (MeV)
12
40-Zr-90

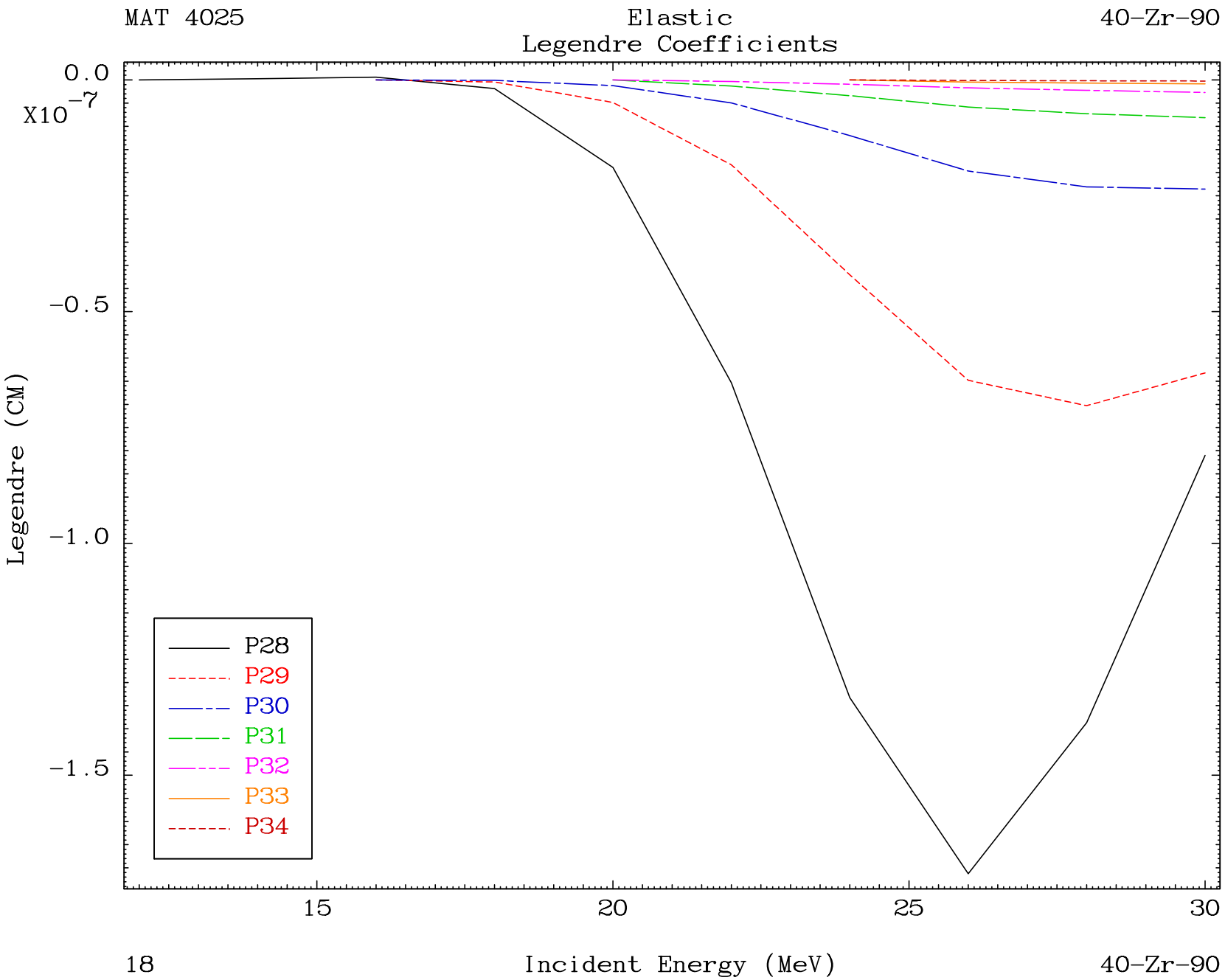

MAT 4025
(n,α) Levels
40-Zr-90
293 Kelvin Cross Sections
(n,α)
Cross Section (barns)
10^-2
5
10^-4
5
10^-6
5
10^-8
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
13
Incident Energy (MeV)
40-Zr-90

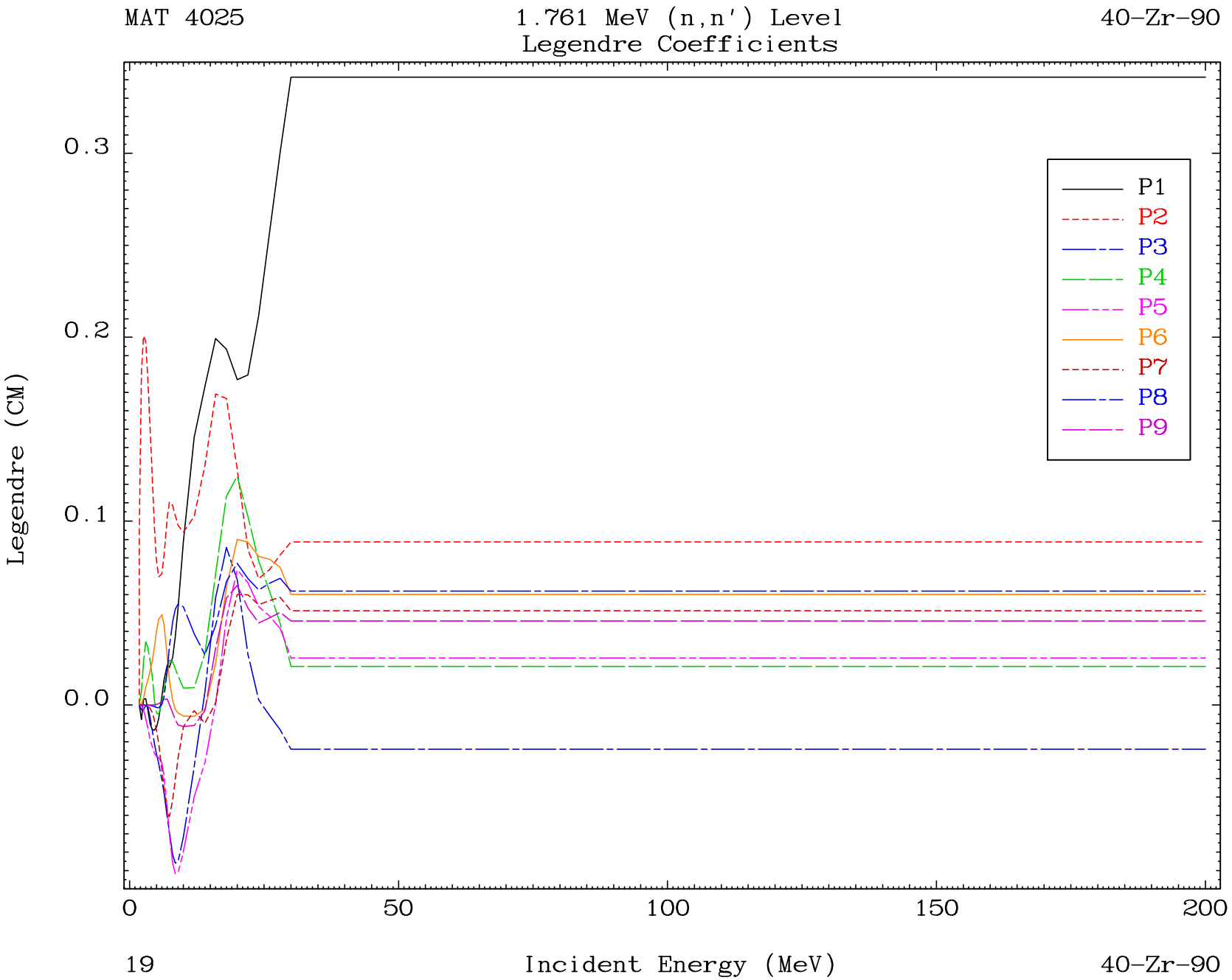

MAT 4025
Energy Release
Parameters
40-Zr-90
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{12}
10^{10}
10^{8}
10^{6}
10^{4}
10^{2}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
14
Incident Energy (MeV)
40-Zr-90

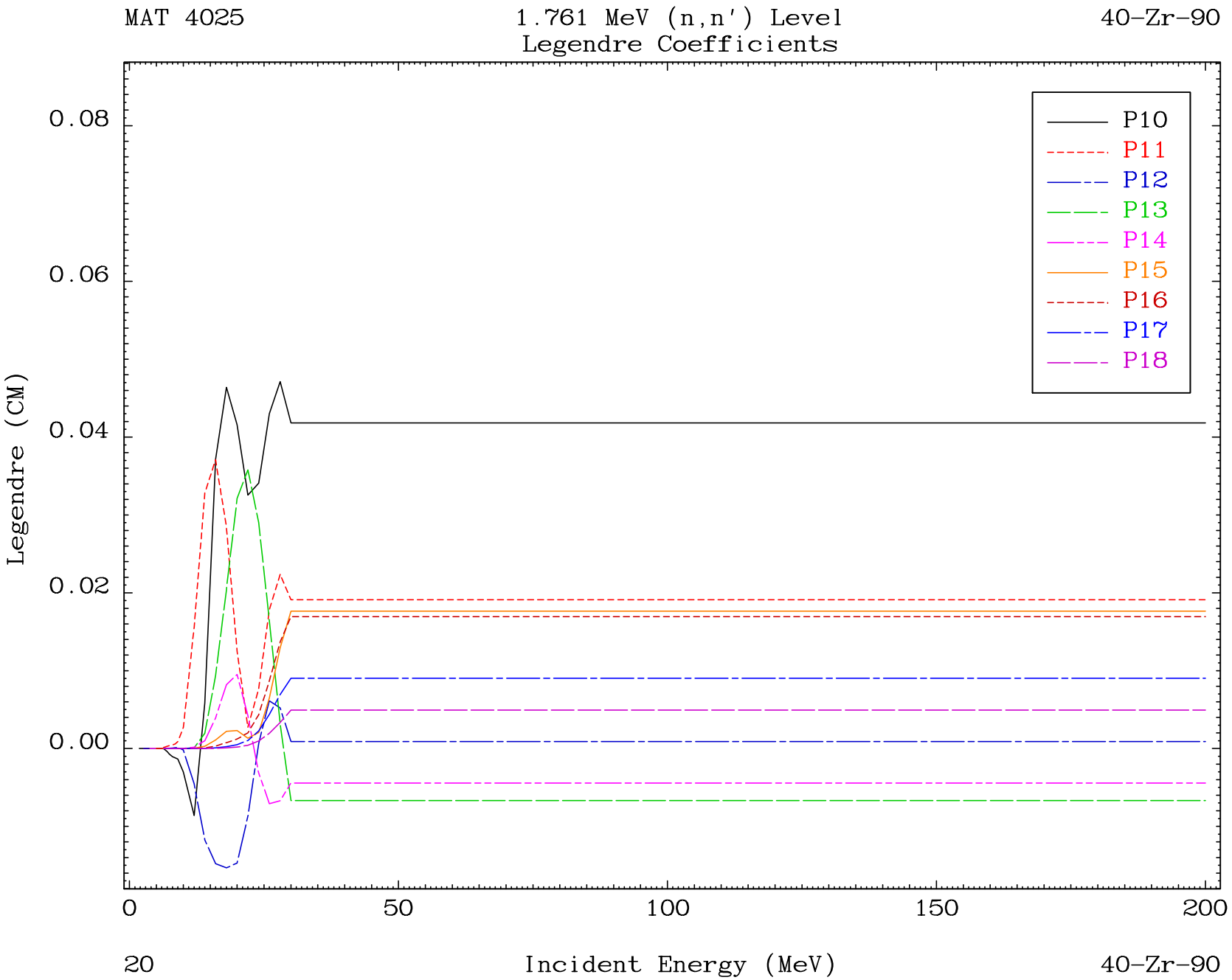

MAT 4025
Elastic
Legendre Coefficients
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
15
Incident Energy (MeV)
40-Zr-90

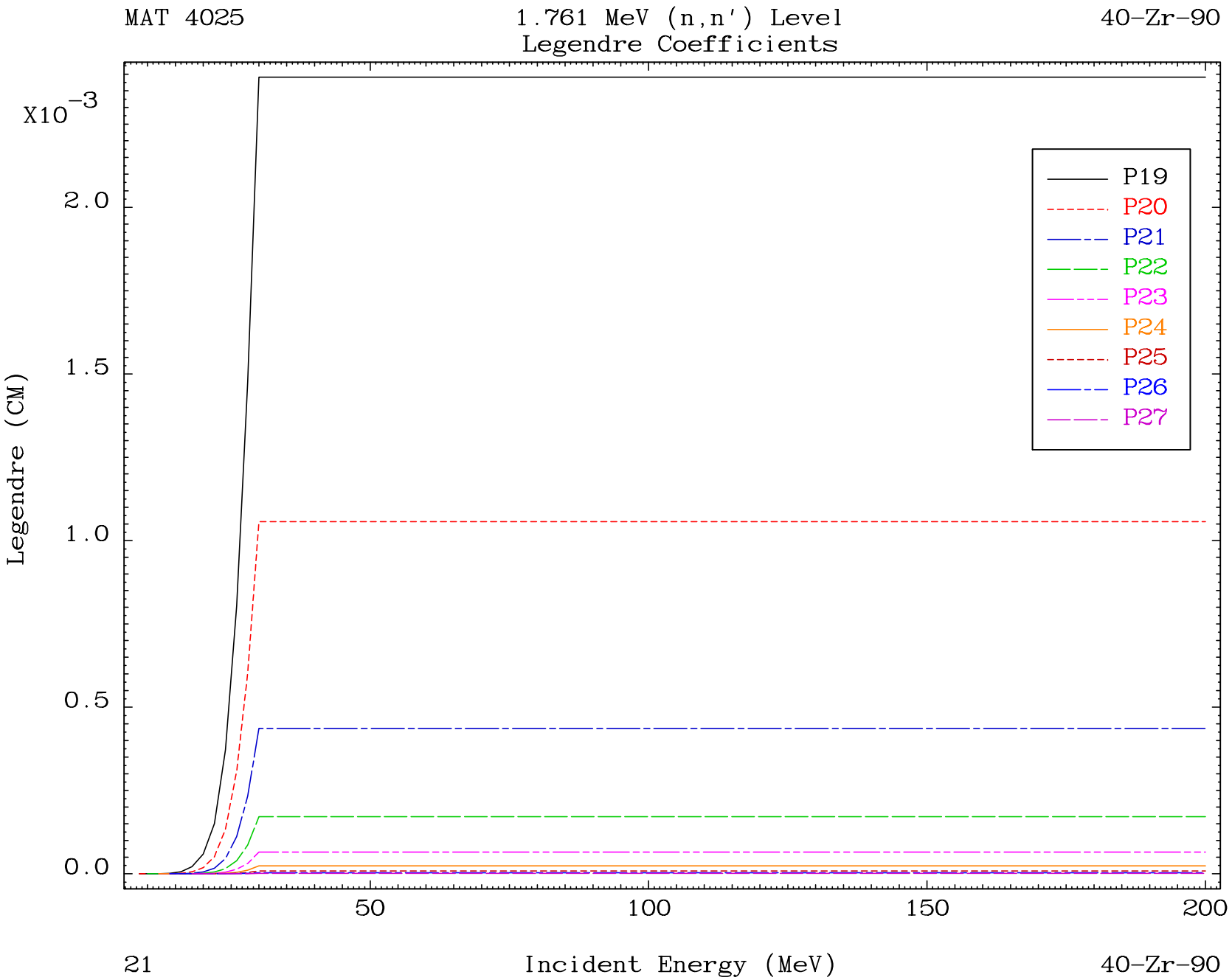

MAT 4025
Elastic
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.25
0.20
0.15
0.10
0.05
0.00
0
10
20
30
16
Incident Energy (MeV)
40-Zr-90

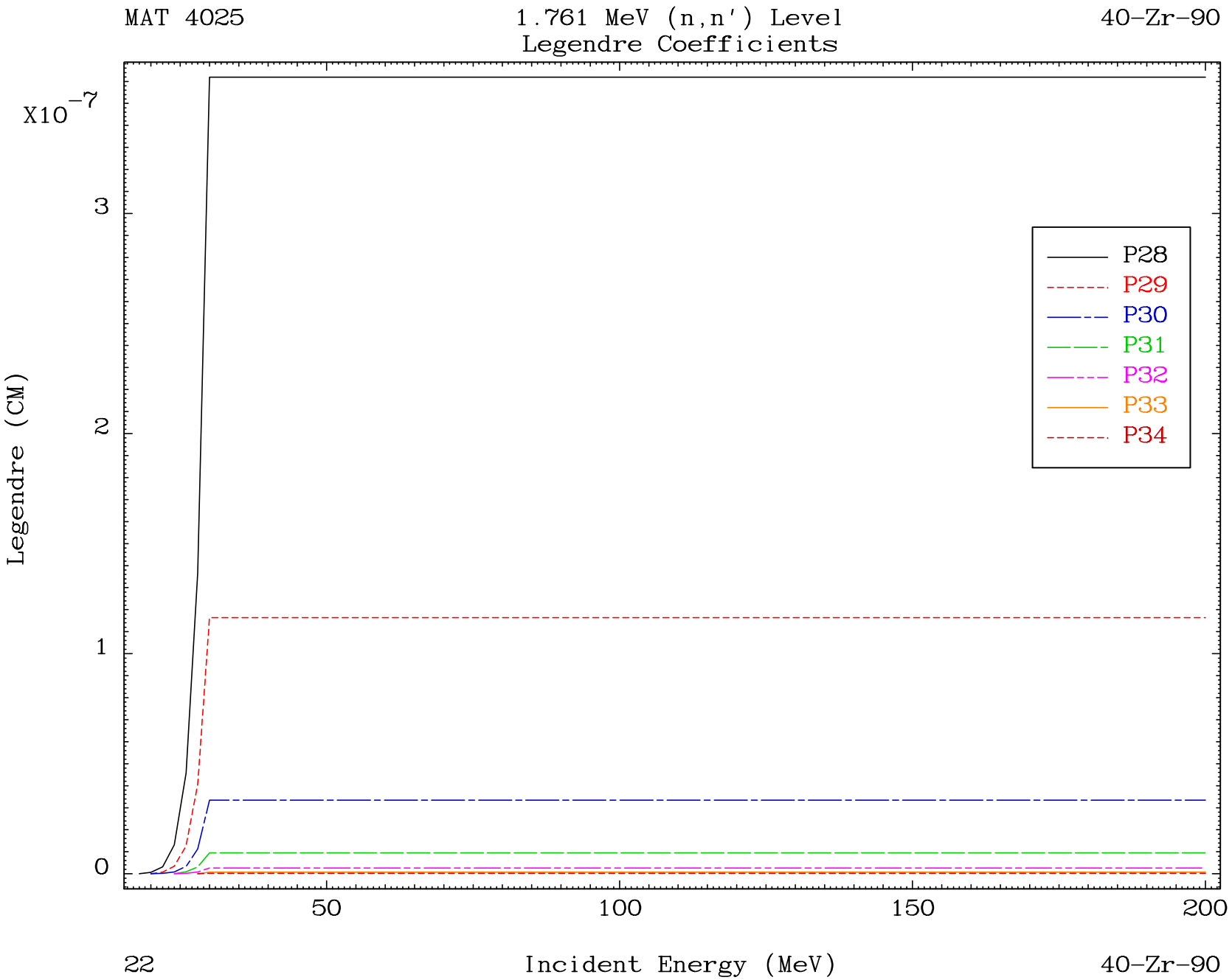

MAT 4025
Elastic
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
10
15
20
25
30
17
Incident Energy (MeV)
40-Zr-90

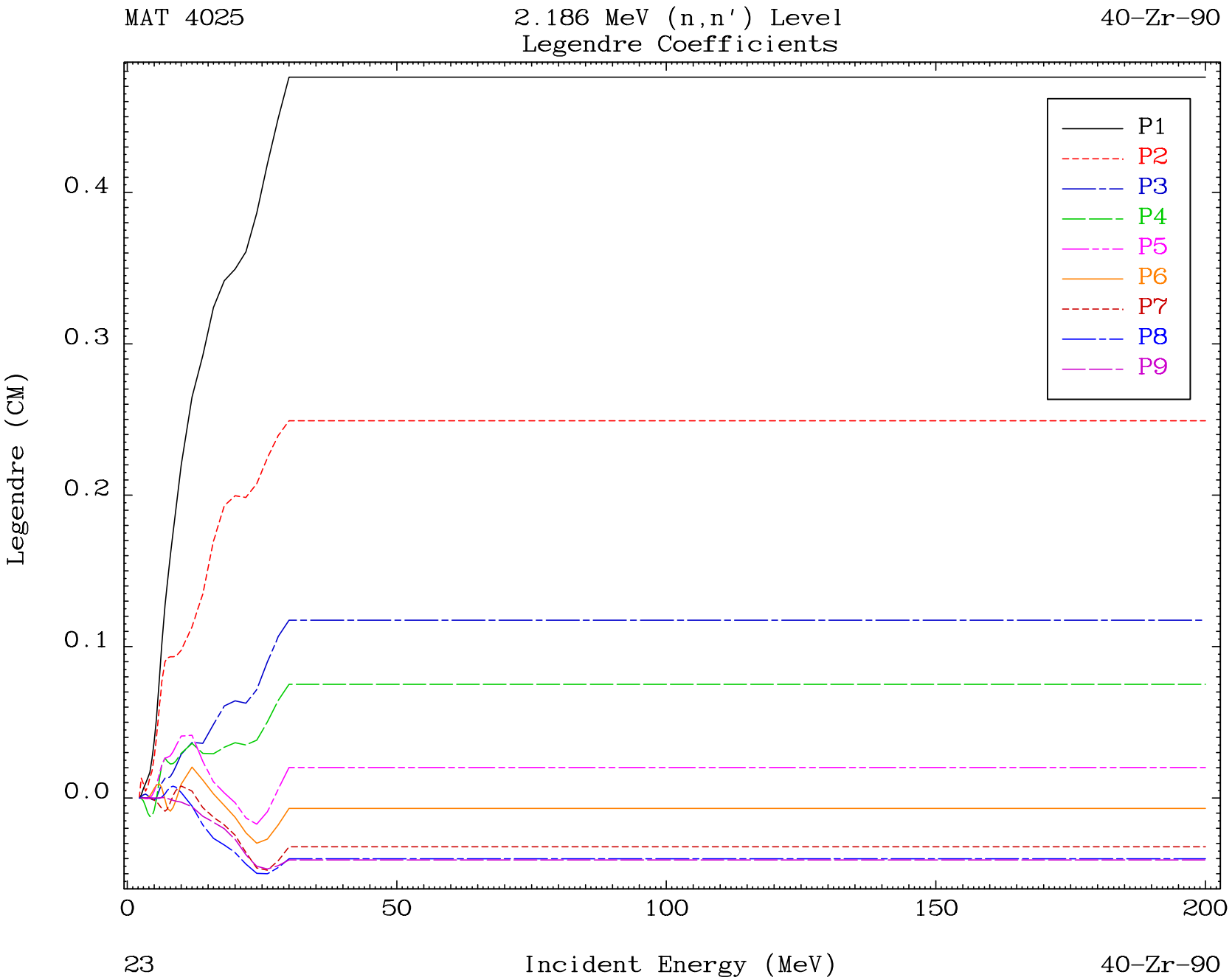

MAT 4025
Elastic
Legendre Coefficients
40-Zr-90
0.0
X10-7
-0.5
-1.0
-1.5
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
15
20
25
30
18
Incident Energy (MeV)
40-Zr-90

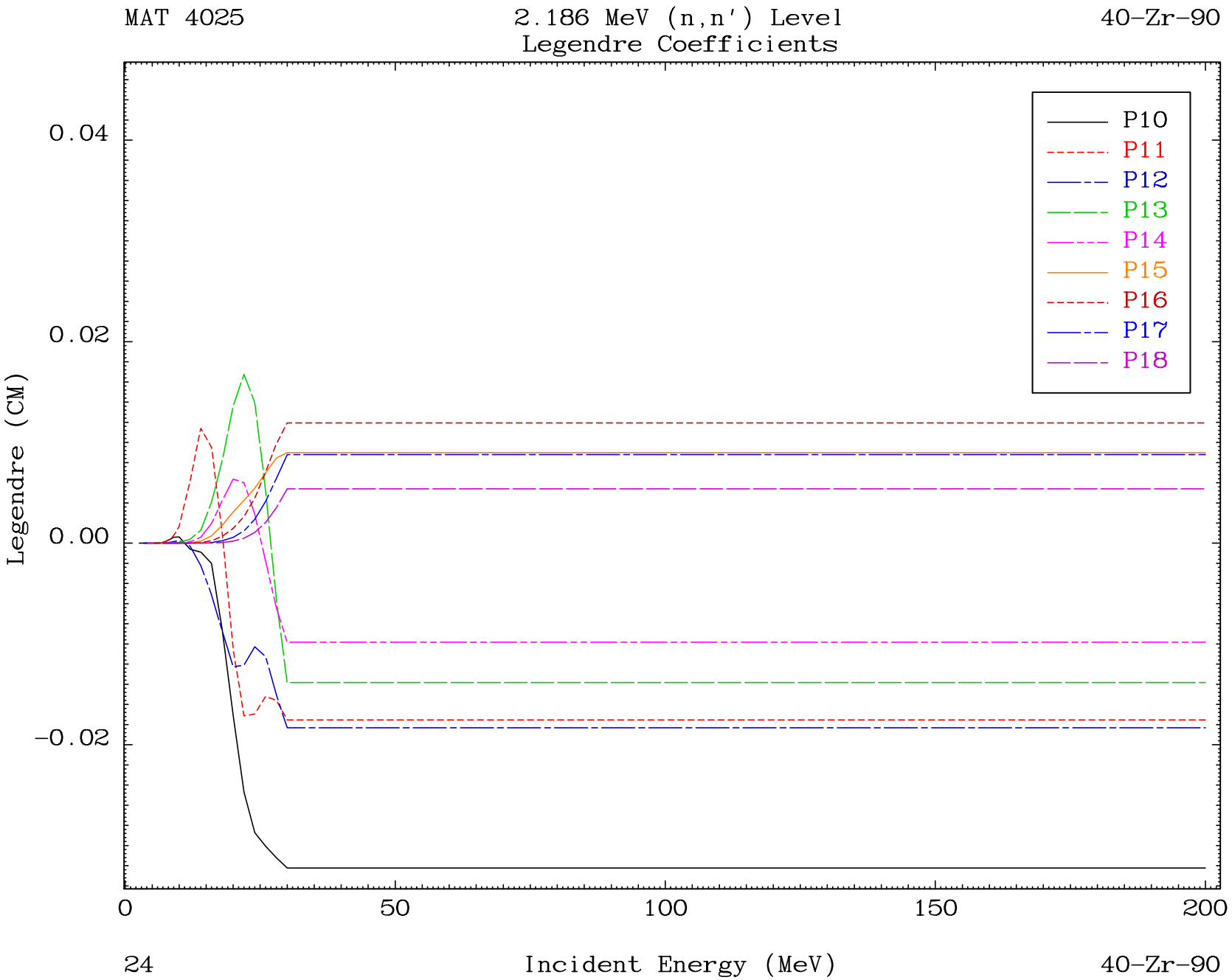

MAT 4025
1.761 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
19
Incident Energy (MeV)
40-Zr-90

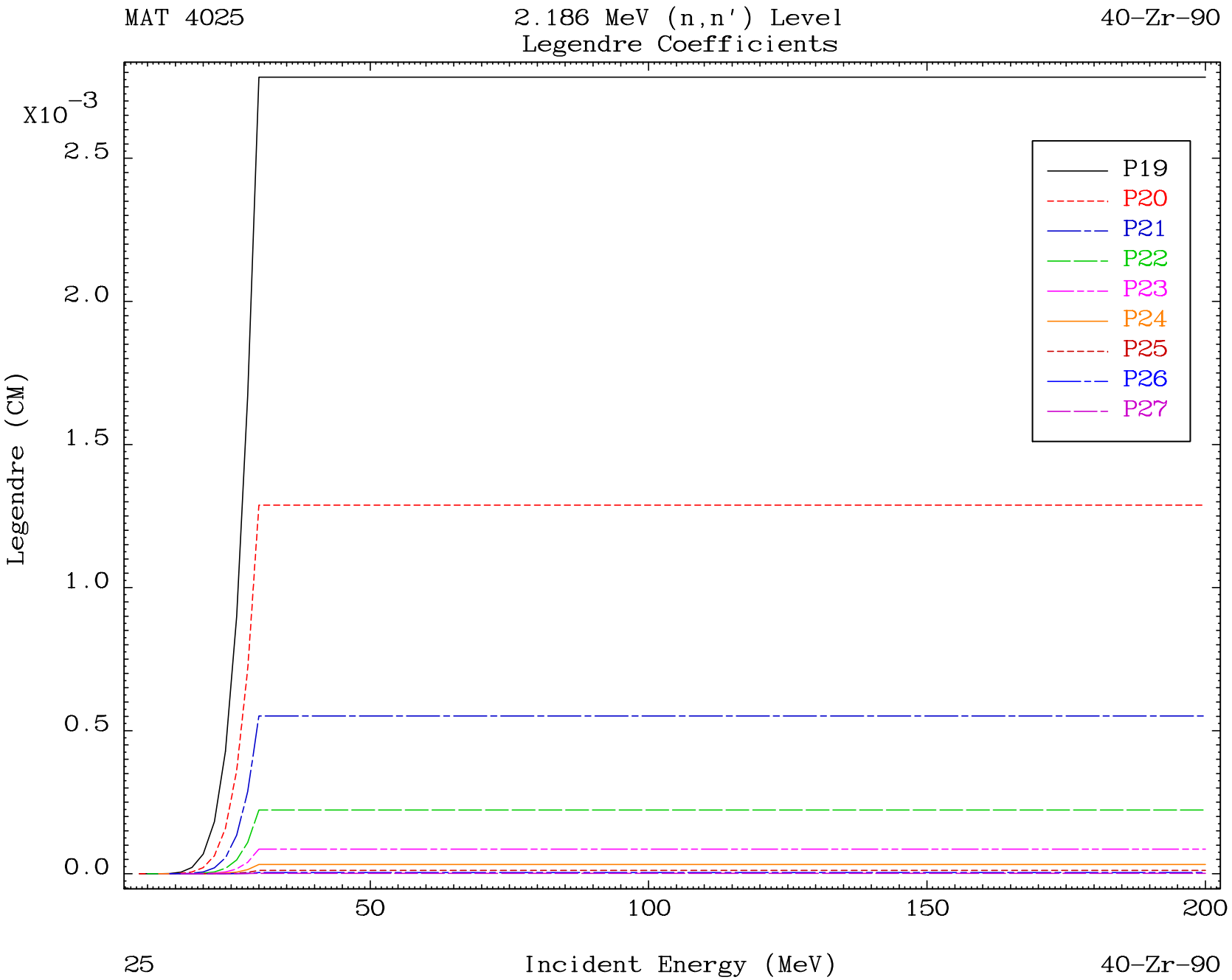

MAT 4025
1.761 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
20
Incident Energy (MeV)
40-Zr-90

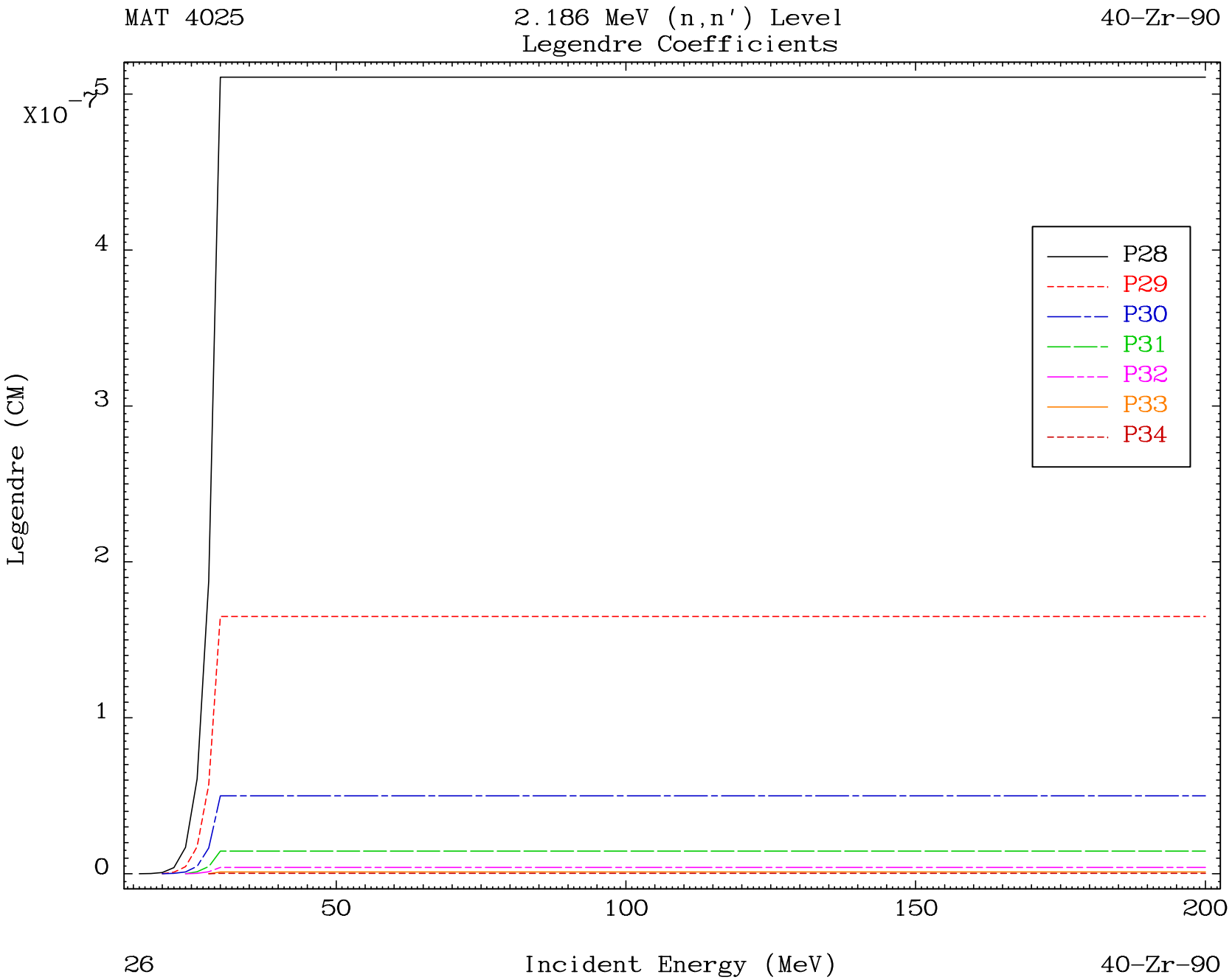

MAT 4025
1.761 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
21
Incident Energy (MeV)
40-Zr-90

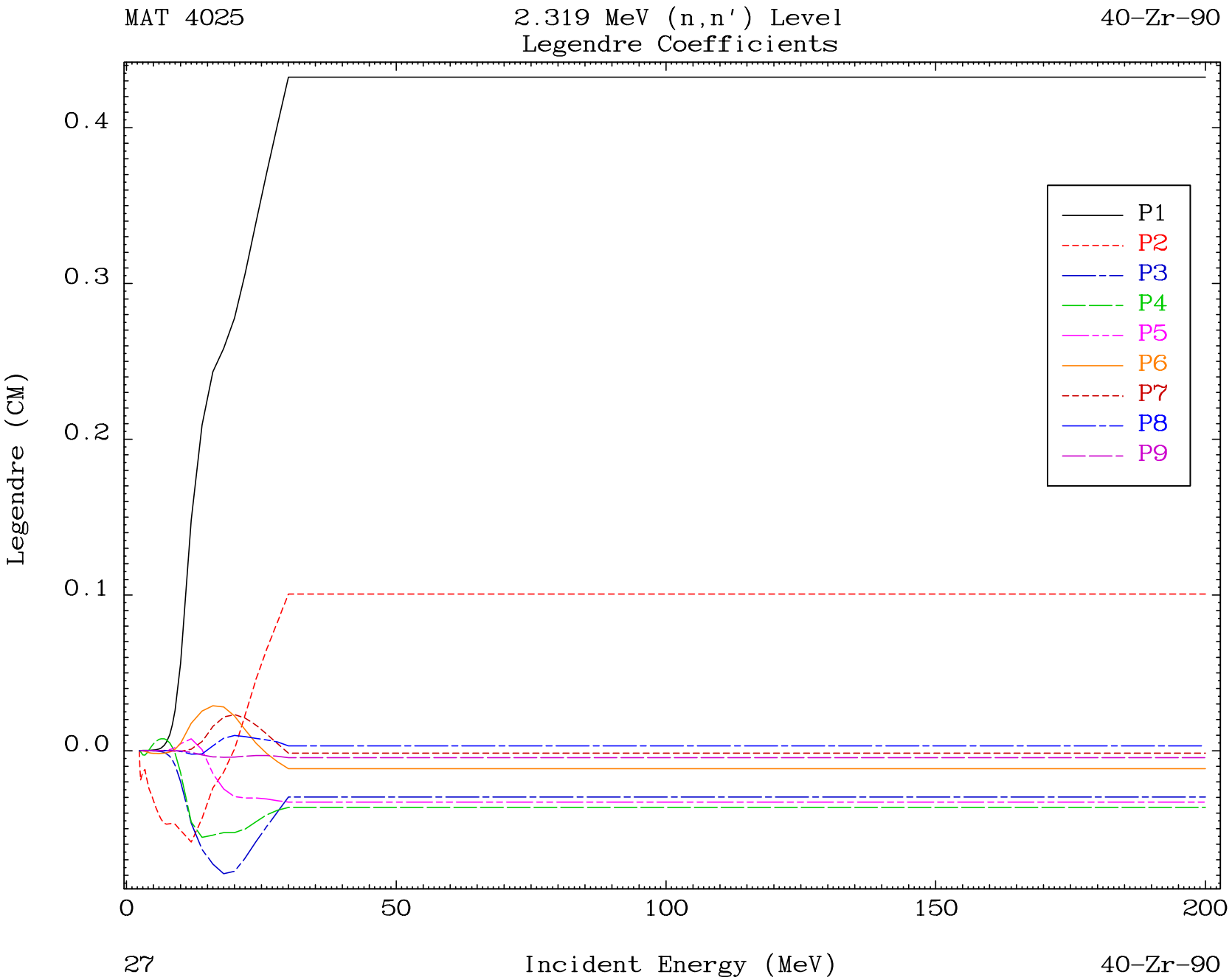

MAT 4025
1.761 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
22
Incident Energy (MeV)
40-Zr-90

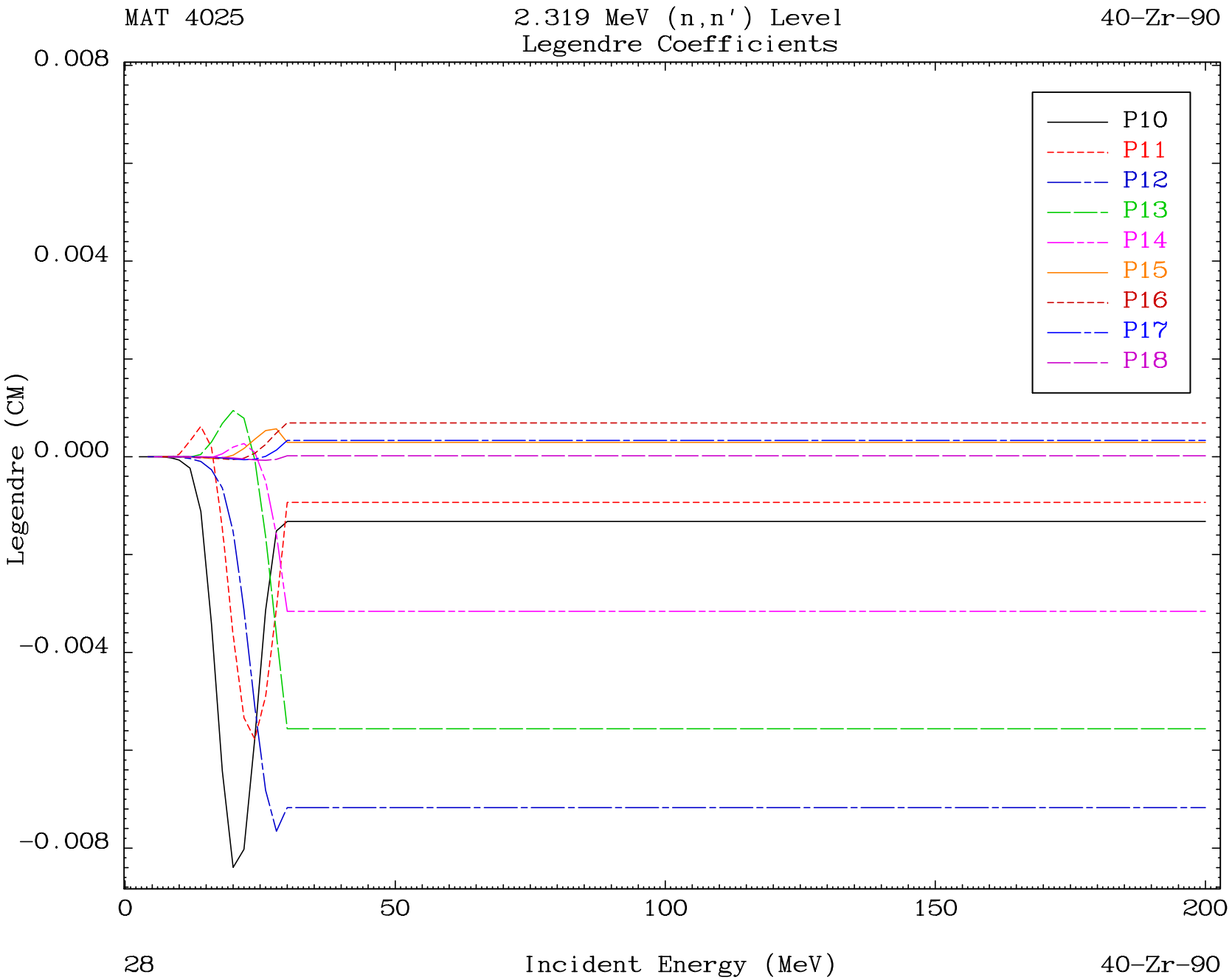

MAT 4025
2.186 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
23
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9

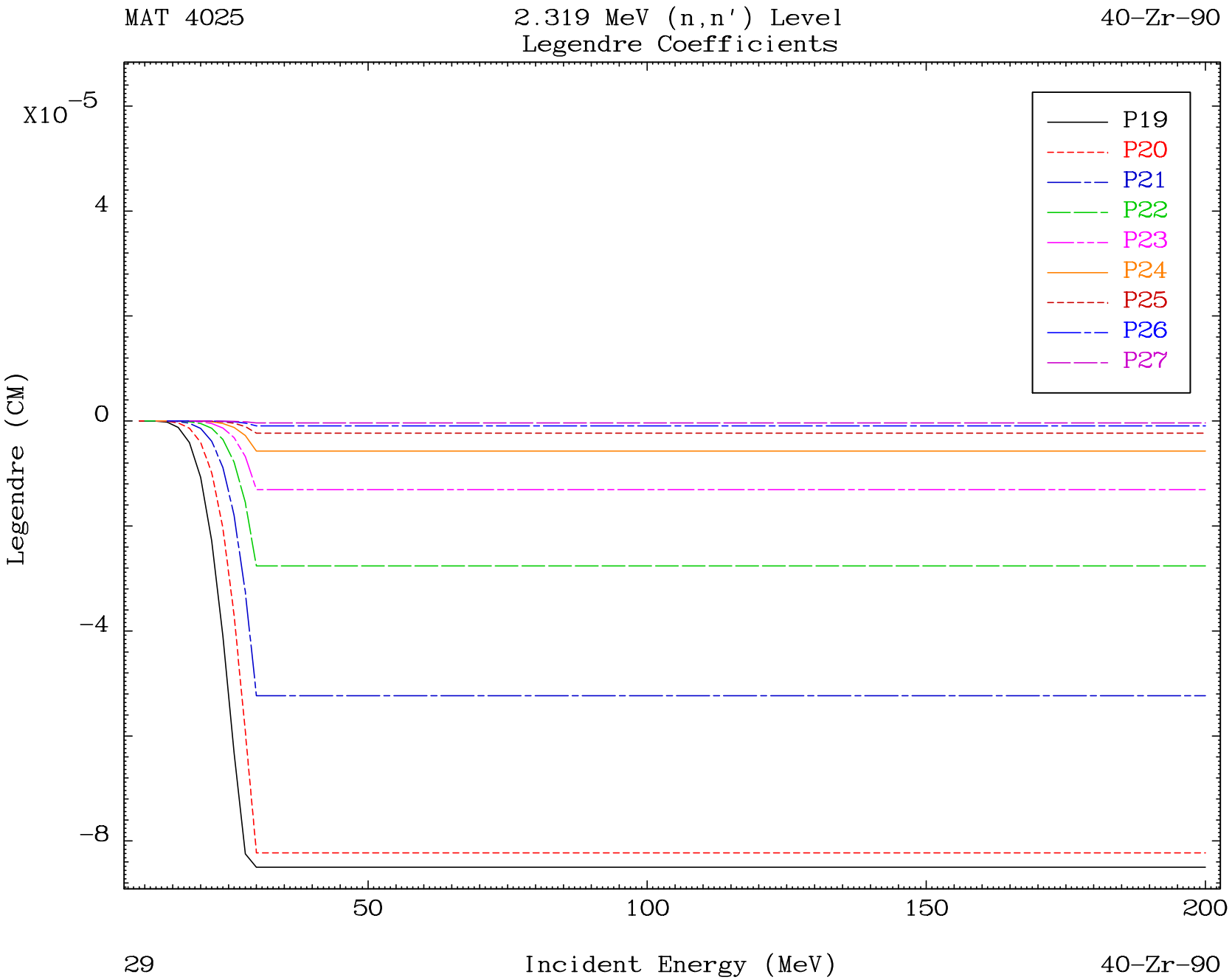

MAT 4025
2.186 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
24
Incident Energy (MeV)
40-Zr-90

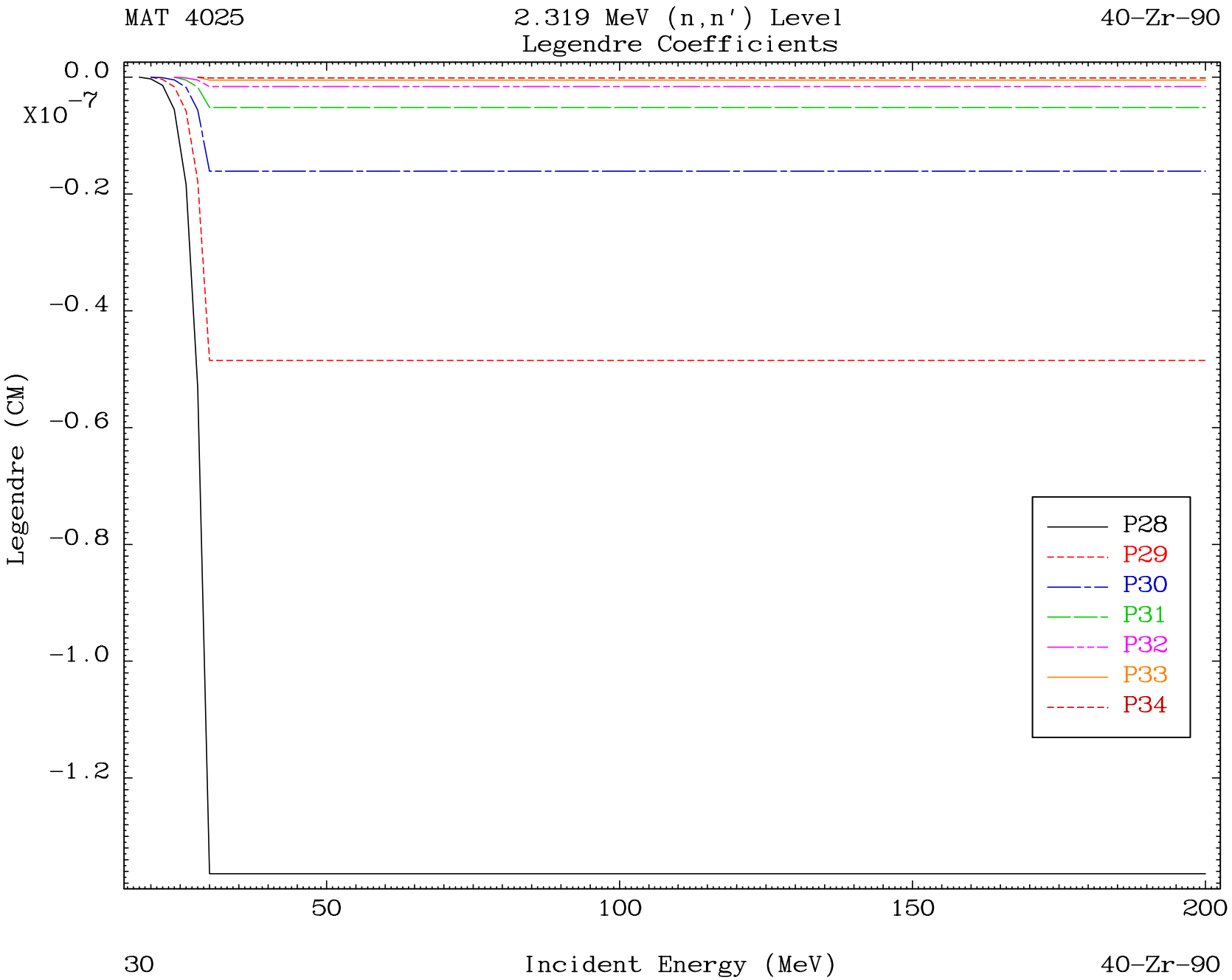

MAT 4025
2.186 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
25
Incident Energy (MeV)
40-Zr-90

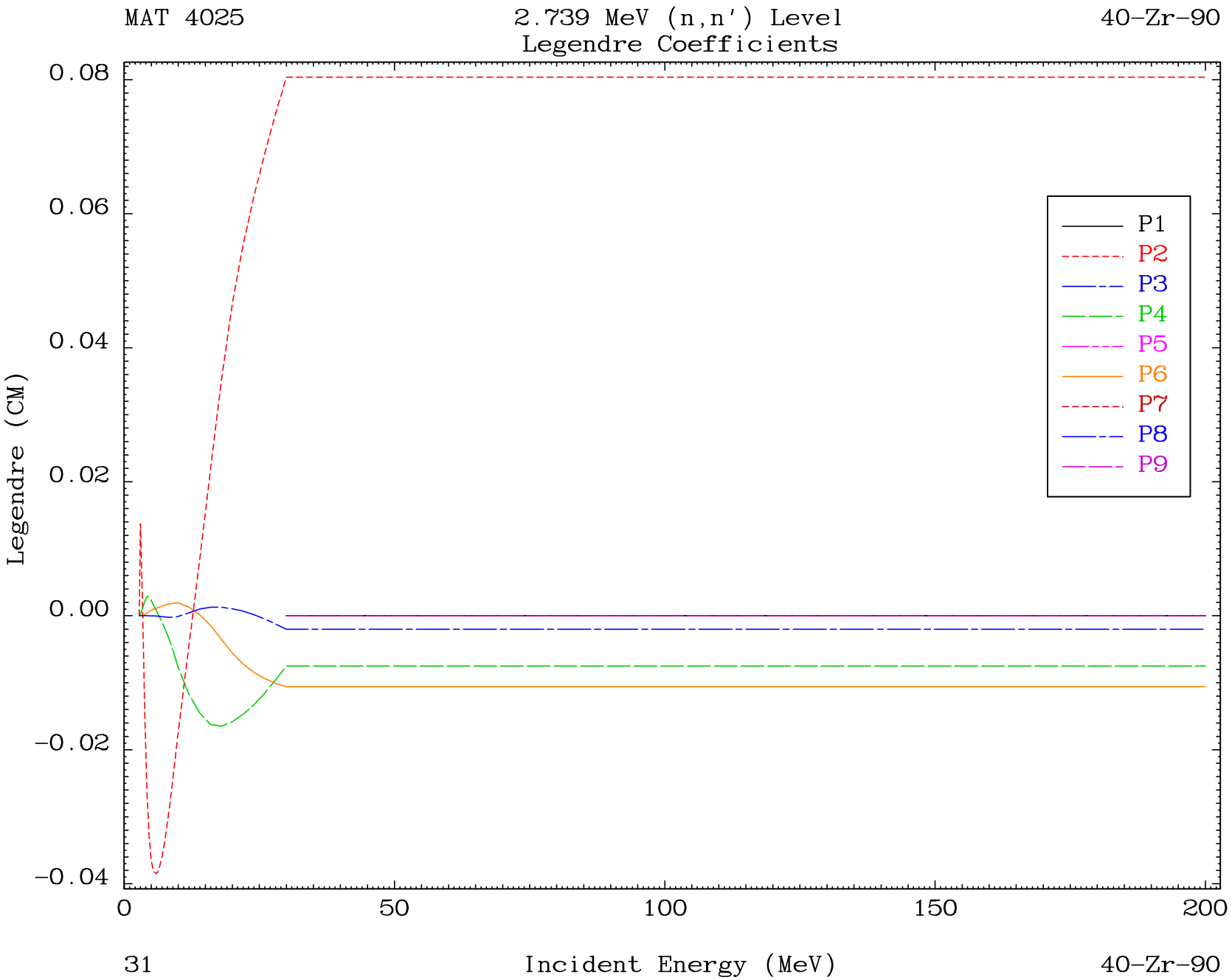

MAT 4025
2.186 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-5
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
26
Incident Energy (MeV)
40-Zr-90

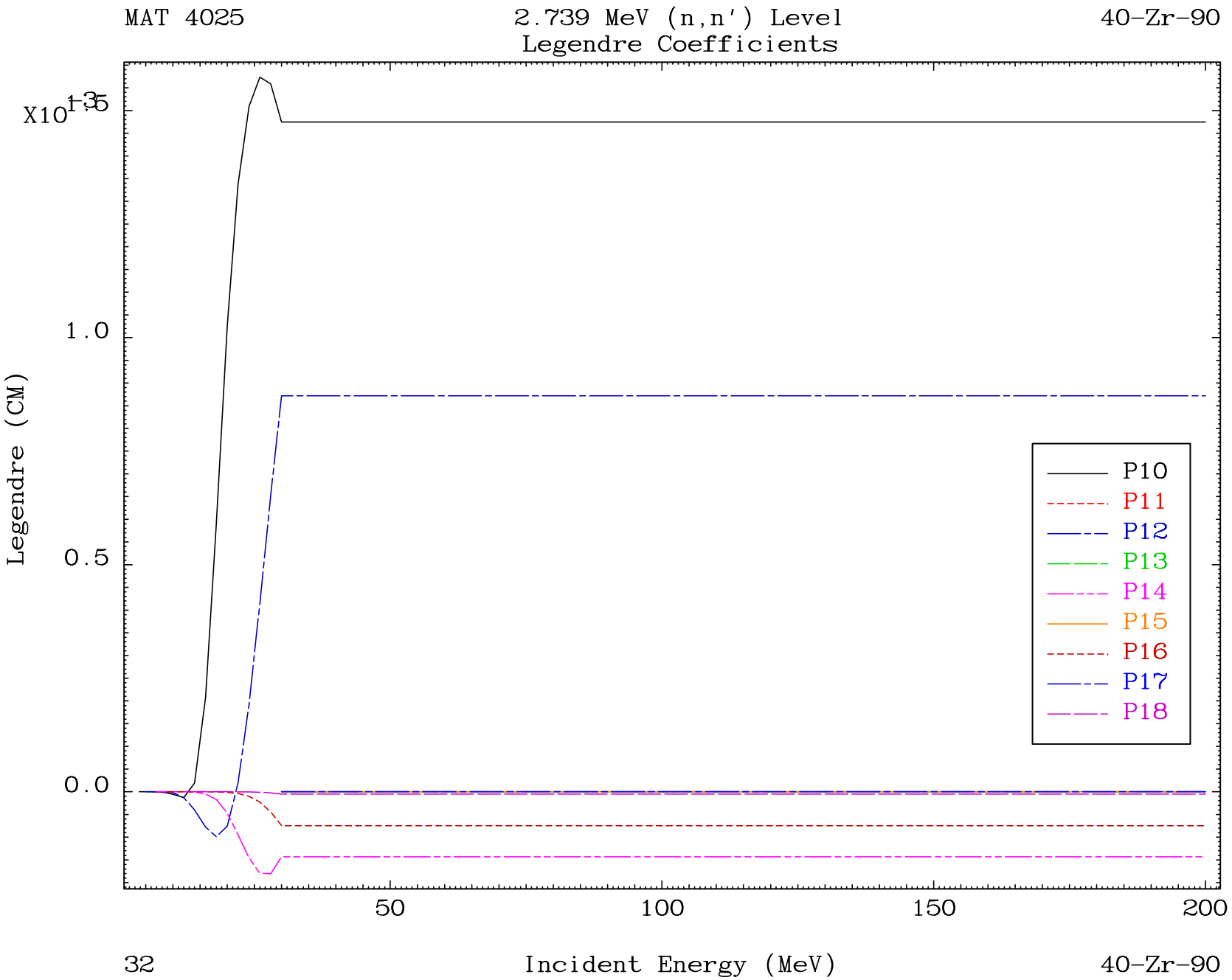

MAT 4025
2.319 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
27
Incident Energy (MeV)
40-Zr-90

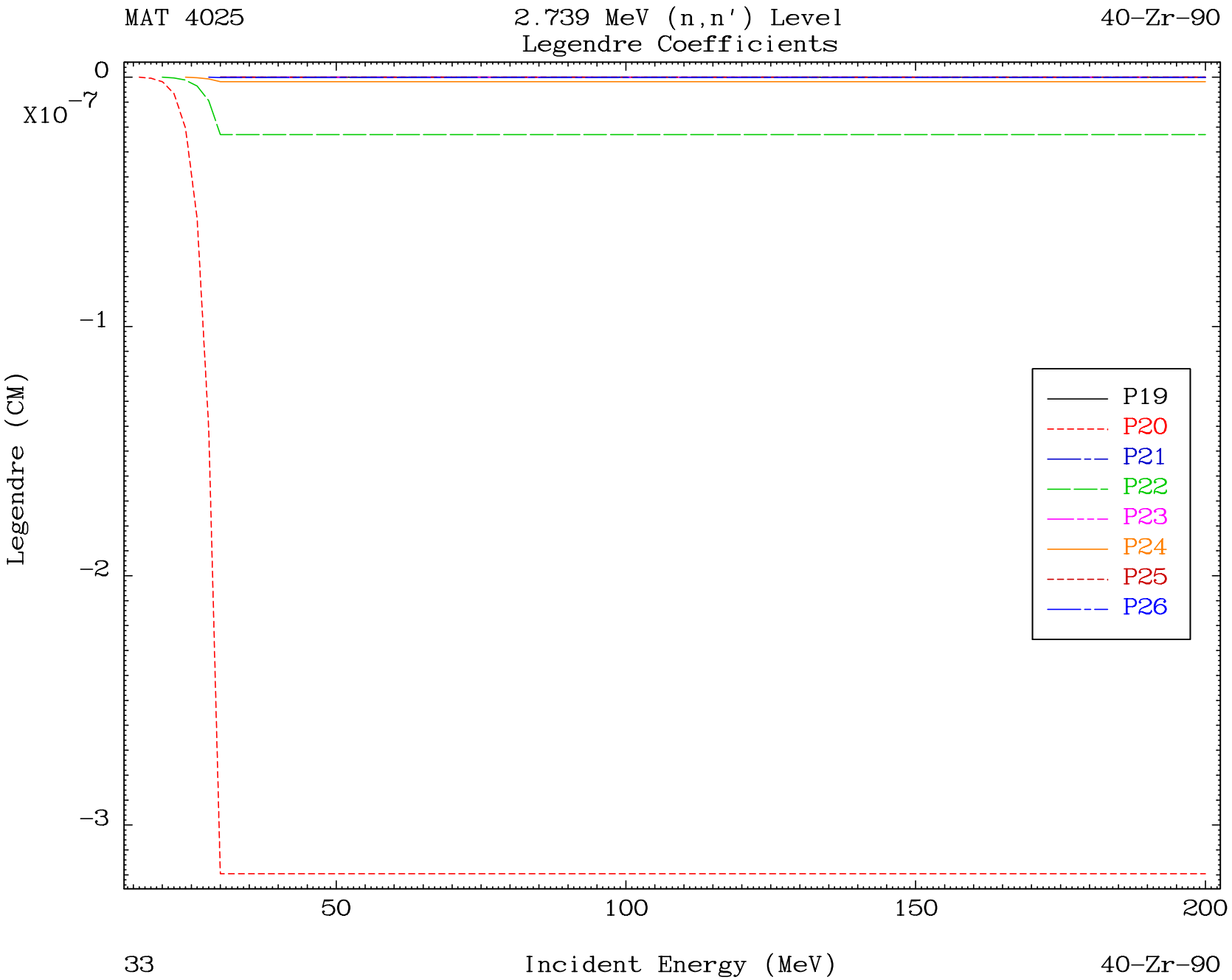

MAT 4025
2.319 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.008
0.004
0.000
-0.004
-0.008
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
28
Incident Energy (MeV)
40-Zr-90

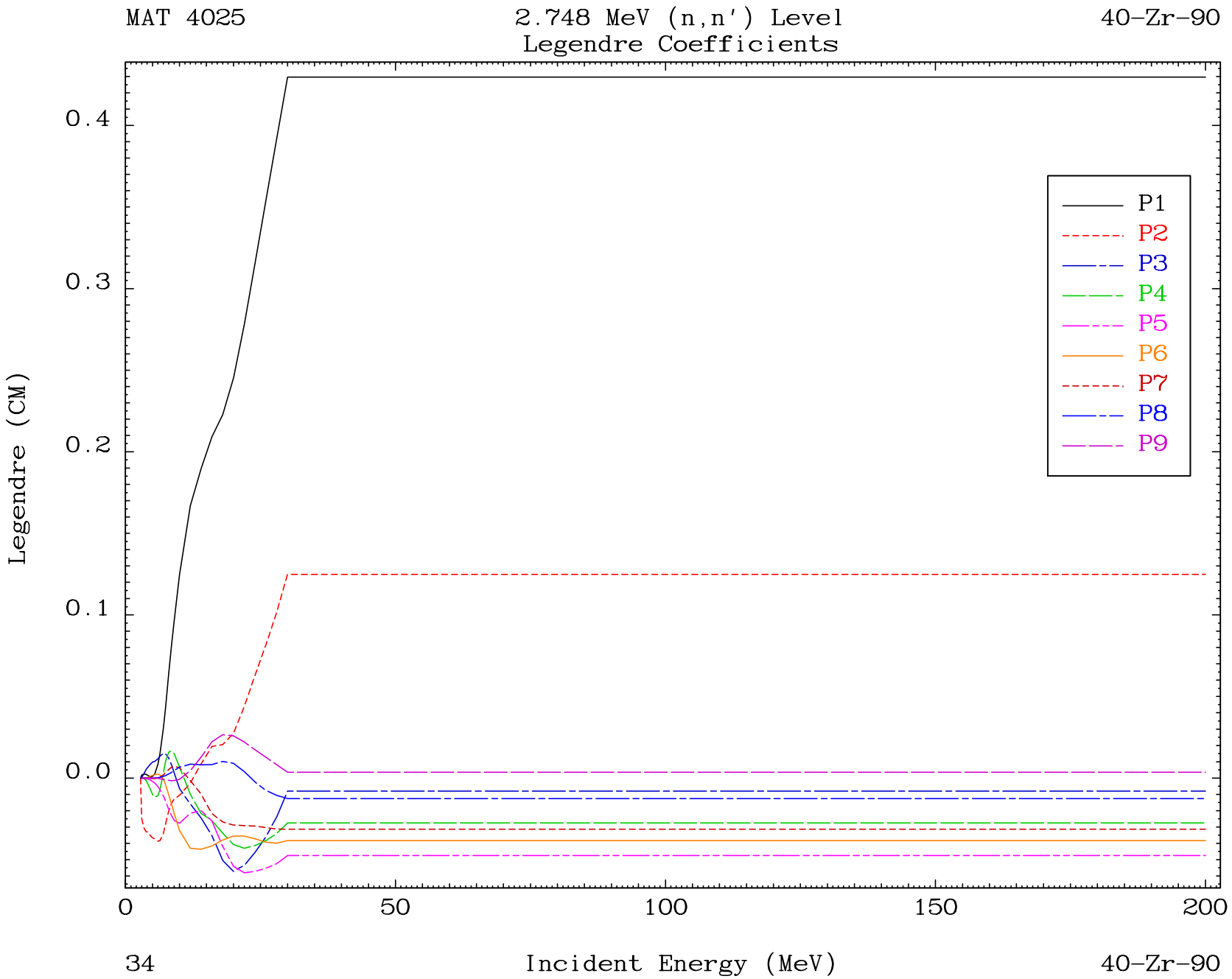

MAT 4025
2.319 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-5
4
0
-4
-8
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
29
Incident Energy (MeV)
40-Zr-90

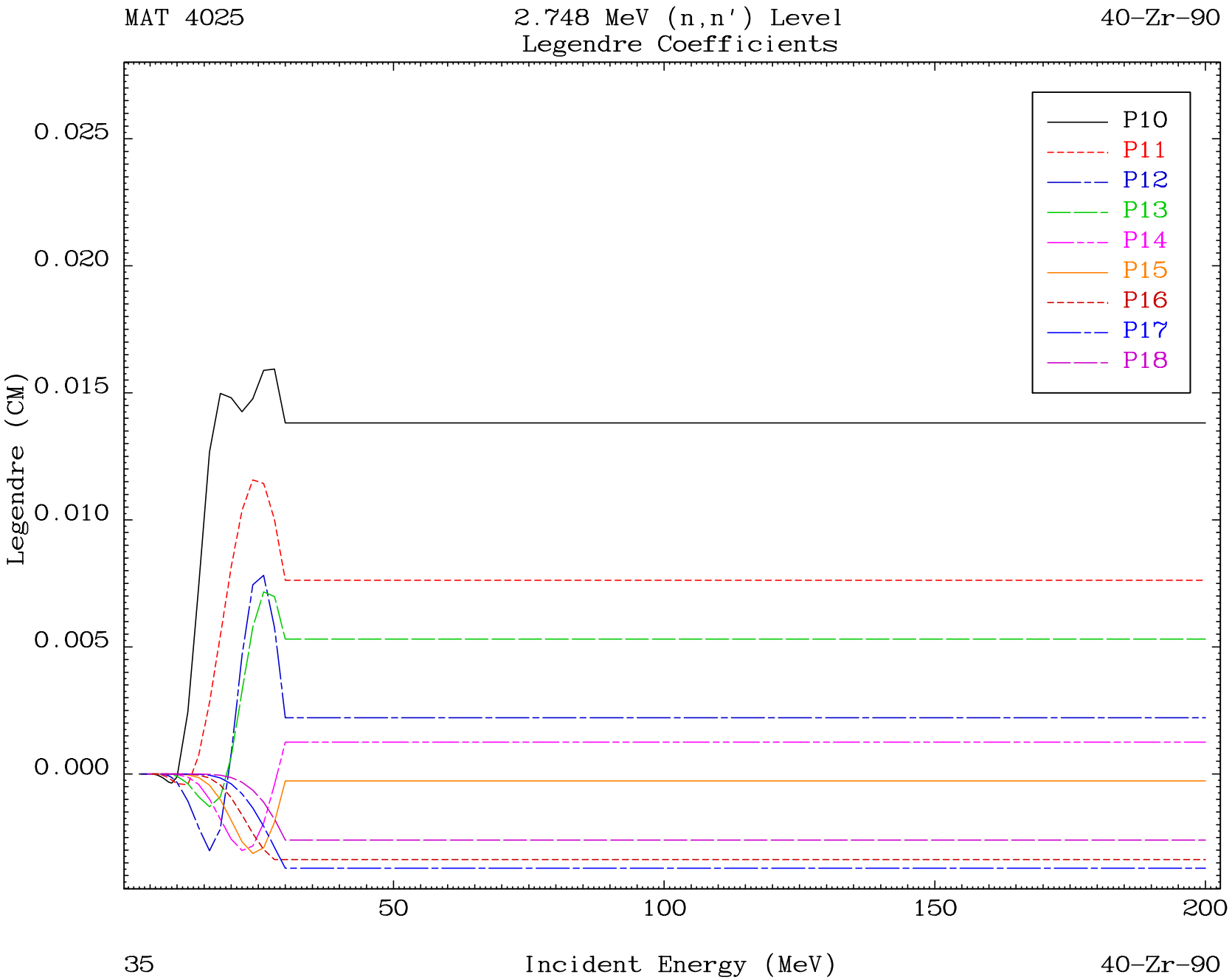

MAT 4025
2.319 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10-7
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
30
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

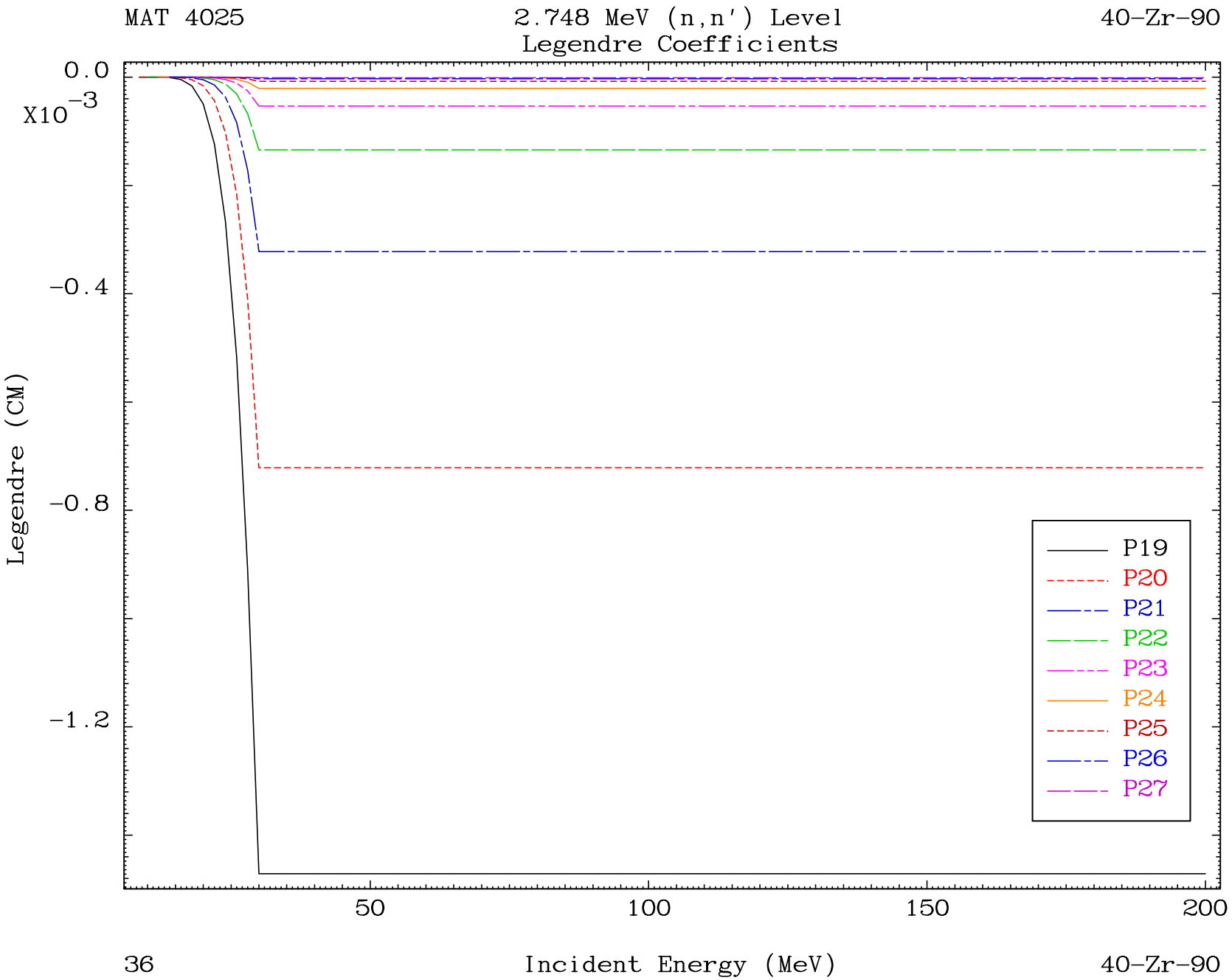

MAT 4025
2.739 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
31
Incident Energy (MeV)
40-Zr-90

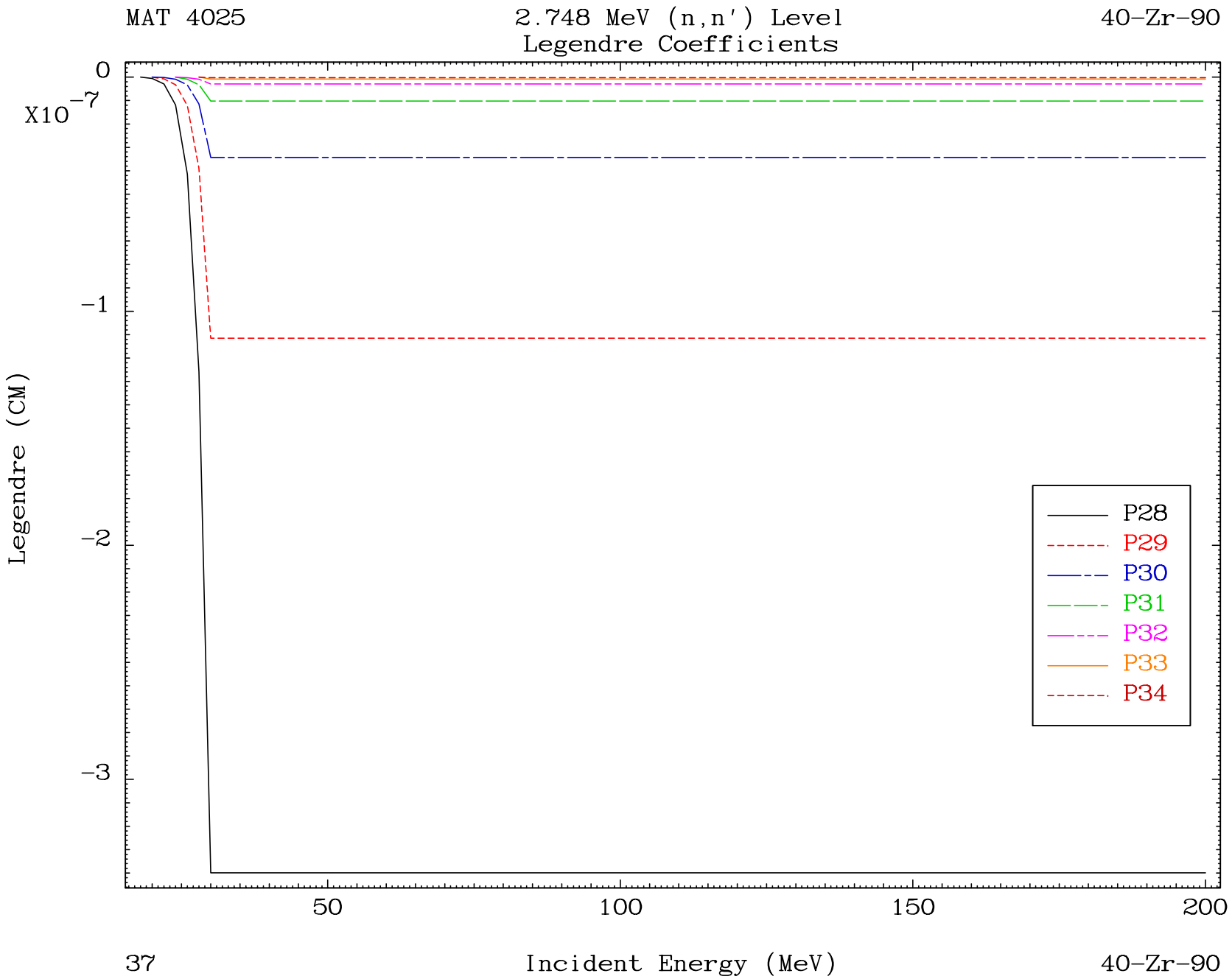

MAT 4025
2.739 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10+35
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
32
Incident Energy (MeV)
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18

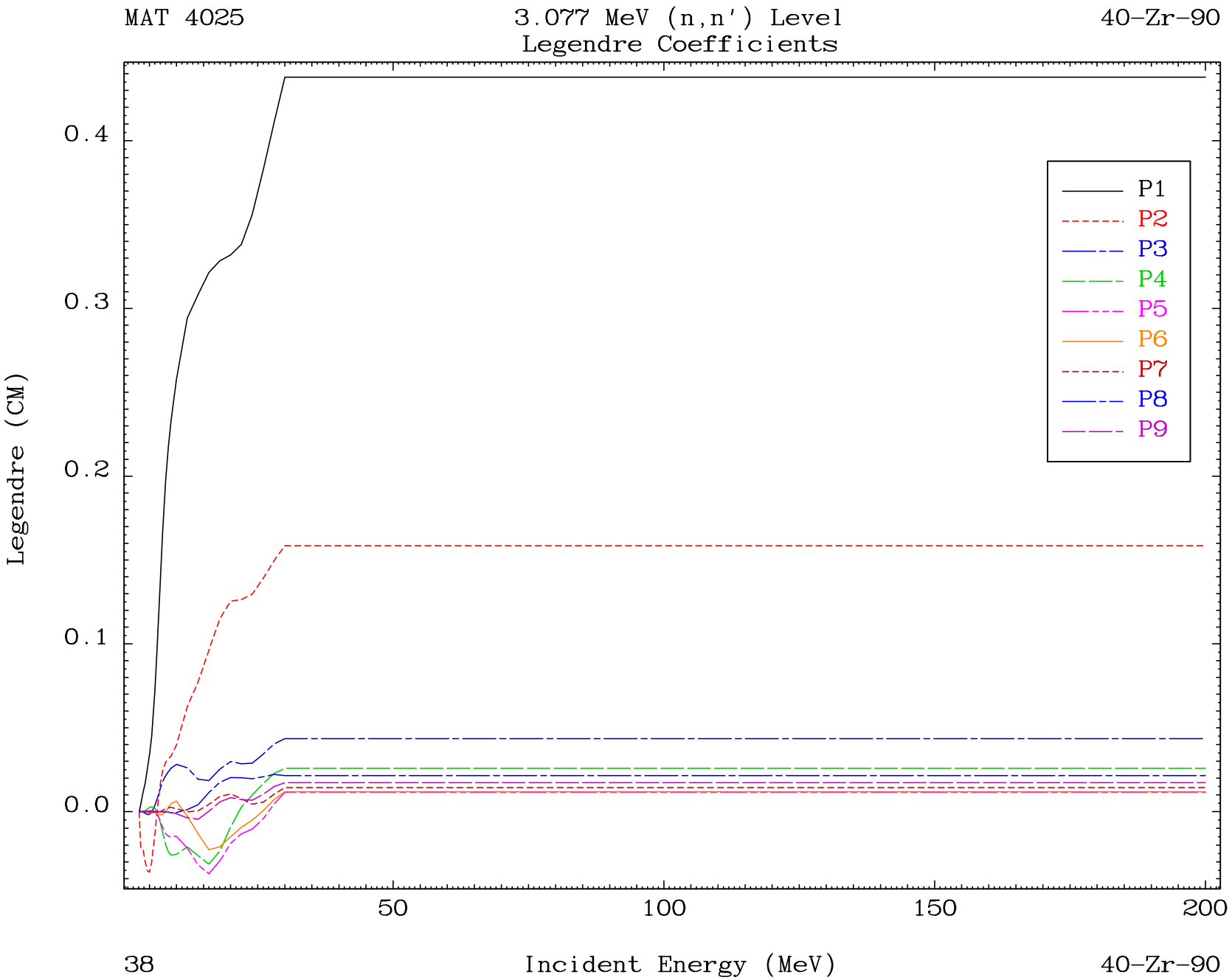

MAT 4025
2.739 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0
X10-7
-1
-2
-3
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
33
Incident Energy (MeV)
40-Zr-90

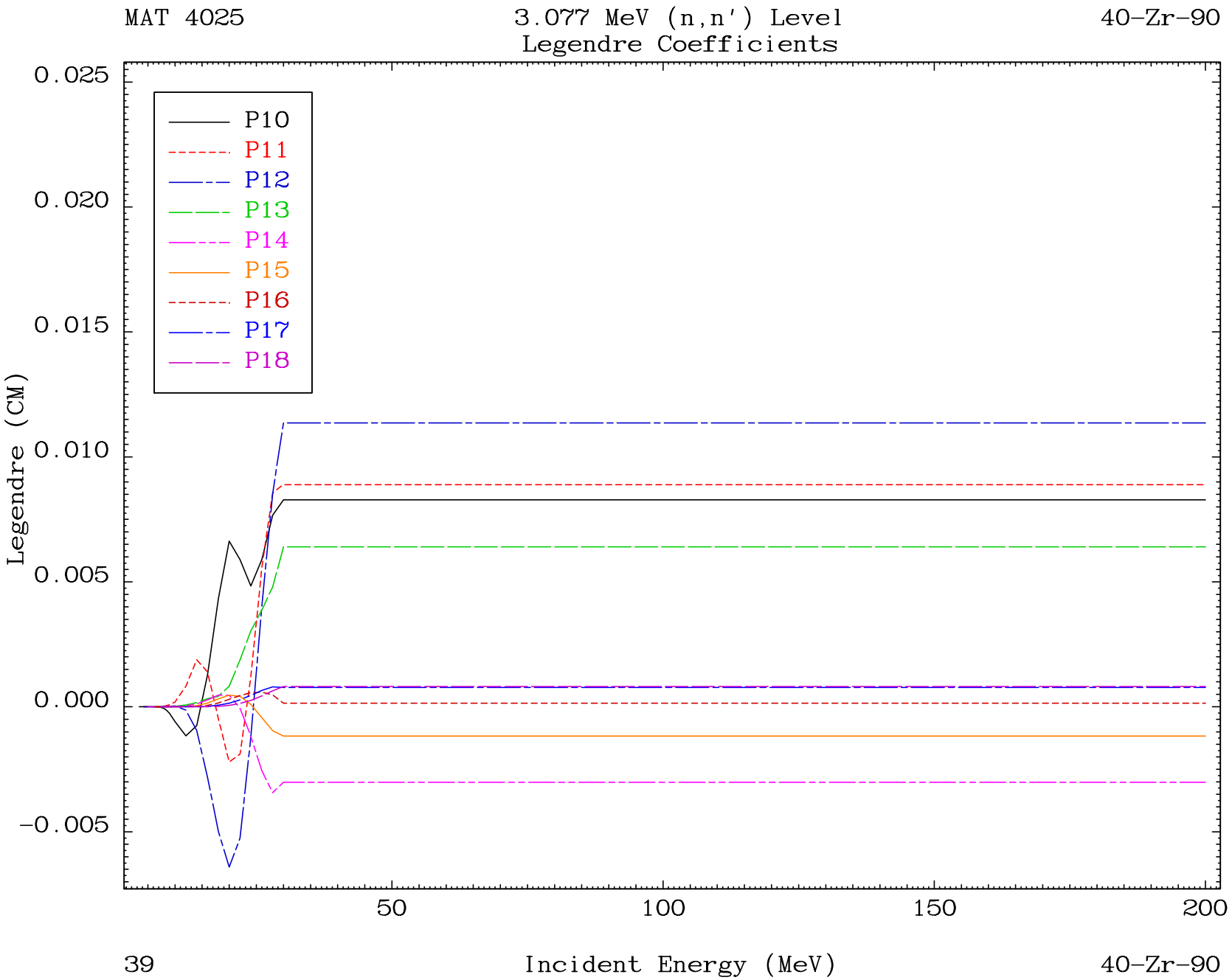

MAT 4025
2.748 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
34
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9

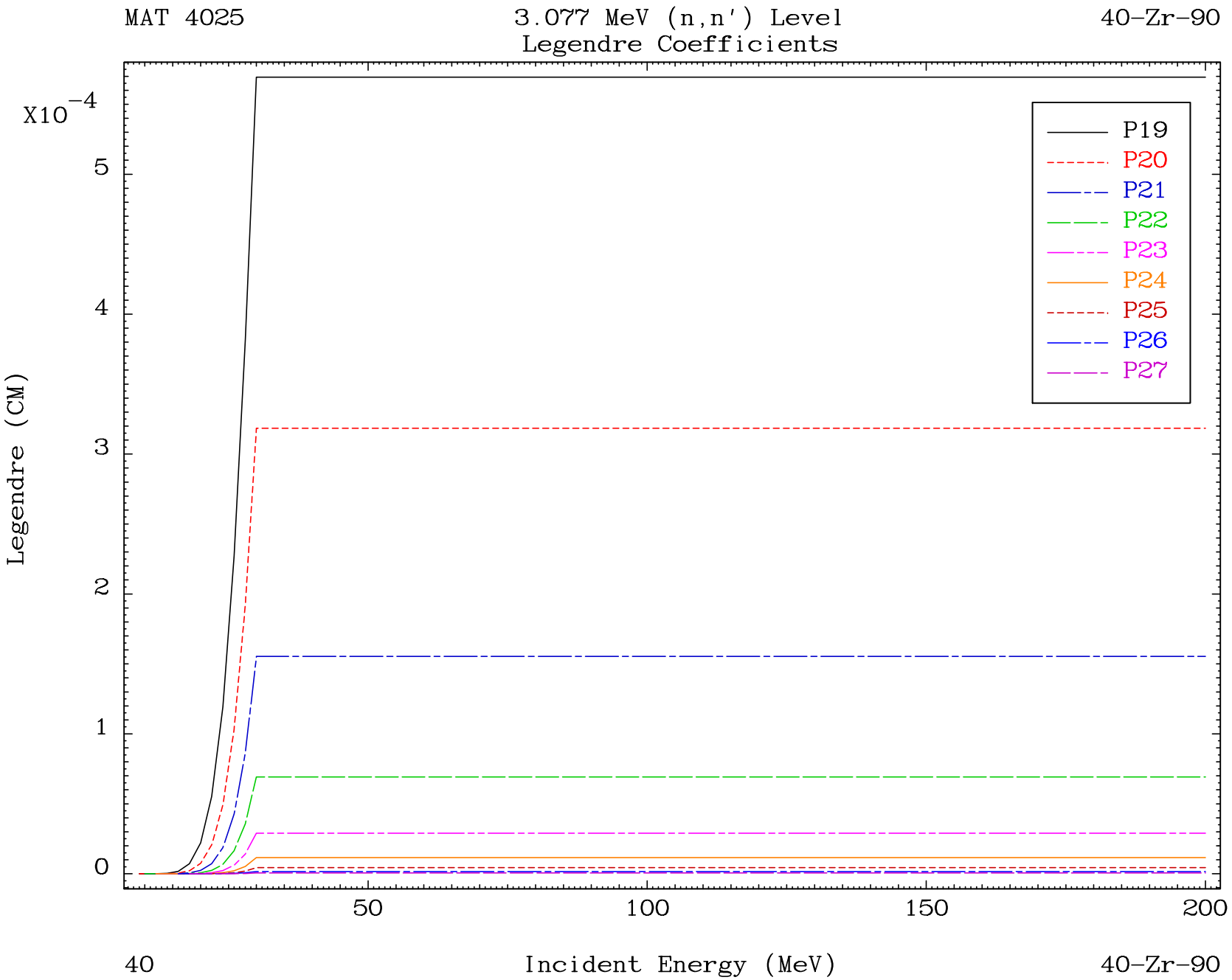

MAT 4025
2.748 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.025
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
35
Incident Energy (MeV)
40-Zr-90

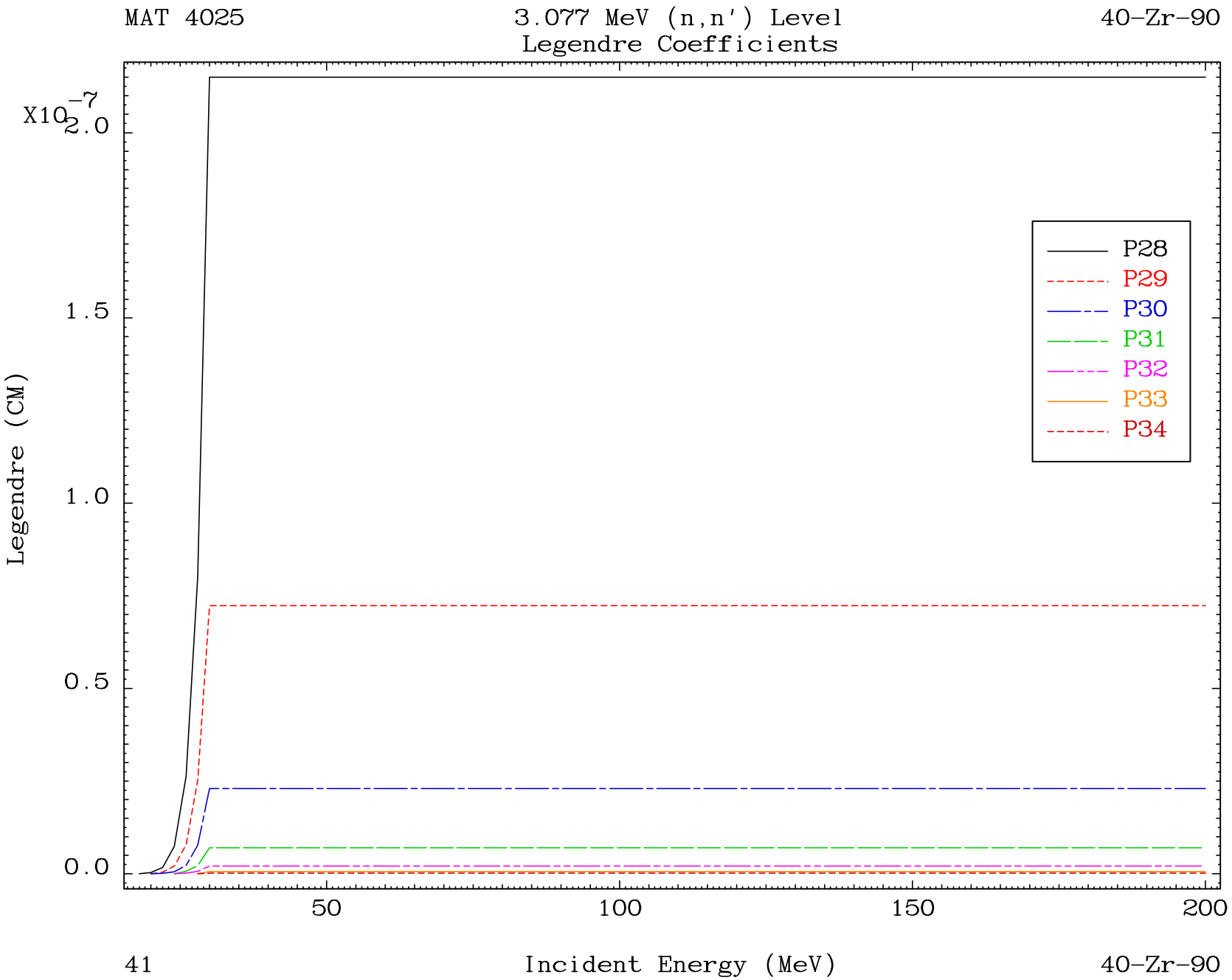

MAT 4025
2.748 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10^-3
-0.4
-0.8
-1.2
Legendre (CM)
50
100
150
200
36
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

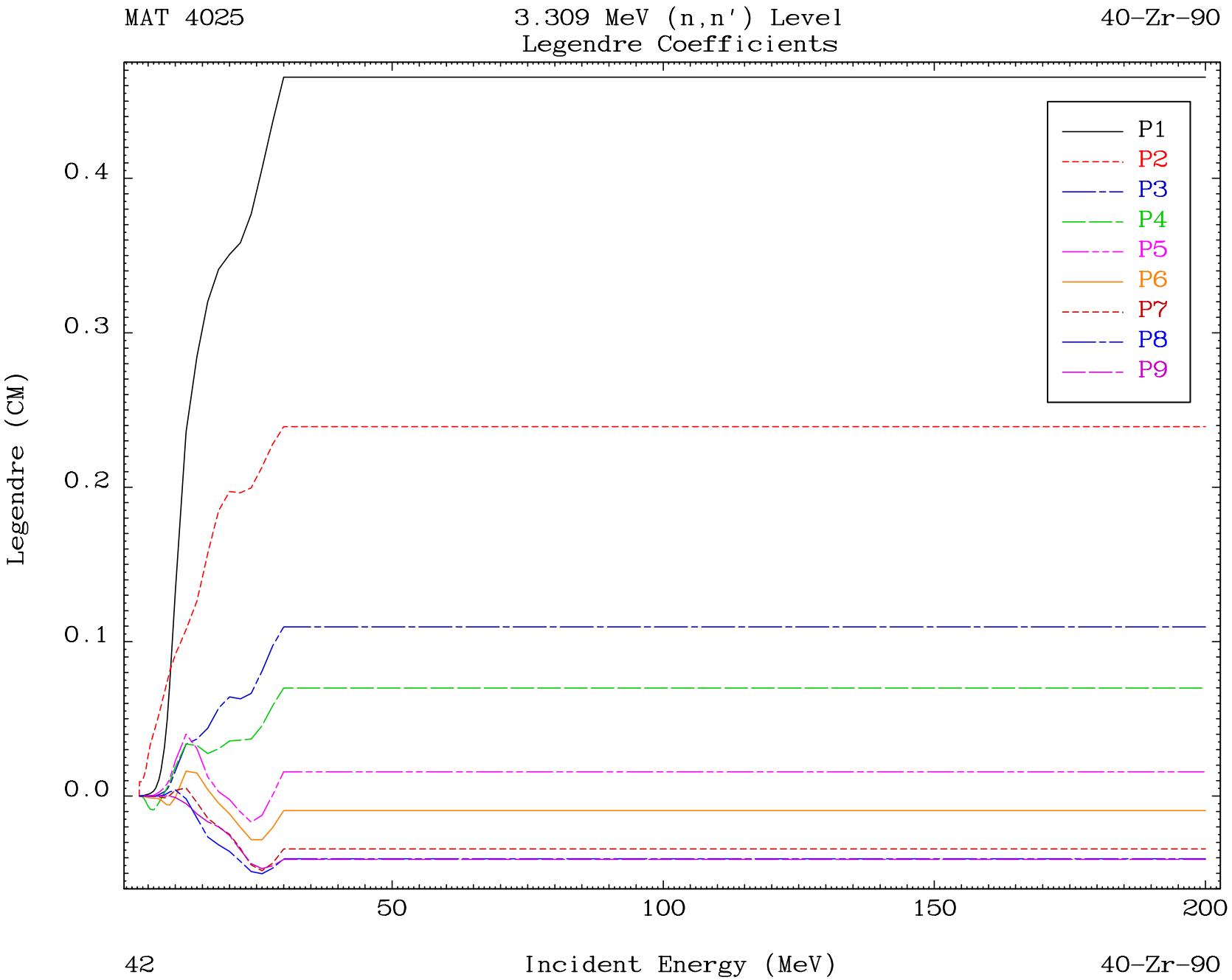

MAT 4025
2.748 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
0
-1
-2
-3
Legendre (CM)
50
100
150
200
37
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

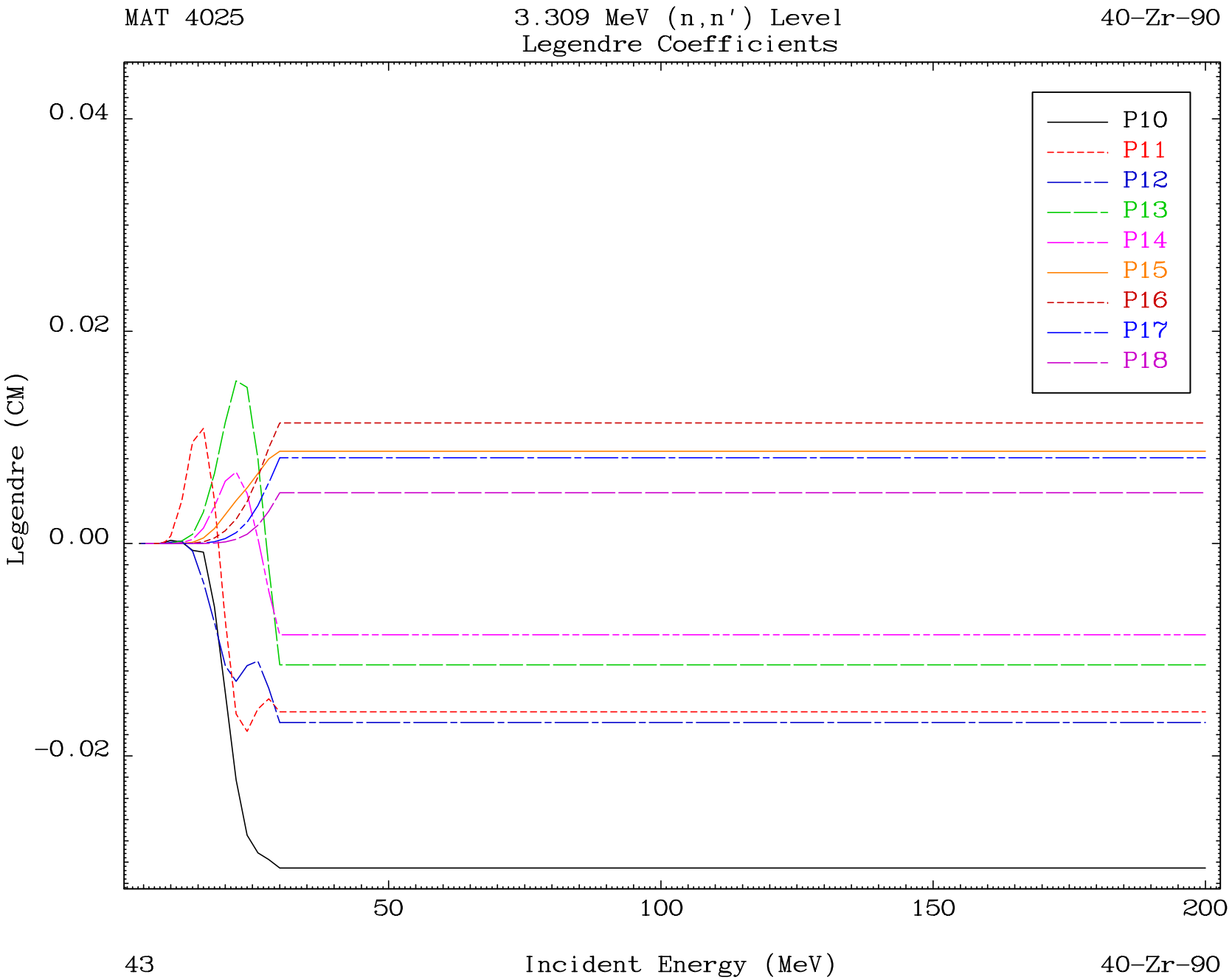

MAT 4025
3.077 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
38
Incident Energy (MeV)
40-Zr-90

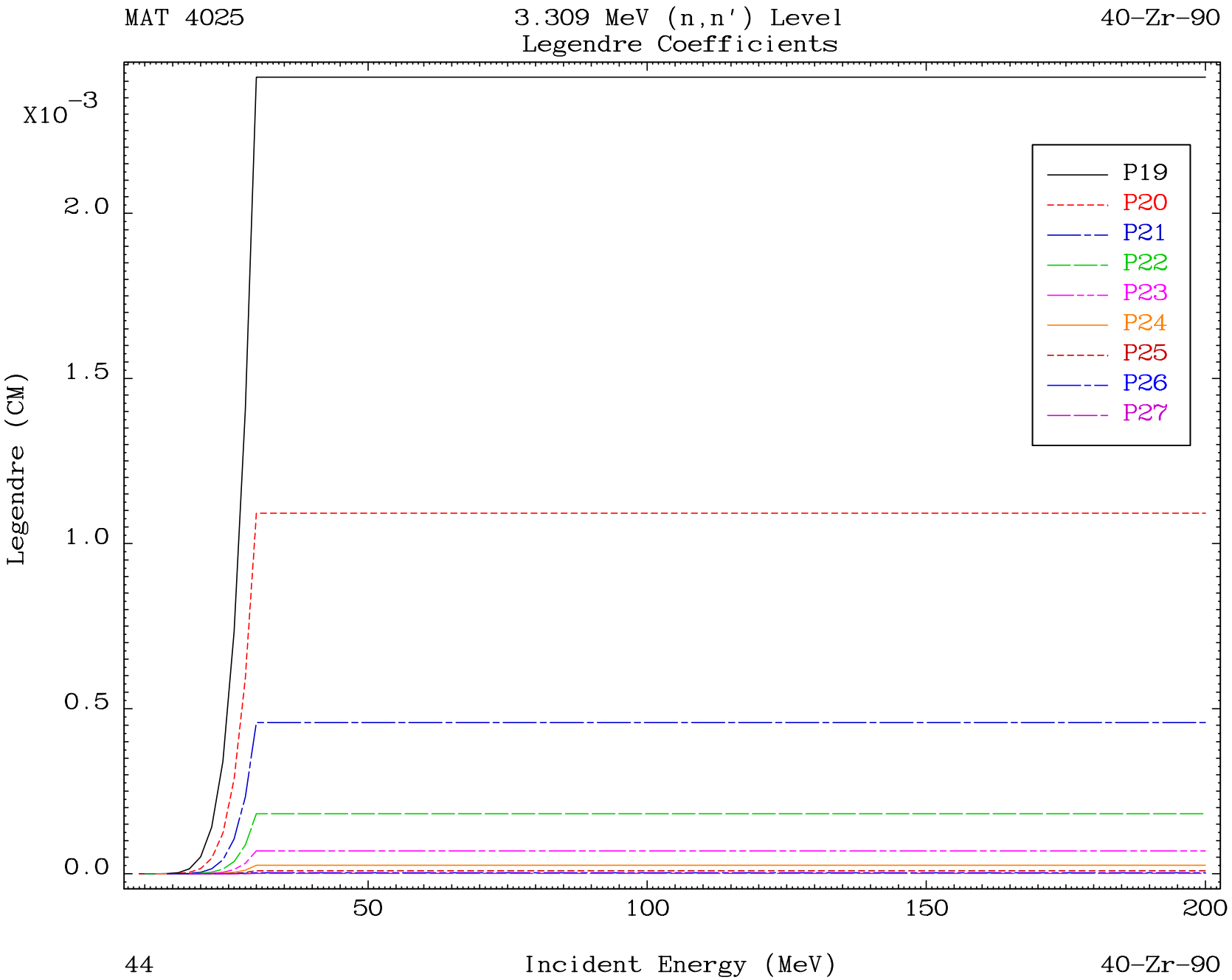

MAT 4025
3.077 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.025
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
50
100
150
200
39
Incident Energy (MeV)
40-Zr-90

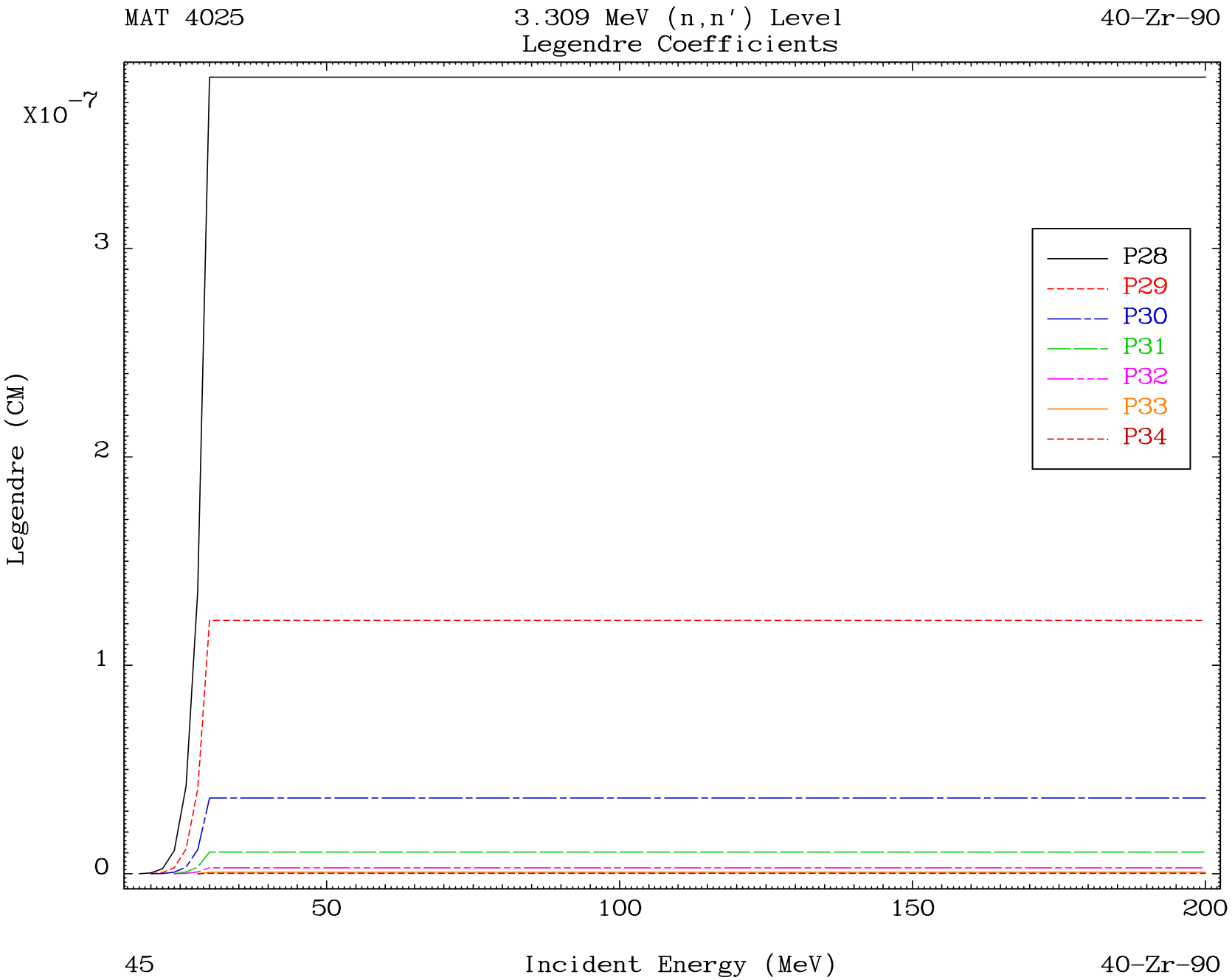

MAT 4025
3.077 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
5
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
40
Incident Energy (MeV)
40-Zr-90

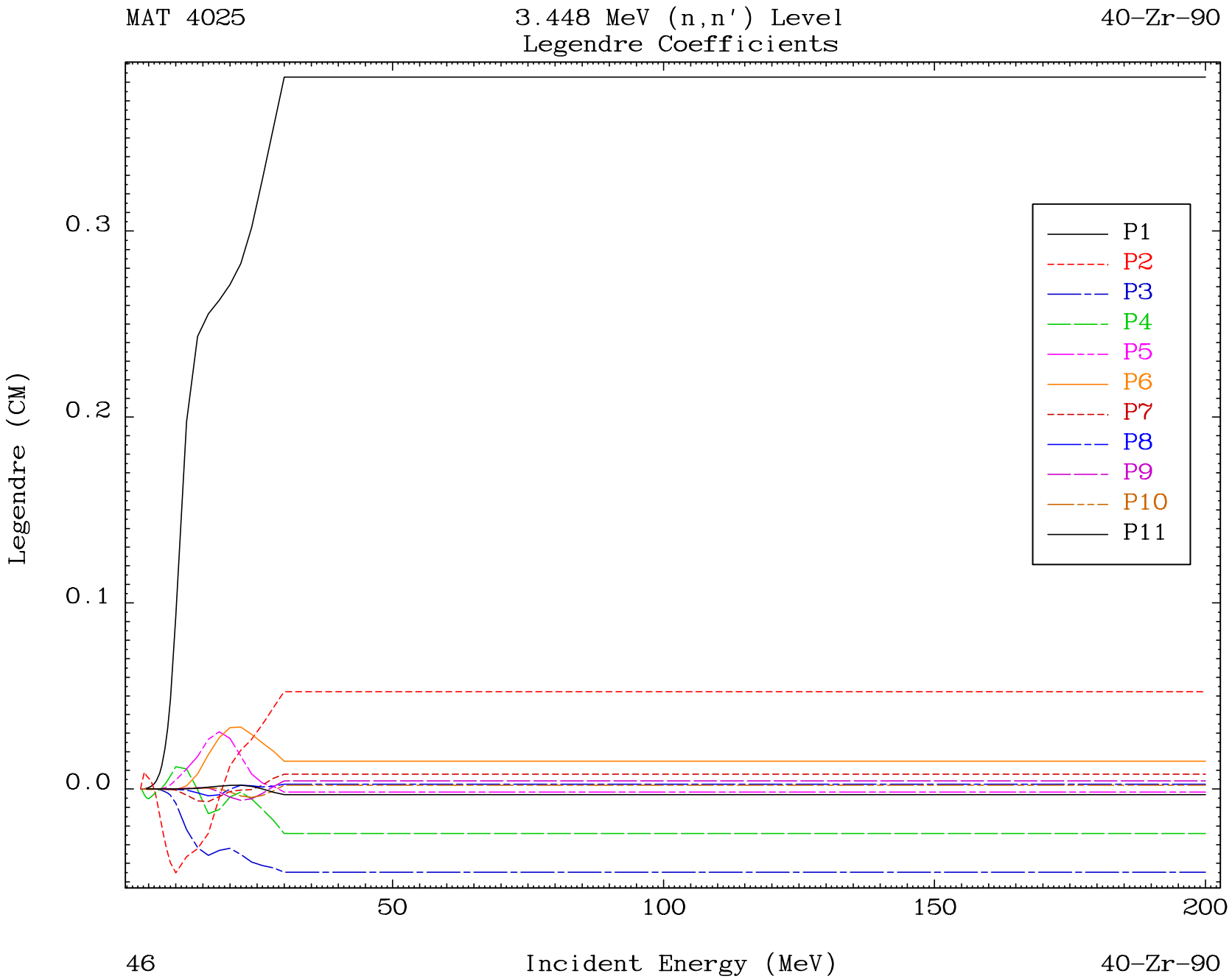

MAT 4025
3.077 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
41
Incident Energy (MeV)
40-Zr-90

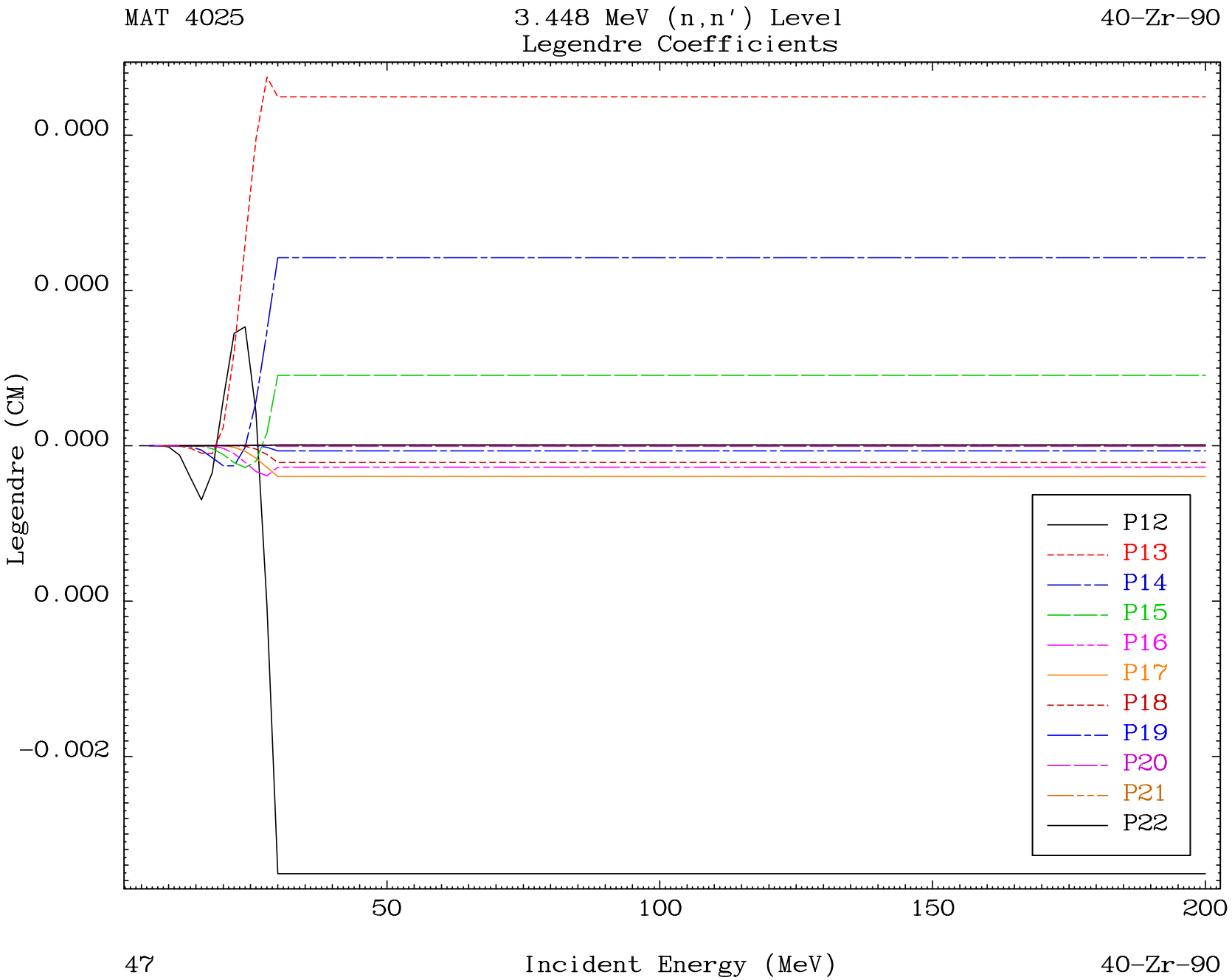

MAT 4025
3.309 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
42
Incident Energy (MeV)
40-Zr-90

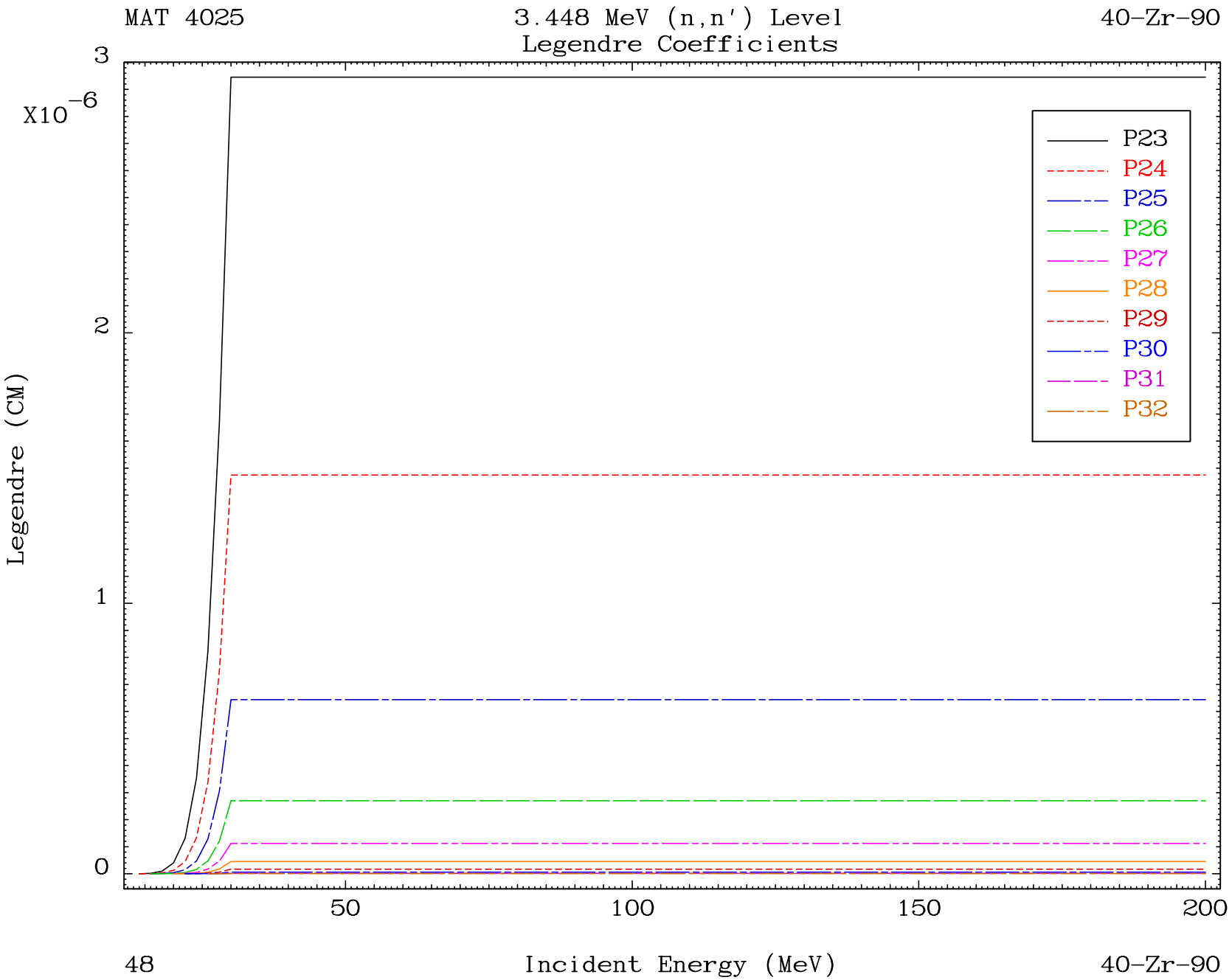

MAT 4025
3.309 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.04
0.02
0.00
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
43
Incident Energy (MeV)
40-Zr-90

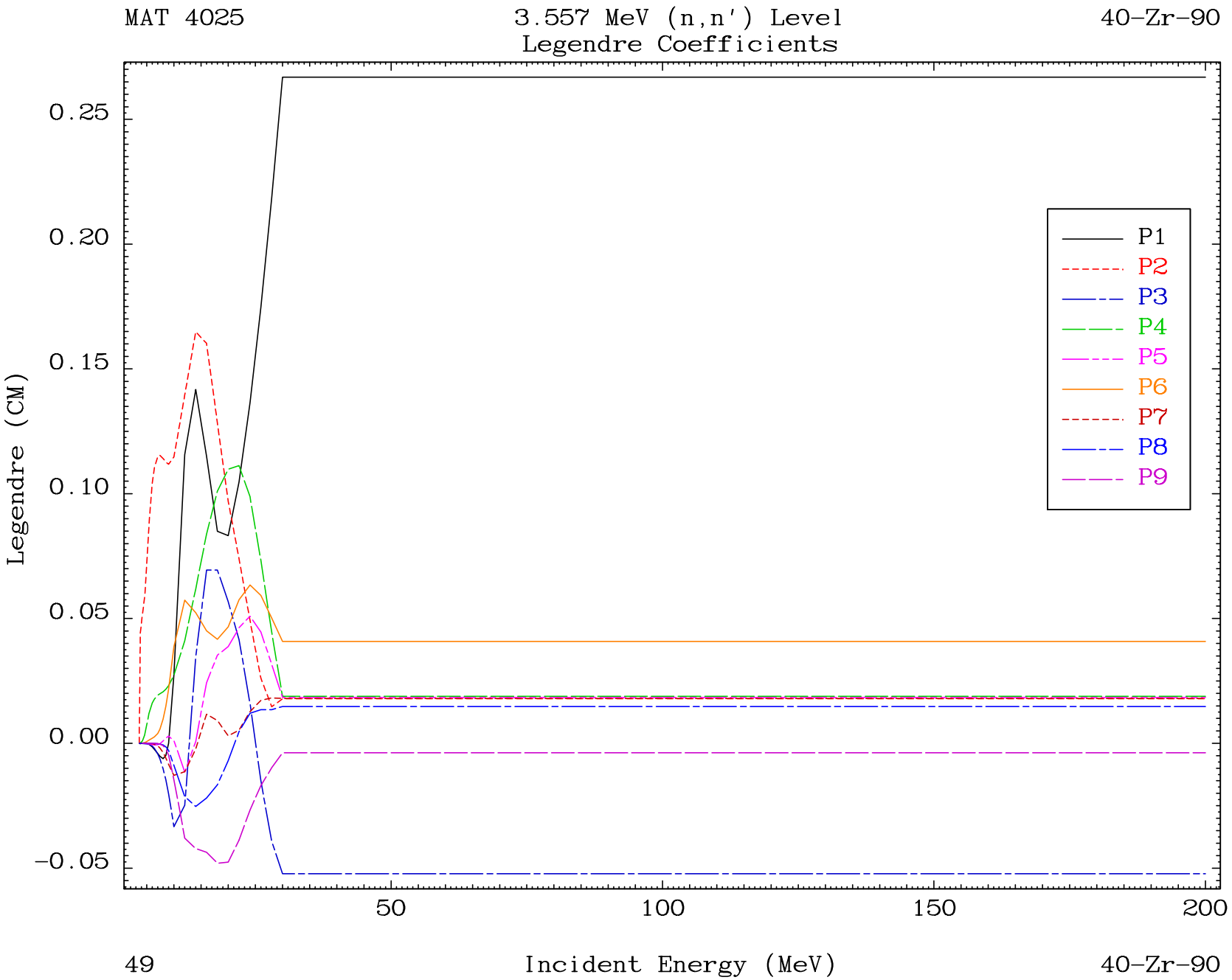

MAT 4025
3.309 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
44
Incident Energy (MeV)
40-Zr-90

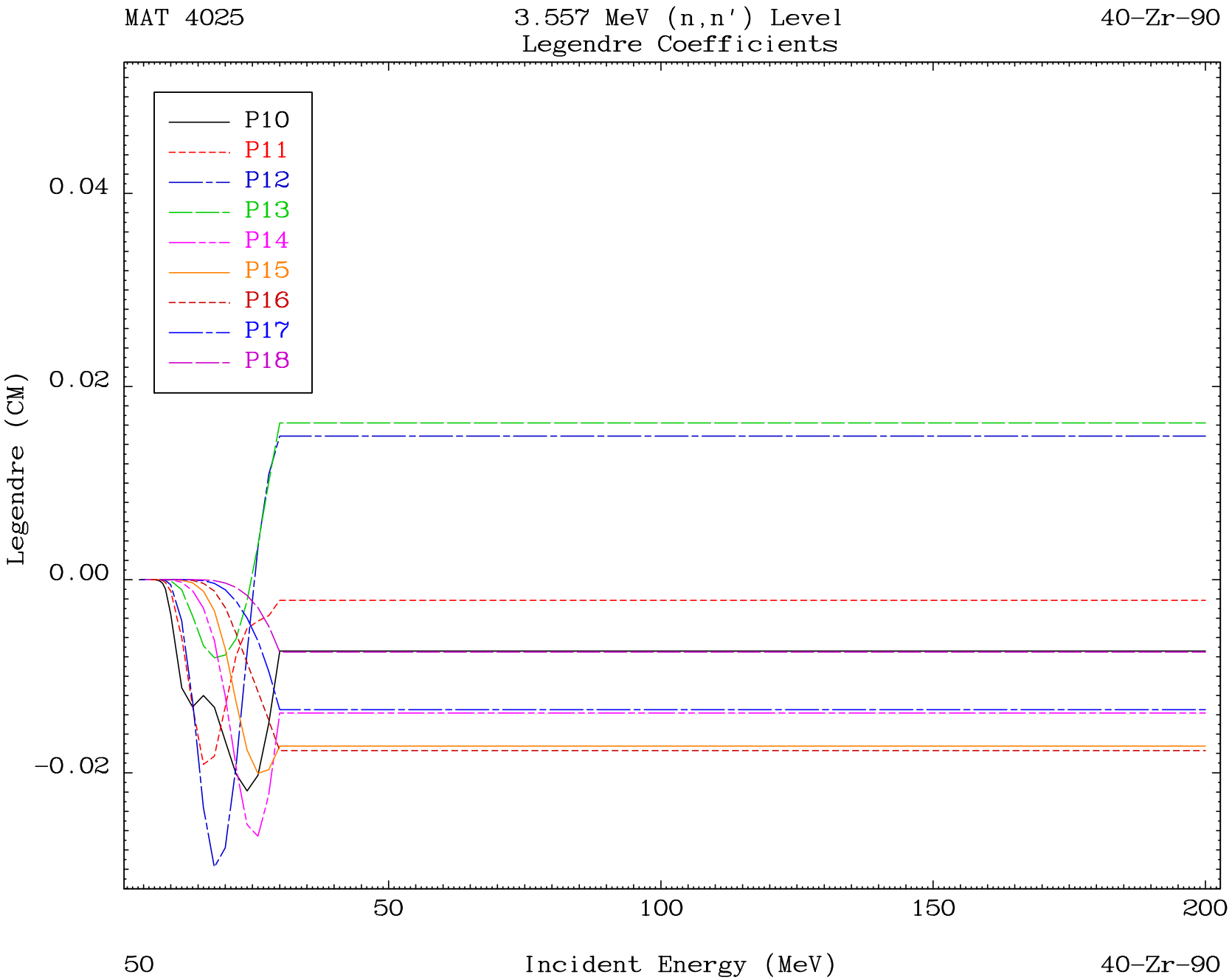

MAT 4025
3.309 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
45
Incident Energy (MeV)
40-Zr-90

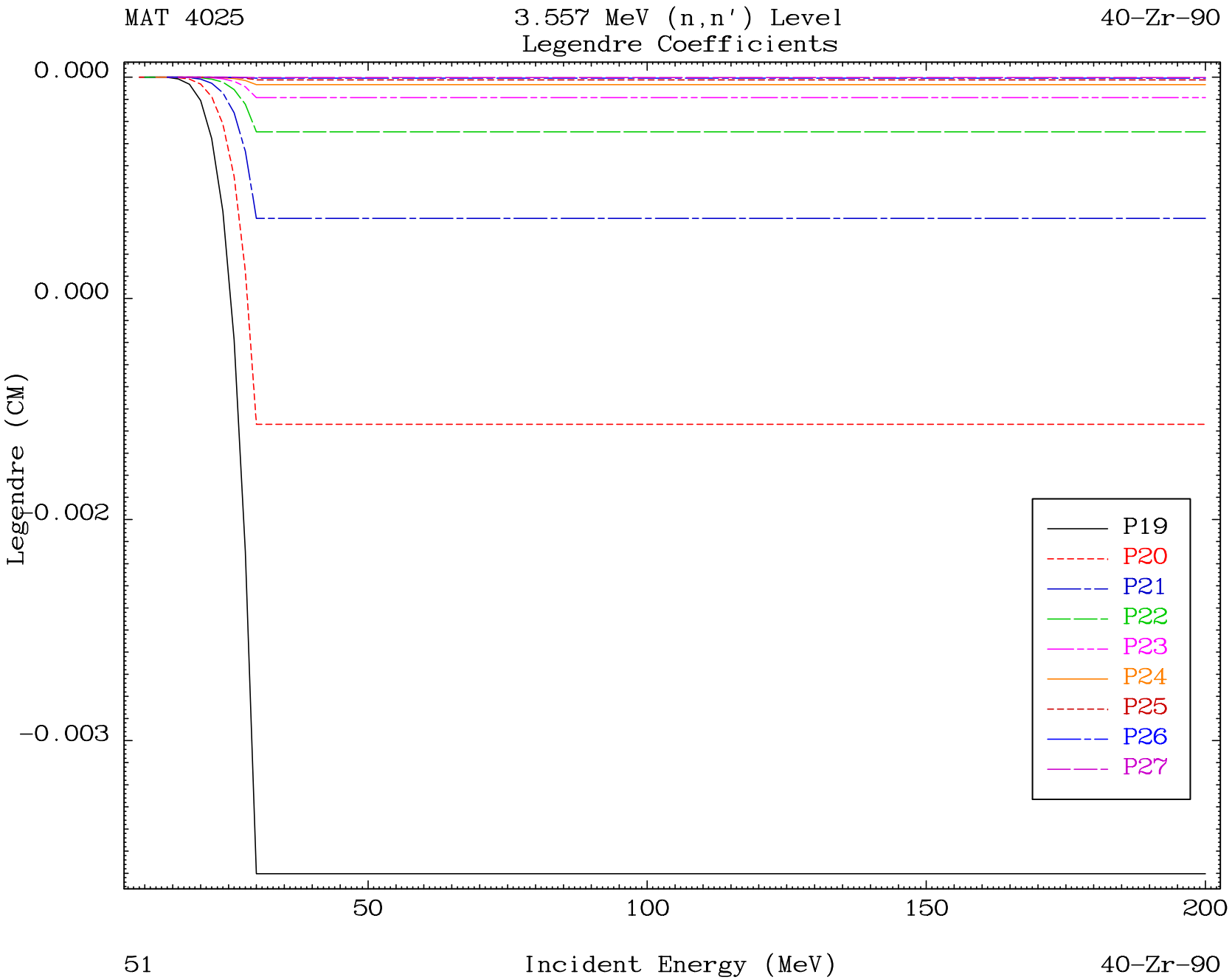

MAT 4025
3.448 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.3
0.2
0.1
0.0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
46
Incident Energy (MeV)
40-Zr-90

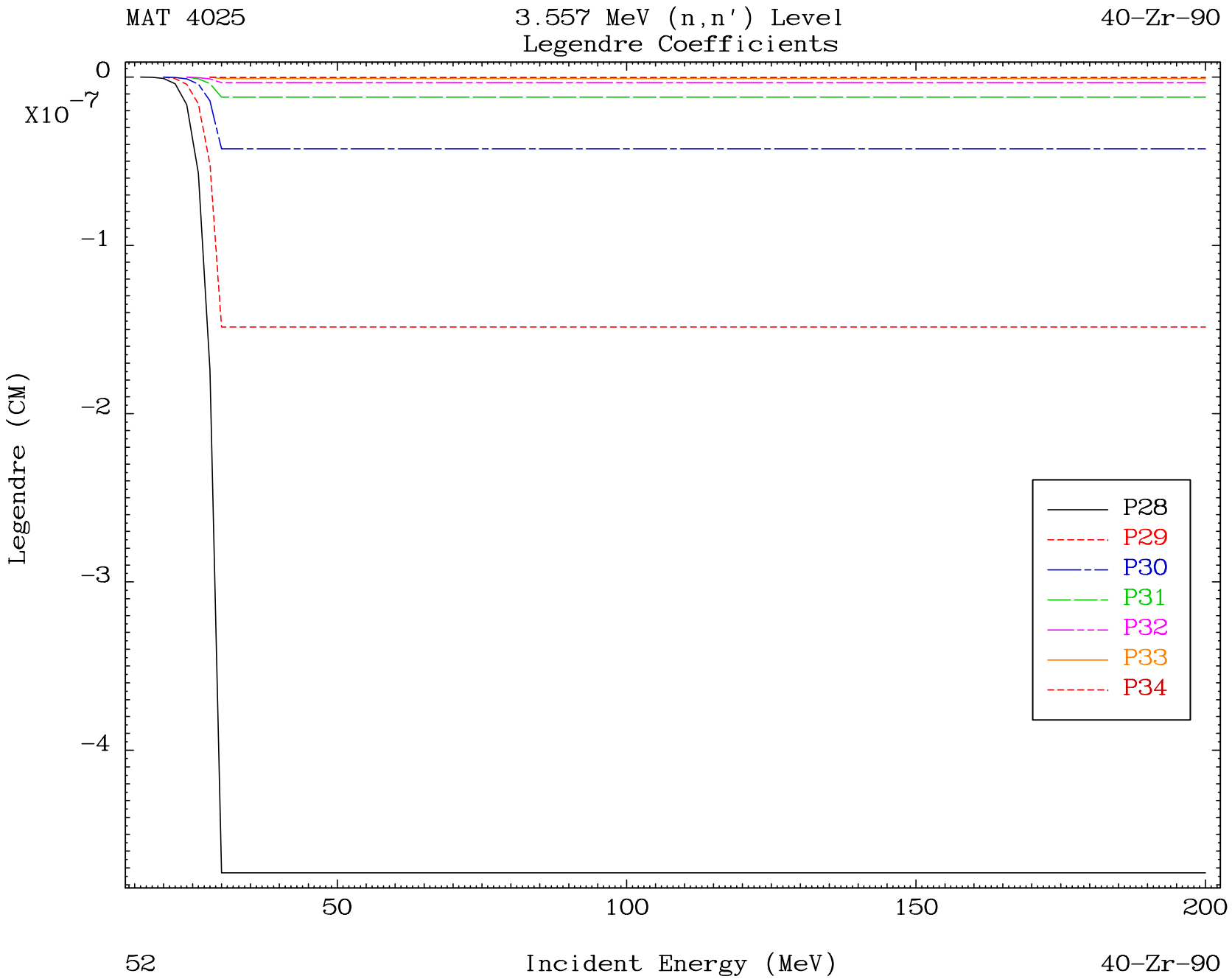

MAT 4025
3.448 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.000
0.000
0.000
0.000
-0.002
Legendre (CM)
50
100
150
200
47
Incident Energy (MeV)
40-Zr-90
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

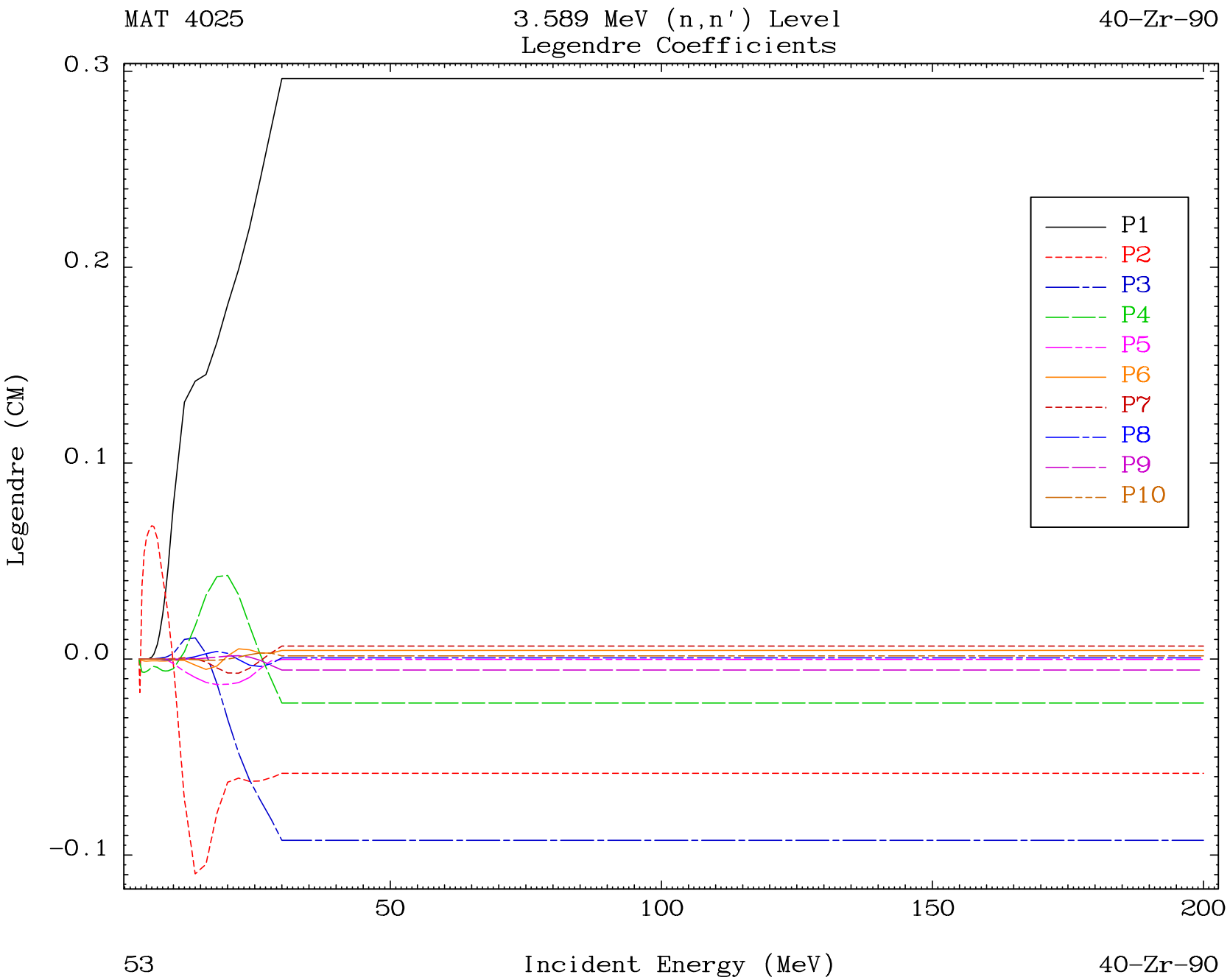

MAT 4025
3.448 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-6
3
2
1
0
Legendre (CM)
P23
P24
P25
P26
P27
P28
P29
P30
P31
P32
50
100
150
200
48
Incident Energy (MeV)
40-Zr-90

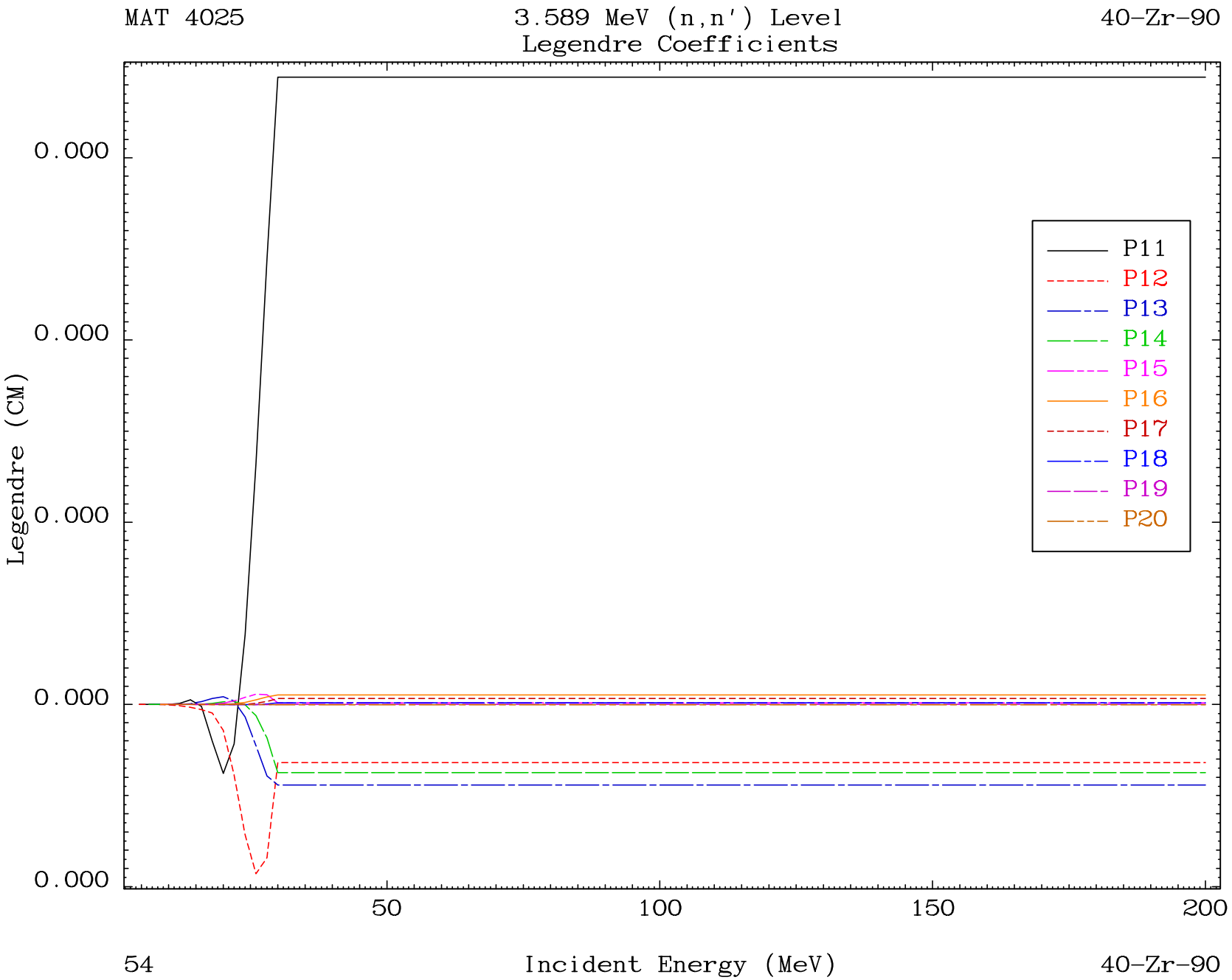

MAT 4025
3.557 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
Legendre (CM)
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
49
Incident Energy (MeV)
40-Zr-90

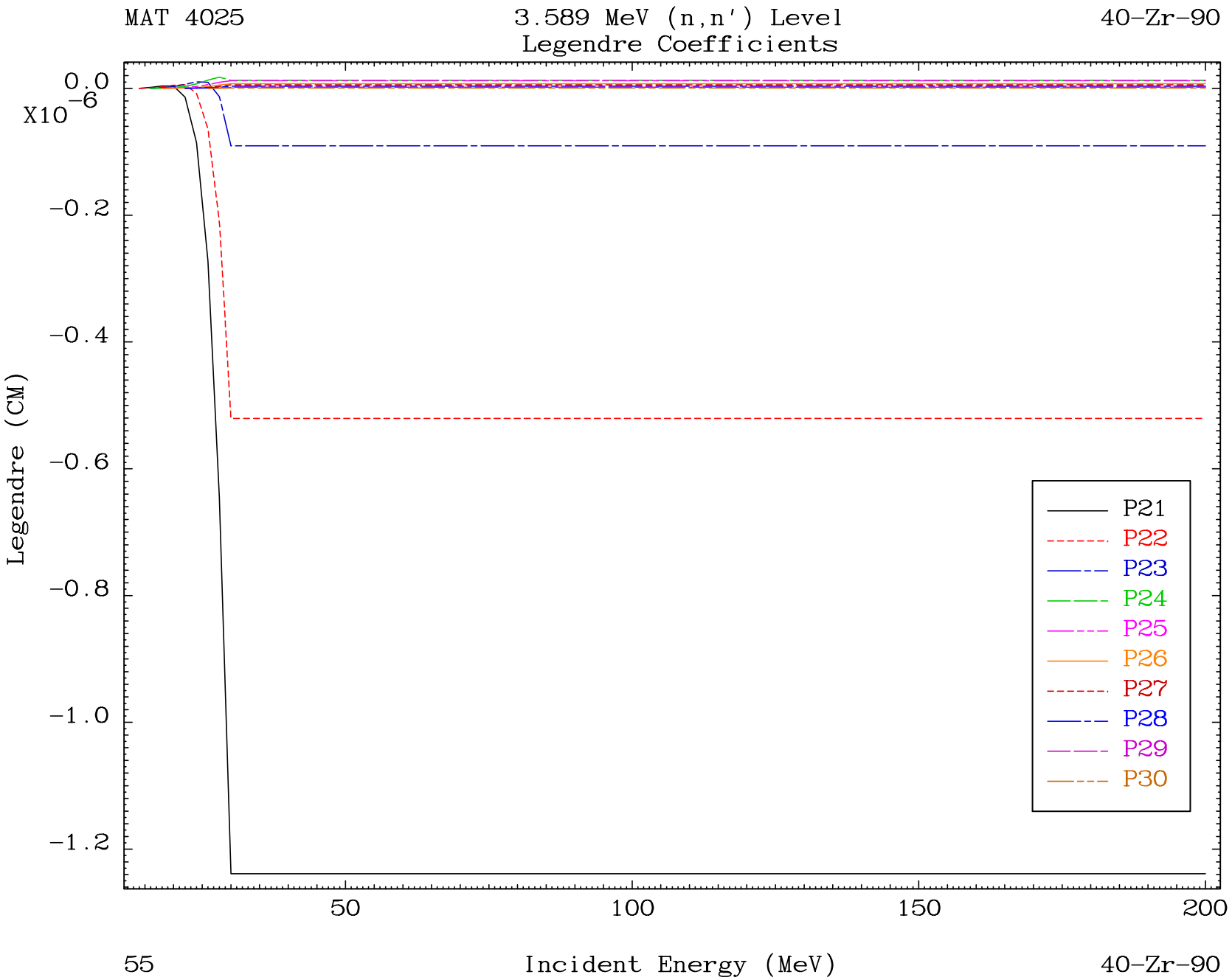

MAT 4025
3.557 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.02
0.00
-0.02
Legendre (CM)
50
100
150
200
50
Incident Energy (MeV)
40-Zr-90

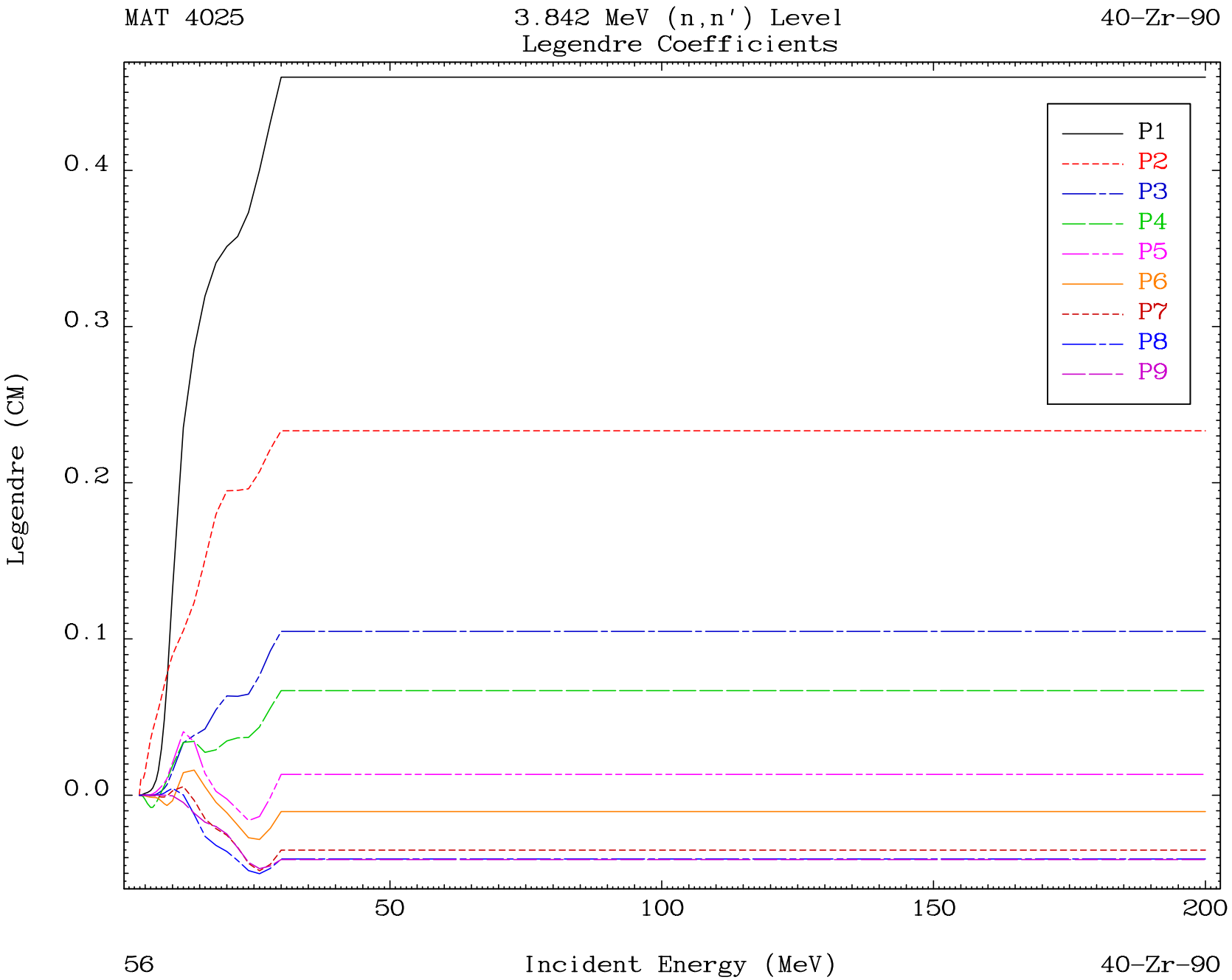

MAT 4025
3.557 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.000
0.000
-0.002
-0.003
Legendre (CM)
50
100
150
200
51
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

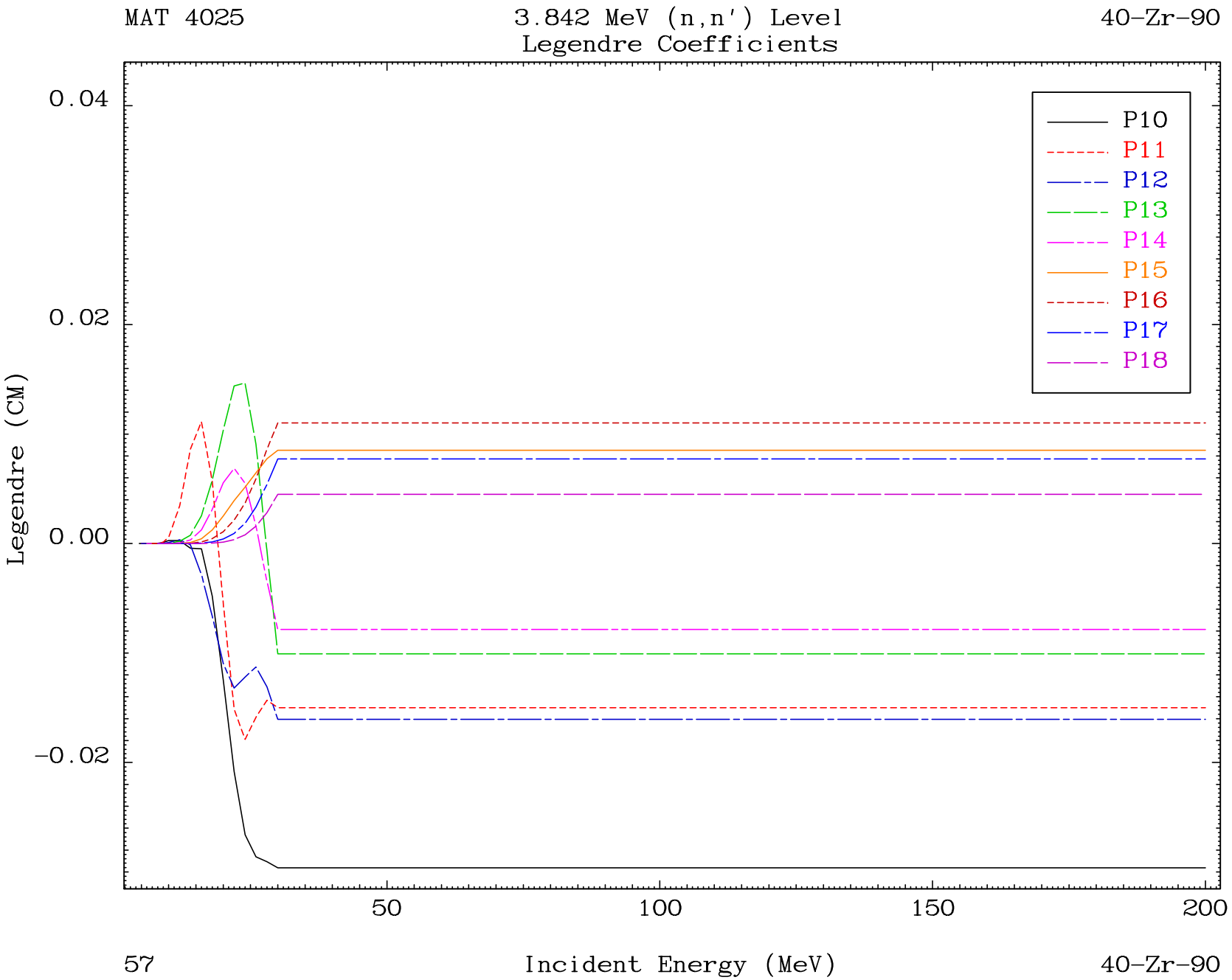

MAT 4025
3.557 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0
X10-7
-1
-2
-3
-4
Legendre (CM)
50
100
150
200
52
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

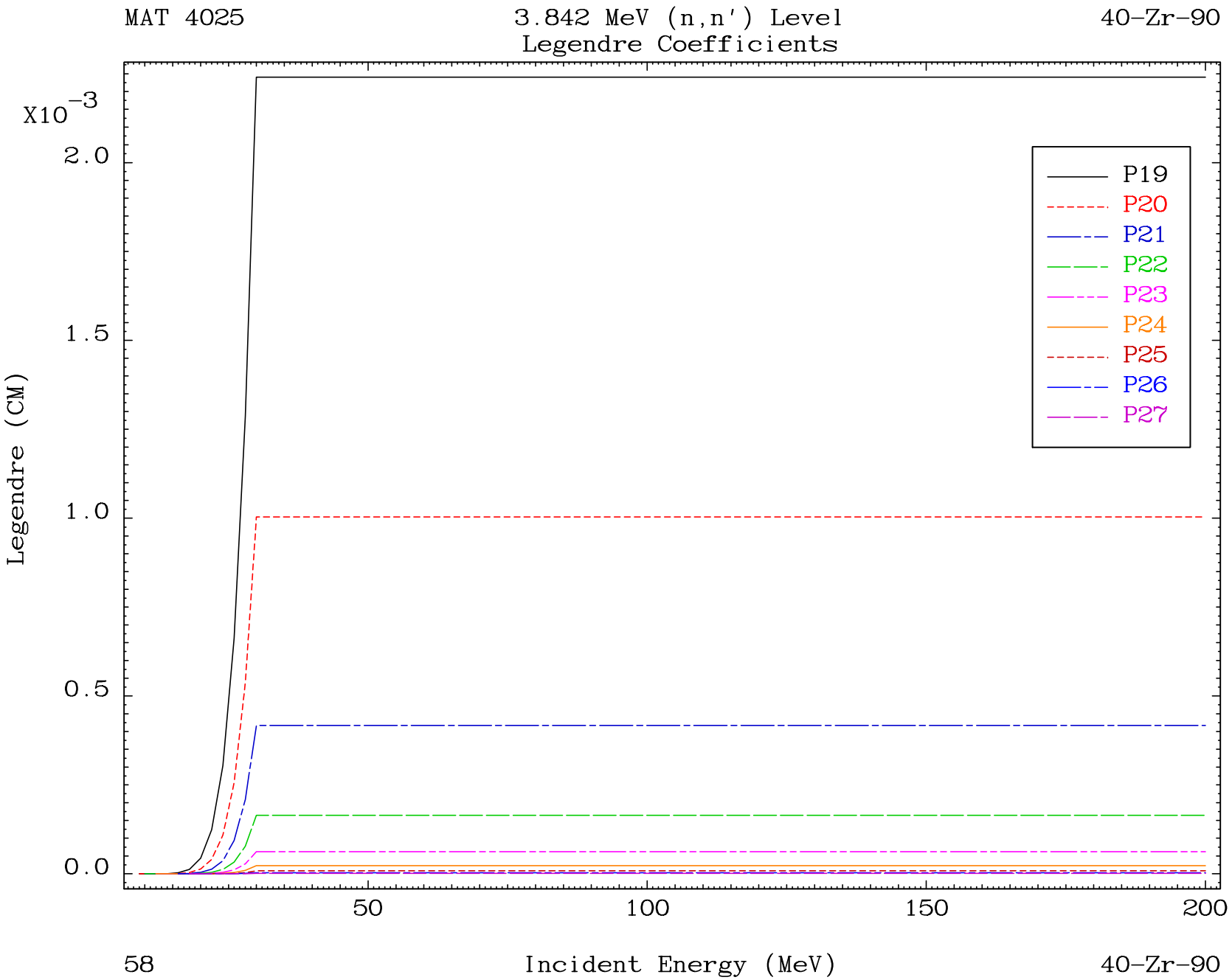

MAT 4025
3.589 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
50
100
150
200
53
Incident Energy (MeV)
40-Zr-90

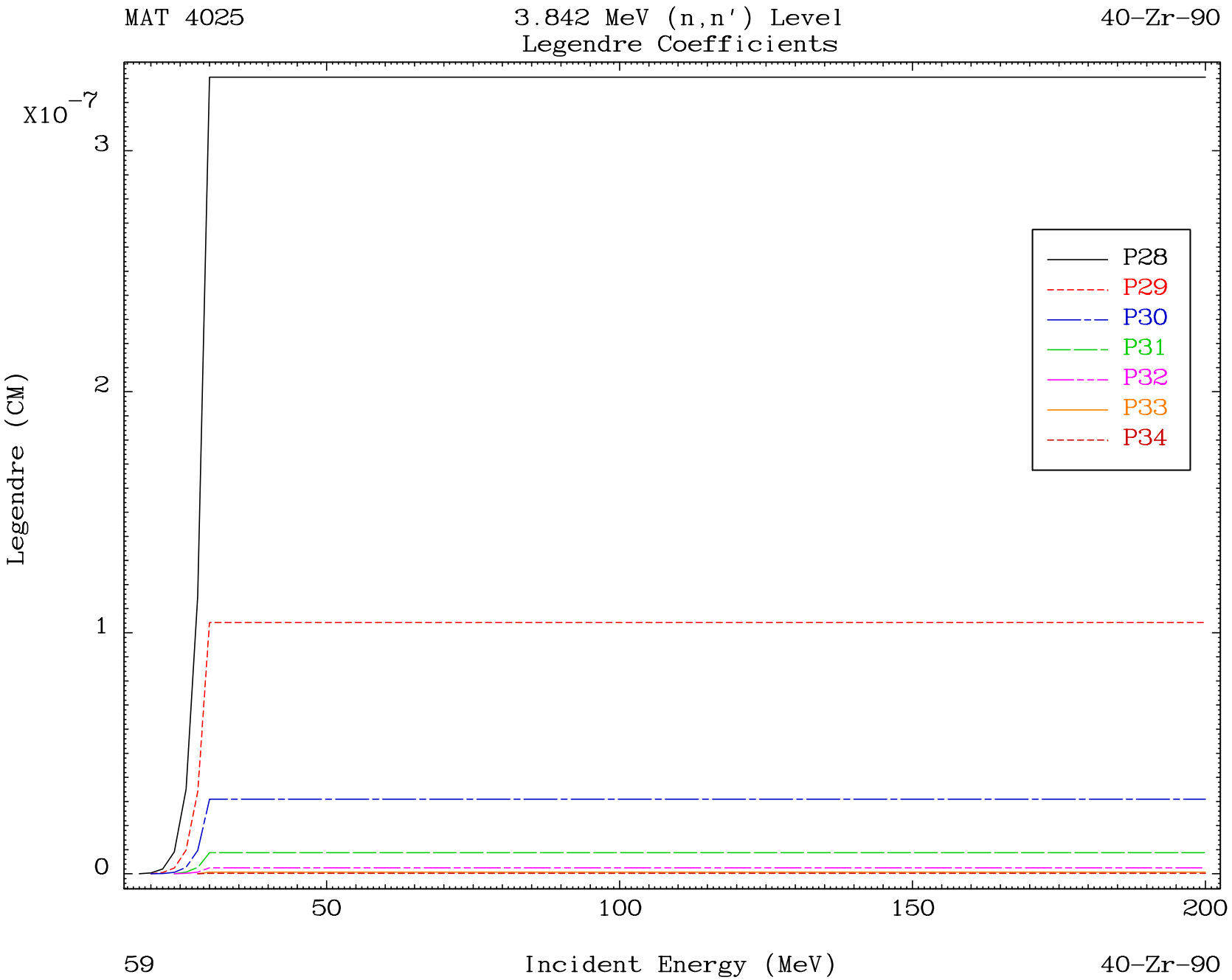

MAT 4025
3.589 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.000
0.000
0.000
0.000
Legendre (CM)
50
100
150
200
54
Incident Energy (MeV)
40-Zr-90
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

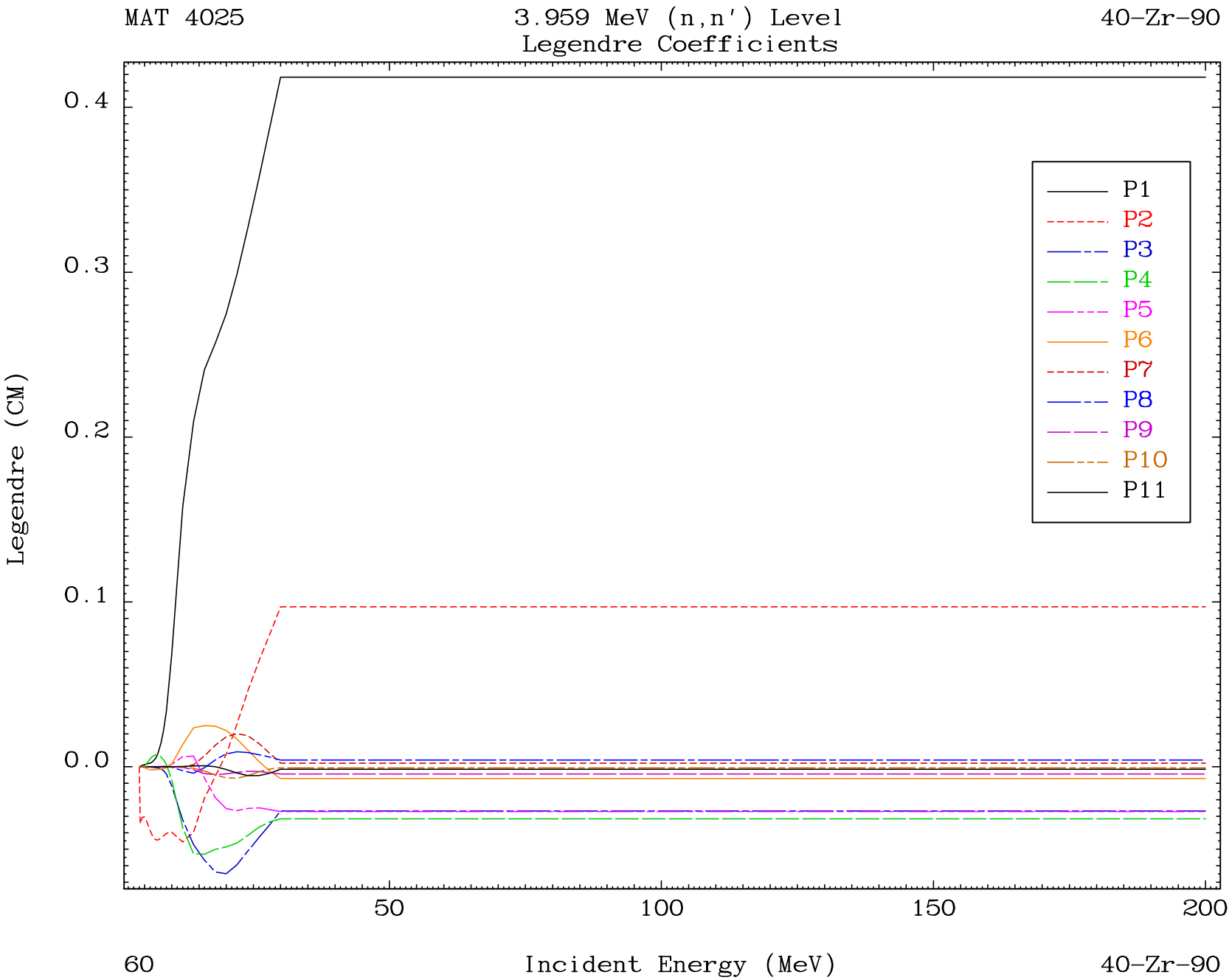

MAT 4025
3.589 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
55
Incident Energy (MeV)
40-Zr-90
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30

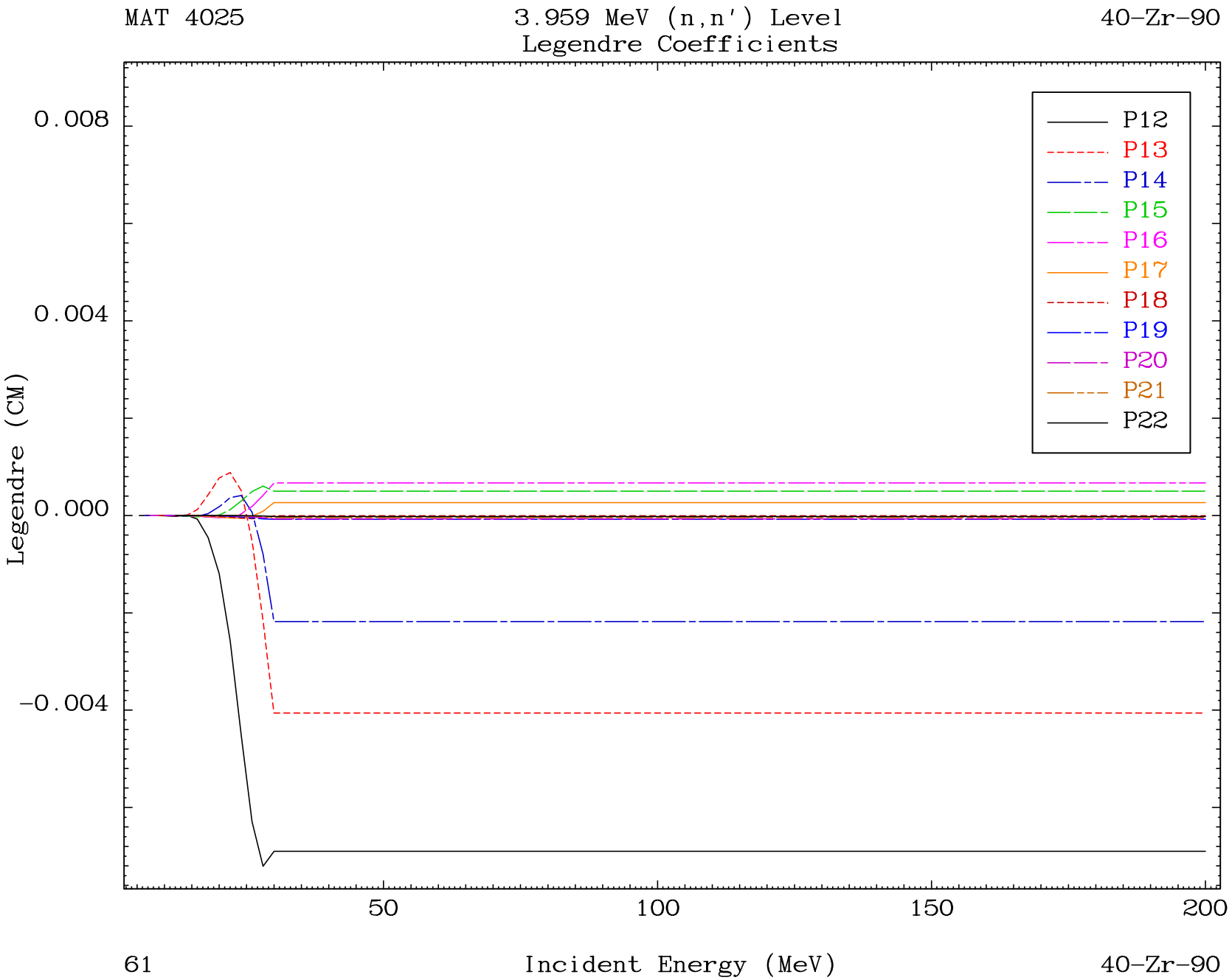

MAT 4025
3.842 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
Incident Energy (MeV)
56
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9

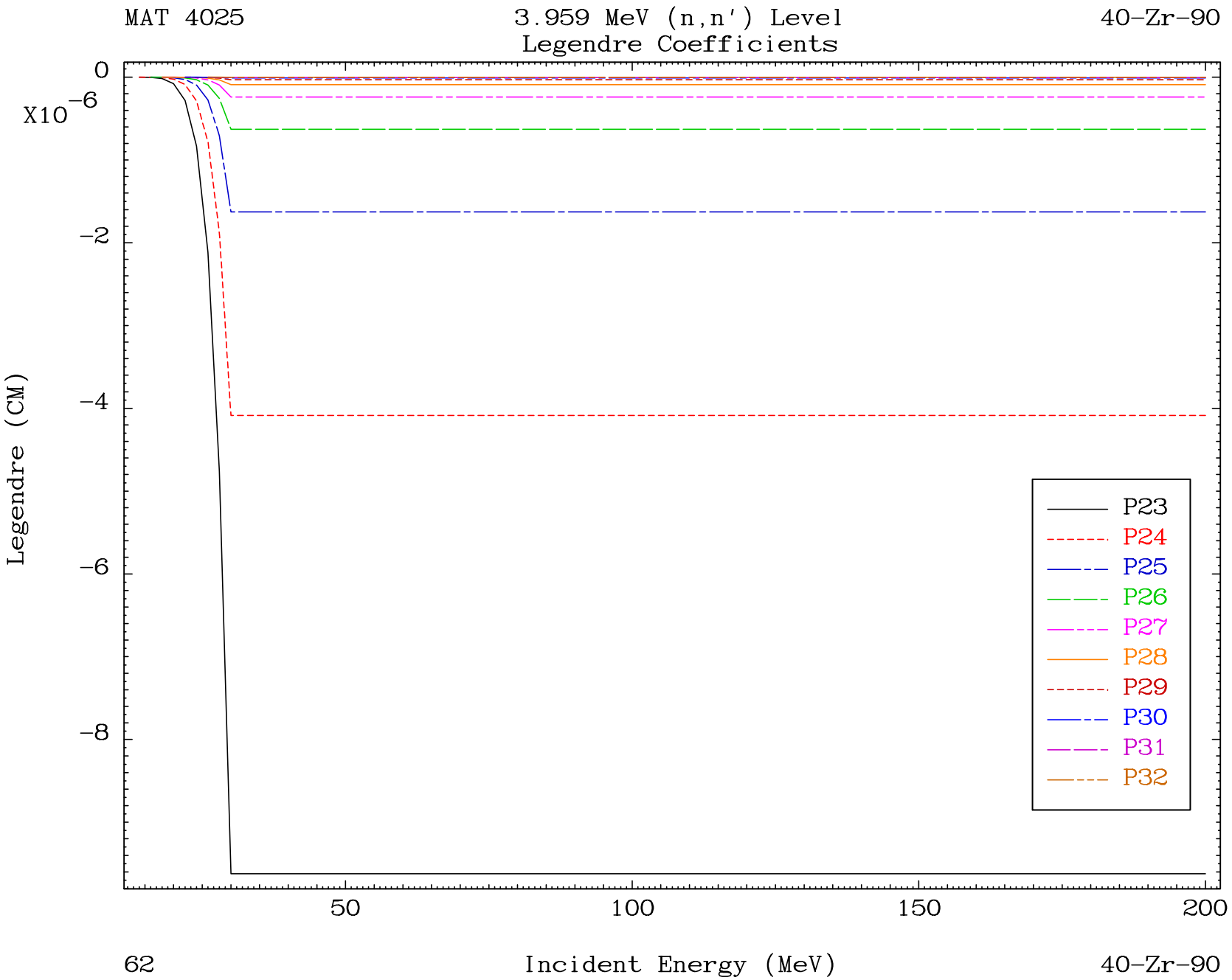

MAT 4025
3.842 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.04
0.02
0.00
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
57
Incident Energy (MeV)
40-Zr-90

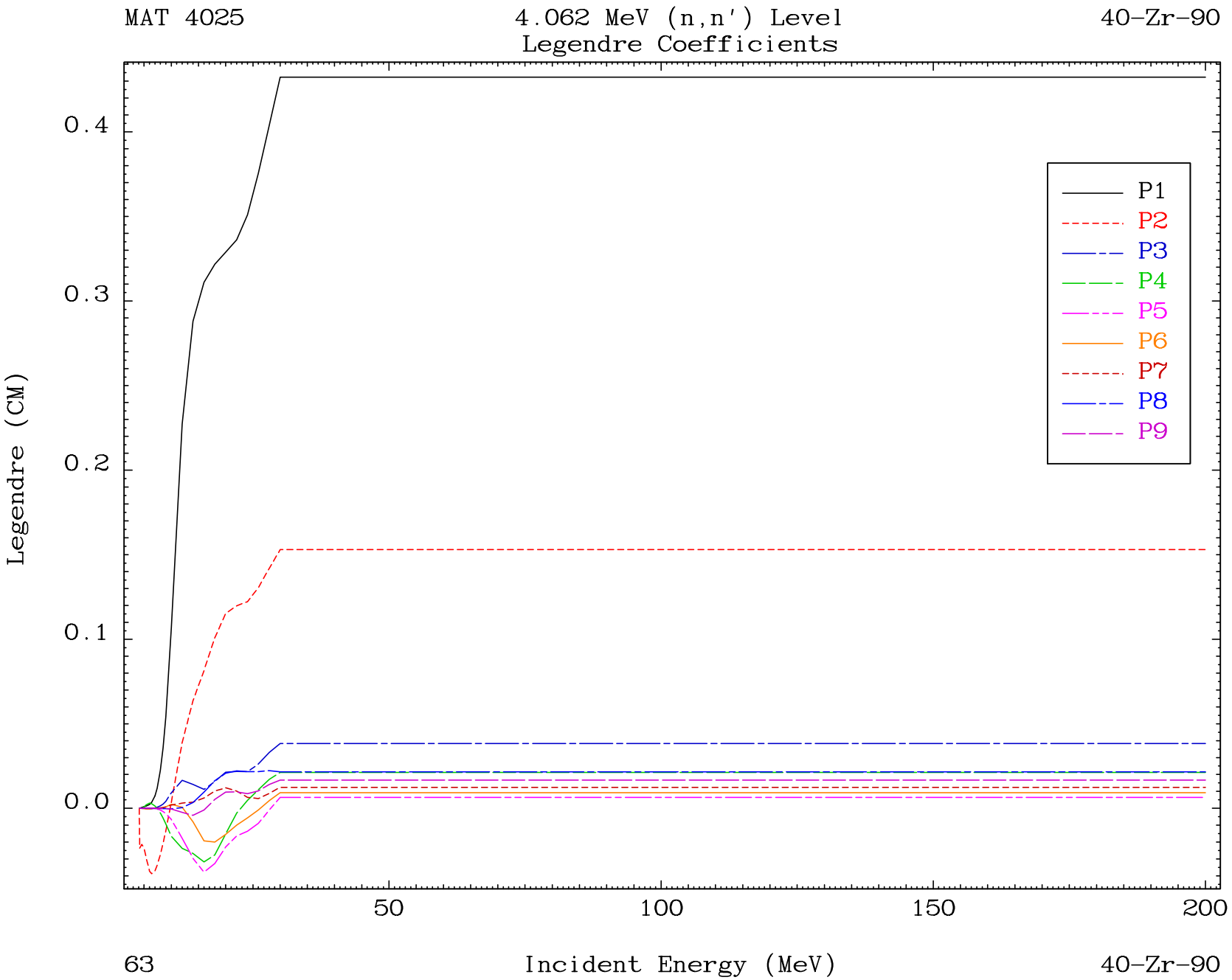

MAT 4025
3.842 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
58
Incident Energy (MeV)
40-Zr-90

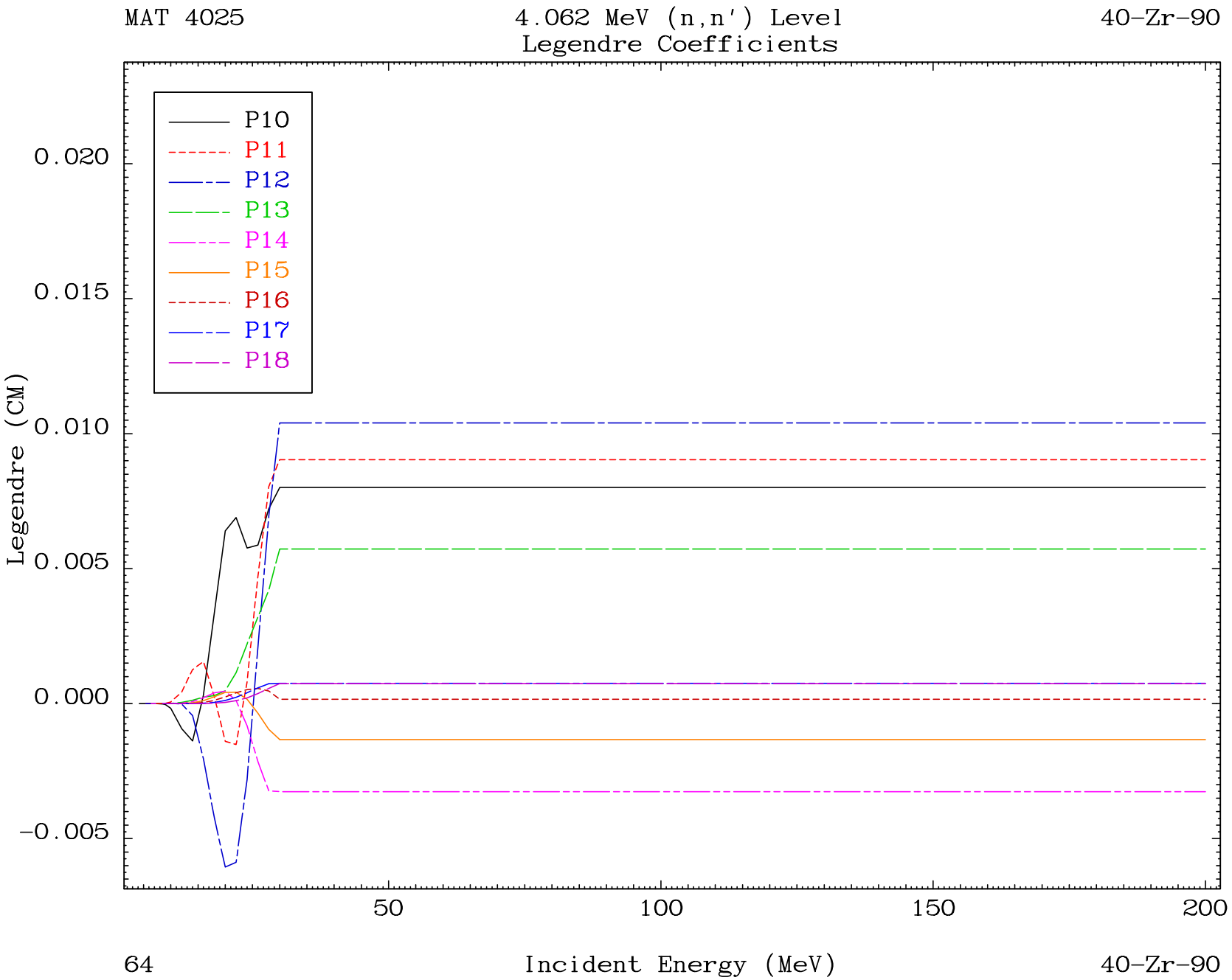

MAT 4025
3.842 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
59
Incident Energy (MeV)
40-Zr-90

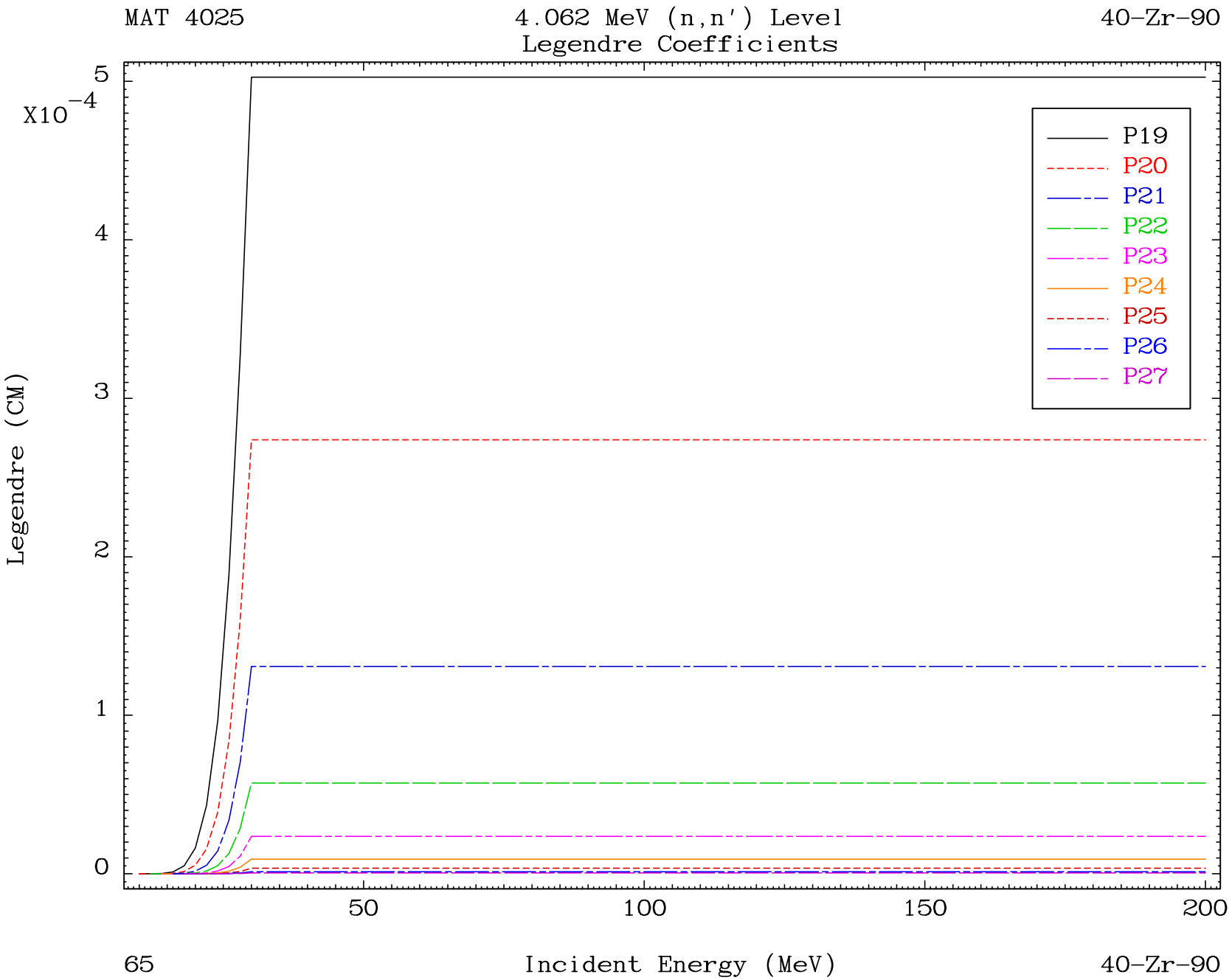

MAT 4025
3.959 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
50
100
150
200
60
Incident Energy (MeV)
40-Zr-90

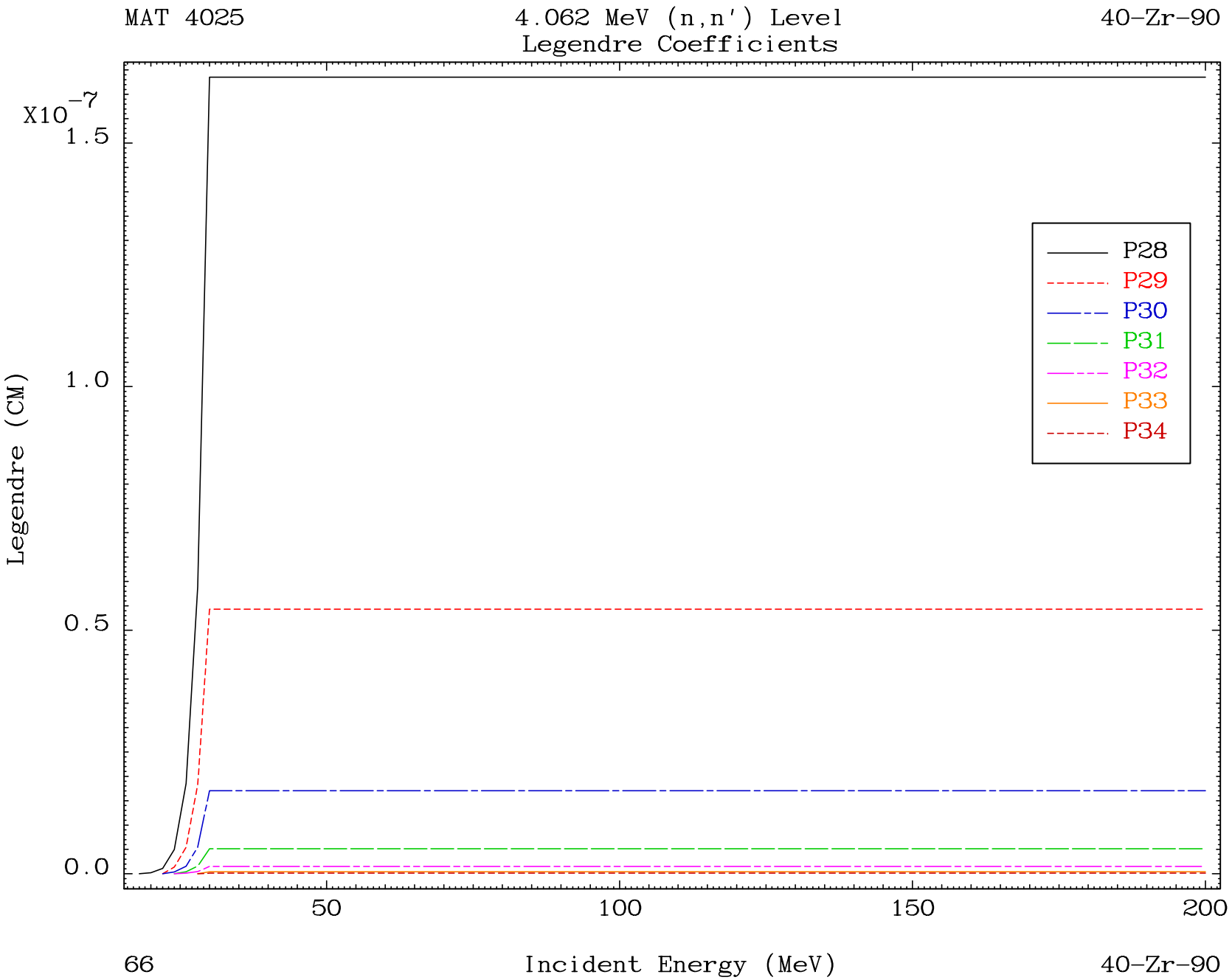

MAT 4025
3.959 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.008
0.004
0.000
-0.004
Legendre (CM)
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
50
100
150
200
61
Incident Energy (MeV)
40-Zr-90

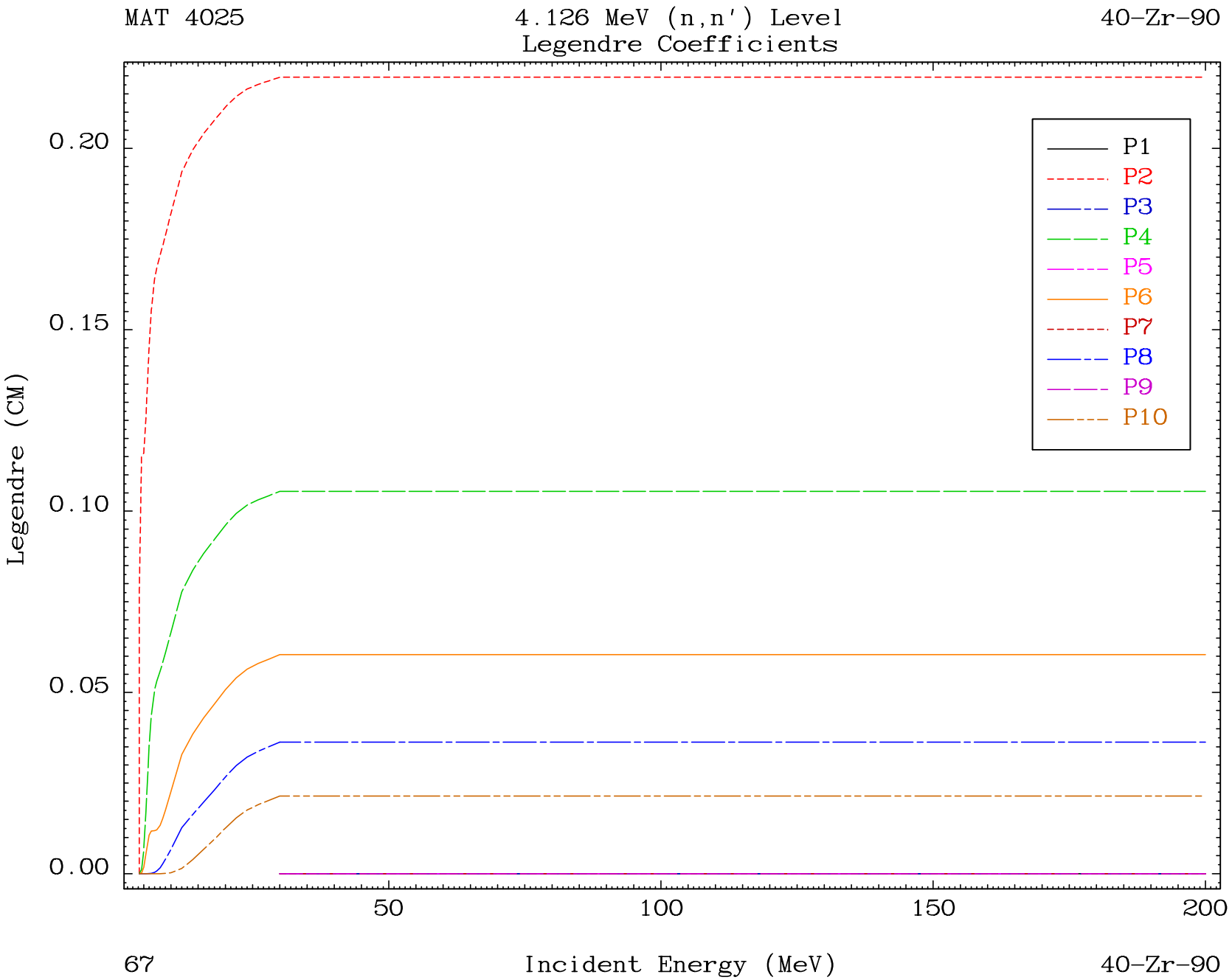

MAT 4025
3.959 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0
X10^-6
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
62
Incident Energy (MeV)
40-Zr-90
P23
P24
P25
P26
P27
P28
P29
P30
P31
P32

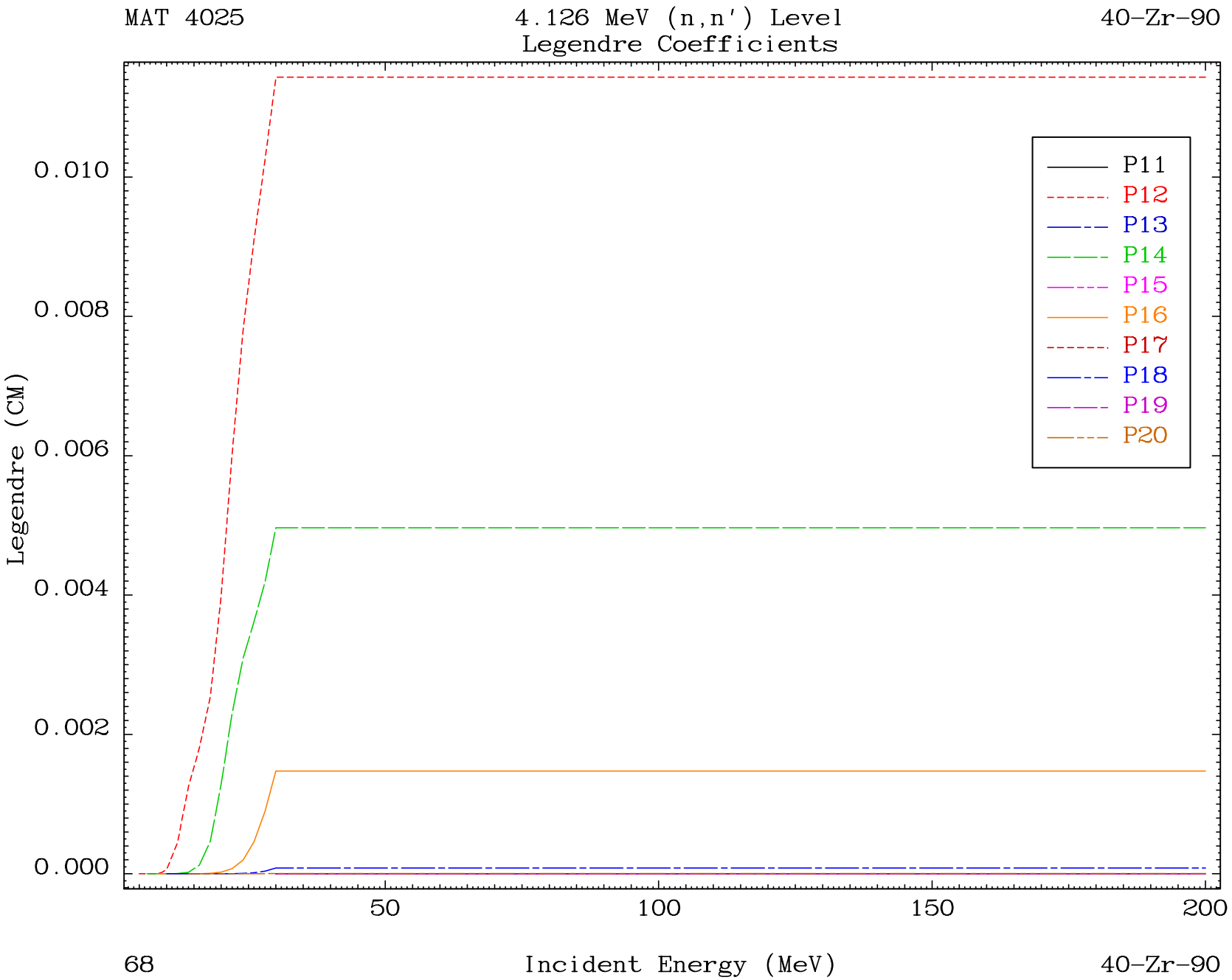

MAT 4025
4.062 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
63
Incident Energy (MeV)
40-Zr-90

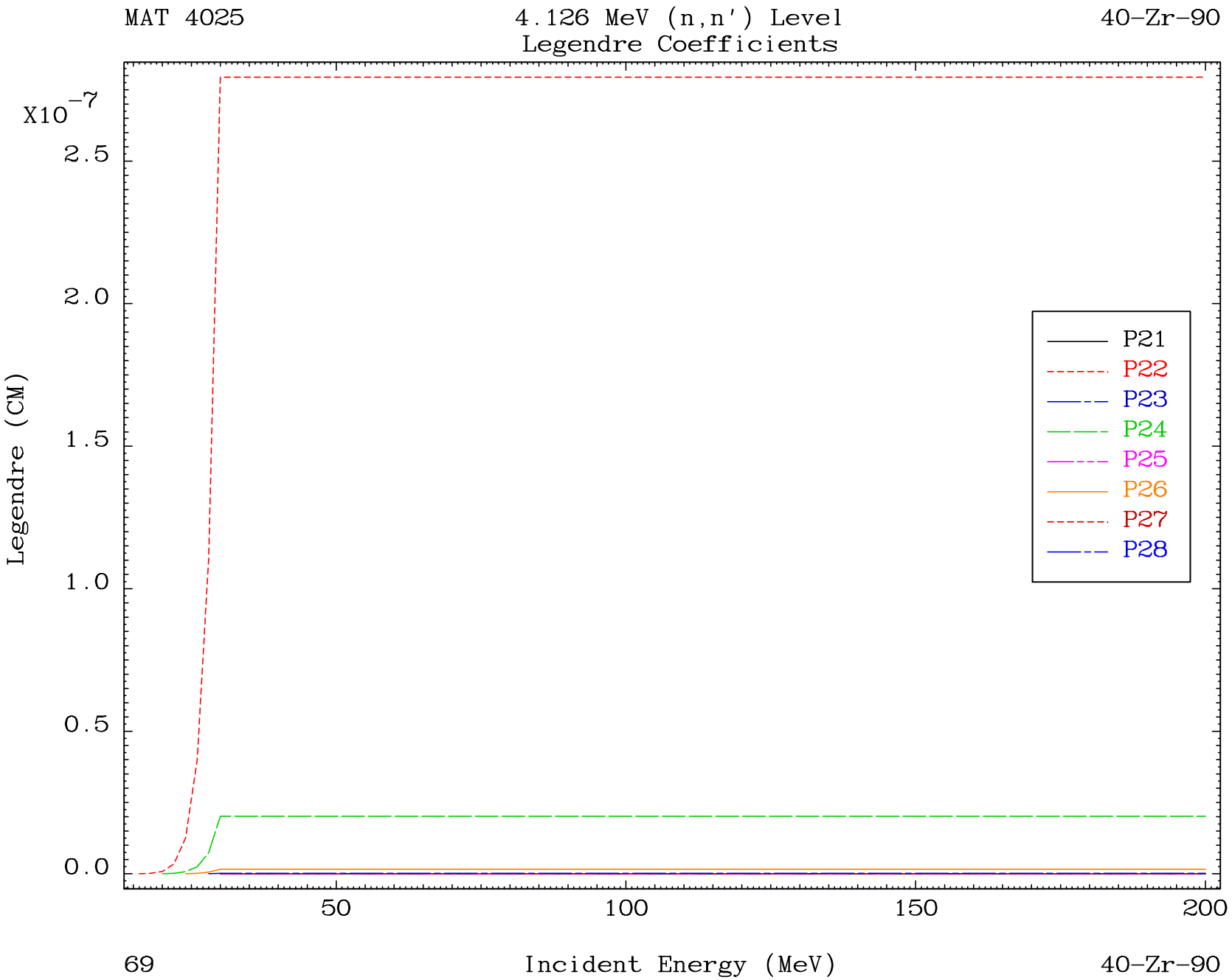

MAT 4025
4.062 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
50
100
150
200
64
Incident Energy (MeV)
40-Zr-90

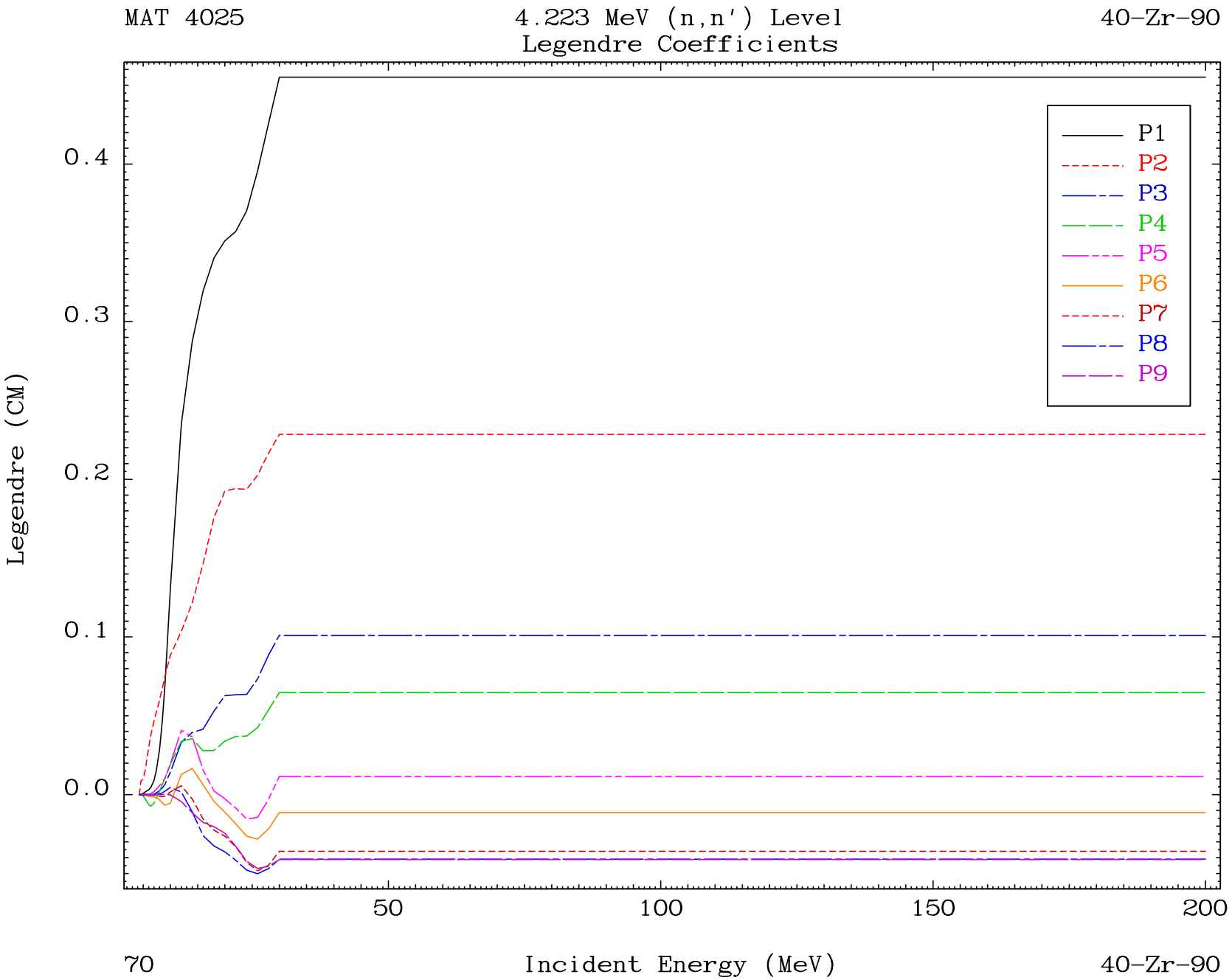

MAT 4025
4.062 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
5
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
65
Incident Energy (MeV)
40-Zr-90

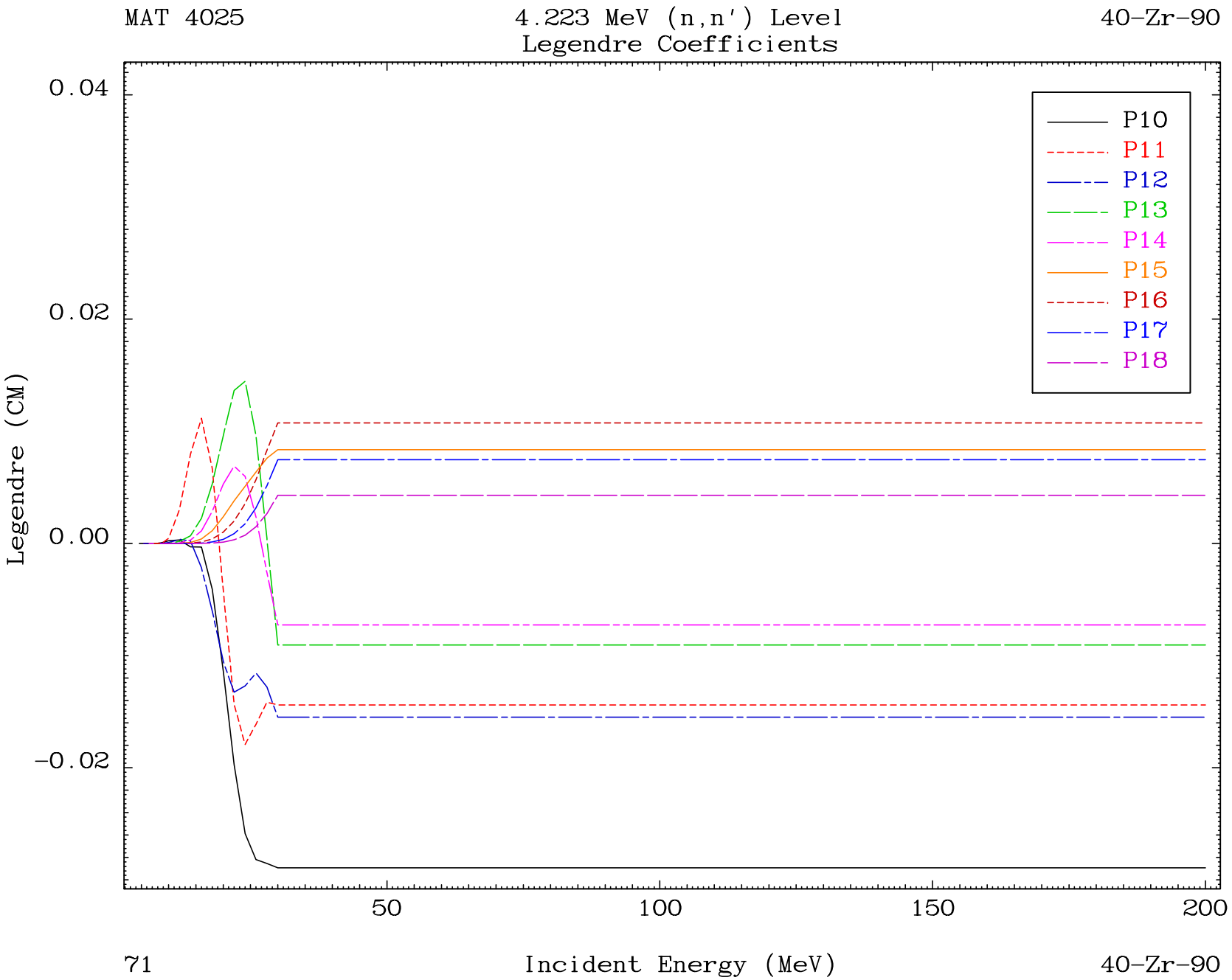

MAT 4025
4.062 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-7
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
66
Incident Energy (MeV)
40-Zr-90

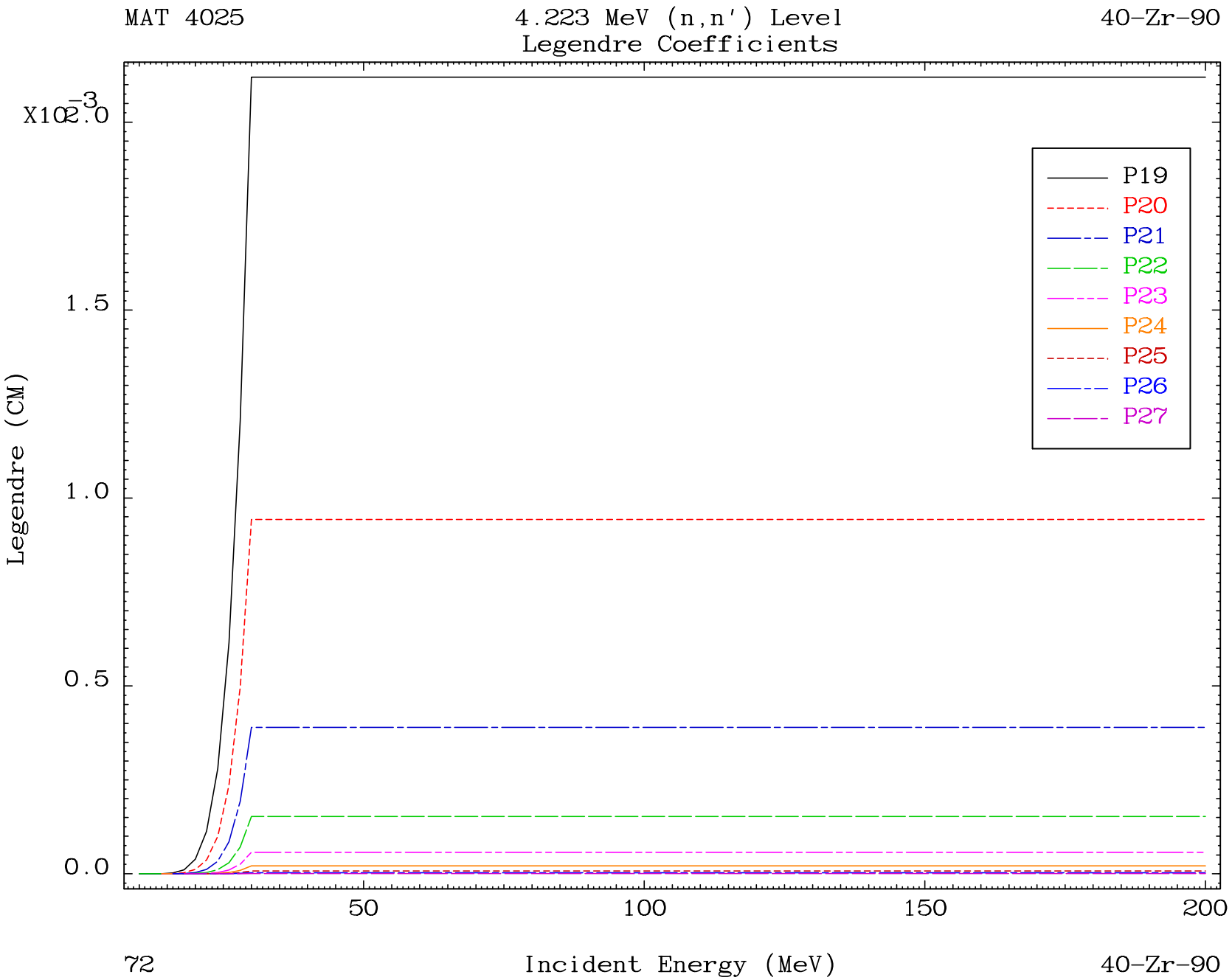

MAT 4025
4.126 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.20
0.15
0.10
0.05
0.00
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
67
Incident Energy (MeV)
40-Zr-90

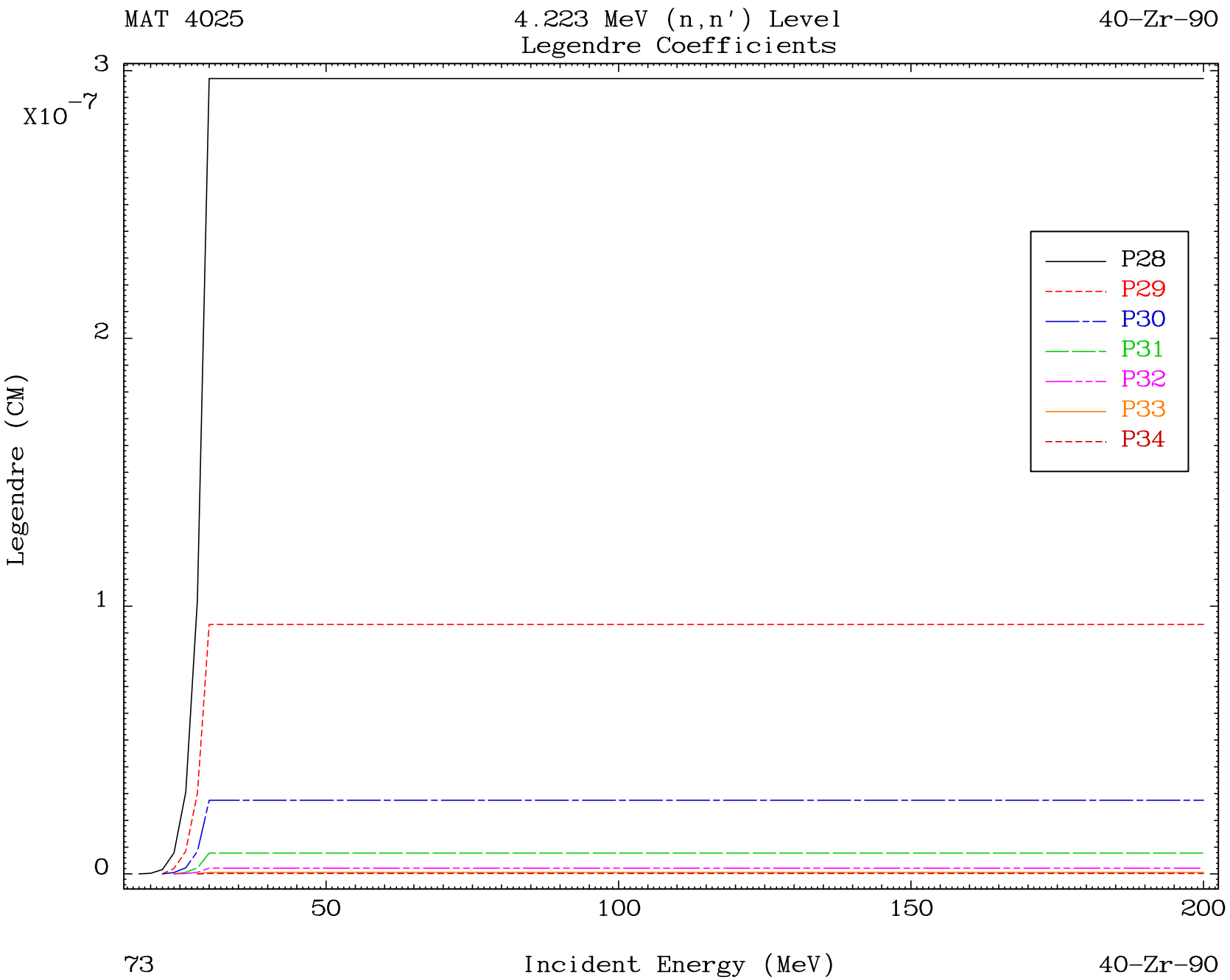

MAT 4025
4.126 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.010
0.008
0.006
0.004
0.002
0.000
Legendre (CM)
50
100
150
200
68
Incident Energy (MeV)
40-Zr-90
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

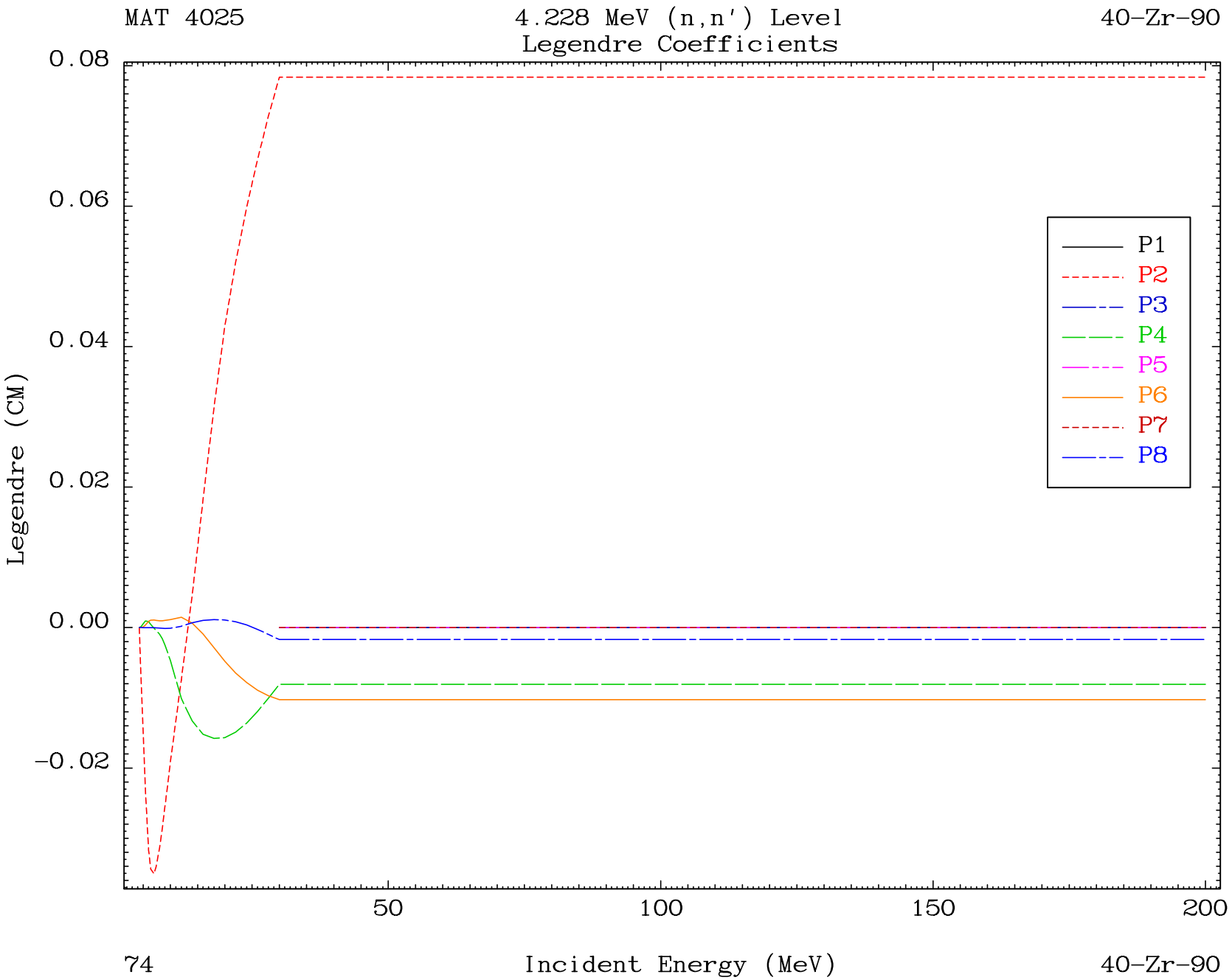

MAT 4025
4.126 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
69
Incident Energy (MeV)
40-Zr-90

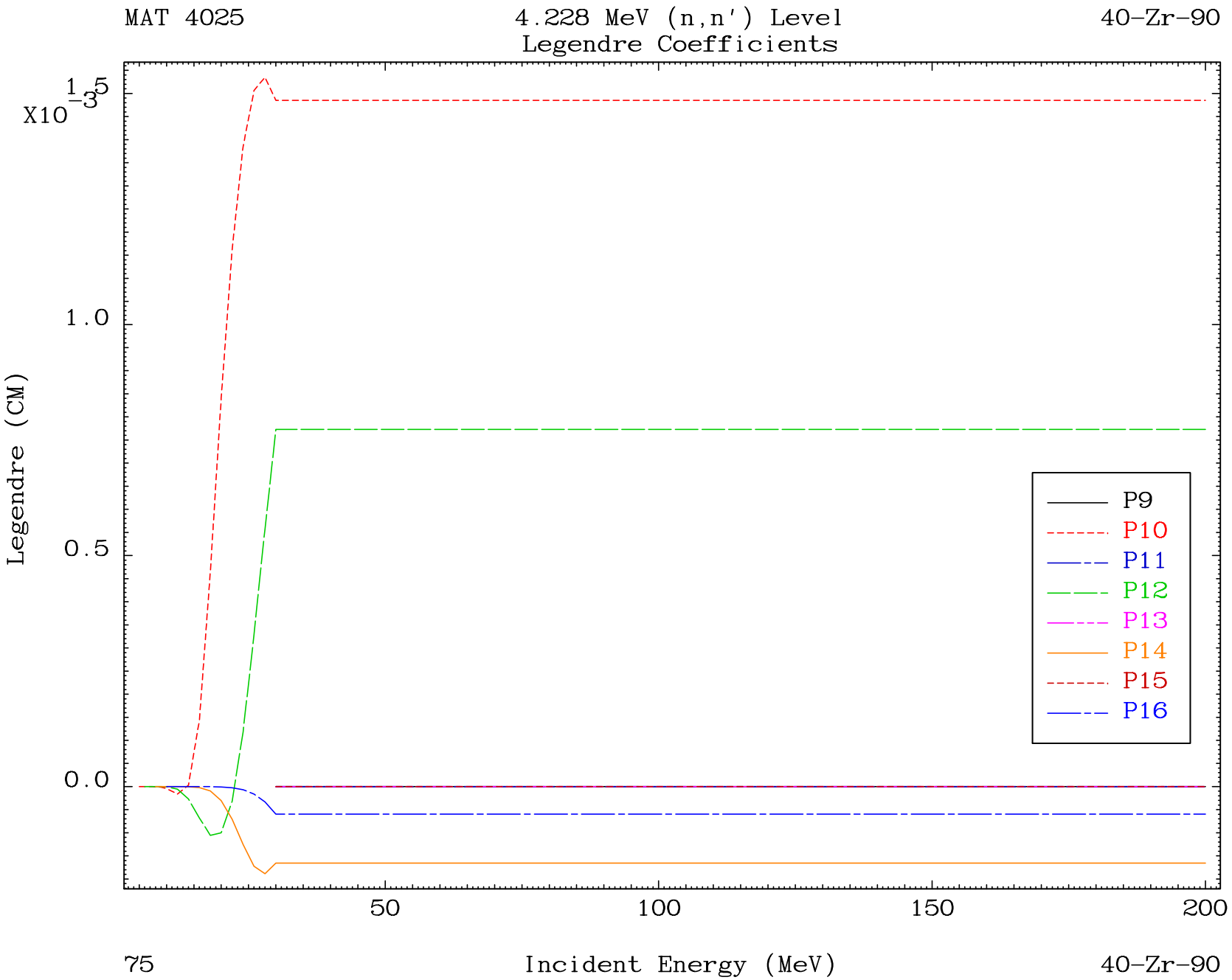

MAT 4025
4.223 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
70
Incident Energy (MeV)
40-Zr-90

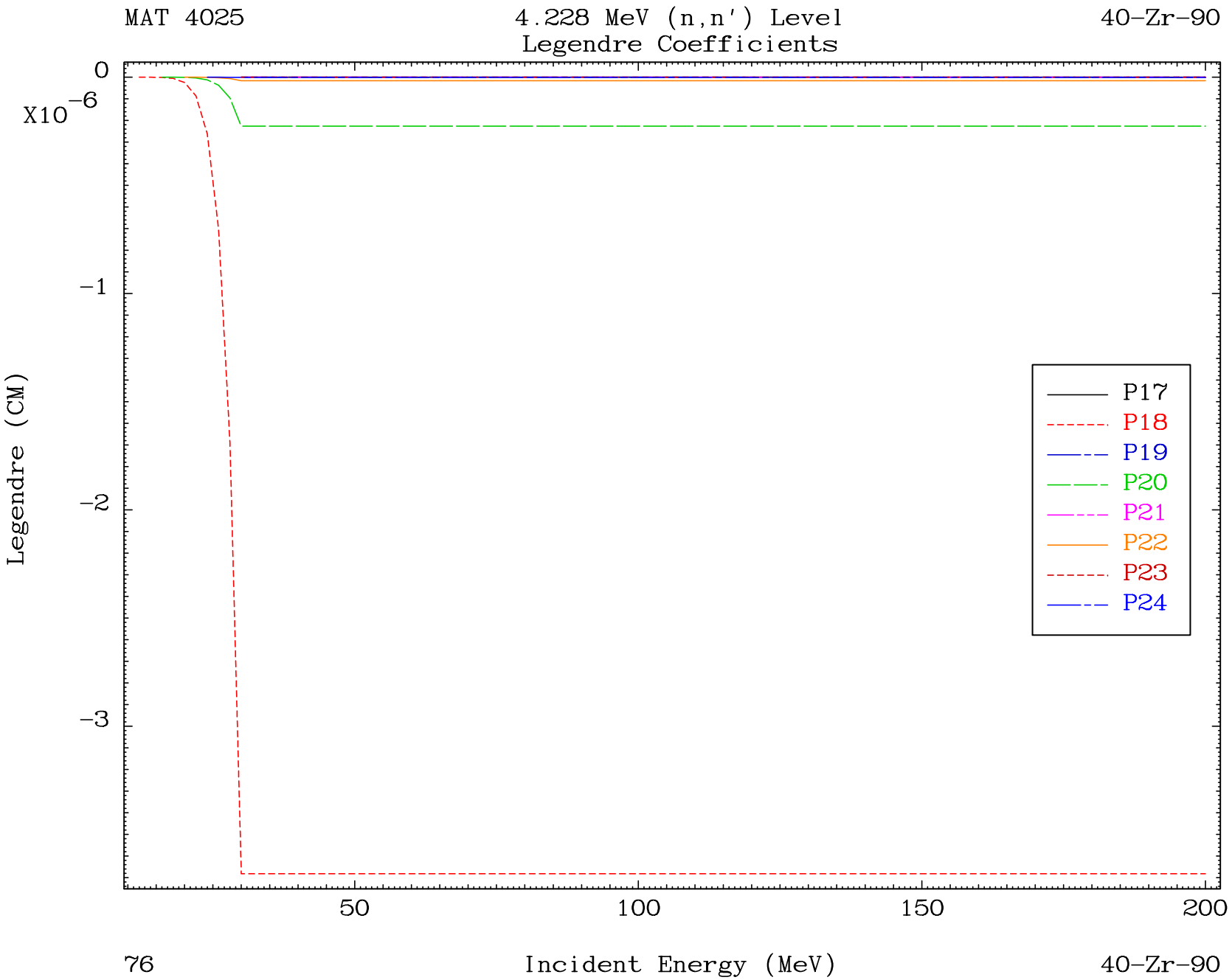

MAT 4025
4.223 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.04
0.02
0.00
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
71
Incident Energy (MeV)
40-Zr-90

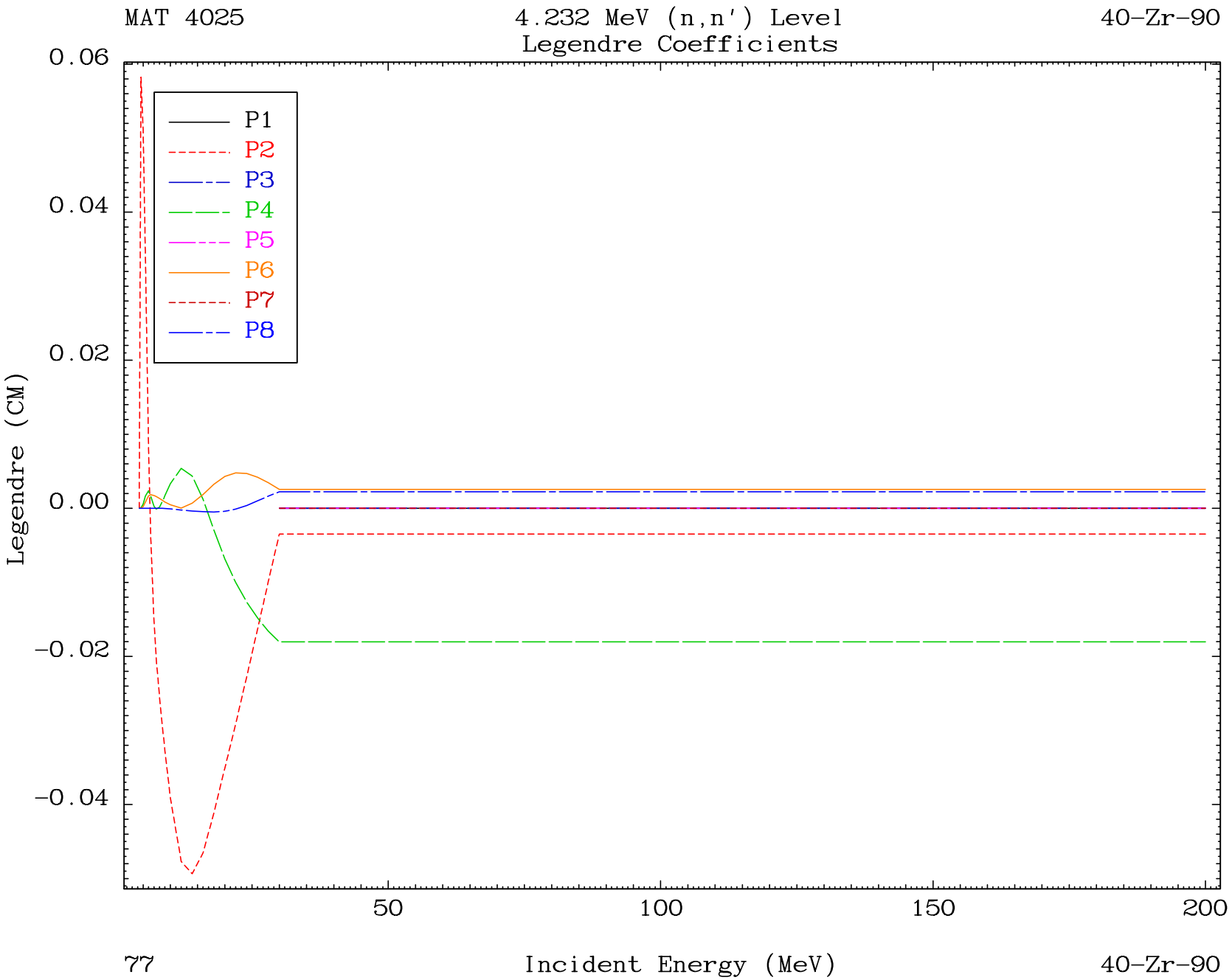

MAT 4025
4.223 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
72
Incident Energy (MeV)
40-Zr-90

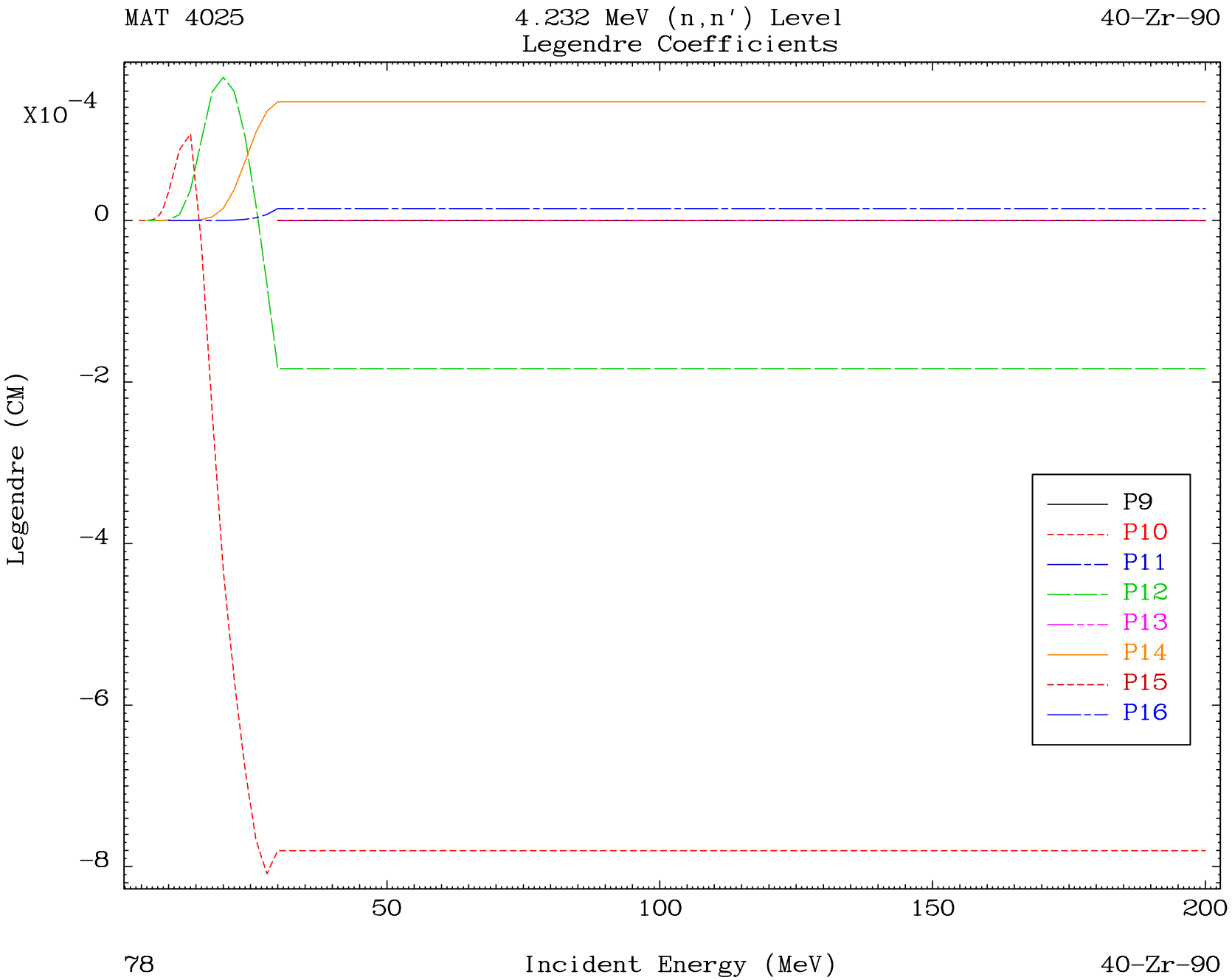

MAT 4025
4.223 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-7
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
73
Incident Energy (MeV)
40-Zr-90

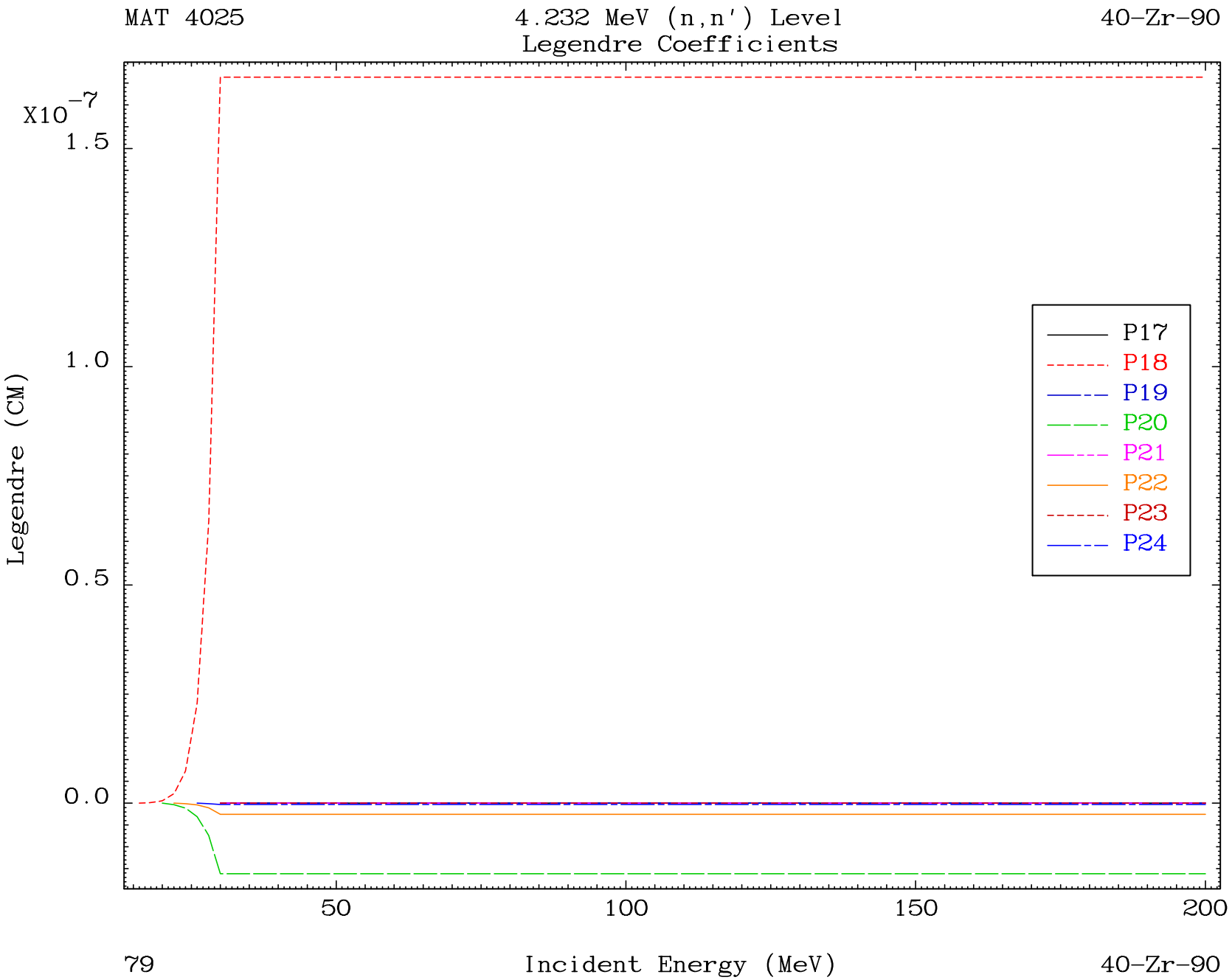

MAT 4025
4.228 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
50
100
150
200
74
Incident Energy (MeV)
40-Zr-90

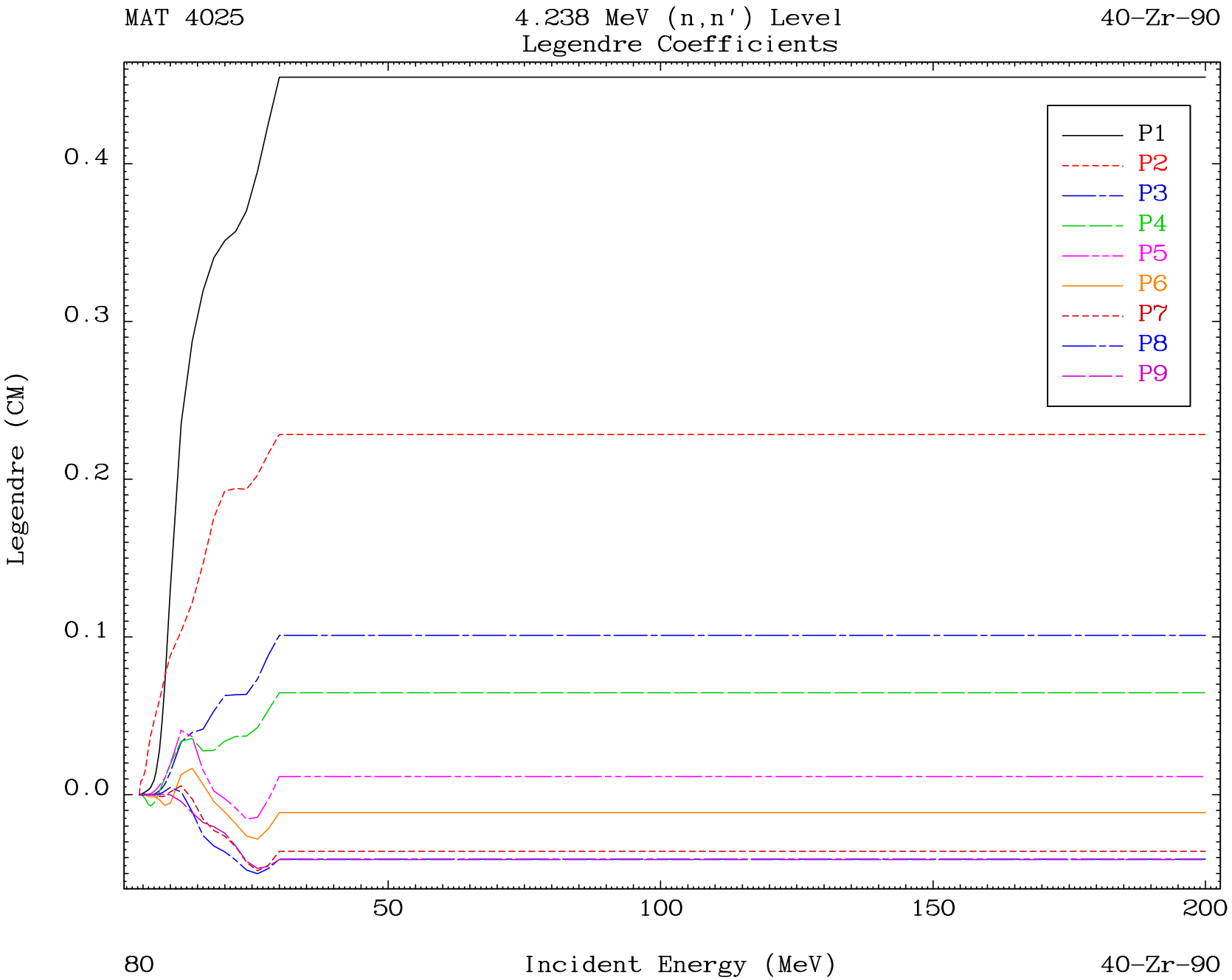

MAT 4025
4.228 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
P9
P10
P11
P12
P13
P14
P15
P16
50
100
150
200
75
Incident Energy (MeV)
40-Zr-90

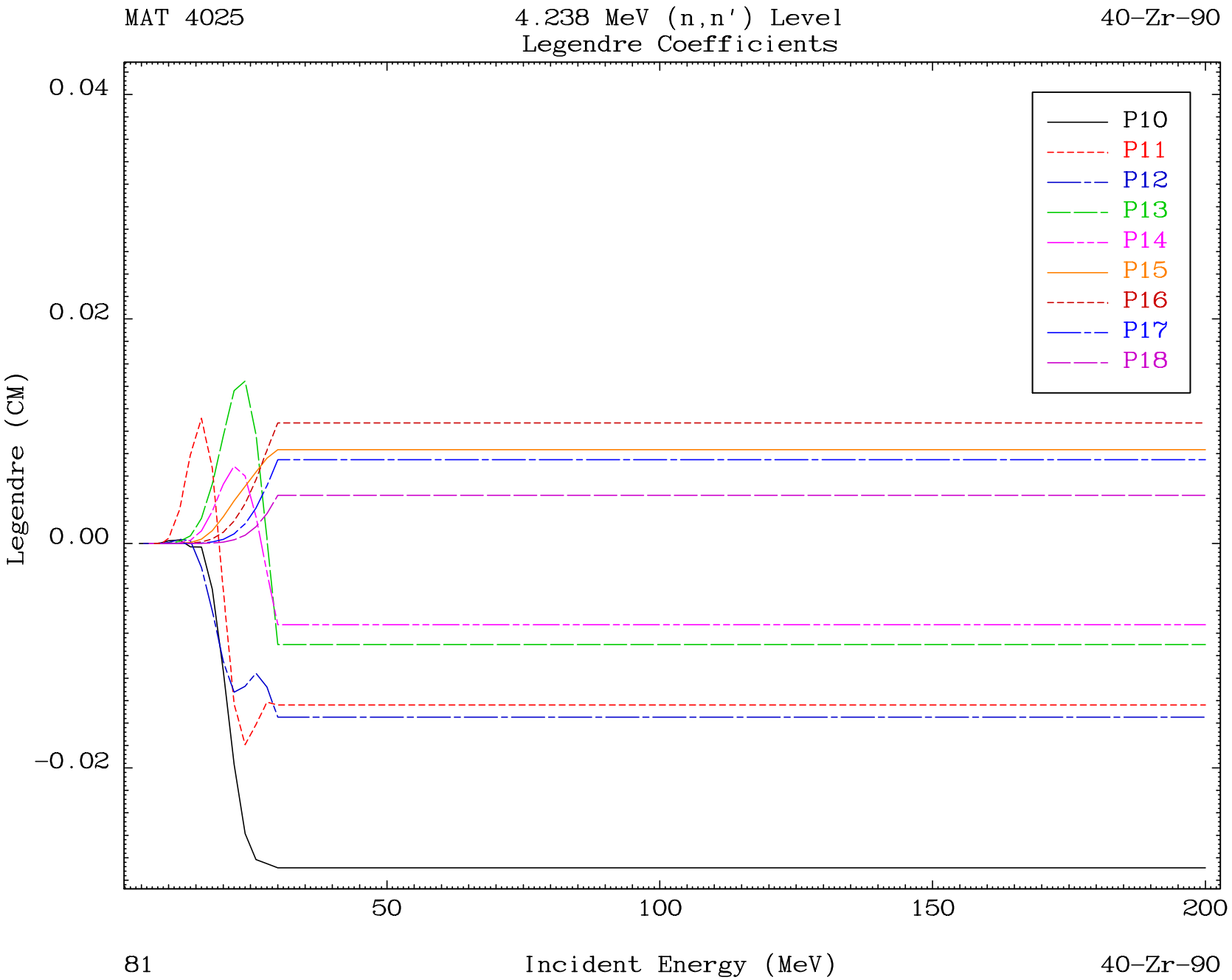

MAT 4025
4.228 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0
X10^-6
-1
-2
-3
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
76
Incident Energy (MeV)
40-Zr-90

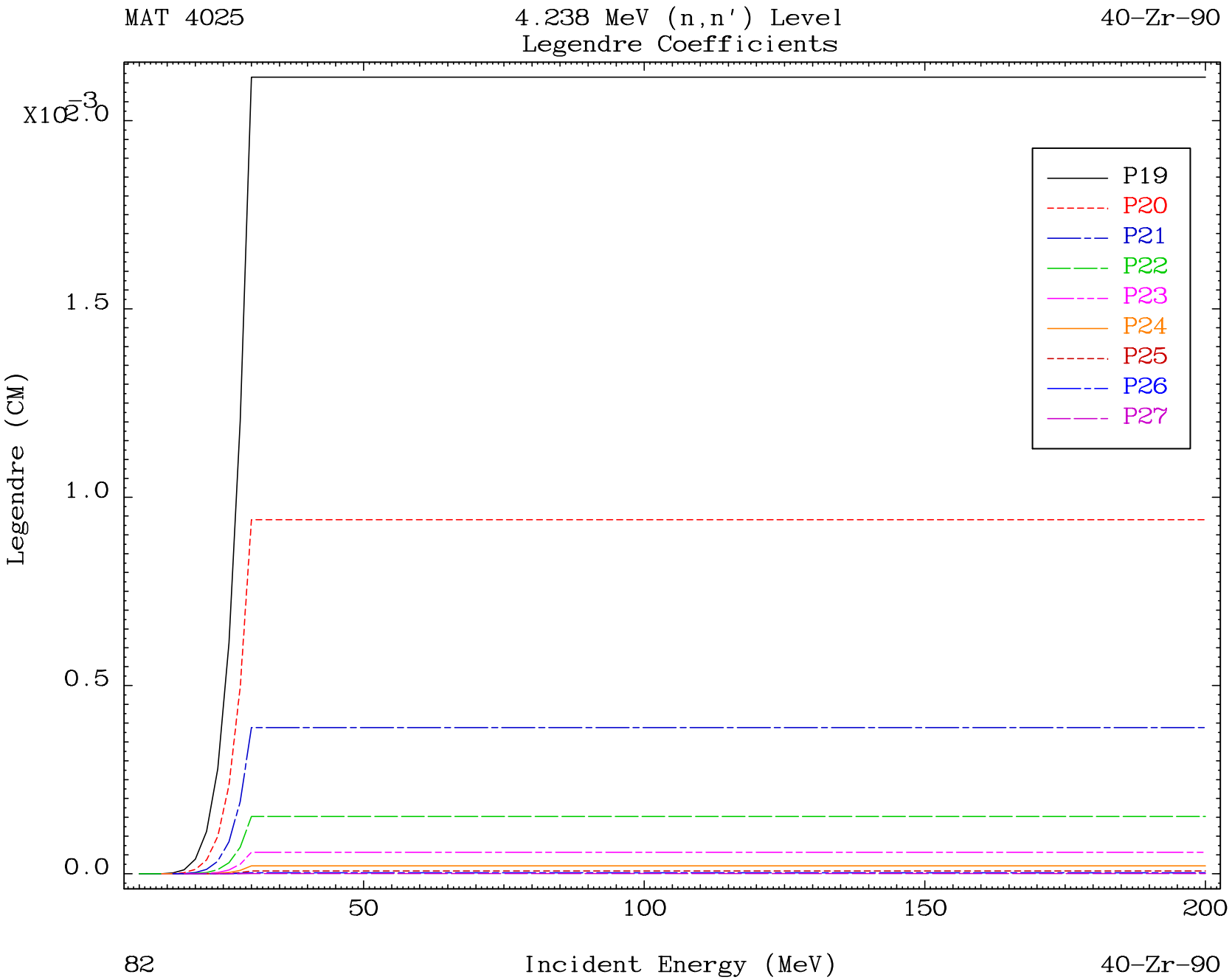

MAT 4025
4.232 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
50
100
150
200
77
Incident Energy (MeV)
40-Zr-90

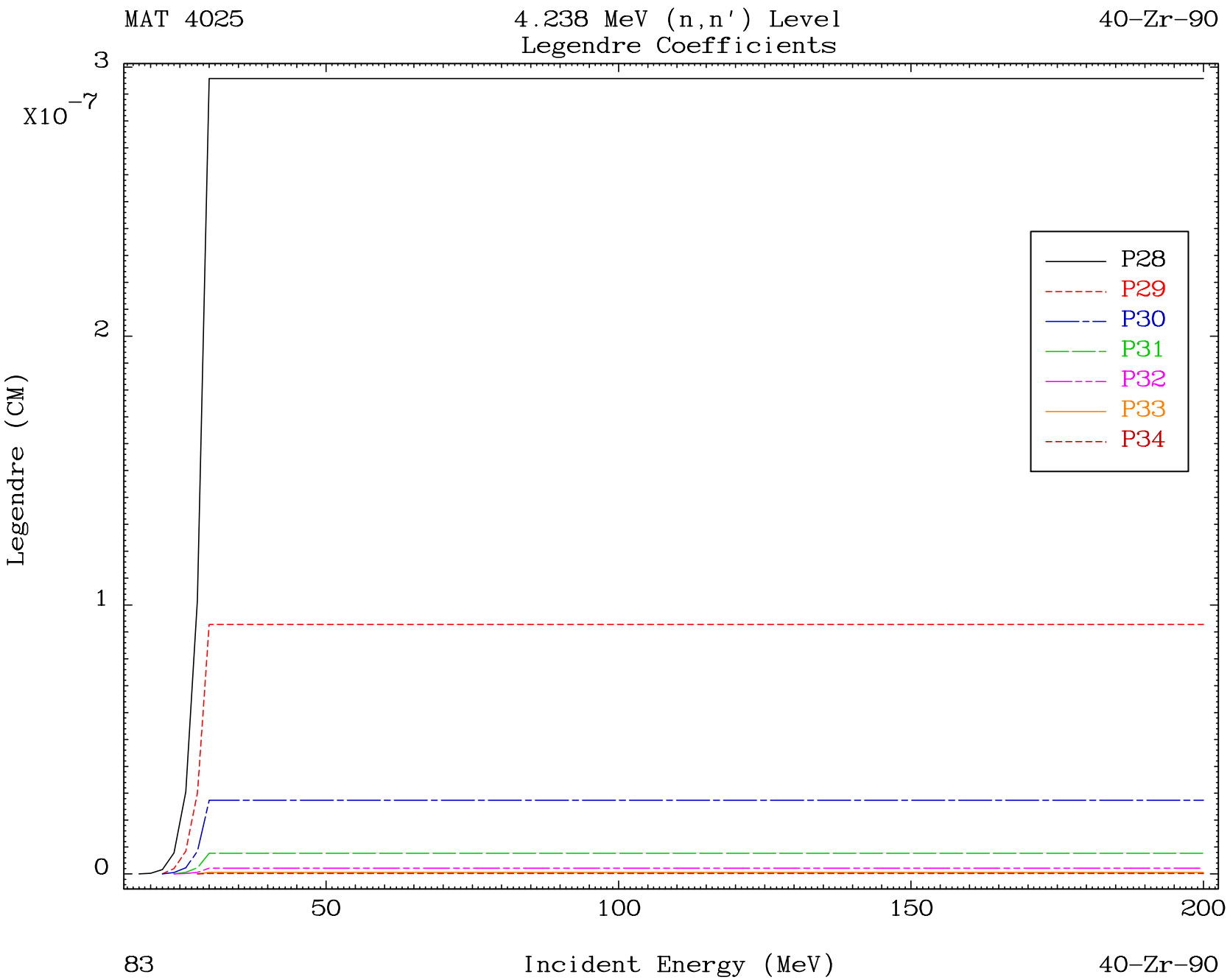

MAT 4025
4.232 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
78
Incident Energy (MeV)
40-Zr-90
P9
P10
P11
P12
P13
P14
P15
P16

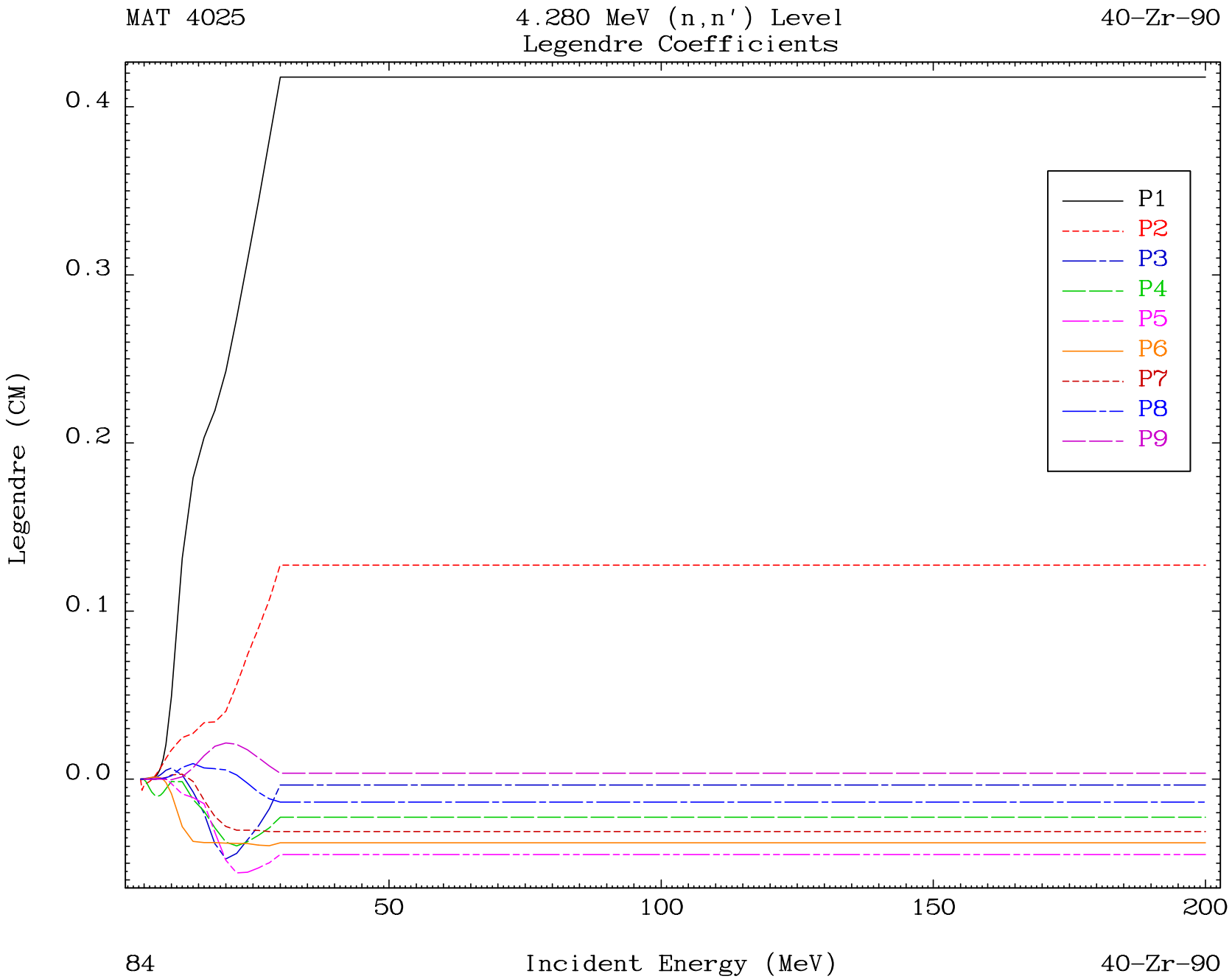

MAT 4025
4.232 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
1.5
1.0
0.5
0.0
Legendre (CM)
P17
P18
P19
P20
P21
P22
P23
P24
50
100
150
200
79
Incident Energy (MeV)
40-Zr-90

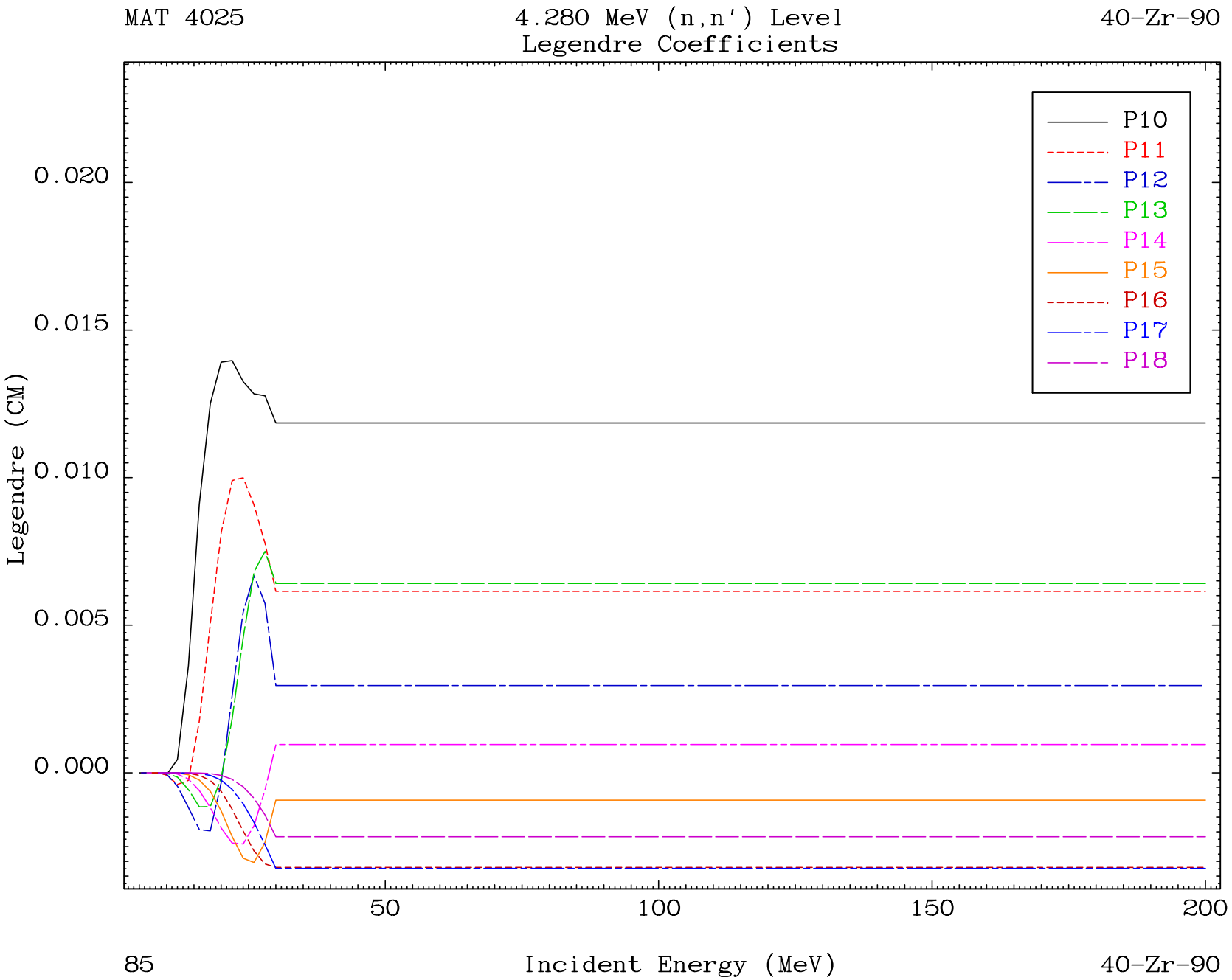

MAT 4025
4.238 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
80
Incident Energy (MeV)
40-Zr-90

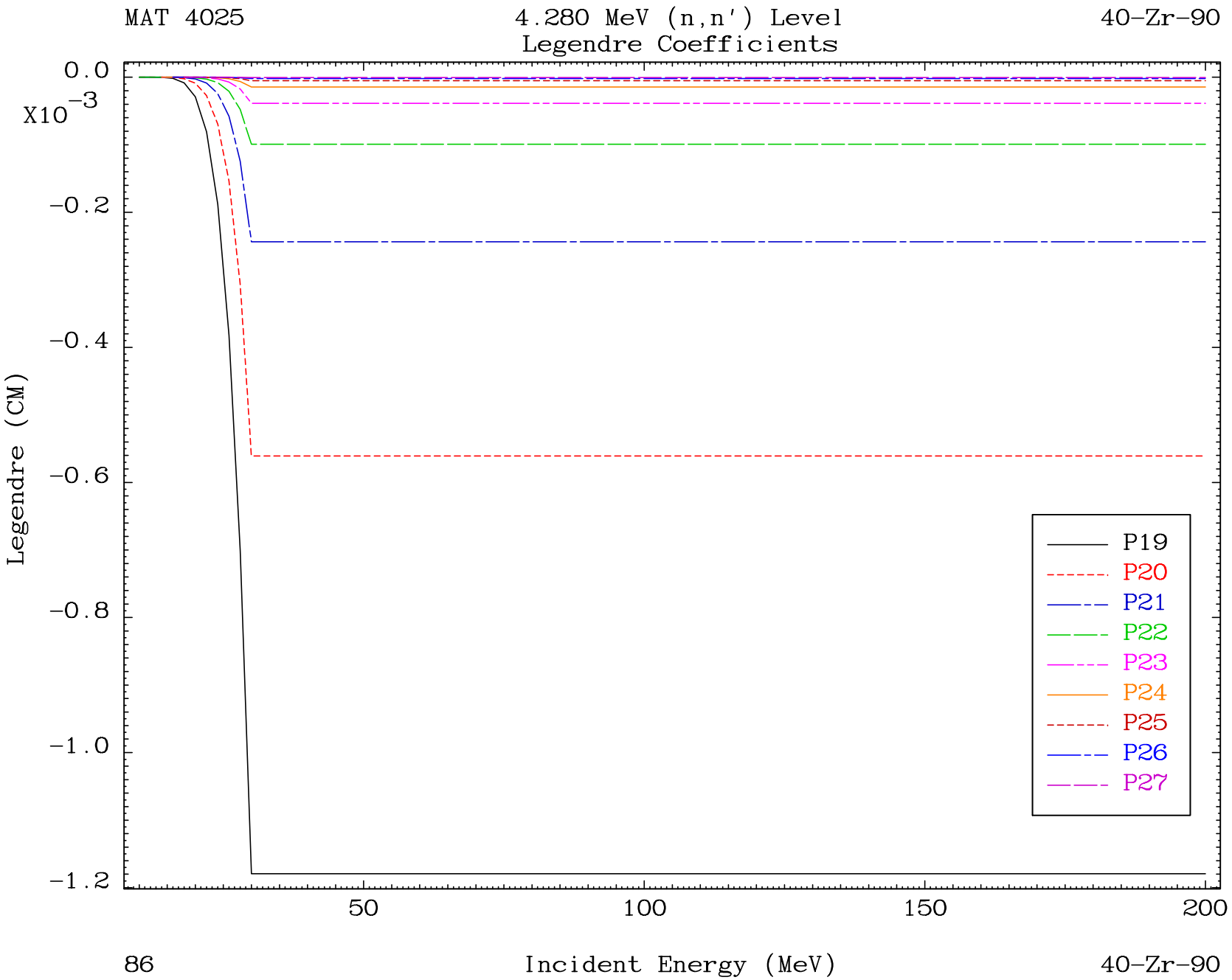

MAT 4025
4.238 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.04
0.02
0.00
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
81
Incident Energy (MeV)
40-Zr-90

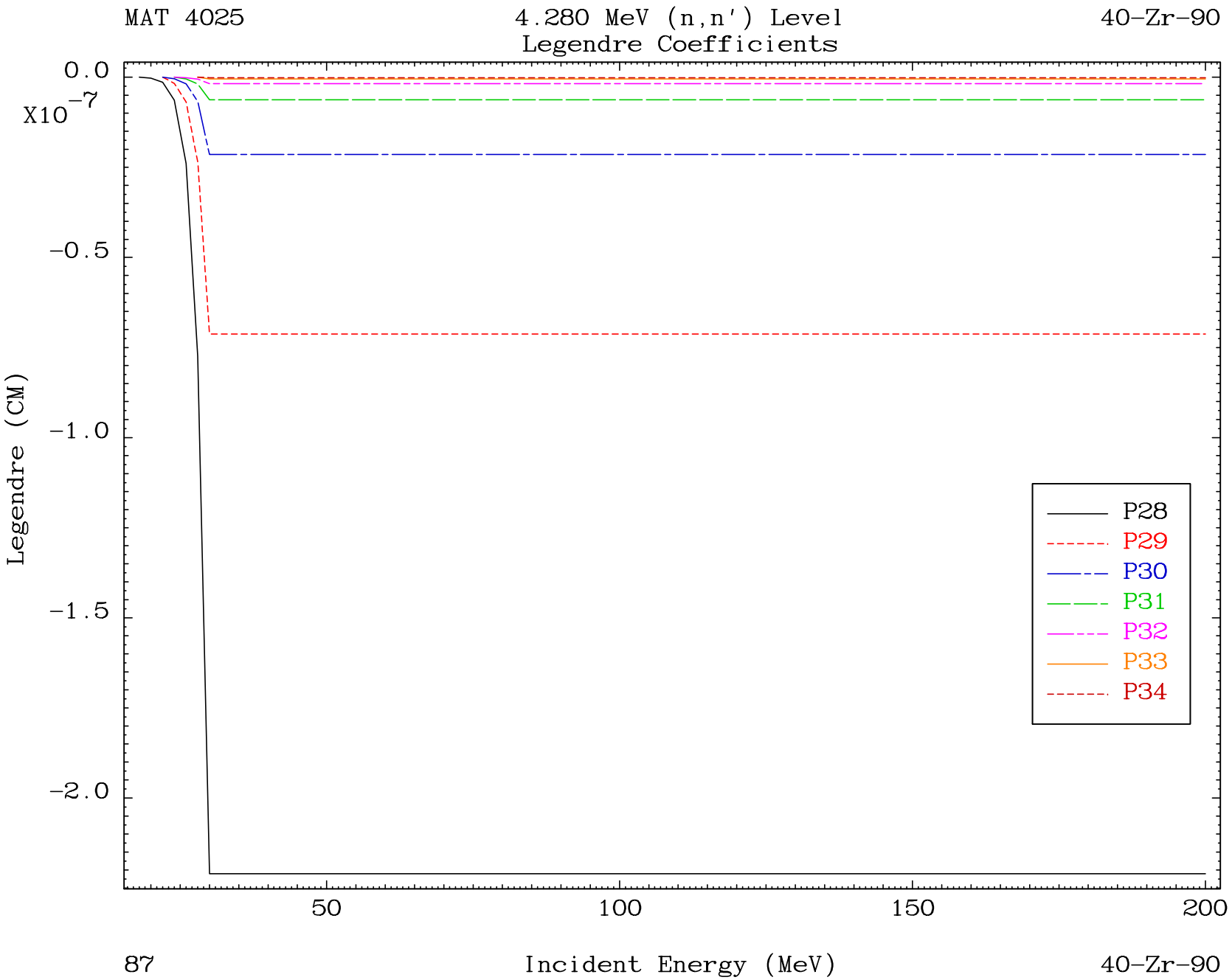

MAT 4025
4.238 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
82
Incident Energy (MeV)
40-Zr-90

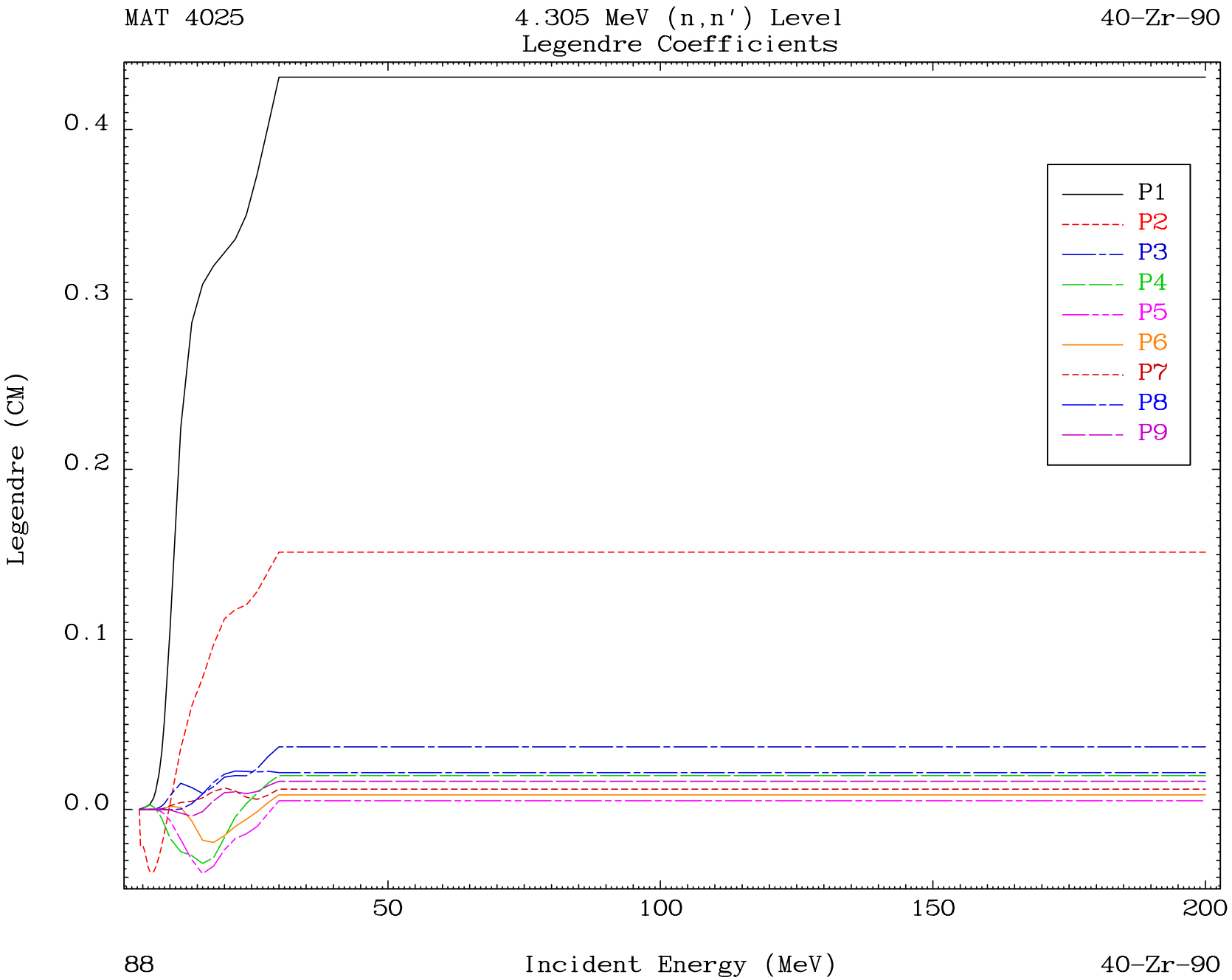

MAT 4025
4.238 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-7
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
83
Incident Energy (MeV)
40-Zr-90

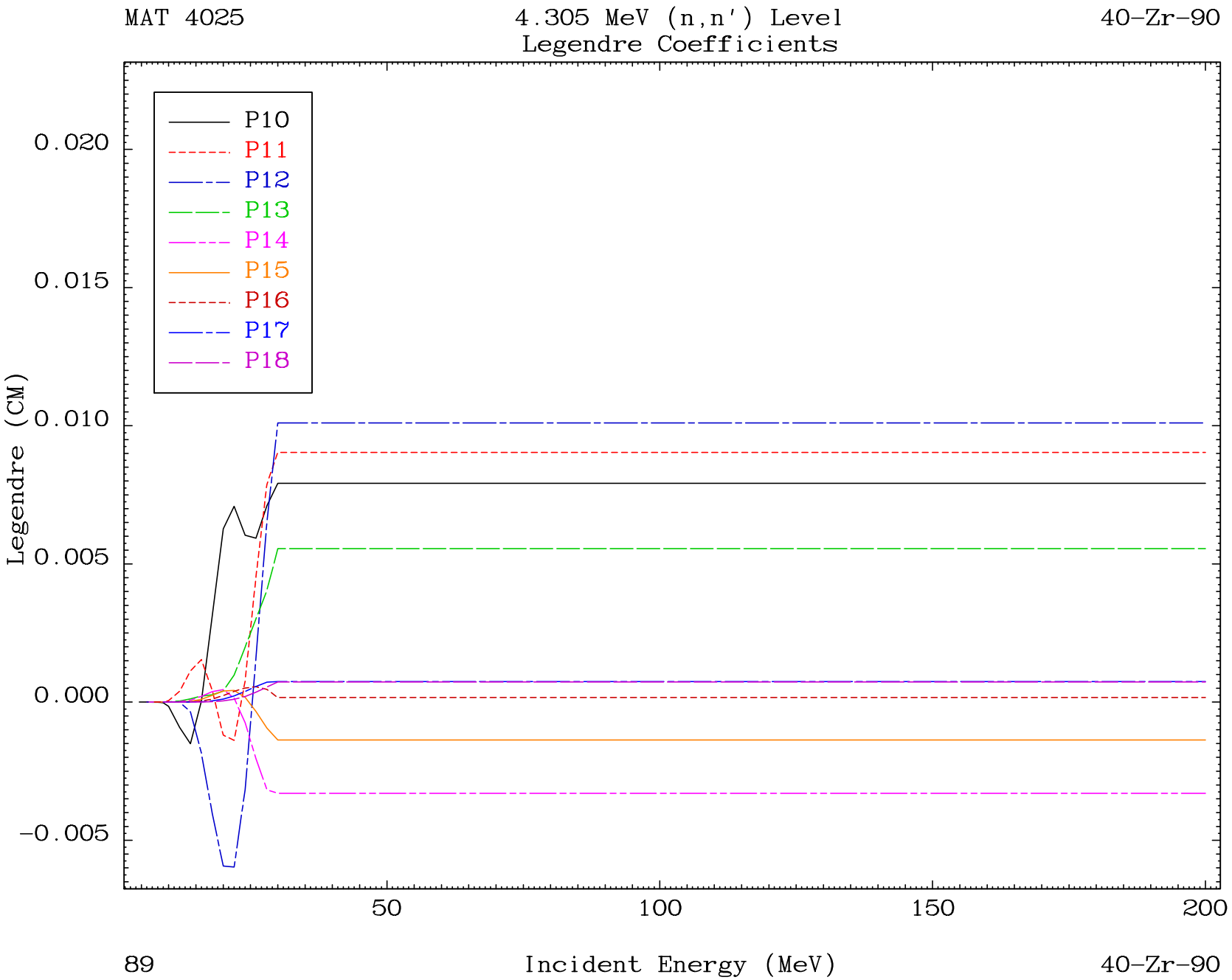

MAT 4025
4.280 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
84
Incident Energy (MeV)
40-Zr-90

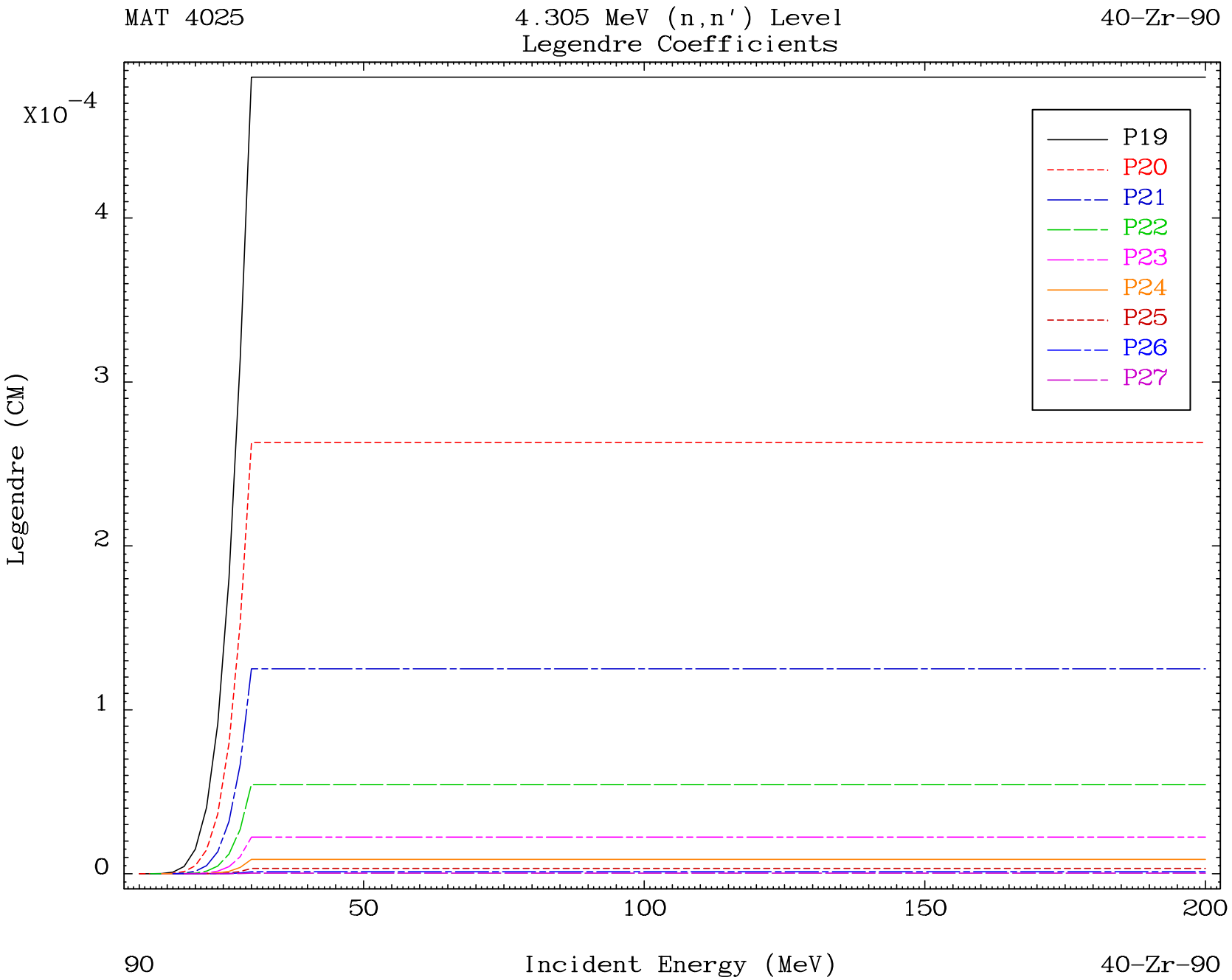

MAT 4025
4.280 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
85
Incident Energy (MeV)
40-Zr-90

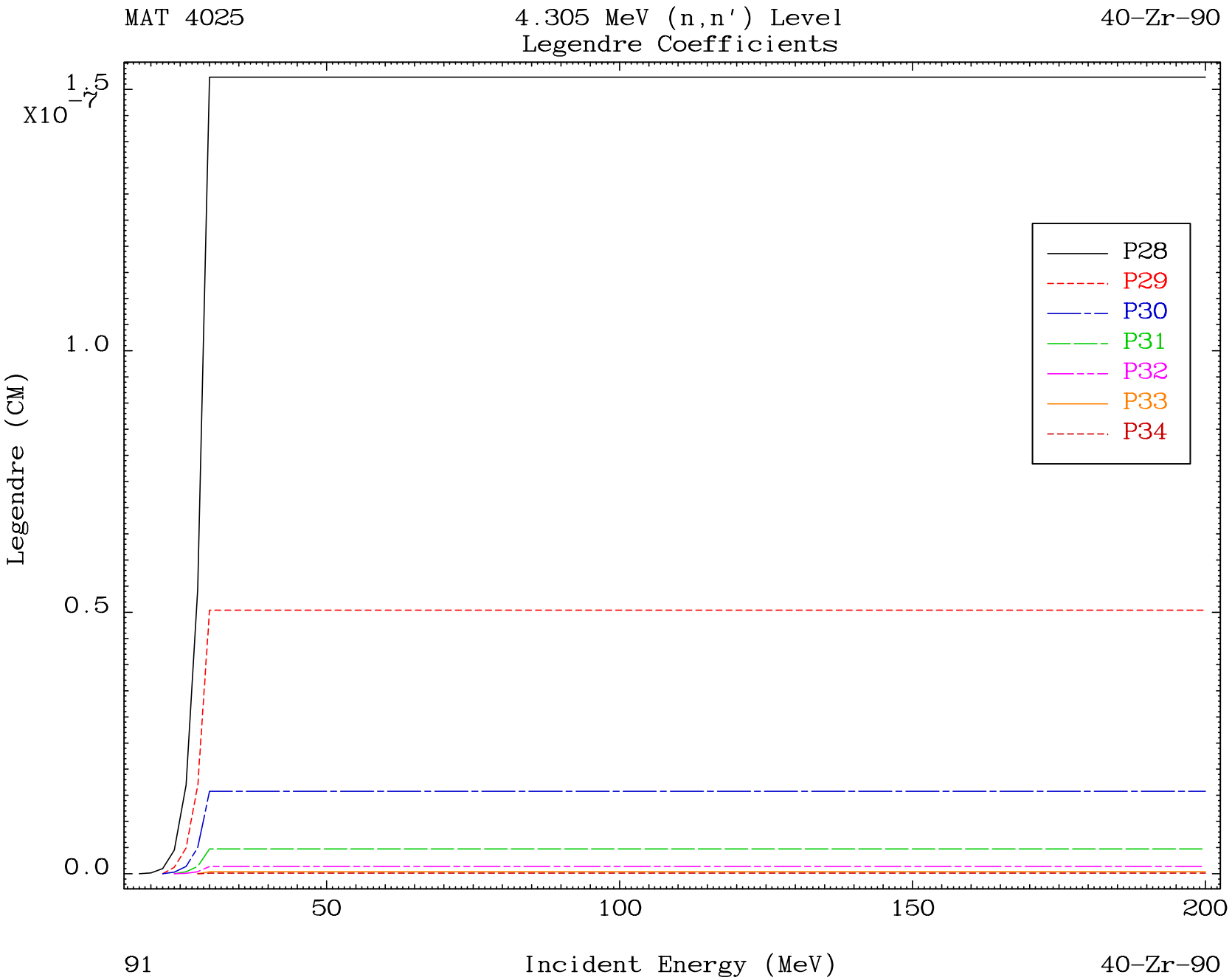

MAT 4025
4.280 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
86
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

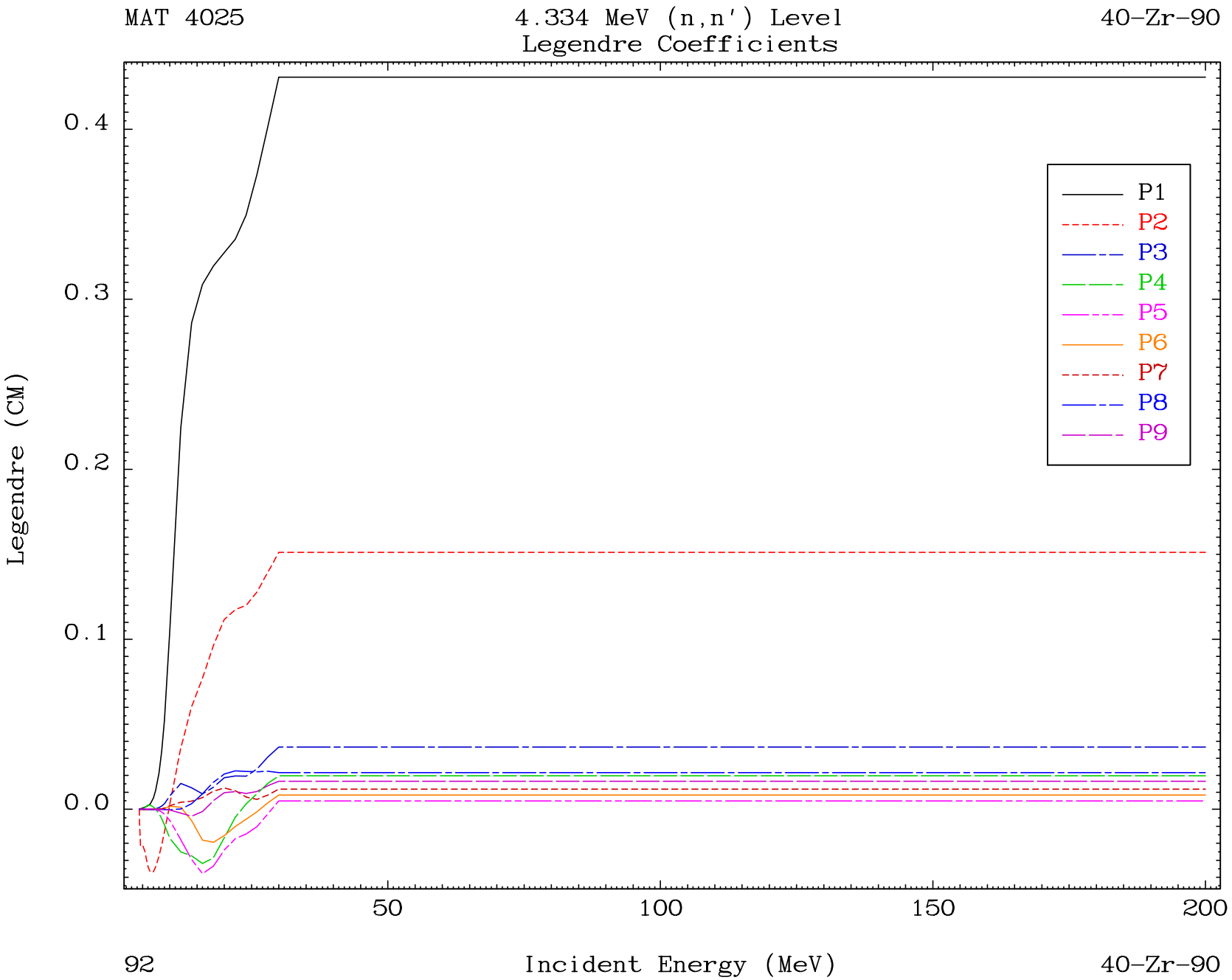

MAT 4025
4.280 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10-7
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
87
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

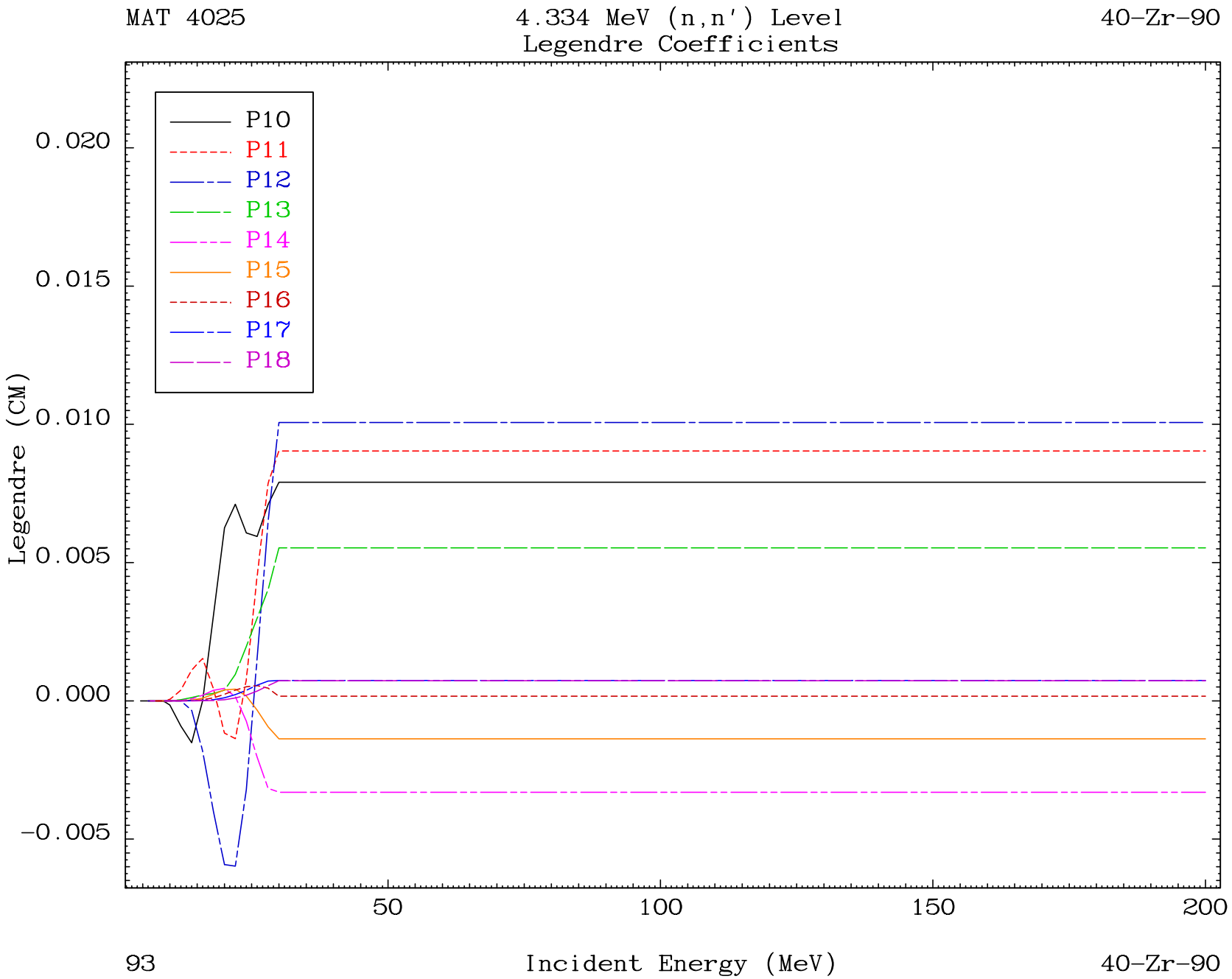

MAT 4025
4.305 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
88
Incident Energy (MeV)
40-Zr-90

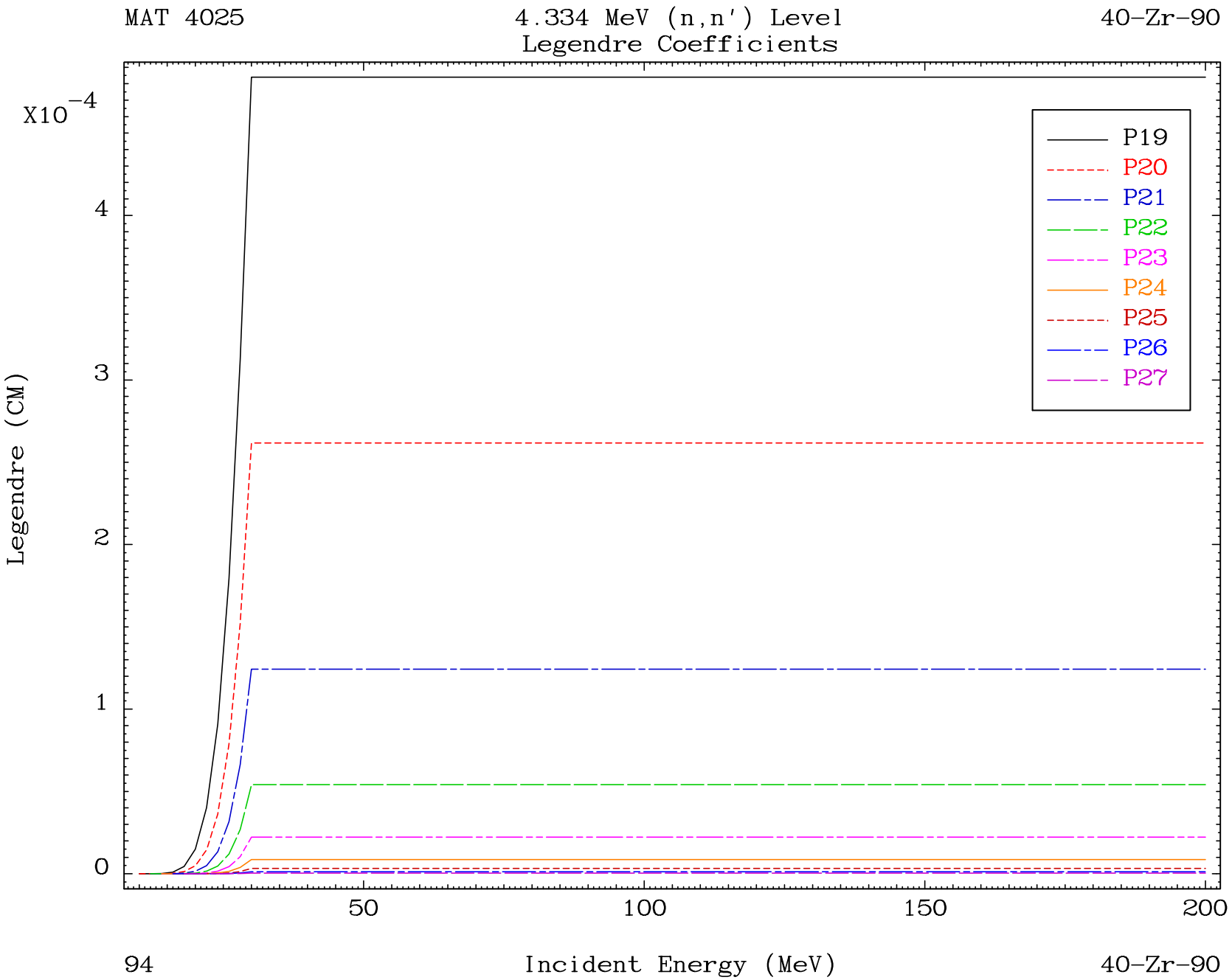

MAT 4025
4.305 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
50
100
150
200
89
Incident Energy (MeV)
40-Zr-90

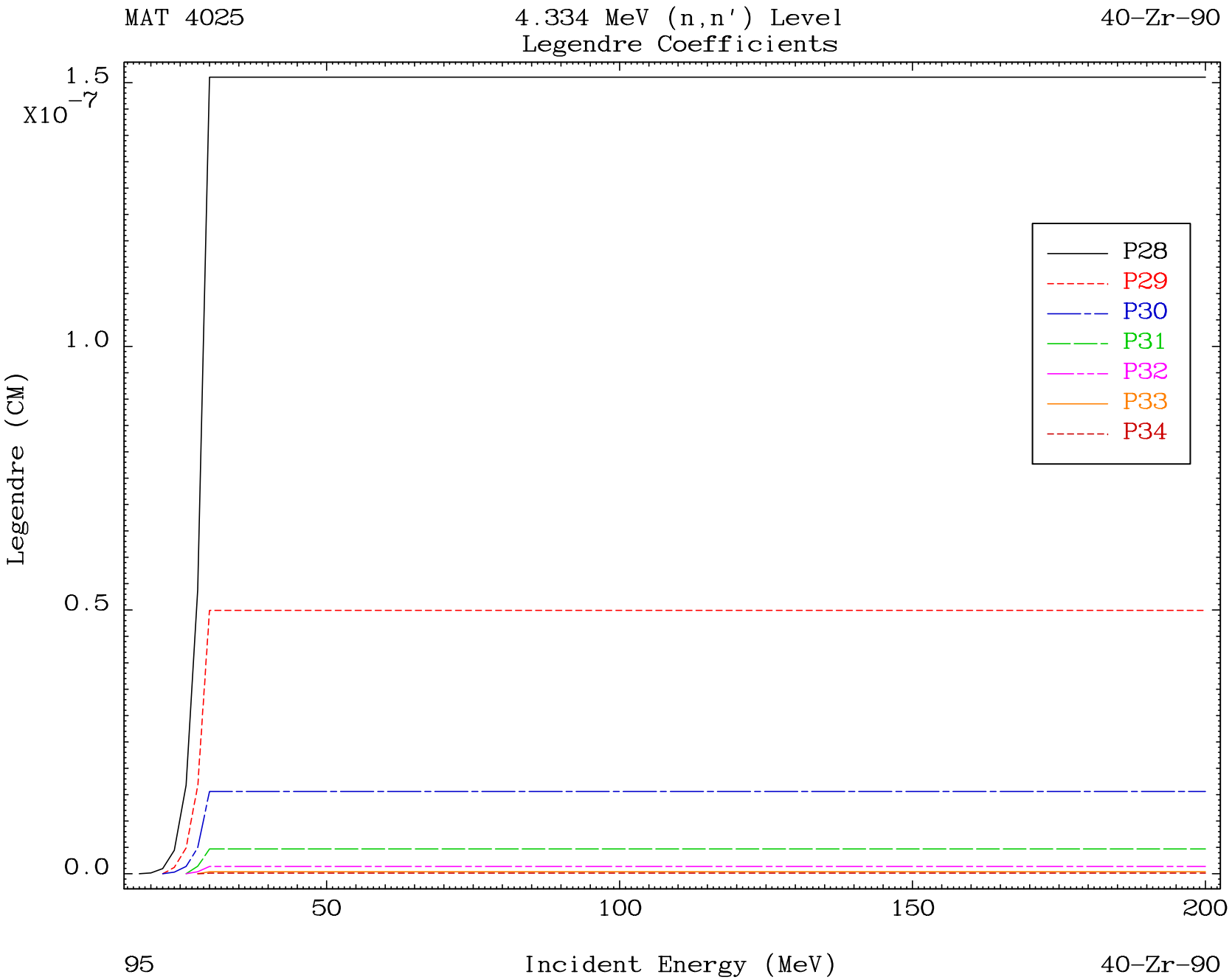

MAT 4025
4.305 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
90
Incident Energy (MeV)
40-Zr-90

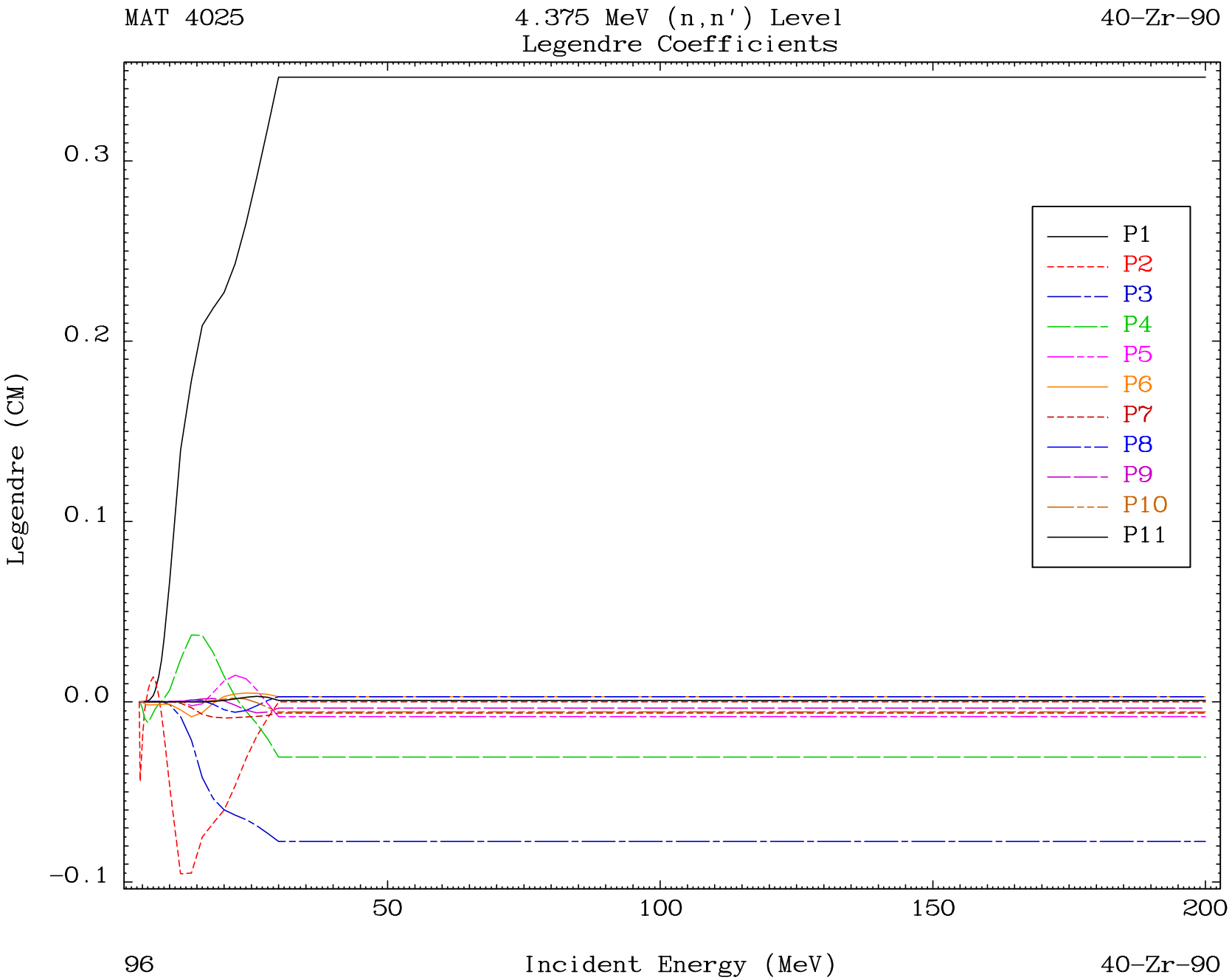

MAT 4025
4.305 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
91
Incident Energy (MeV)
40-Zr-90

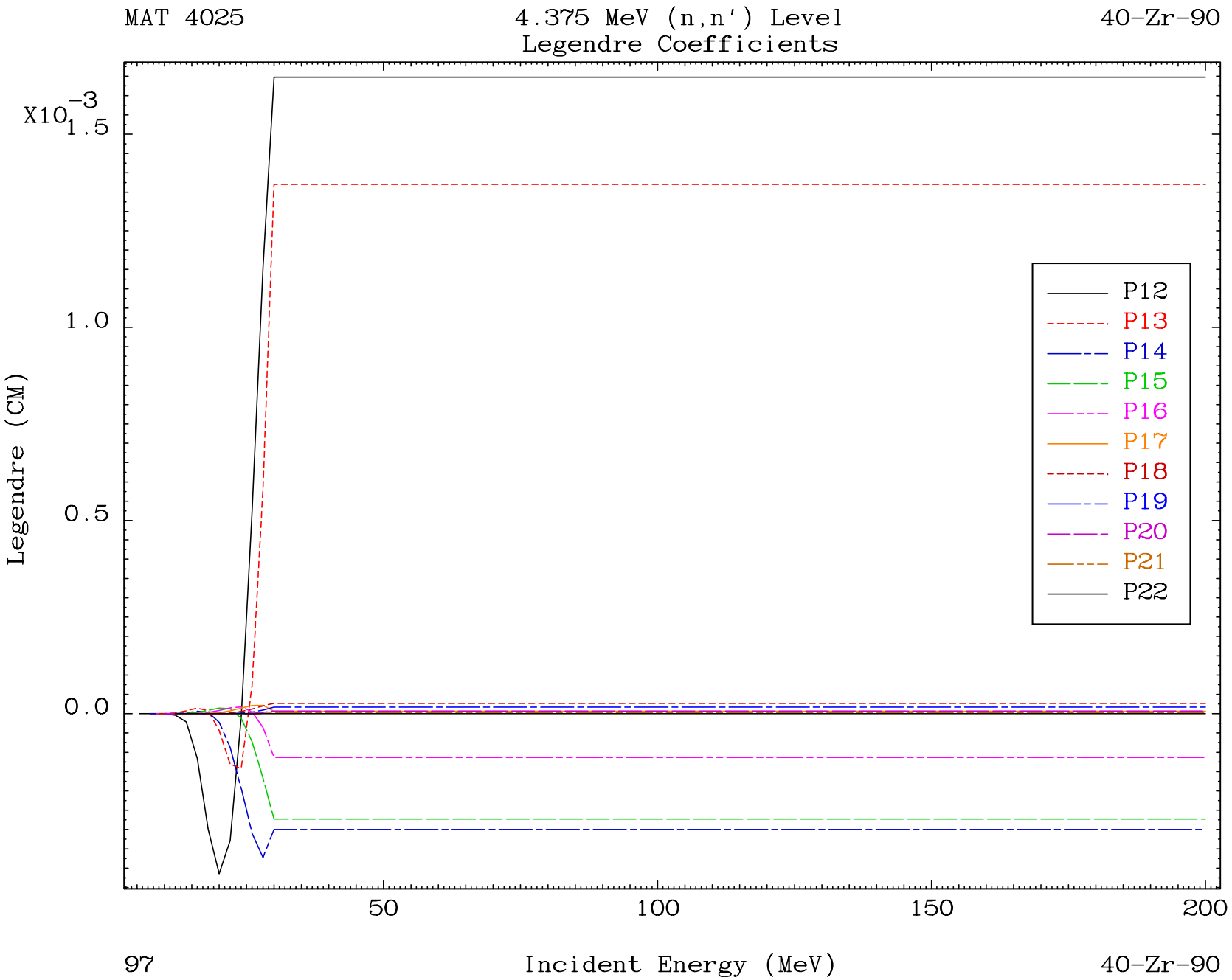

MAT 4025
4.334 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
92
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9

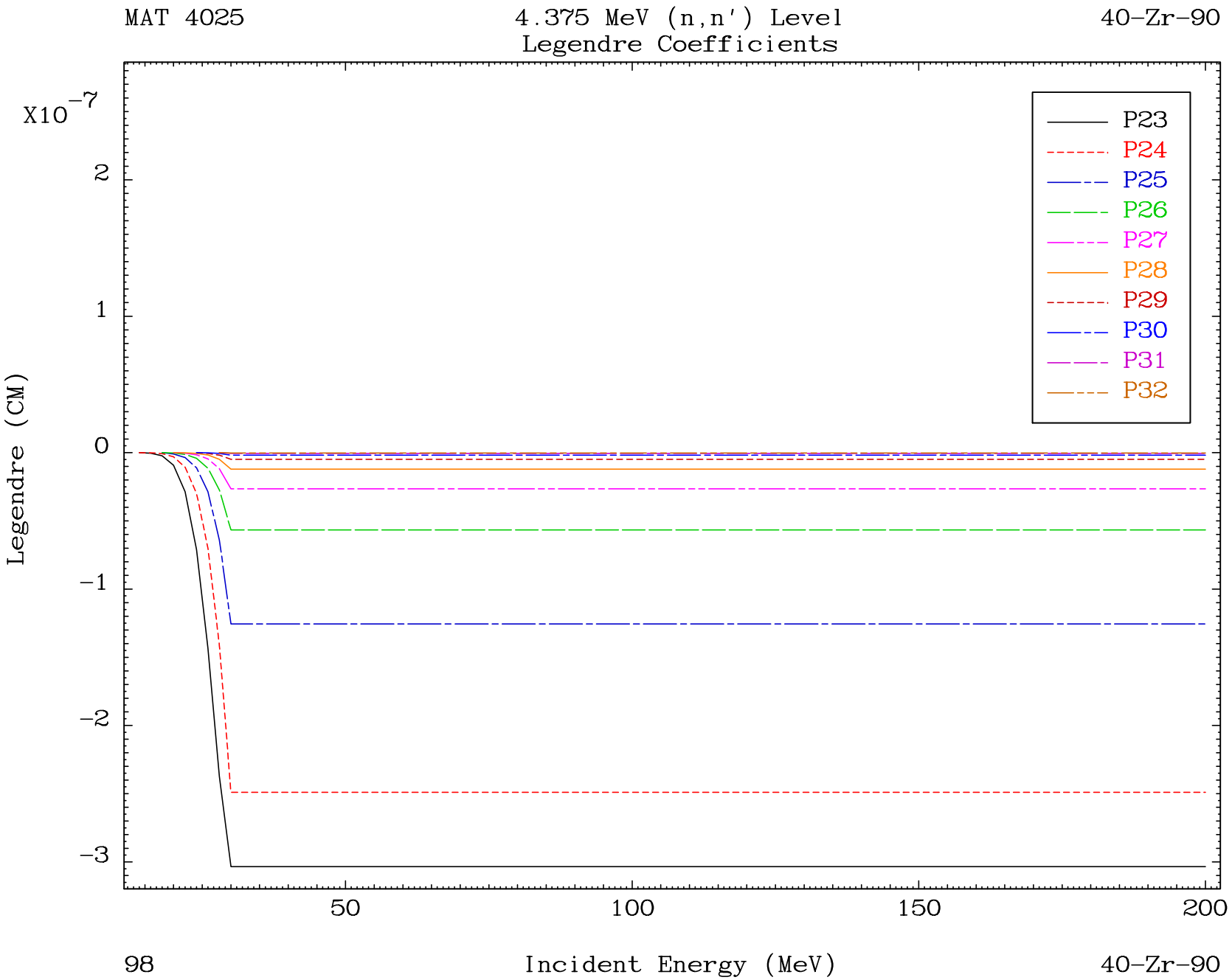

MAT 4025
4.334 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
50
100
150
200
93
Incident Energy (MeV)
40-Zr-90

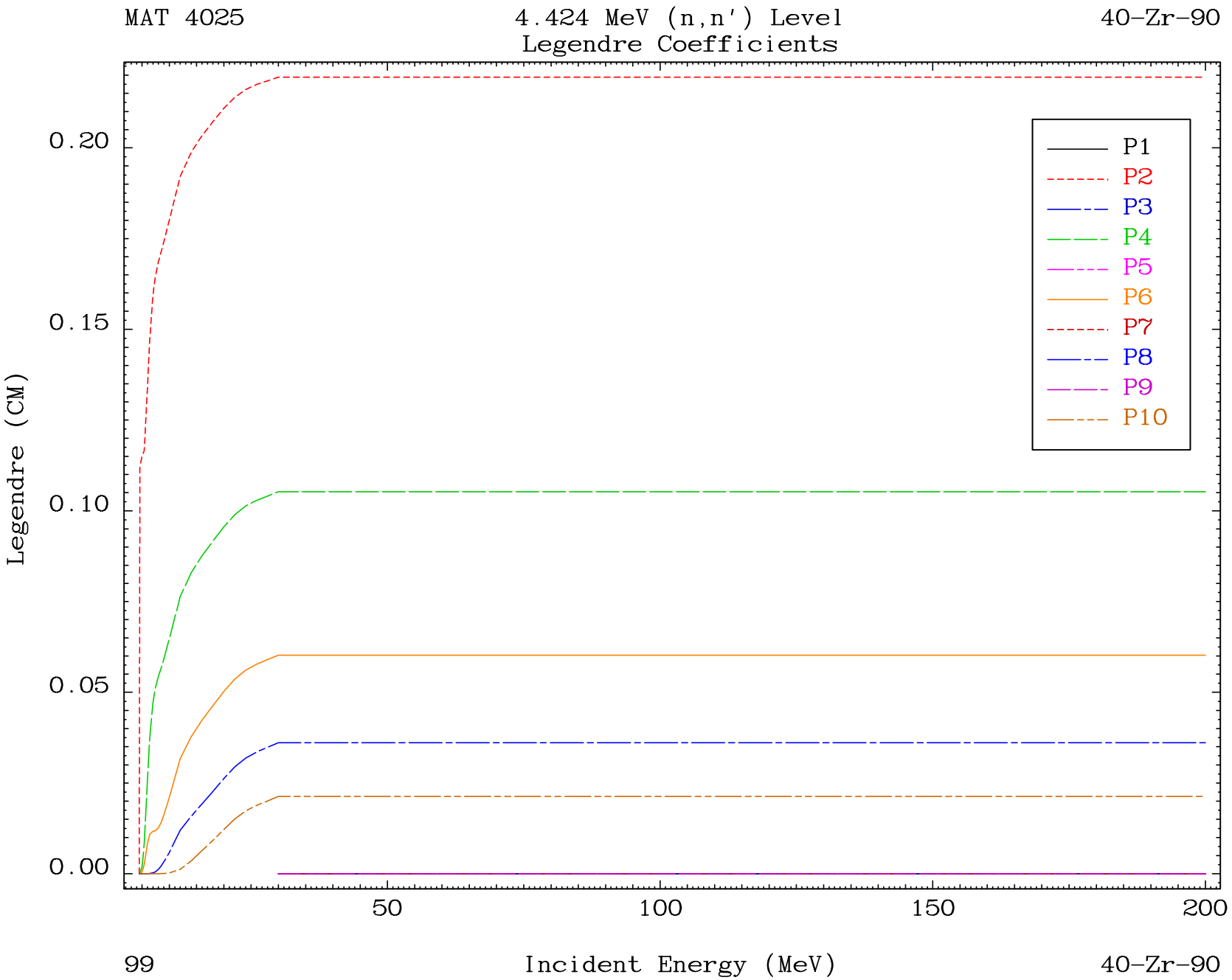

MAT 4025
4.334 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
94
Incident Energy (MeV)
40-Zr-90

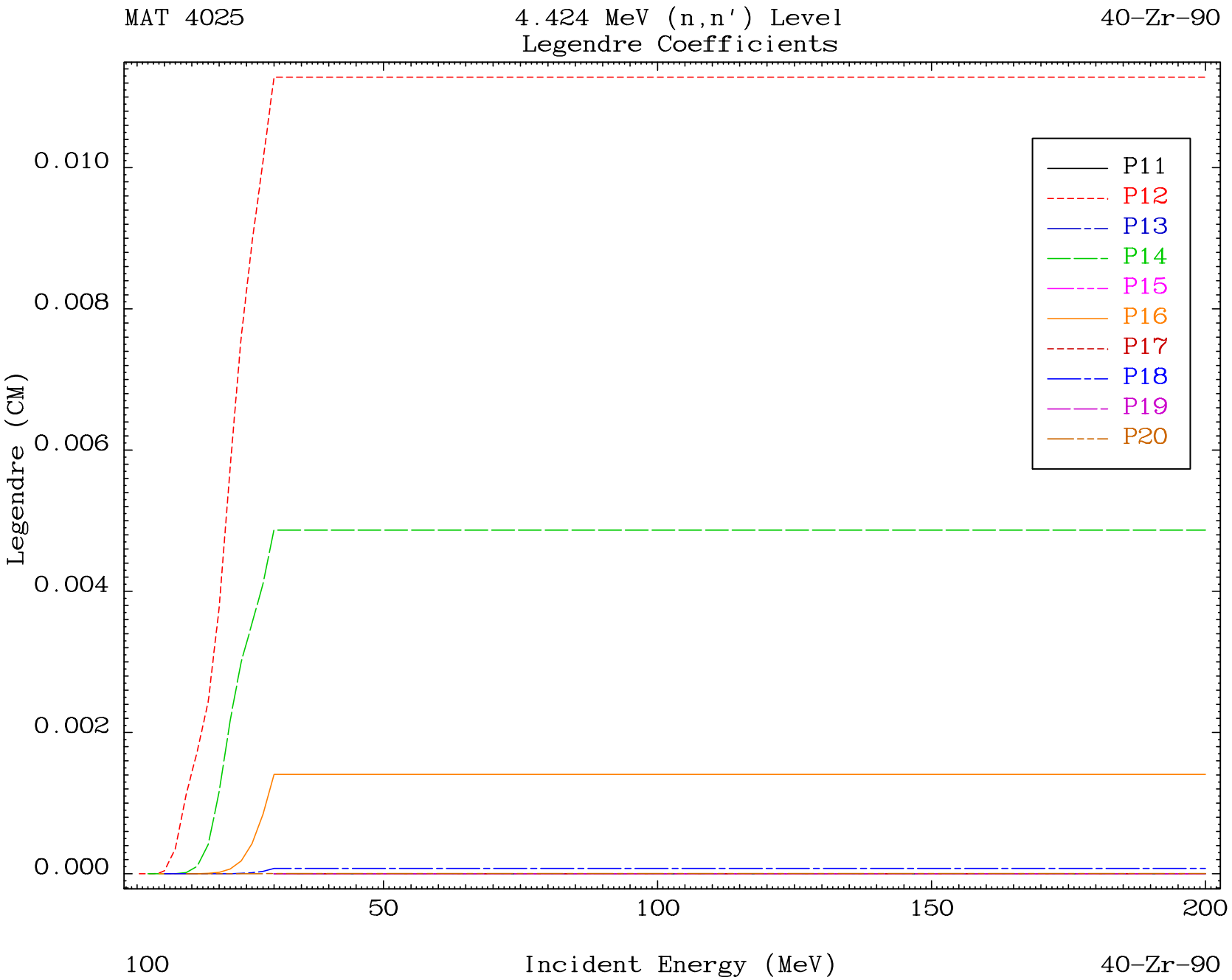

MAT 4025
4.334 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
1.5
X10^-7
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
95
Incident Energy (MeV)
40-Zr-90

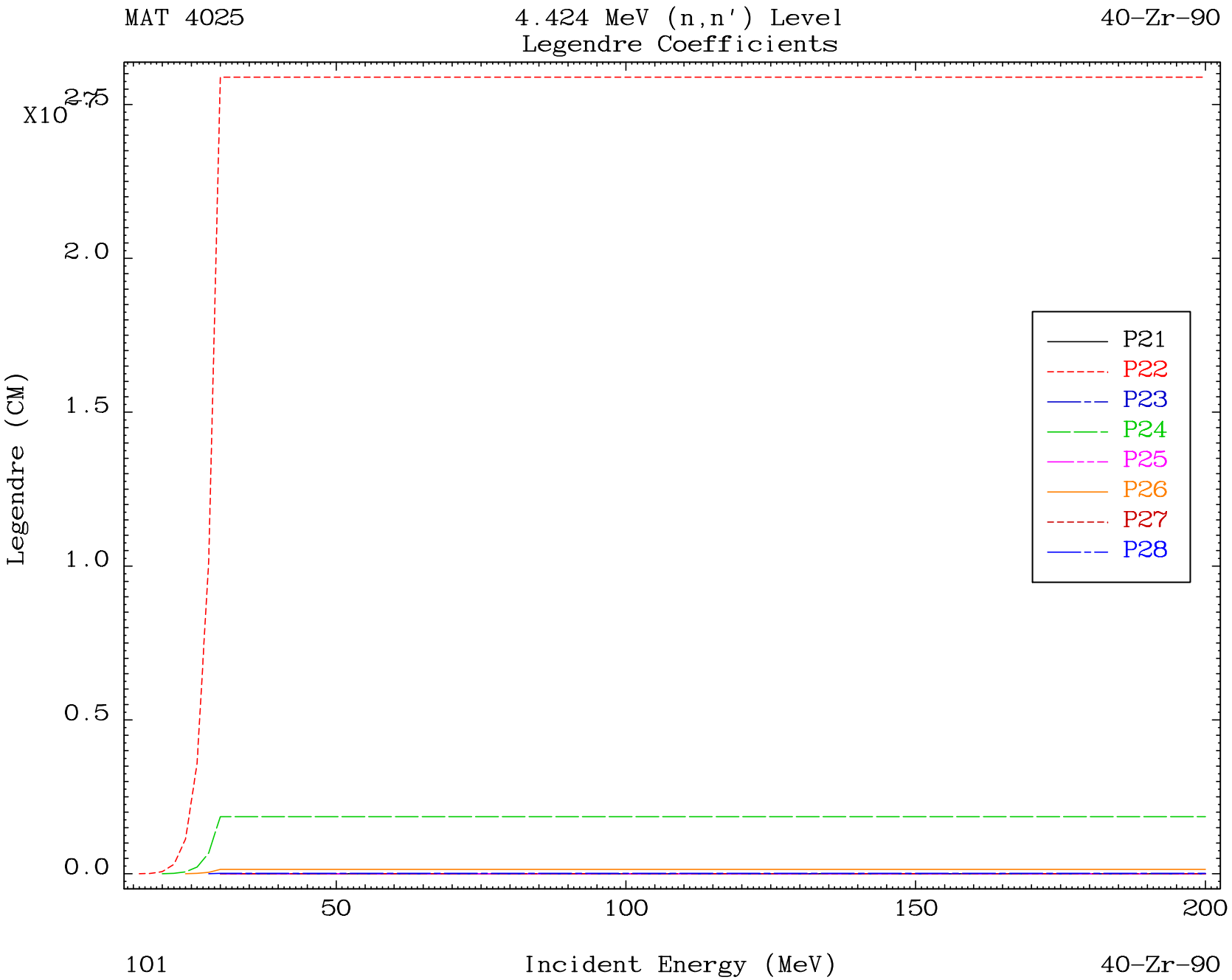

MAT 4025
4.375 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
50
100
150
200
96
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11

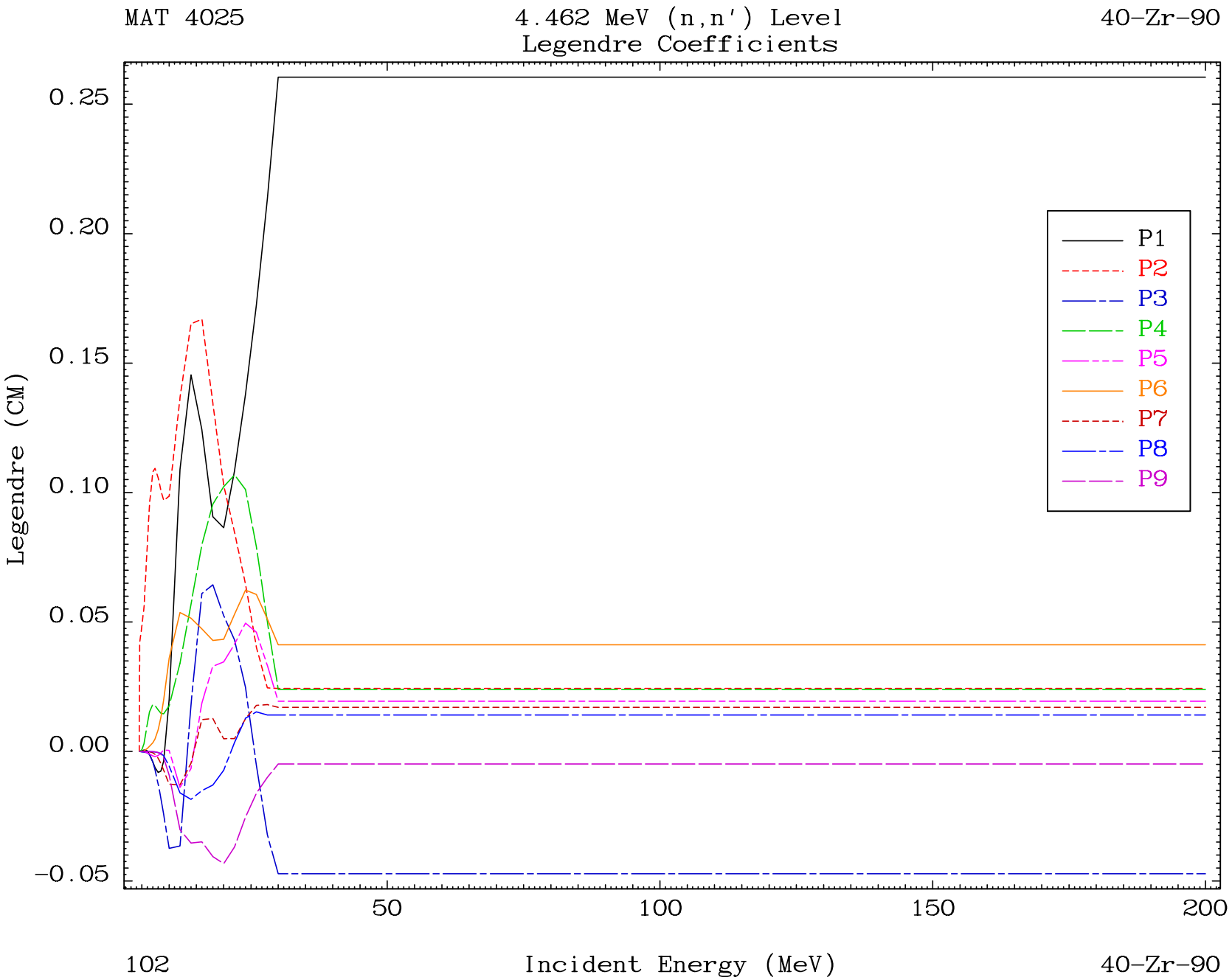

MAT 4025
4.375 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-3
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
97
Incident Energy (MeV)
40-Zr-90
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22

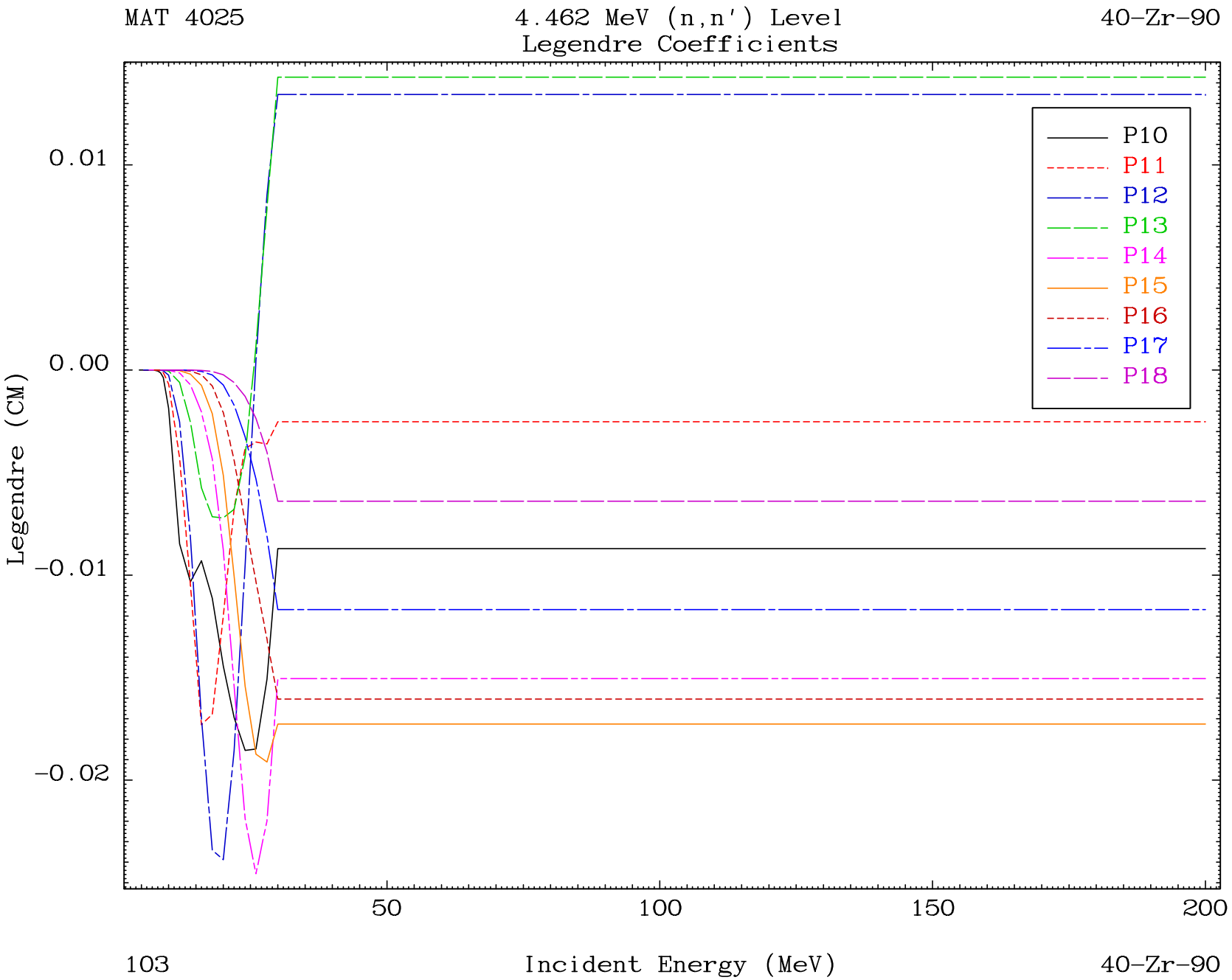

MAT 4025
4.375 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
2
1
0
-1
-2
-3
Legendre (CM)
P23
P24
P25
P26
P27
P28
P29
P30
P31
P32
50
100
150
200
98
Incident Energy (MeV)
40-Zr-90

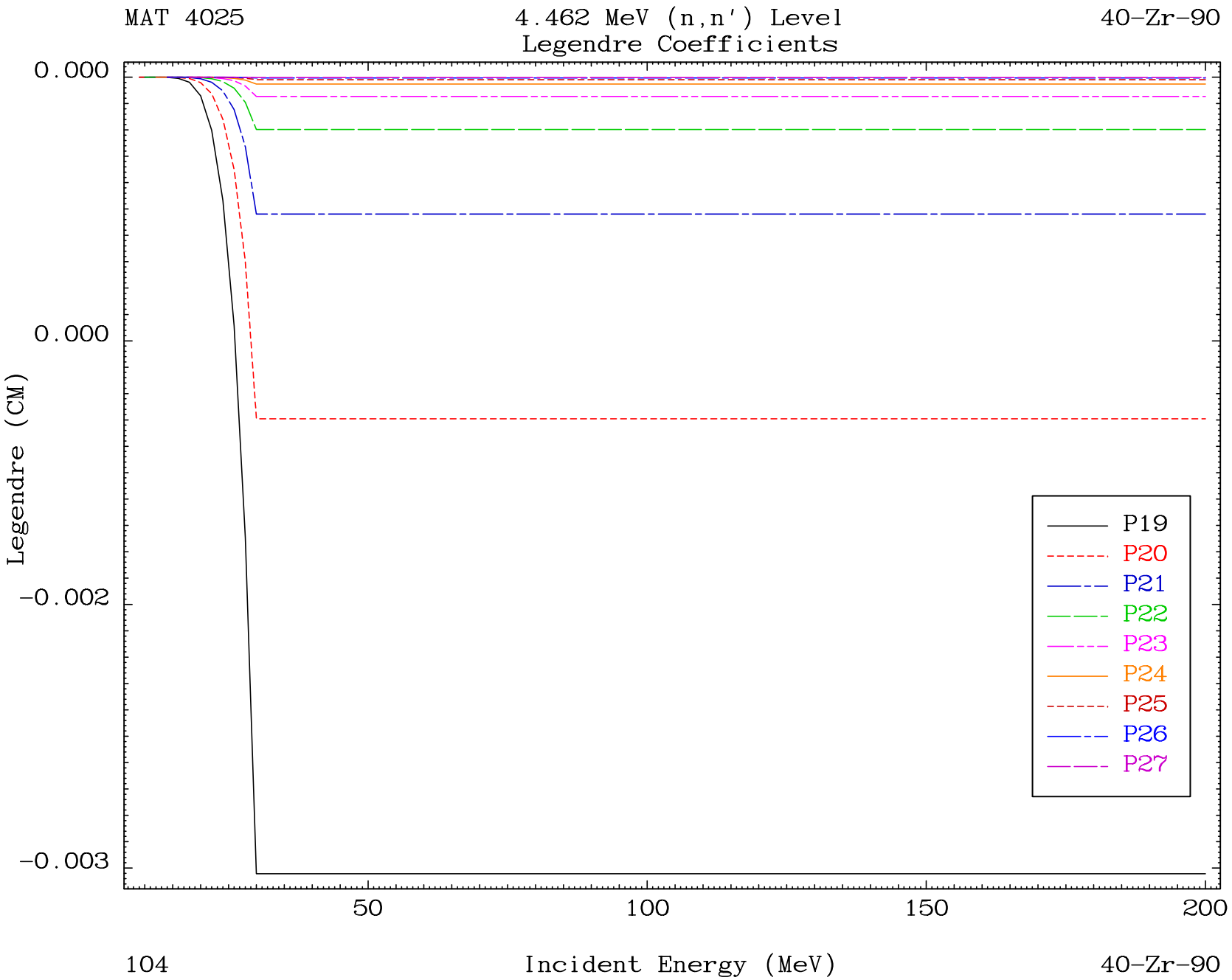

MAT 4025
4.424 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.20
0.15
0.10
0.05
0.00
Legendre (CM)
50
100
150
200
99
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

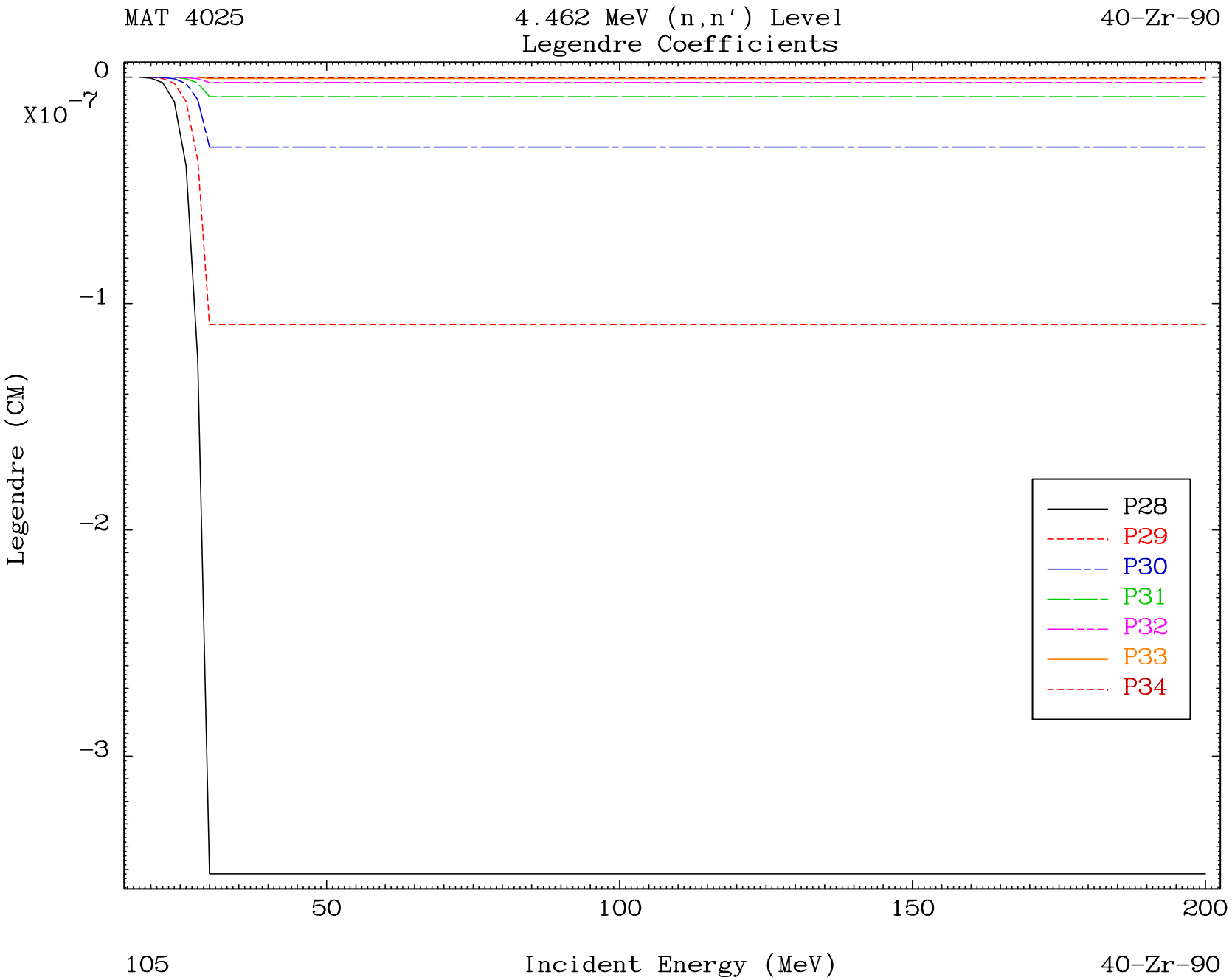

MAT 4025
4.424 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.010
0.008
0.006
0.004
0.002
0.000
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
50
100
150
200
100
Incident Energy (MeV)
40-Zr-90

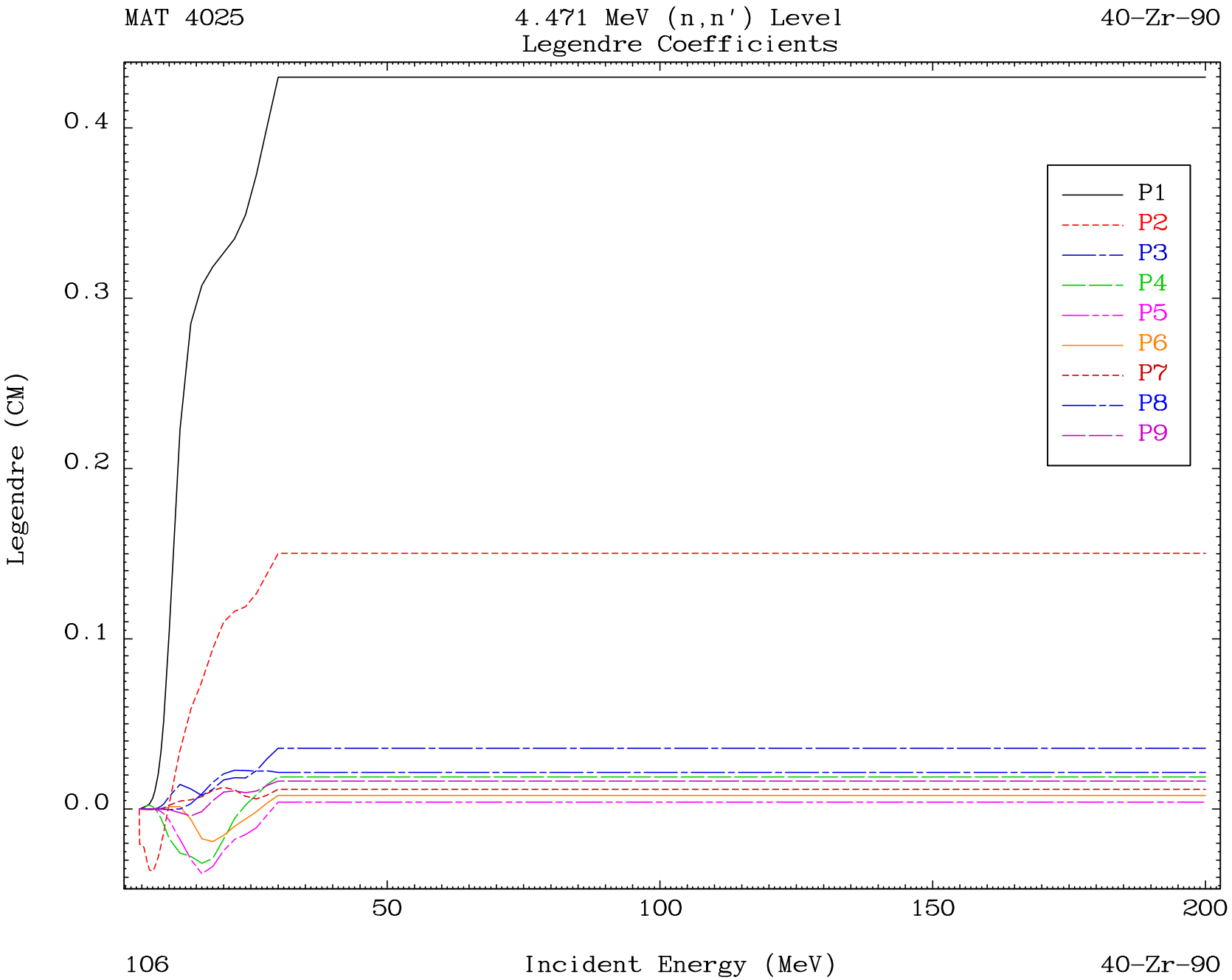

MAT 4025
4.424 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-25
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
101
Incident Energy (MeV)
40-Zr-90

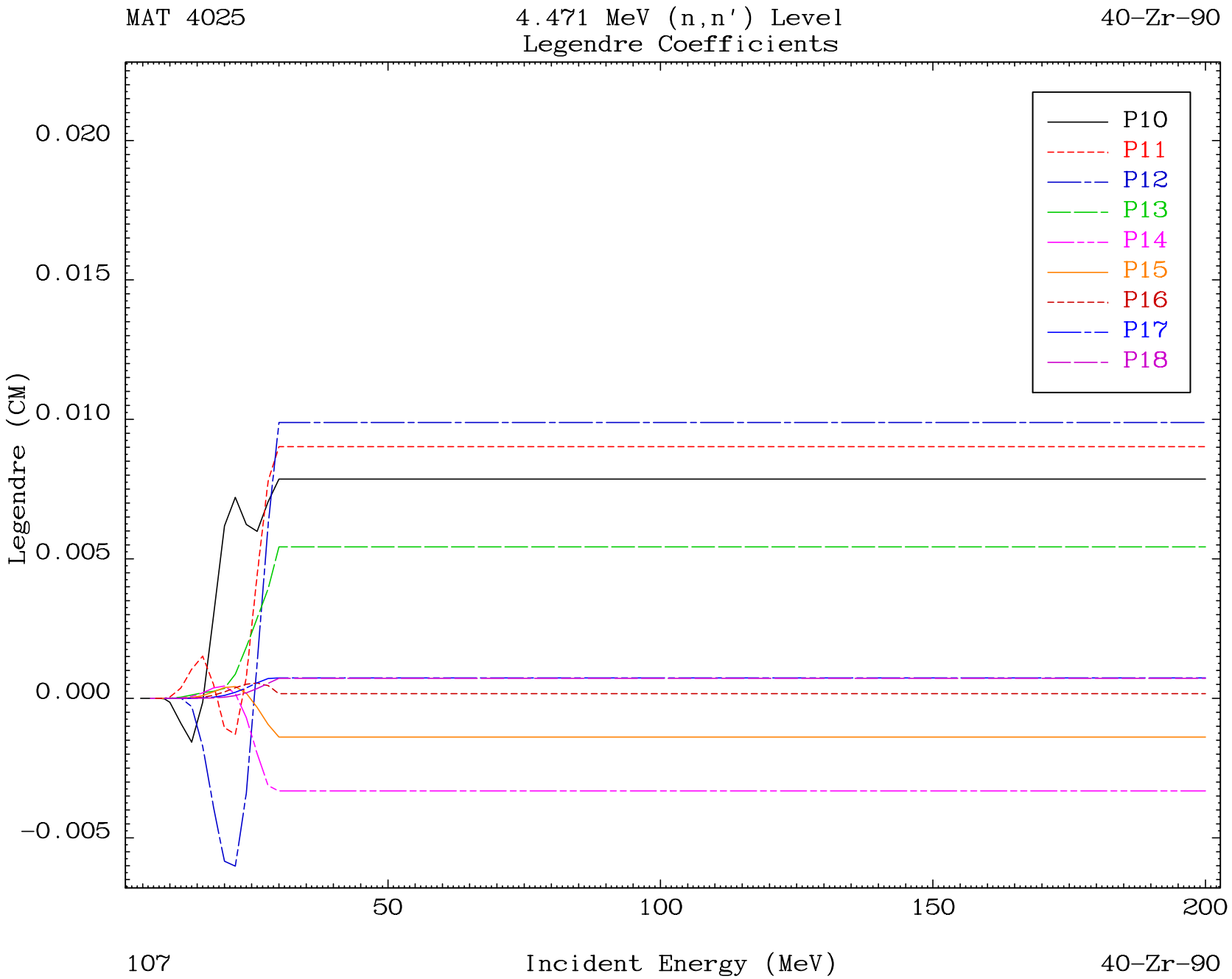

MAT 4025
4.462 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
Legendre (CM)
50
100
150
200
102
Incident Energy (MeV)
40-Zr-90
P1
P2
P3
P4
P5
P6
P7
P8
P9

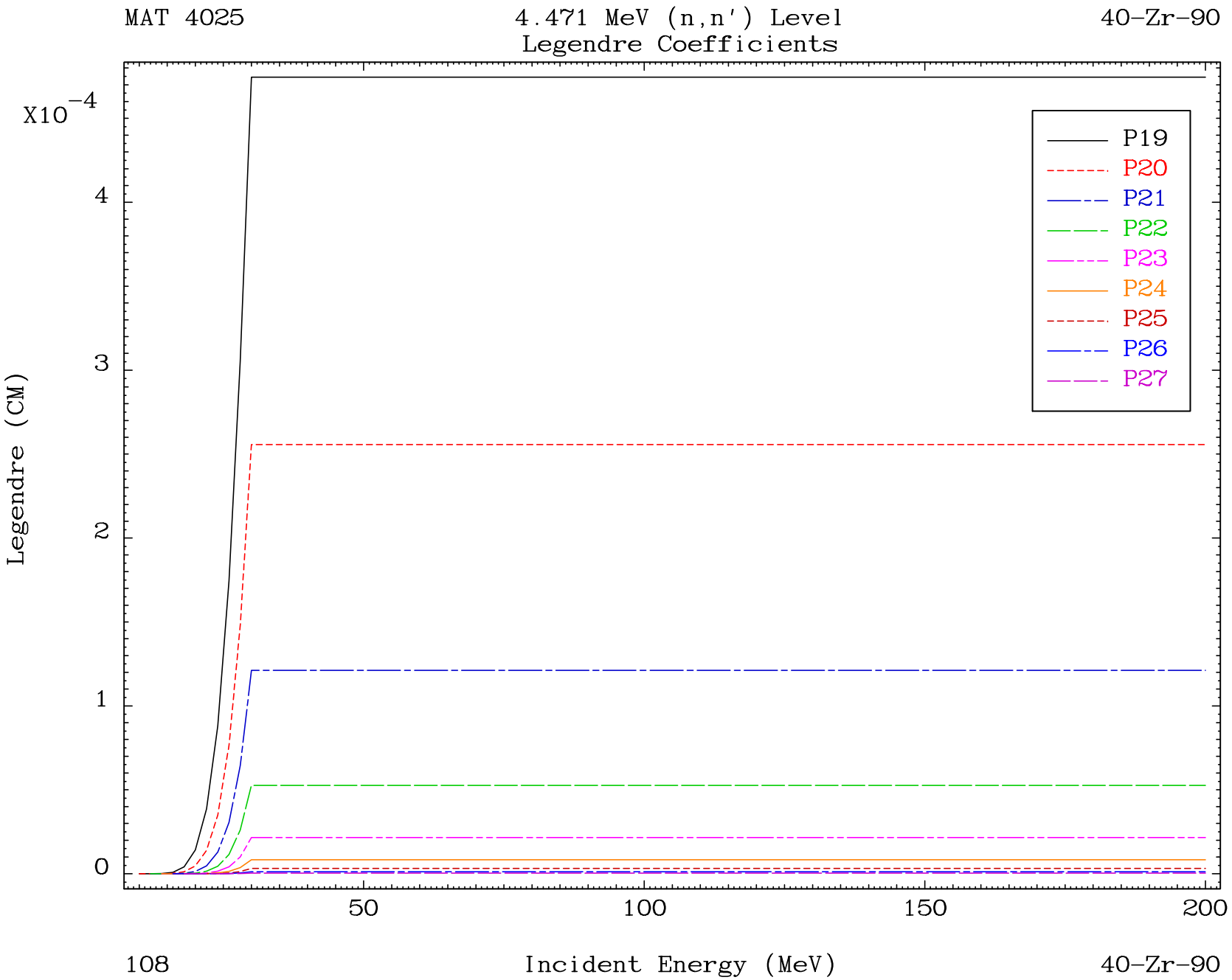

MAT 4025
4.462 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.01
0.00
-0.01
-0.02
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
103
Incident Energy (MeV)
40-Zr-90

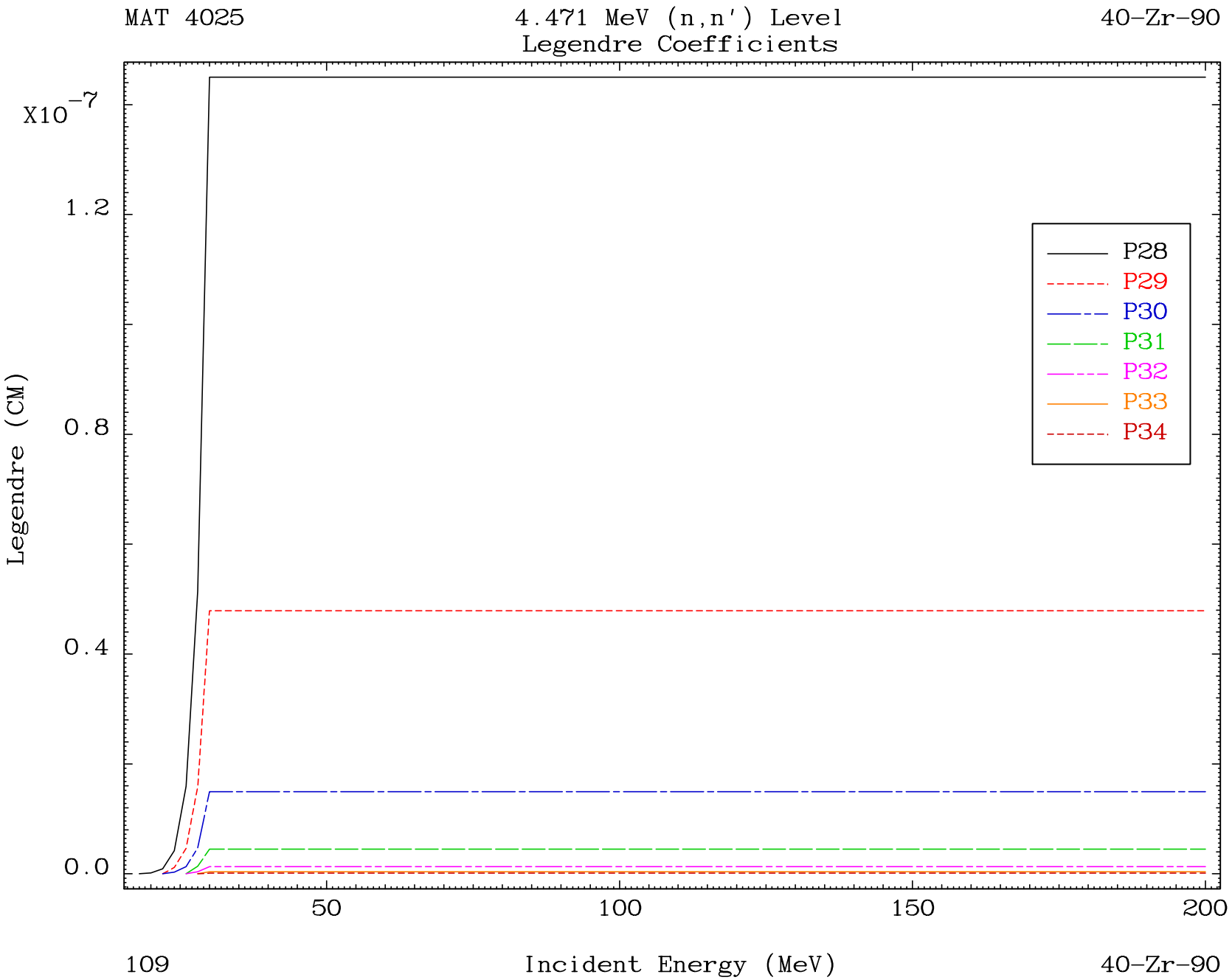

MAT 4025
4.462 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.000
0.000
-0.002
-0.003
Legendre (CM)
50
100
150
200
104
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

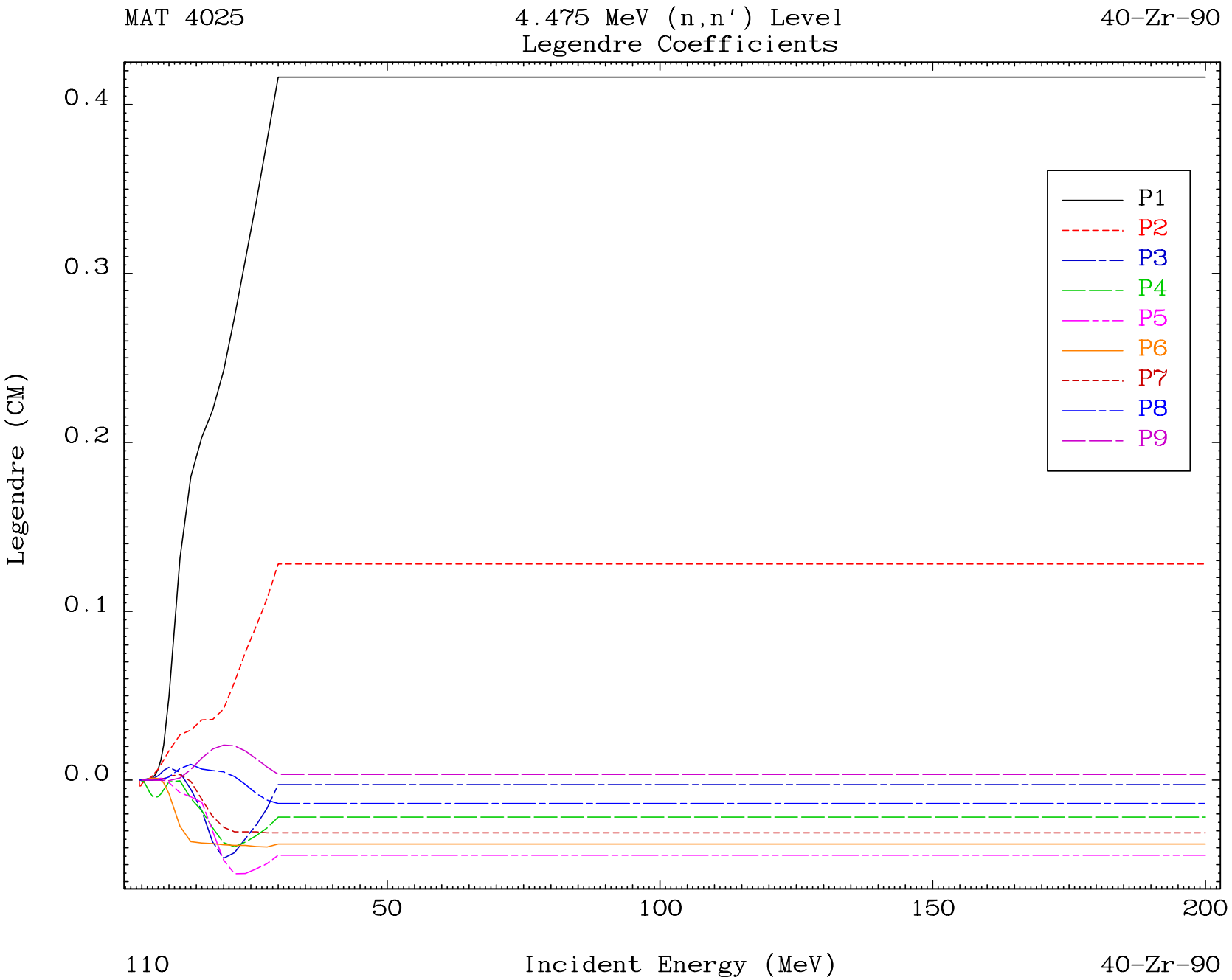

MAT 4025
4.462 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10-7
0
-1
-2
-3
Legendre (CM)
50
100
150
200
105
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

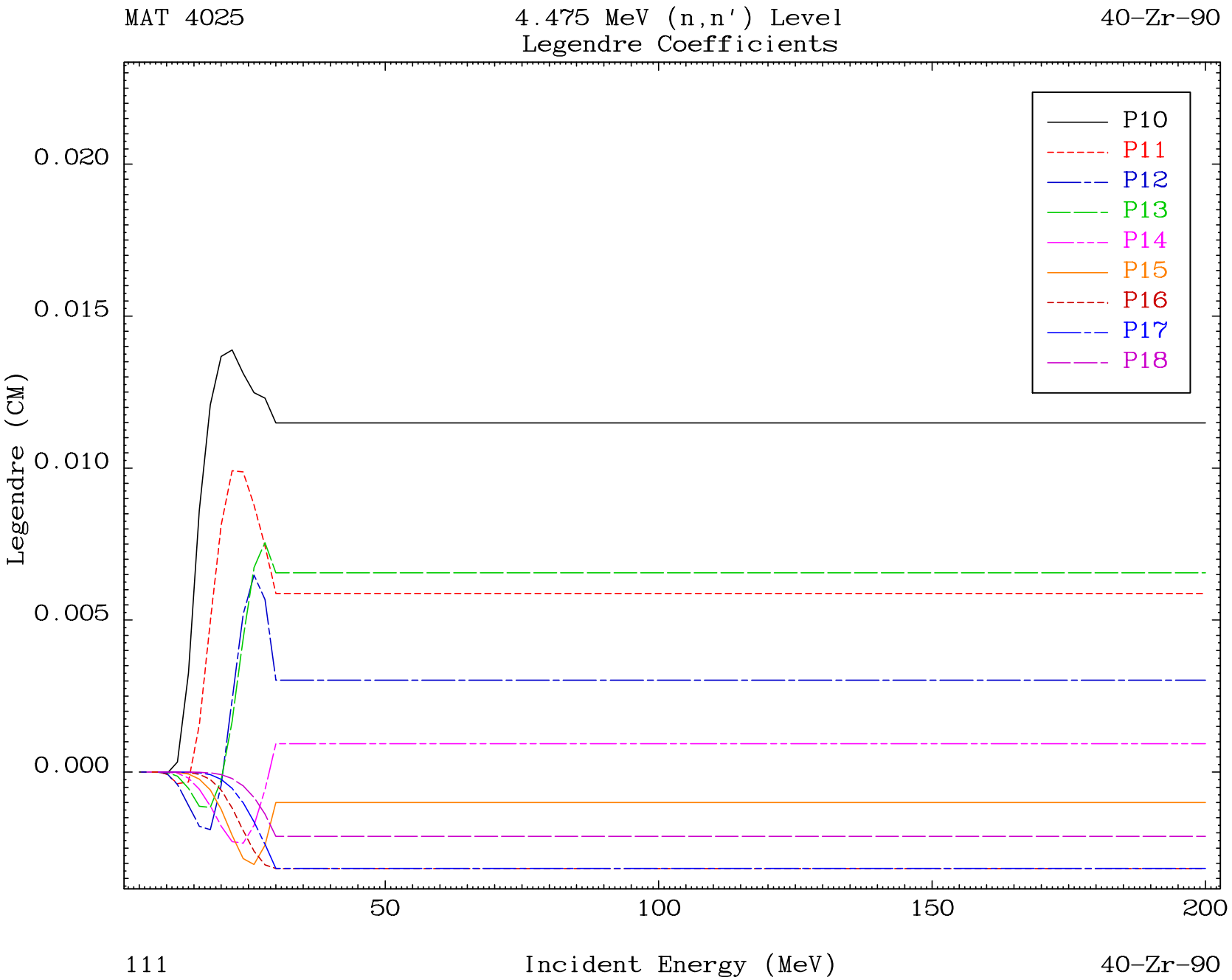

MAT 4025
4.471 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
106
Incident Energy (MeV)
40-Zr-90

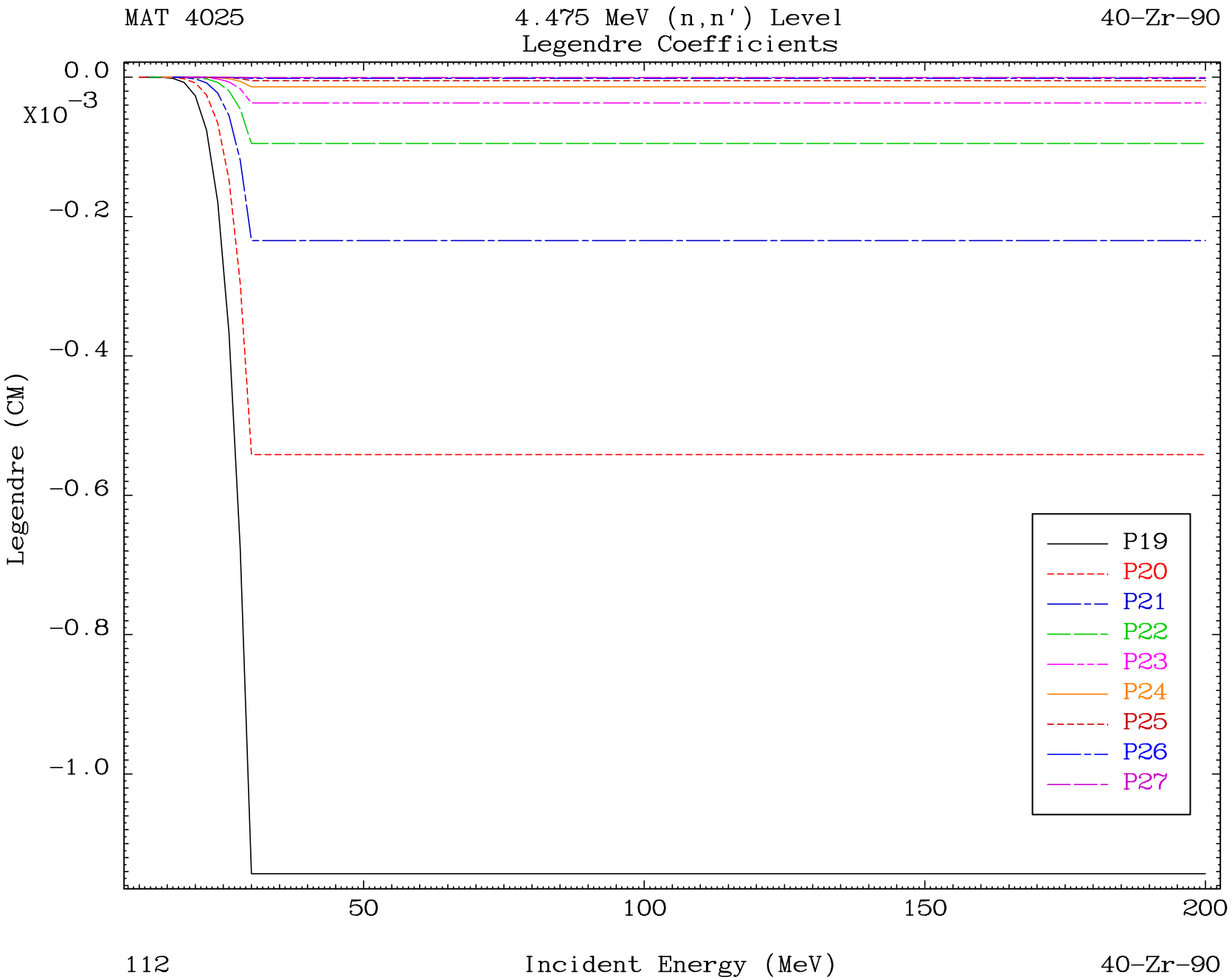

MAT 4025
4.471 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
-0.005
Legendre (CM)
50
100
150
200
107
Incident Energy (MeV)
40-Zr-90

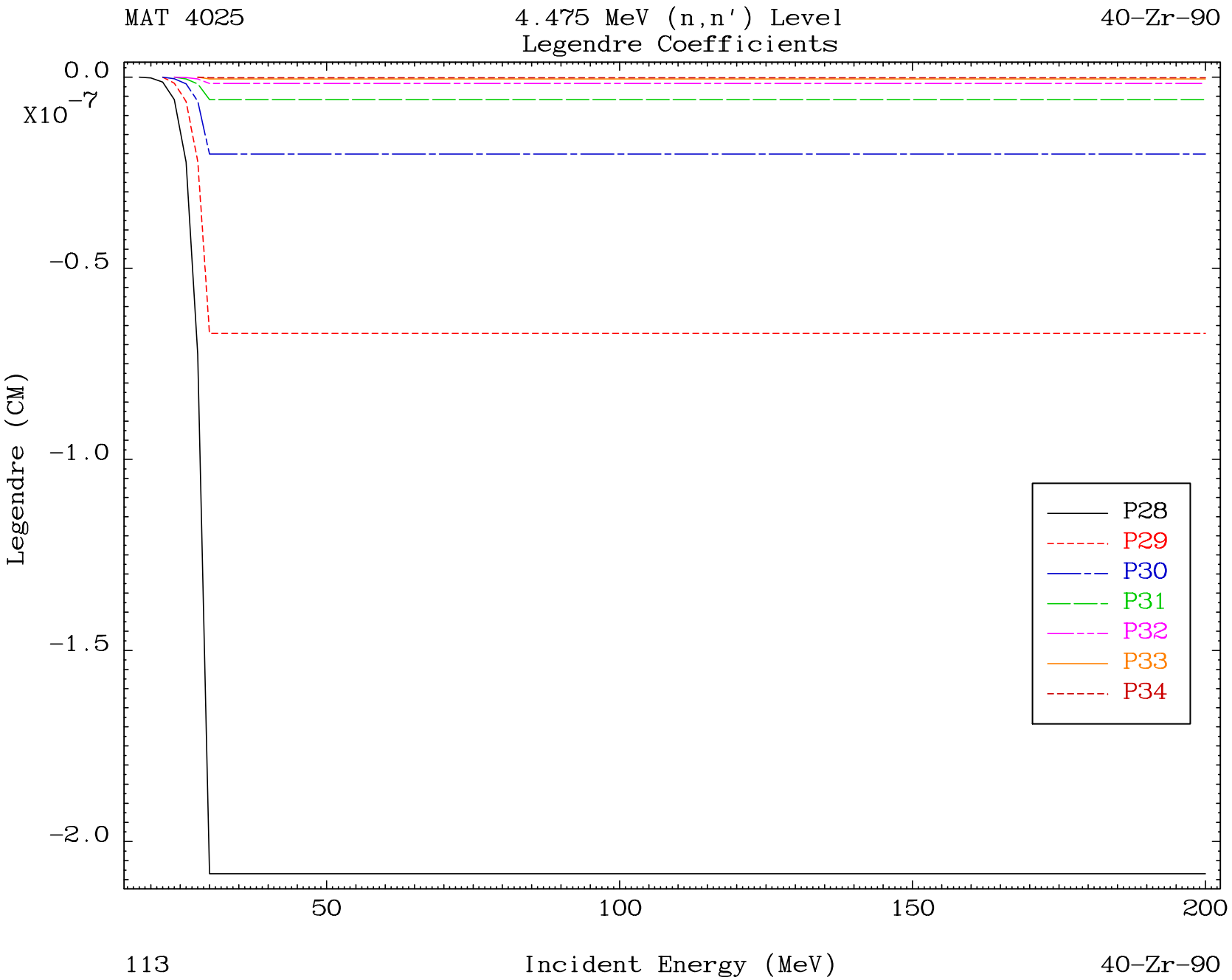

MAT 4025
4.471 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-4
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
108
Incident Energy (MeV)
40-Zr-90

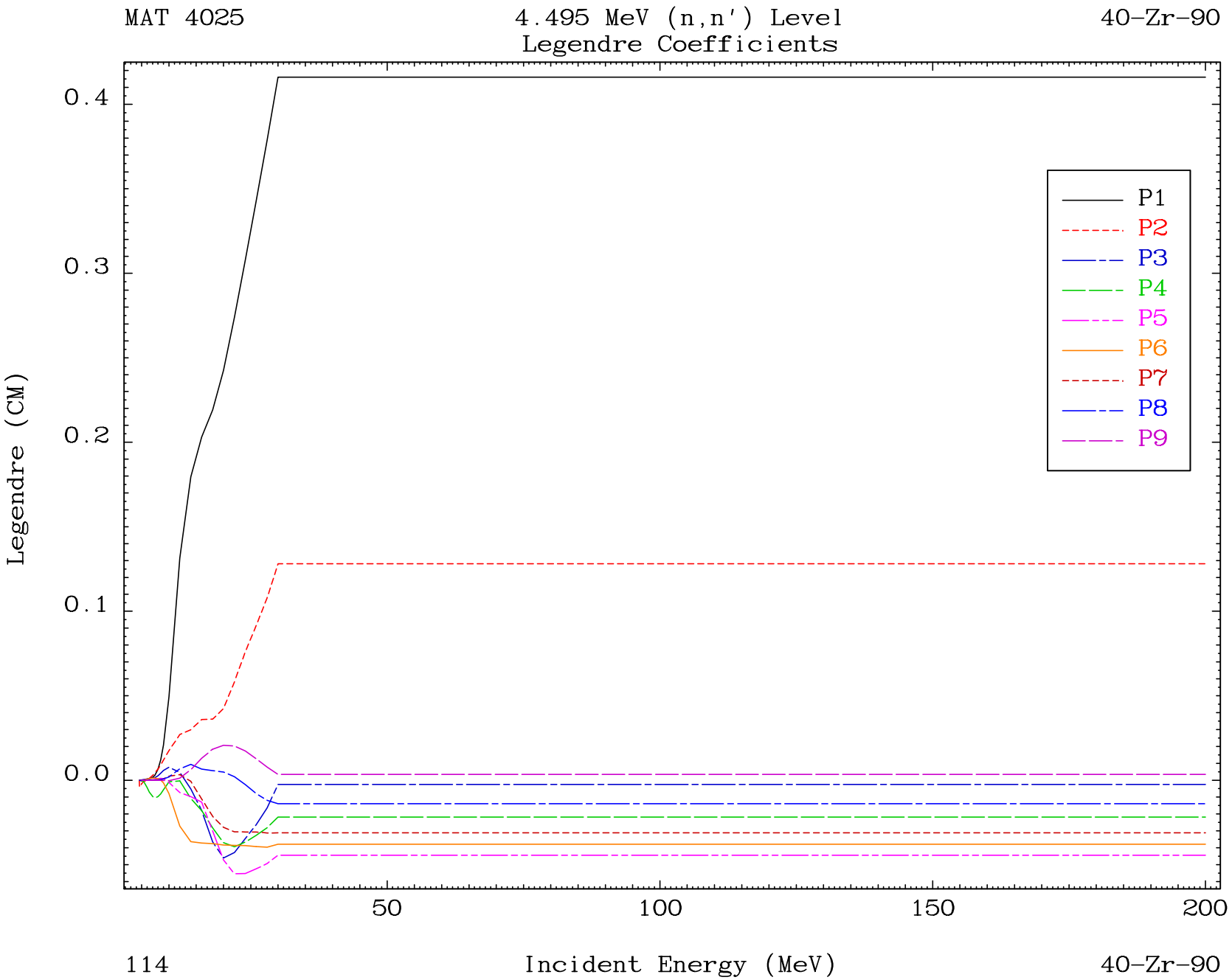

MAT 4025
4.471 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
X10^-7
1.2
0.8
0.4
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
109
Incident Energy (MeV)
40-Zr-90

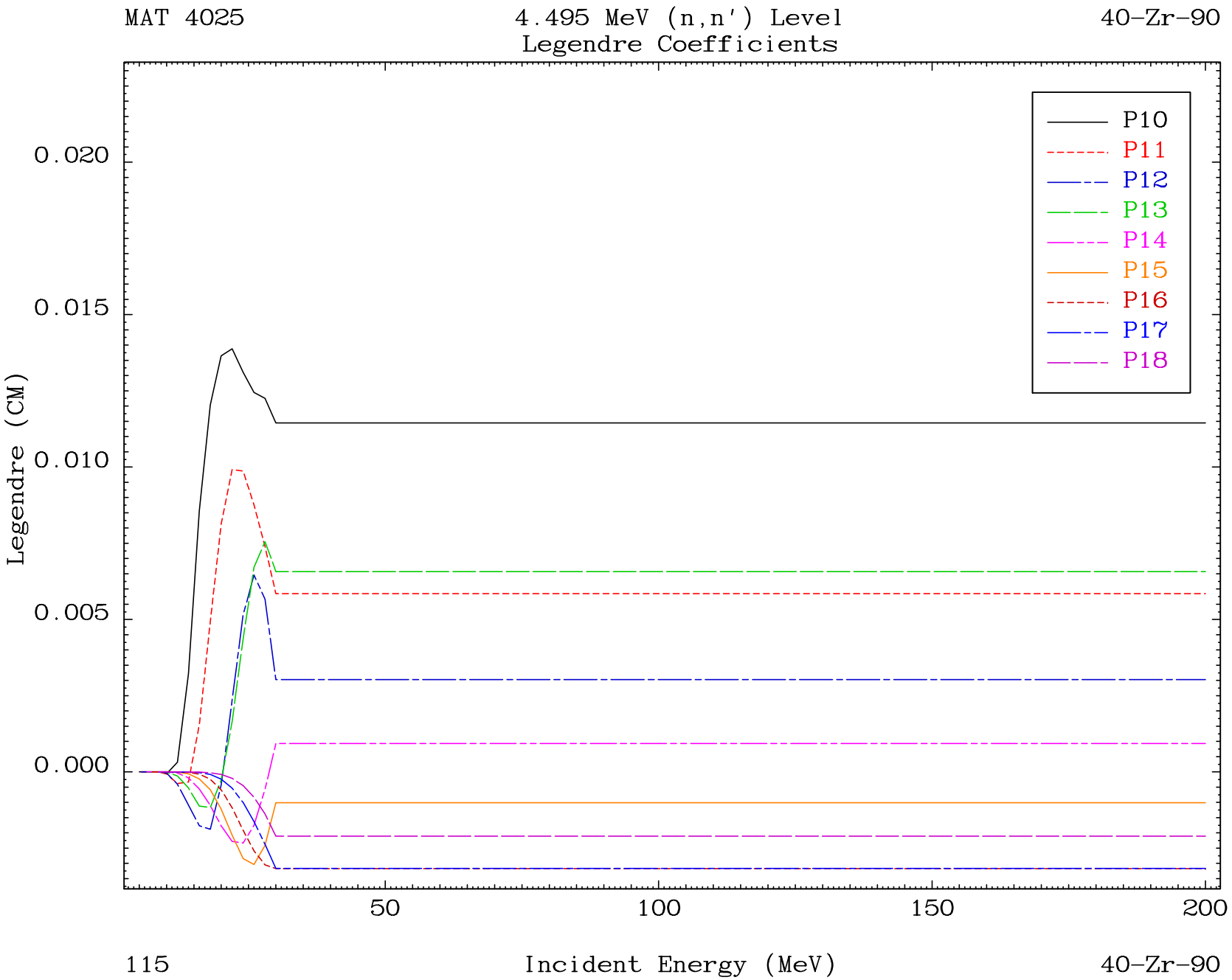

MAT 4025
4.475 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
110
Incident Energy (MeV)
40-Zr-90

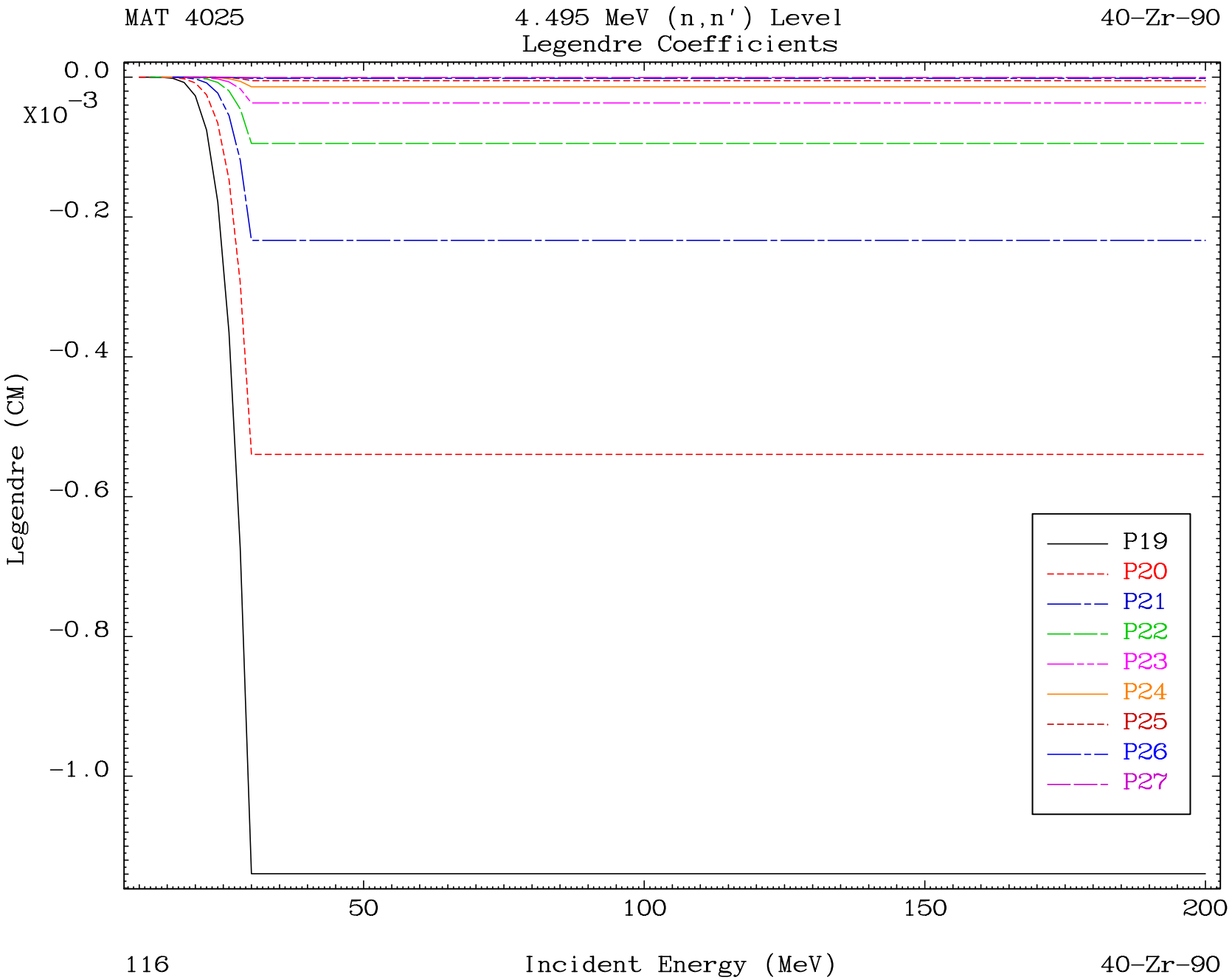

MAT 4025
4.475 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
111
Incident Energy (MeV)
40-Zr-90

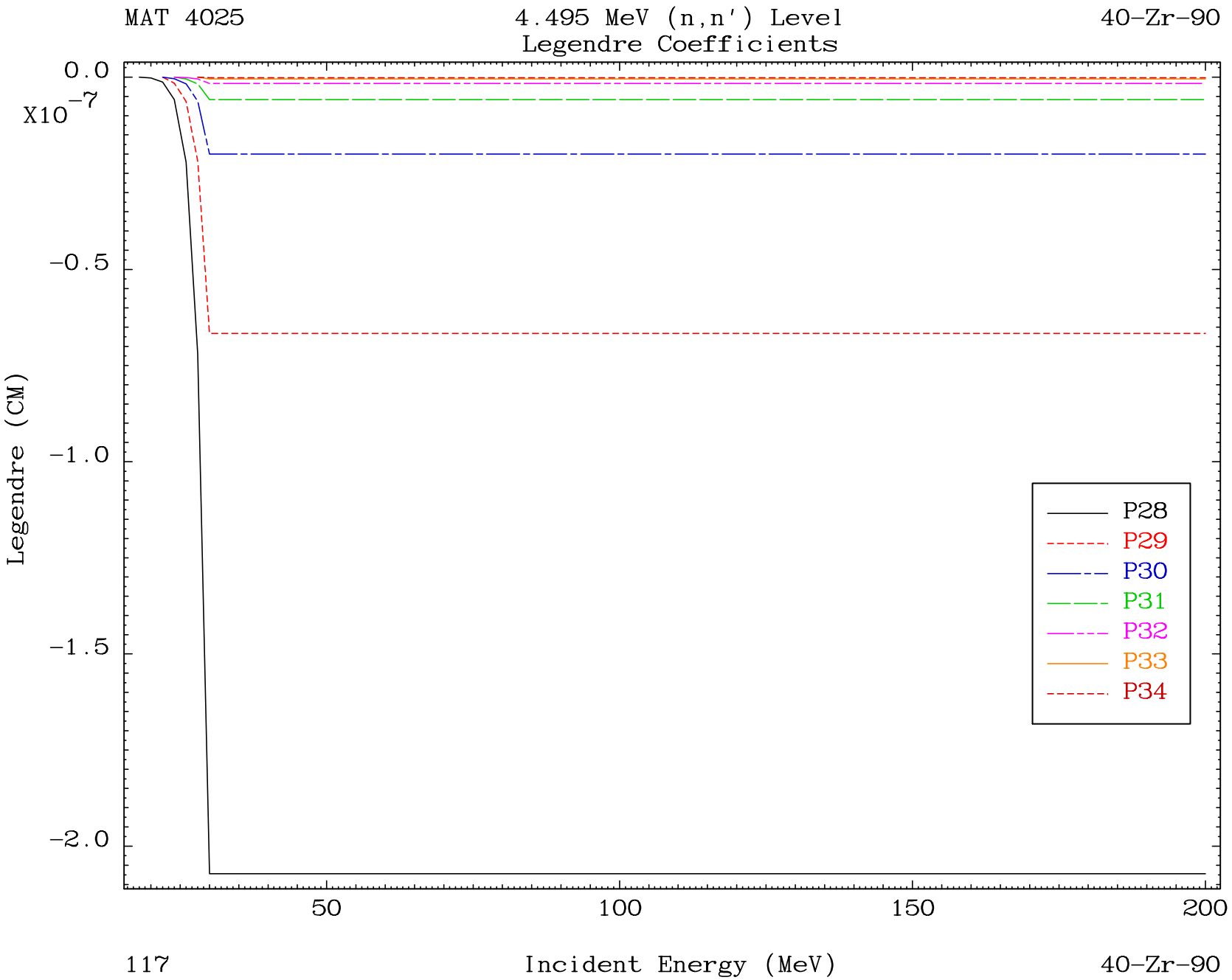

MAT 4025
4.475 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
112
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

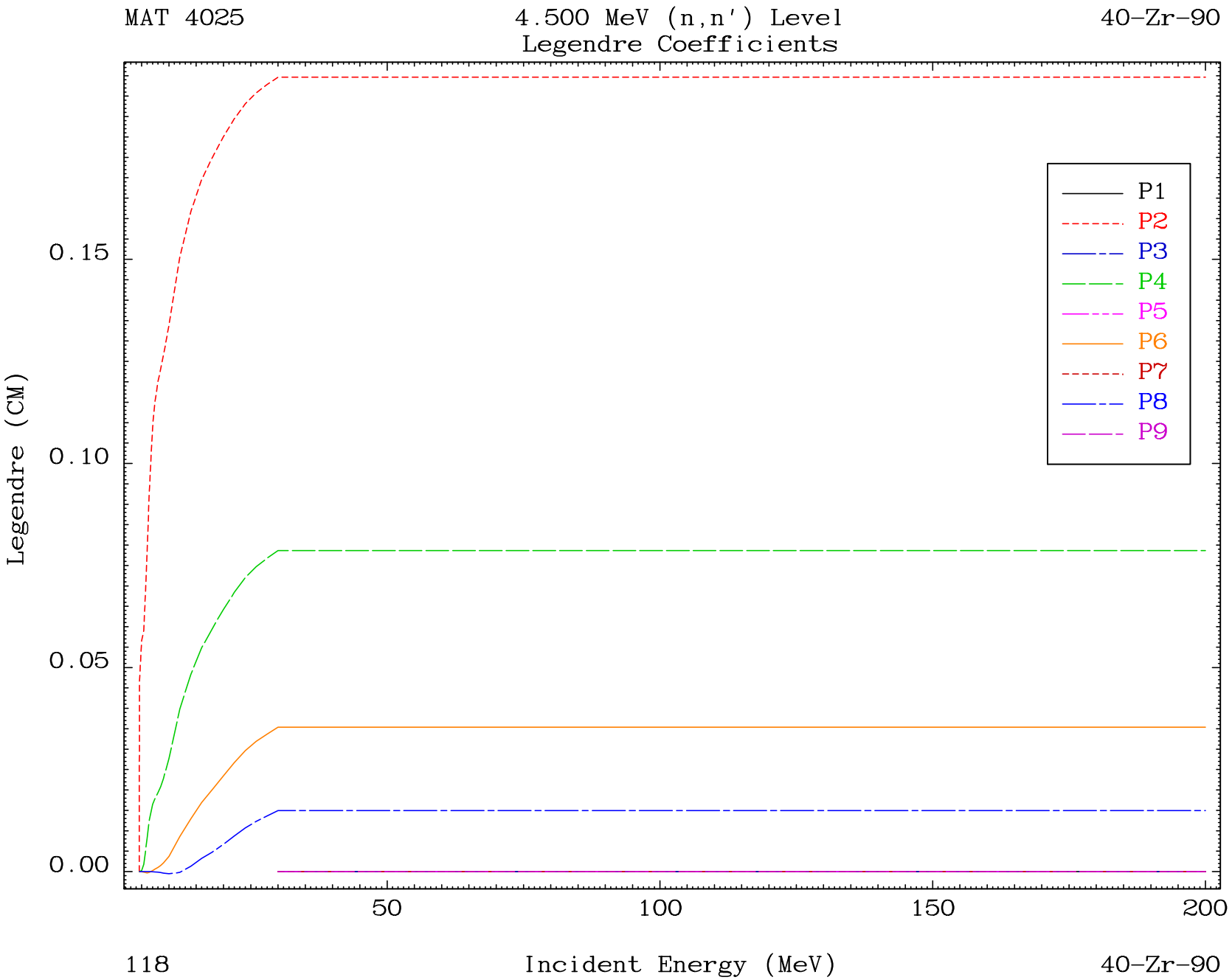

MAT 4025
4.475 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10-7
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
113
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

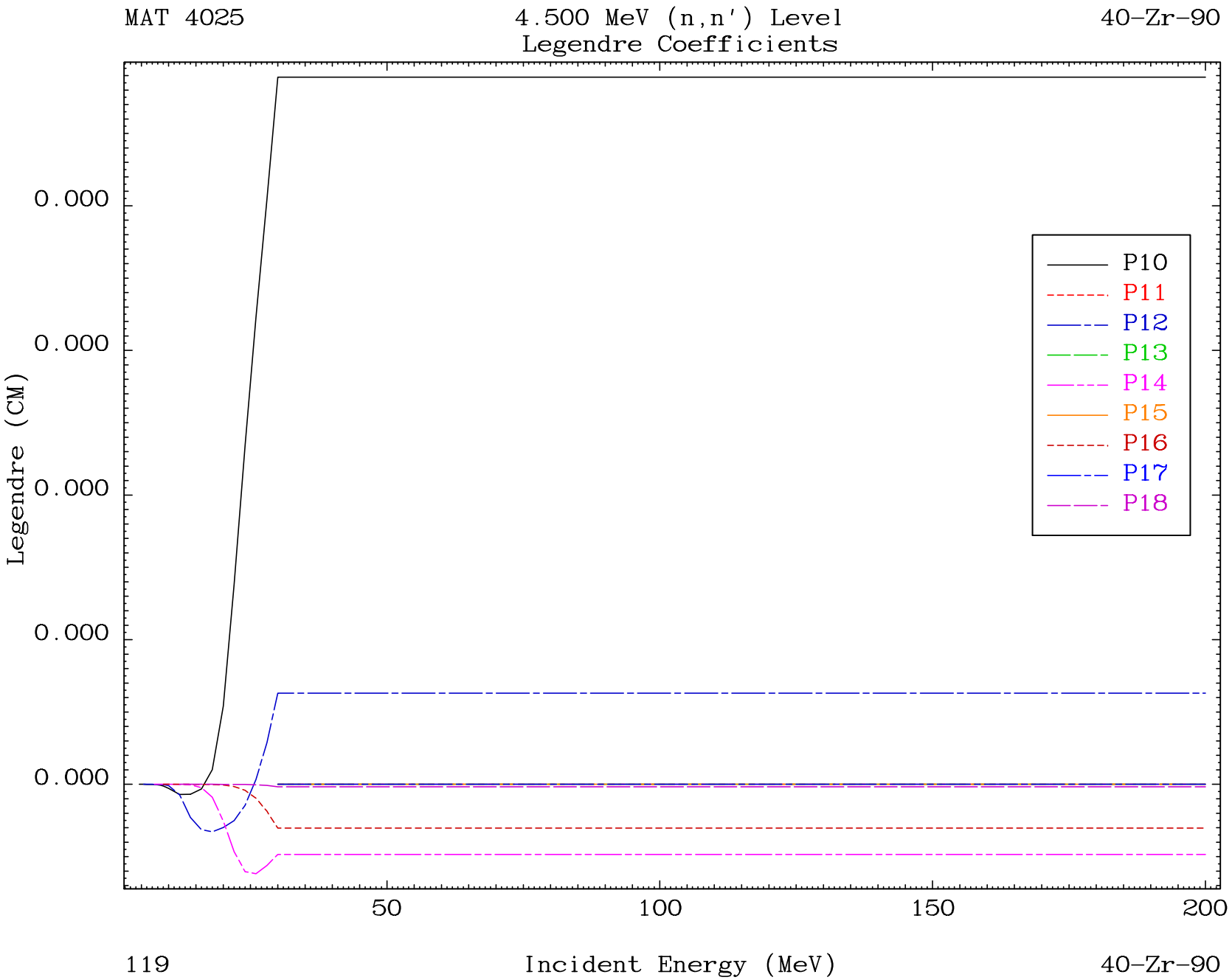

MAT 4025
4.495 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
50
100
150
200
114
Incident Energy (MeV)
40-Zr-90

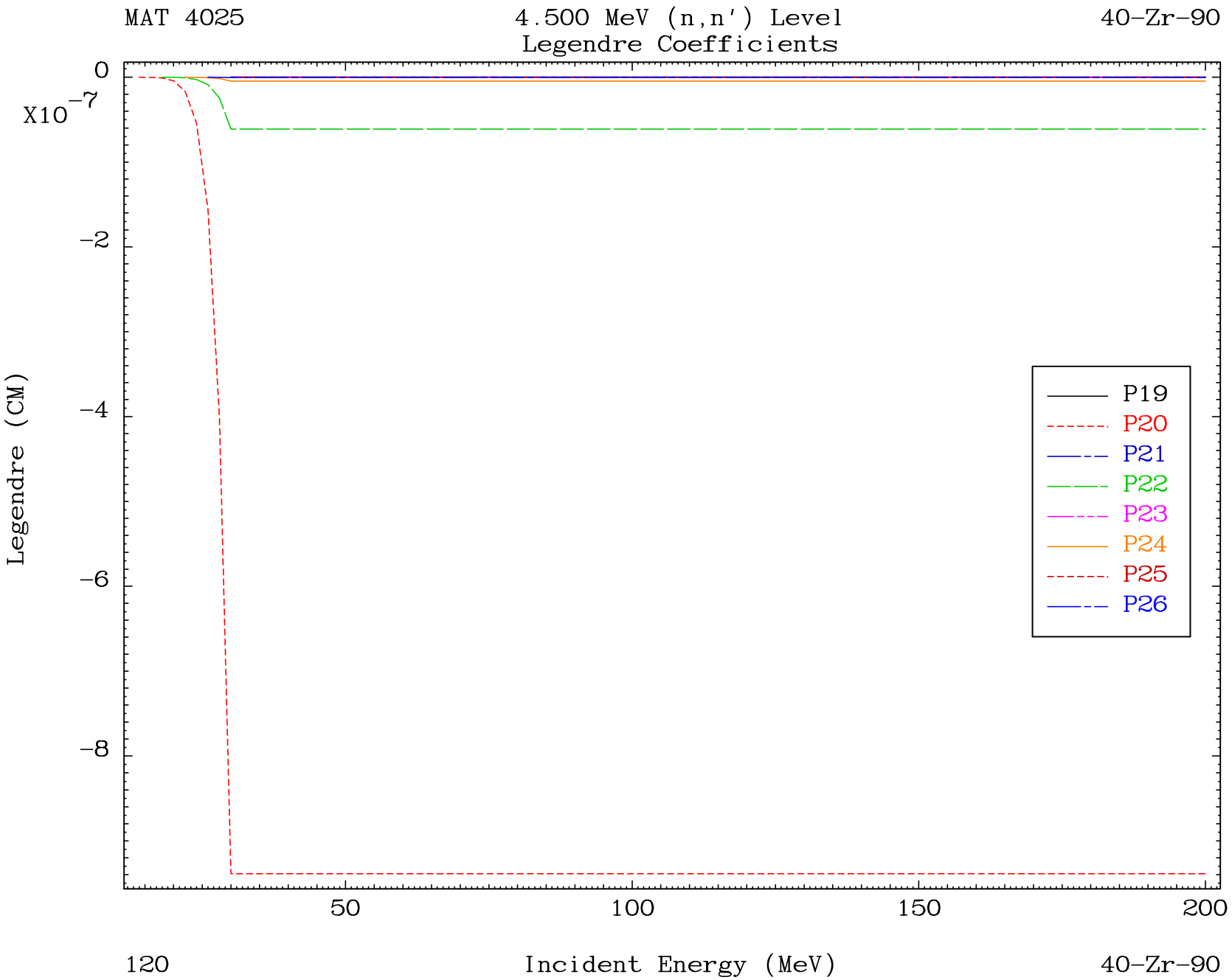

MAT 4025
4.495 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
115
Incident Energy (MeV)
40-Zr-90

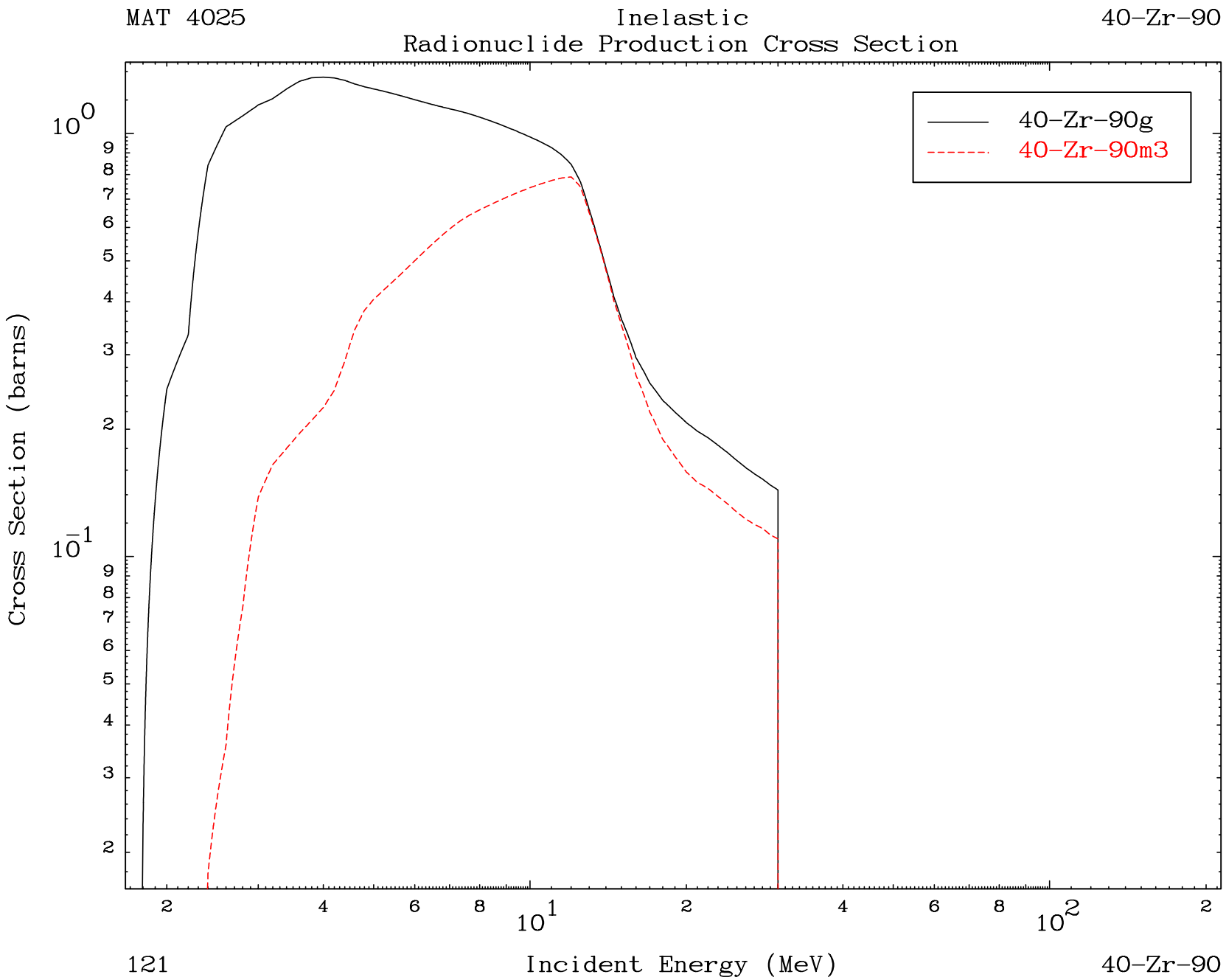

MAT 4025
4.495 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10^-3
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
116
Incident Energy (MeV)
40-Zr-90
P19
P20
P21
P22
P23
P24
P25
P26
P27

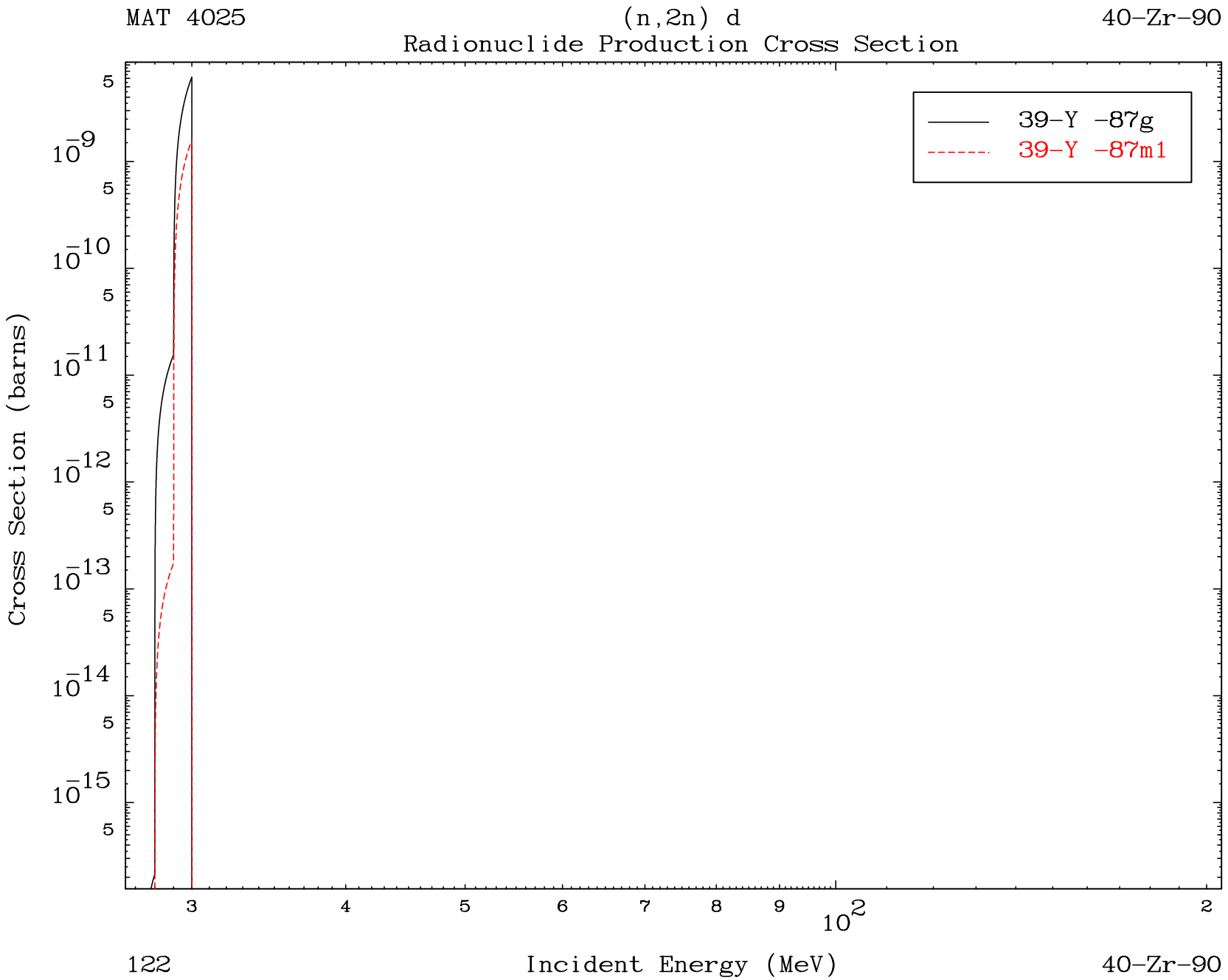

MAT 4025
4.495 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.0
X10-7
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
117
Incident Energy (MeV)
40-Zr-90
P28
P29
P30
P31
P32
P33
P34

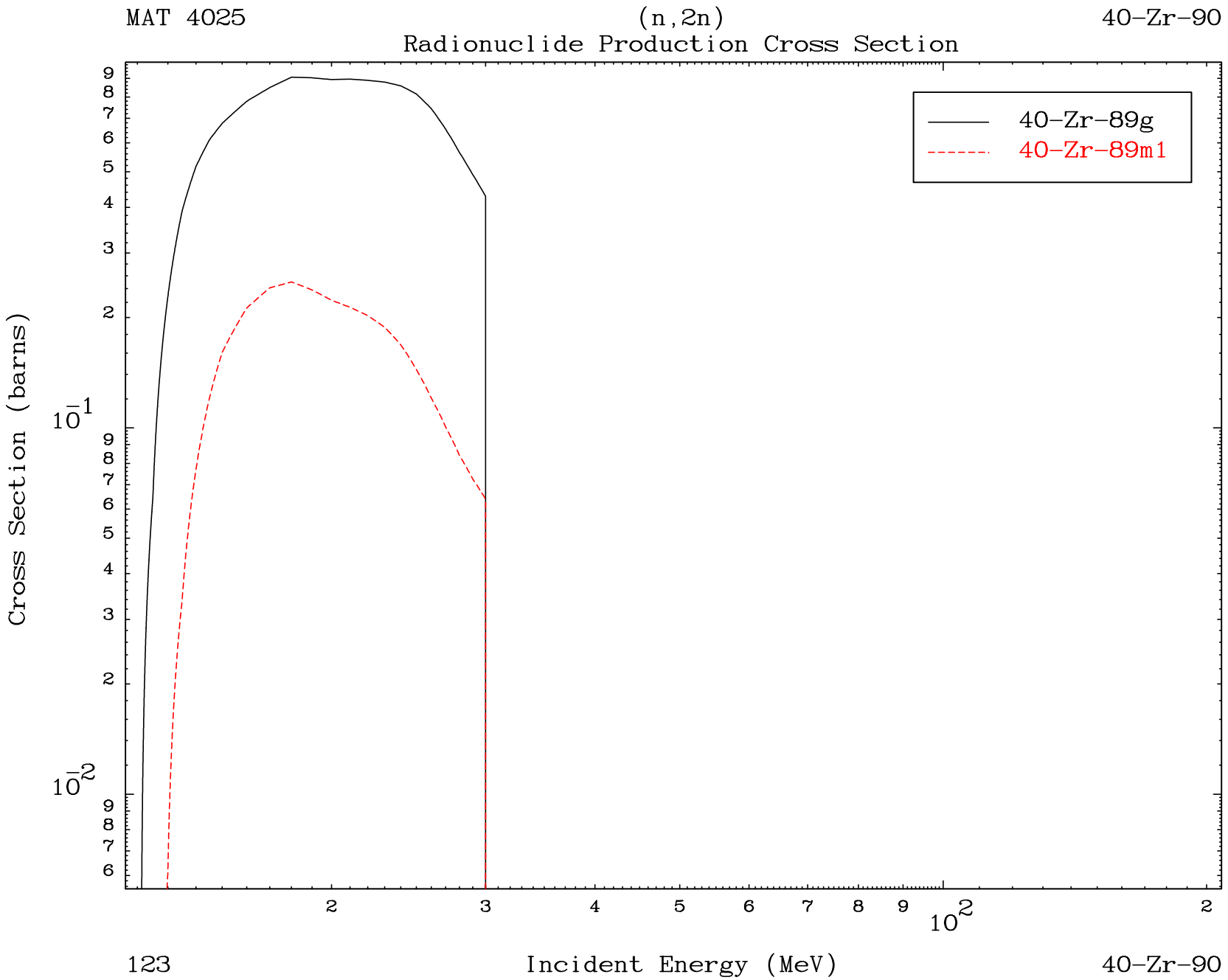

MAT 4025
4.500 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
Legendre (CM)
0.15
0.10
0.05
0.00
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
118
Incident Energy (MeV)
40-Zr-90

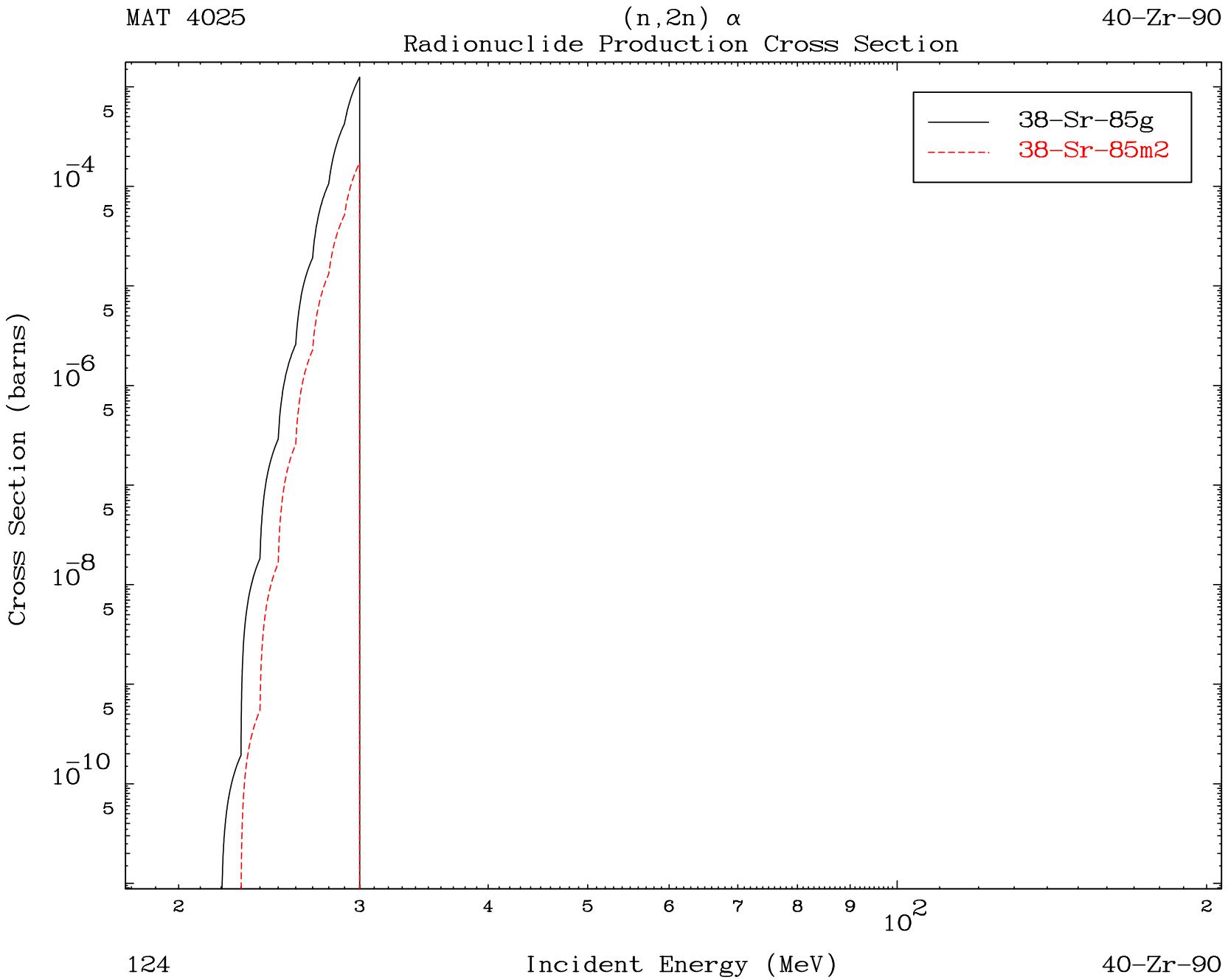

MAT 4025
4.500 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0.000
0.000
0.000
0.000
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P10
P11
P12
P13
P14
P15
P16
P17
P18
119
40-Zr-90

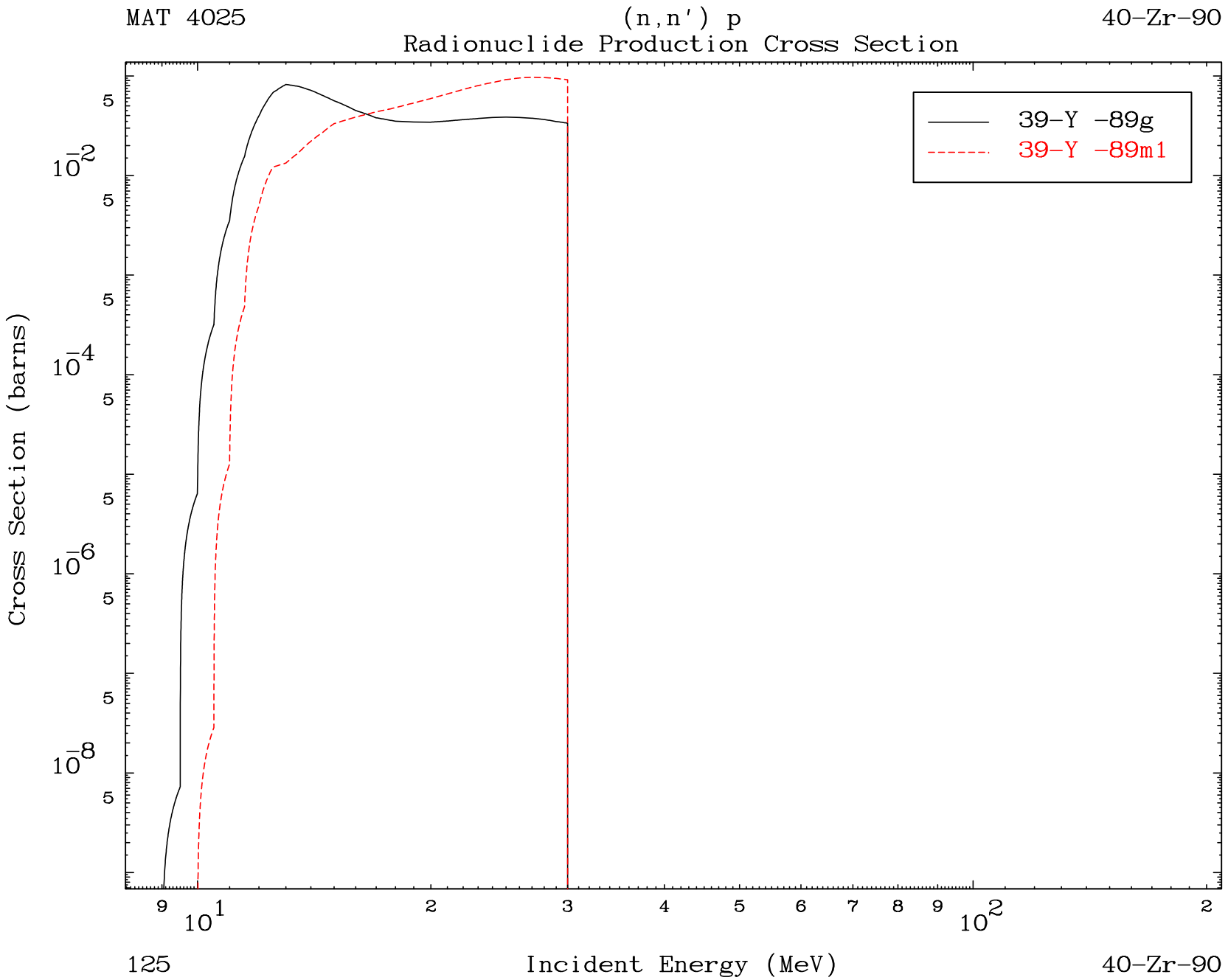

MAT 4025
4.500 MeV (n,n') Level
Legendre Coefficients
40-Zr-90
0
X10-7
-2
-4
-6
-8
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
120
Incident Energy (MeV)
40-Zr-90

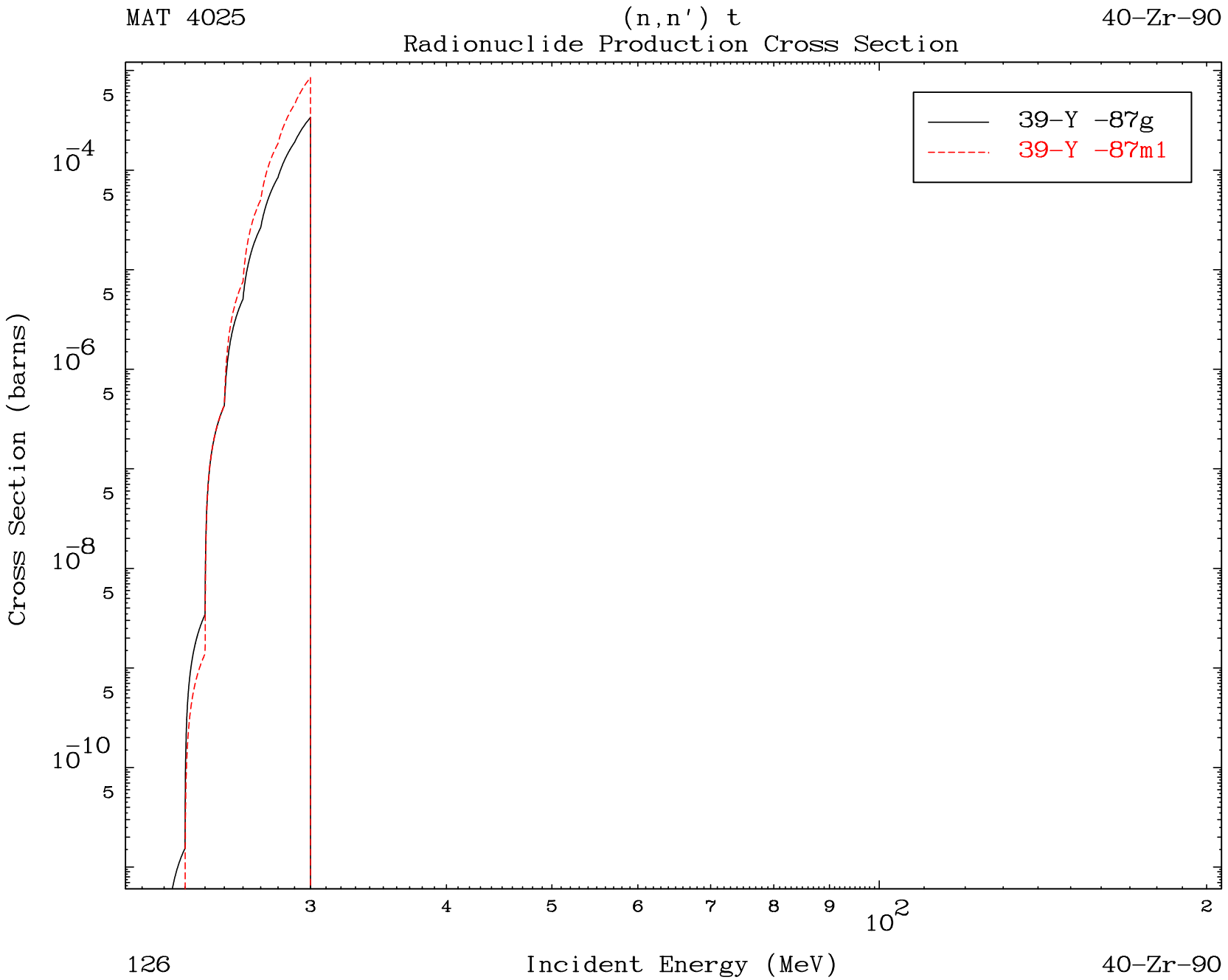

MAT 4025
Inelastic
40-Zr-90
Radionuclide Production Cross Section
40-Zr-90g
40-Zr-90m3
Cross Section (barns)
Incident Energy (MeV)
121
40-Zr-90

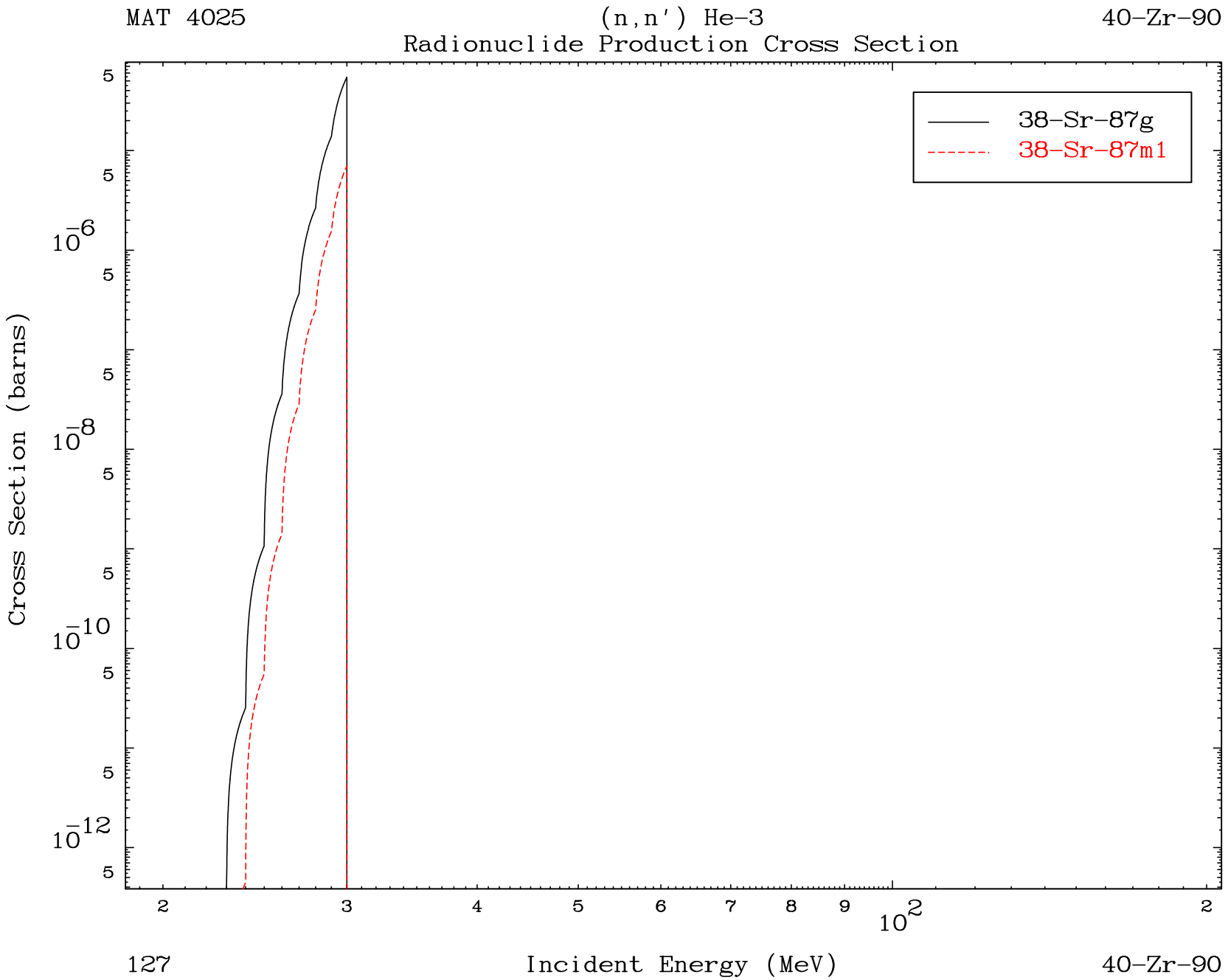

MAT 4025
(n,2n) d
40-Zr-90
Radionuclide Production Cross Section
39-Y -87g
39-Y -87m1
Cross Section (barns)
10^-9
10^-10
10^-11
10^-12
10^-13
10^-14
10^-15
5
3
4
5
6
7
8
9
10^2
2
122
Incident Energy (MeV)
40-Zr-90

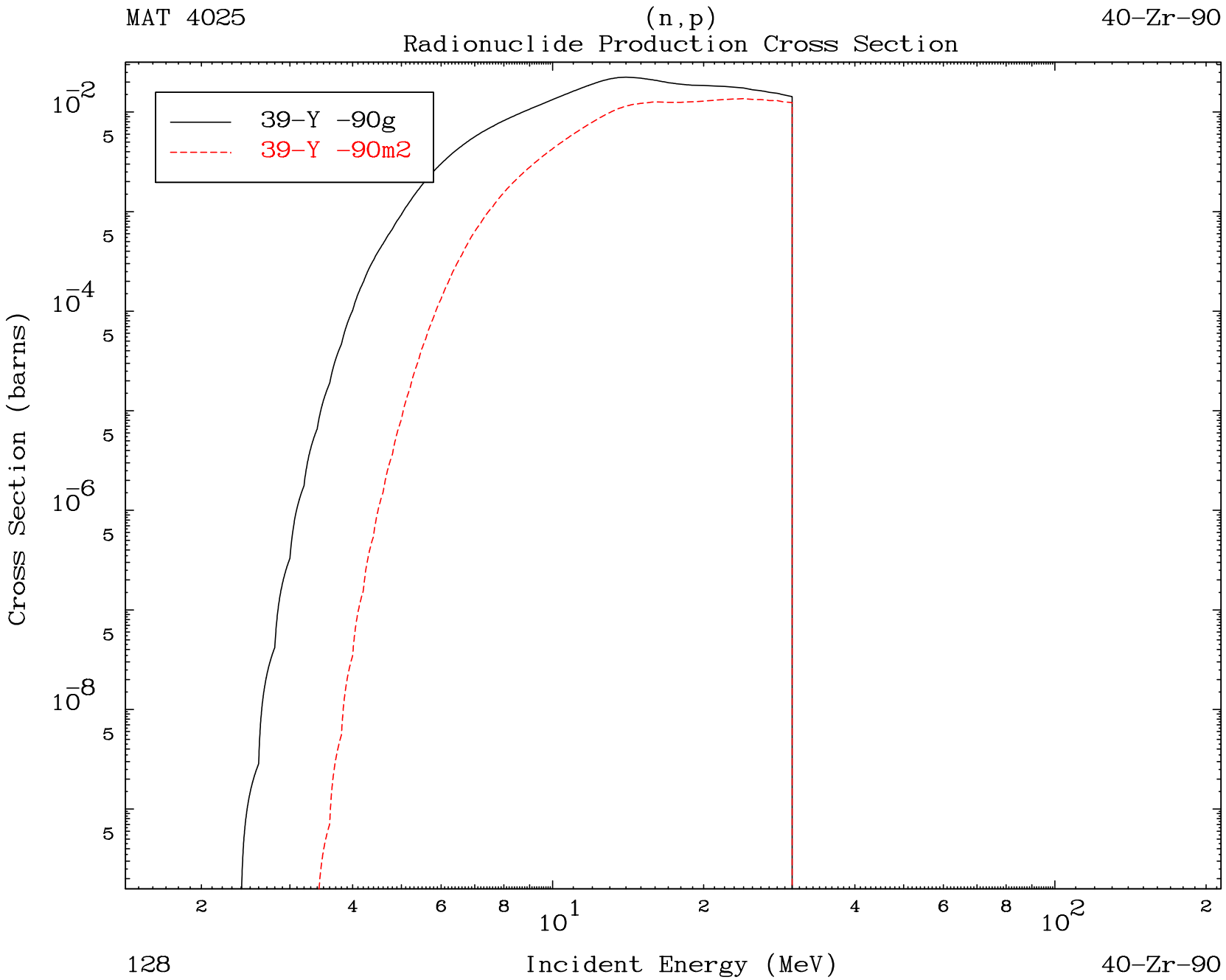

MAT 4025
(n,2n)
40-Zr-90
Radionuclide Production Cross Section
40-Zr-89g
40-Zr-89m1
Cross Section (barns)
Incident Energy (MeV)
123
40-Zr-90

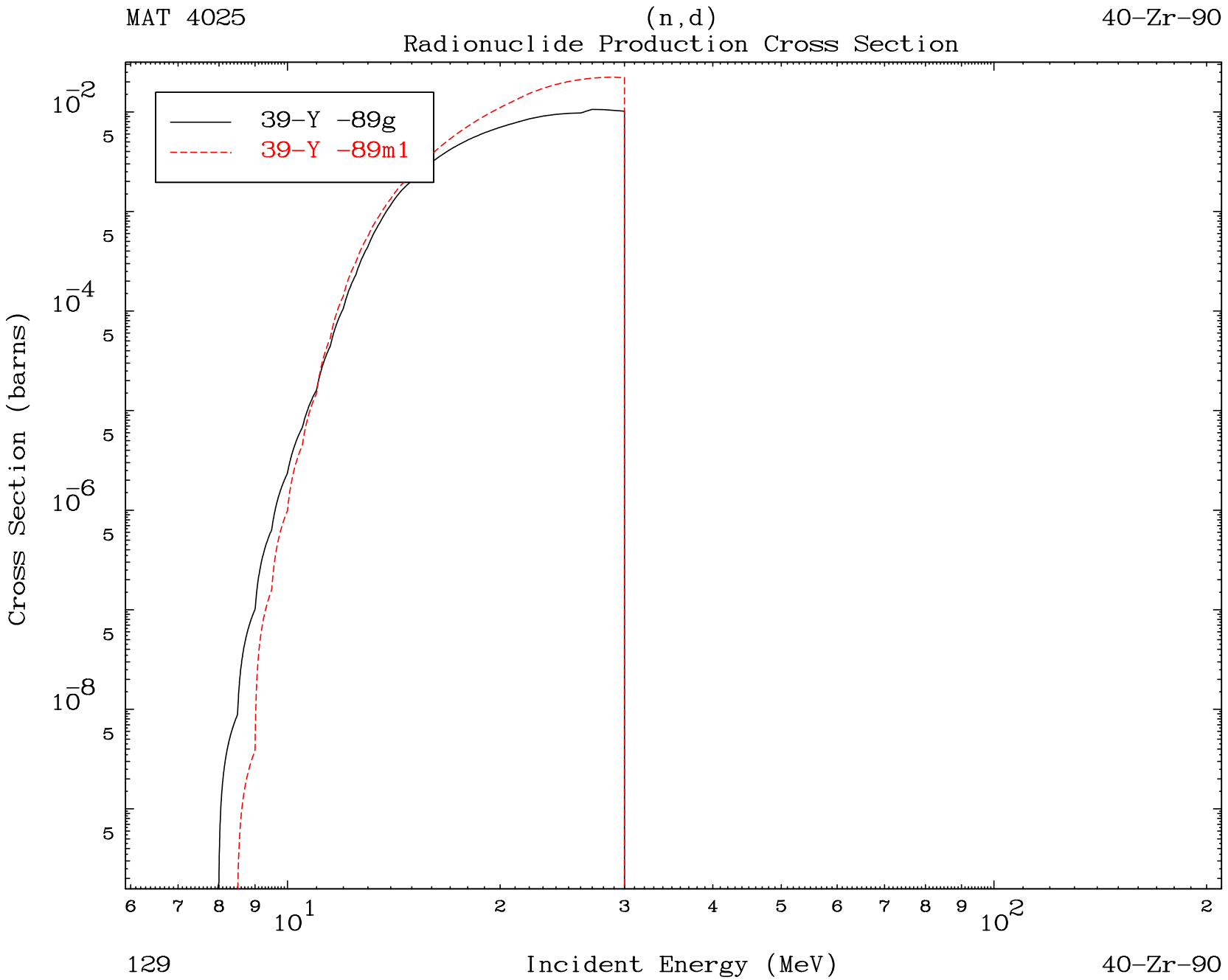

MAT 4025
(n,2n) α
40-Zr-90
Radionuclide Production Cross Section
38-Sr-85g
38-Sr-85m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
2
3
4
5
6
7
8
9
10^2
2
124
Incident Energy (MeV)
40-Zr-90

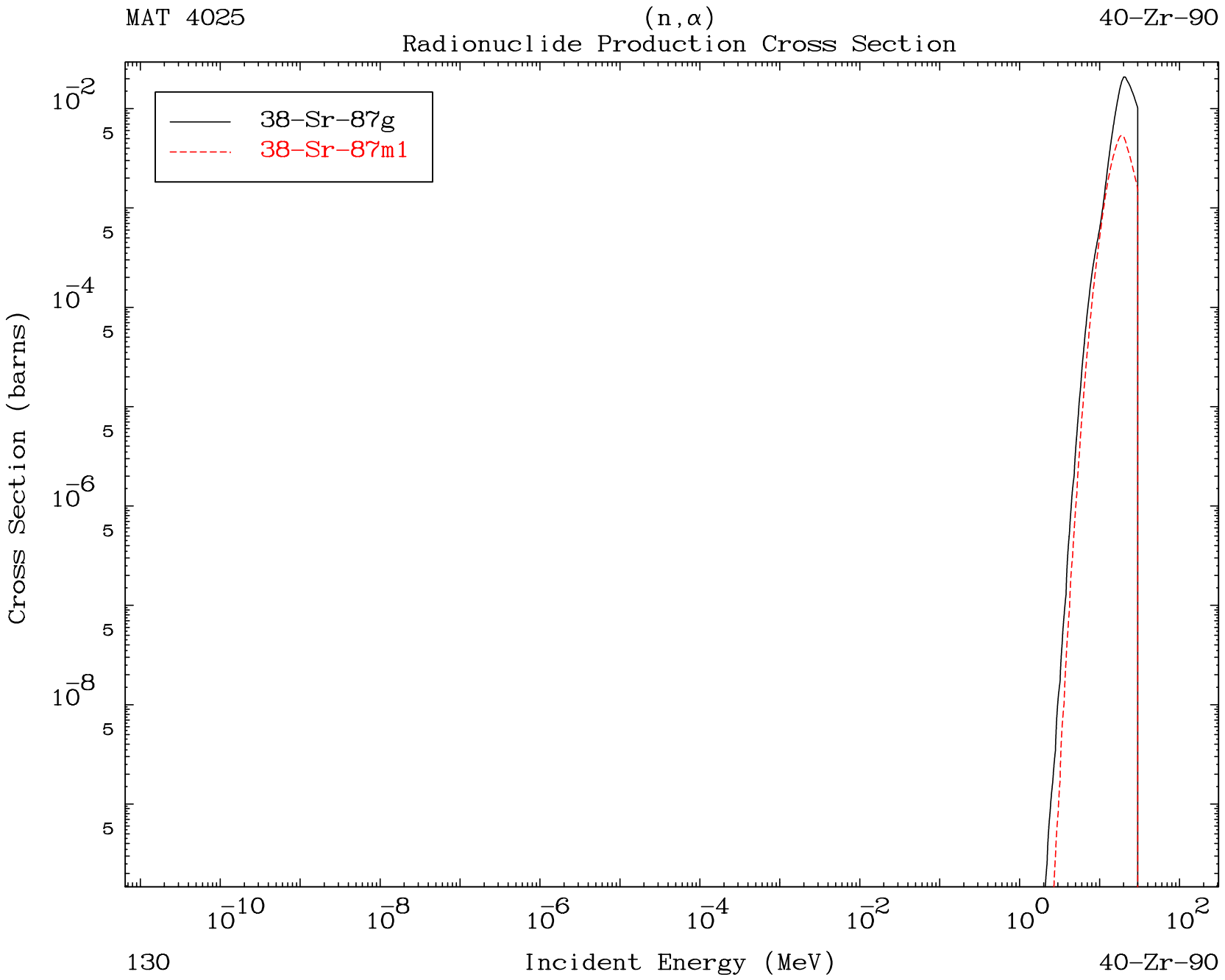

MAT 4025
(n,n') p
40-Zr-90
Radionuclide Production Cross Section
39-Y -89g
39-Y -89m1
Cross Section (barns)
Incident Energy (MeV)
125
40-Zr-90

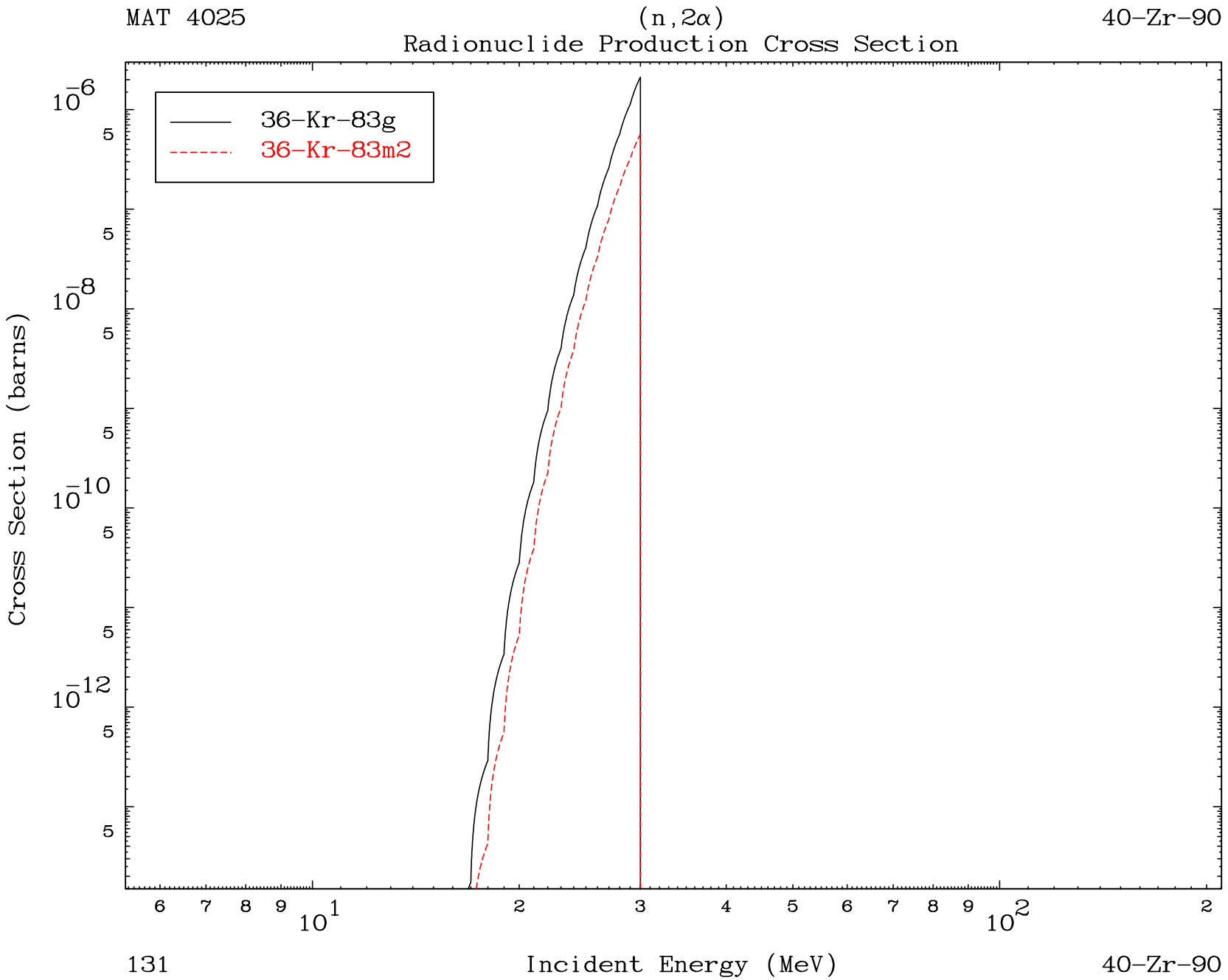

MAT 4025
(n,n') t
40-Zr-90
Radionuclide Production Cross Section
39-Y -87g
39-Y -87m1
Cross Section (barns)
10-4
10-6
10-8
10-10
5
3
4
5
6
7
8
9
10 2
2
126
Incident Energy (MeV)
40-Zr-90

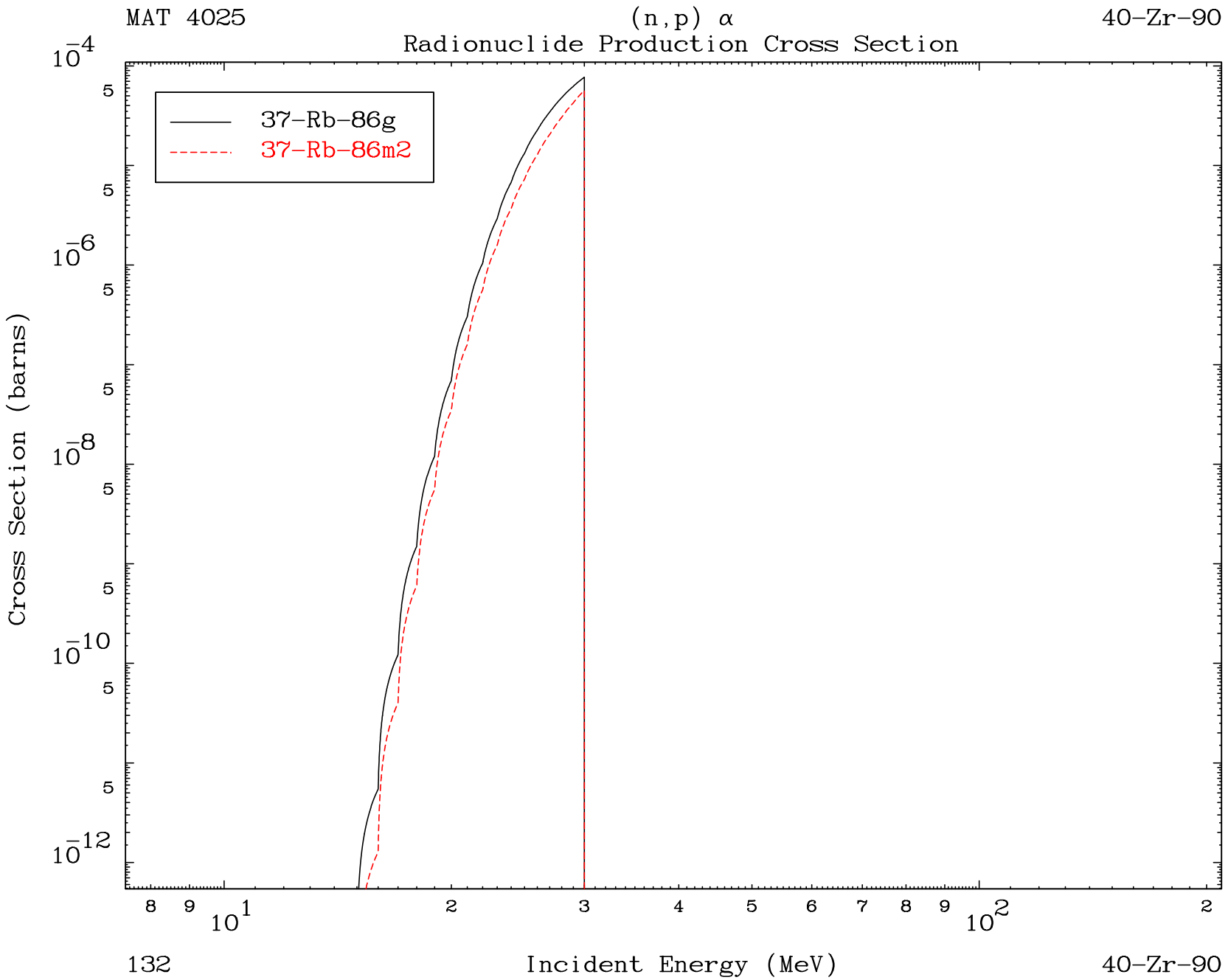

MAT 4025
(n,n') He-3
40-Zr-90
Radionuclide Production Cross Section
38-Sr-87g
38-Sr-87m1
Cross Section (barns)
Incident Energy (MeV)
127
40-Zr-90

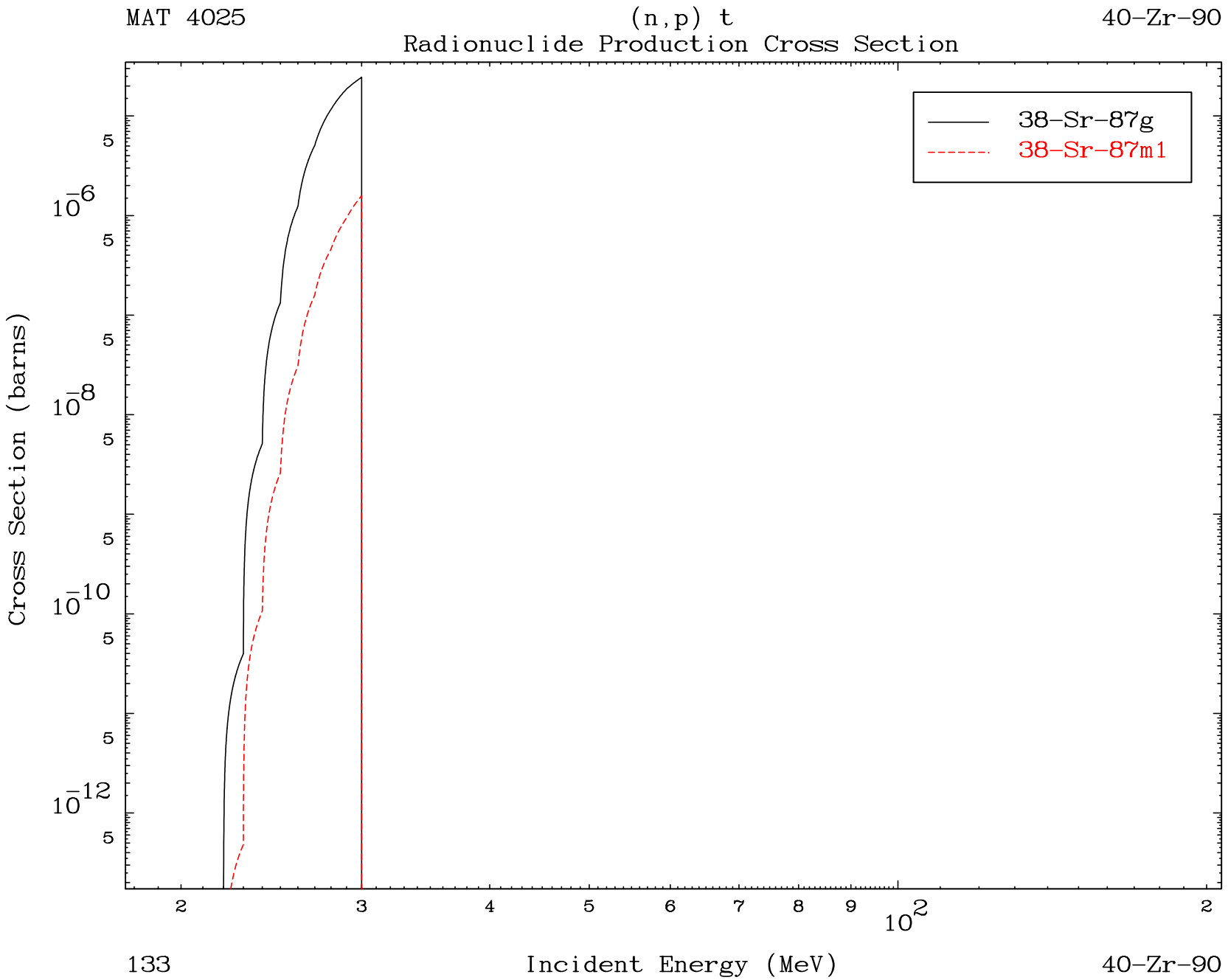

MAT 4025
(n,p)
40-Zr-90
Radionuclide Production Cross Section
39-Y -90g
39-Y -90m2
Cross Section (barns)
10-2
10-4
10-6
10-8
5
2
4
6
8
101
102
128
Incident Energy (MeV)
40-Zr-90


MAT 4025
(n,d)
40-Zr-90
Radionuclide Production Cross Section
39-Y -89g
39-Y -89m1
Cross Section (barns)
Incident Energy (MeV)
129
40-Zr-90


MAT 4025
(n,α)
40-Zr-90
Radionuclide Production Cross Section
38-Sr-87g
38-Sr-87m1
Cross Section (barns)
Incident Energy (MeV)
130
40-Zr-90


MAT 4025
(n,2α)
40-Zr-90
Radionuclide Production Cross Section
36-Kr-83g
36-Kr-83m2
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
6 7 8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
131
Incident Energy (MeV)
40-Zr-90


MAT 4025
(n,p) α
40-Zr-90
Radionuclide Production Cross Section
37-Rb-86g
37-Rb-86m2
Cross Section (barns)
Incident Energy (MeV)
132
40-Zr-90


MAT 4025
(n,p) t
40-Zr-90
Radionuclide Production Cross Section
38-Sr-87g
38-Sr-87m1
Cross Section (barns)
10-6
10-8
10-10
10-12
5
2
3
4
5
6
7
8
9
10 2
2
133
Incident Energy (MeV)
40-Zr-90