Program EVALPLOT
(Version 2018-1)
by
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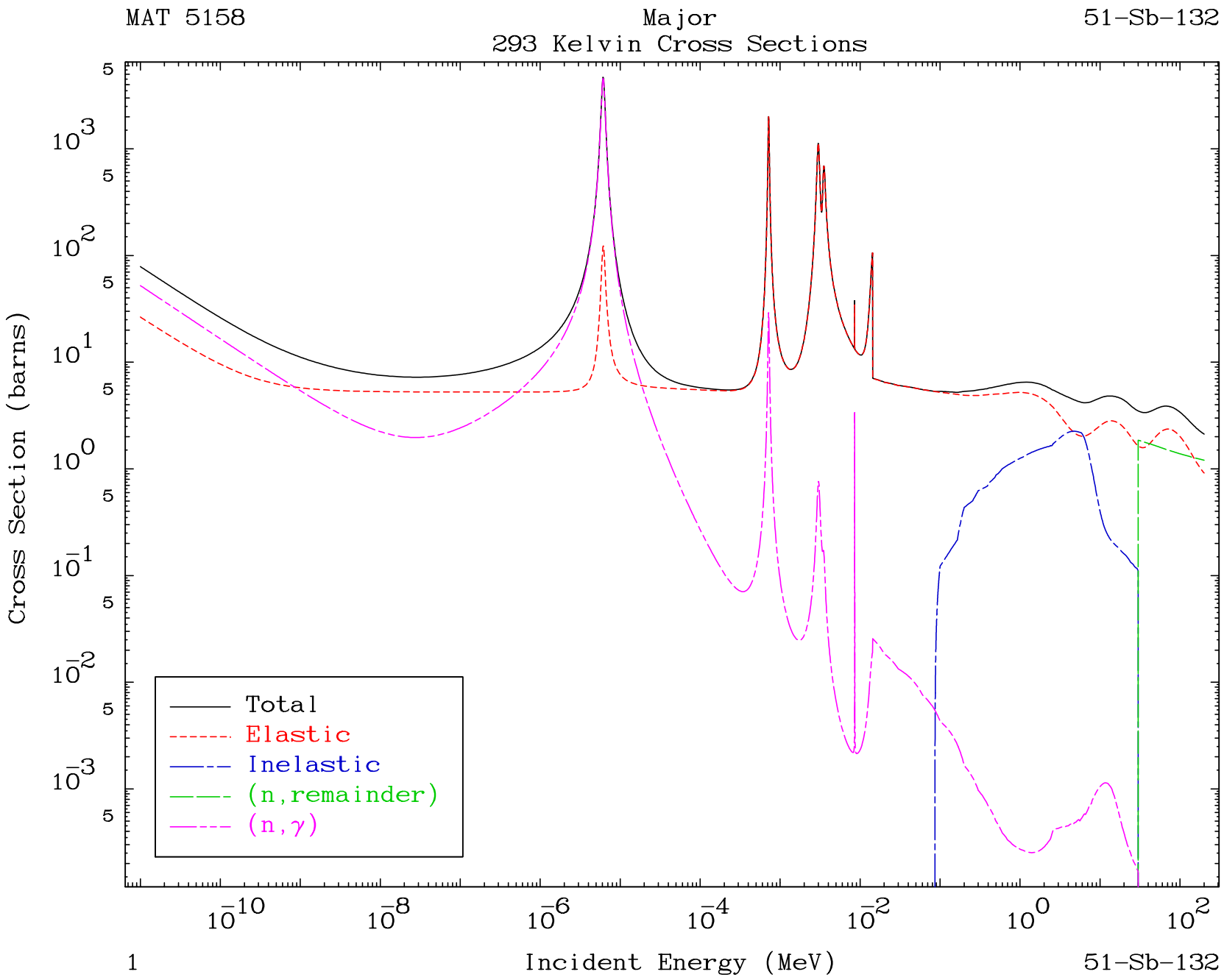
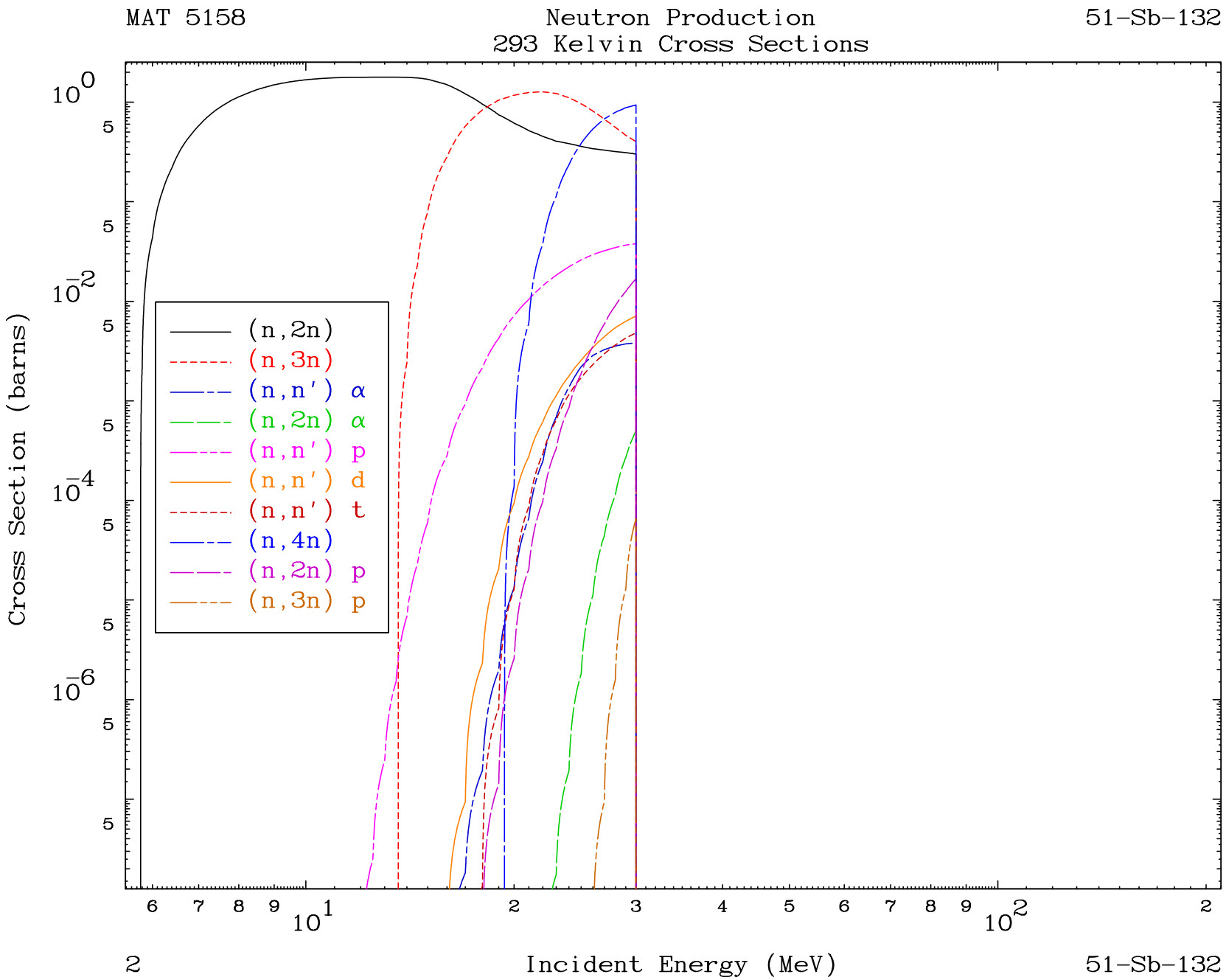
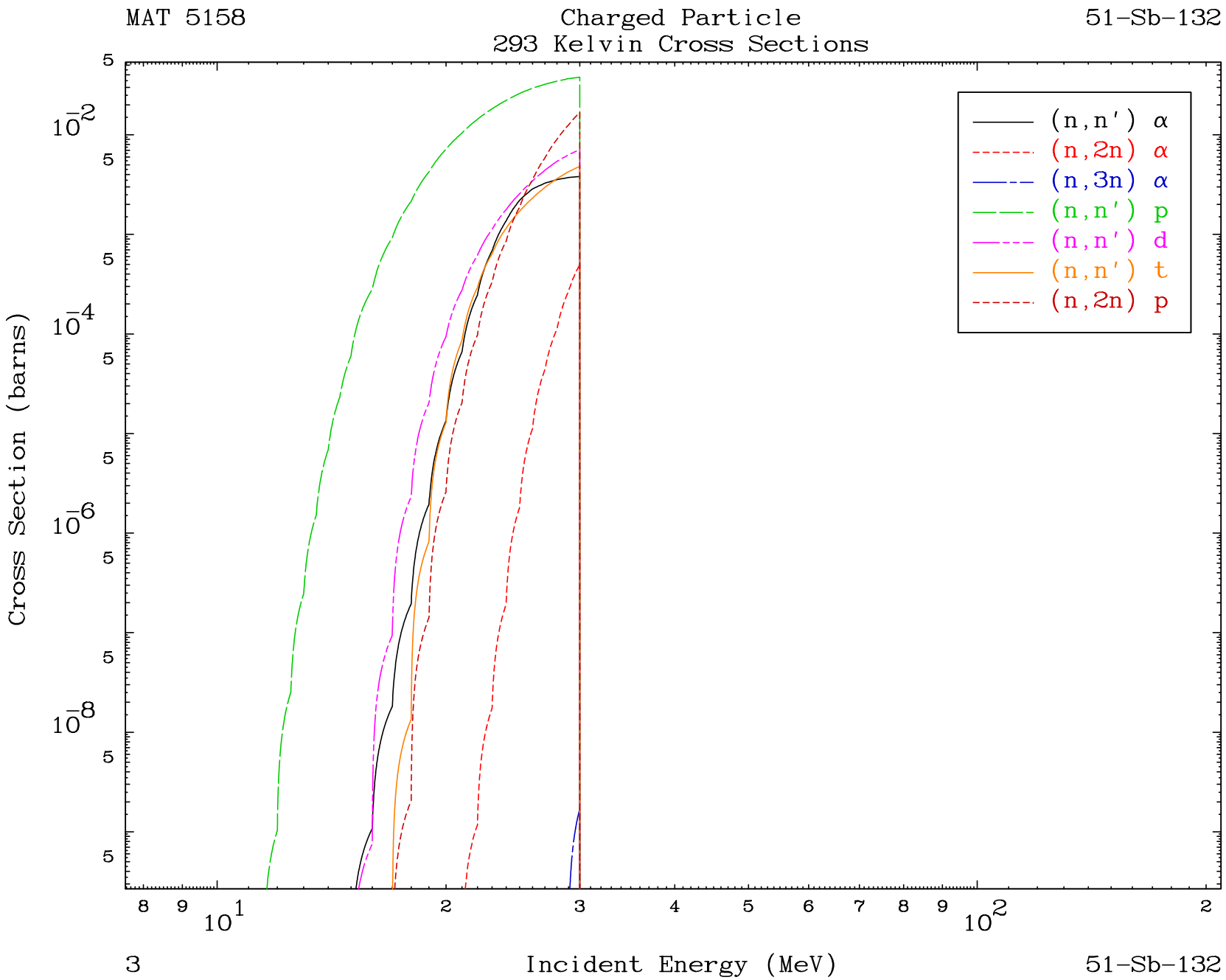
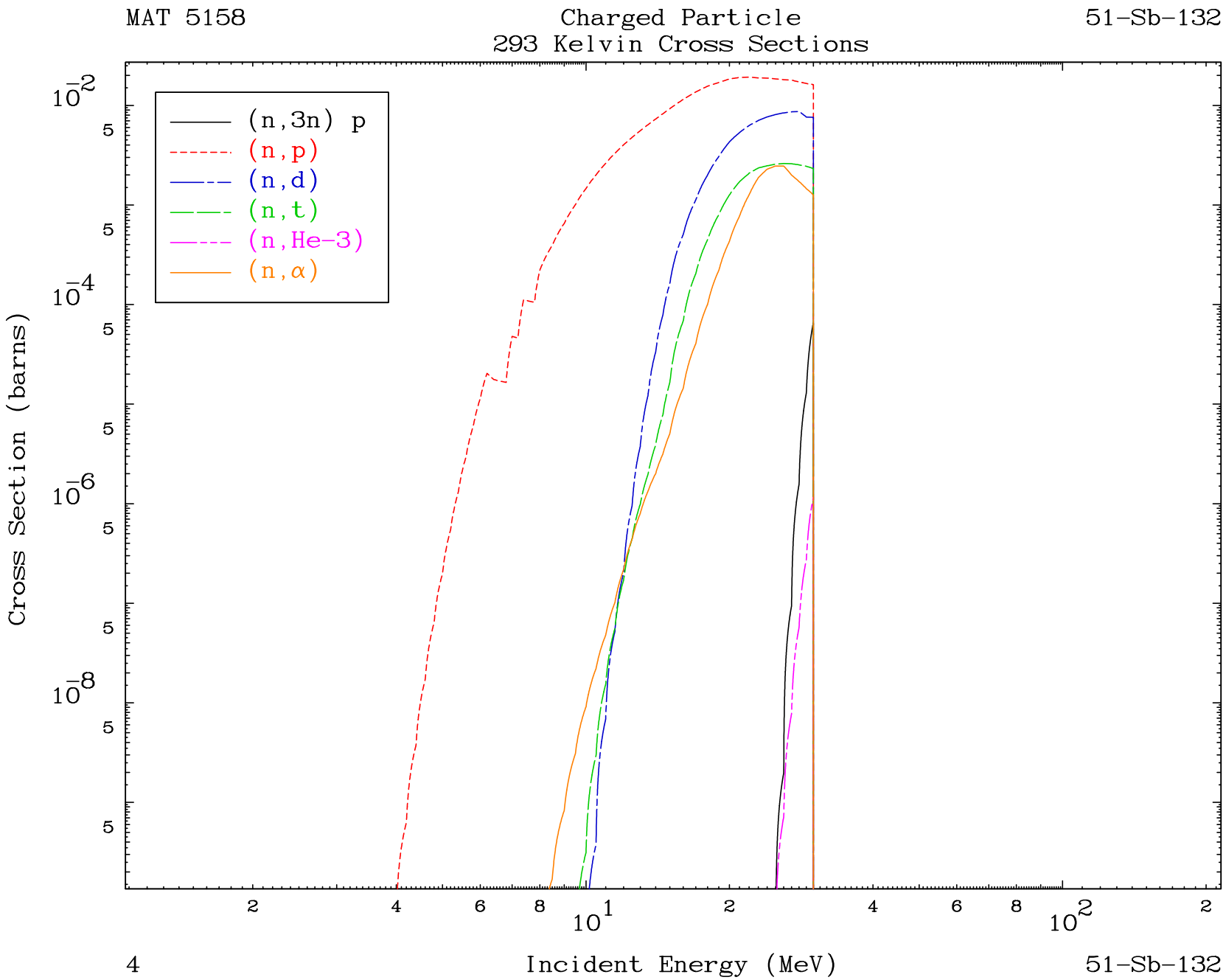
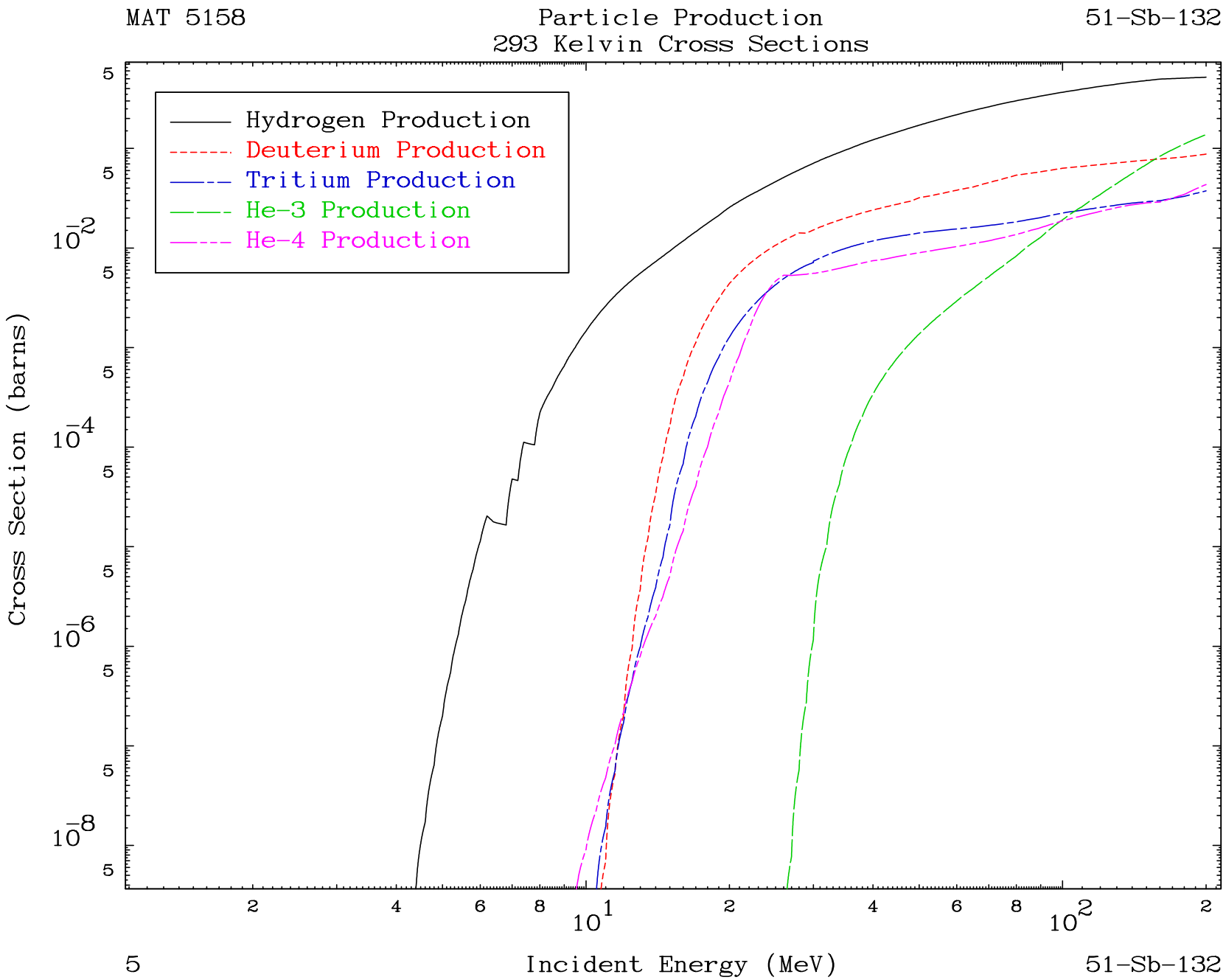
Press Mouse Button to Start

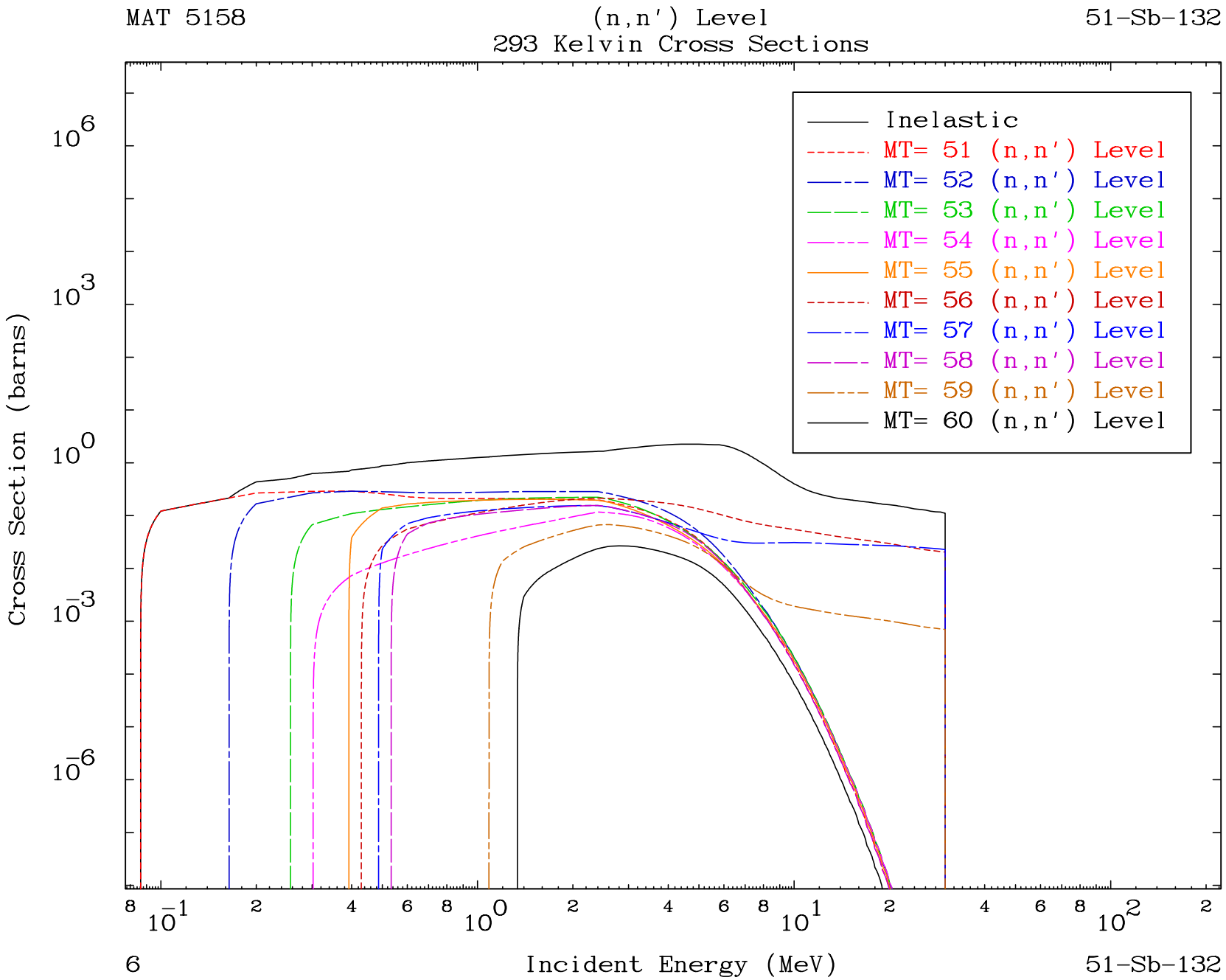

MAT 5158
Major
51-Sb-132
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
51-Sb-132

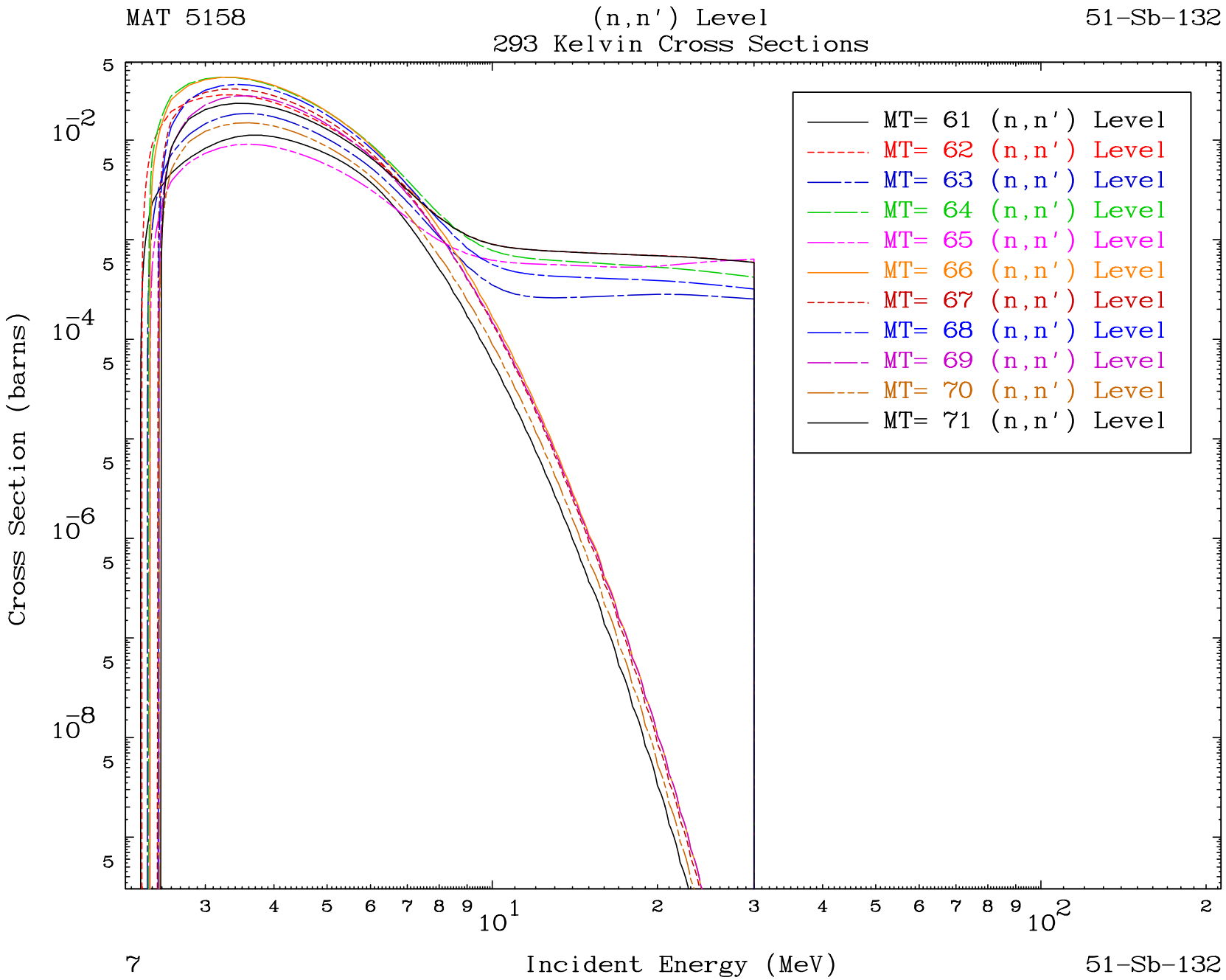

MAT 5158
Neutron Production
293 Kelvin Cross Sections
51-Sb-132
Cross Section (barns)
Incident Energy (MeV)
51-Sb-132
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,n') p
(n,n') d
(n,n') t
(n,4n)
(n,2n) p
(n,3n) p

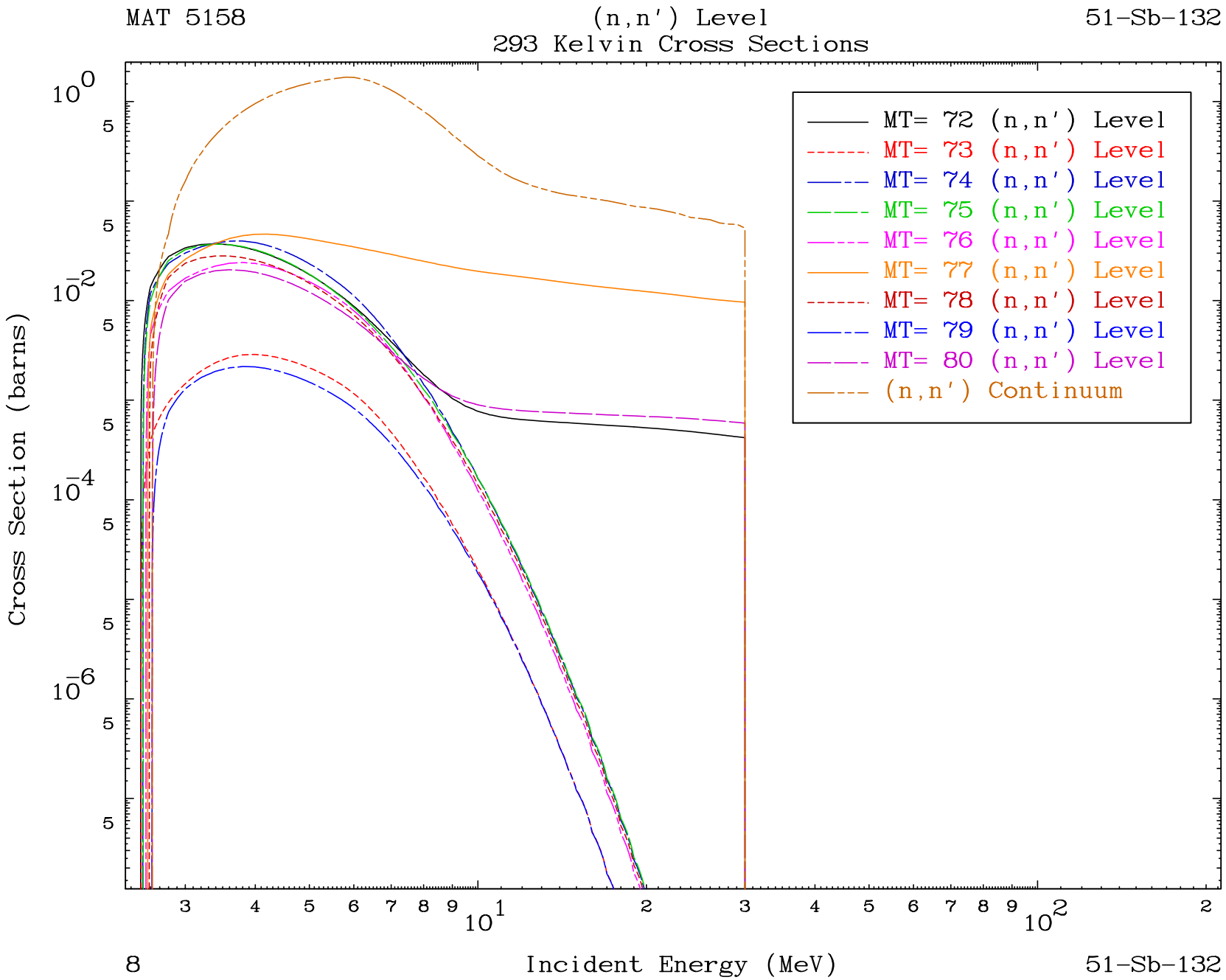

MAT 5158
Charged Particle
293 Kelvin Cross Sections
51-Sb-132
Cross Section (barns)
Incident Energy (MeV)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') d
(n,n') t
(n,2n) p
3
51-Sb-132

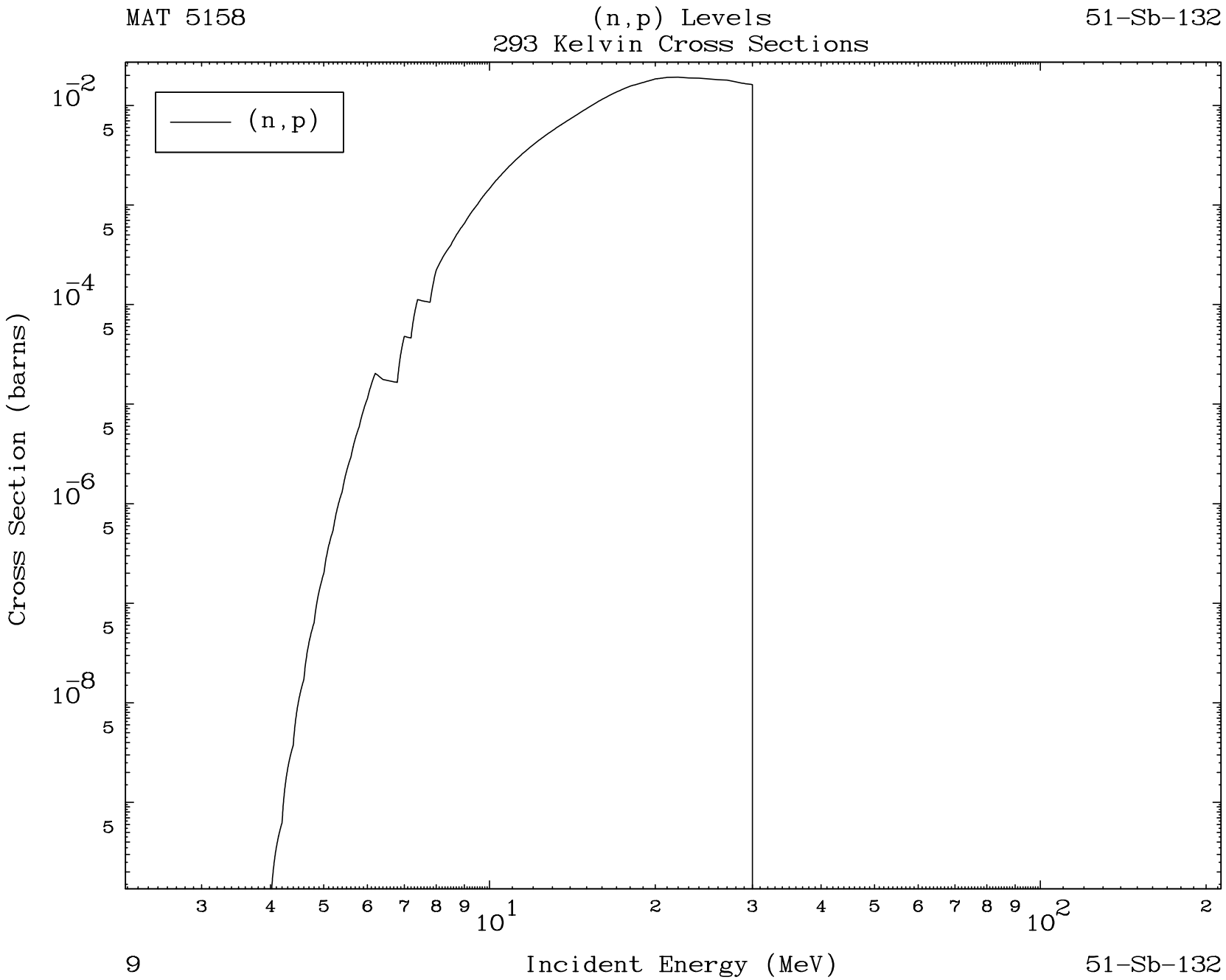

MAT 5158
Charged Particle
293 Kelvin Cross Sections
51-Sb-132
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
Cross Section (barns)
Incident Energy (MeV)
51-Sb-132
4

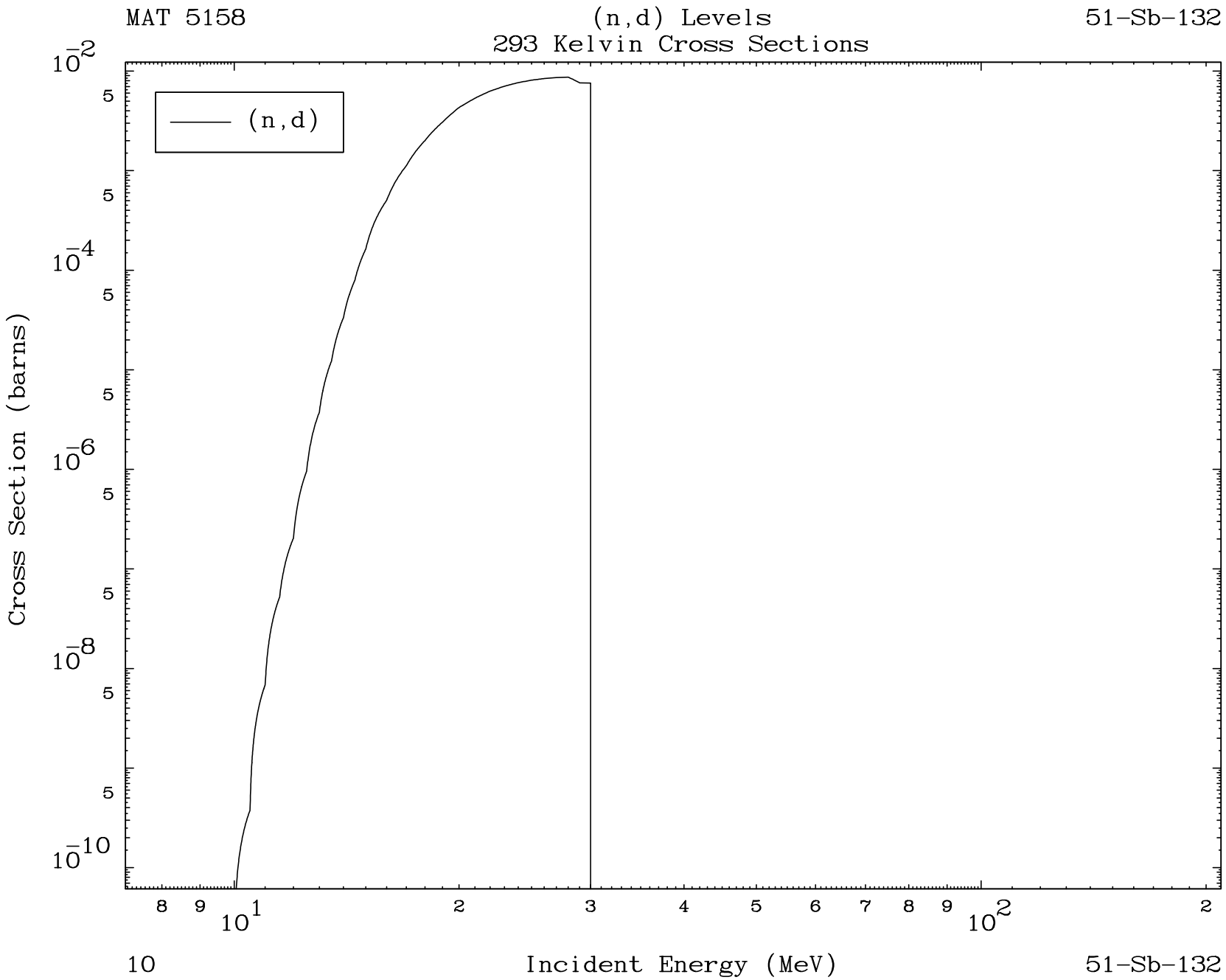

MAT 5158
Particle Production
293 Kelvin Cross Sections
51-Sb-132
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
51-Sb-132

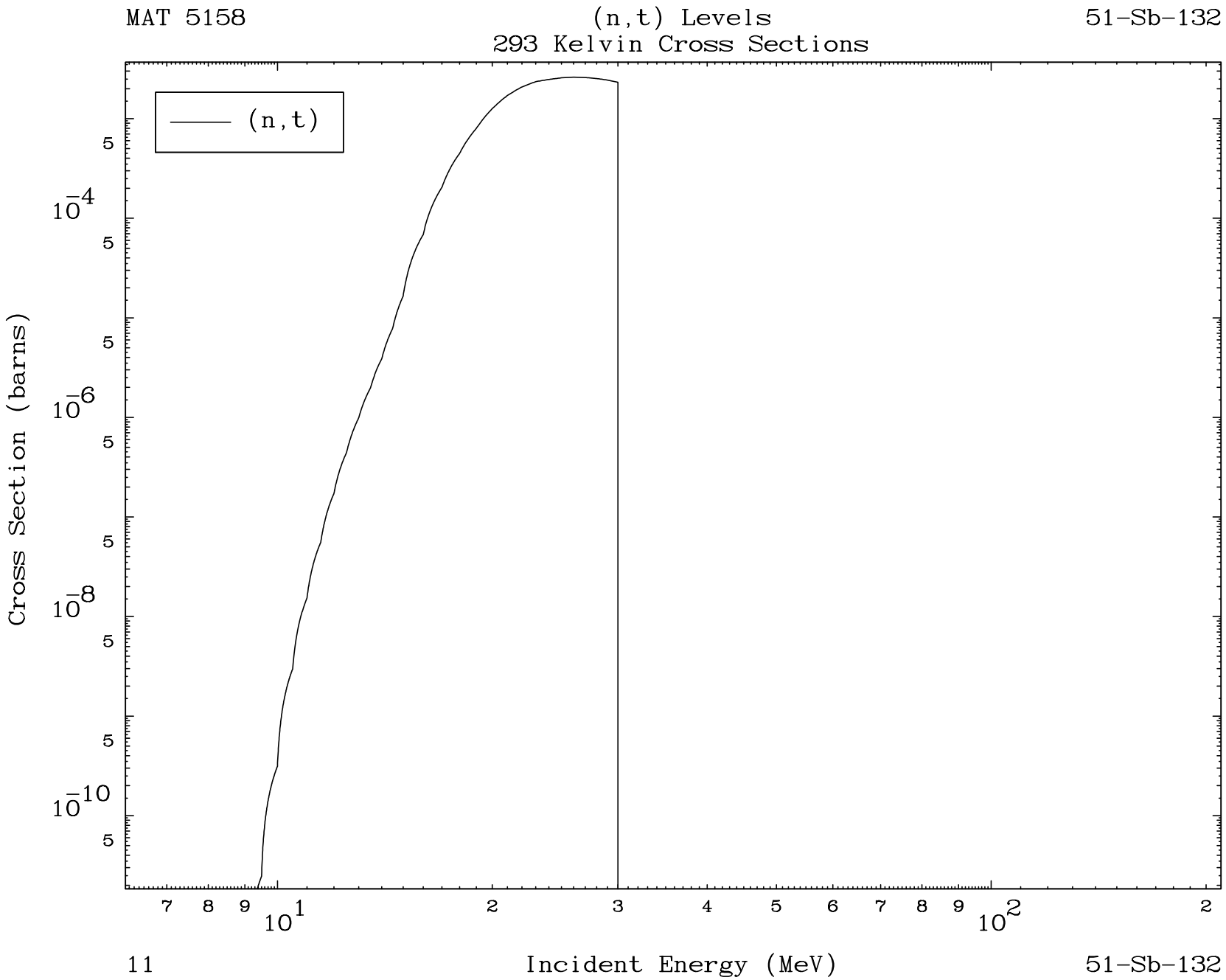

MAT 5158
(n,n') Level
293 Kelvin Cross Sections
51-Sb-132
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
6
51-Sb-132

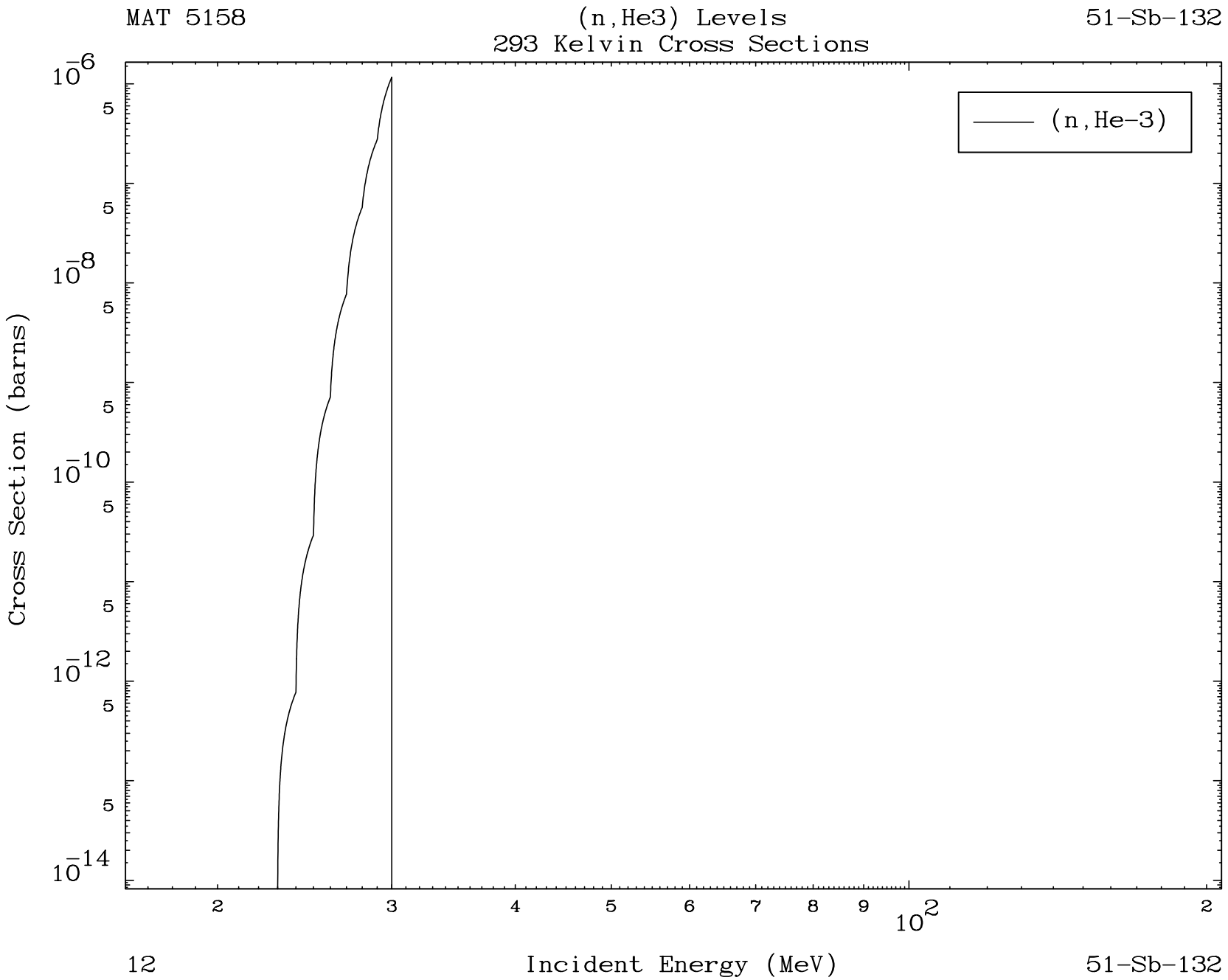

MAT 5158
(n,n') Level
293 Kelvin Cross Sections
51-Sb-132
Cross Section (barns)
Incident Energy (MeV)
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
MT= 70 (n,n') Level
MT= 71 (n,n') Level


MAT 5158
(n,n') Level
293 Kelvin Cross Sections
51-Sb-132
Cross Section (barns)
Incident Energy (MeV)
MT= 72 (n,n') Level
MT= 73 (n,n') Level
MT= 74 (n,n') Level
MT= 75 (n,n') Level
MT= 76 (n,n') Level
MT= 77 (n,n') Level
MT= 78 (n,n') Level
MT= 79 (n,n') Level
MT= 80 (n,n') Level
(n,n') Continuum

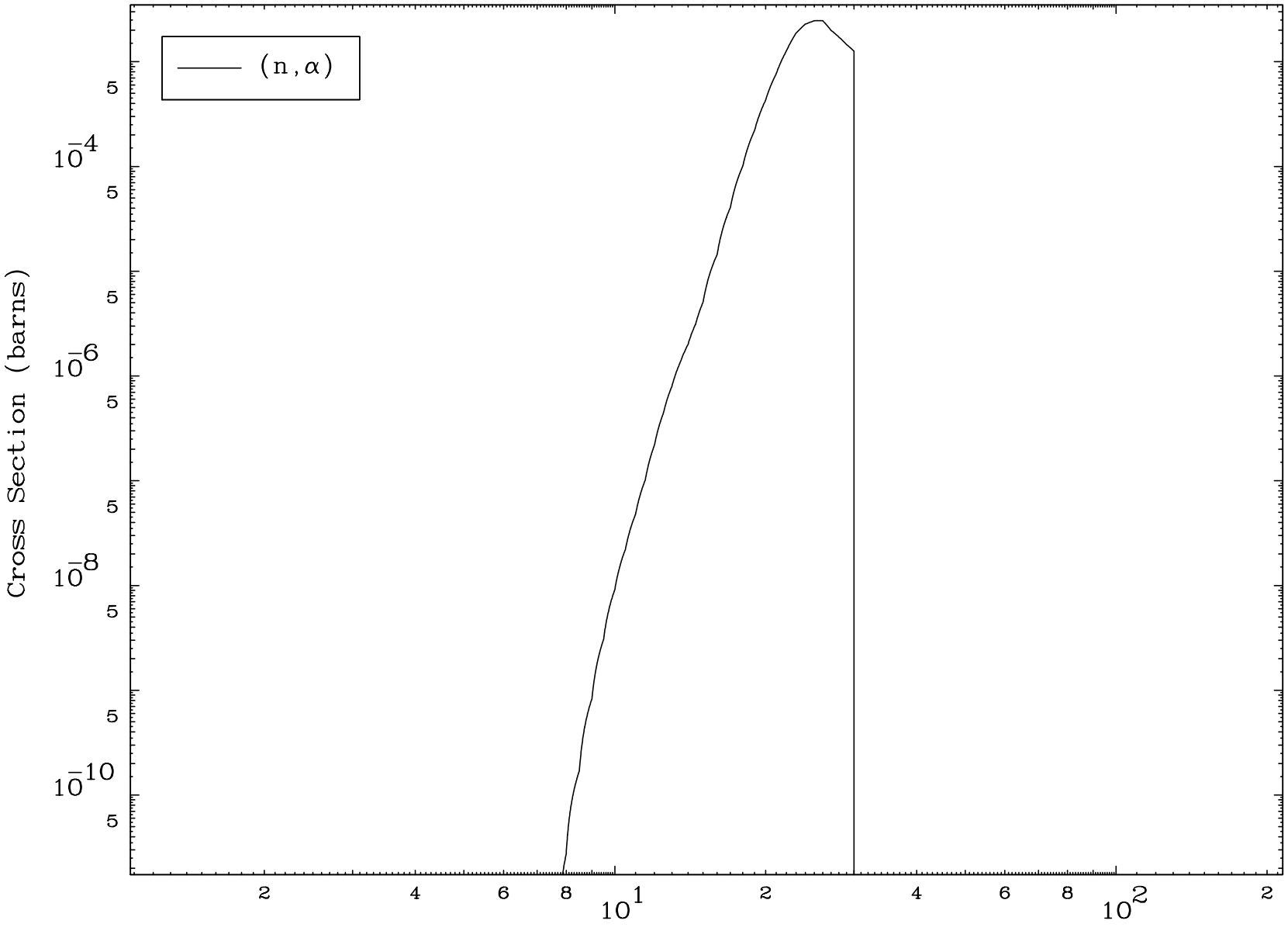

MAT 5158
(n,p) Levels
51-Sb-132
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
9
51-Sb-132

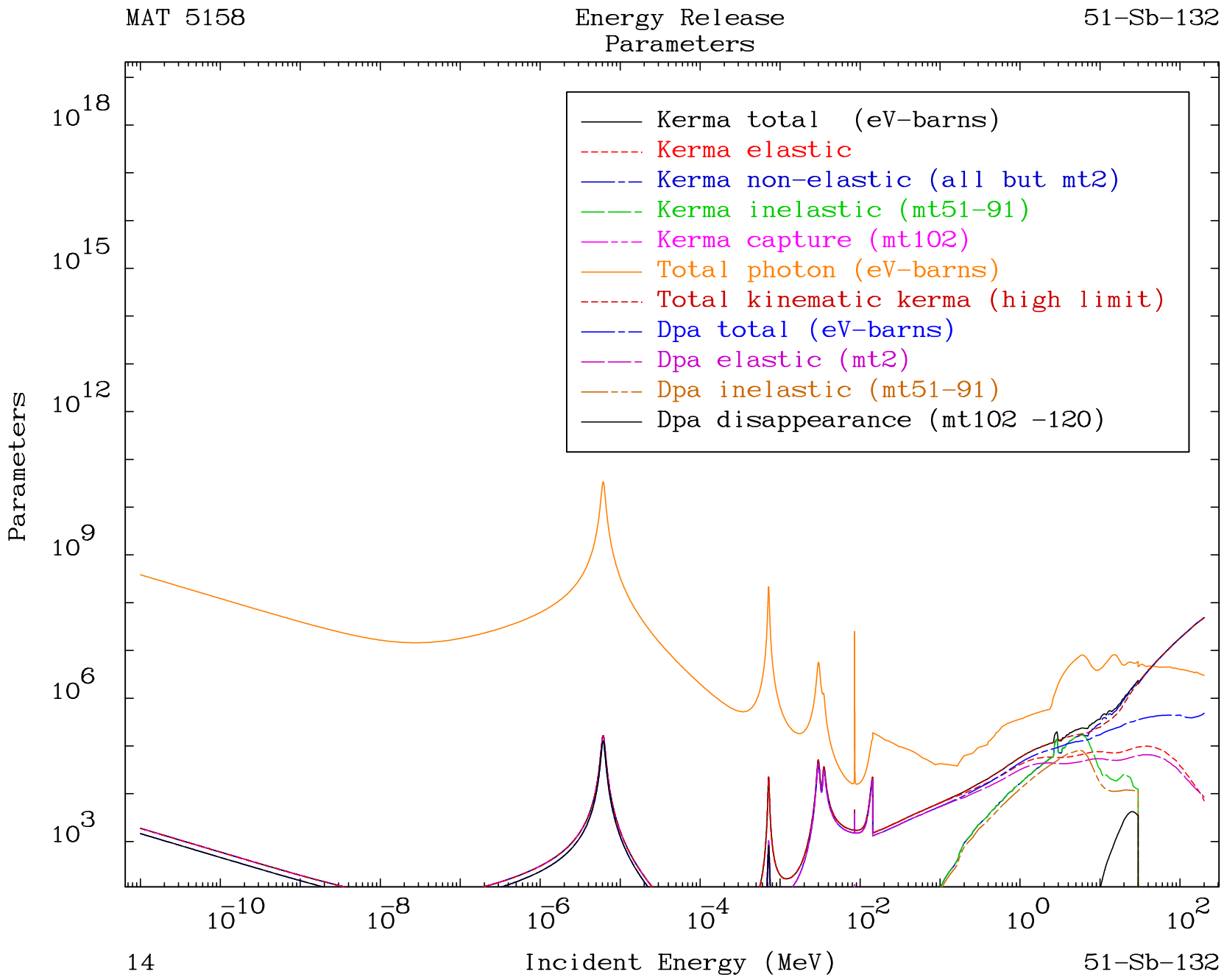

MAT 5158
(n,d) Levels
51-Sb-132
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
51-Sb-132

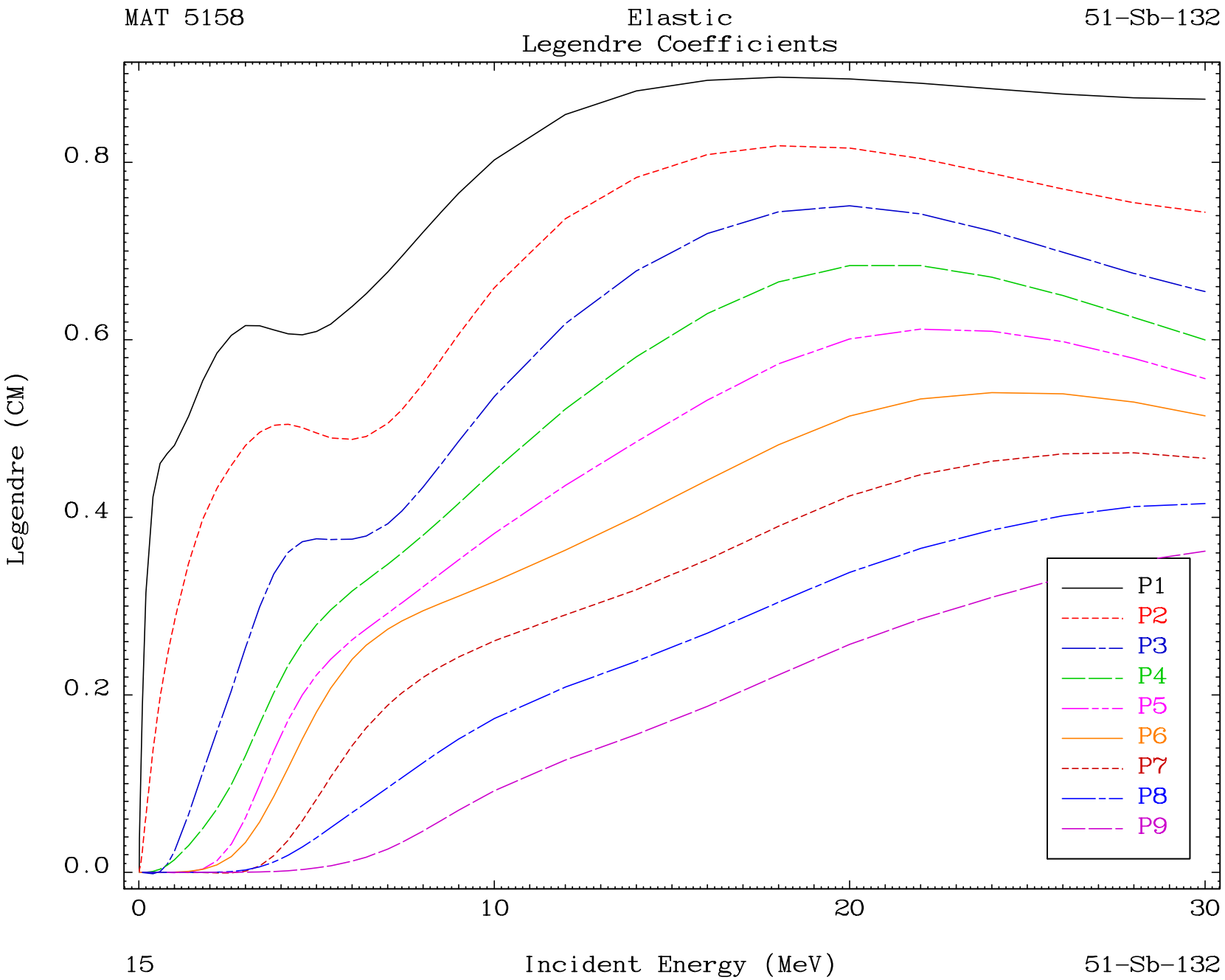

MAT 5158
(n,t) Levels
51-Sb-132
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
7 8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
11
Incident Energy (MeV)
51-Sb-132

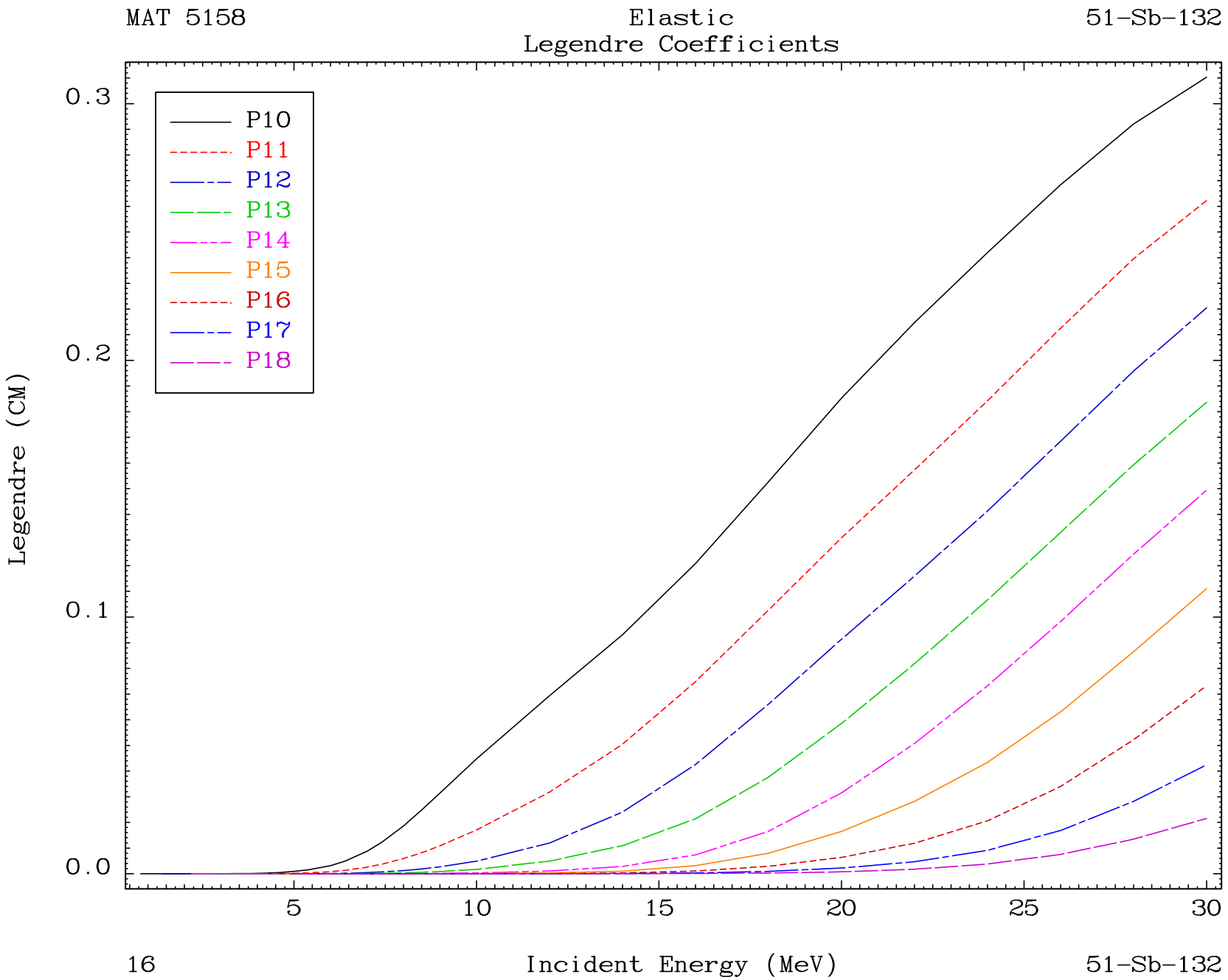

MAT 5158
(n,He3) Levels
293 Kelvin Cross Sections
51-Sb-132
(n,He-3)
Cross Section (barns)
10-6
5
10-8
5
10-10
5
10-12
5
10-14
5
2
3
4
5
6
7
8
9
10 2
2
12
Incident Energy (MeV)
51-Sb-132

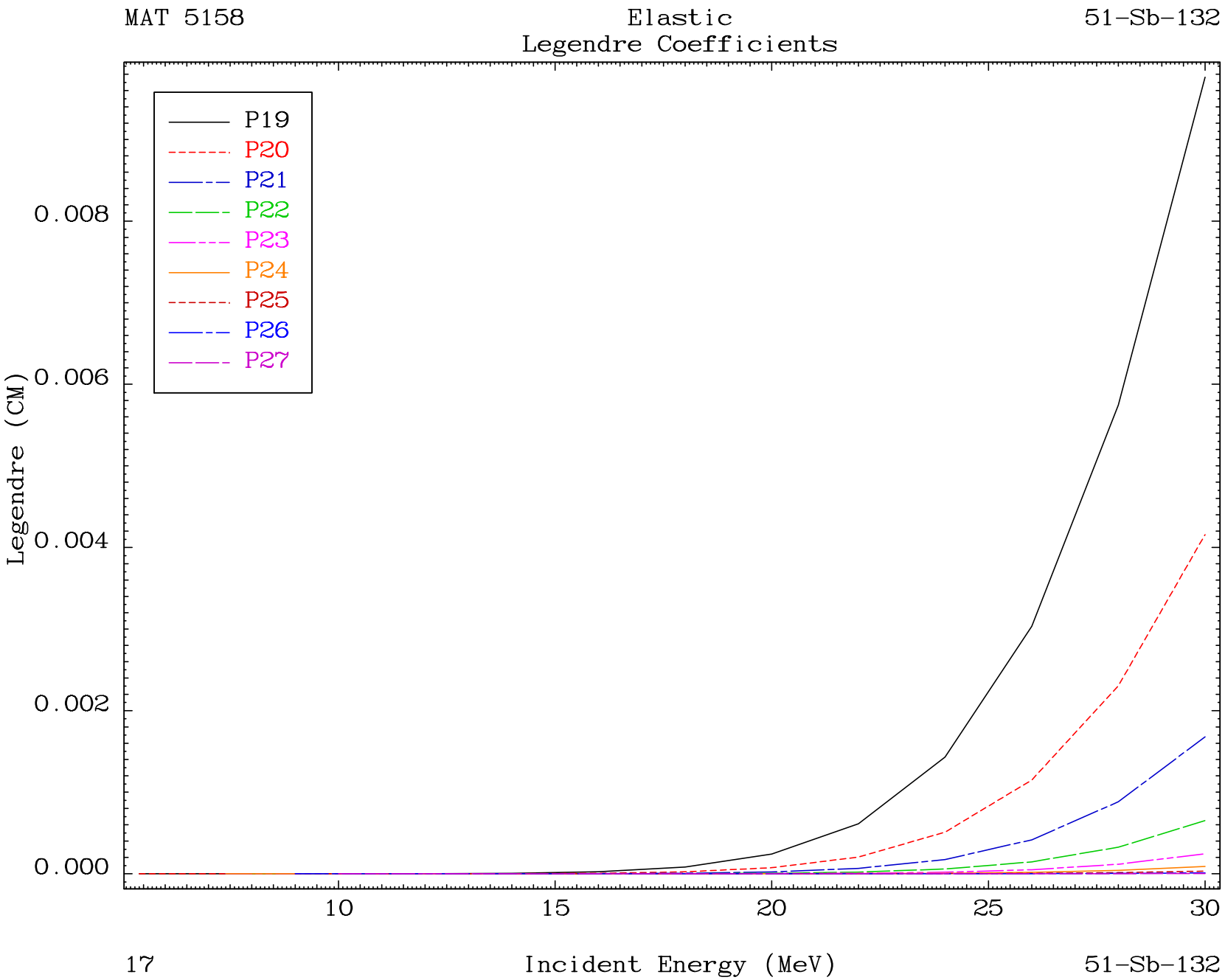
293 Kelvin Cross Sections

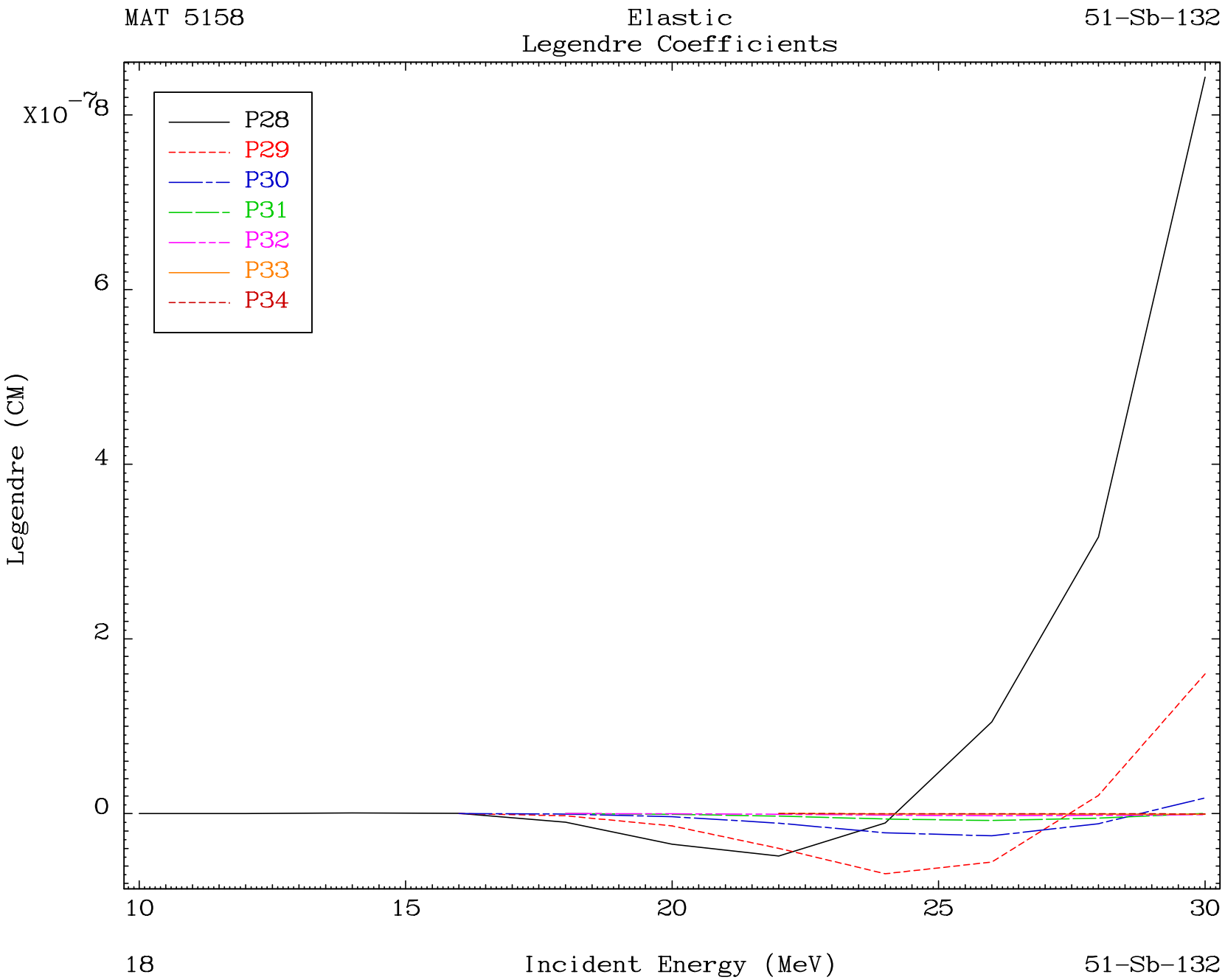


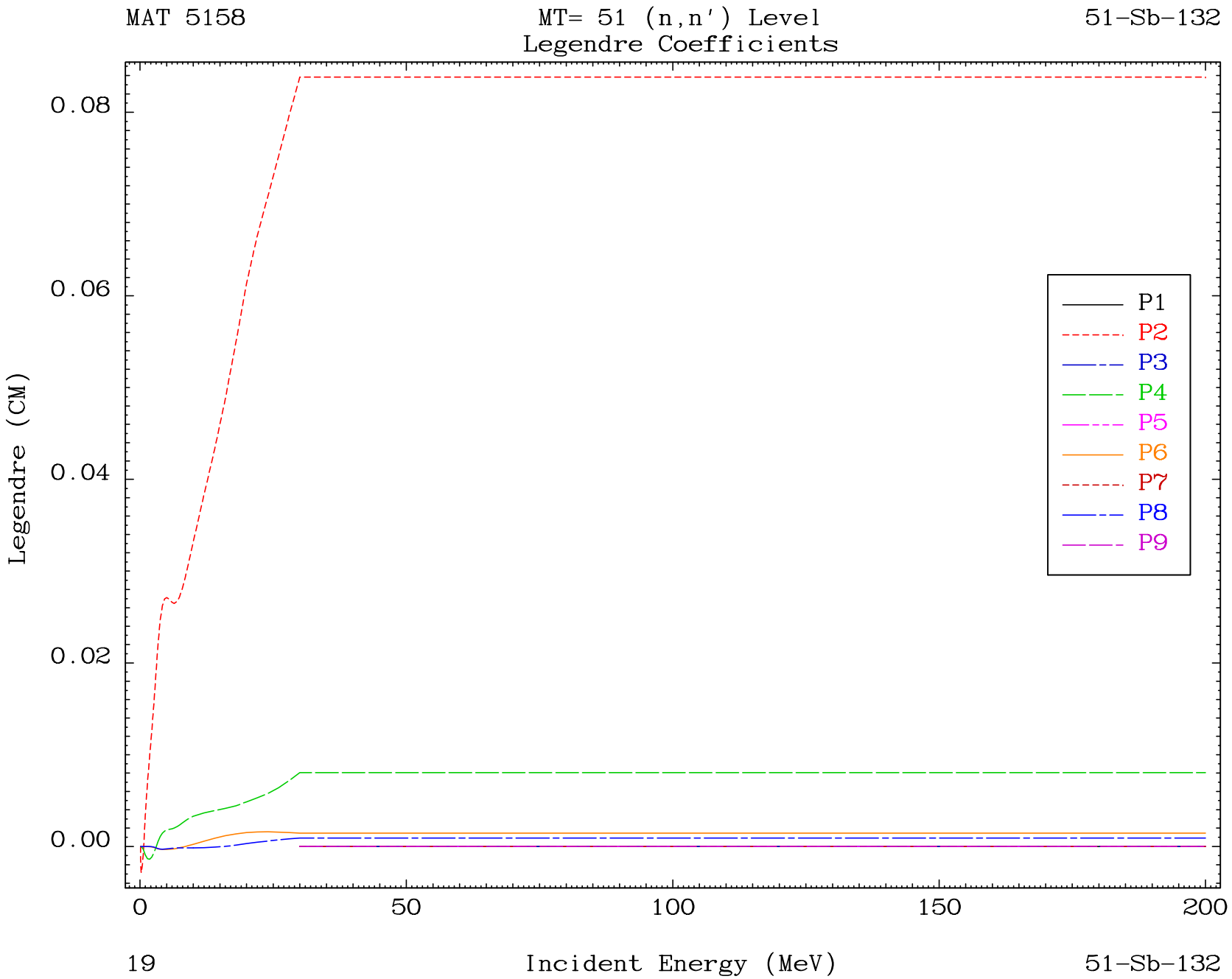

MAT 5158
Energy Release
Parameters
51-Sb-132
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (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)
14
51-Sb-132

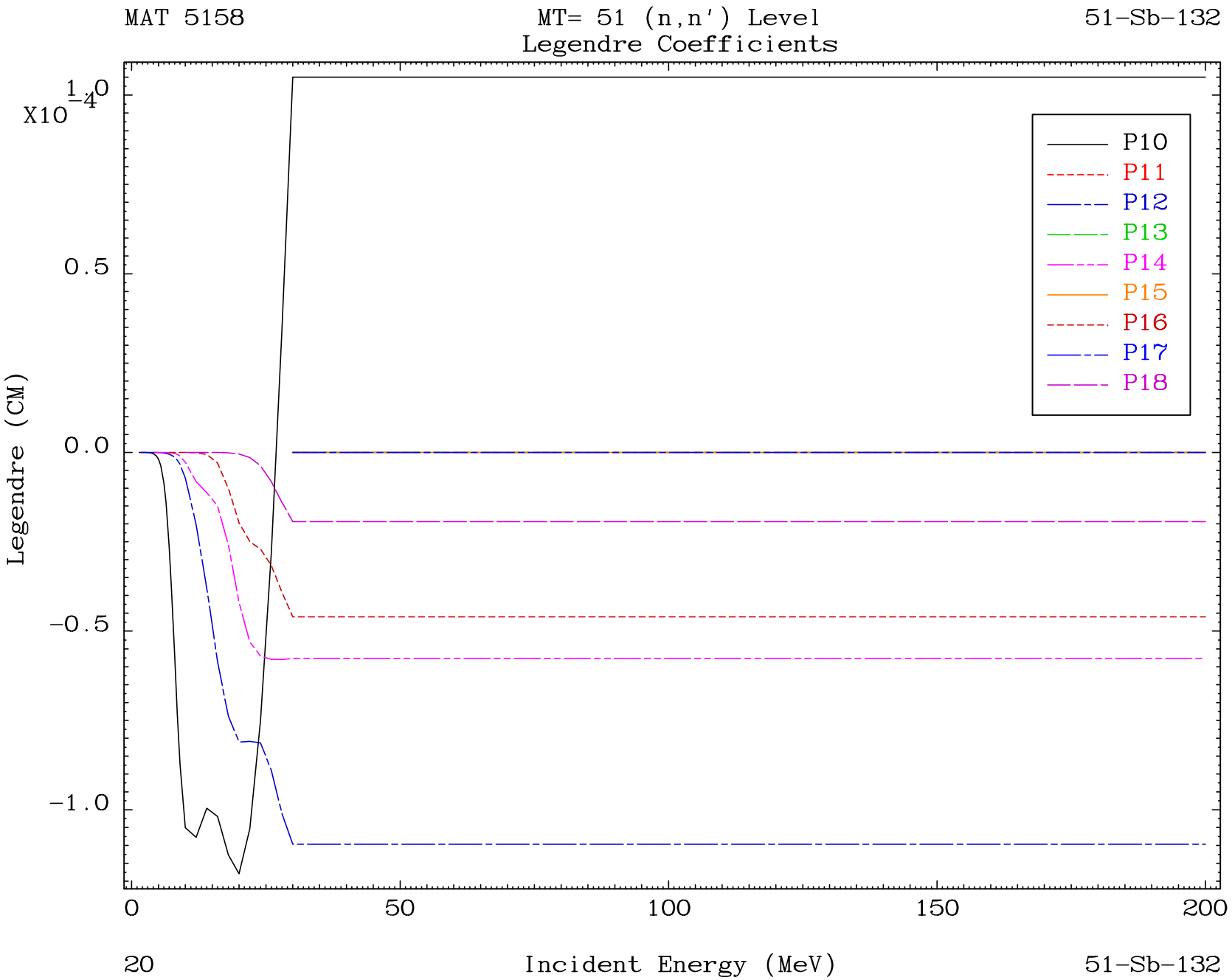

MAT 5158
Elastic
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
15
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

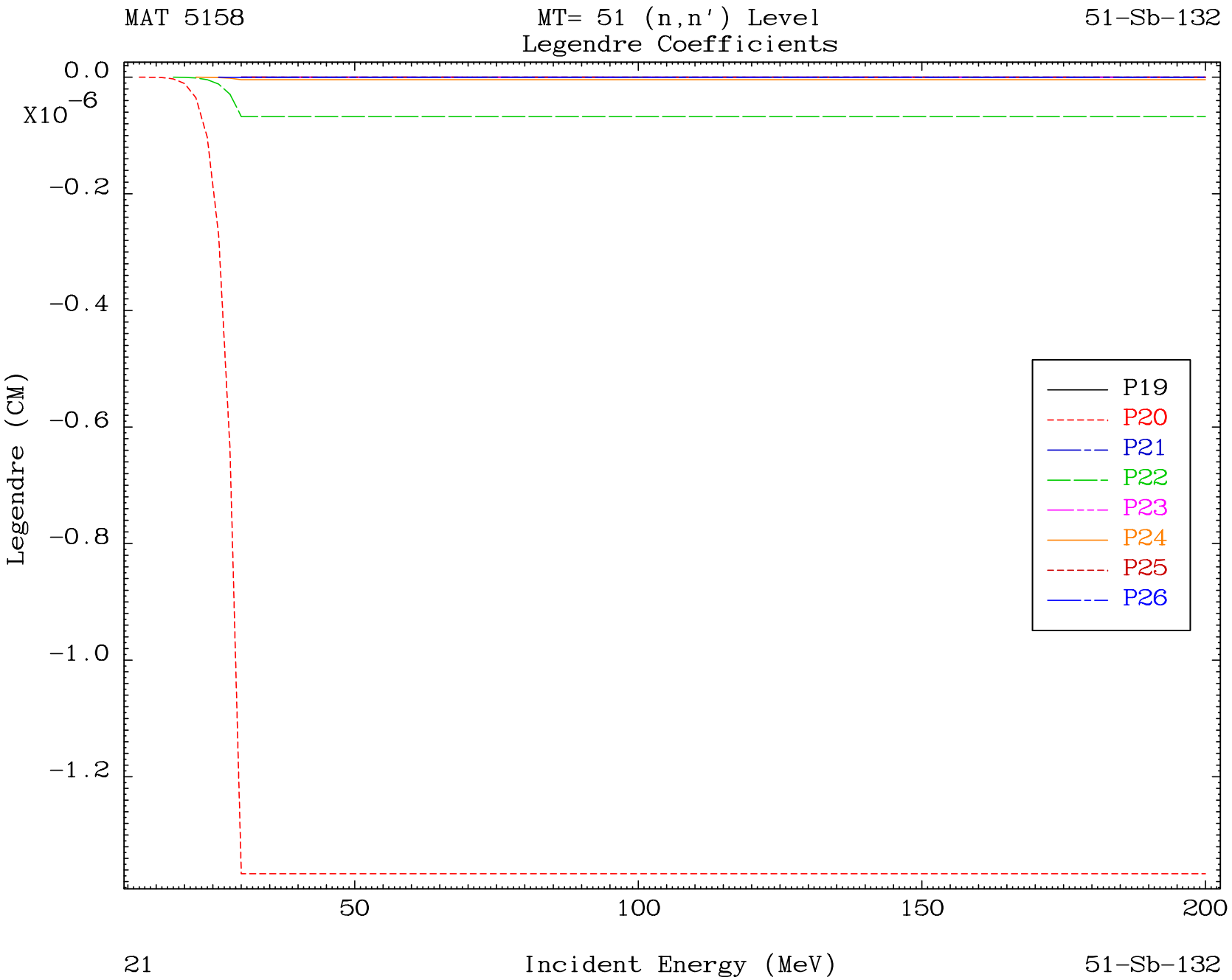

MAT 5158
Elastic
Legendre Coefficients
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.3
0.2
0.1
0.0
5
10
15
20
25
30
16
Incident Energy (MeV)
51-Sb-132

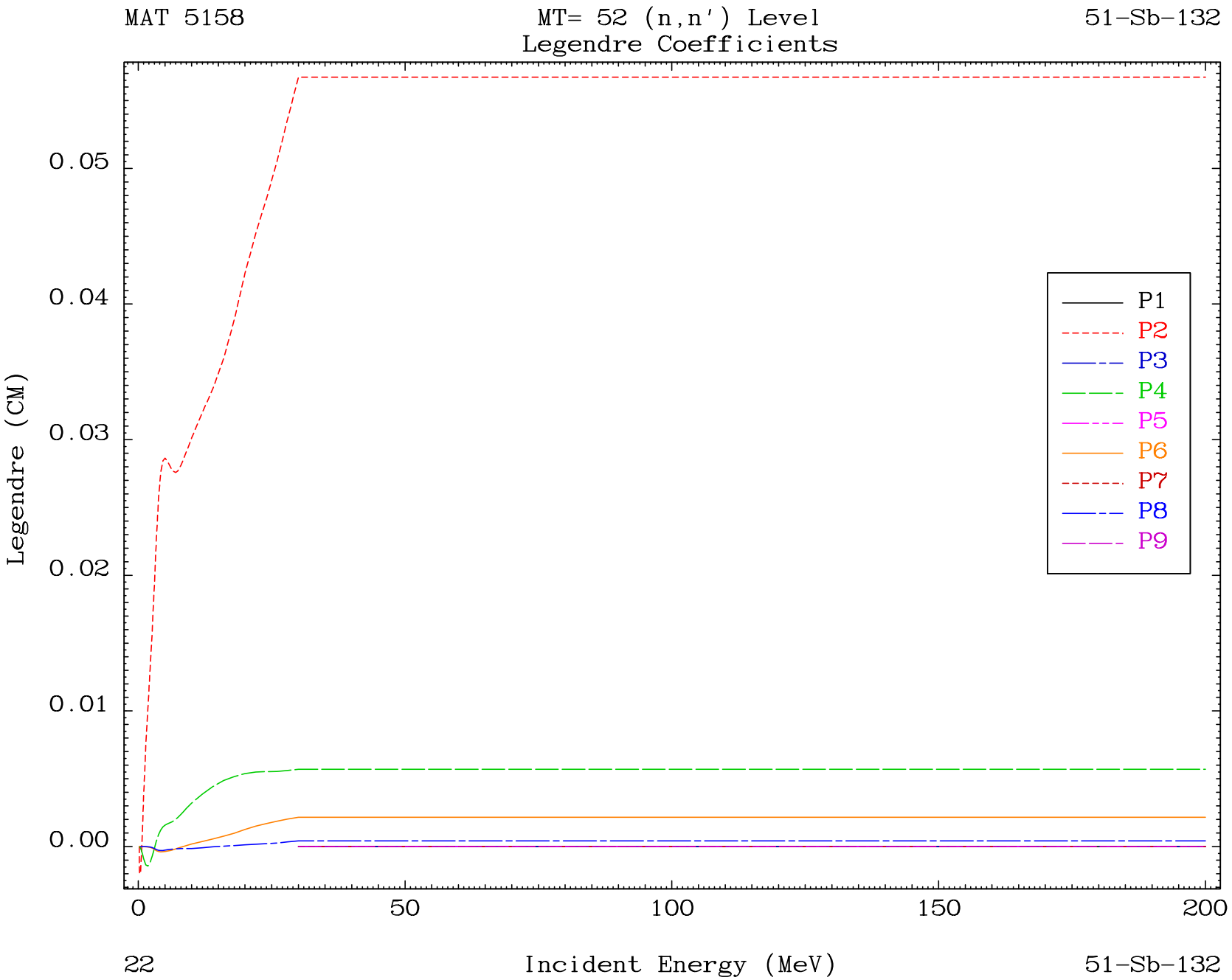

MAT 5158
Elastic
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.008
0.006
0.004
0.002
0.000
Legendre (CM)
10
15
20
25
30
17
Incident Energy (MeV)
51-Sb-132

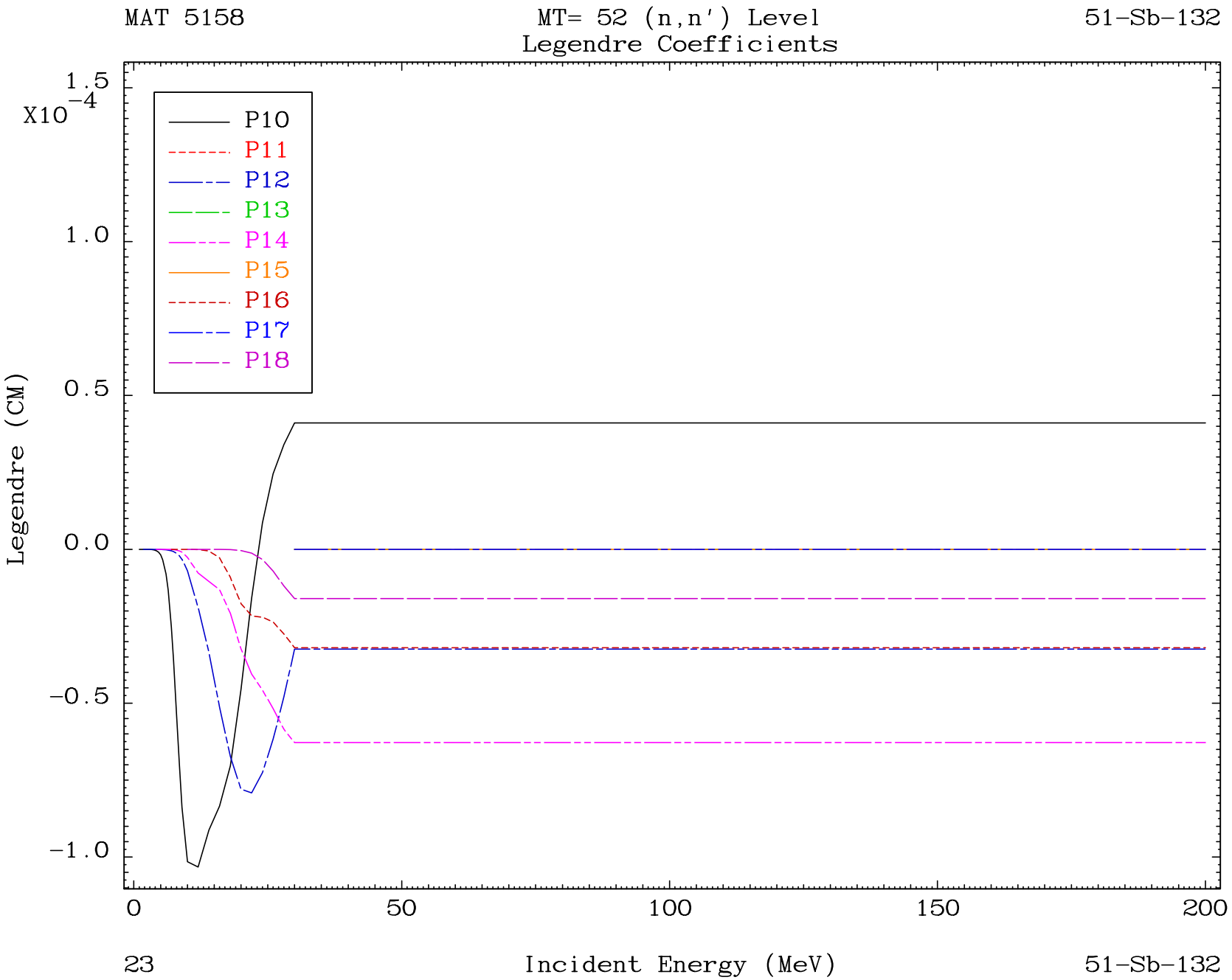

MAT 5158
Elastic
Legendre Coefficients
51-Sb-132
X10^-7
8
6
4
2
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
18
Incident Energy (MeV)
51-Sb-132

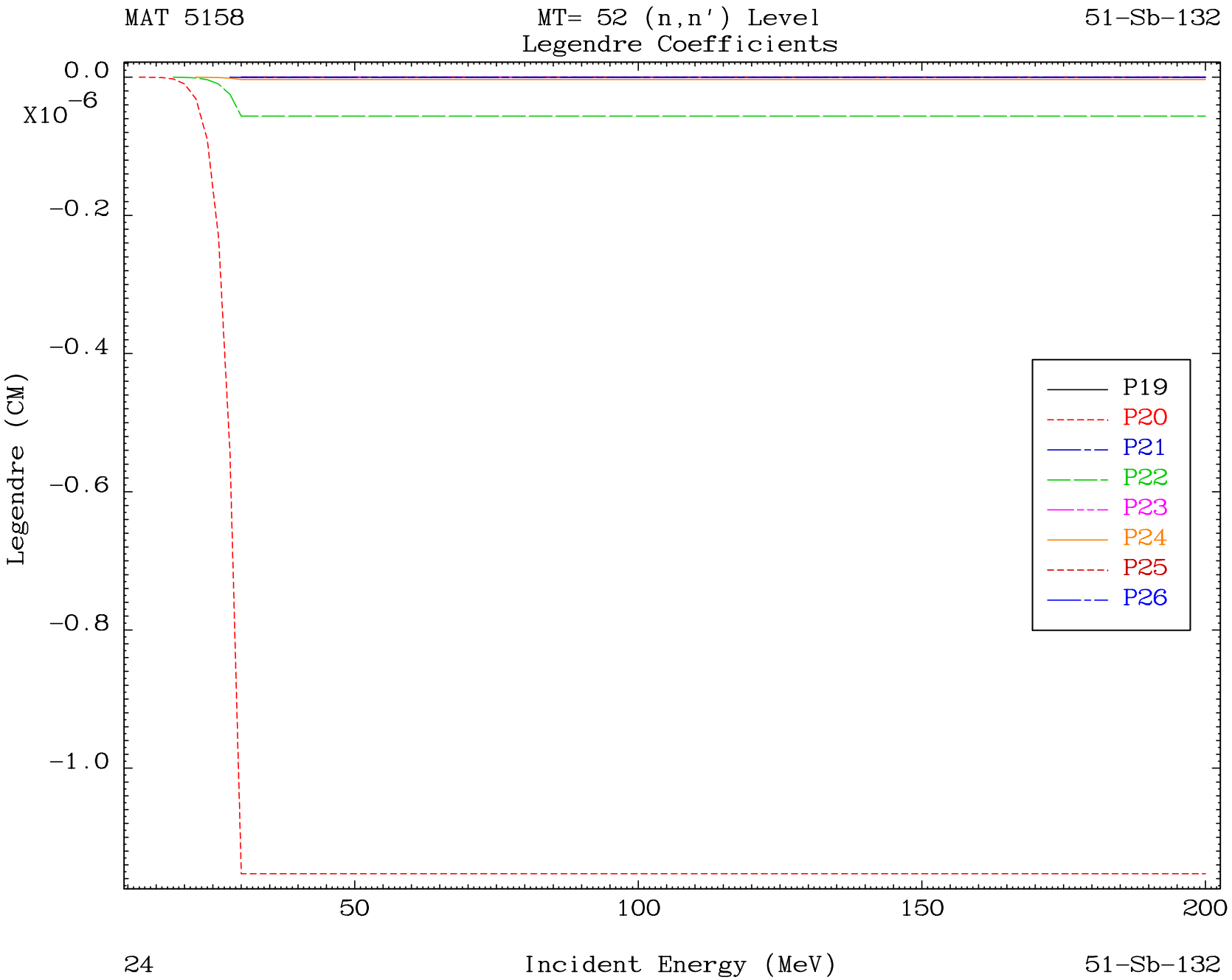

MAT 5158
MT= 51 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
19
Incident Energy (MeV)
51-Sb-132

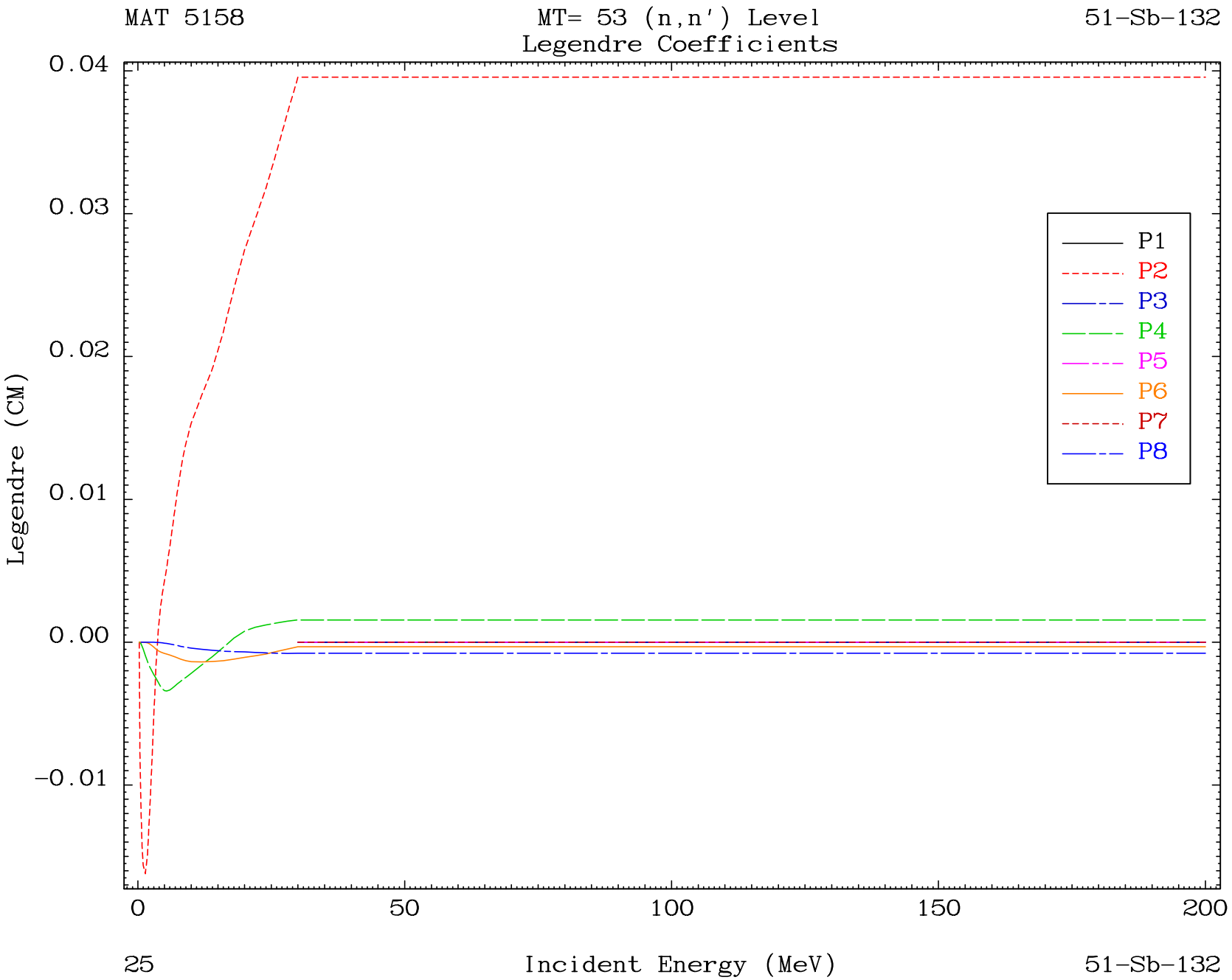

MAT 5158
MT= 51 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-4
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
20
Incident Energy (MeV)
51-Sb-132

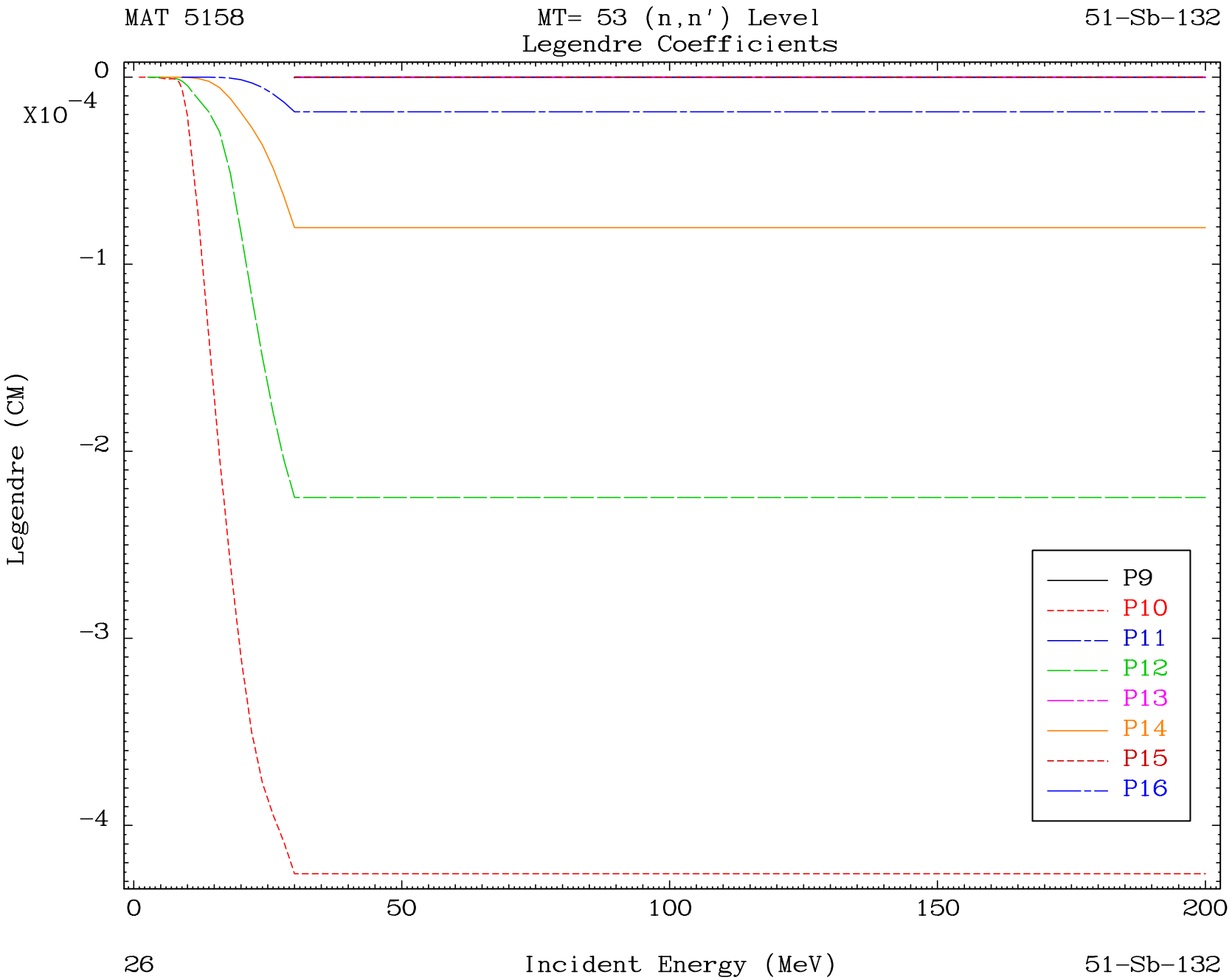

MAT 5158
MT= 51 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
21
Incident Energy (MeV)
51-Sb-132

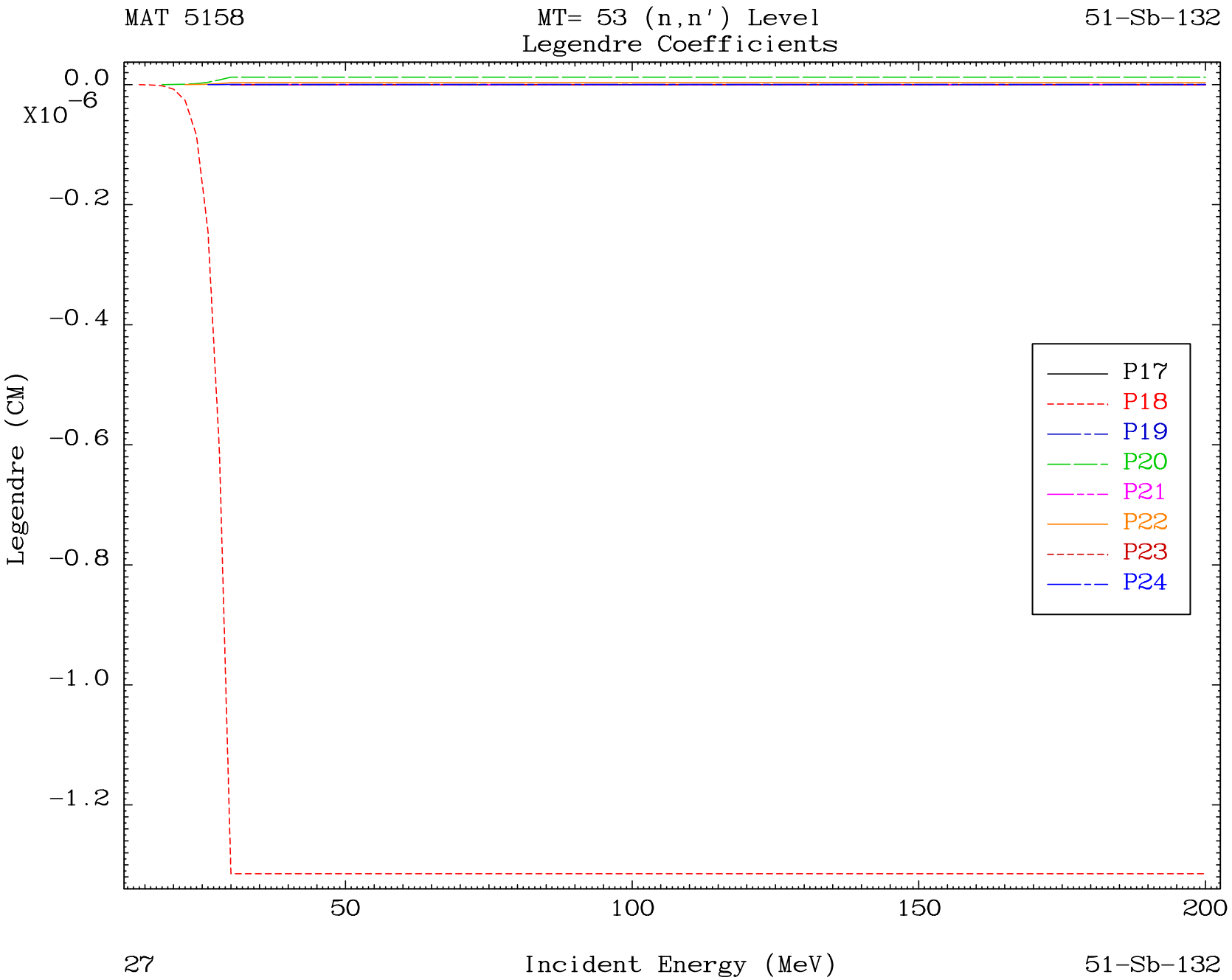

MAT 5158
MT= 52 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.05
0.04
0.03
0.02
0.01
0.00
0
50
100
150
200
22
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

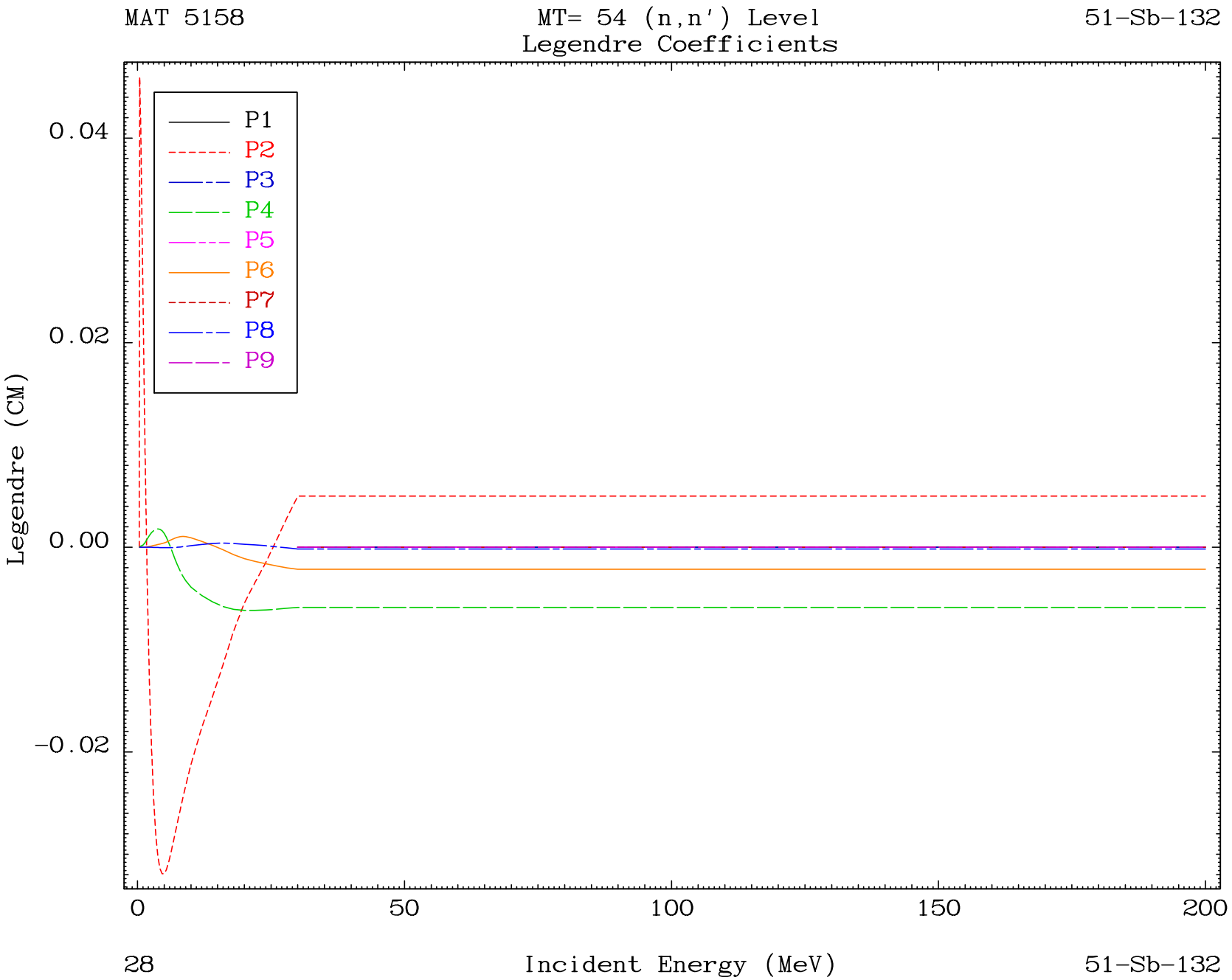

MAT 5158
MT= 52 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
1.5
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
23
Incident Energy (MeV)
51-Sb-132

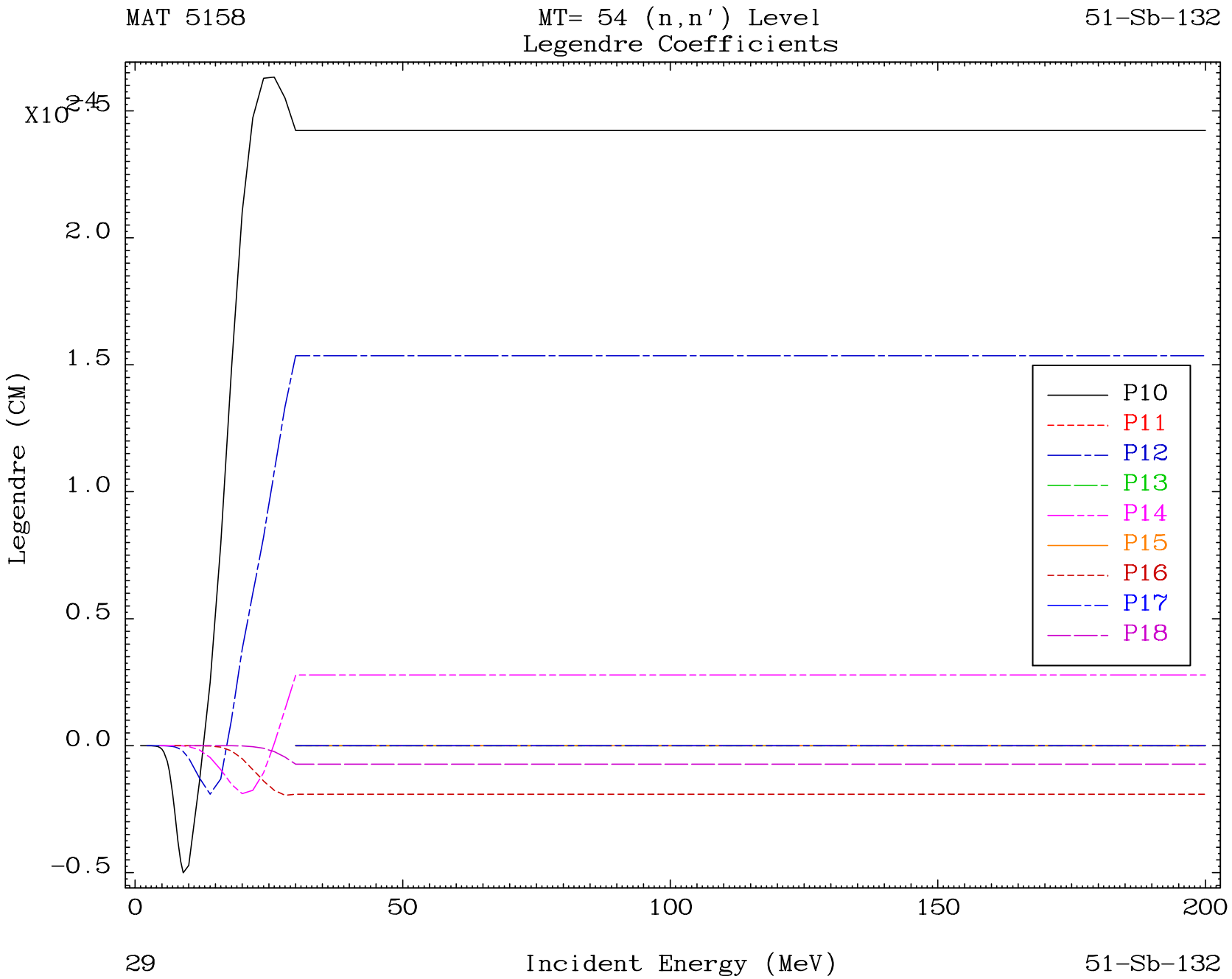

MAT 5158
MT= 52 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
24
Incident Energy (MeV)
51-Sb-132


MAT 5158
MT= 53 (n,n') Level
Legendre Coefficients
51-Sb-132
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
25
Incident Energy (MeV)
51-Sb-132


MAT 5158
MT= 53 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-4
-1
-2
-3
-4
Legendre (CM)
0
50
100
150
200
26
Incident Energy (MeV)
51-Sb-132
P9
P10
P11
P12
P13
P14
P15
P16


MAT 5158
MT= 53 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10 −6
−0.2
−0.4
−0.6
−0.8
−1.0
−1.2
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
27
Incident Energy (MeV)
51-Sb-132


MAT 5158
MT= 54 (n,n') Level
Legendre Coefficients
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
28
Incident Energy (MeV)
51-Sb-132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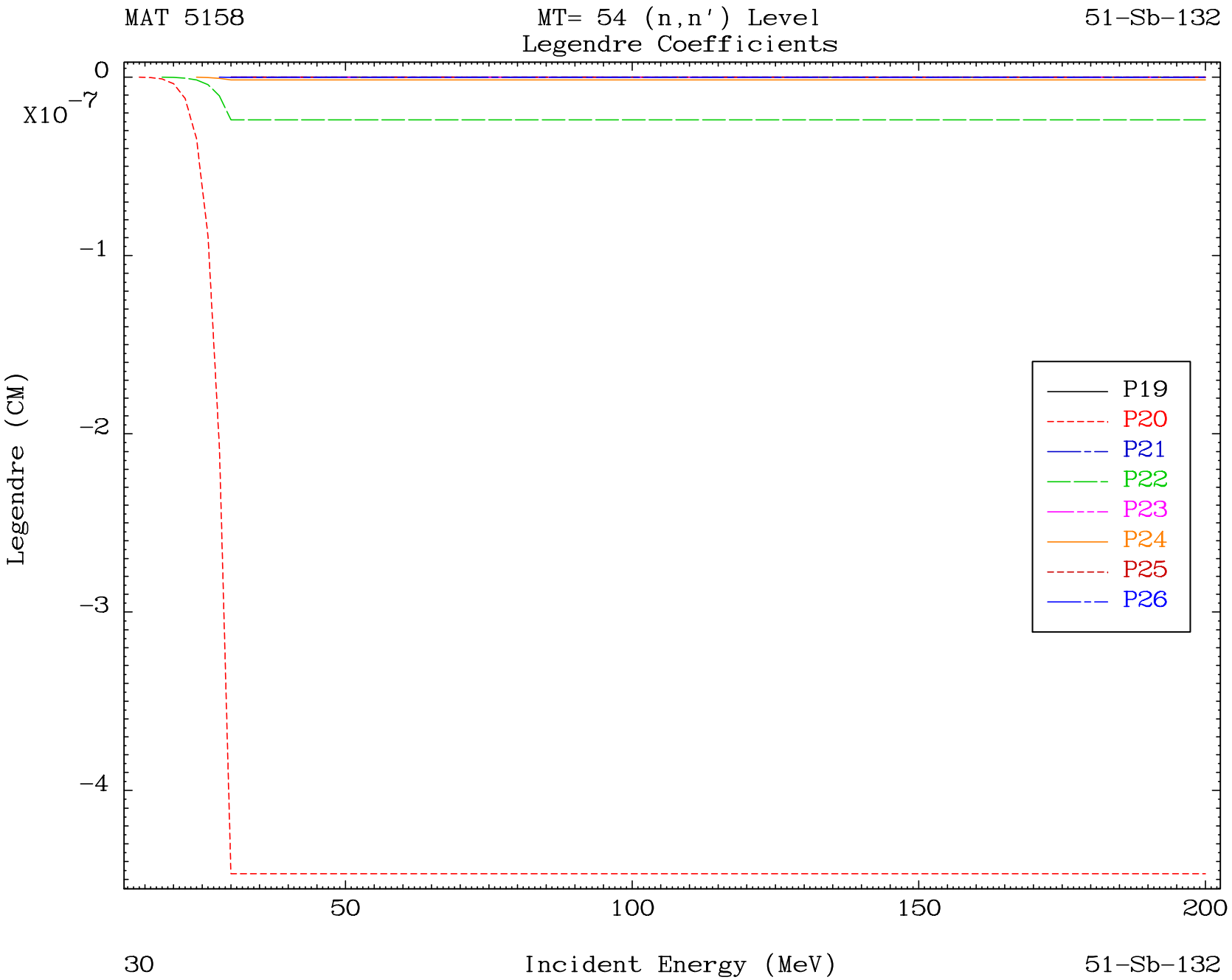
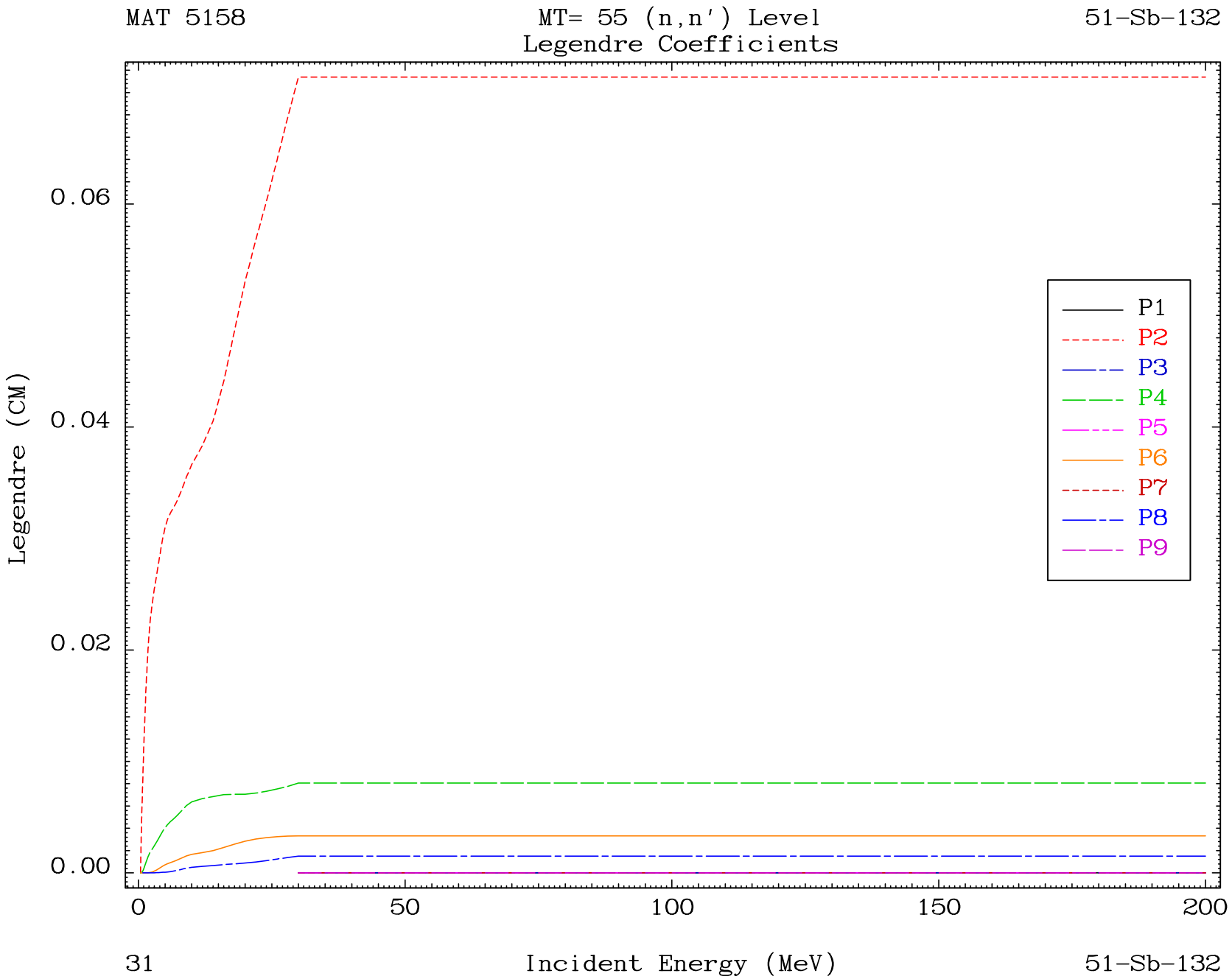
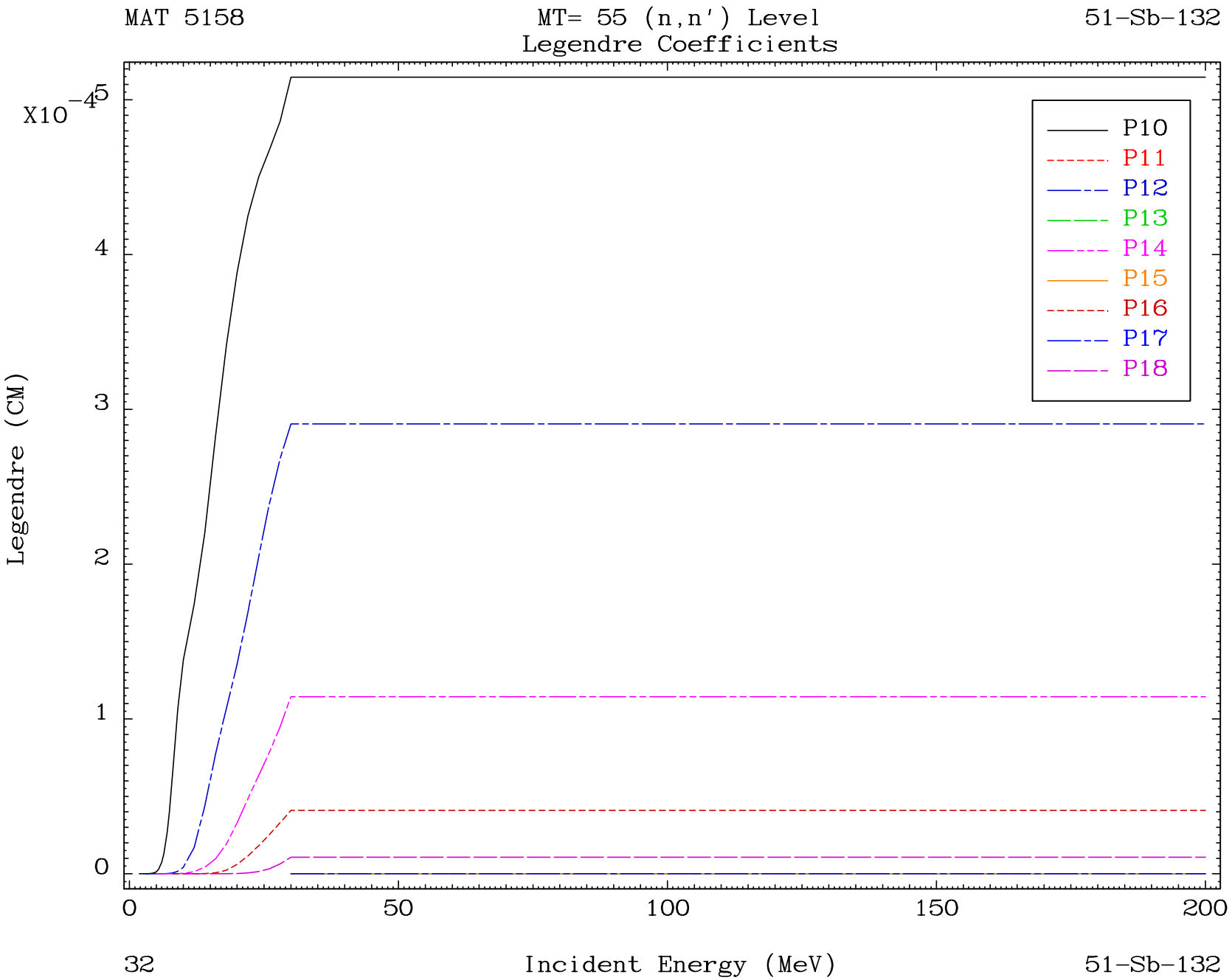
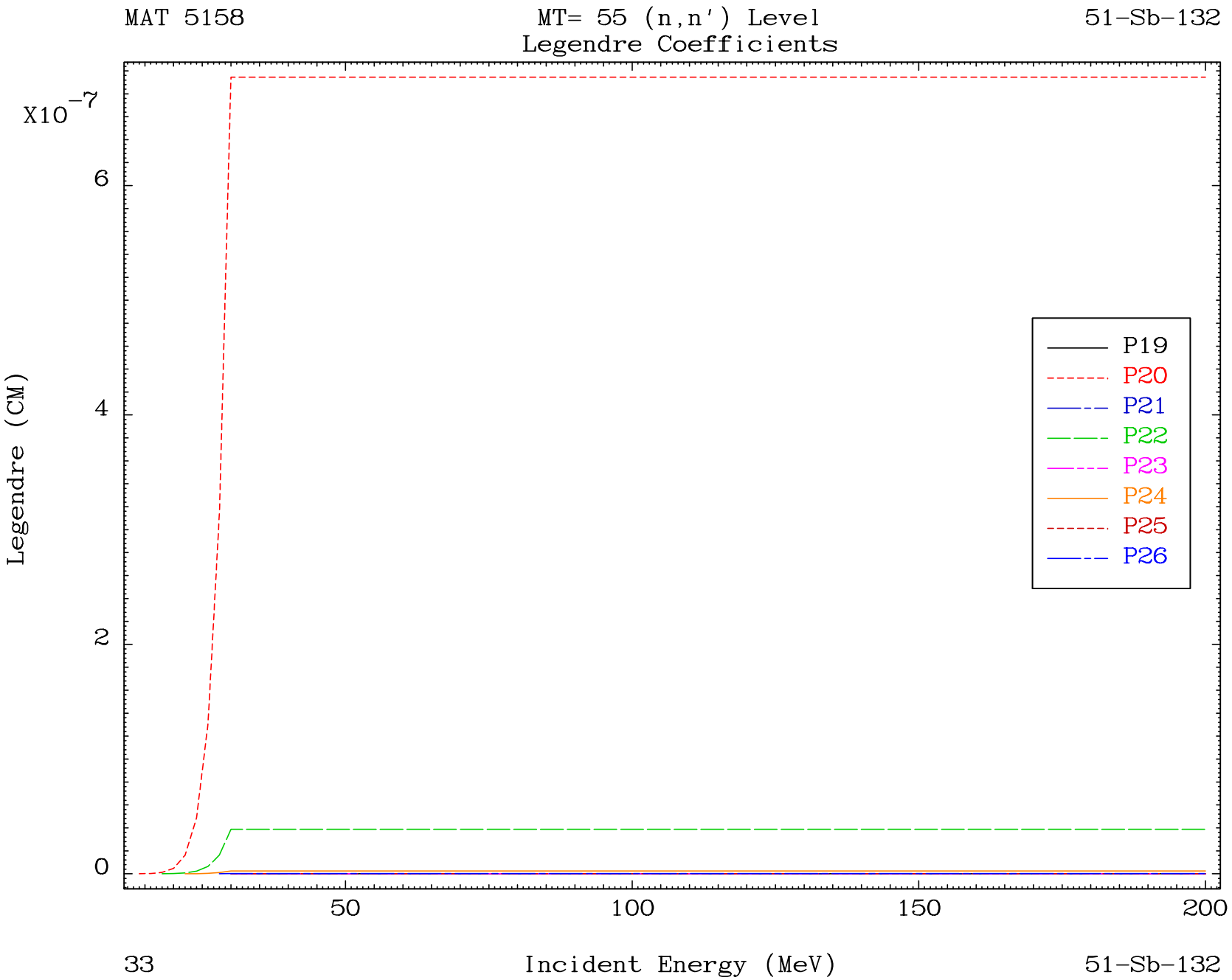
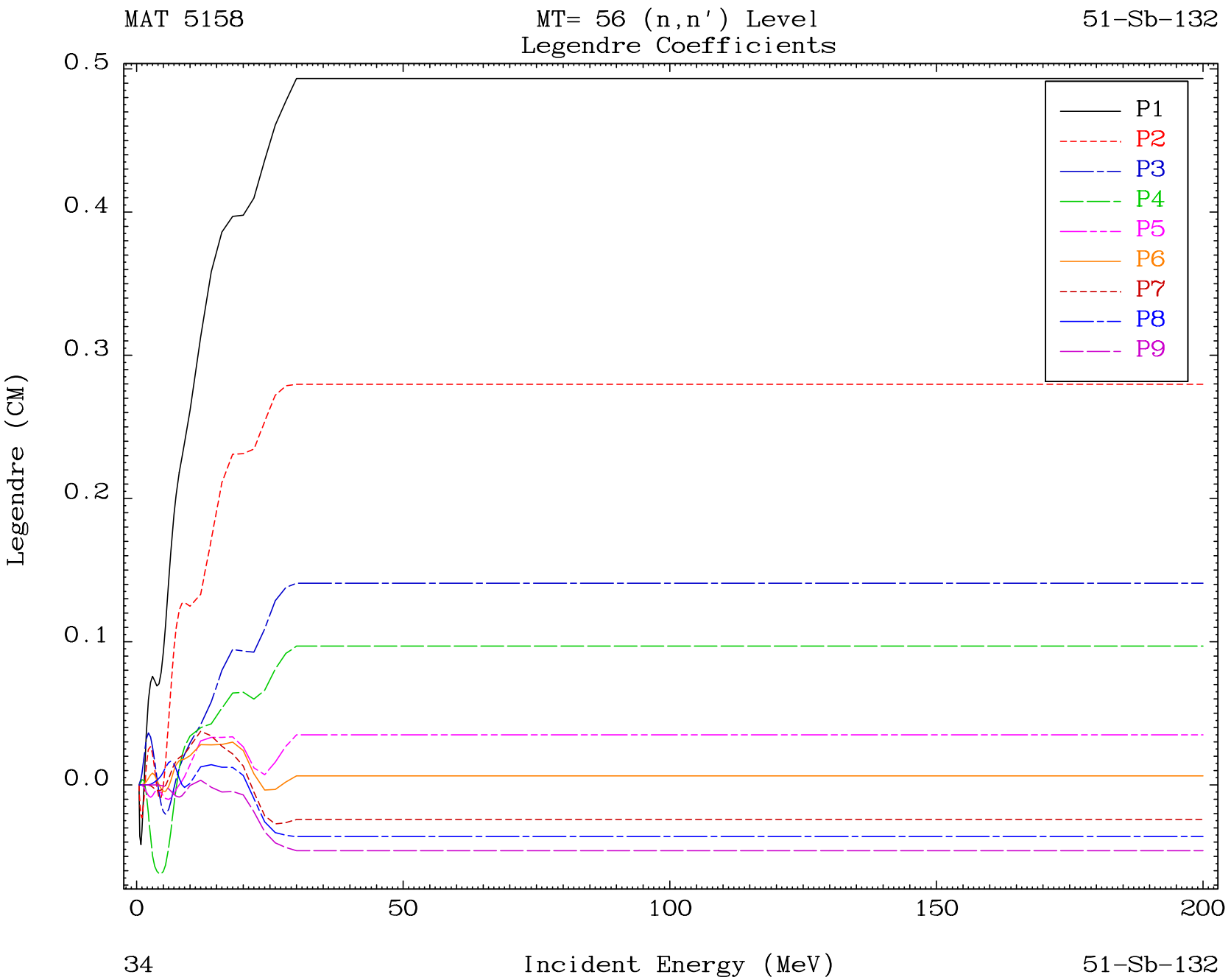
MT= 54 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-24
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
29
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18

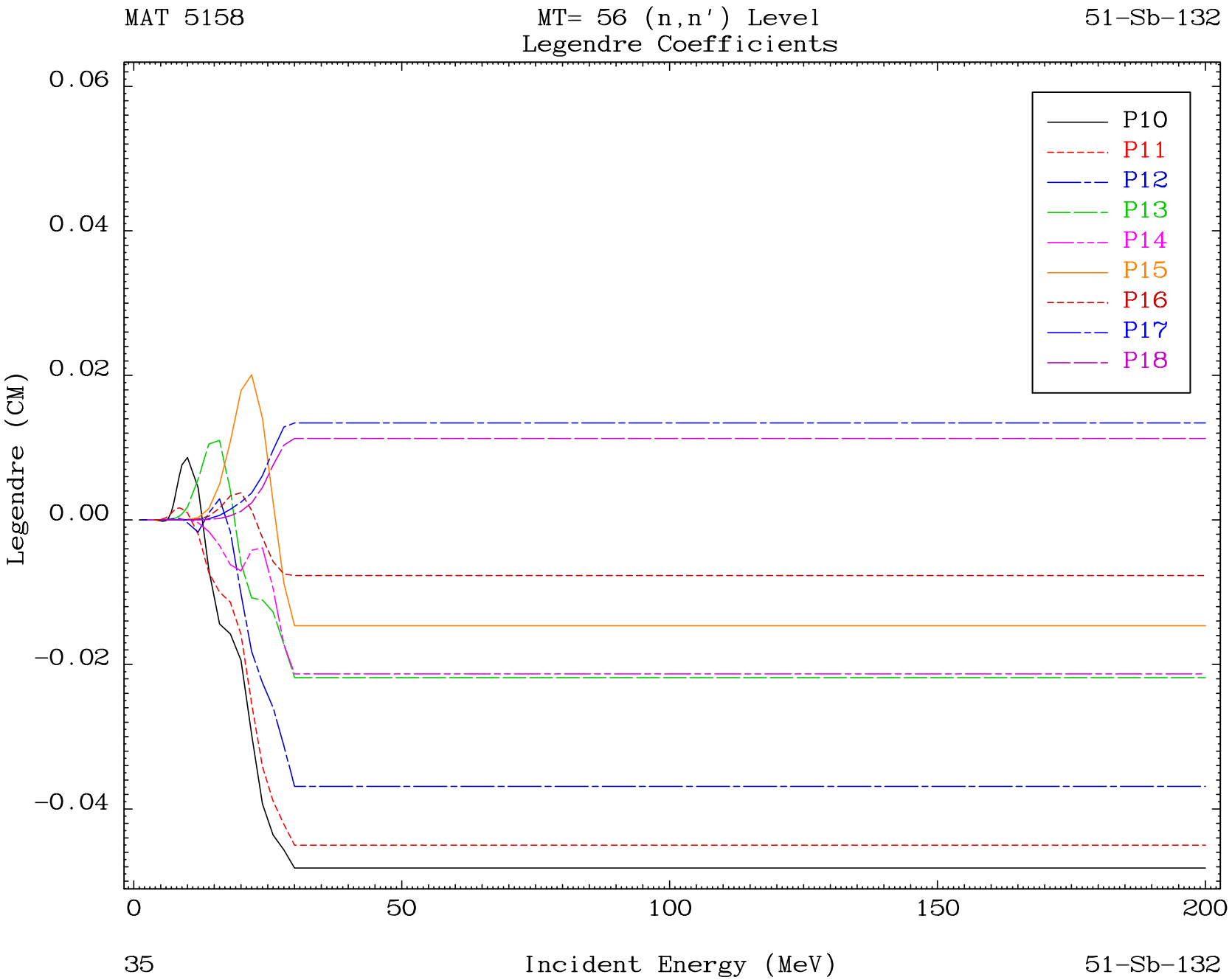

MAT 5158
MT= 54 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10-7
-1
-2
-3
-4
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
30
Incident Energy (MeV)
51-Sb-132

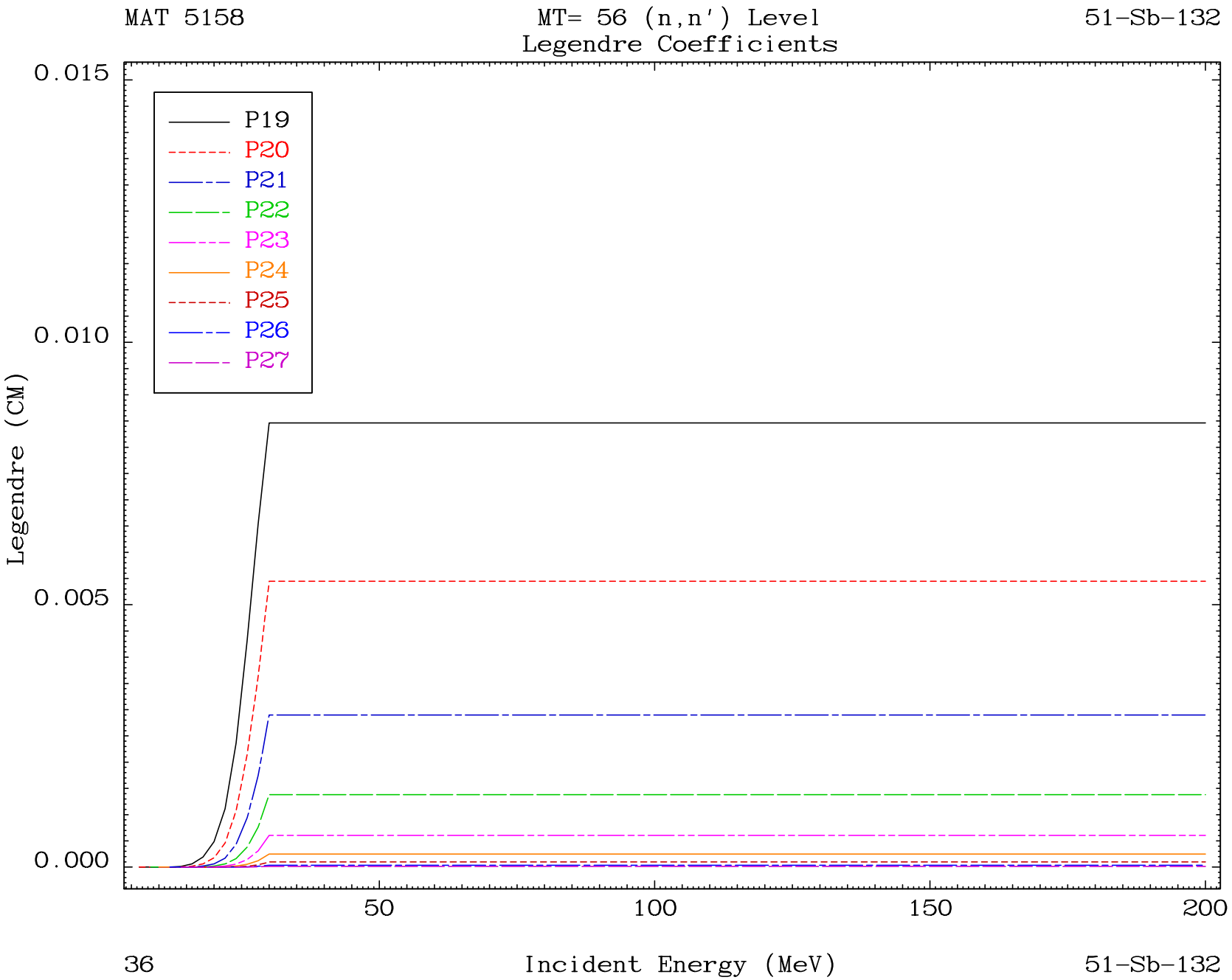

MAT 5158
MT= 55 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.06
0.04
0.02
0.00
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
31
Incident Energy (MeV)
51-Sb-132

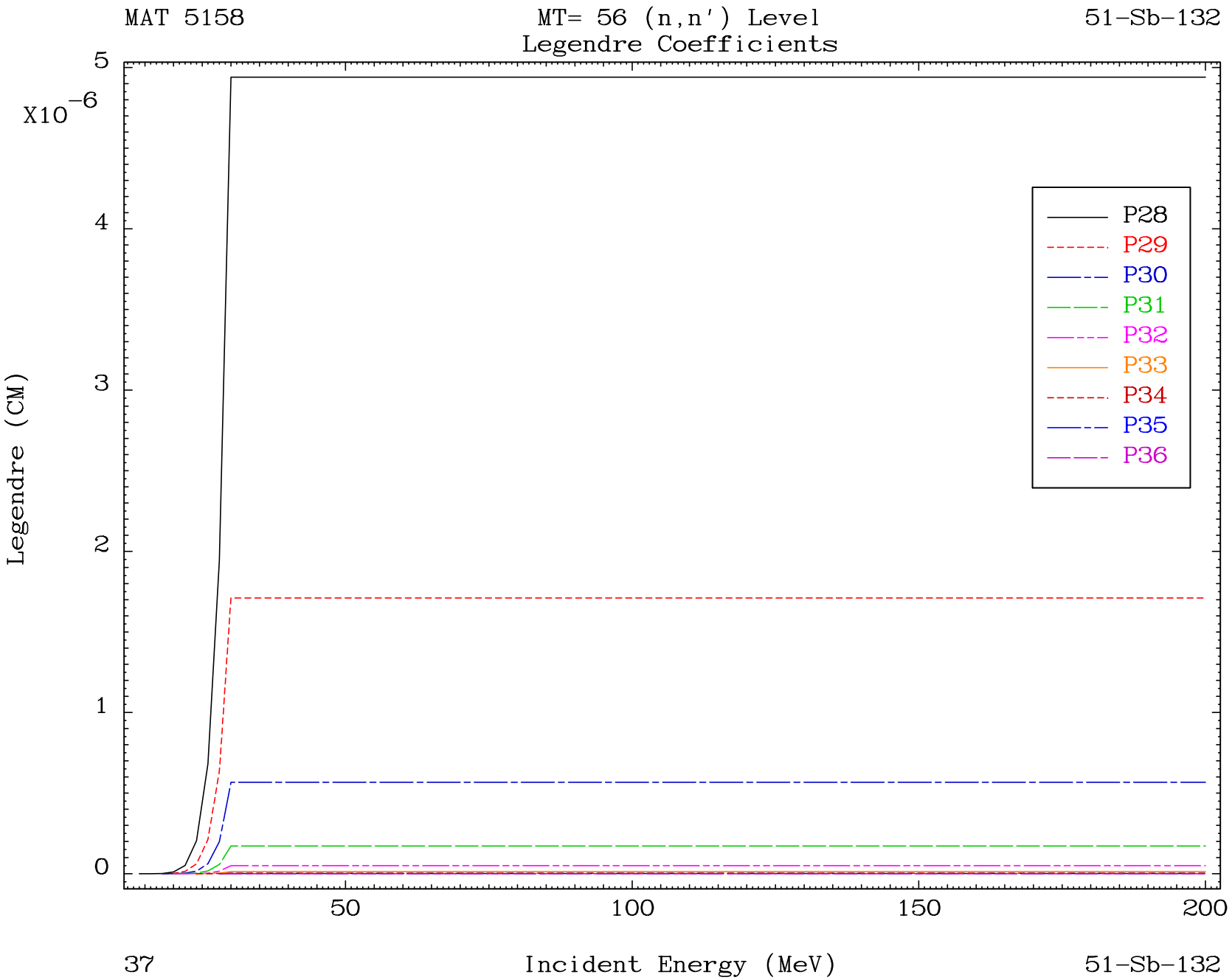

MAT 5158
MT= 55 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
5
4
3
2
1
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
32
Incident Energy (MeV)
51-Sb-132

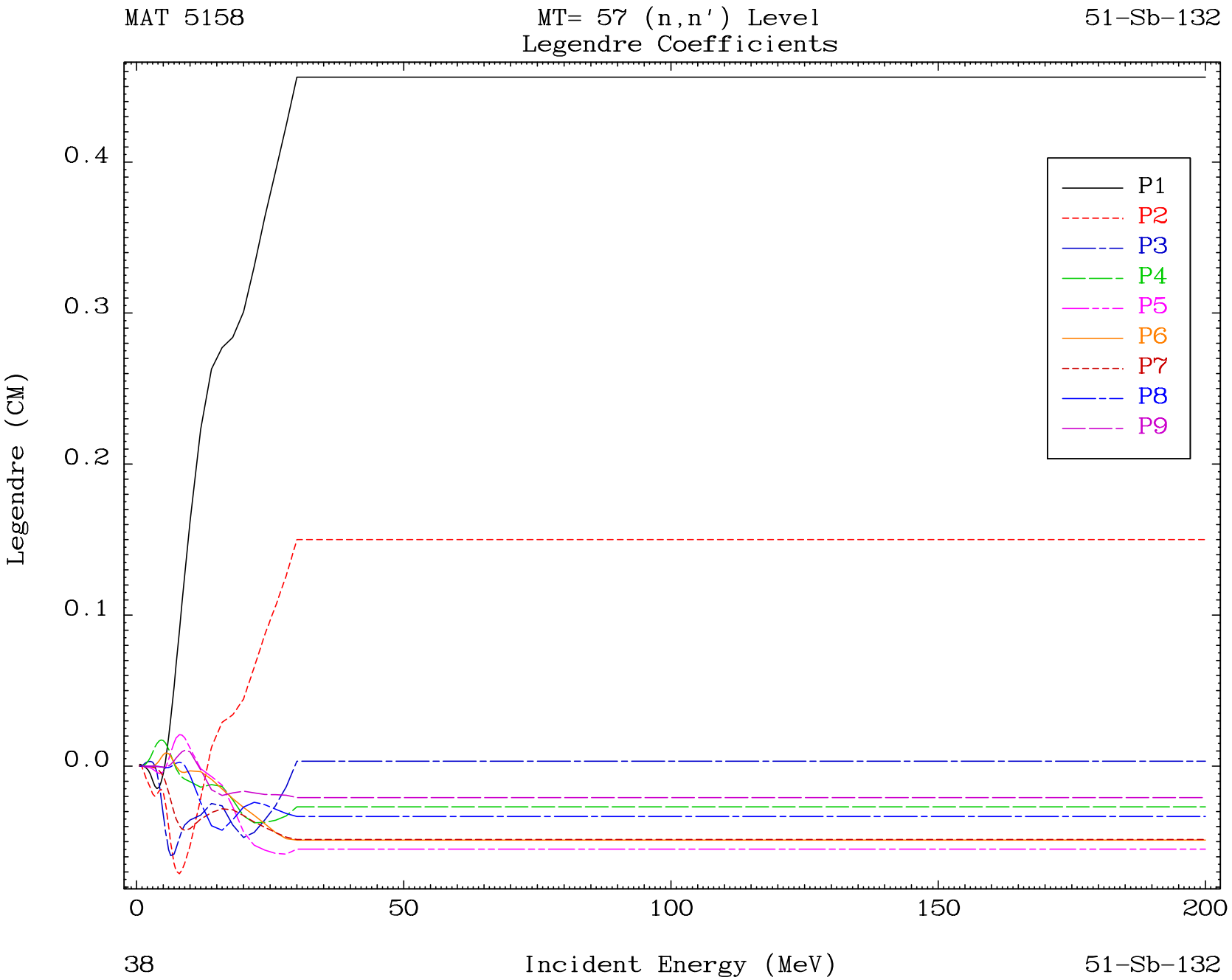

MAT 5158
MT= 55 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
33
Incident Energy (MeV)
51-Sb-132

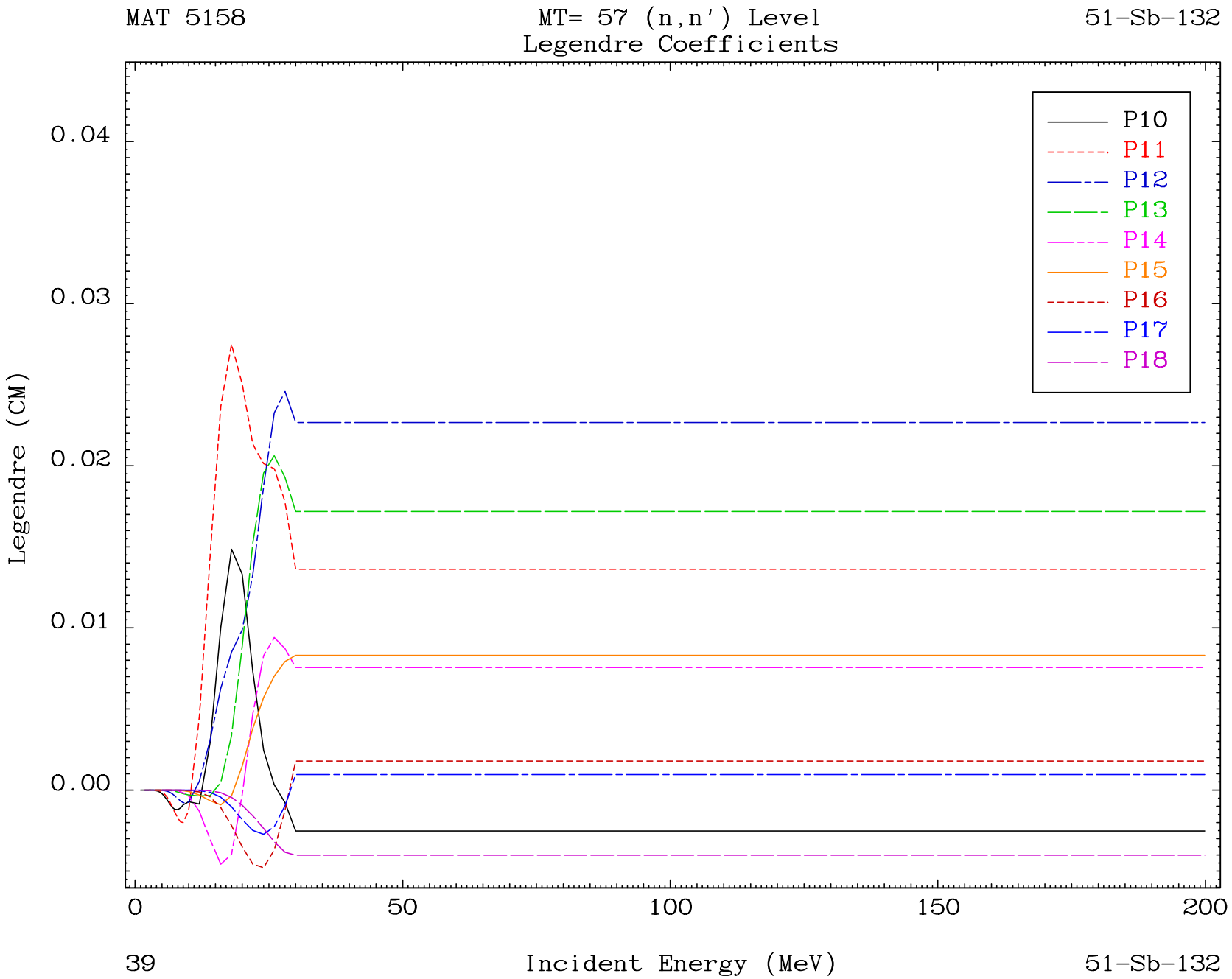

MAT 5158
MT= 56 (n,n') Level
Legendre Coefficients
51-Sb-132
0.5
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
34
Incident Energy (MeV)
51-Sb-132

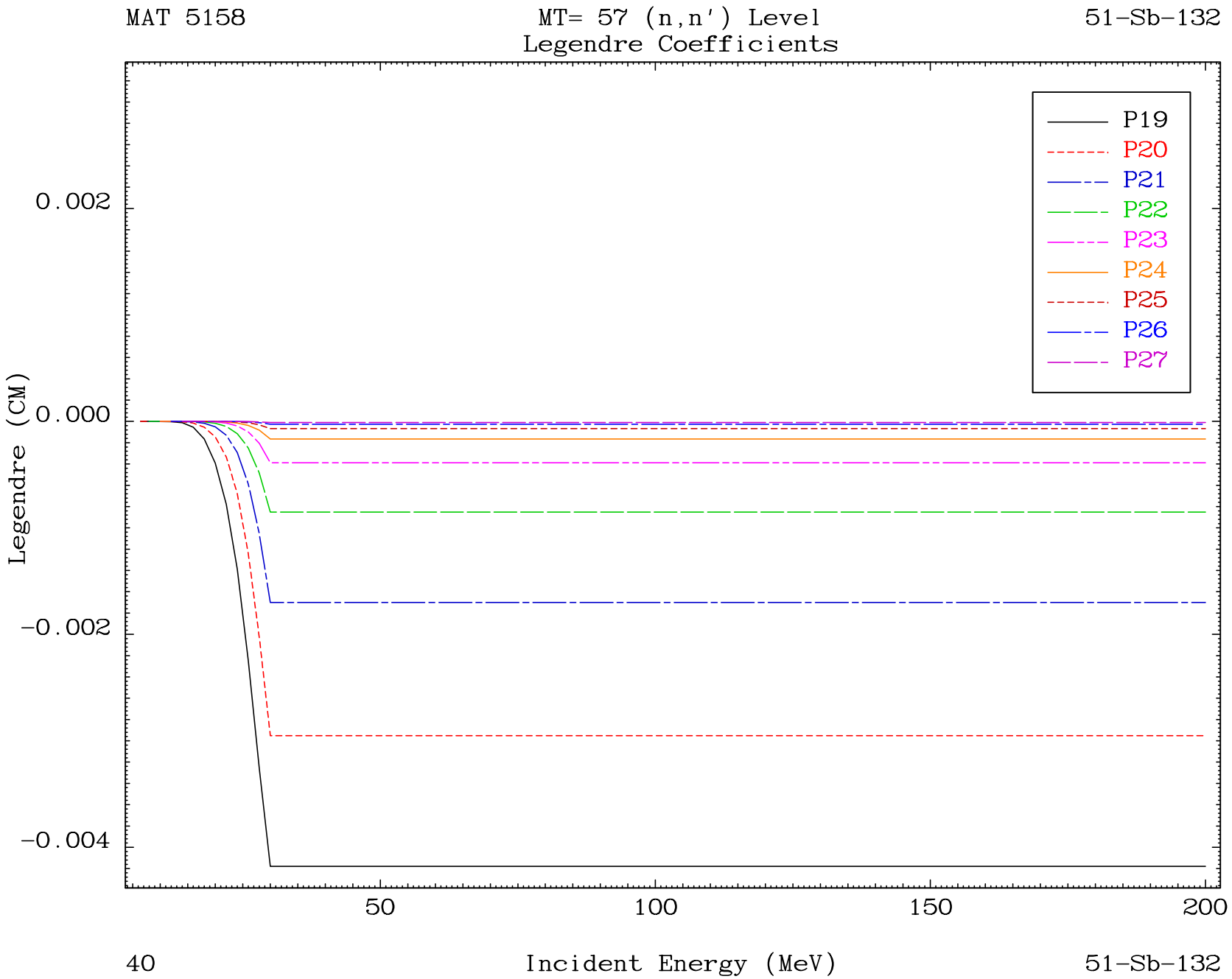

MAT 5158
MT= 56 (n,n') Level
Legendre Coefficients
51-Sb-132
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
35
Incident Energy (MeV)
51-Sb-132

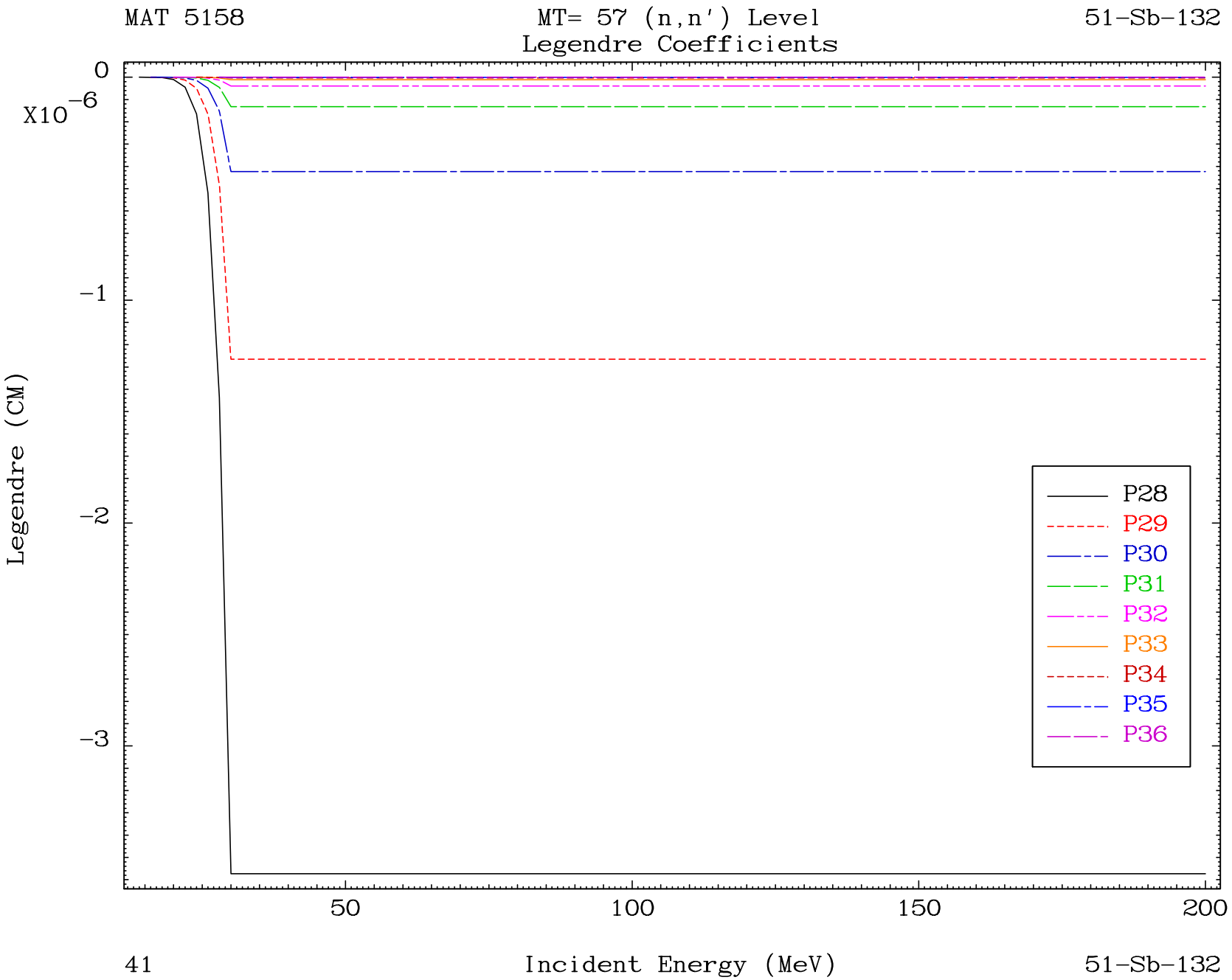

MAT 5158
MT= 56 (n,n') Level
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
36
Incident Energy (MeV)
51-Sb-132

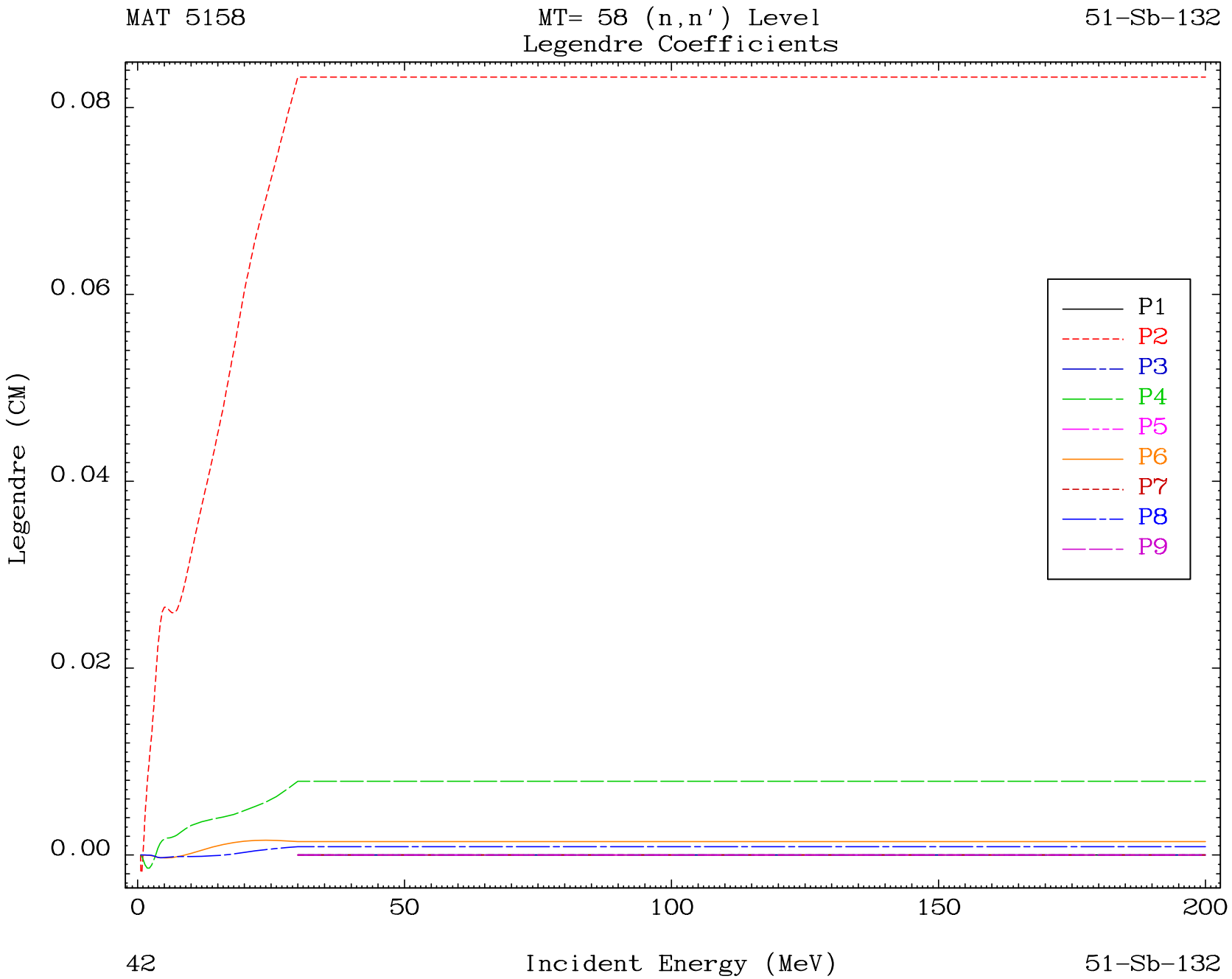

MAT 5158
MT= 56 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-6
5
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
37
Incident Energy (MeV)
51-Sb-132

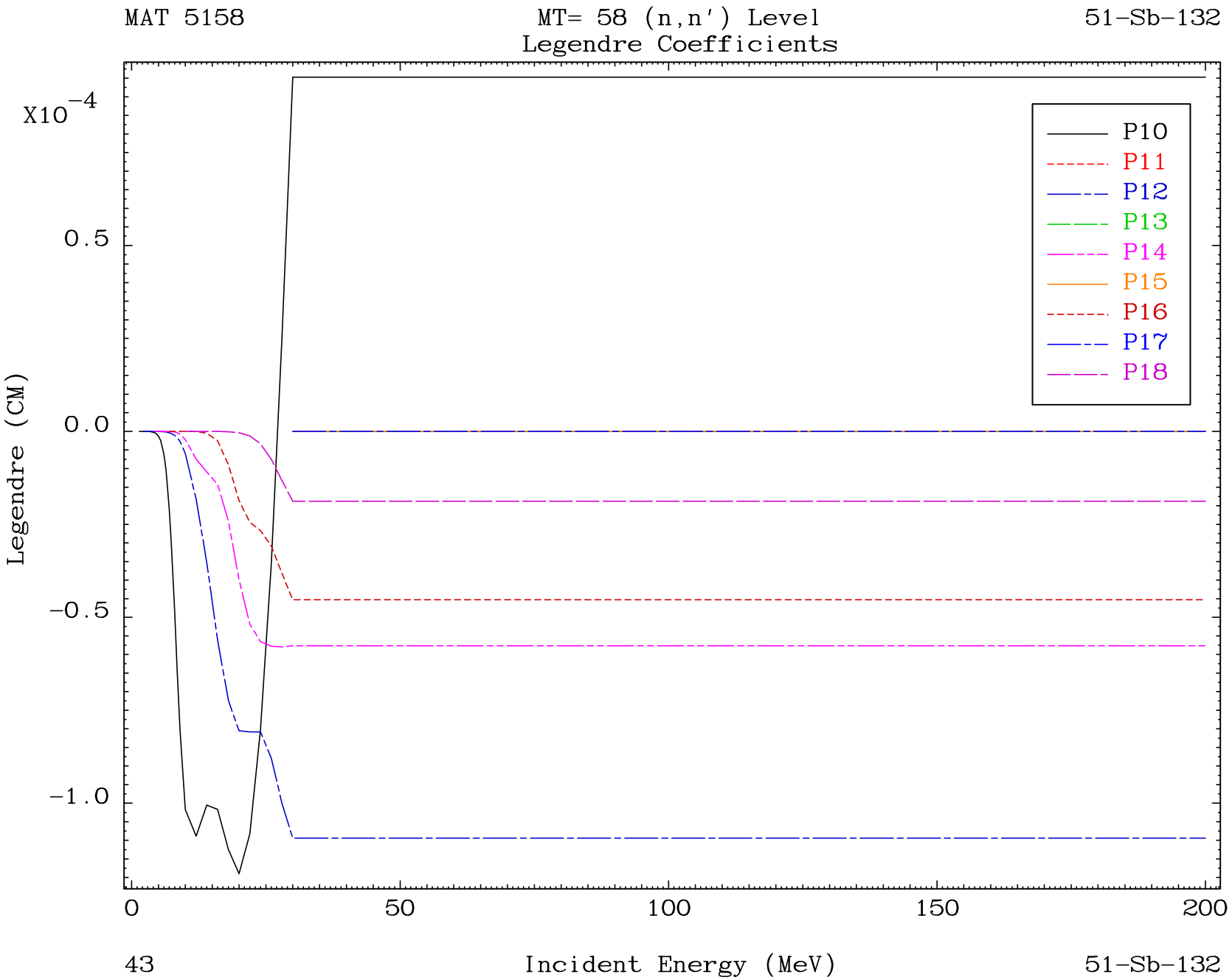

MAT 5158
MT= 57 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
38
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

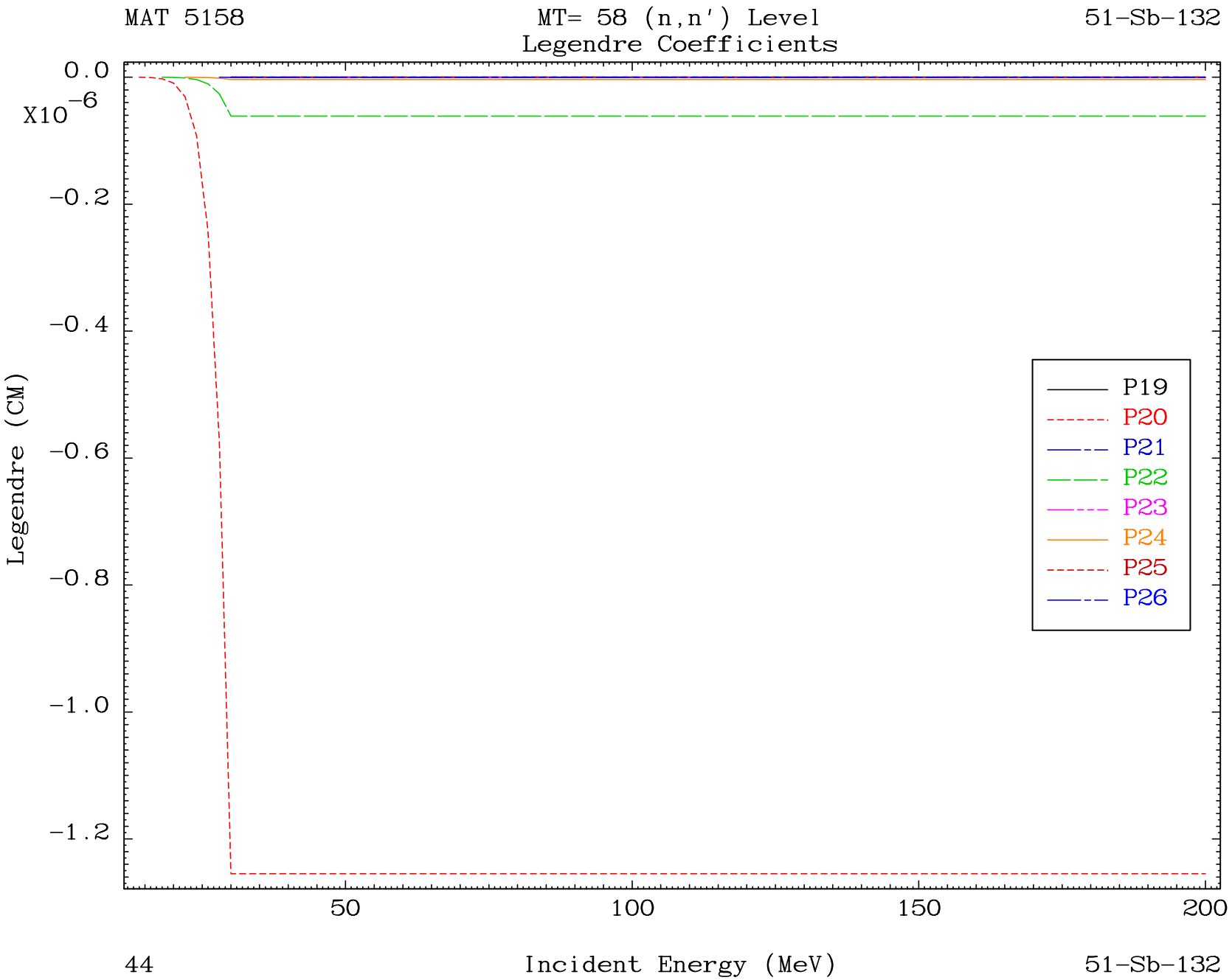

MAT 5158
MT= 57 (n,n') Level
Legendre Coefficients
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
39
Incident Energy (MeV)
51-Sb-132

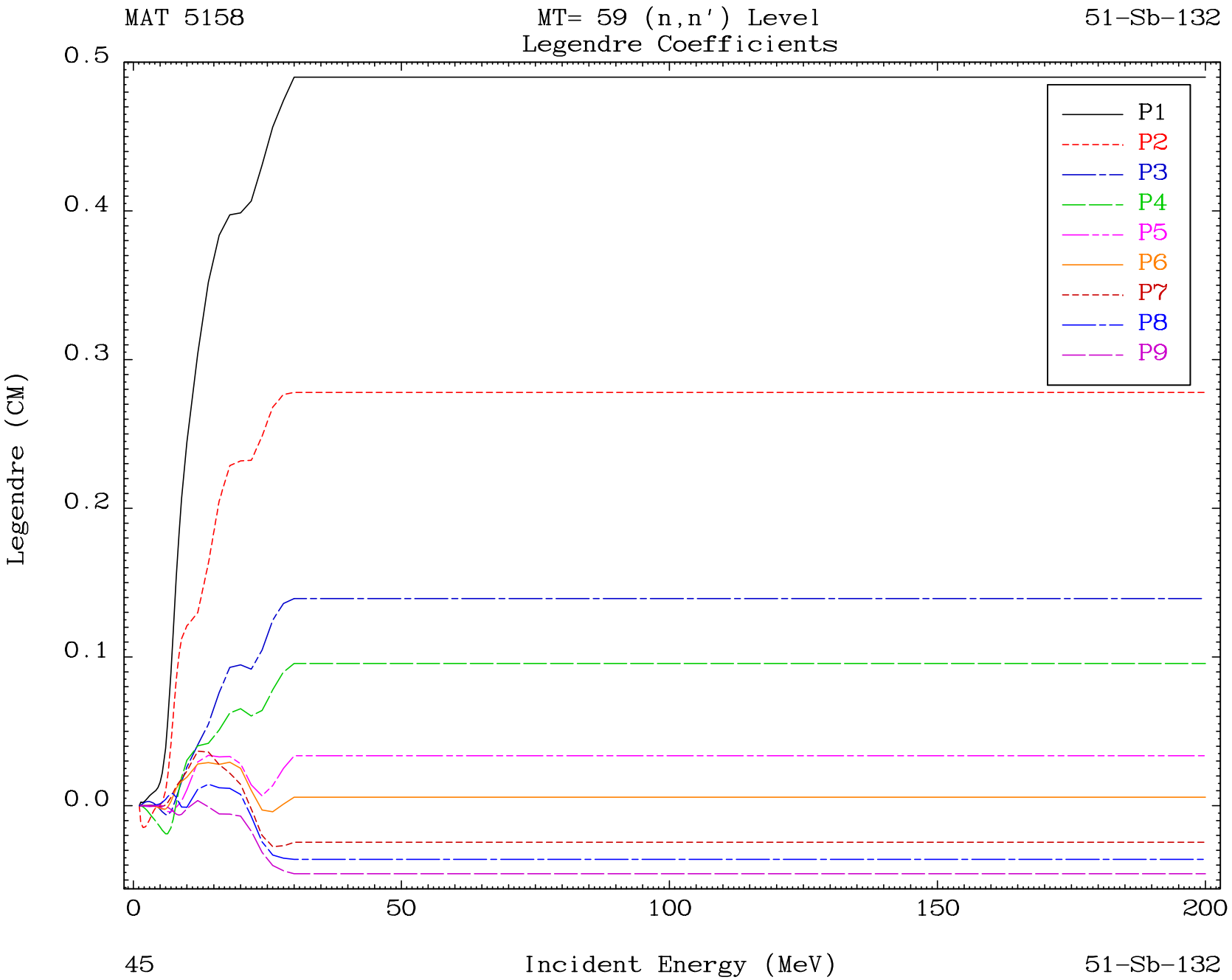

MAT 5158
MT= 57 (n,n') Level
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.002
0.000
-0.002
-0.004
Legendre (CM)
50
100
150
200
40
Incident Energy (MeV)
51-Sb-132

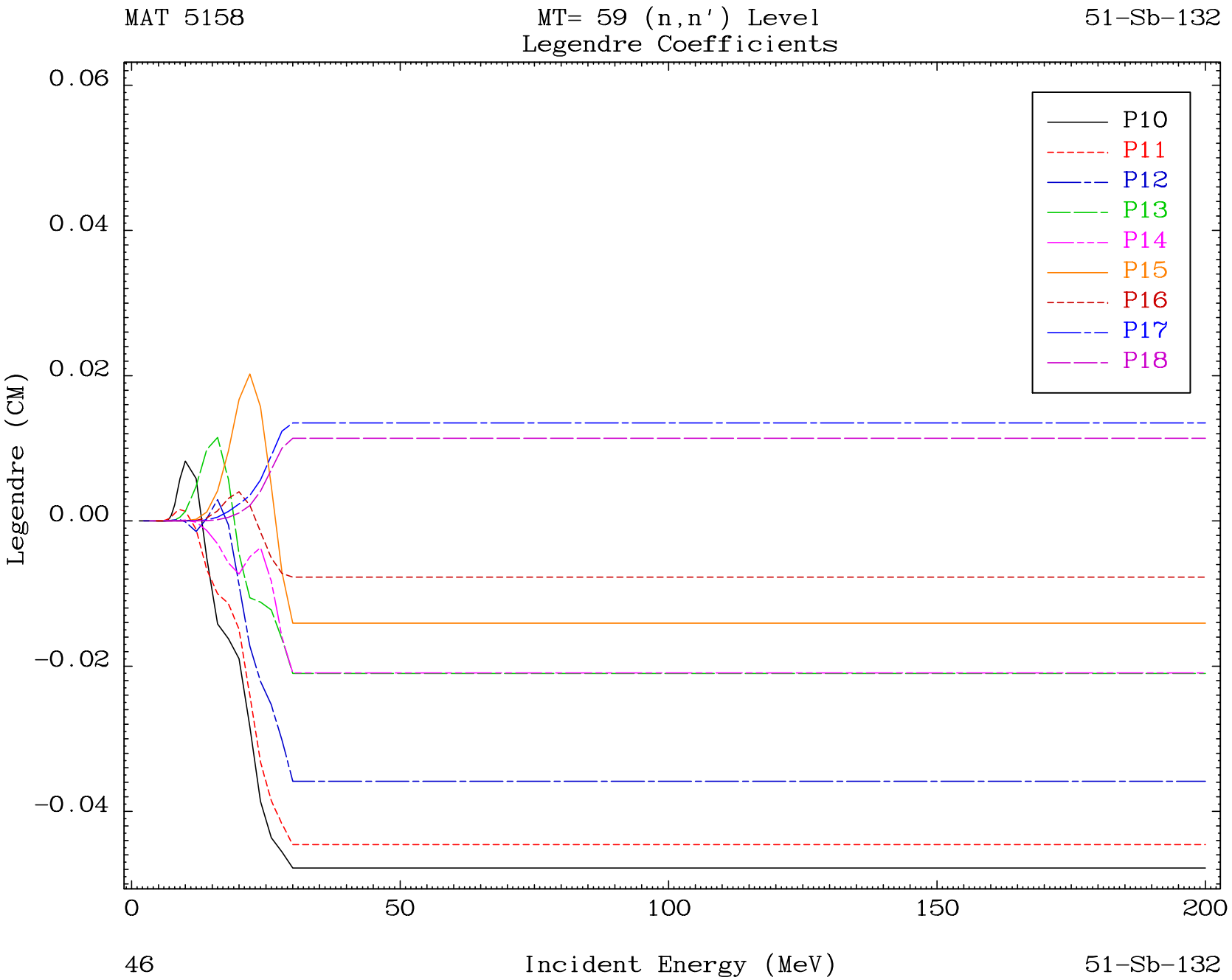

MAT 5158
MT= 57 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-6
-1
-2
-3
Legendre (CM)
50
100
150
200
41
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34
P35
P36

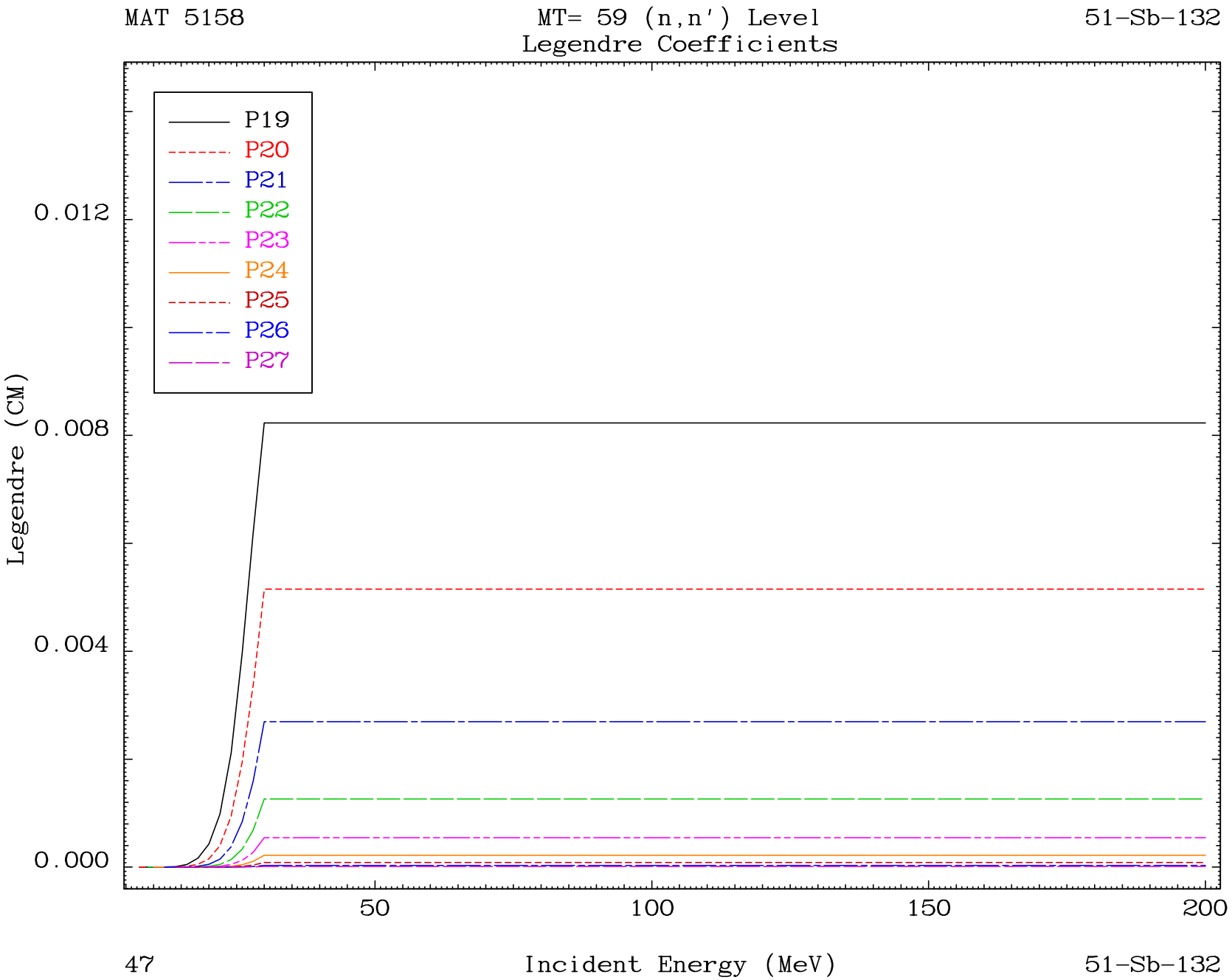

MAT 5158
MT= 58 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
42
Incident Energy (MeV)
51-Sb-132

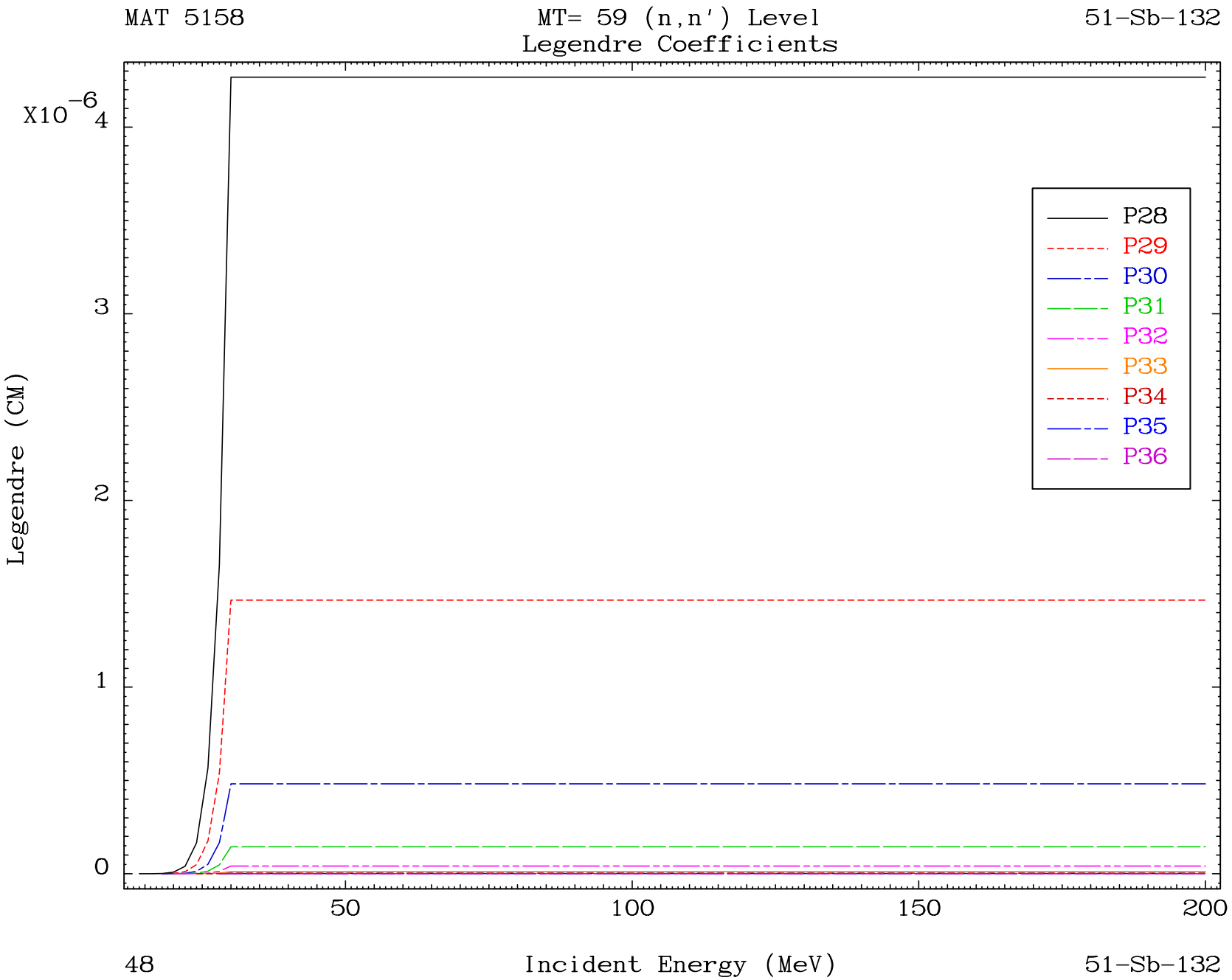

MAT 5158
MT= 58 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
0.5
0.0
-0.5
-1.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
43
Incident Energy (MeV)
51-Sb-132

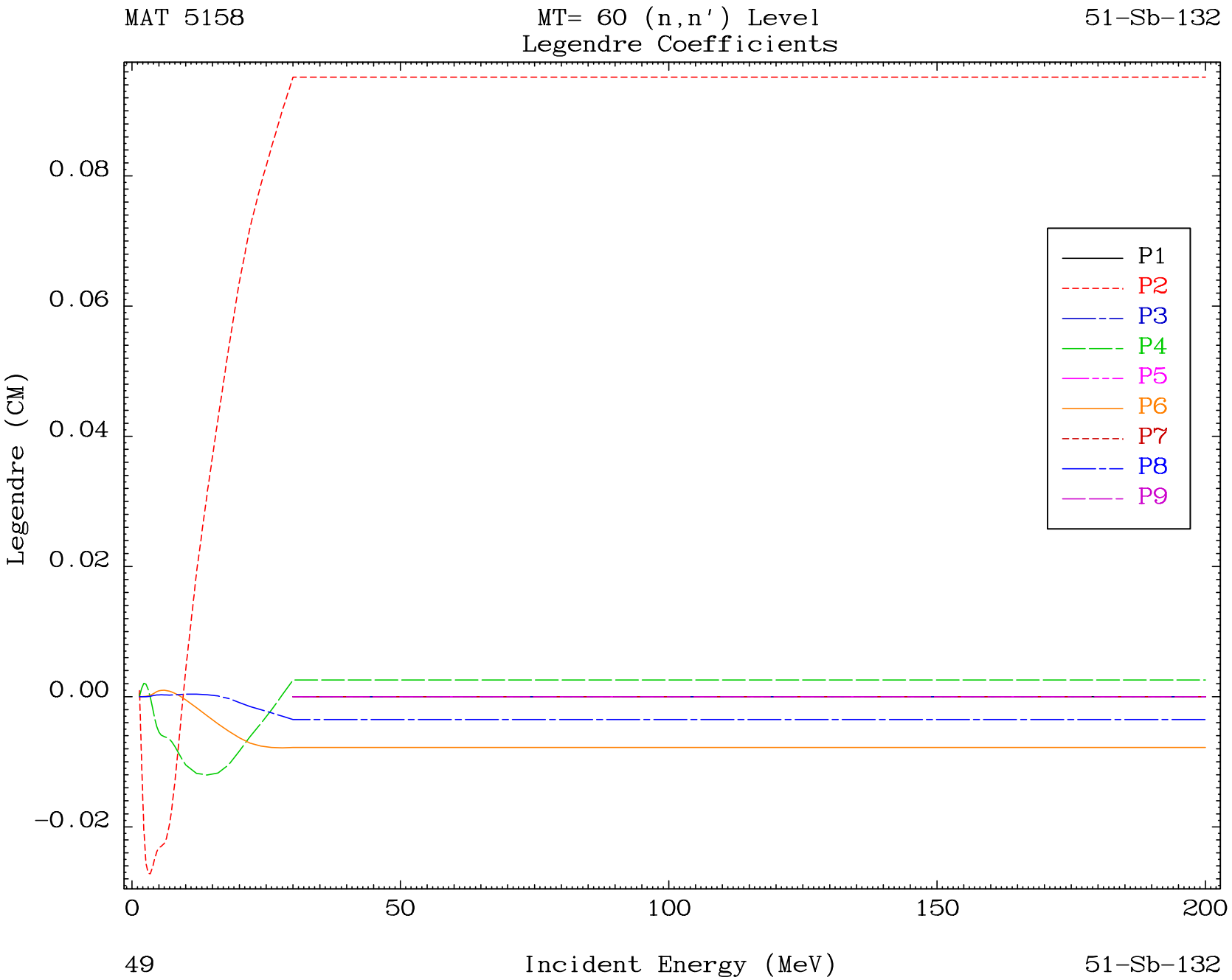

MAT 5158
MT= 58 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P19
P20
P21
P22
P23
P24
P25
P26
44
51-Sb-132

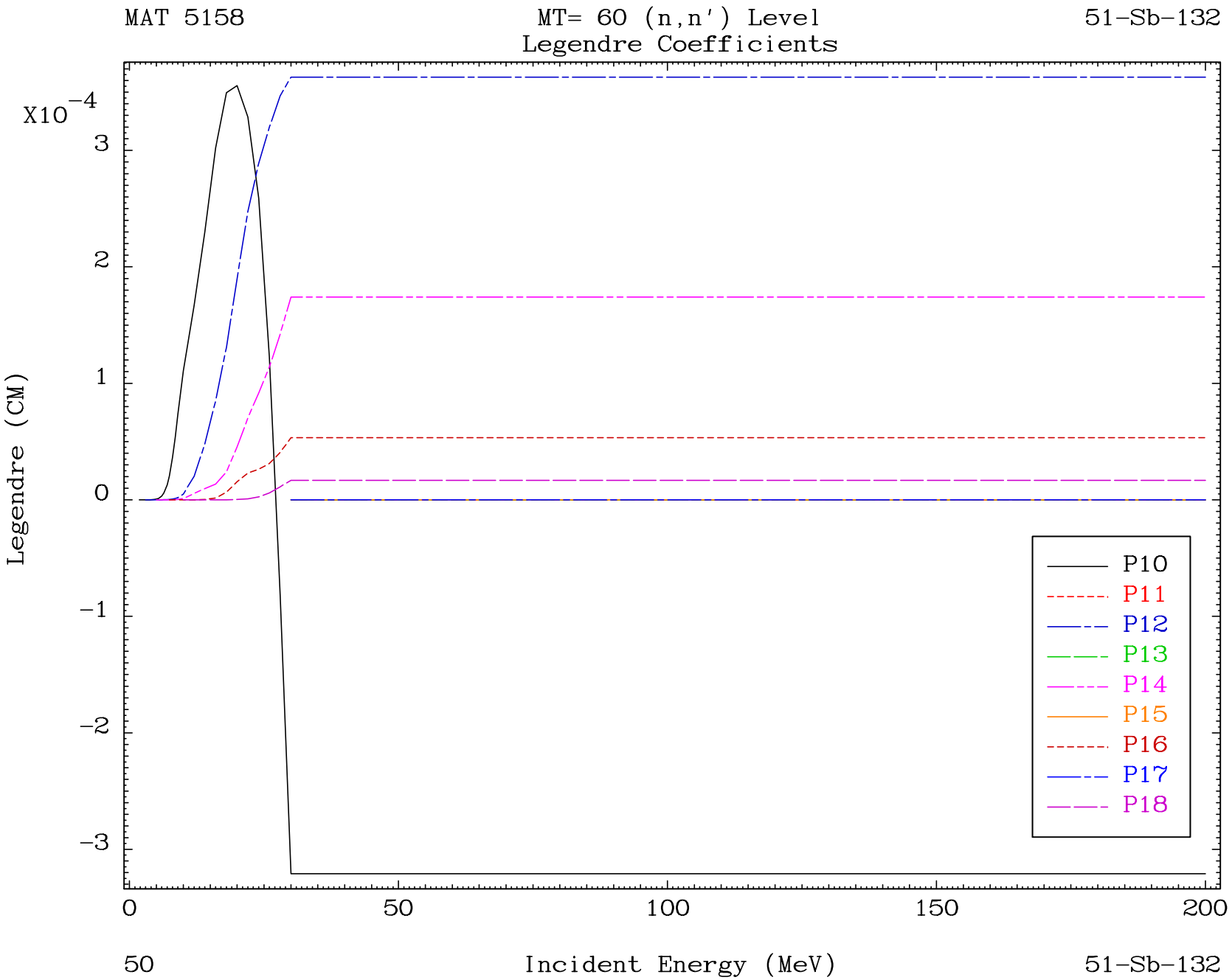

MAT 5158
MT= 59 (n,n') Level
Legendre Coefficients
51-Sb-132
0.5
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
45
Incident Energy (MeV)
51-Sb-132

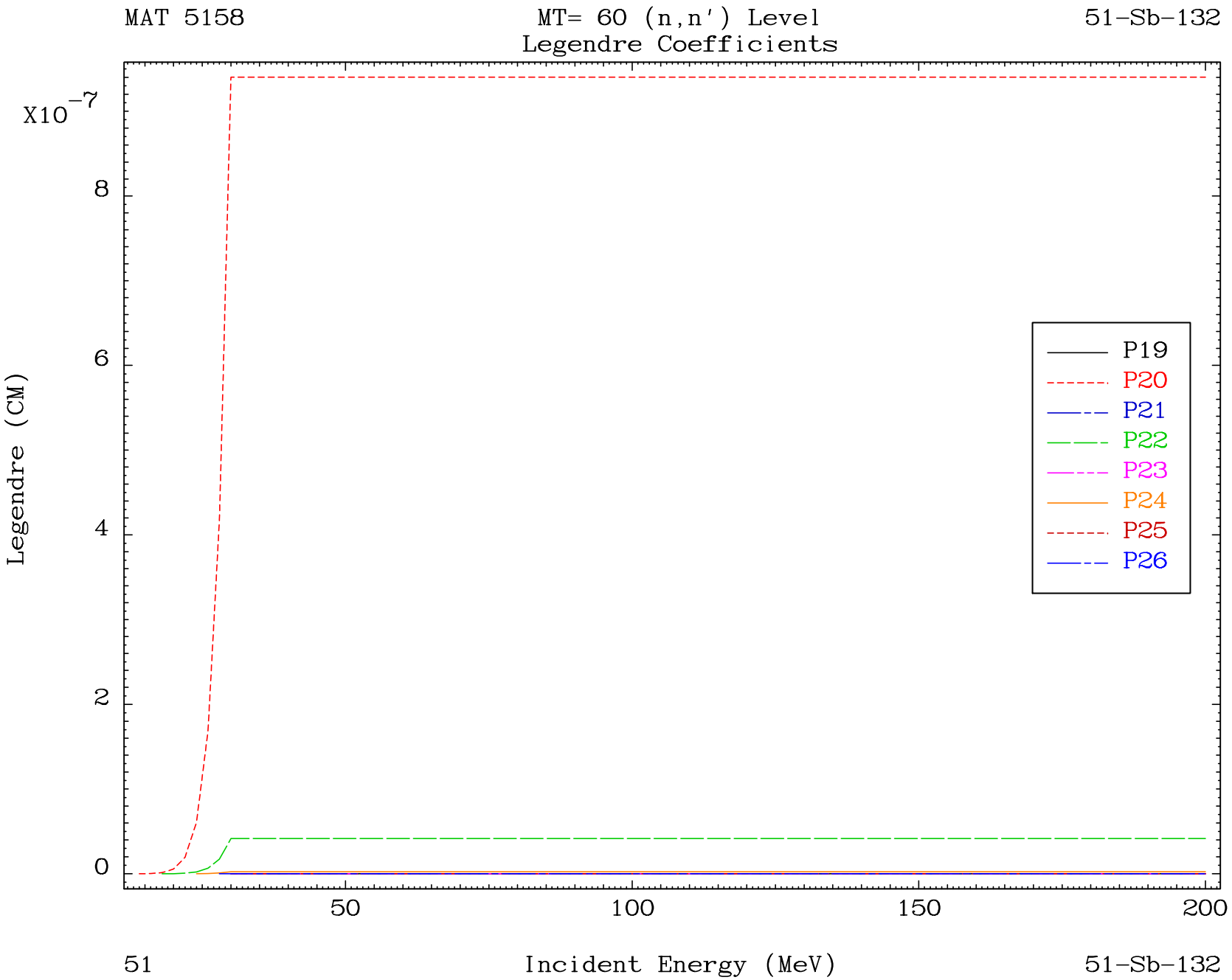

MAT 5158
MT= 59 (n,n') Level
Legendre Coefficients
51-Sb-132
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
46
Incident Energy (MeV)
51-Sb-132

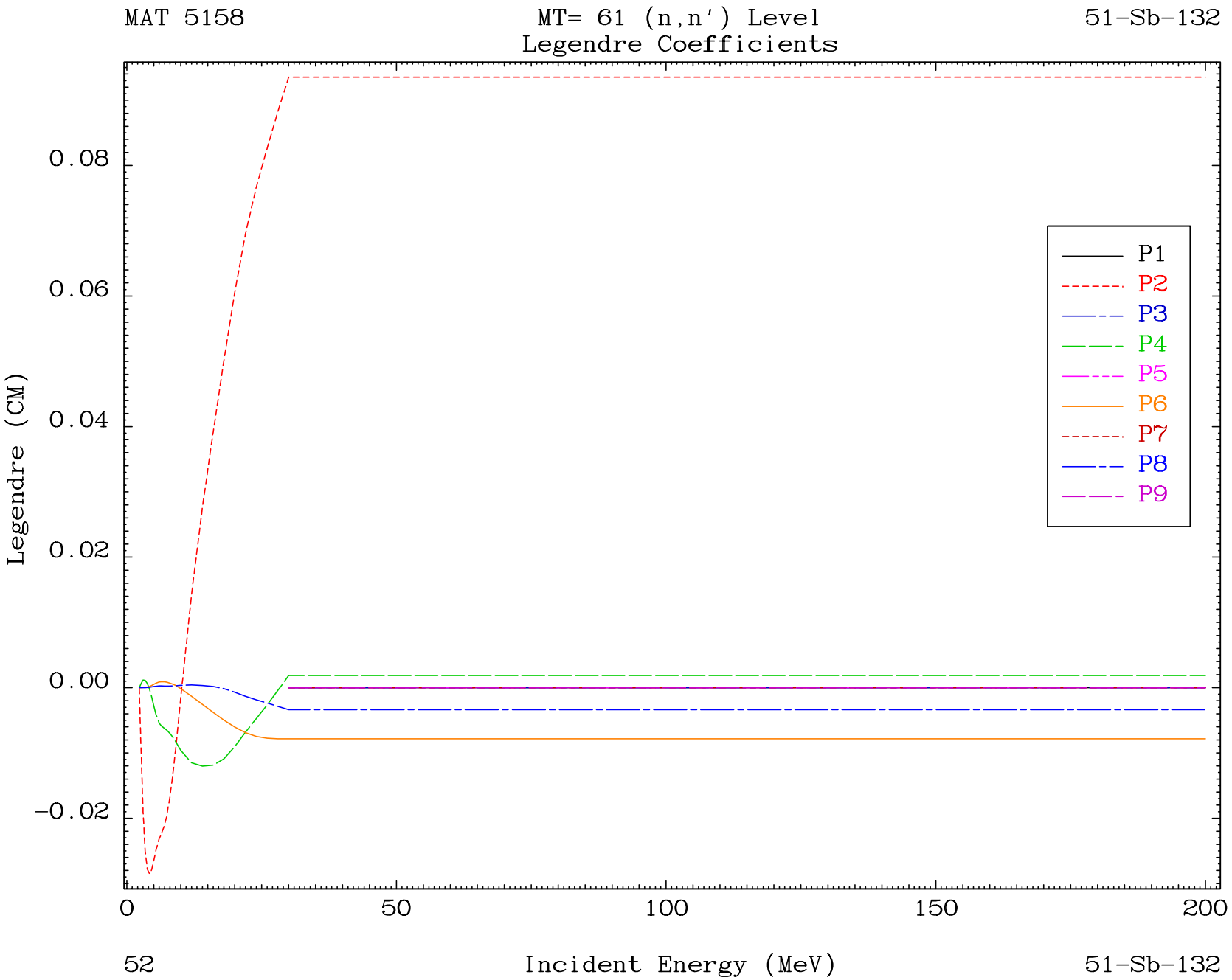

MAT 5158
MT= 59 (n,n') Level
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.012
0.008
0.004
0.000
Legendre (CM)
50
100
150
200
47
Incident Energy (MeV)
51-Sb-132

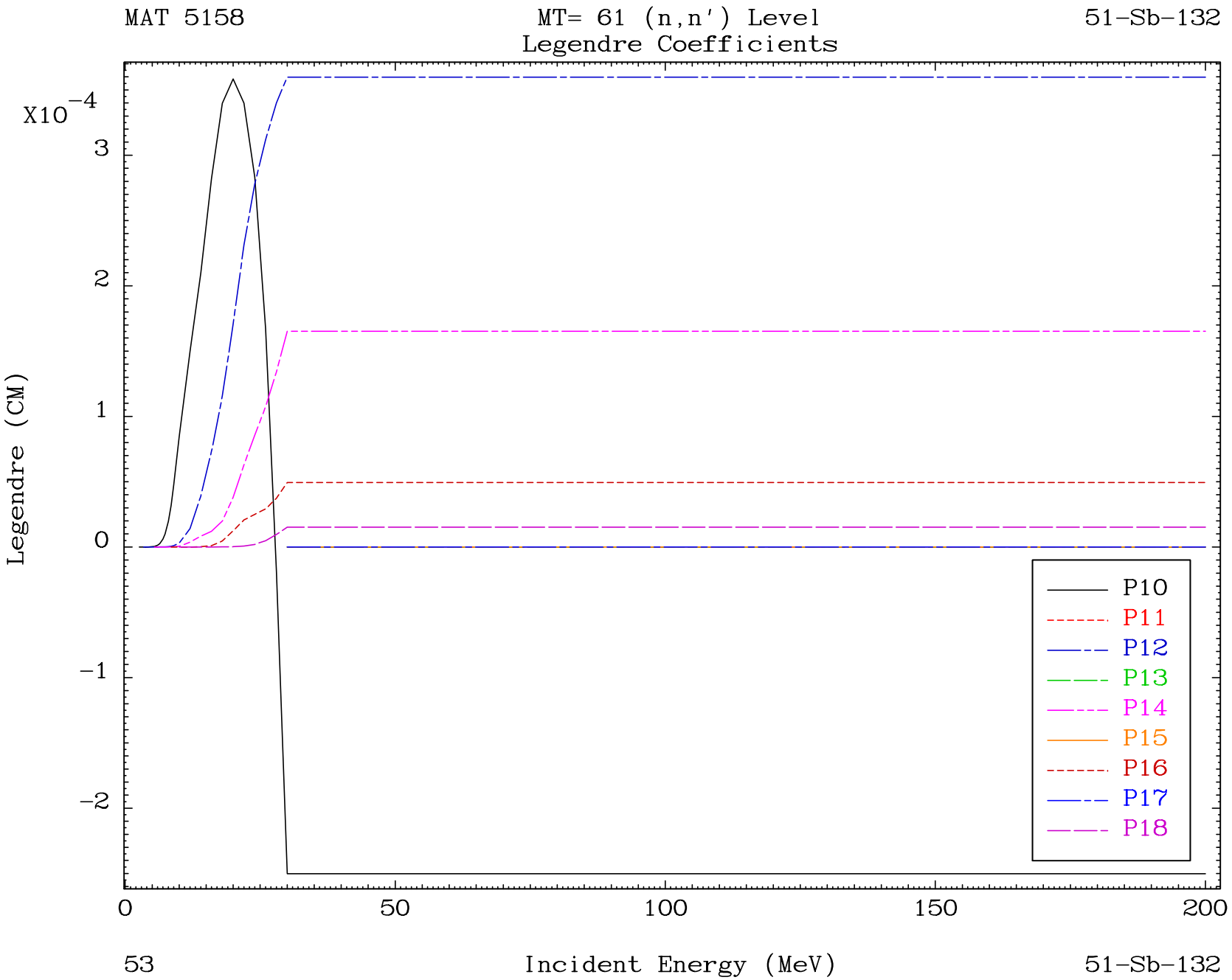

MAT 5158
MT= 59 (n,n') Level
Legendre Coefficients
51-Sb-132
X10 -6
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
48
Incident Energy (MeV)
51-Sb-132

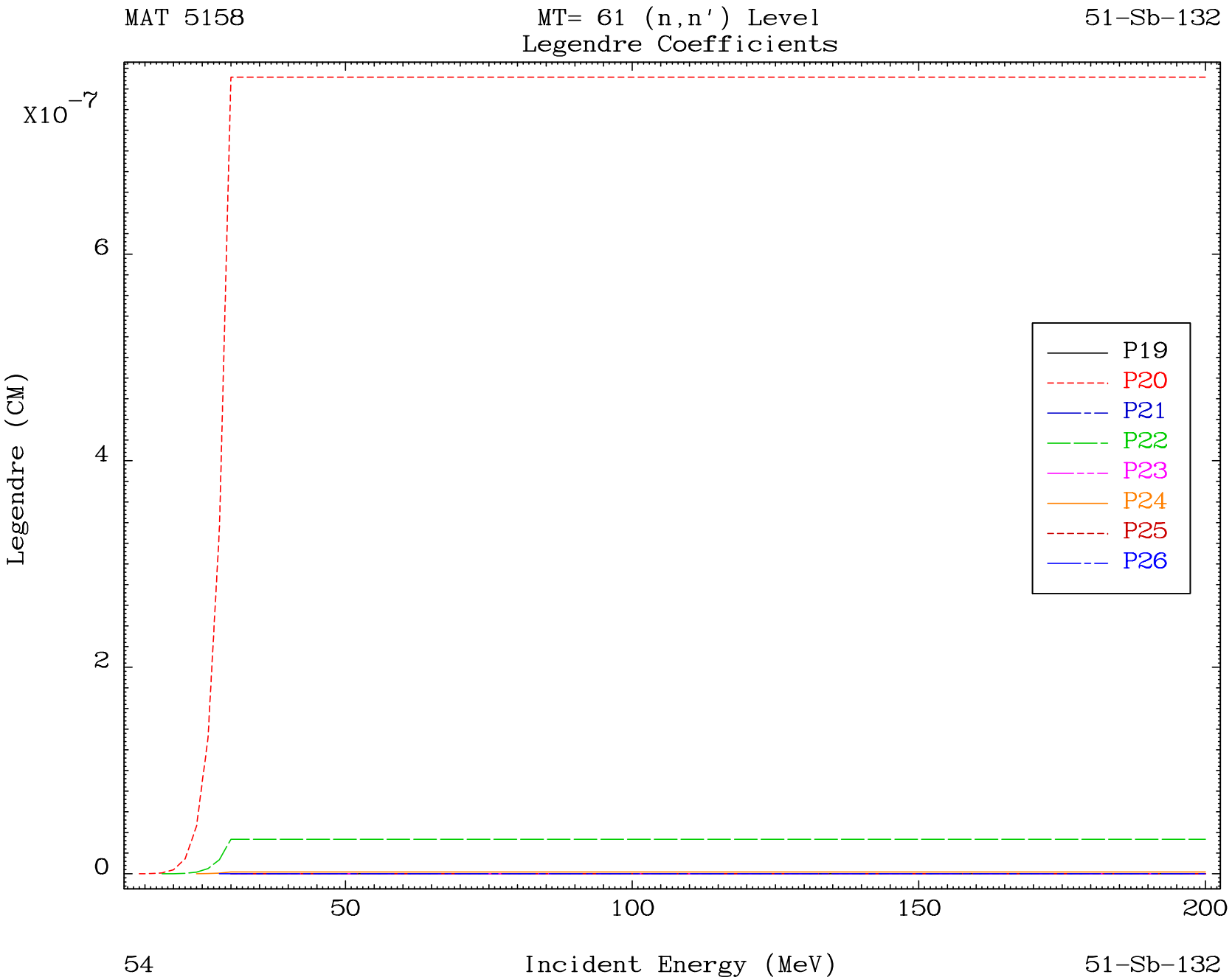

MAT 5158
MT= 60 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
49
Incident Energy (MeV)
51-Sb-132

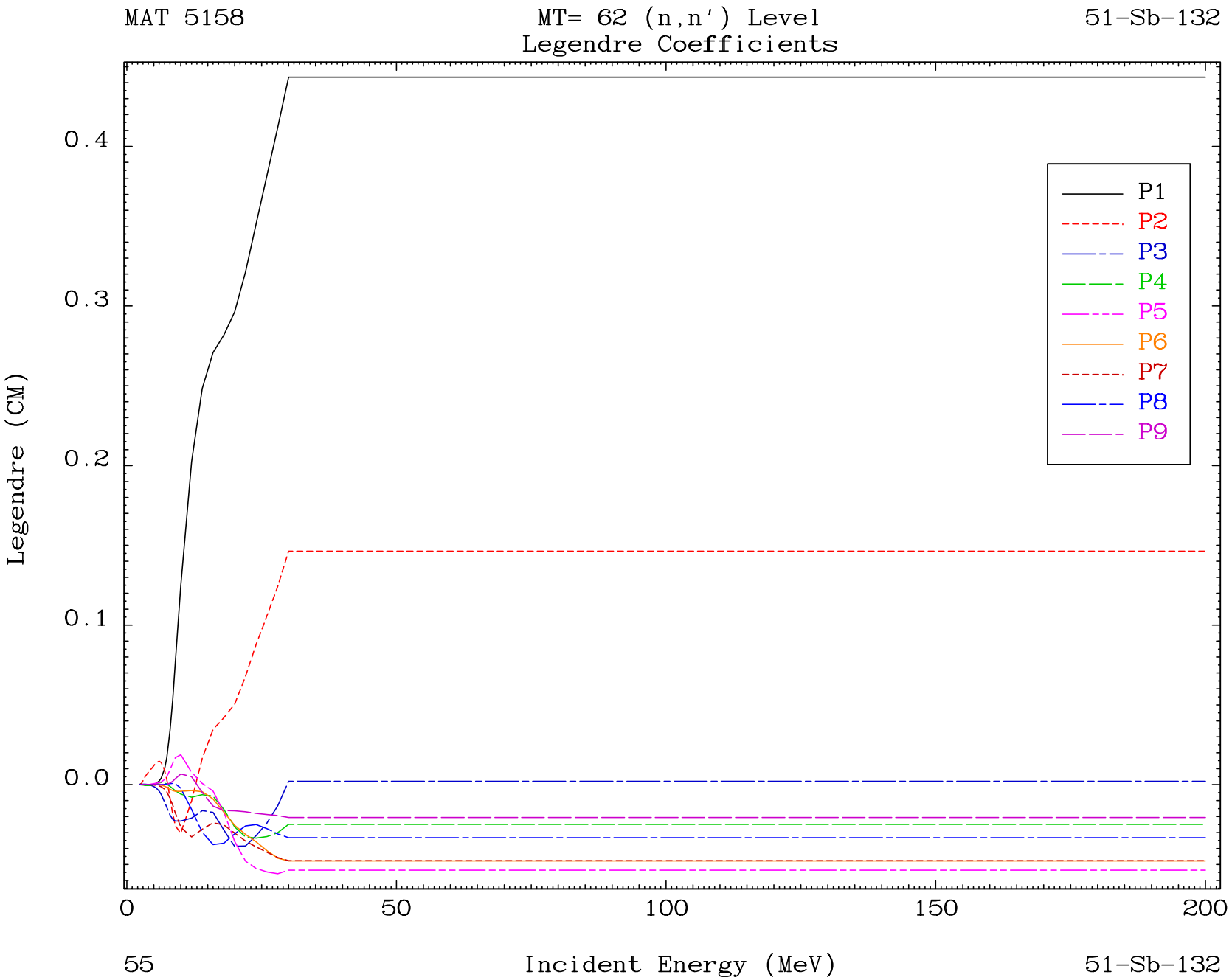

MAT 5158
MT= 60 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
3
2
1
0
-1
-2
-3
Legendre (CM)
0
50
100
150
200
50
Incident Energy (MeV)
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18

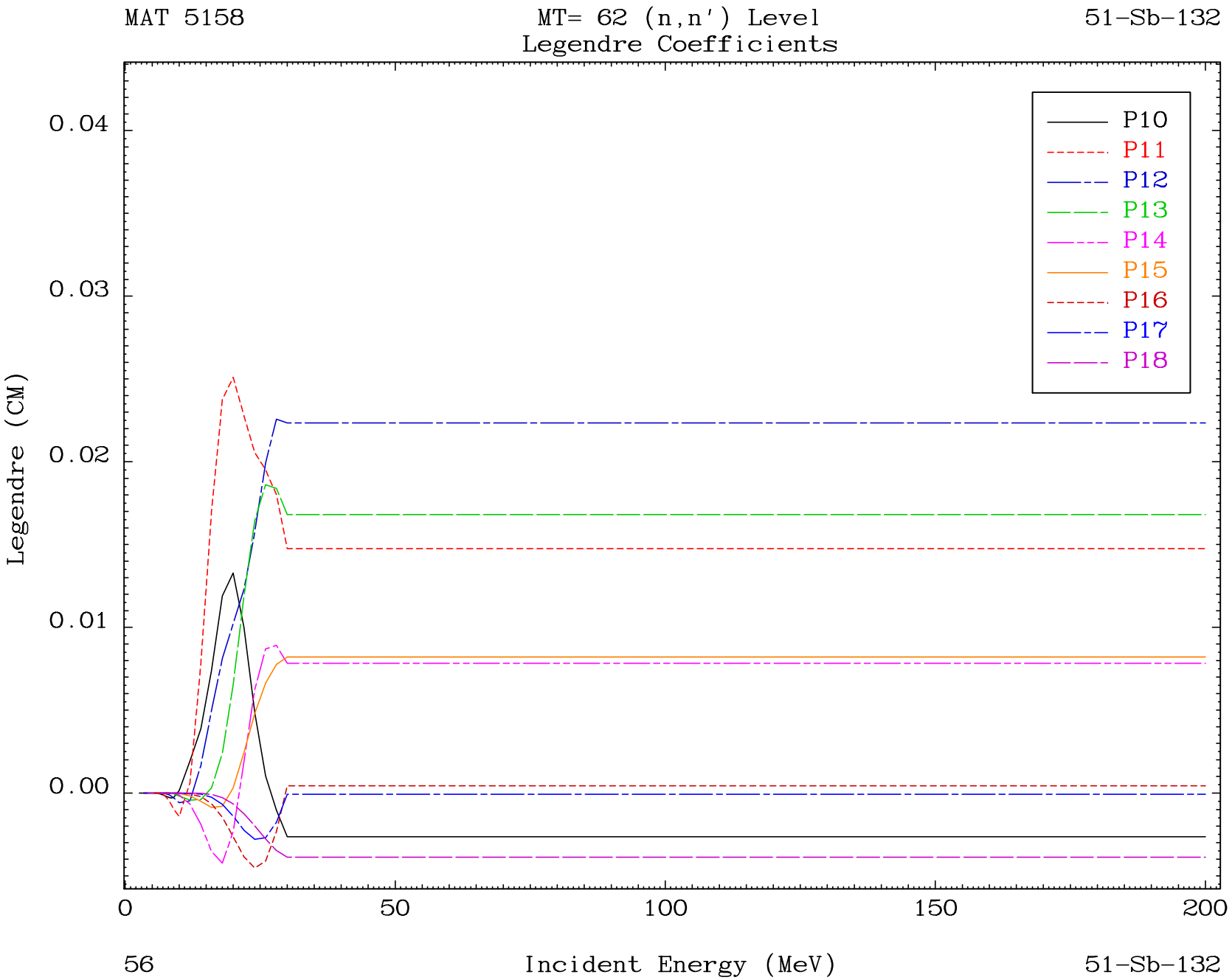

MAT 5158
MT= 60 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
8
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
51
Incident Energy (MeV)
51-Sb-132

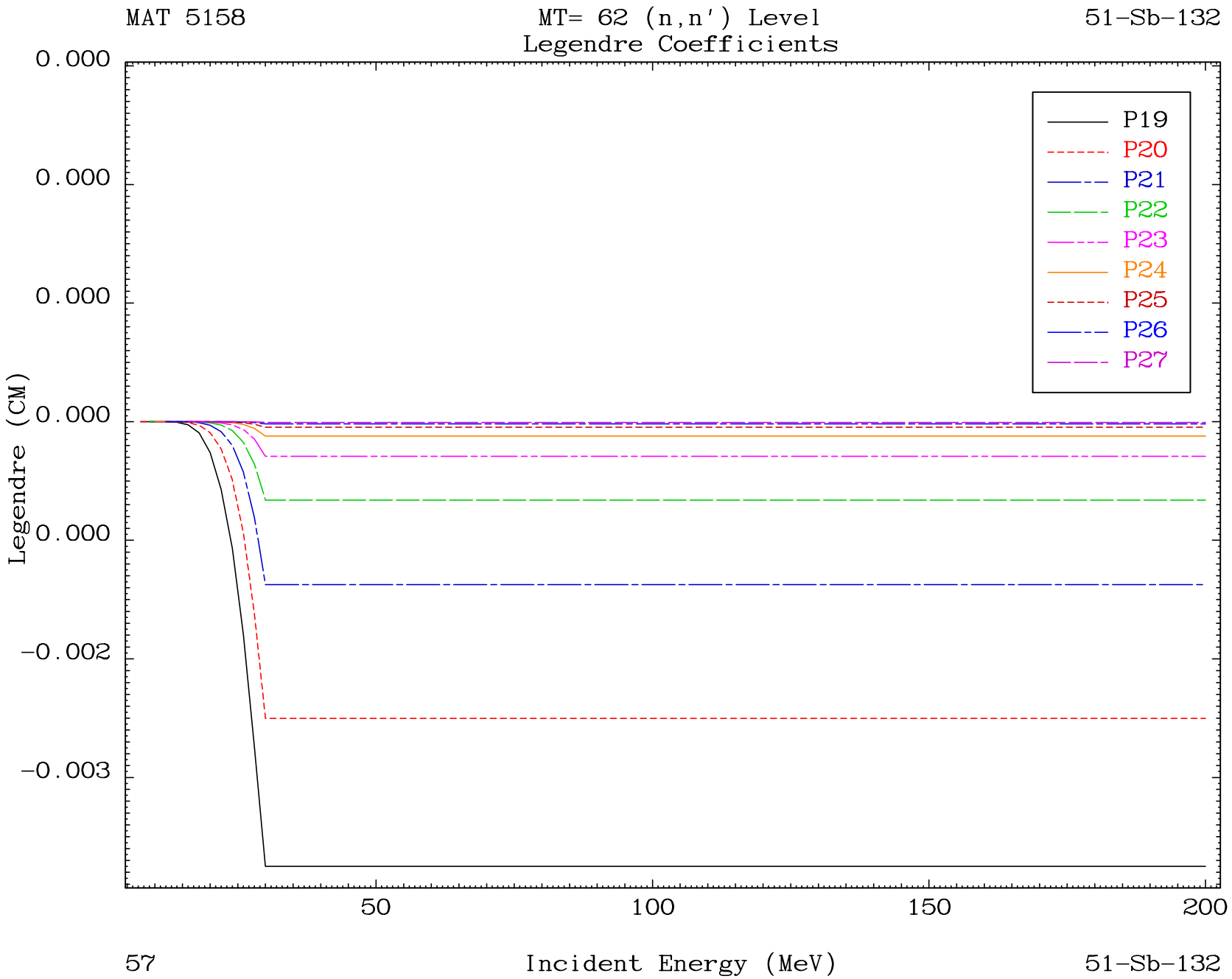

MAT 5158
MT= 61 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.08
0.06
0.04
0.02
0.00
-0.02
0
50
100
150
200
Incident Energy (MeV)
52
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

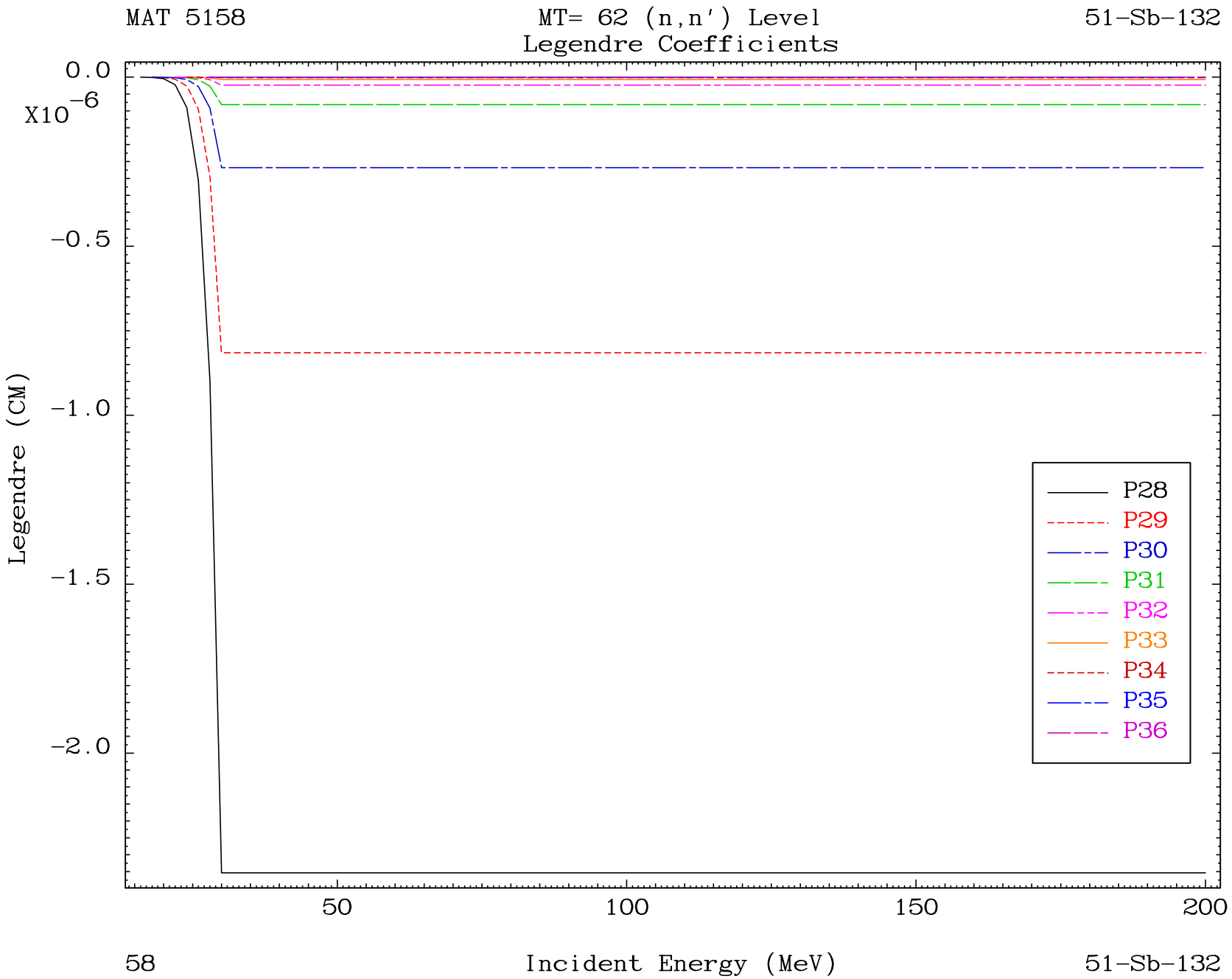

MAT 5158
MT= 61 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
3
2
1
0
-1
-2
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
53
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18

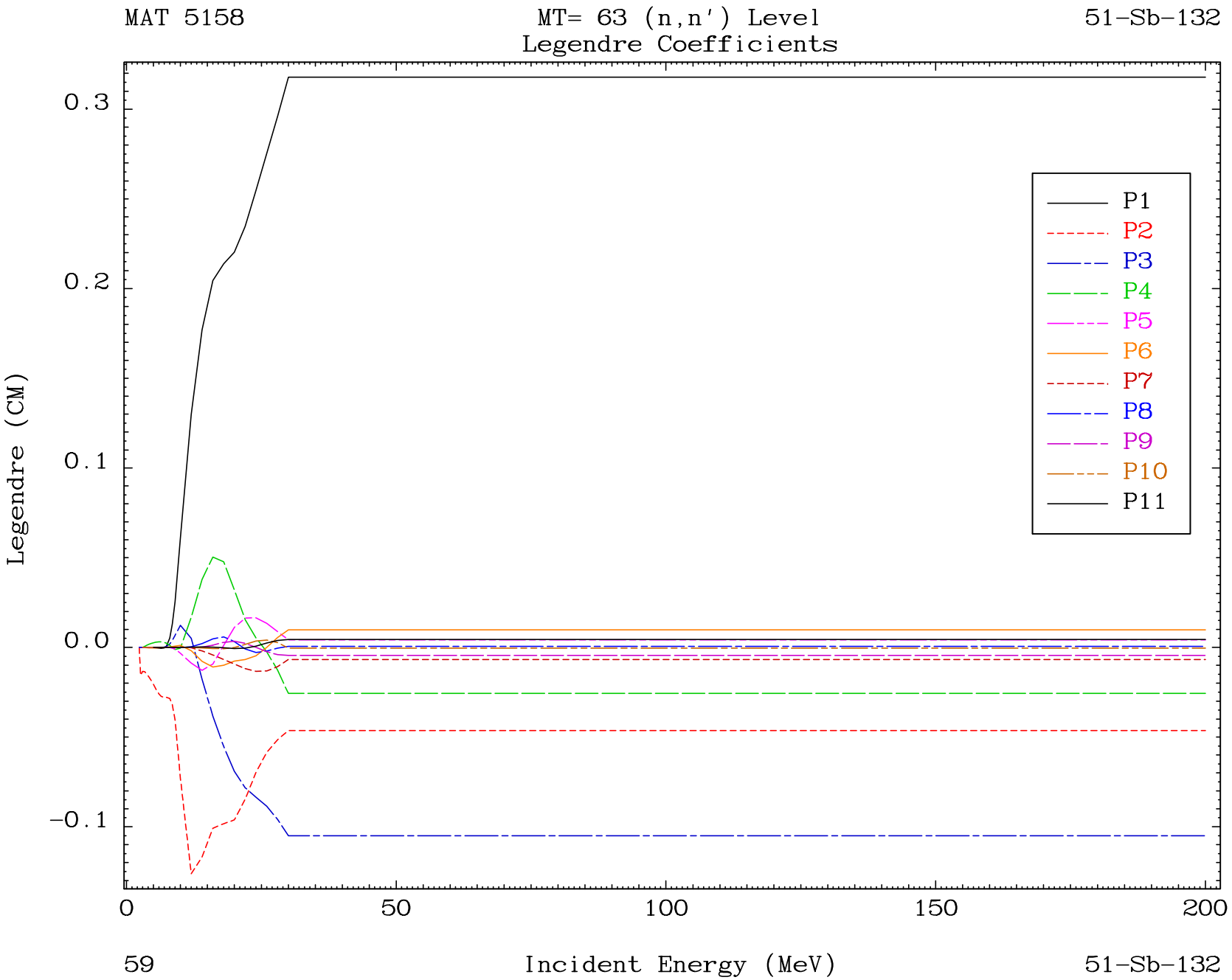

MAT 5158
MT= 61 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-7
6
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
54
Incident Energy (MeV)
51-Sb-132

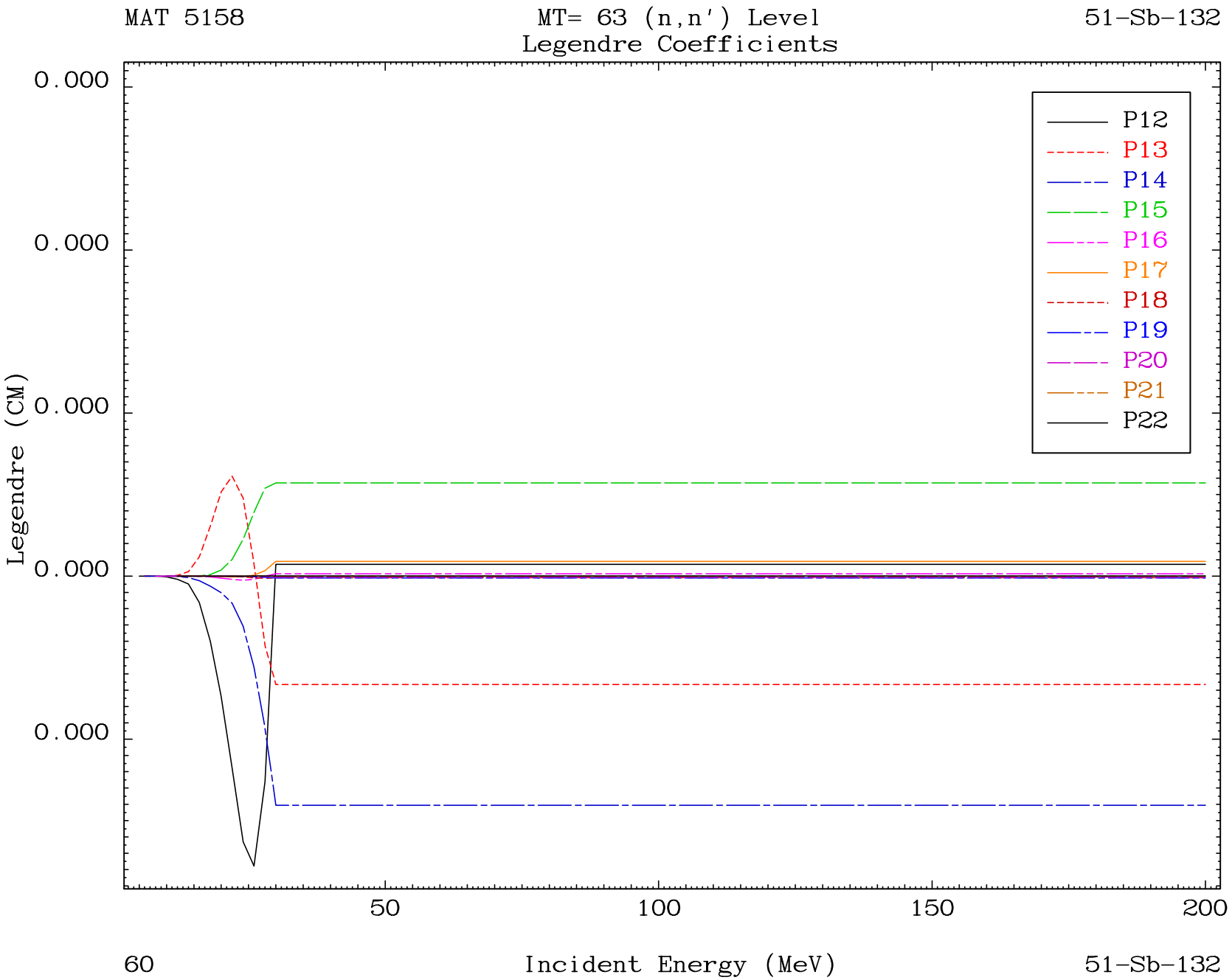

MAT 5158
MT= 62 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
55
Incident Energy (MeV)
51-Sb-132

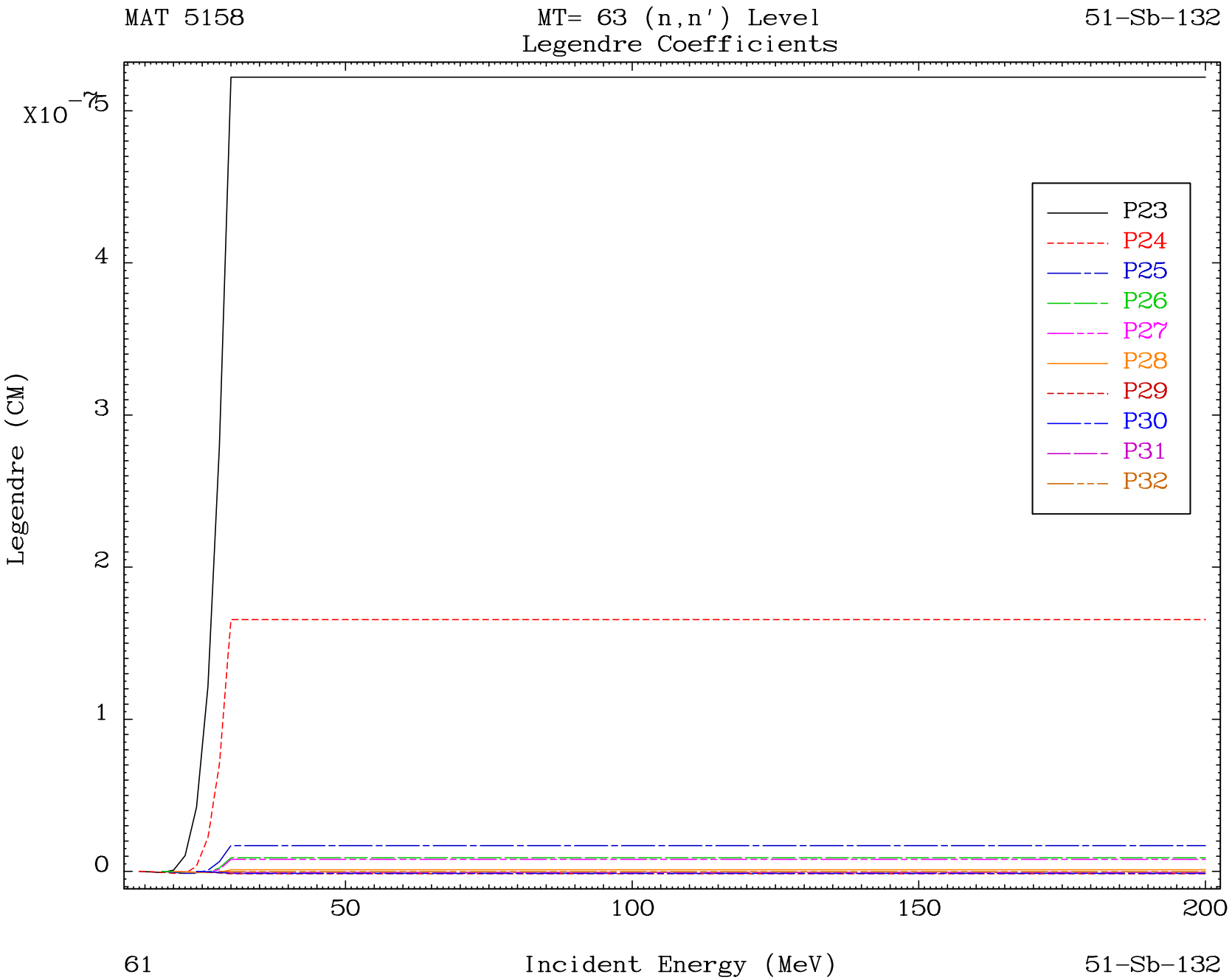

MAT 5158
MT= 62 (n,n') Level
Legendre Coefficients
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
56
Incident Energy (MeV)
51-Sb-132

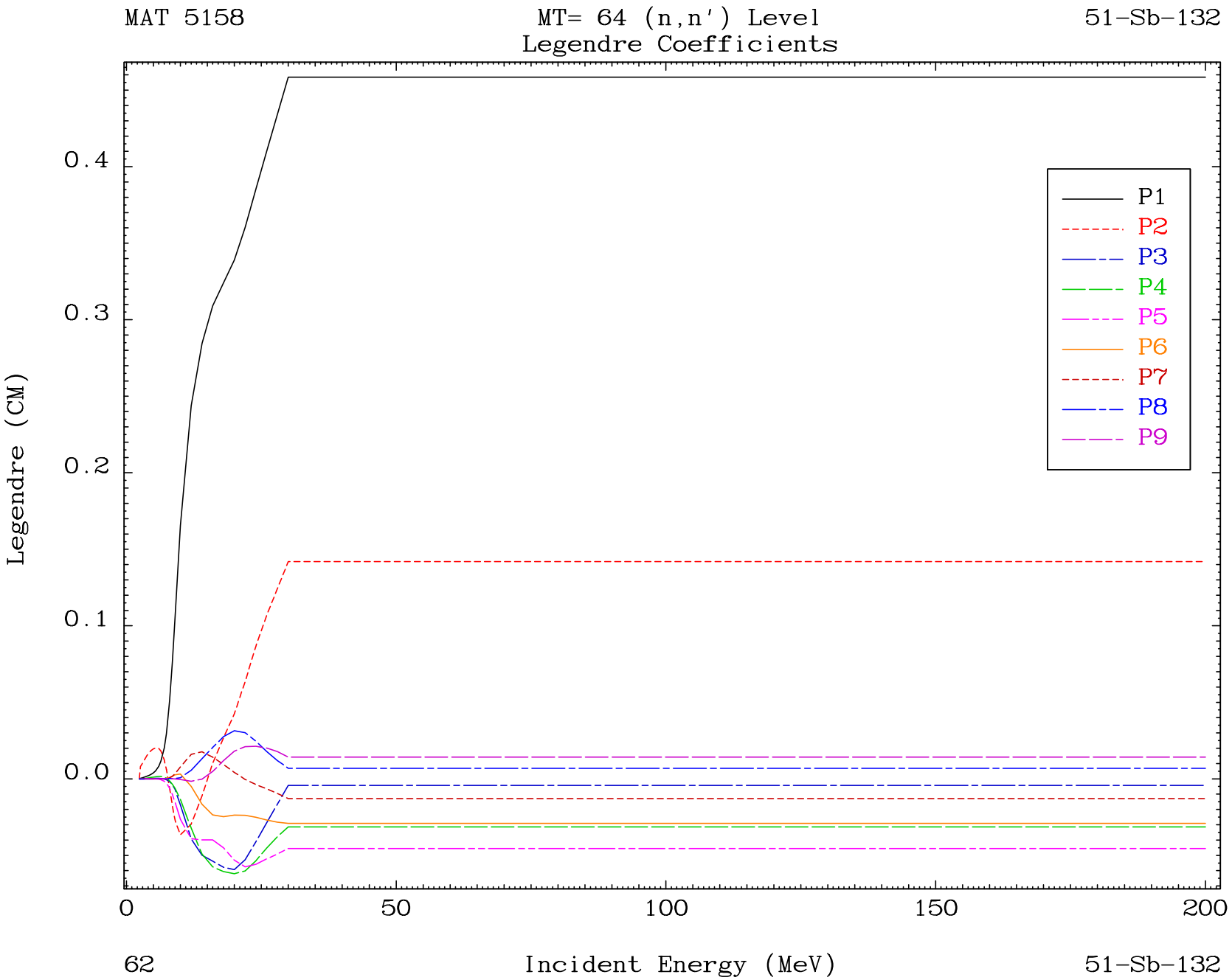

MAT 5158
MT= 62 (n,n') Level
Legendre Coefficients
51-Sb-132
0.000
0.000
0.000
0.000
-0.002
-0.003
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
57
Incident Energy (MeV)
51-Sb-132

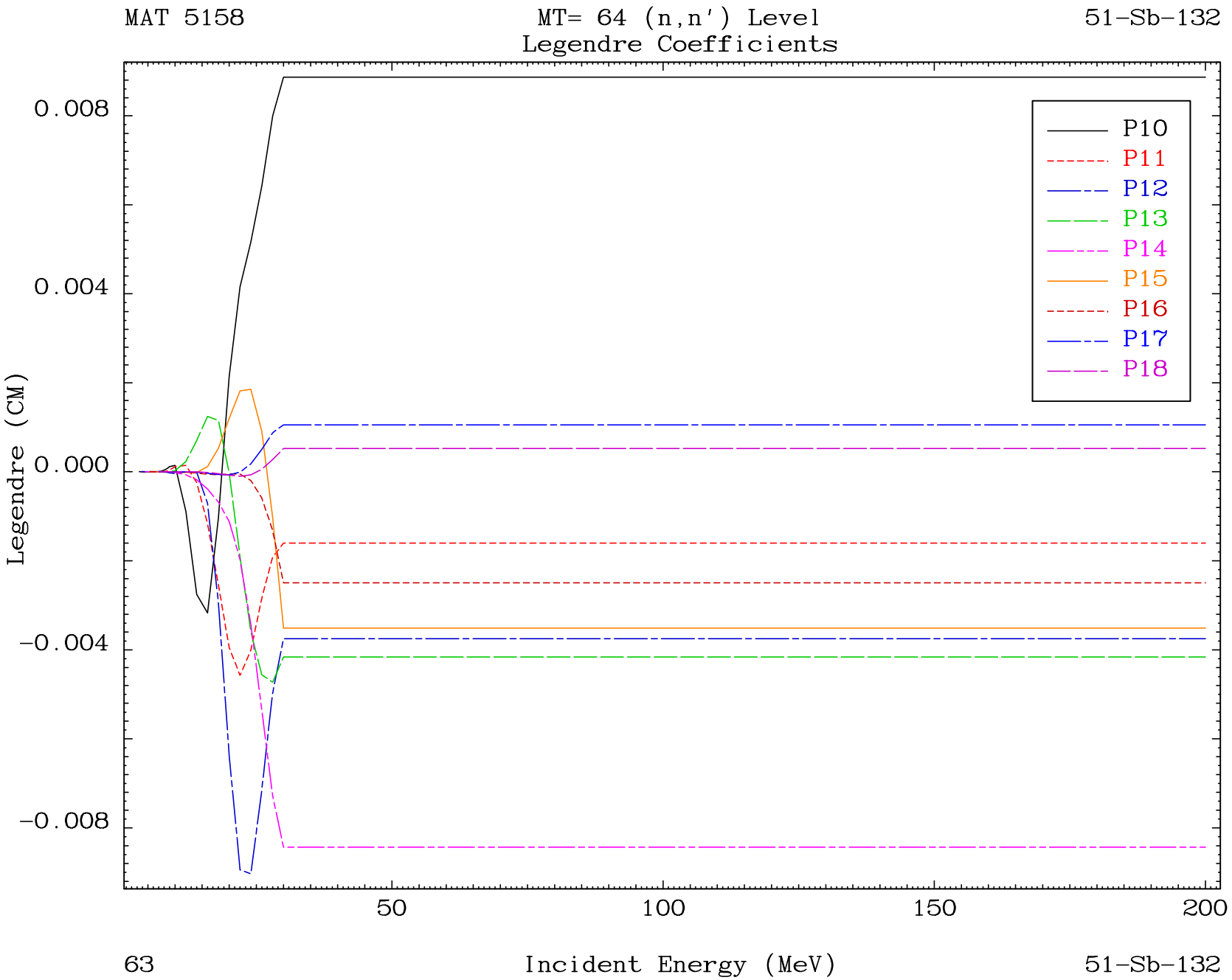

MAT 5158
MT= 62 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
58
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34
P35
P36

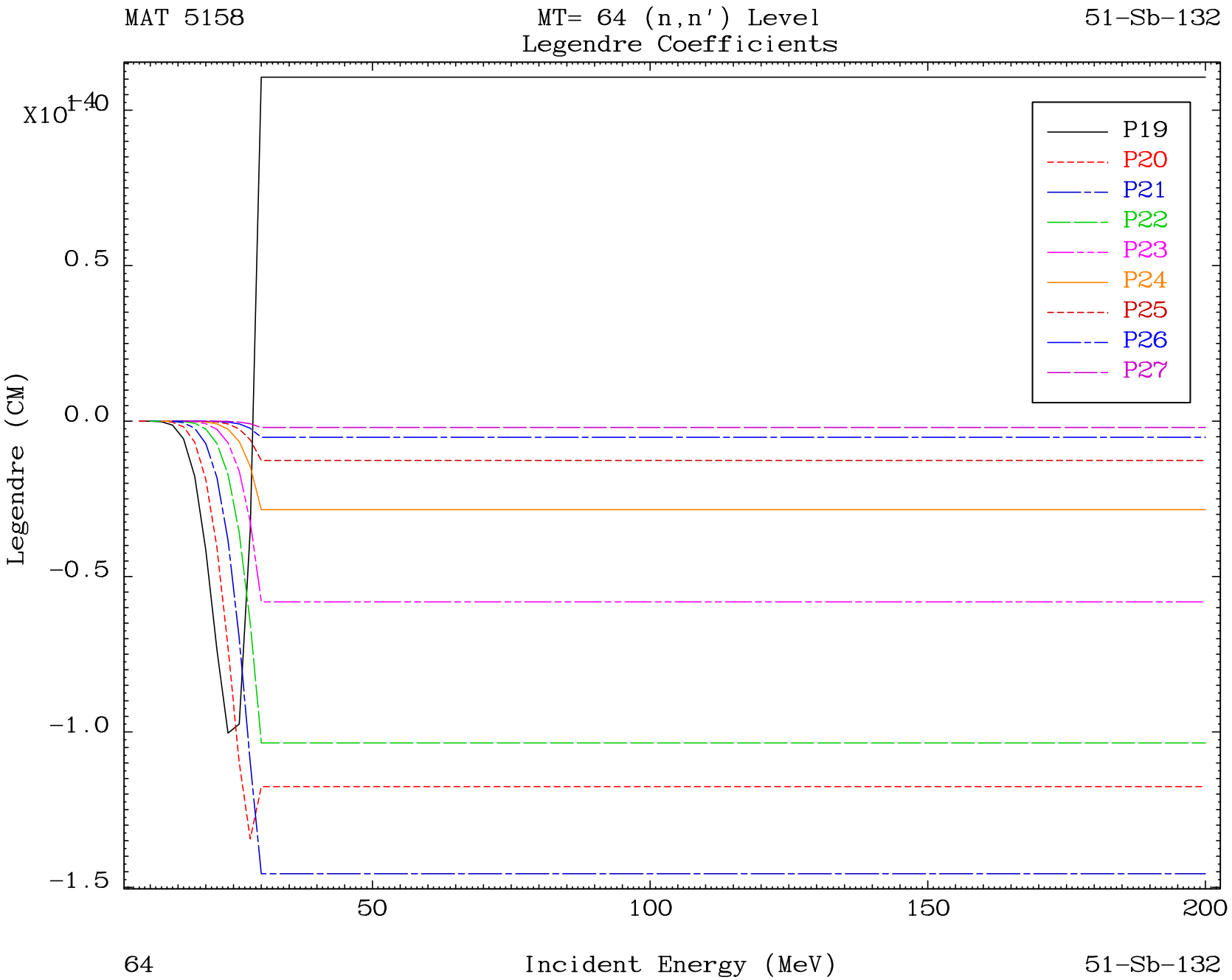

MAT 5158
MT= 63 (n,n') Level
Legendre Coefficients
51-Sb-132
0.3
0.2
0.1
0.0
-0.1
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
0
50
100
150
200
59
Incident Energy (MeV)
51-Sb-132

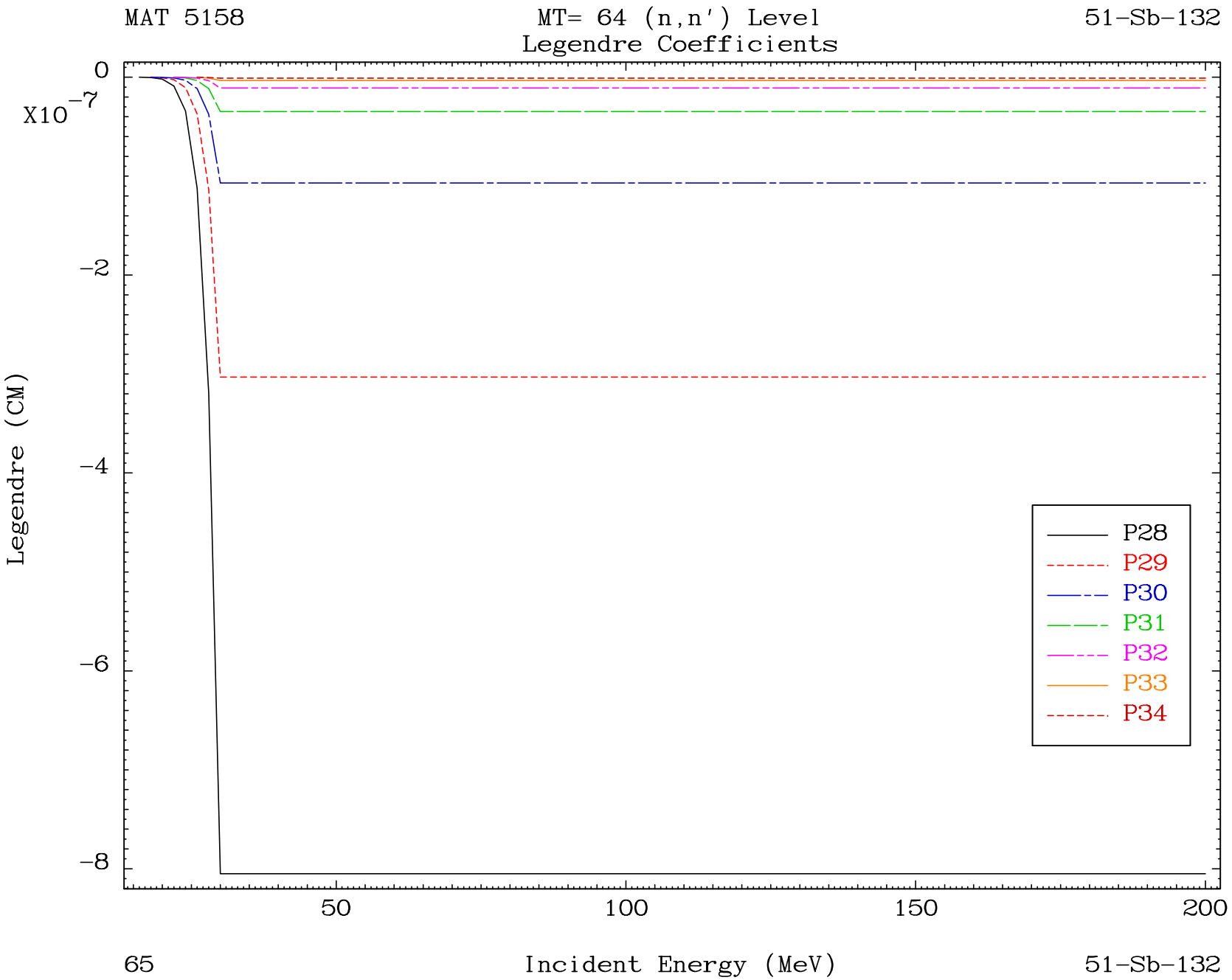

MAT 5158
MT= 63 (n,n') Level
Legendre Coefficients
51-Sb-132
0.000
0.000
0.000
0.000
Legendre (CM)
P12
P13
P14
P15
P16
P17
P18
P19
P20
P21
P22
50
100
150
200
60
Incident Energy (MeV)
51-Sb-132

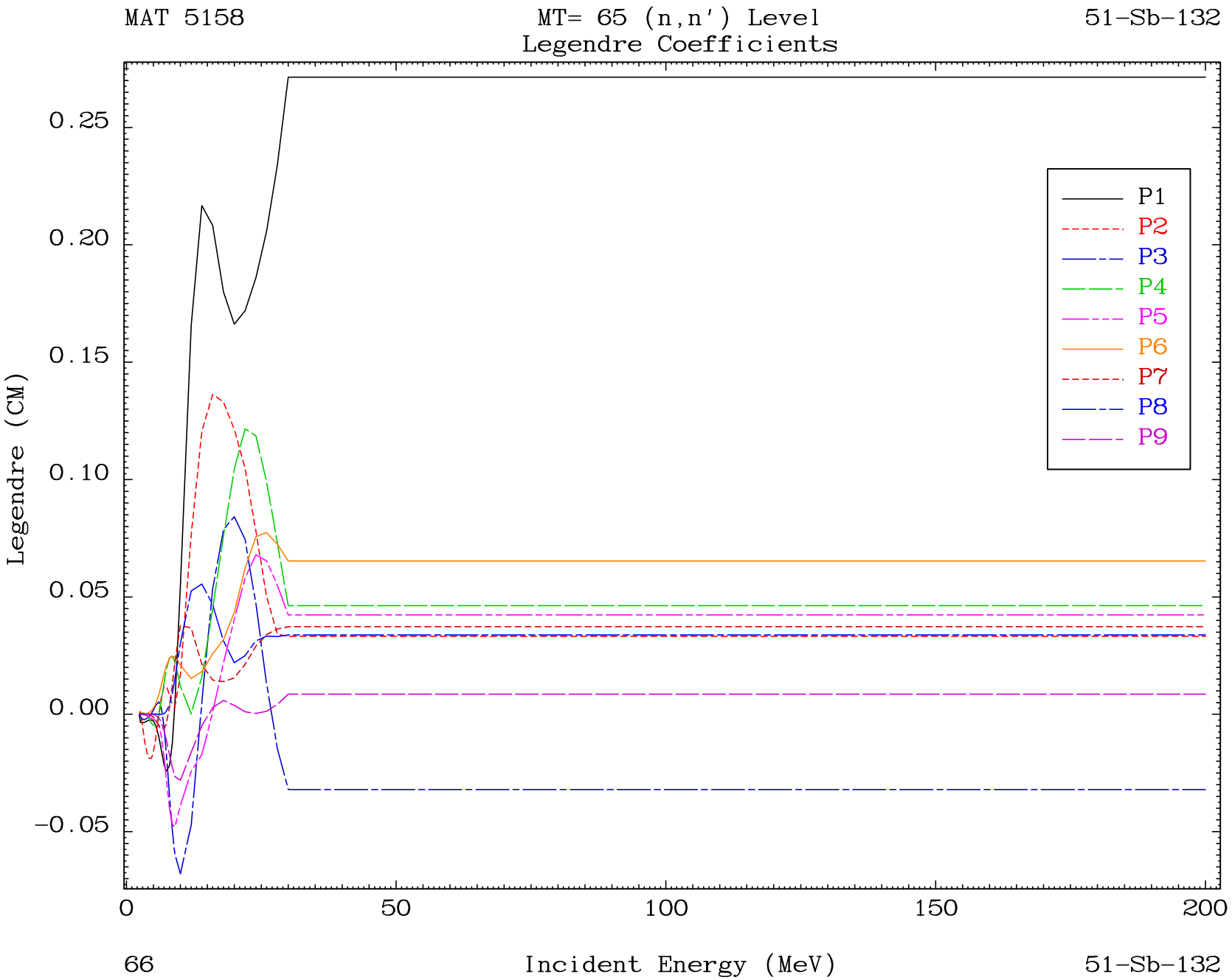

MAT 5158
MT= 63 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
5
4
3
2
1
0
Legendre (CM)
50
100
150
200
61
Incident Energy (MeV)
51-Sb-132
P23
P24
P25
P26
P27
P28
P29
P30
P31
P32

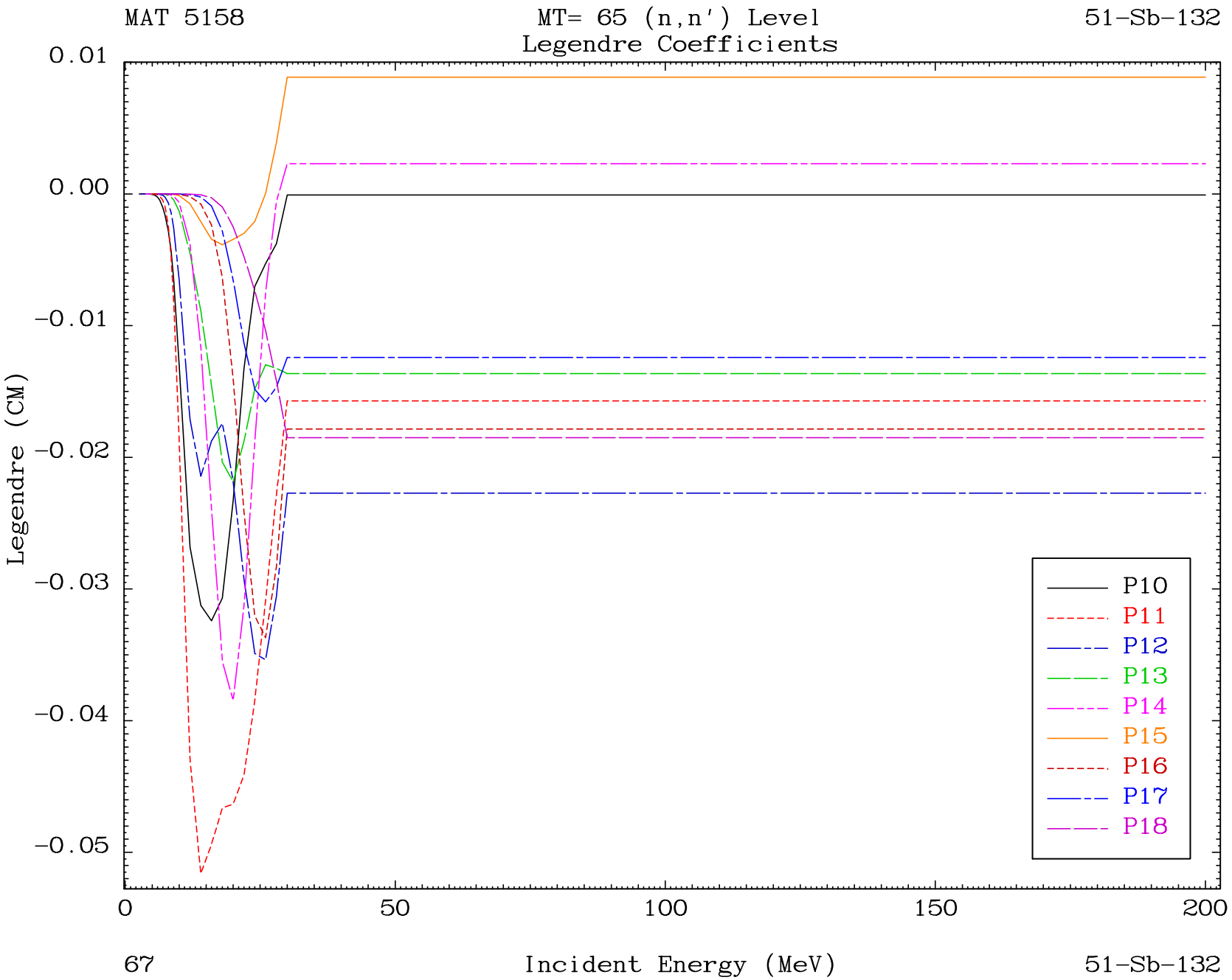

MAT 5158
MT= 64 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
62
Incident Energy (MeV)
51-Sb-132

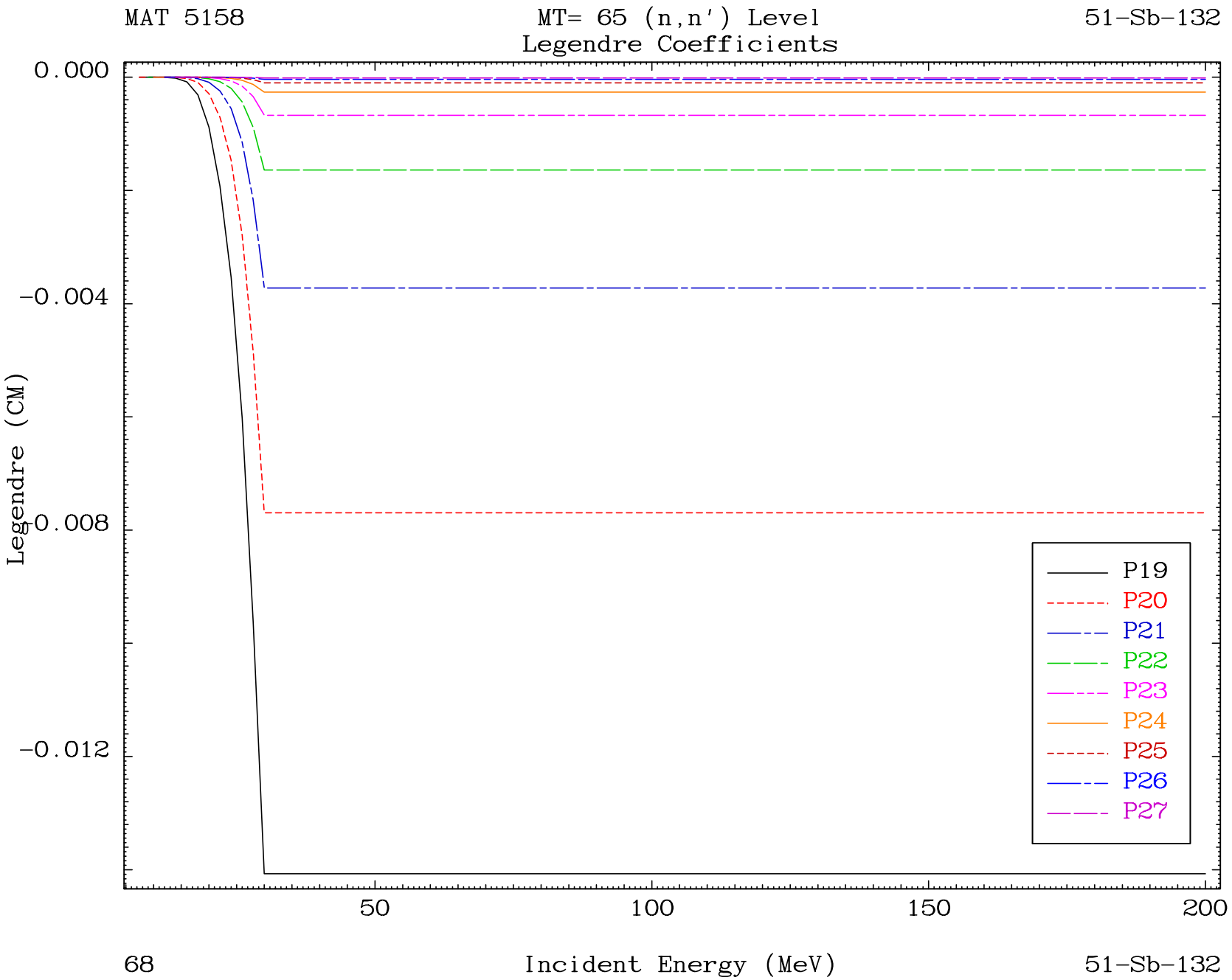

MAT 5158
MT= 64 (n,n') Level
Legendre Coefficients
51-Sb-132
0.008
0.004
0.000
-0.004
-0.008
Legendre (CM)
50
100
150
200
63
Incident Energy (MeV)
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18

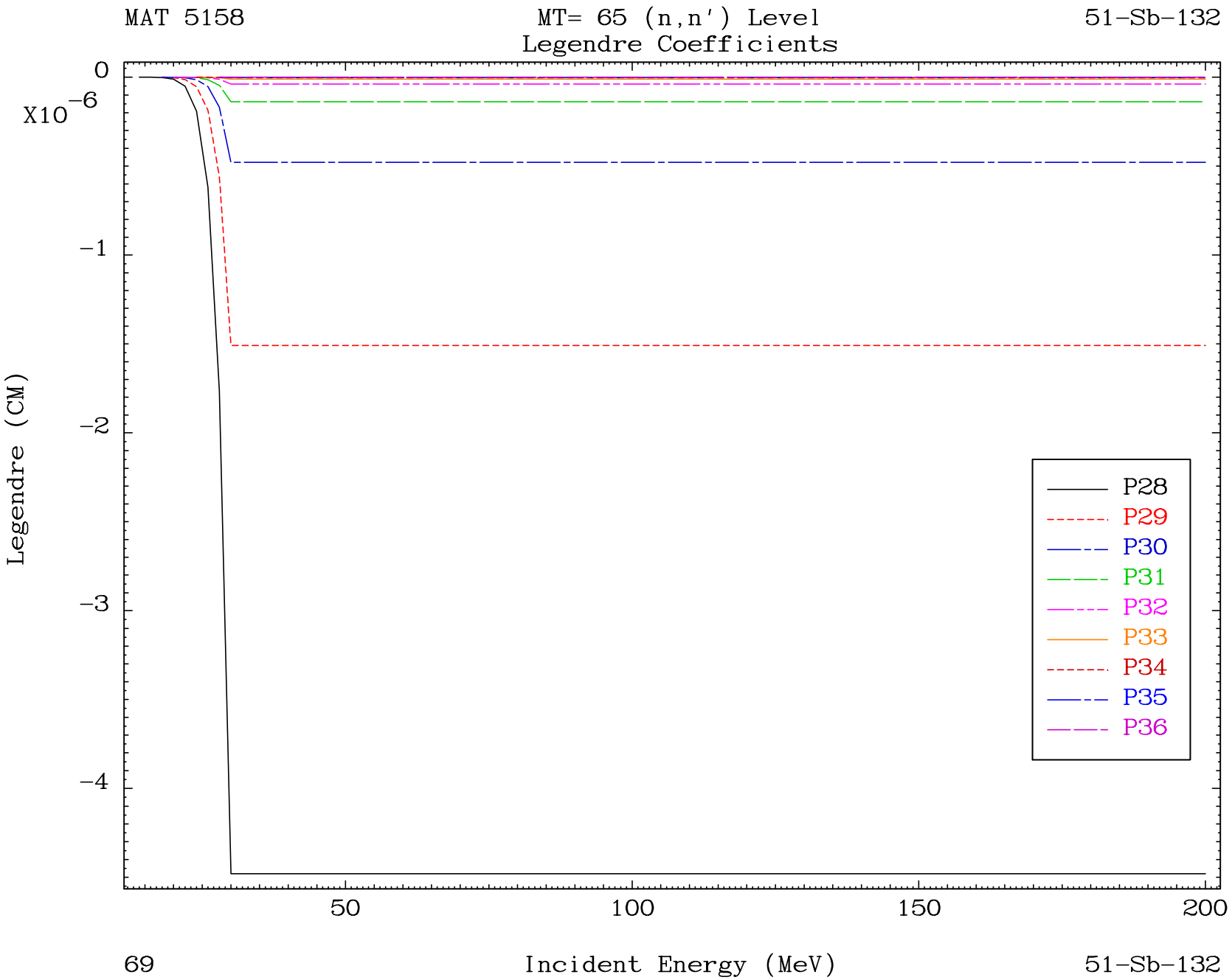

MAT 5158
MT= 64 (n,n') Level
Legendre Coefficients
51-Sb-132
X10+0
1.0
0.5
0.0
-0.5
-1.0
-1.5
Legendre (CM)
50
100
150
200
64
Incident Energy (MeV)
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27

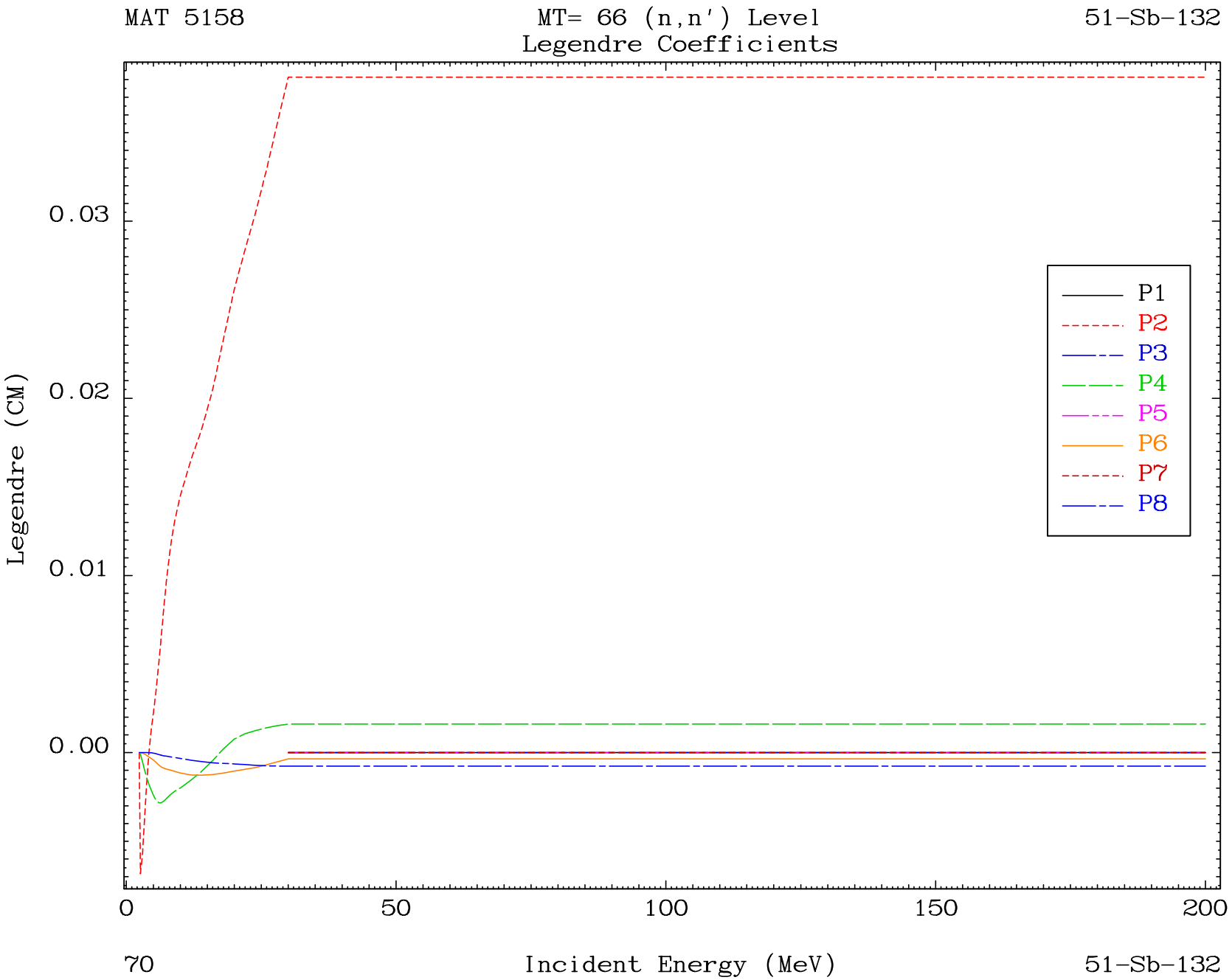

MAT 5158
MT= 64 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
65
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34

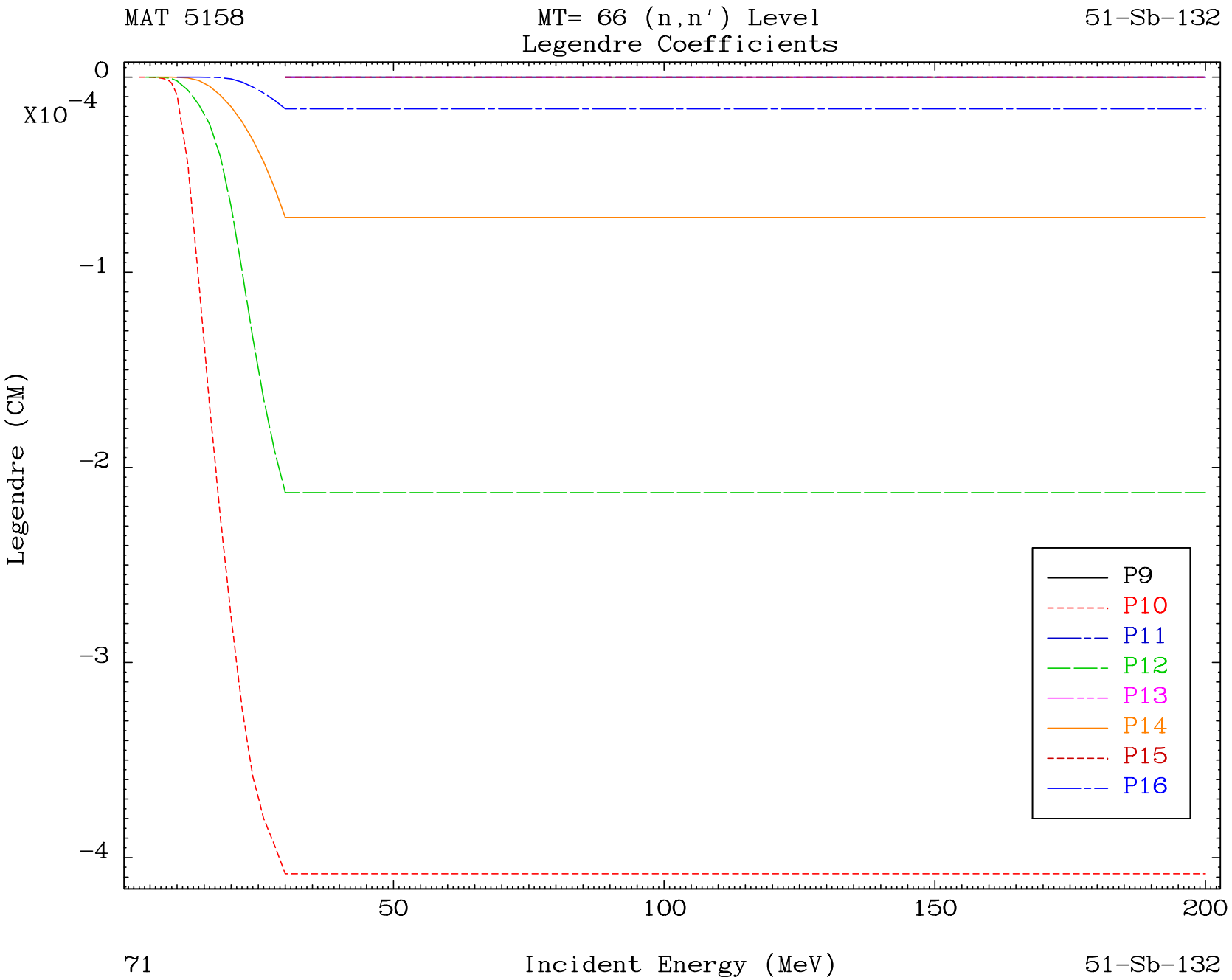

MAT 5158
MT= 65 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
66
Incident Energy (MeV)
51-Sb-132

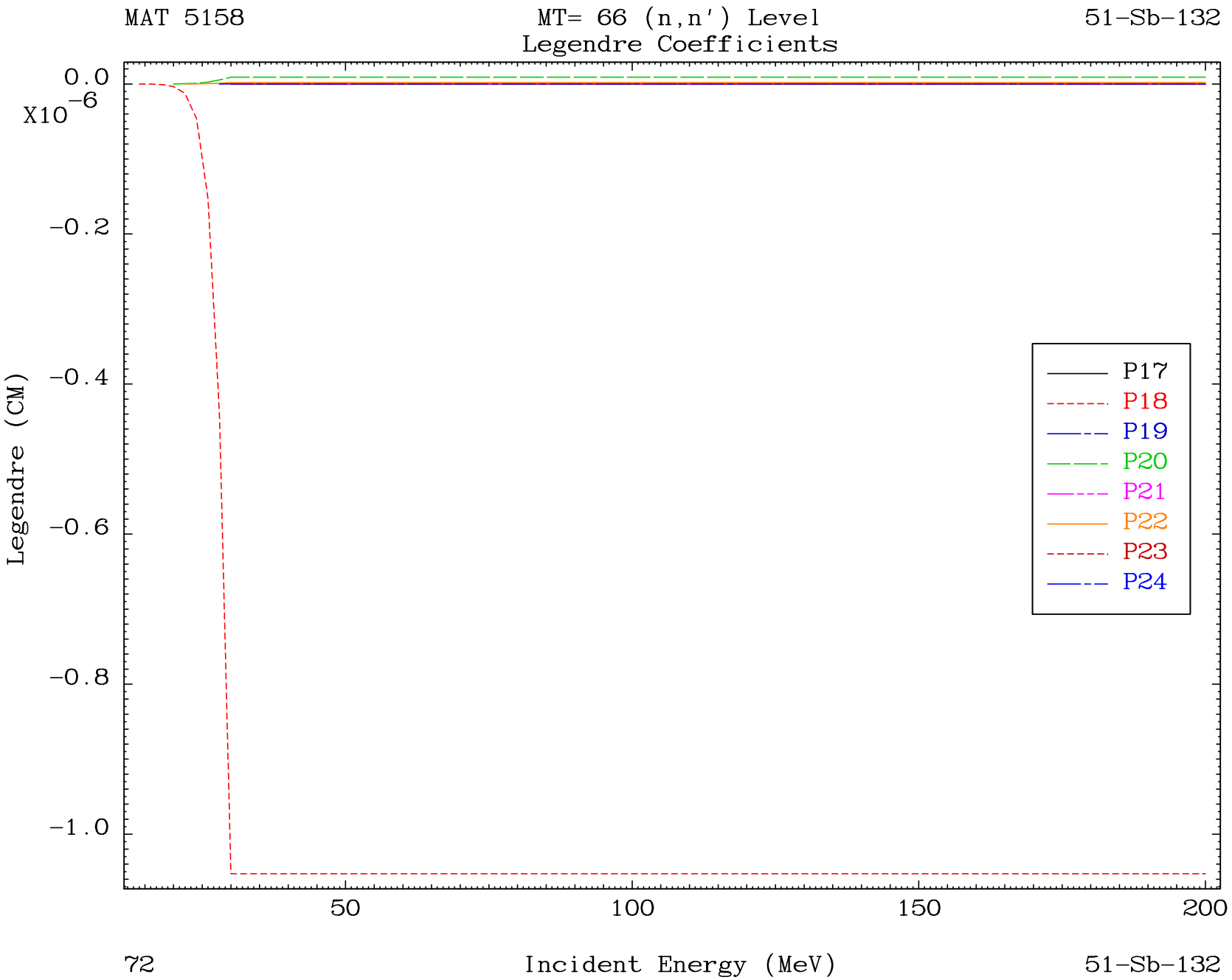

MAT 5158
MT= 65 (n,n') Level
Legendre Coefficients
51-Sb-132
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
Legendre (CM)
0
50
100
150
200
67
Incident Energy (MeV)
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18

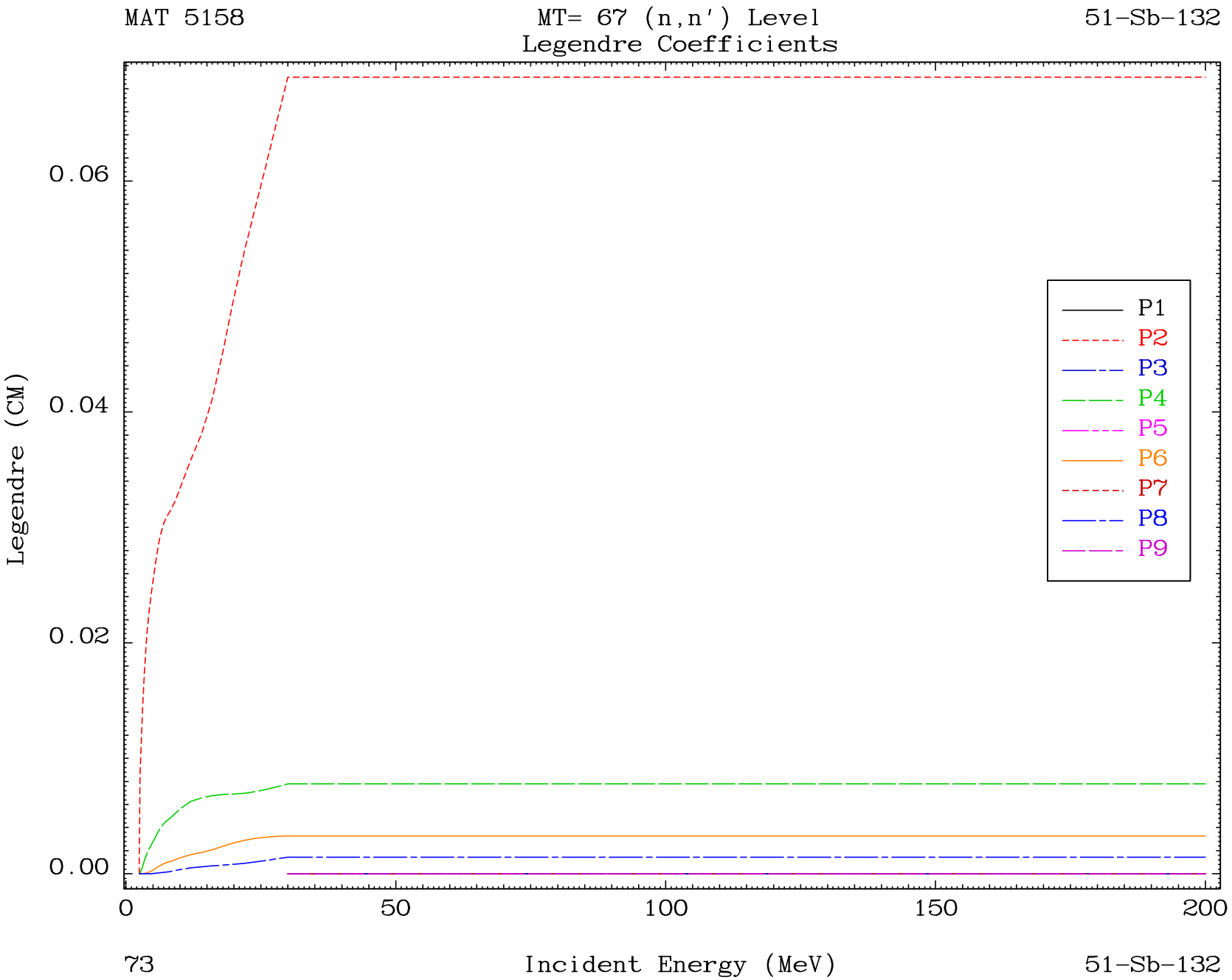

MAT 5158
MT= 65 (n,n') Level
Legendre Coefficients
51-Sb-132
0.000
-0.004
-0.008
-0.012
Legendre (CM)
50
100
150
200
68
Incident Energy (MeV)
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27

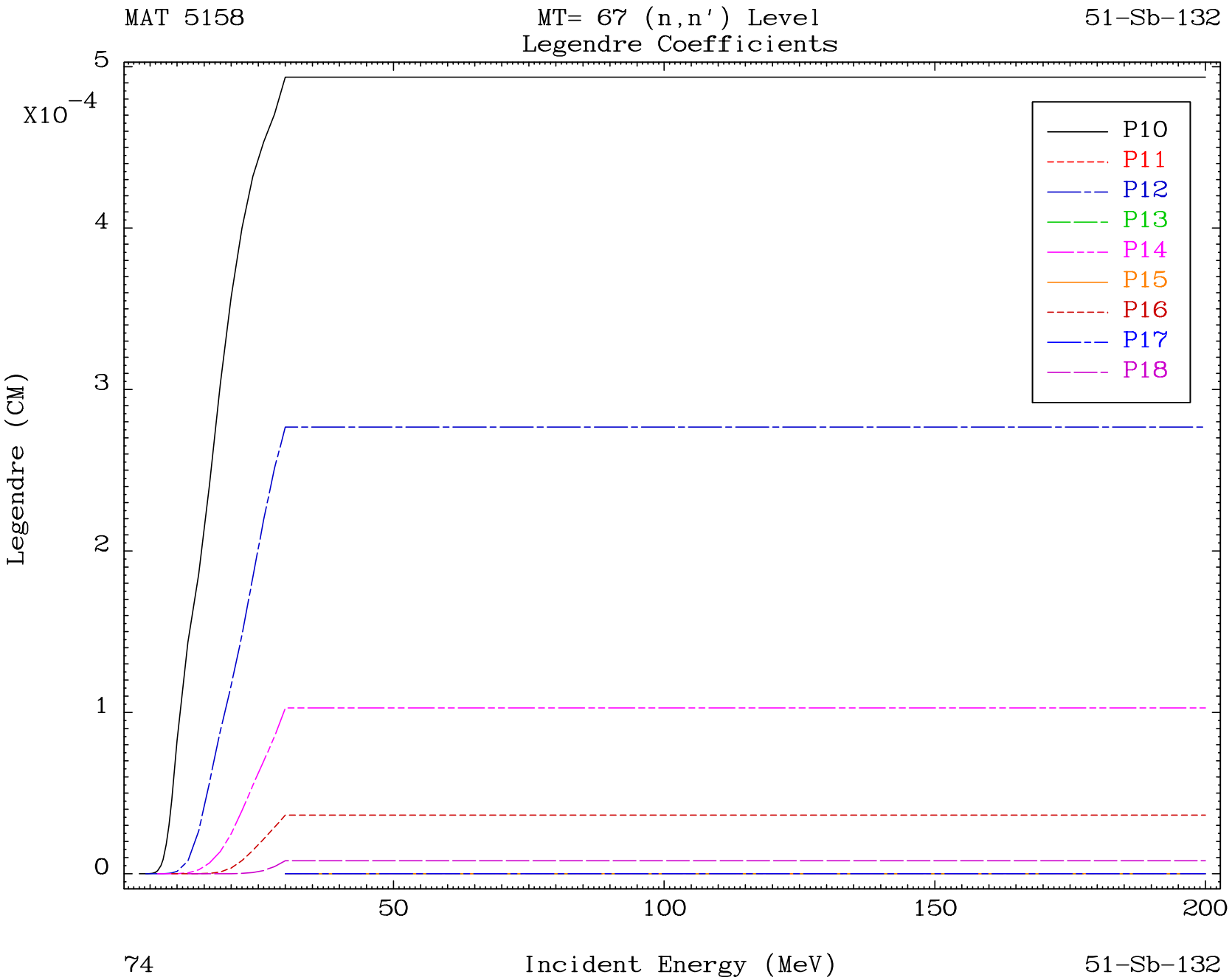

MAT 5158
MT= 65 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-6
-1
-2
-3
-4
Legendre (CM)
50
100
150
200
69
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34
P35
P36

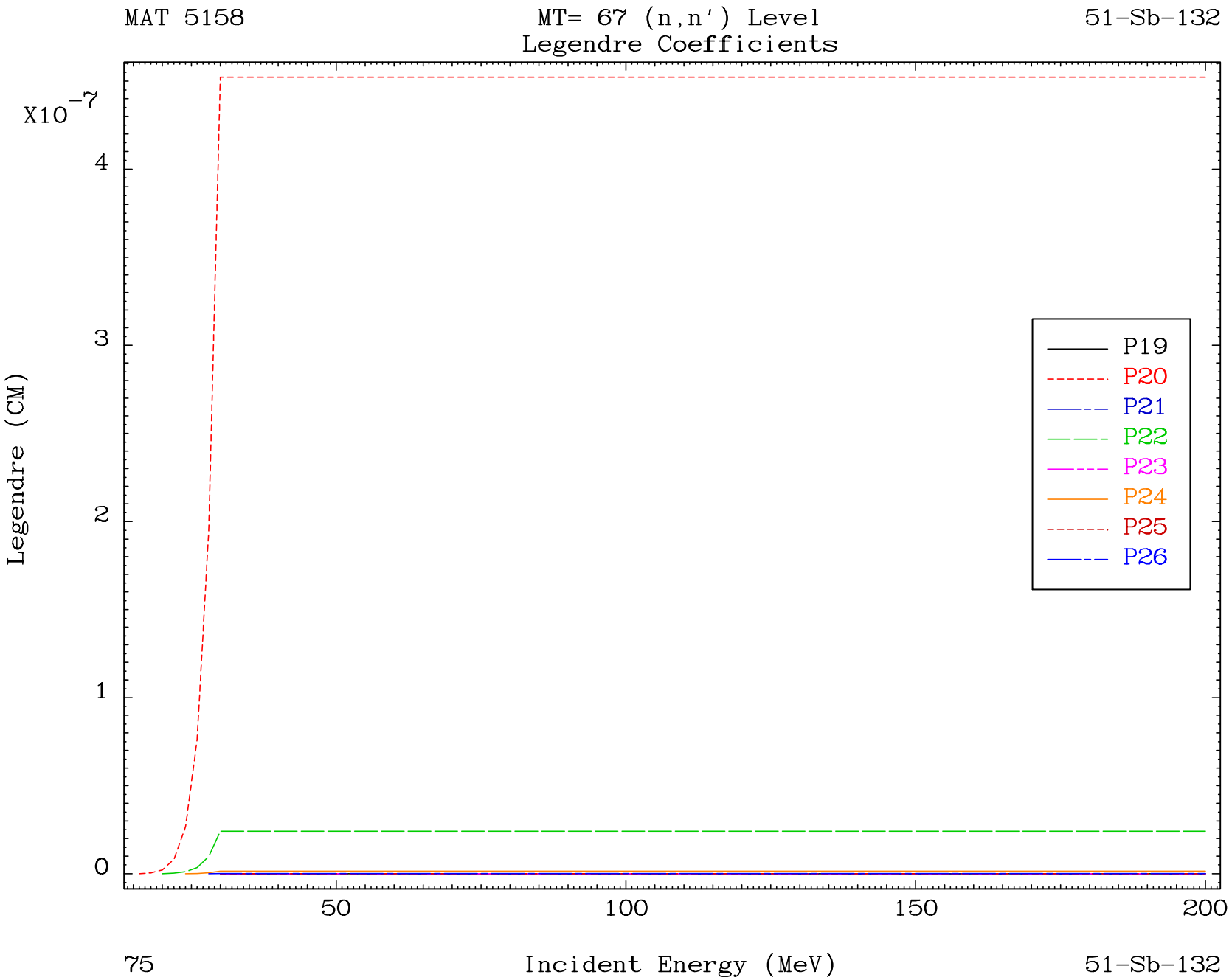

MAT 5158
MT= 66 (n,n') Level
Legendre Coefficients
51-Sb-132
0.03
0.02
0.01
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
70
Incident Energy (MeV)
51-Sb-132

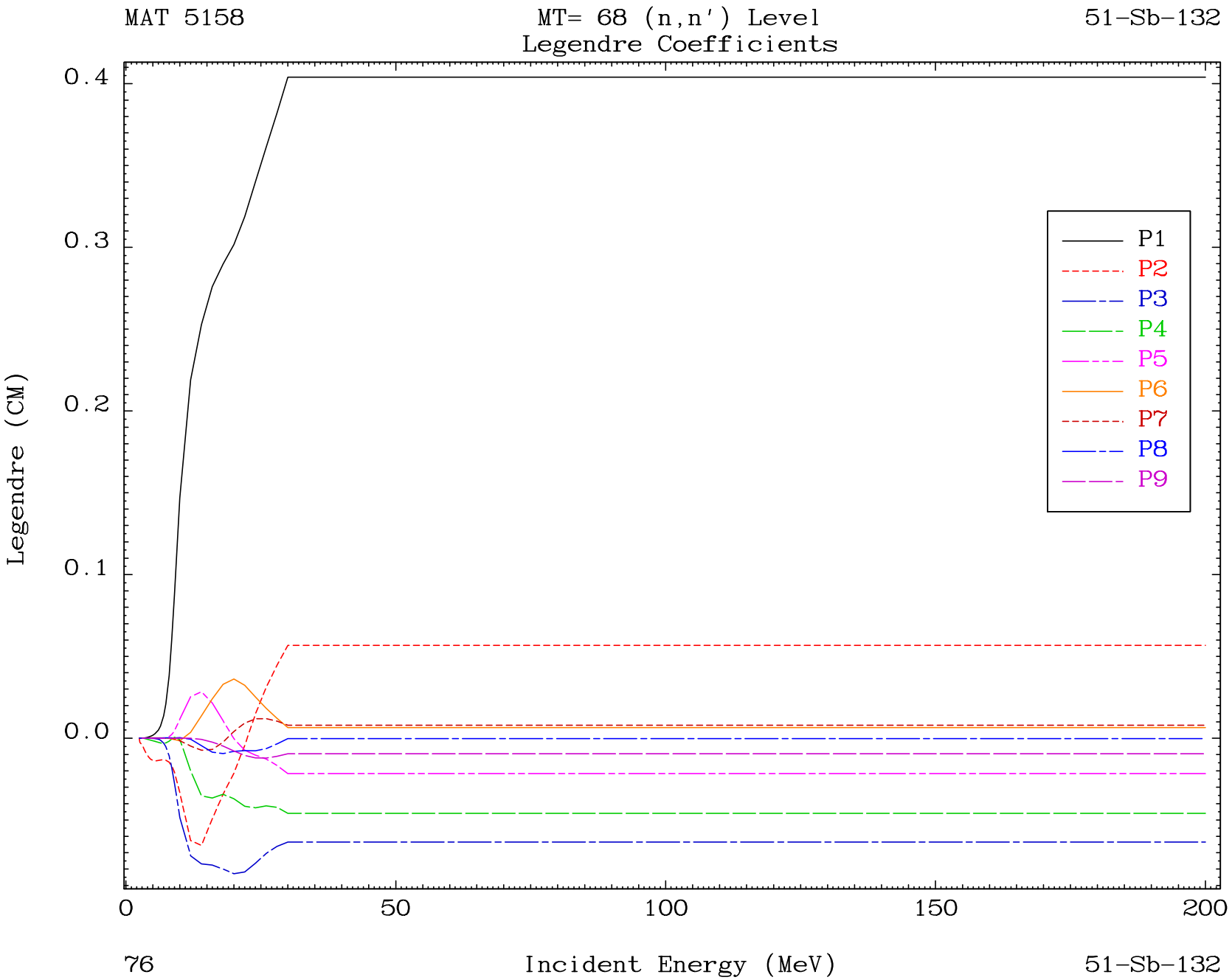

MAT 5158
MT= 66 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-4
-1
-2
-3
-4
Legendre (CM)
50
100
150
200
71
Incident Energy (MeV)
51-Sb-132
P9
P10
P11
P12
P13
P14
P15
P16

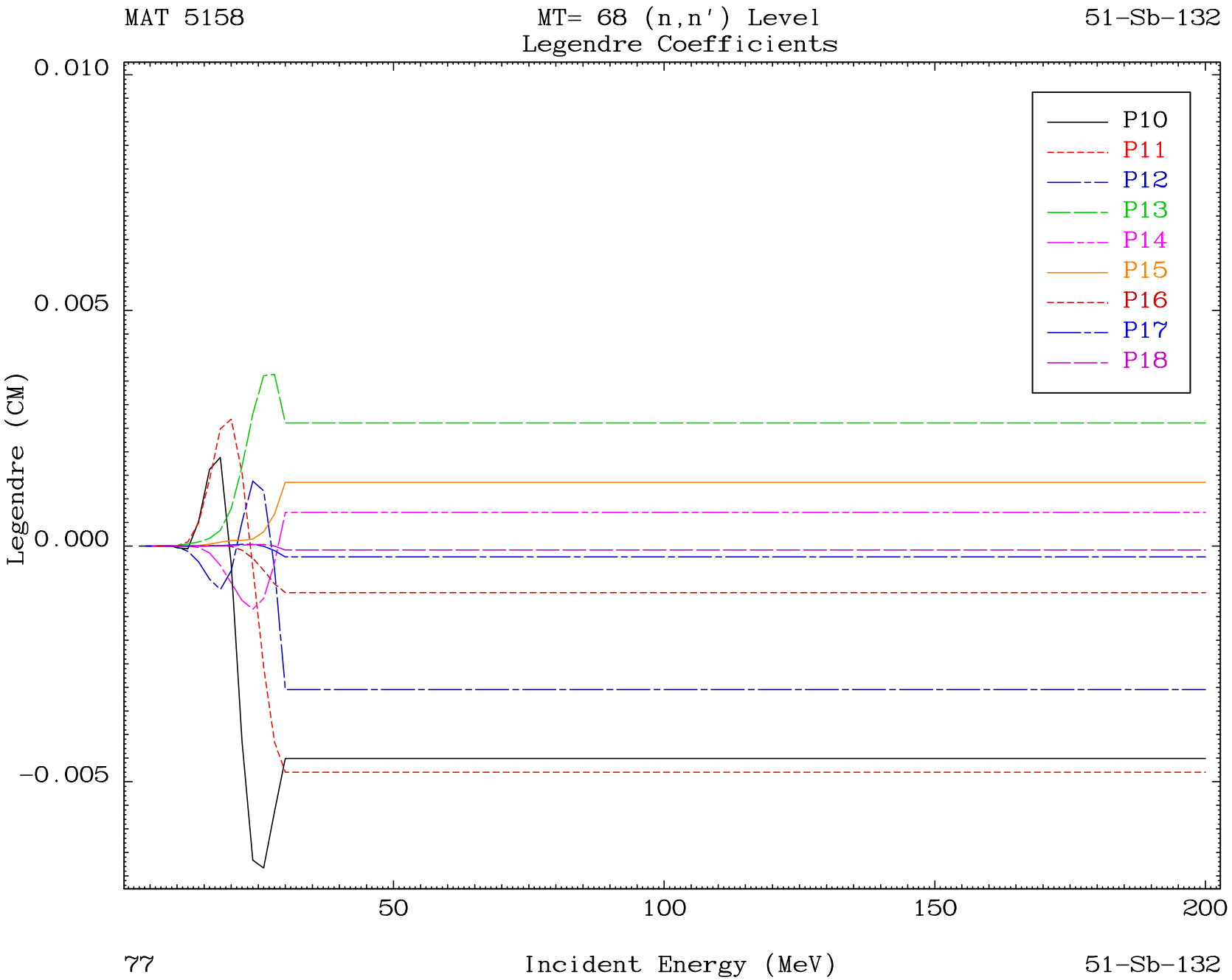

MAT 5158
MT= 66 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
72
Incident Energy (MeV)
51-Sb-132

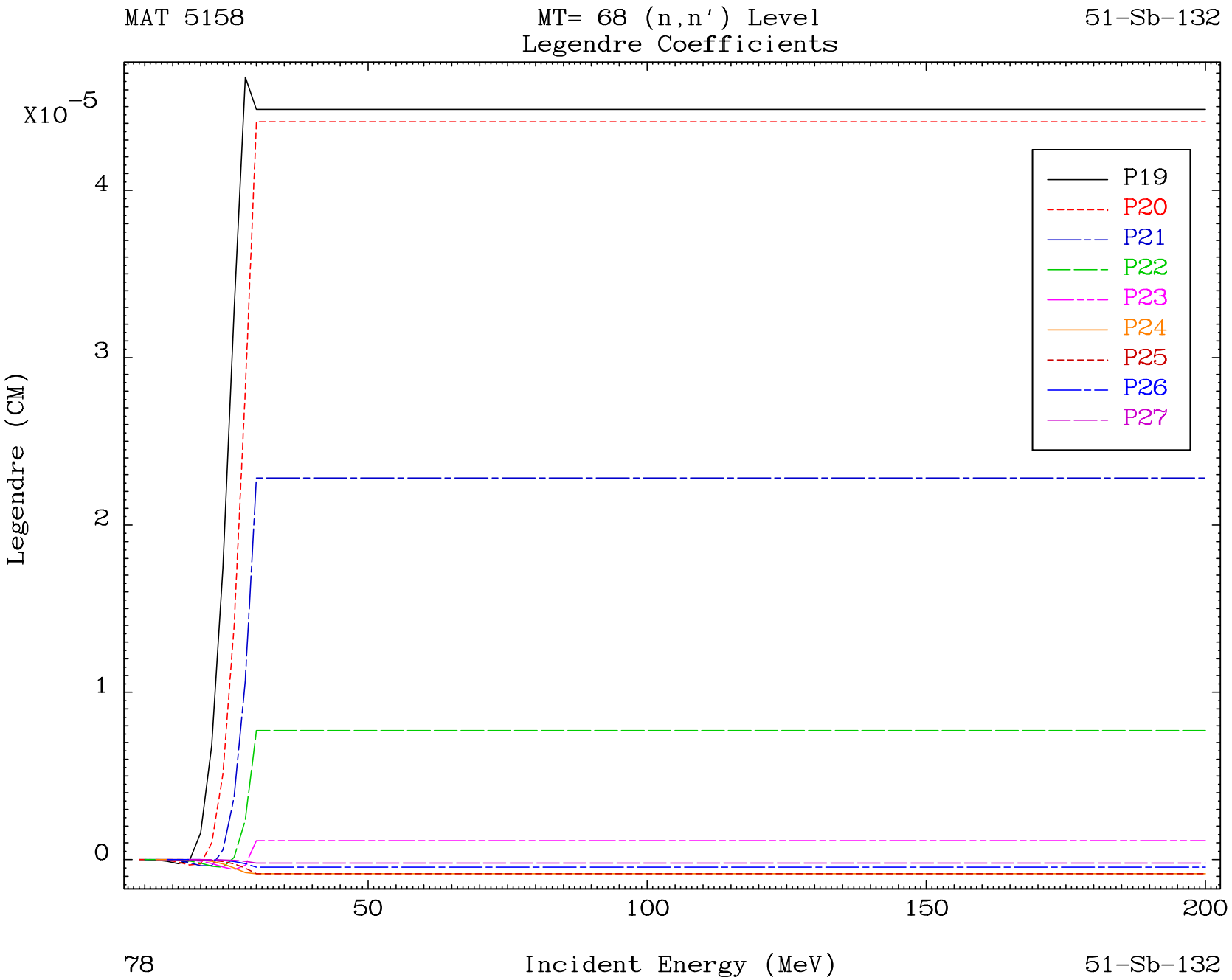

MAT 5158
MT= 67 (n,n') Level
Legendre Coefficients
51-Sb-132
0.06
0.04
0.02
0.00
Legendre (CM)
0
50
100
150
200
73
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

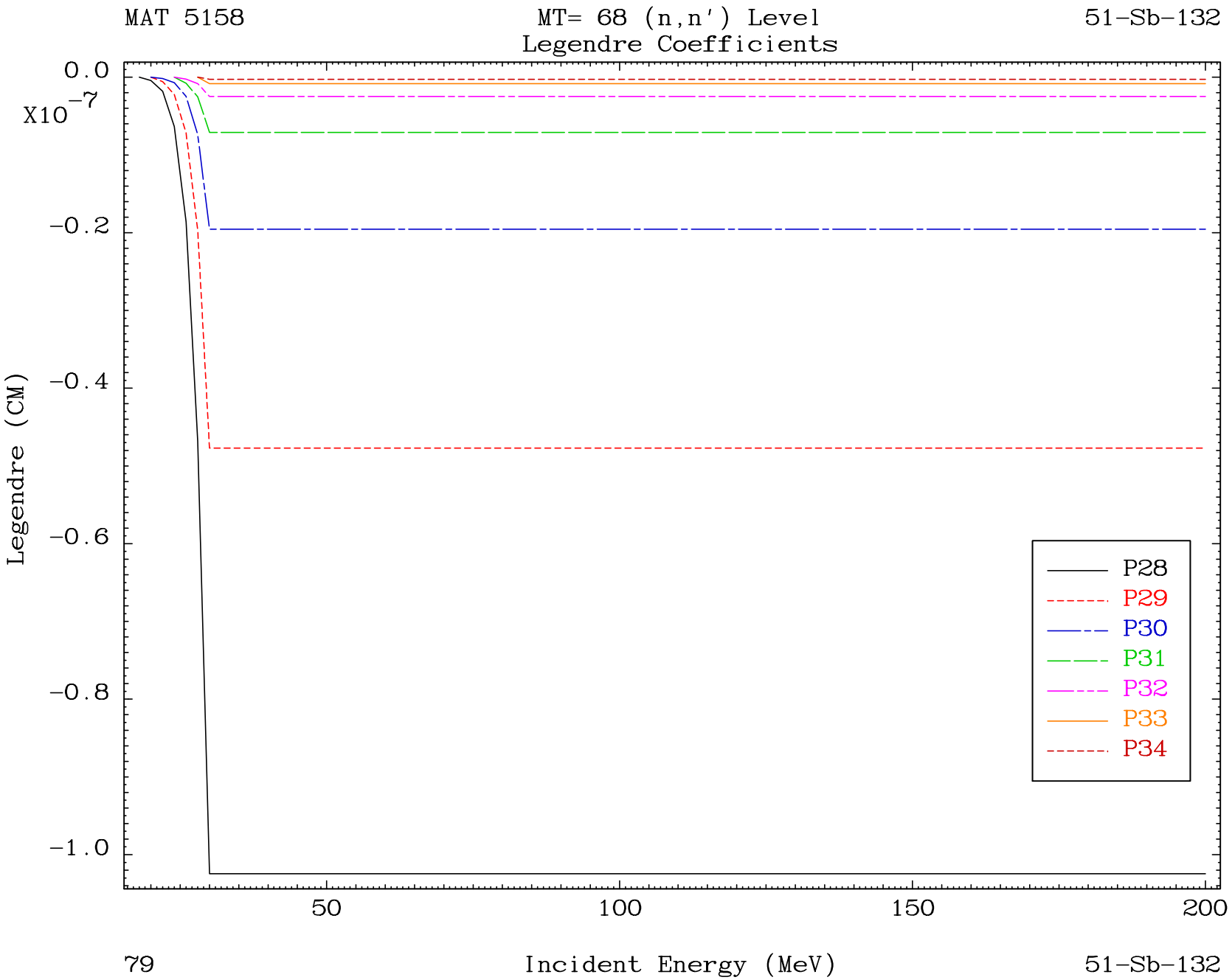

MAT 5158
MT= 67 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
5
4
3
2
1
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
74
Incident Energy (MeV)
51-Sb-132

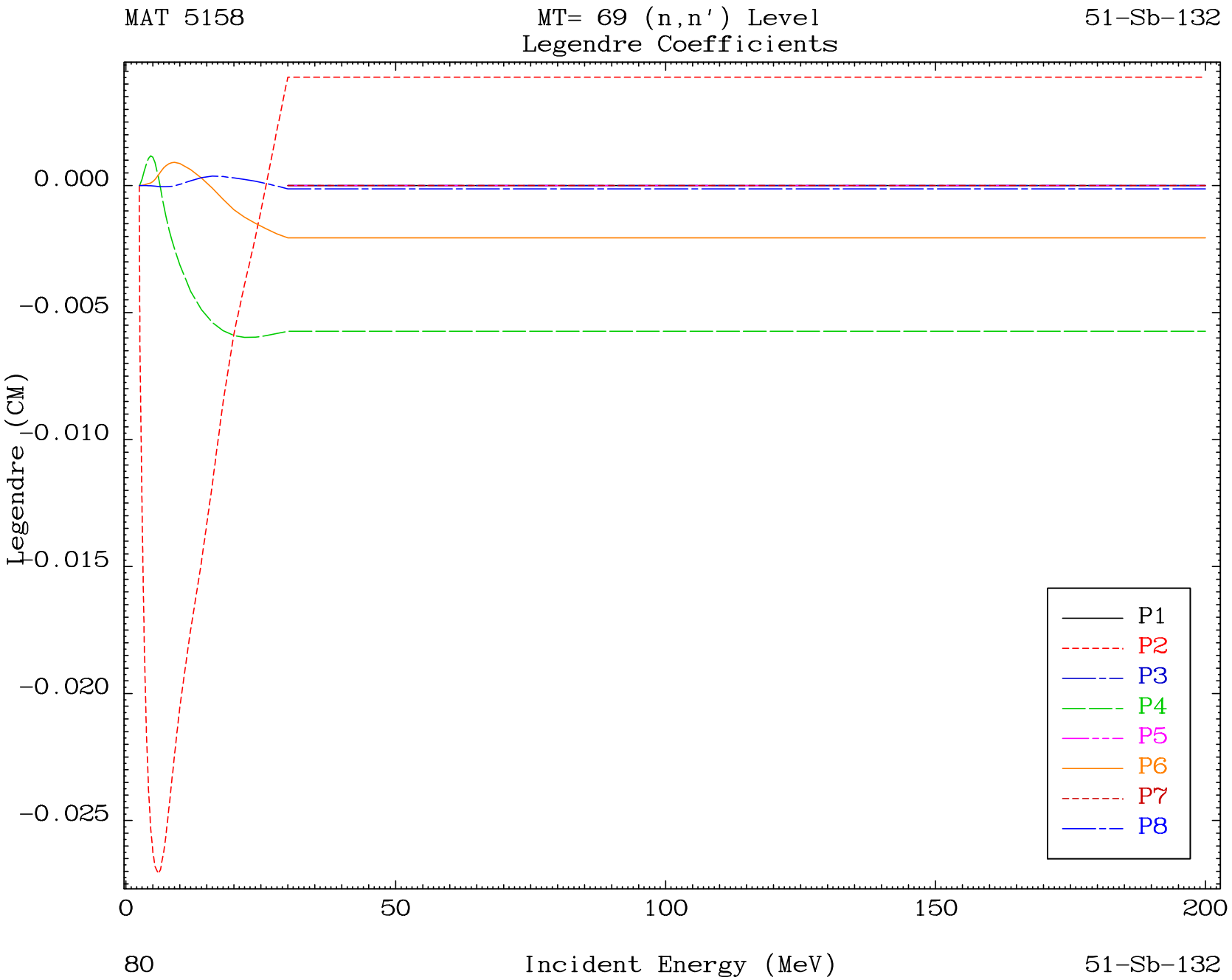

MAT 5158
MT= 67 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
4
3
2
1
0
Legendre (CM)
50
100
150
200
75
Incident Energy (MeV)
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26

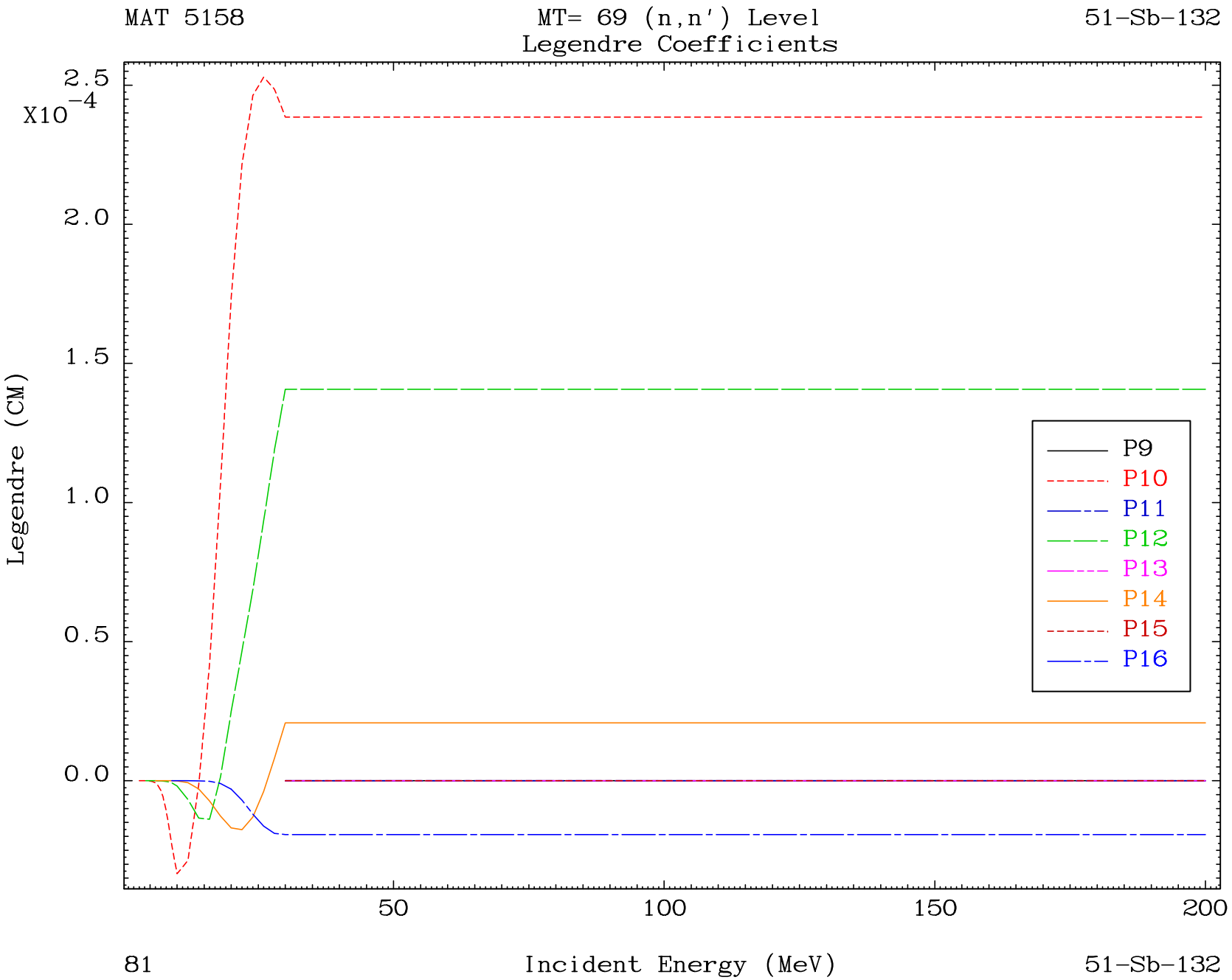

MAT 5158
MT= 68 (n,n') Level
Legendre Coefficients
51-Sb-132
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
76
Incident Energy (MeV)
51-Sb-132

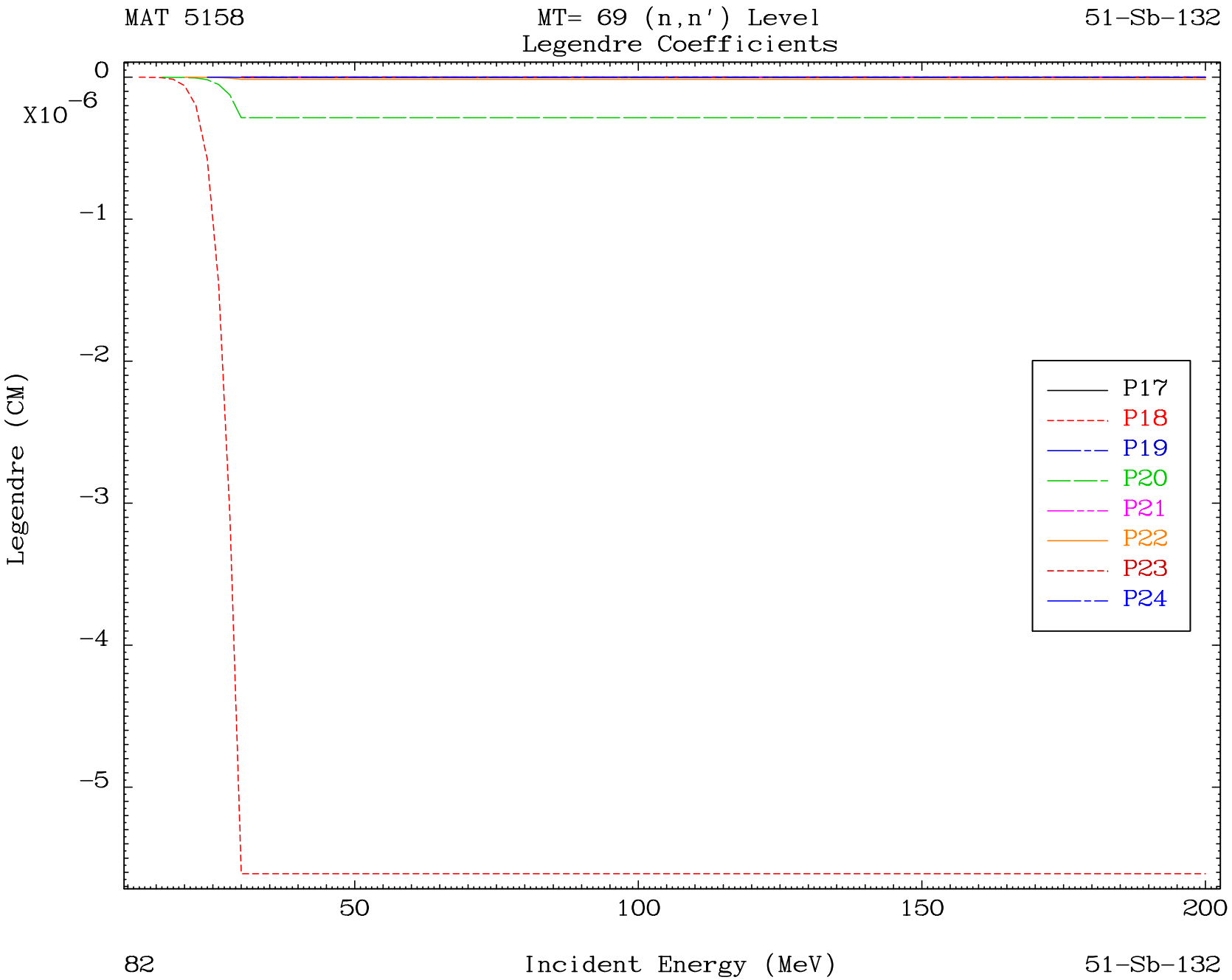

MAT 5158
MT= 68 (n,n') Level
Legendre Coefficients
51-Sb-132
0.010
0.005
0.000
-0.005
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
77
Incident Energy (MeV)
51-Sb-132

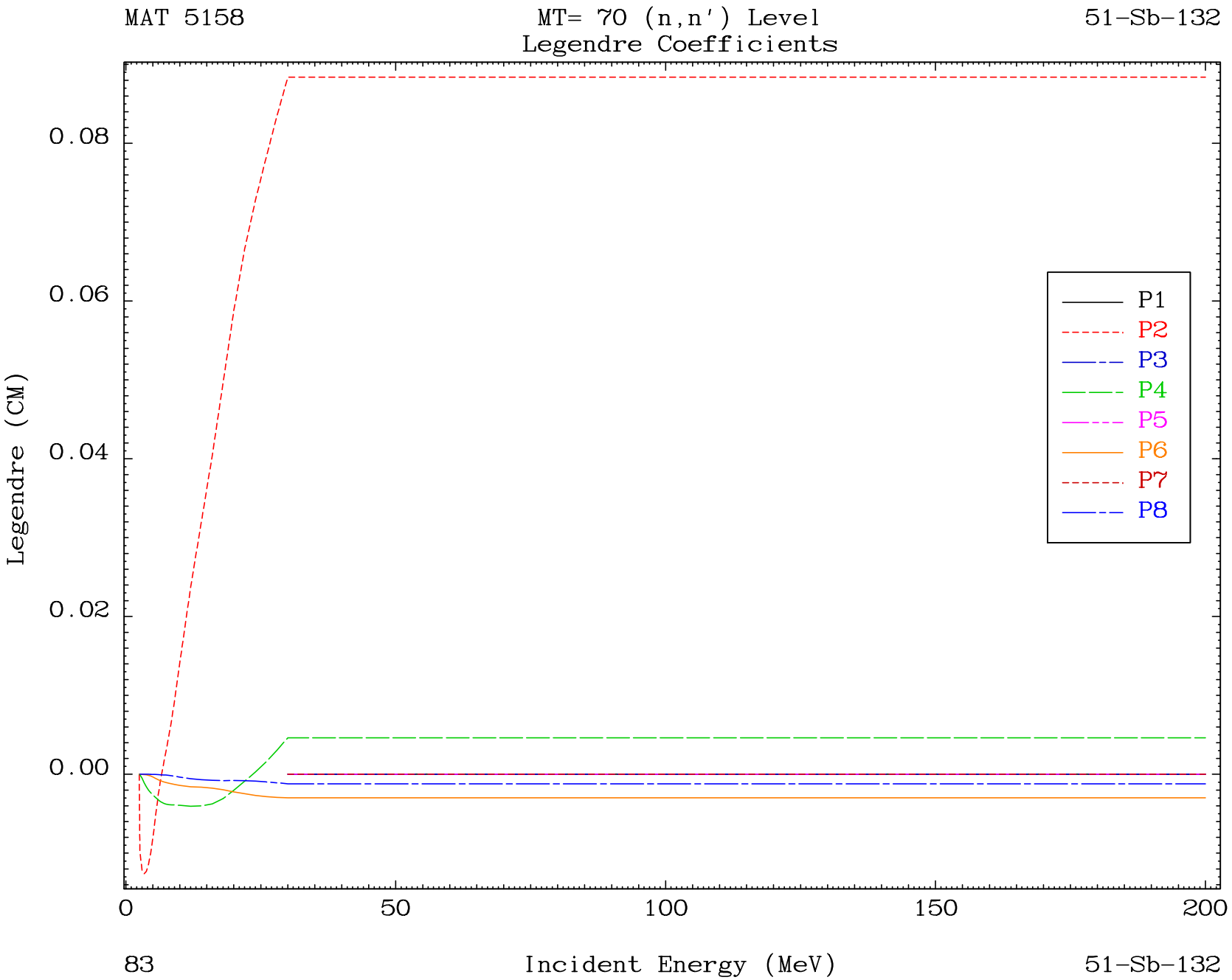

MAT 5158
MT= 68 (n,n') Level
Legendre Coefficients
51-Sb-132
X10 −5
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
78
Incident Energy (MeV)
51-Sb-132

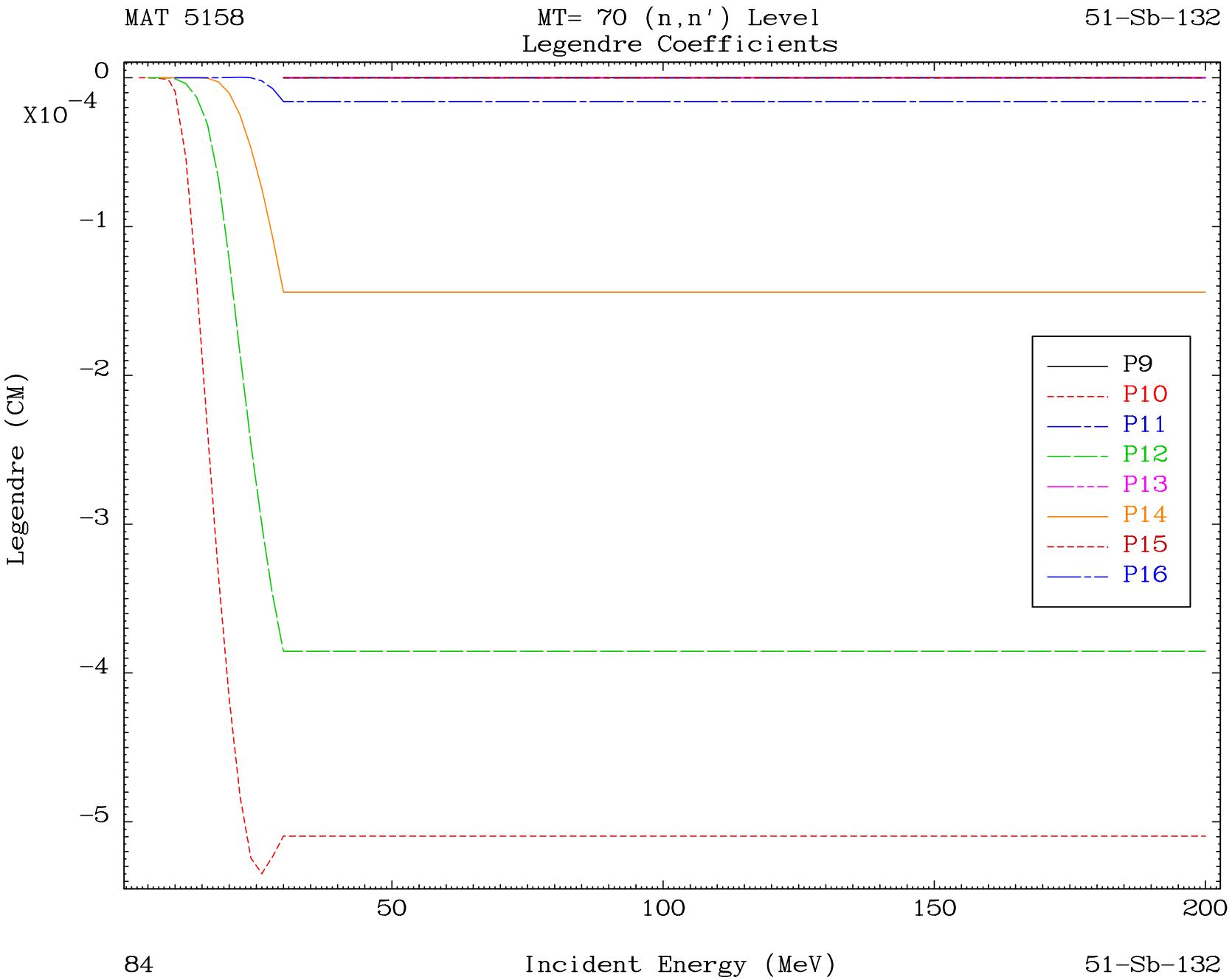

MAT 5158
MT= 68 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10-7
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
79
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34

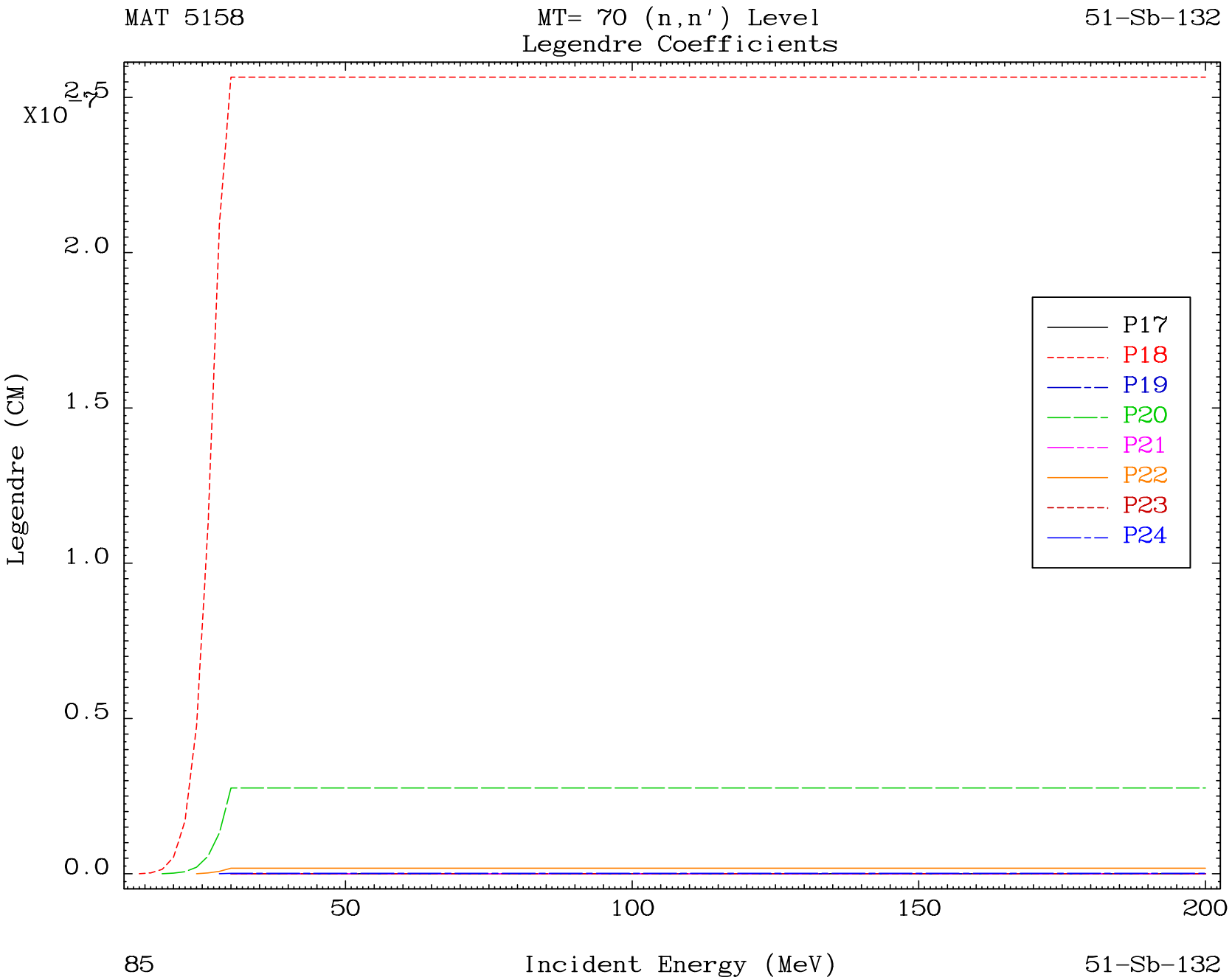

MAT 5158
MT= 69 (n,n') Level
Legendre Coefficients
51-Sb-132
0.000
-0.005
-0.010
-0.015
-0.020
-0.025
Legendre l (CM)
0
50
100
150
200
80
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8

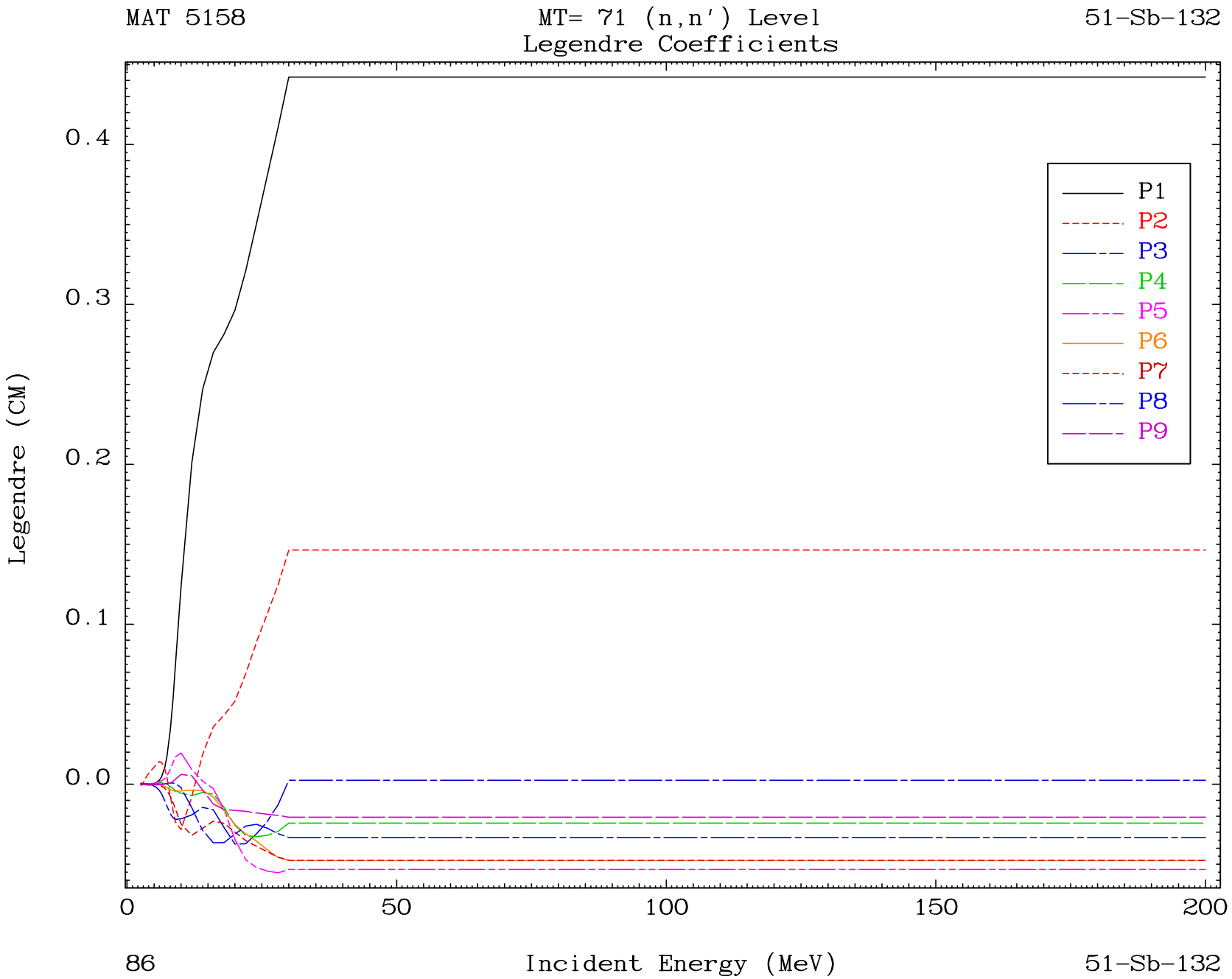

MAT 5158
MT= 69 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
81
Incident Energy (MeV)
51-Sb-132
P9
P10
P11
P12
P13
P14
P15
P16

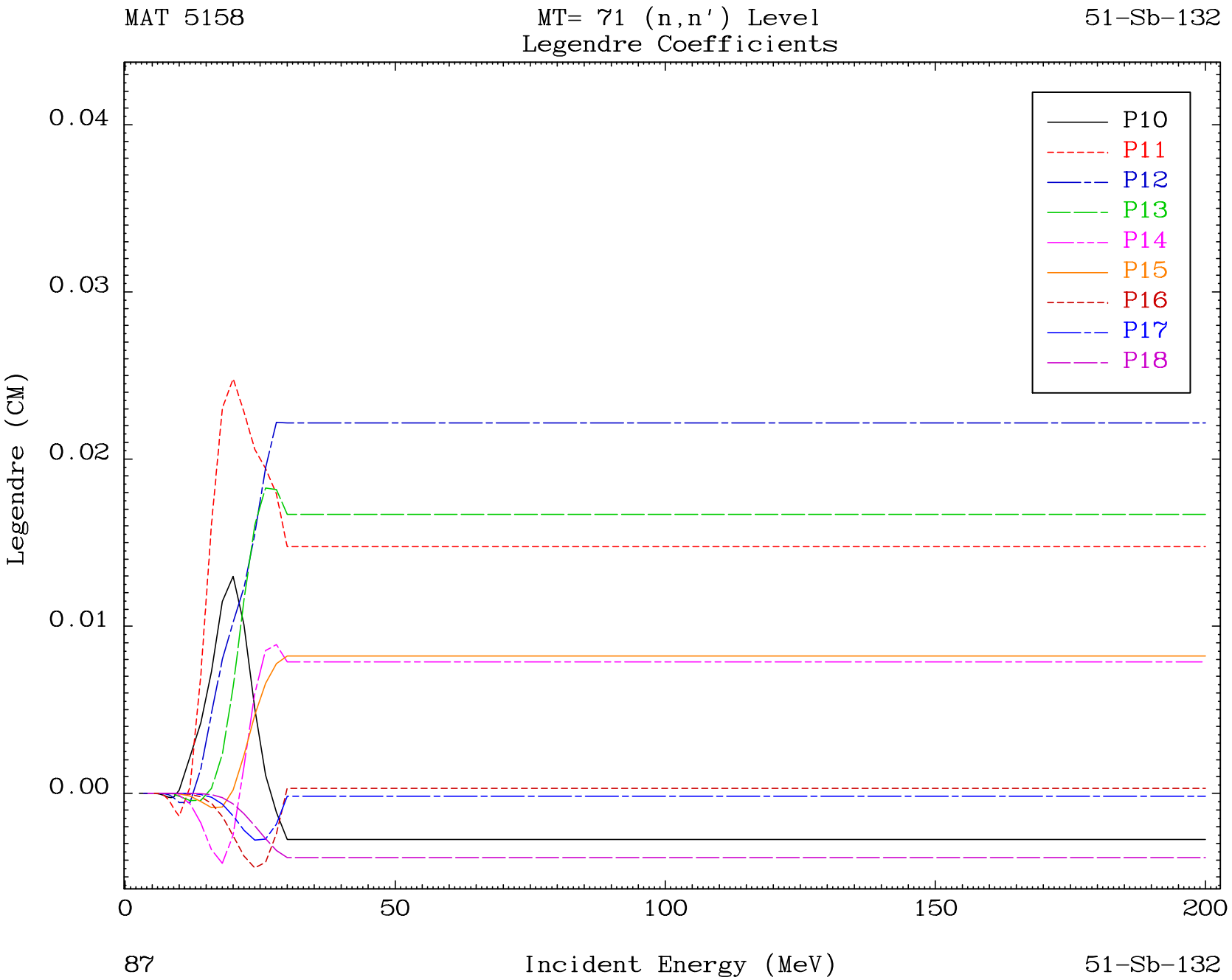

MAT 5158
MT= 69 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-6
-1
-2
-3
-4
-5
Legendre (CM)
50
100
150
200
82
Incident Energy (MeV)
51-Sb-132
P17
P18
P19
P20
P21
P22
P23
P24

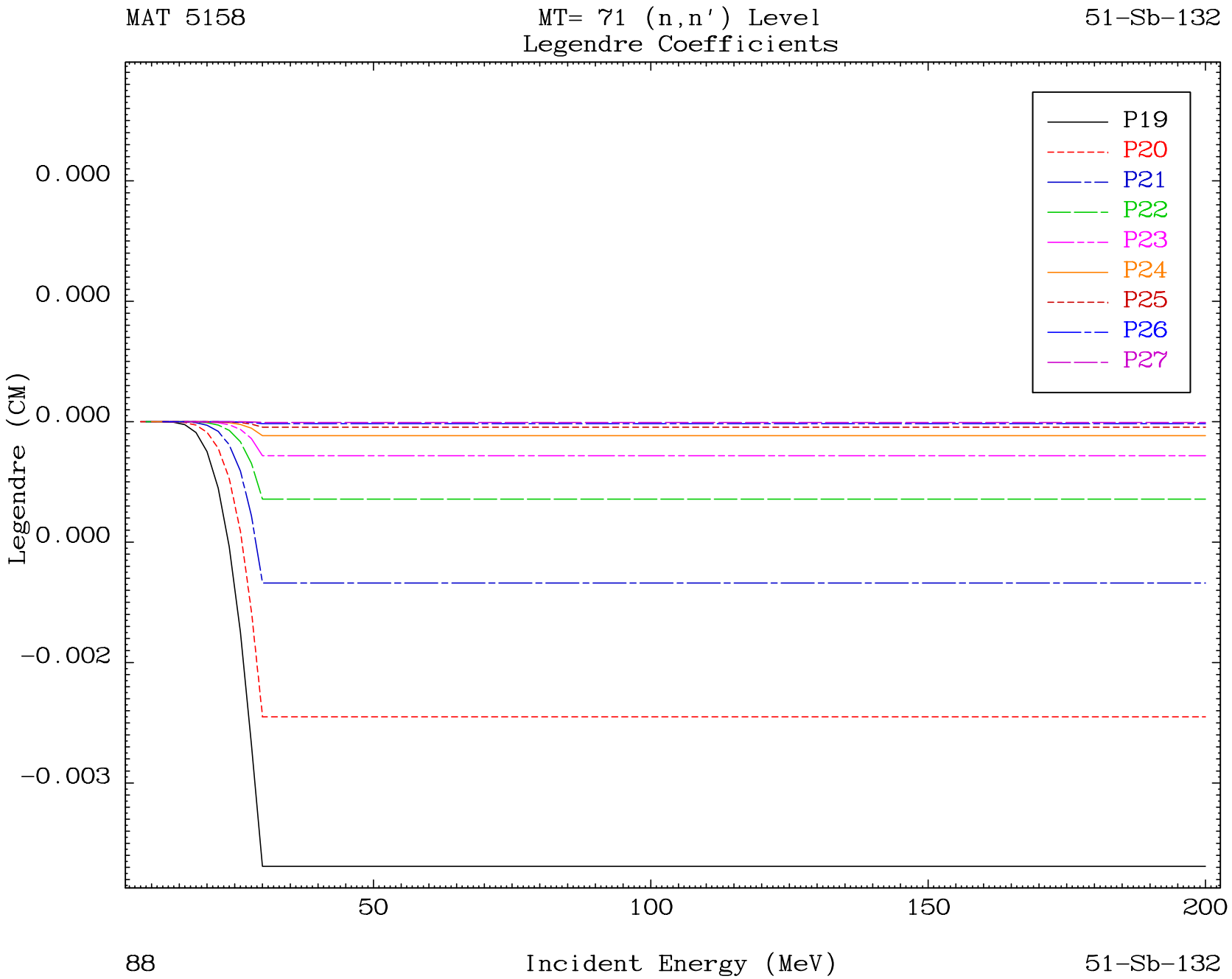

MAT 5158
MT= 70 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
83
Incident Energy (MeV)
51-Sb-132

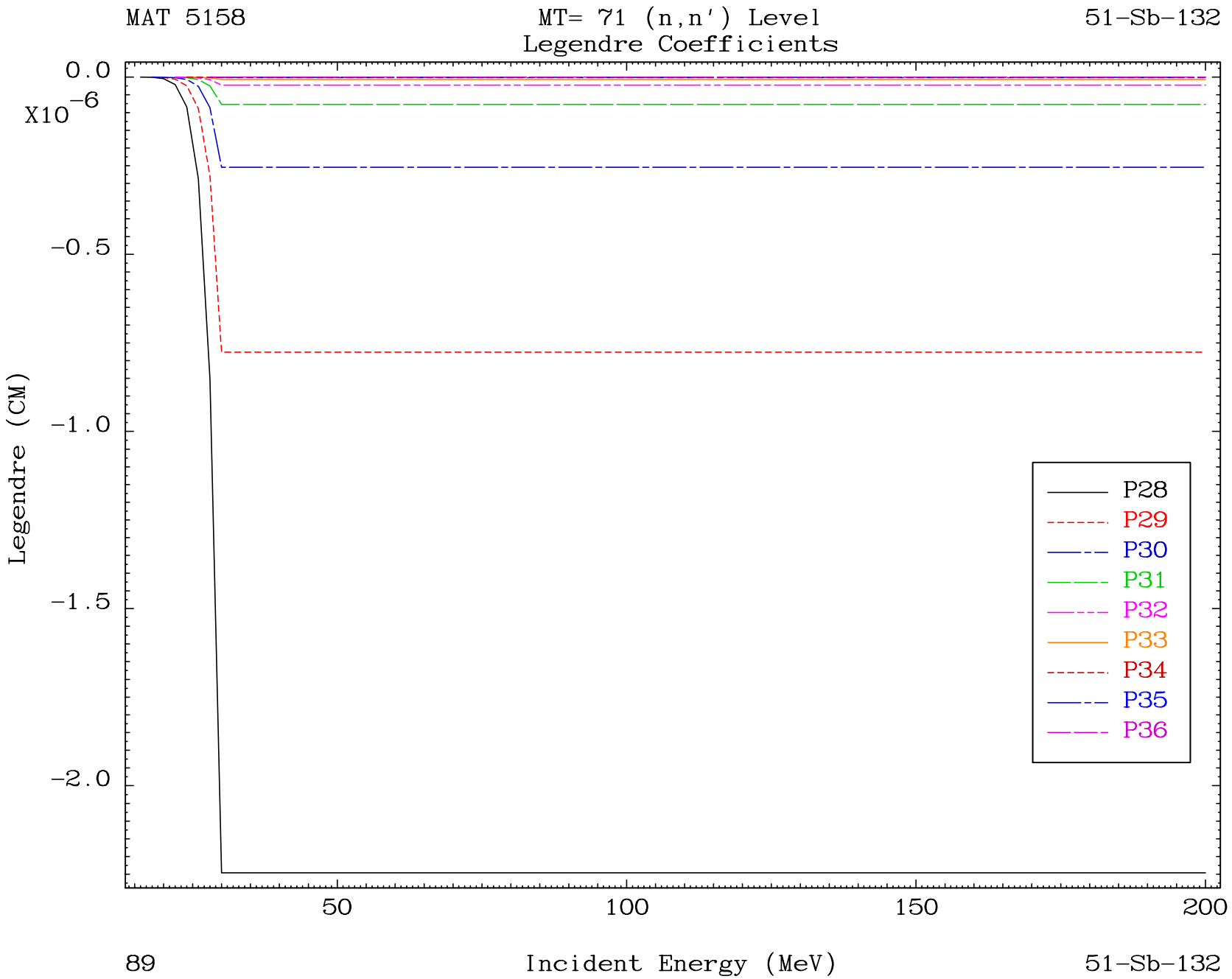

MAT 5158
MT= 70 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10 −4
−1
−2
−3
−4
−5
Legendre (CM)
50
100
150
200
P9
P10
P11
P12
P13
P14
P15
P16
84
Incident Energy (MeV)
51-Sb-132

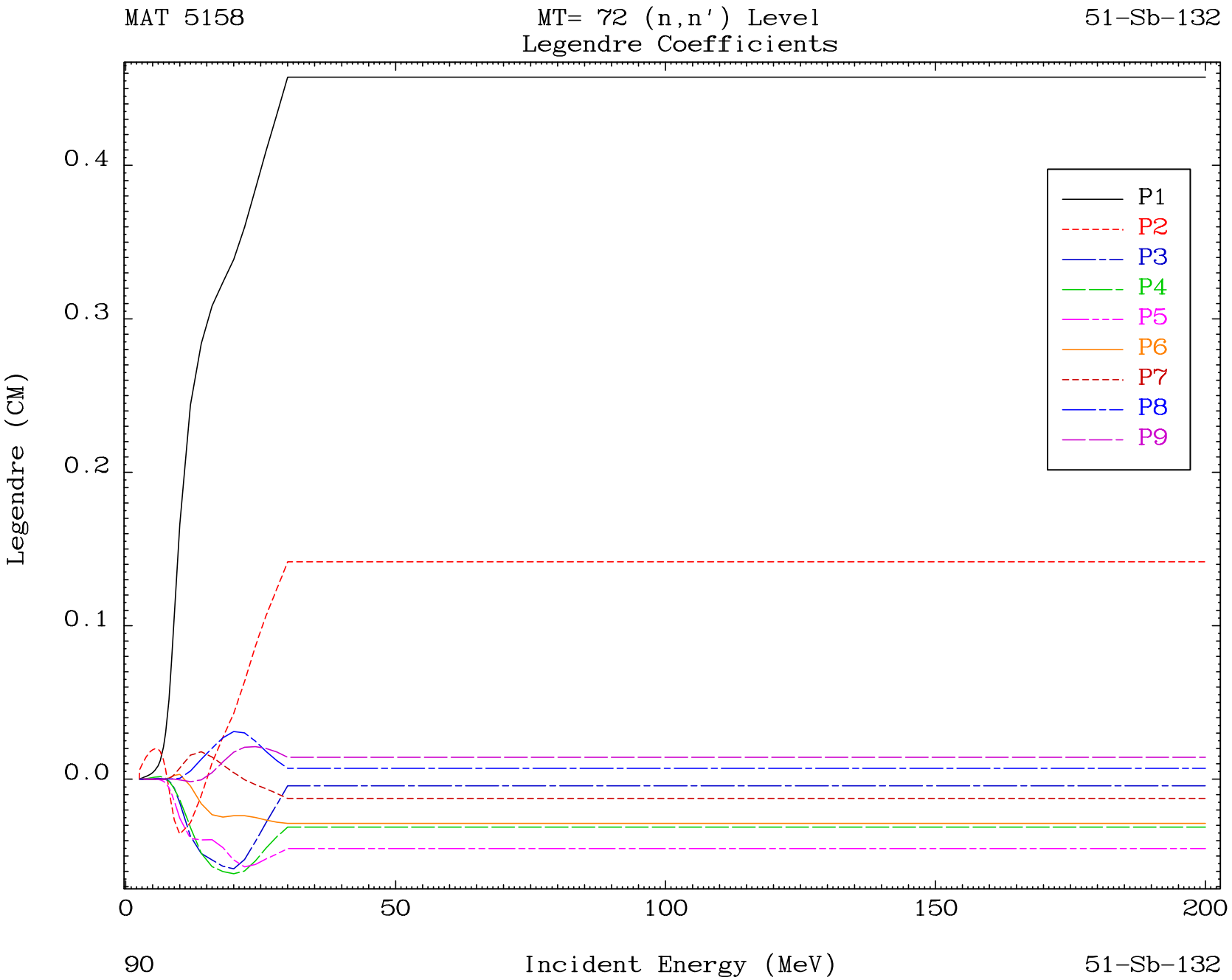

MAT 5158
MT= 70 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-7
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
85
Incident Energy (MeV)
51-Sb-132
P17
P18
P19
P20
P21
P22
P23
P24

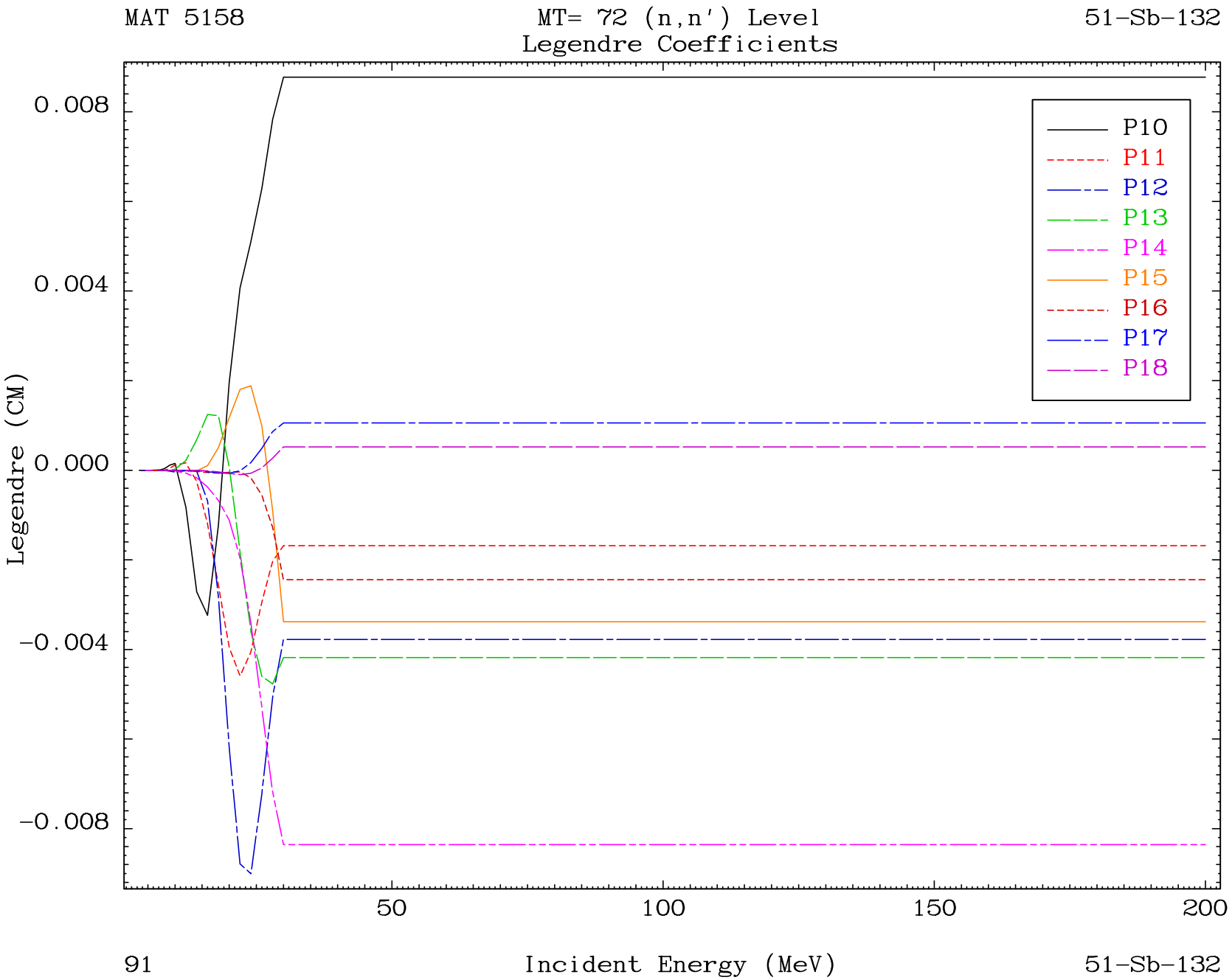

MAT 5158
MT= 71 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
86
Incident Energy (MeV)
51-Sb-132

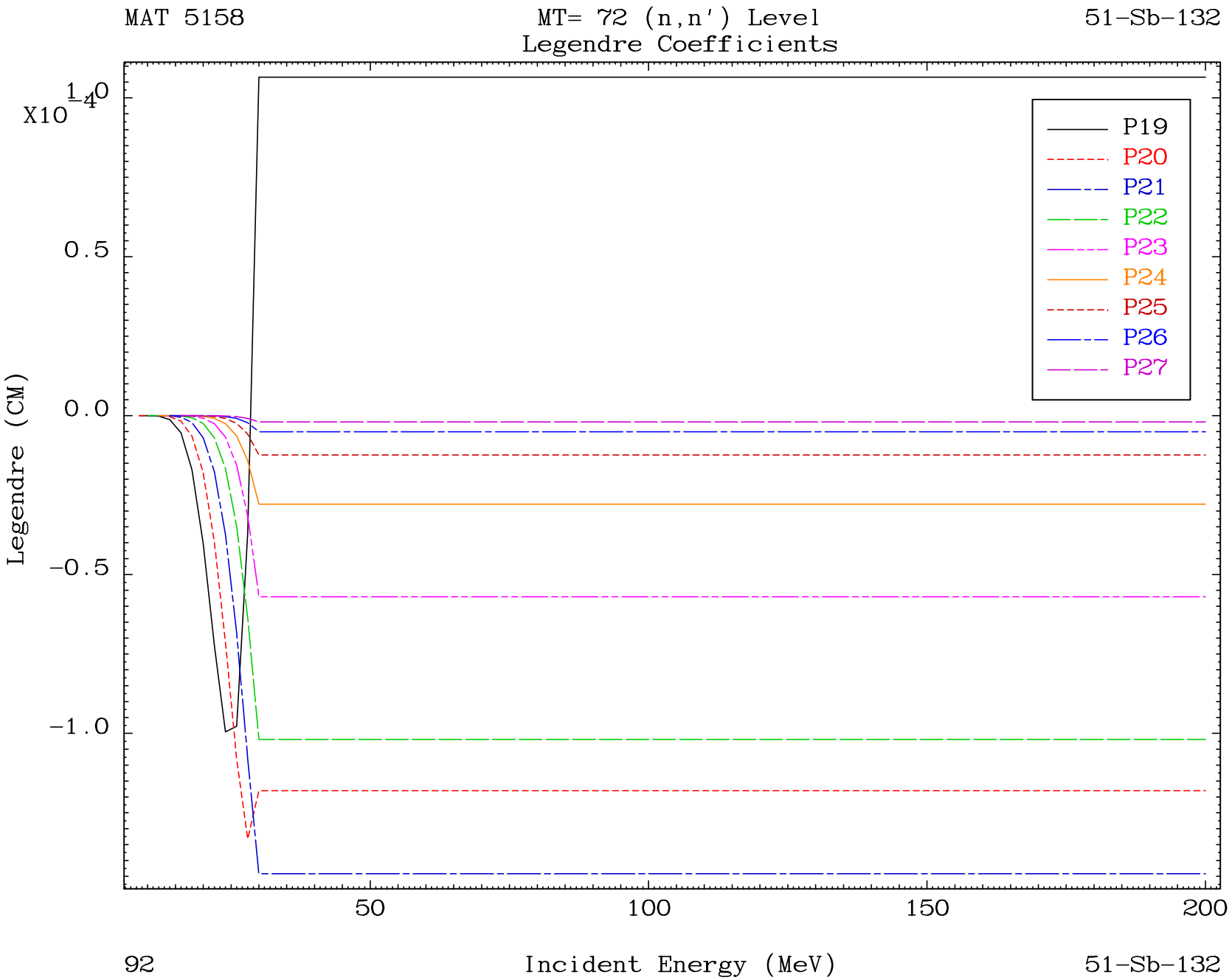

MAT 5158
MT= 71 (n,n') Level
Legendre Coefficients
51-Sb-132
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
87
Incident Energy (MeV)
51-Sb-132

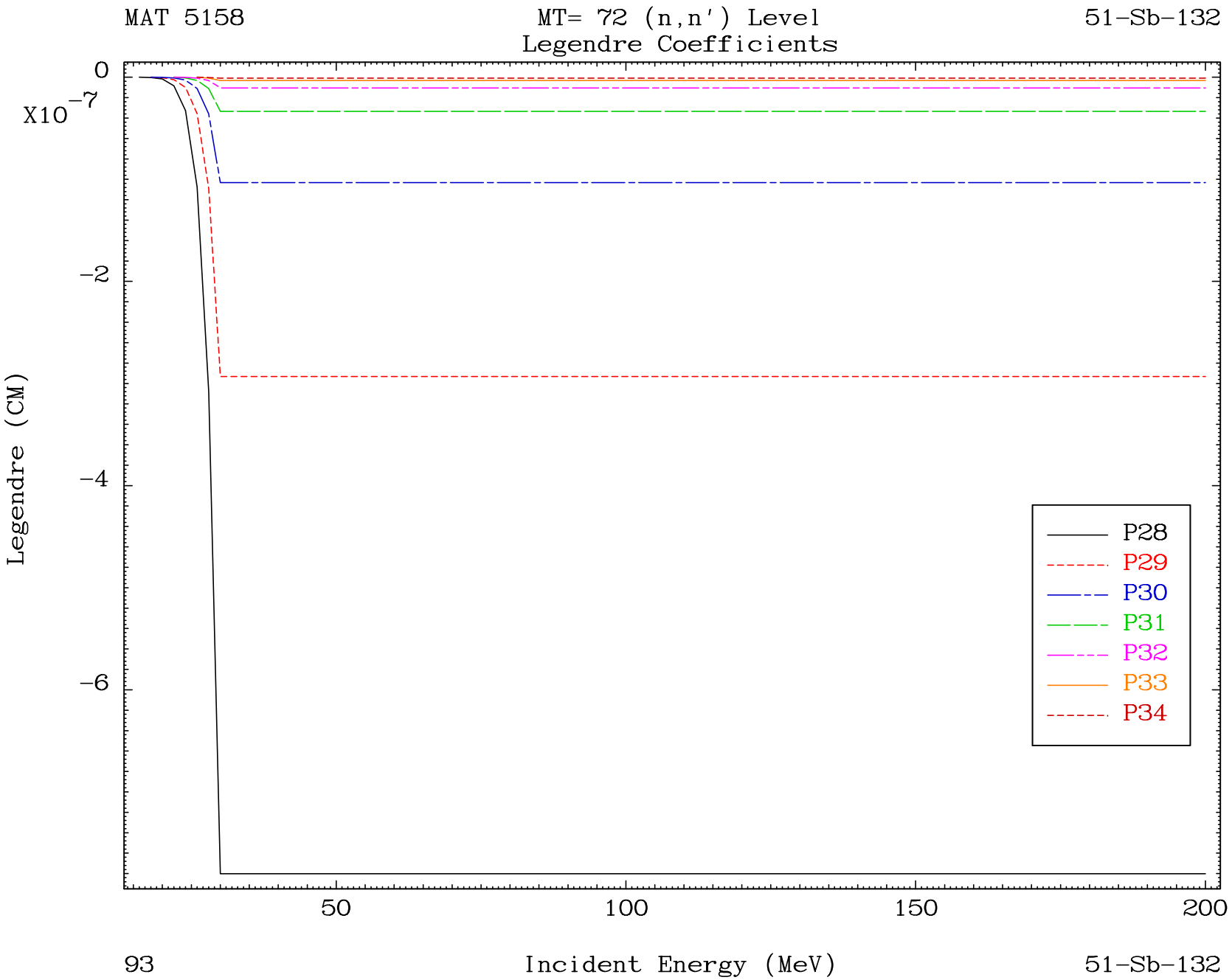

MAT 5158
MT= 71 (n,n') Level
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.000
0.000
0.000
0.000
-0.002
-0.003
Legendre (CM)
50
100
150
200
88
Incident Energy (MeV)
51-Sb-132

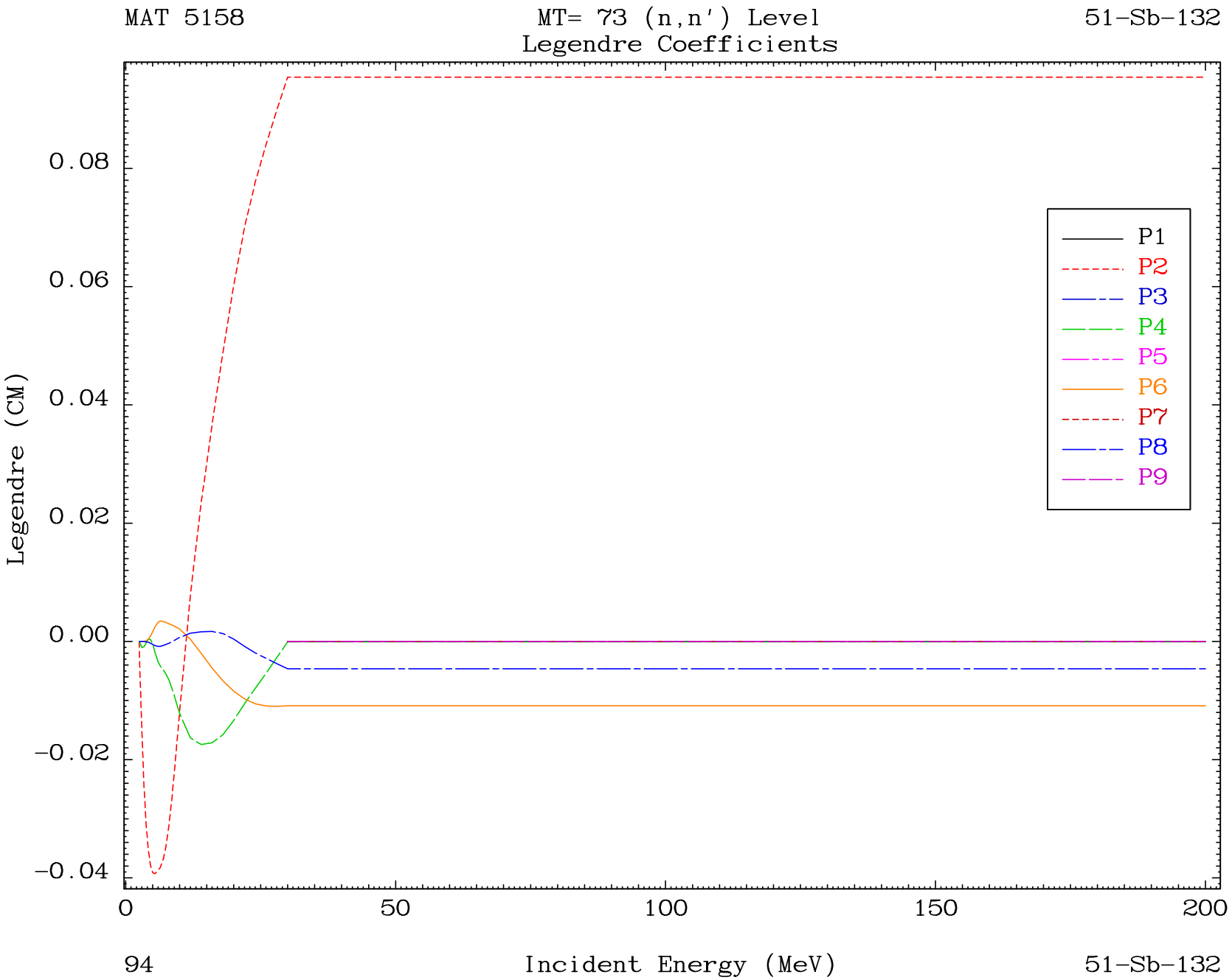

MAT 5158
MT= 71 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
89
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34
P35
P36

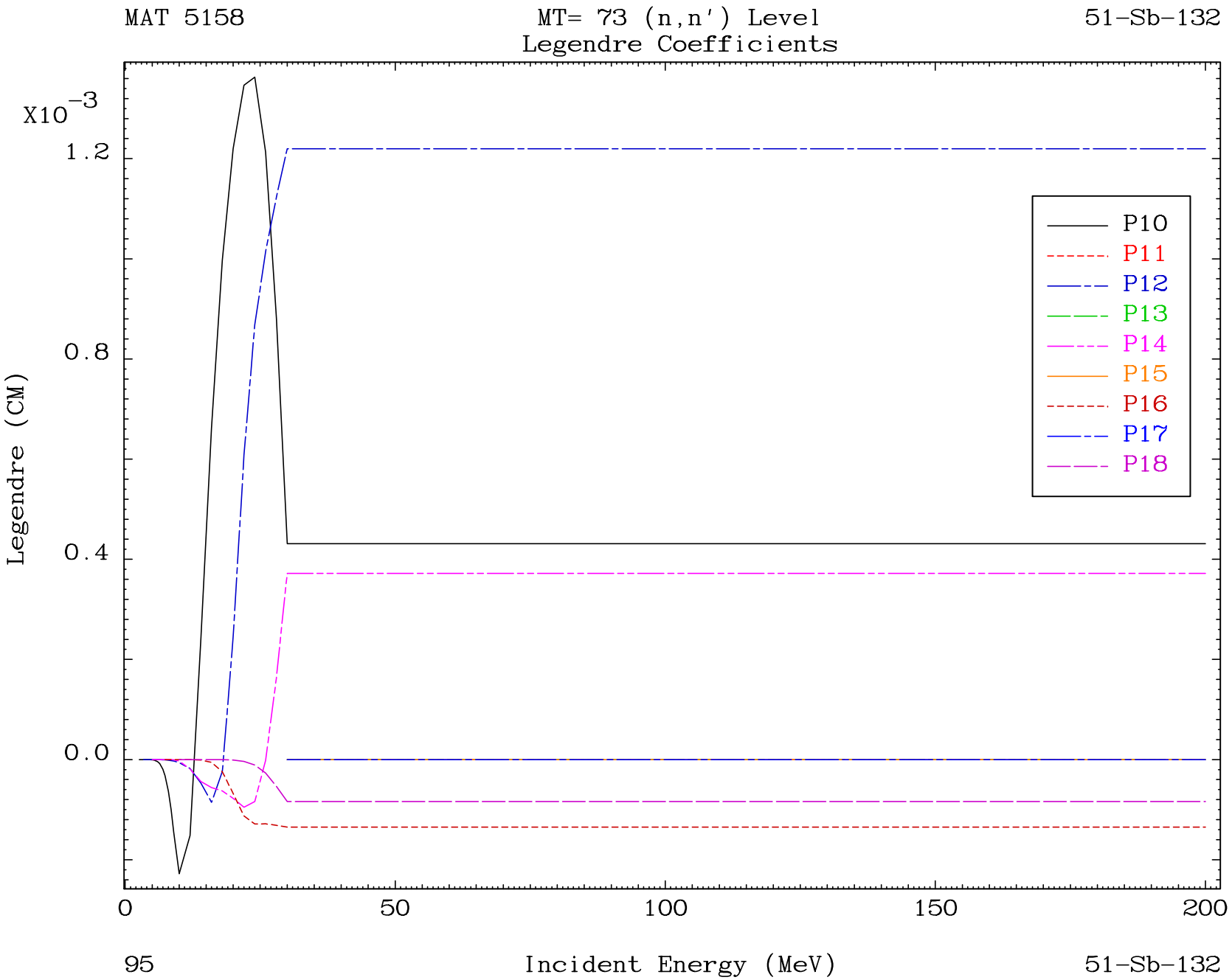

MAT 5158
MT= 72 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
90
Incident Energy (MeV)
51-Sb-132

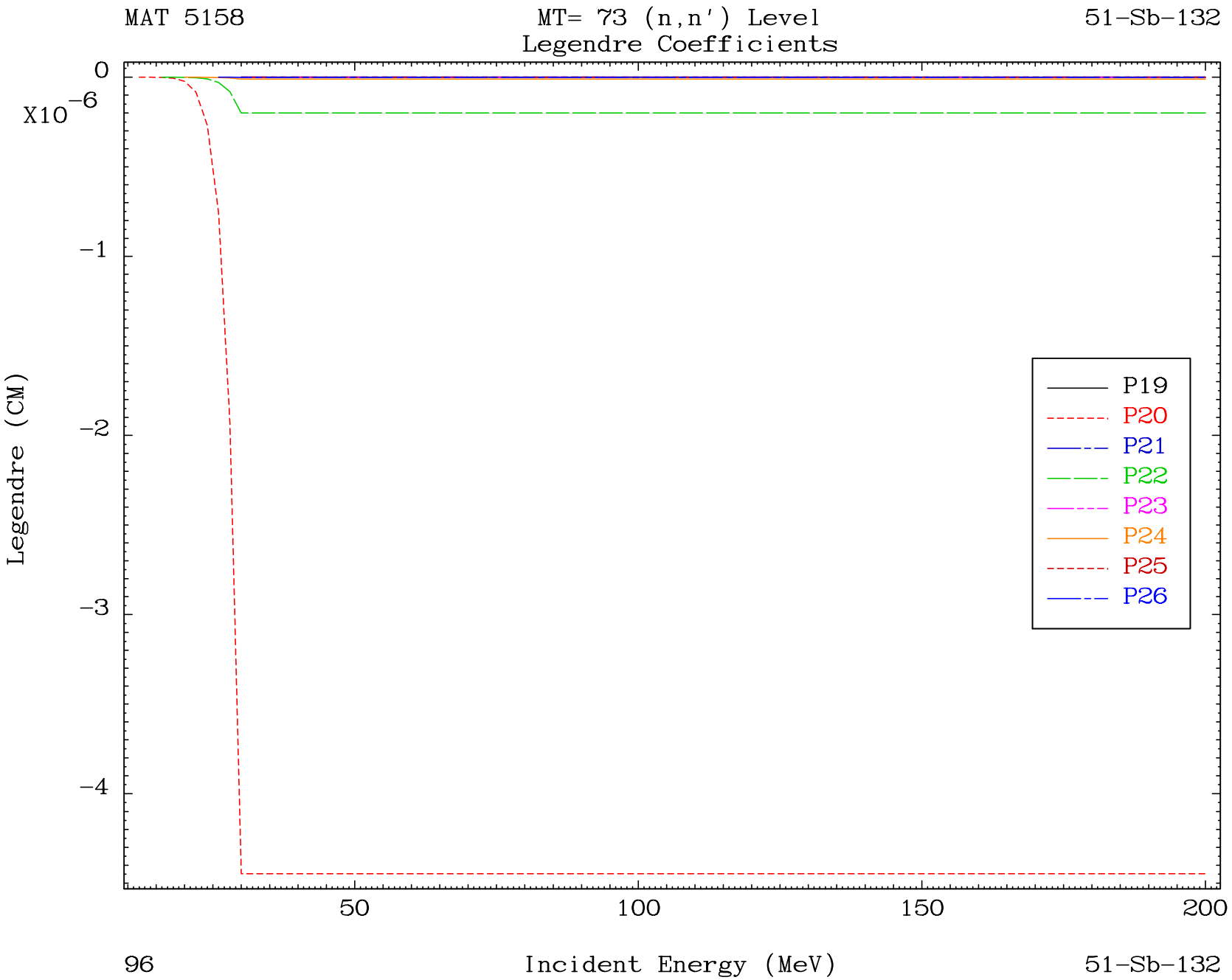

MAT 5158
MT= 72 (n,n') Level
Legendre Coefficients
51-Sb-132
0.008
0.004
0.000
-0.004
-0.008
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
P10
P11
P12
P13
P14
P15
P16
P17
P18
91
51-Sb-132

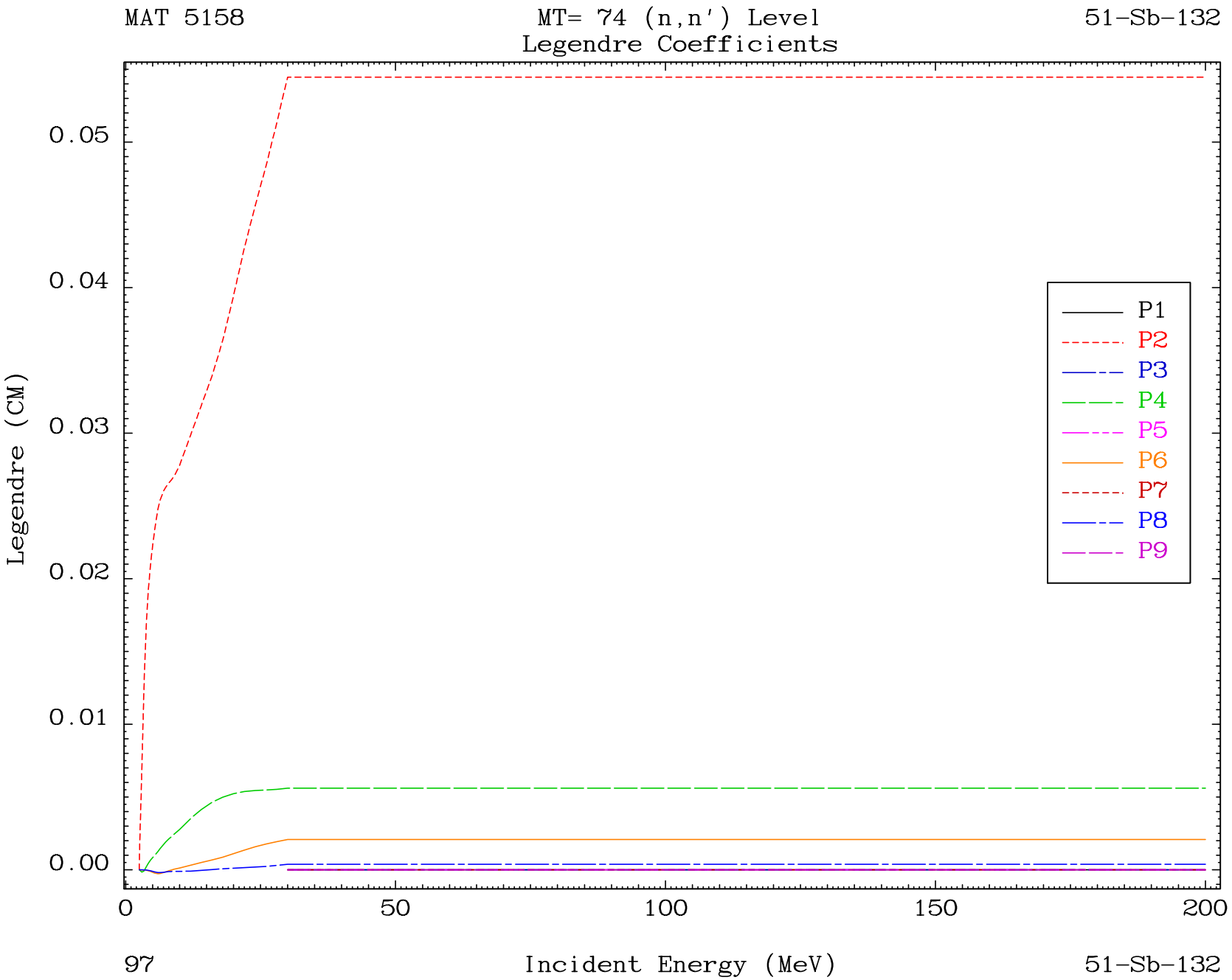

MAT 5158
MT= 72 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
92
Incident Energy (MeV)
51-Sb-132

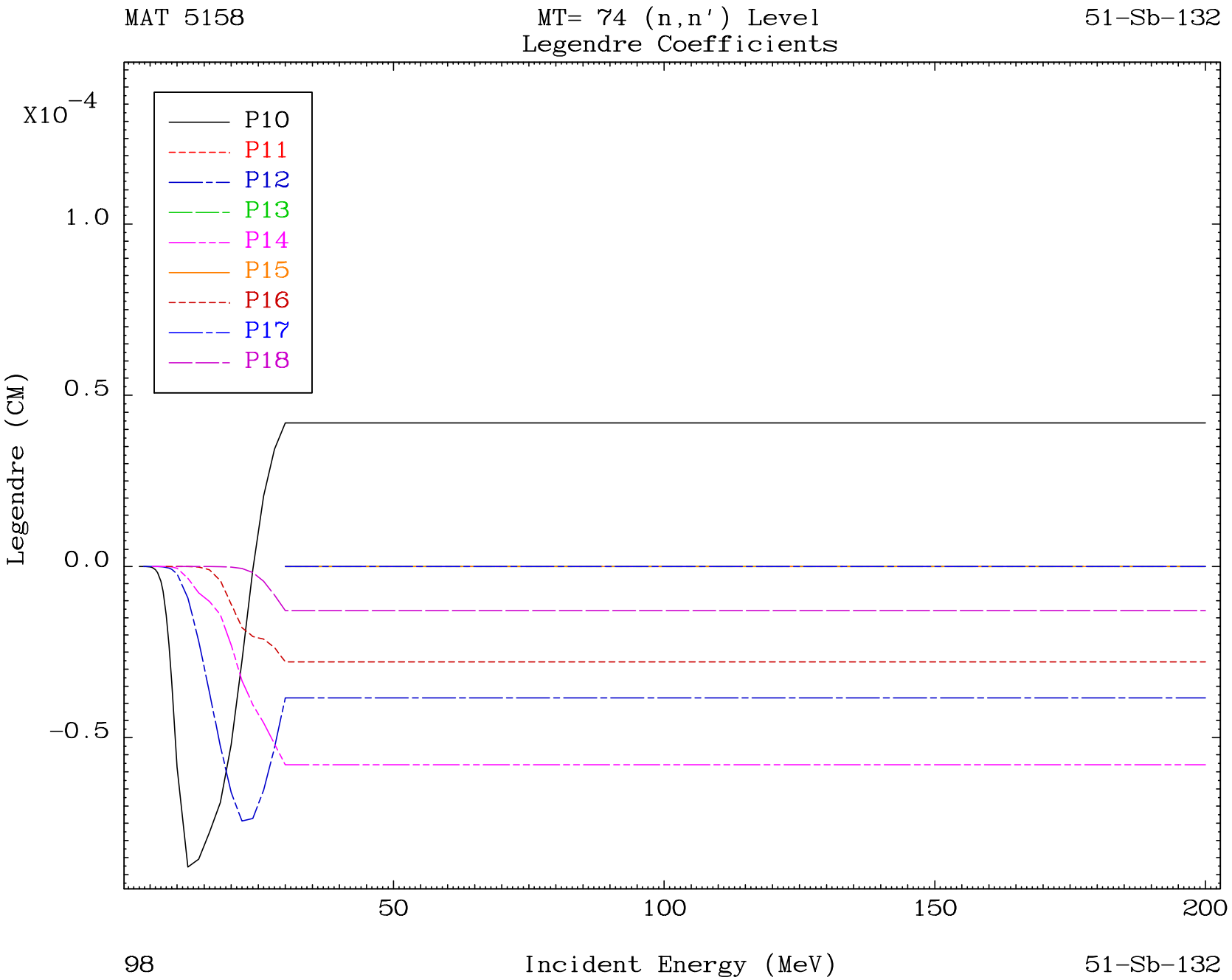

MAT 5158
MT= 72 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-7
-2
-4
-6
Legendre (CM)
50
100
150
200
93
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34

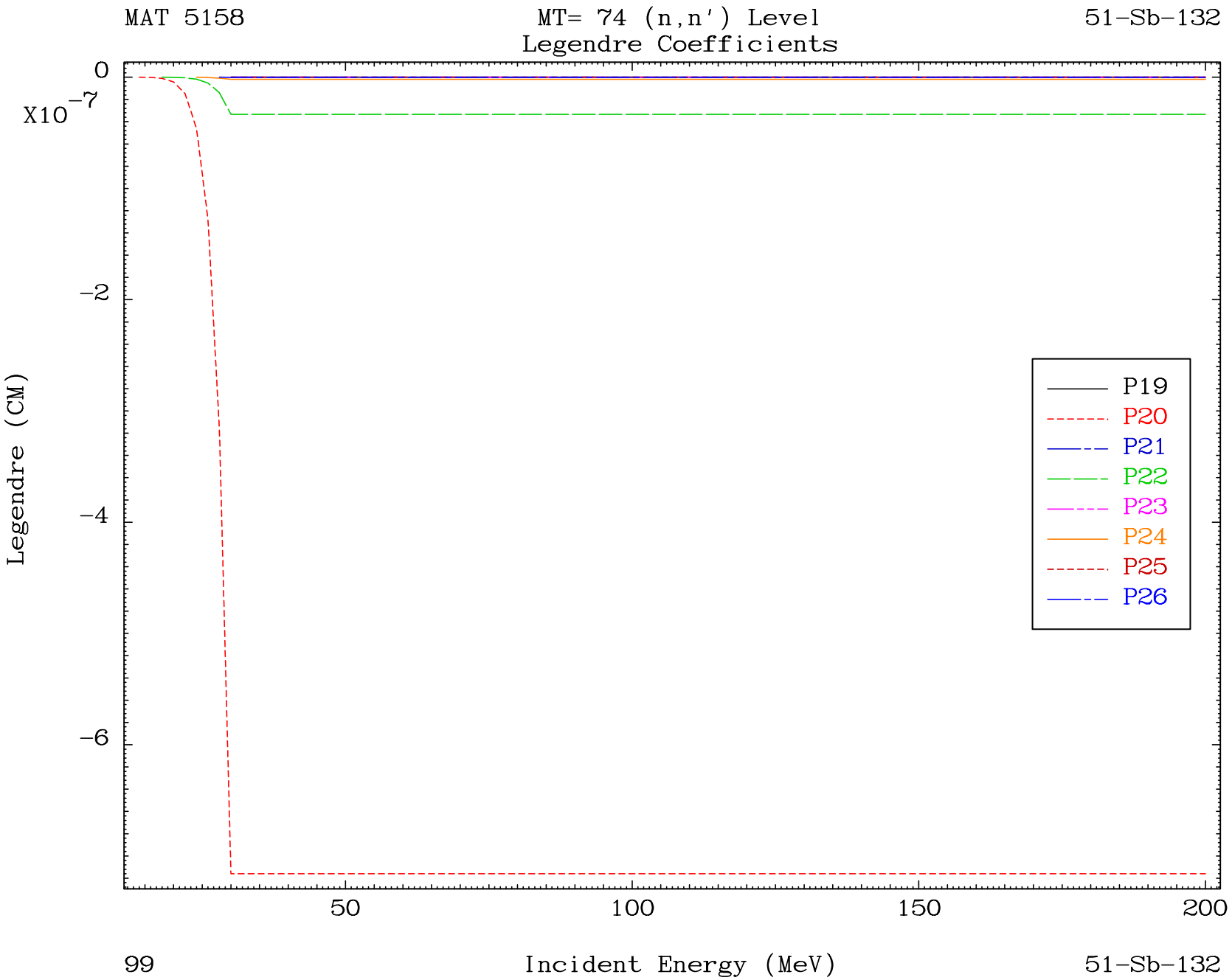

MAT 5158
MT= 73 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
94
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

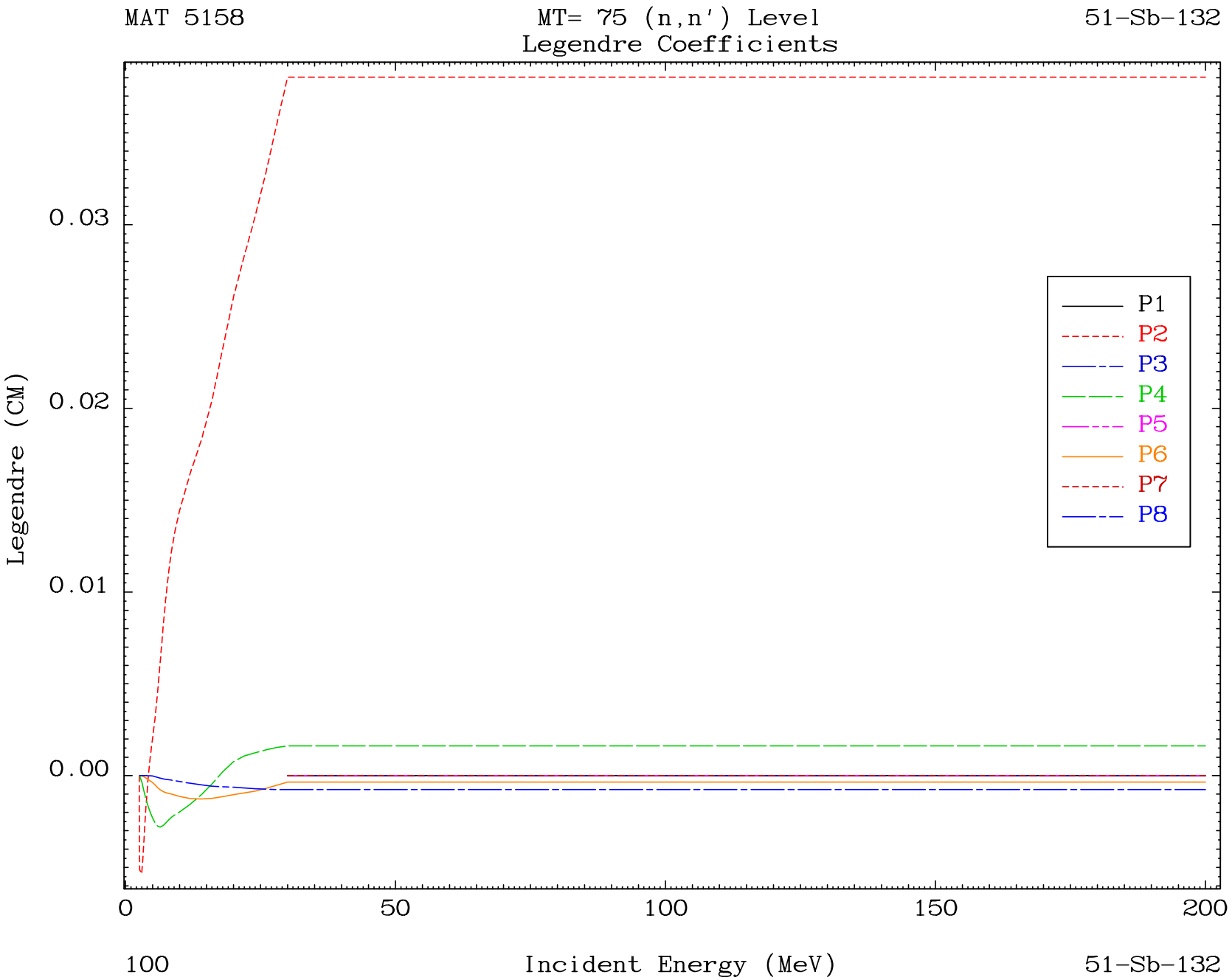

MAT 5158
MT= 73 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-3
1.2
0.8
0.4
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
95
Incident Energy (MeV)
51-Sb-132

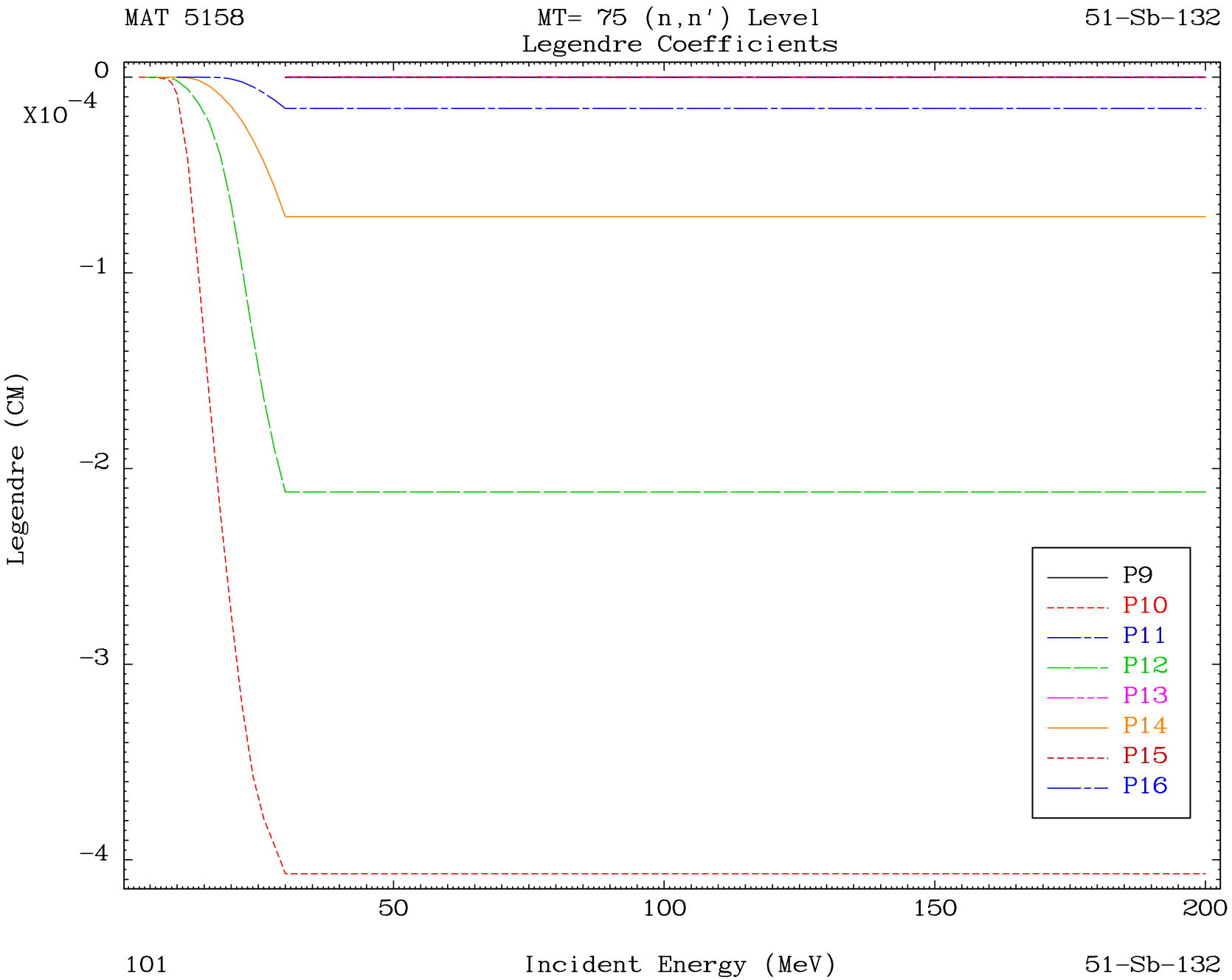

MAT 5158
MT= 73 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10−6
−1
−2
−3
−4
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
96
Incident Energy (MeV)
51-Sb-132

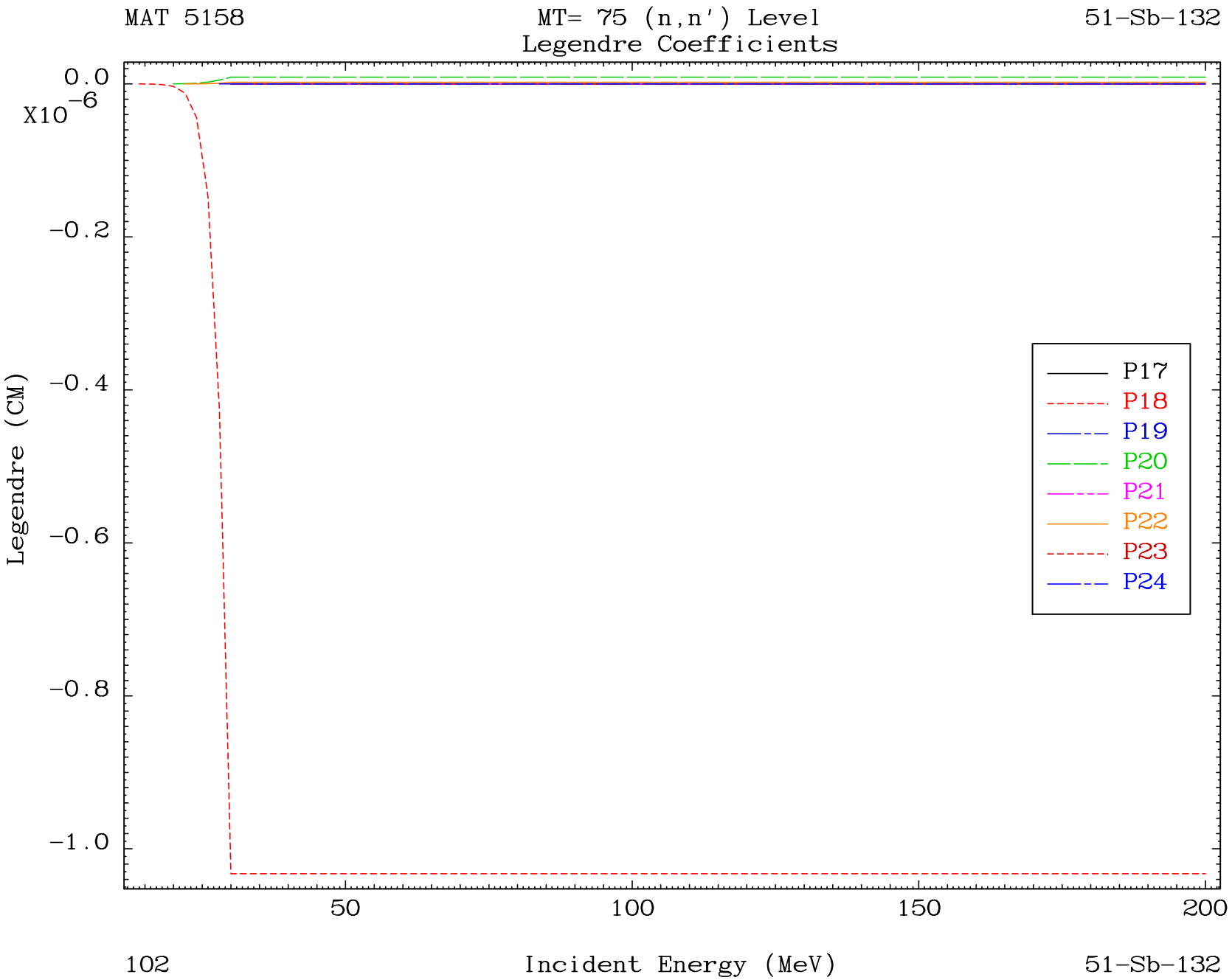

MAT 5158
MT= 74 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.05
0.04
0.03
0.02
0.01
0.00
0
50
100
150
200
97
Incident Energy (MeV)
51-Sb-132
P1
P2
P3
P4
P5
P6
P7
P8
P9

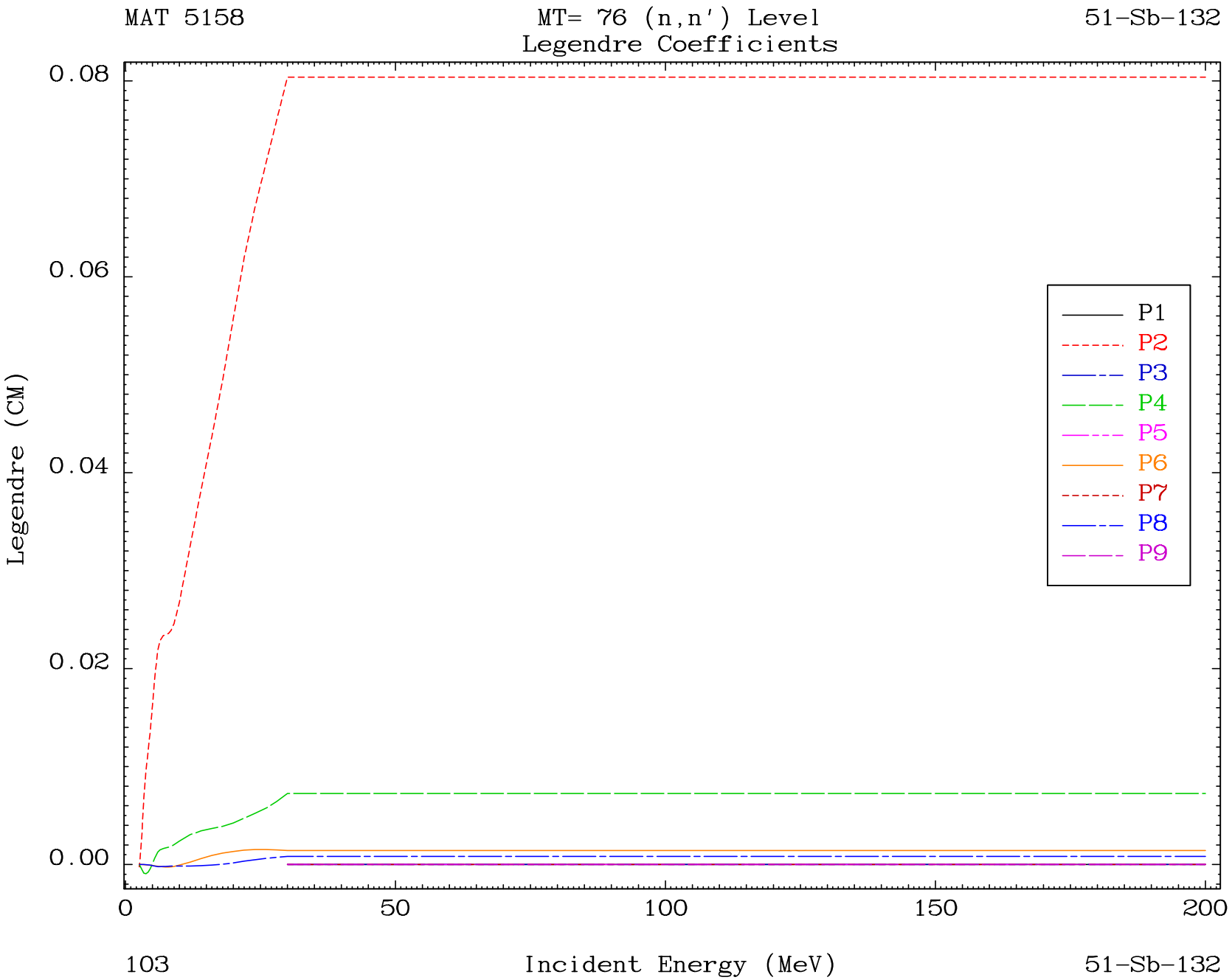

MAT 5158
MT= 74 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
1.0
0.5
0.0
-0.5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
98
Incident Energy (MeV)
51-Sb-132

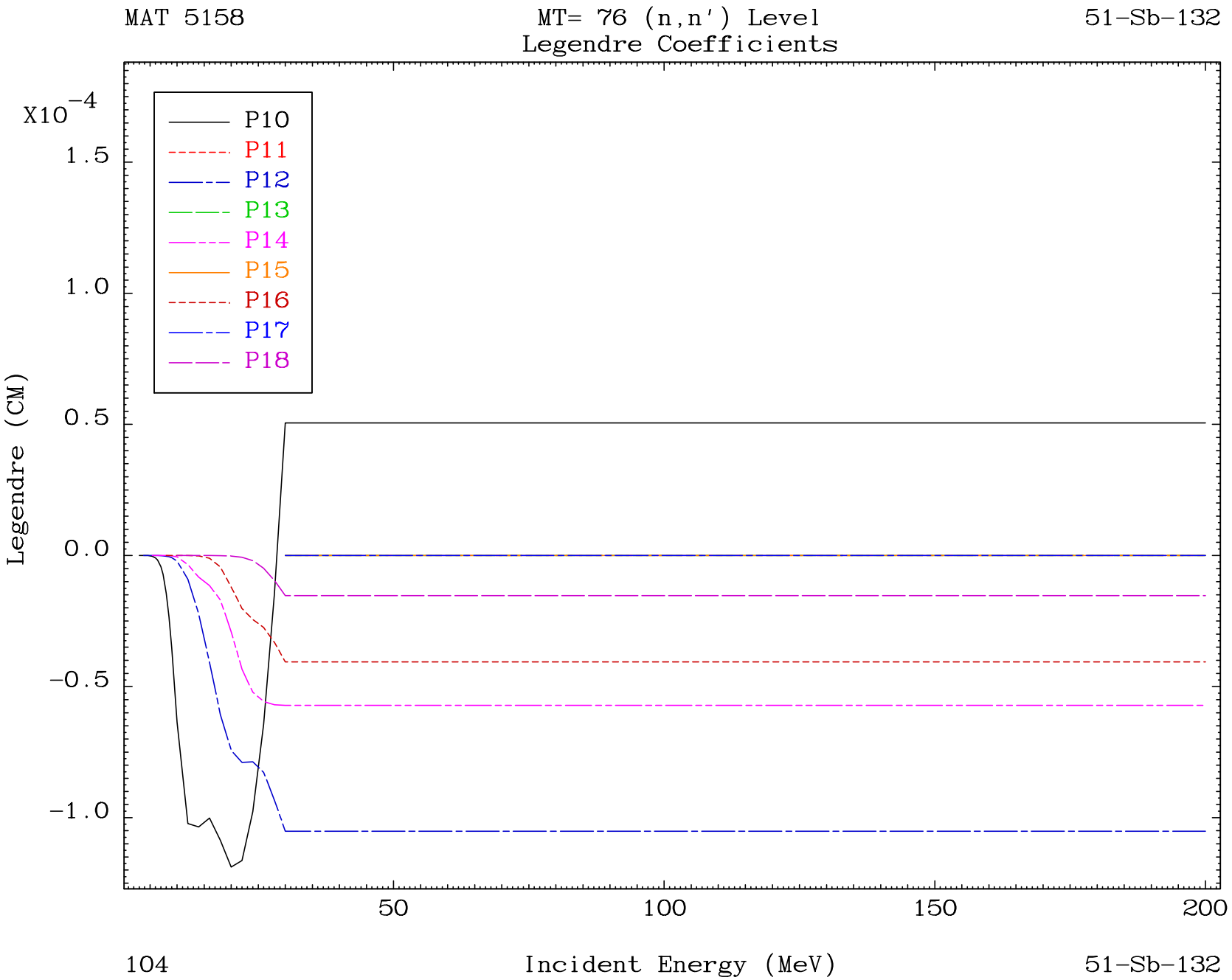

MAT 5158
MT= 74 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10-7
-2
-4
-6
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
99
Incident Energy (MeV)
51-Sb-132

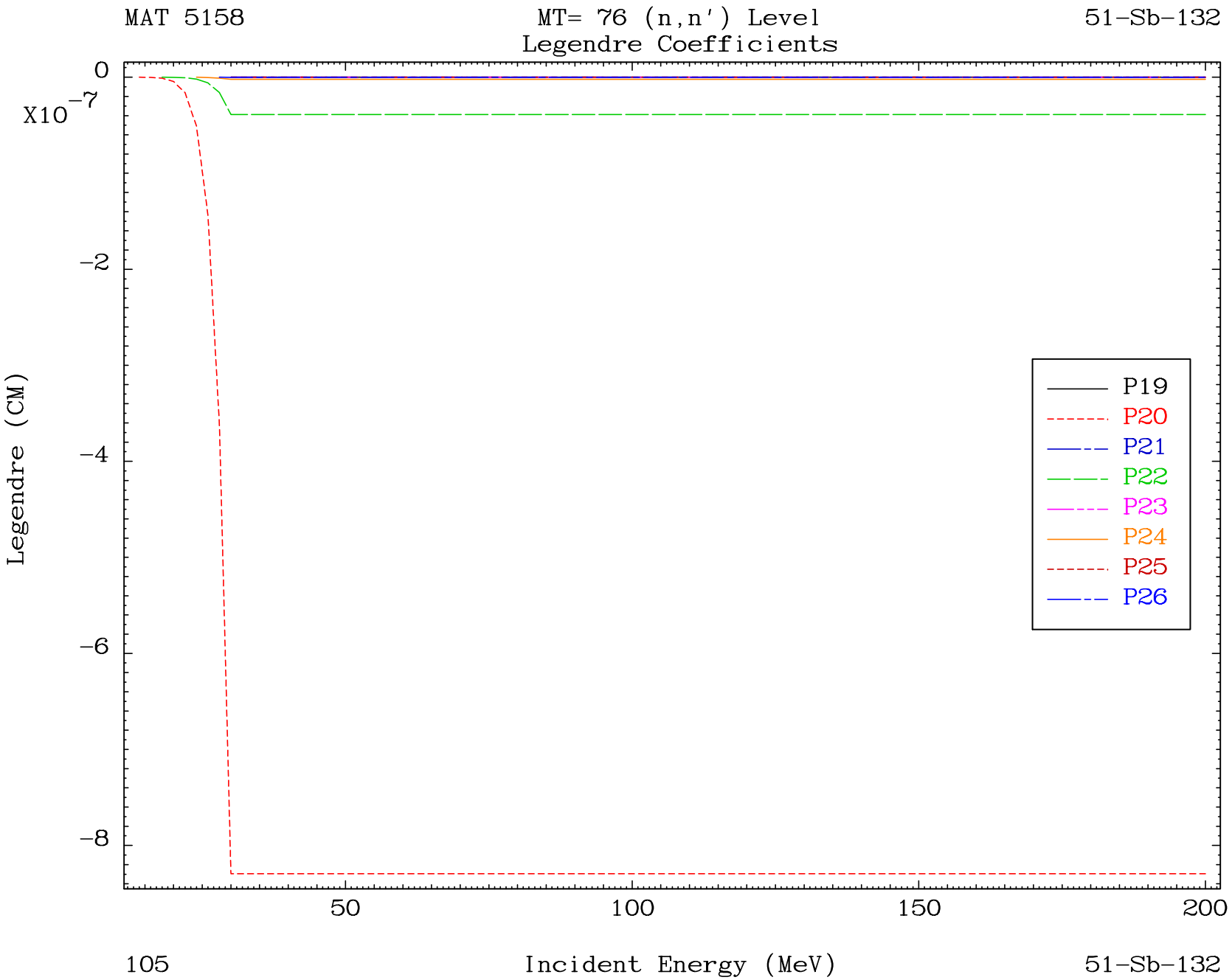

MAT 5158
MT= 75 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.03
0.02
0.01
0.00
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
100
Incident Energy (MeV)
51-Sb-132

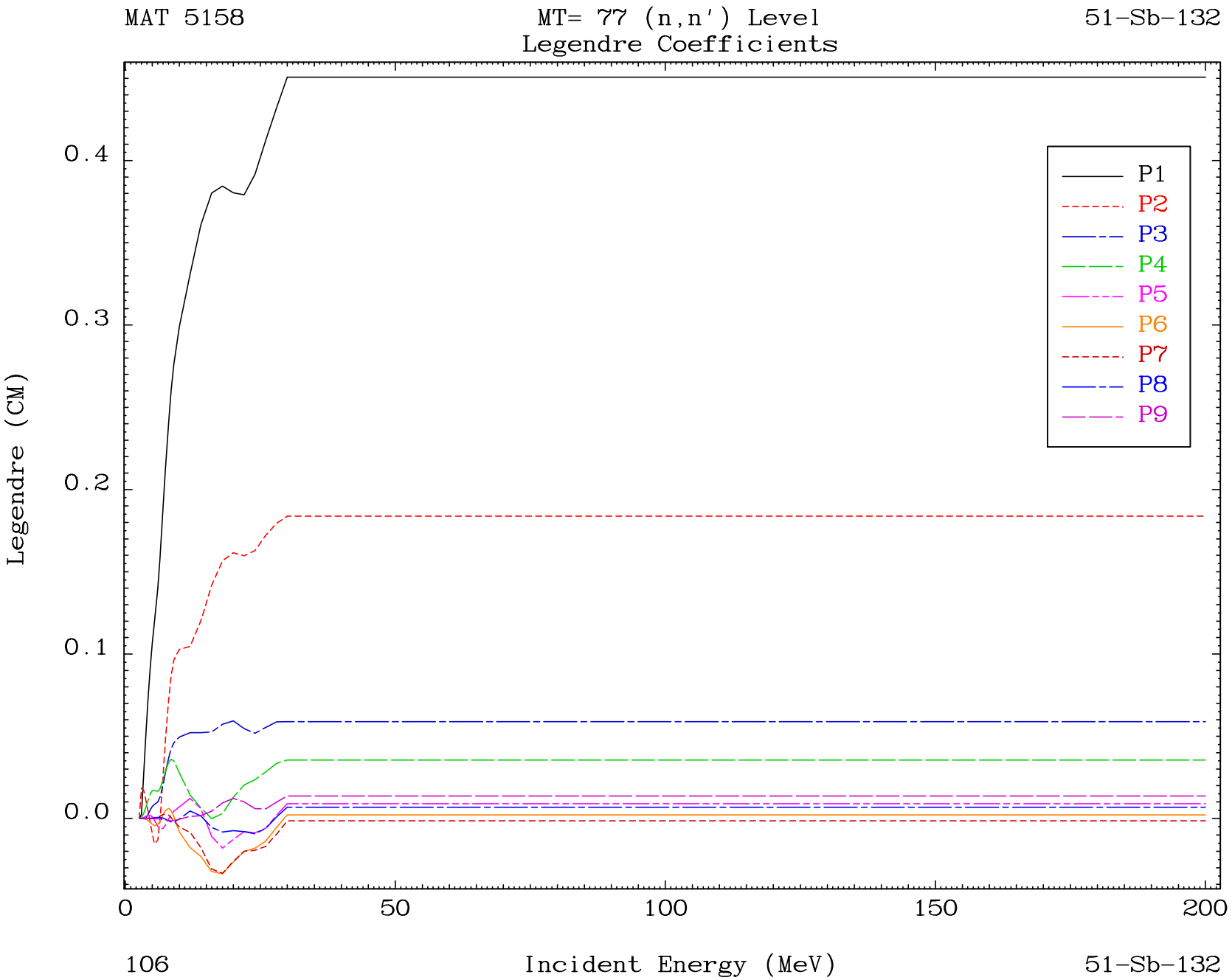

MAT 5158
MT= 75 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
0
-1
-2
-3
-4
Legendre (CM)
50
100
150
200
101
Incident Energy (MeV)
51-Sb-132
P9
P10
P11
P12
P13
P14
P15
P16

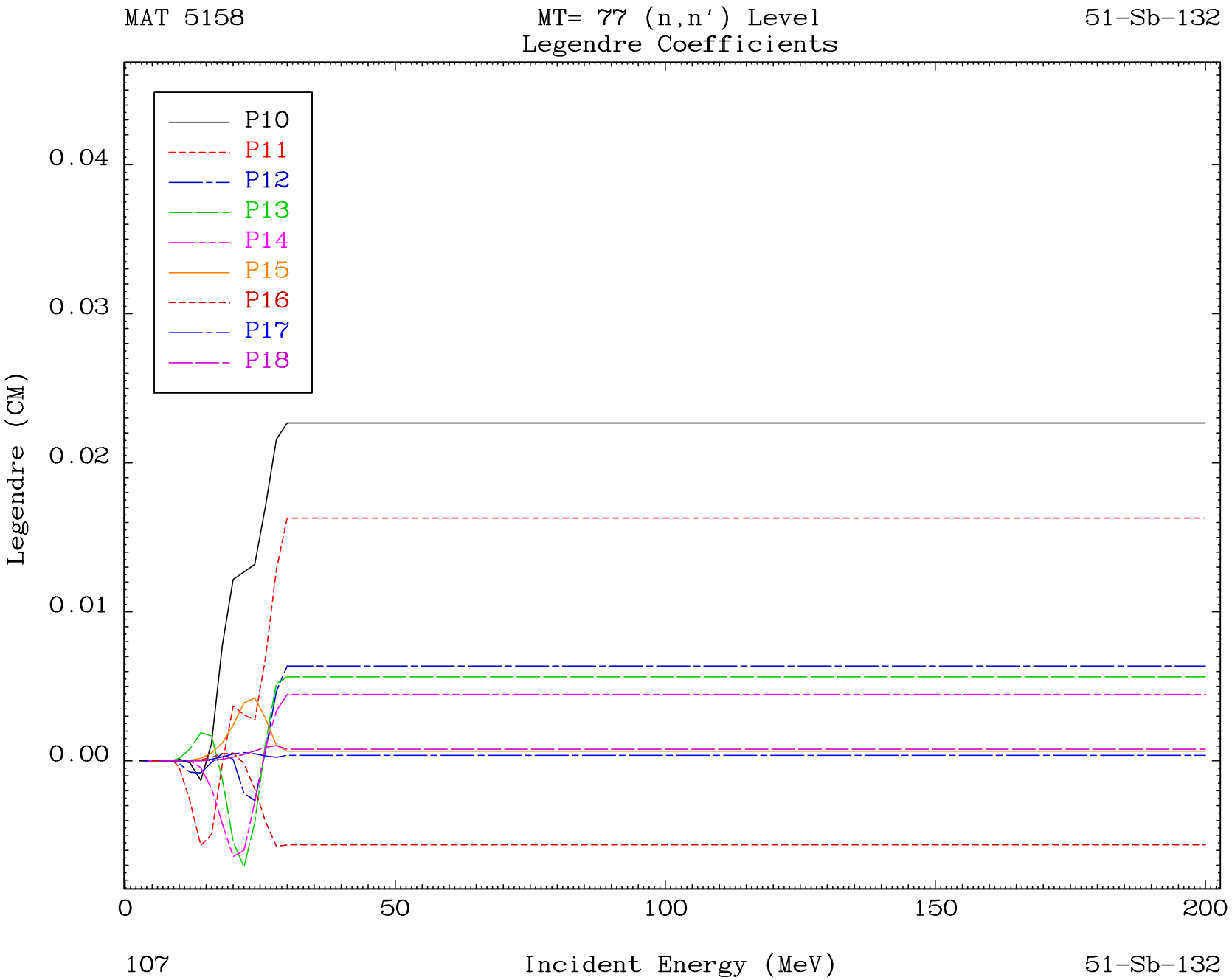

MAT 5158
MT= 75 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10^-6
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
P17
P18
P19
P20
P21
P22
P23
P24
102
Incident Energy (MeV)
51-Sb-132

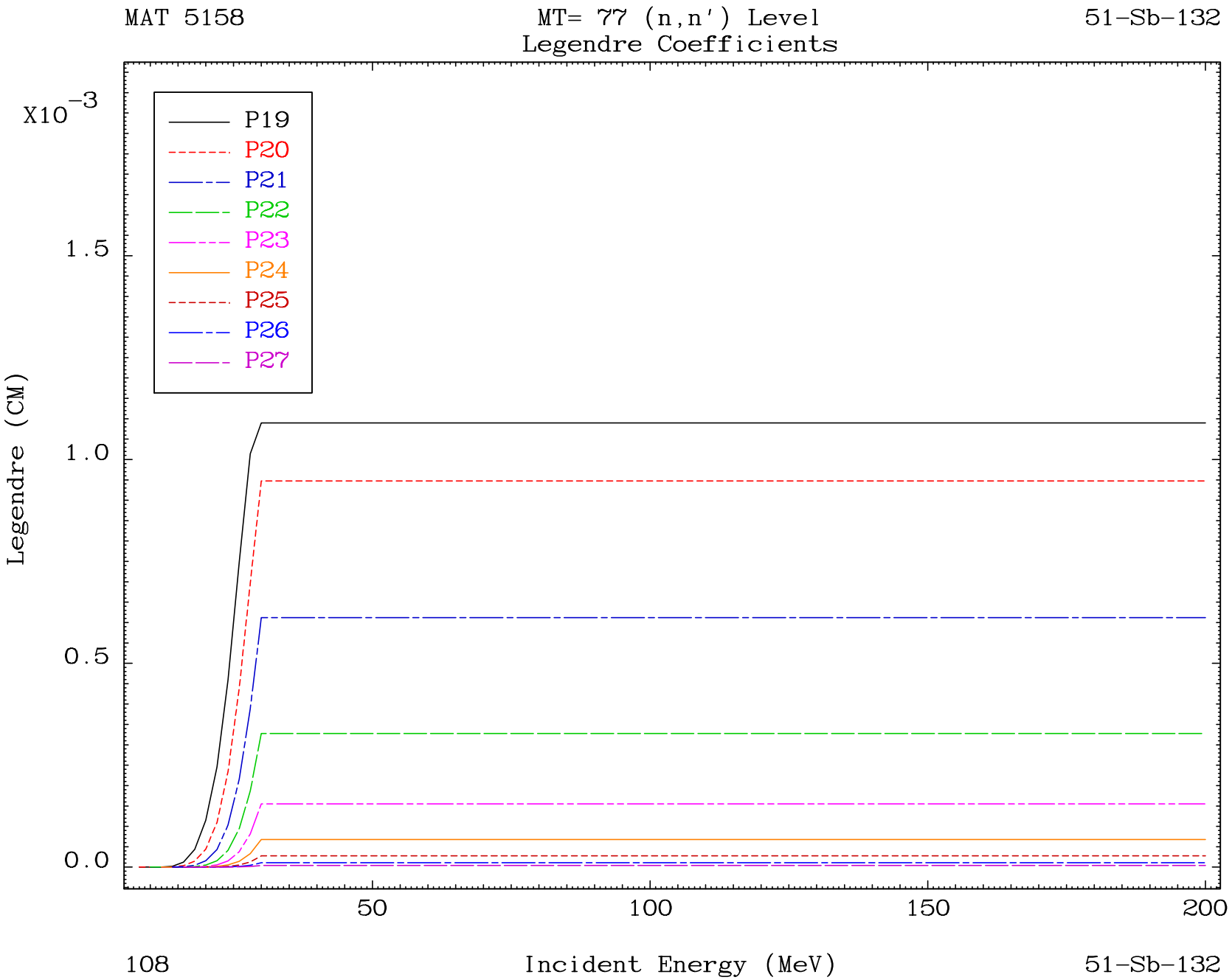

MAT 5158
MT= 76 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
Legendre (CM)
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
103
Incident Energy (MeV)
51-Sb-132

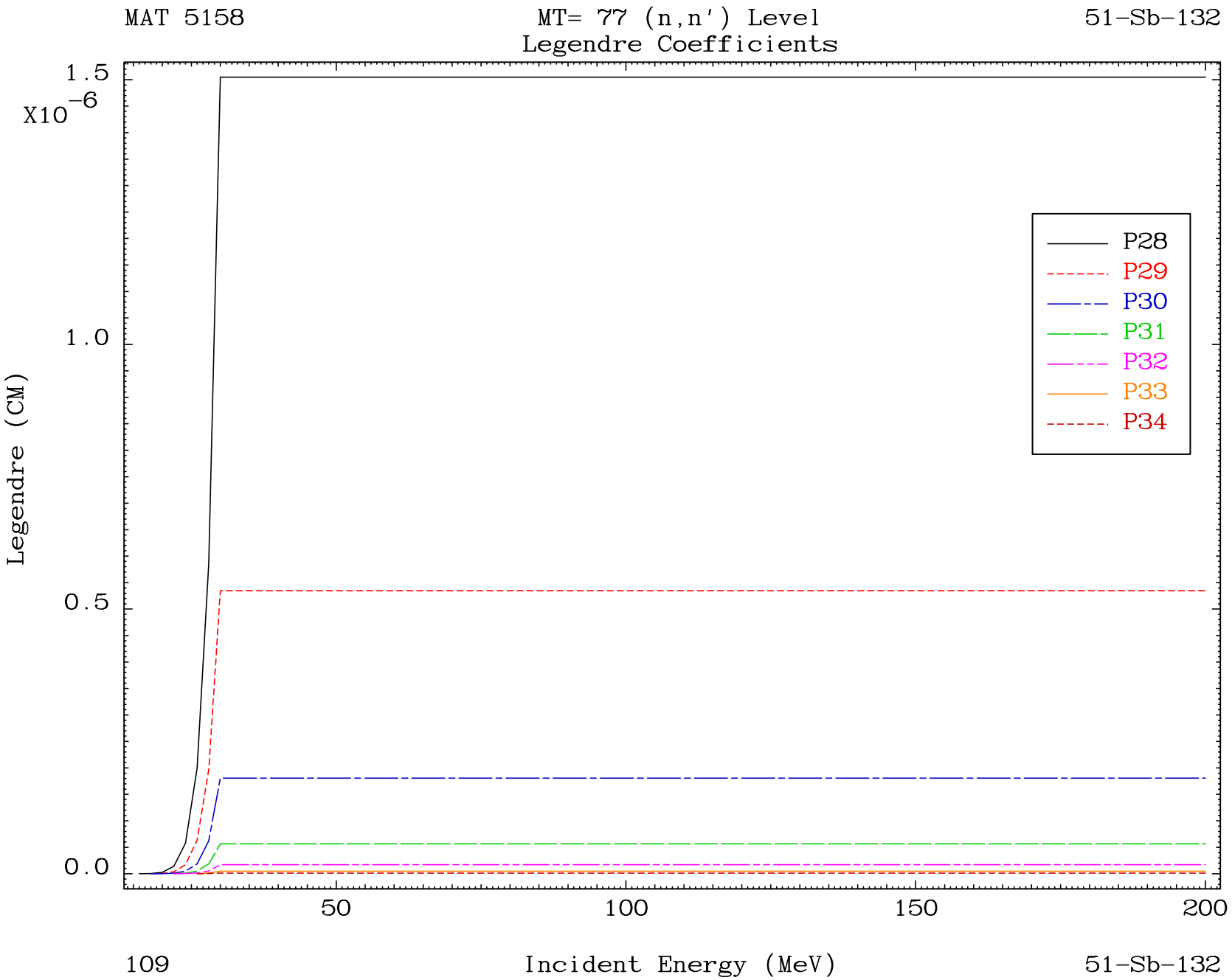

MAT 5158
MT= 76 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
1.5
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
104
Incident Energy (MeV)
51-Sb-132

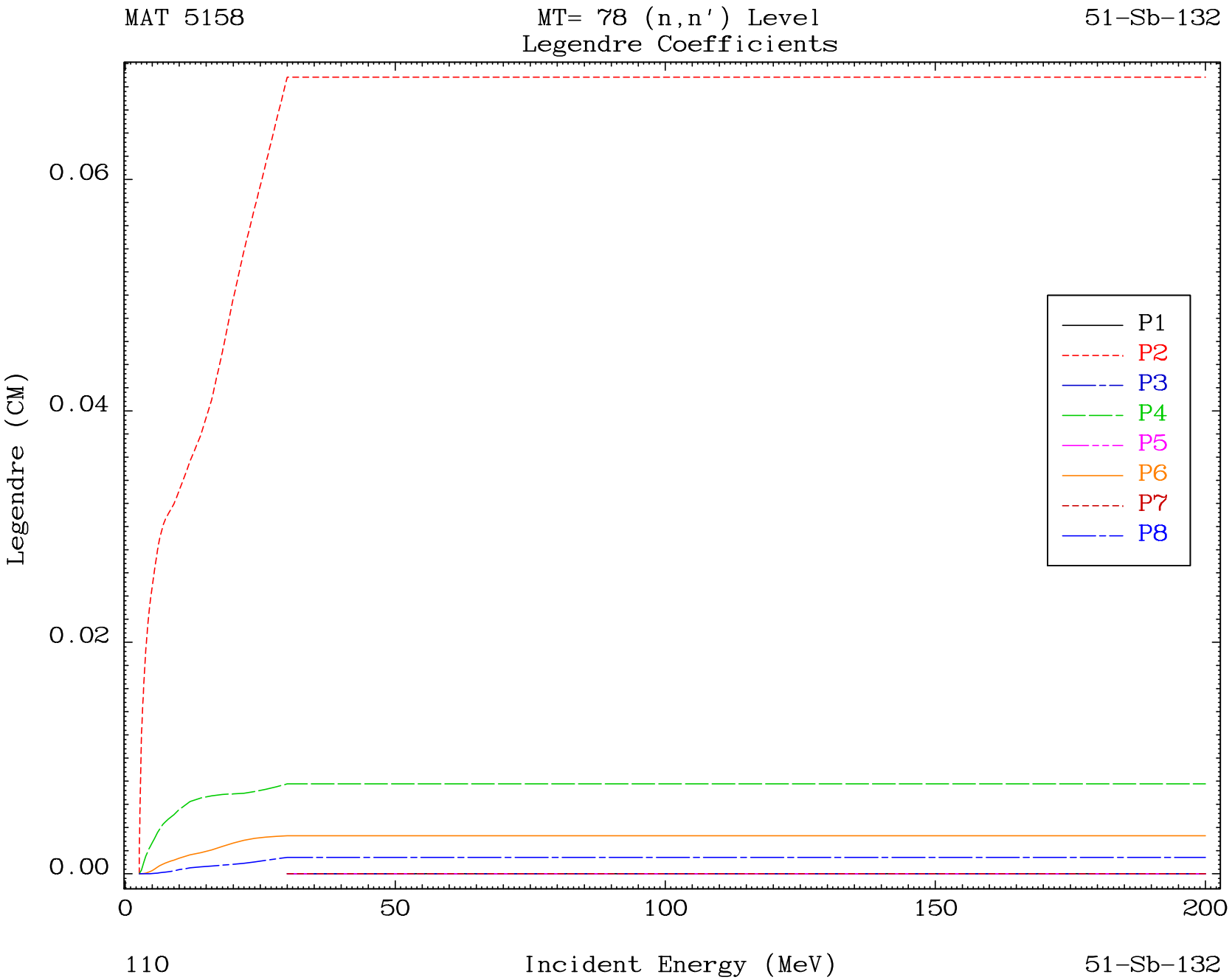

MAT 5158
MT= 76 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10^-7
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
105
Incident Energy (MeV)
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26

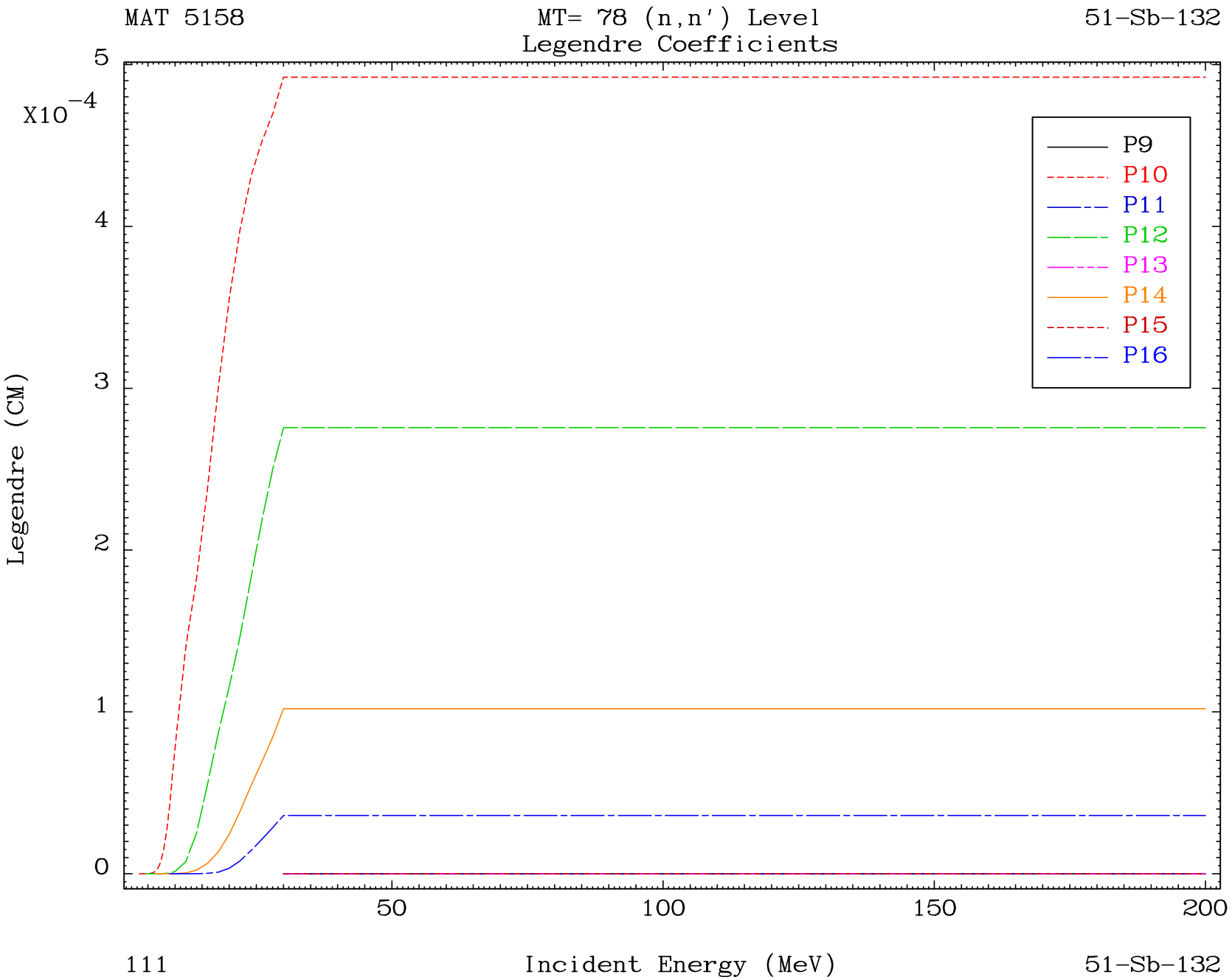

MAT 5158
MT= 77 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
106
Incident Energy (MeV)
51-Sb-132

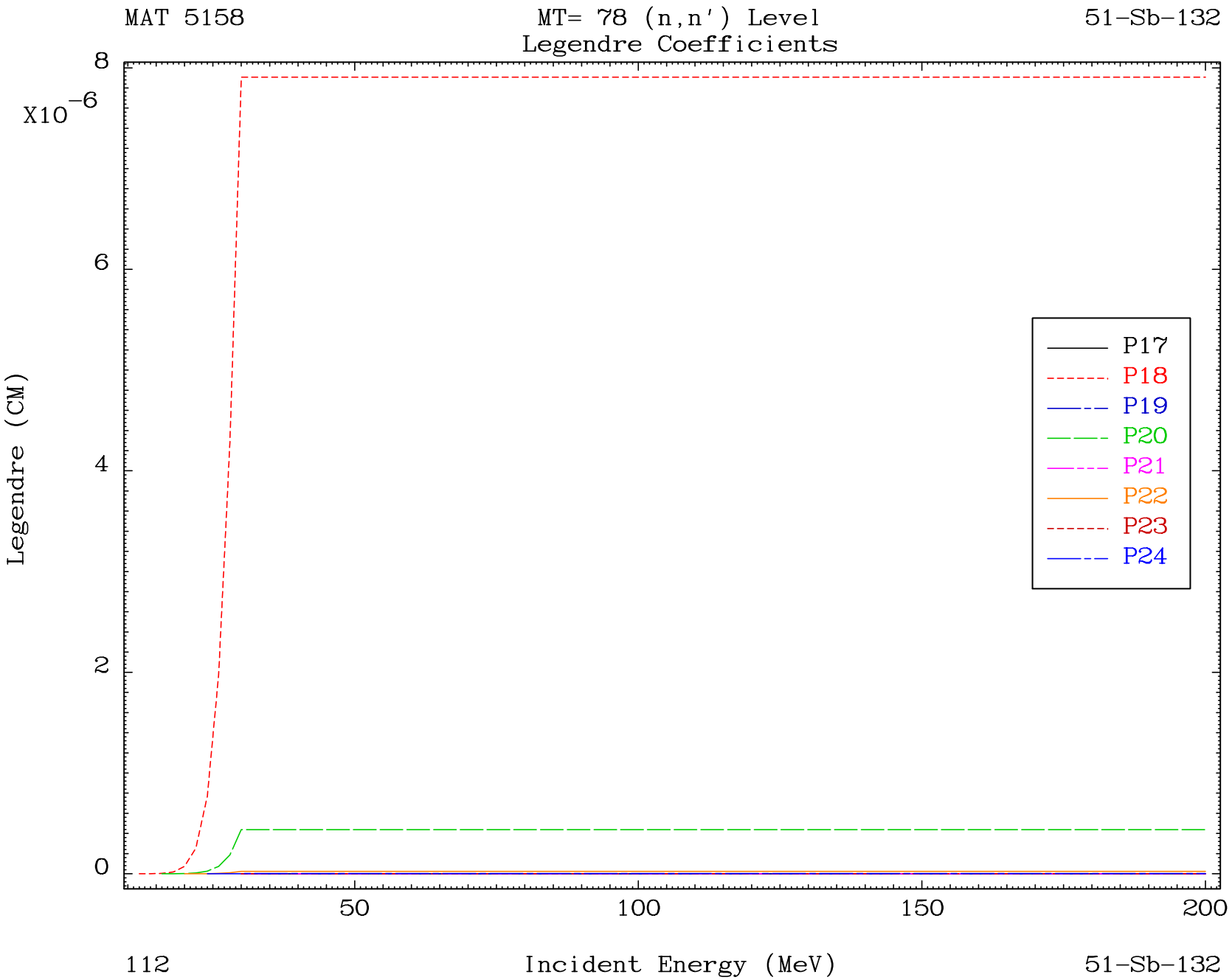

MAT 5158
MT= 77 (n,n') Level
Legendre Coefficients
51-Sb-132
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
107
Incident Energy (MeV)
51-Sb-132

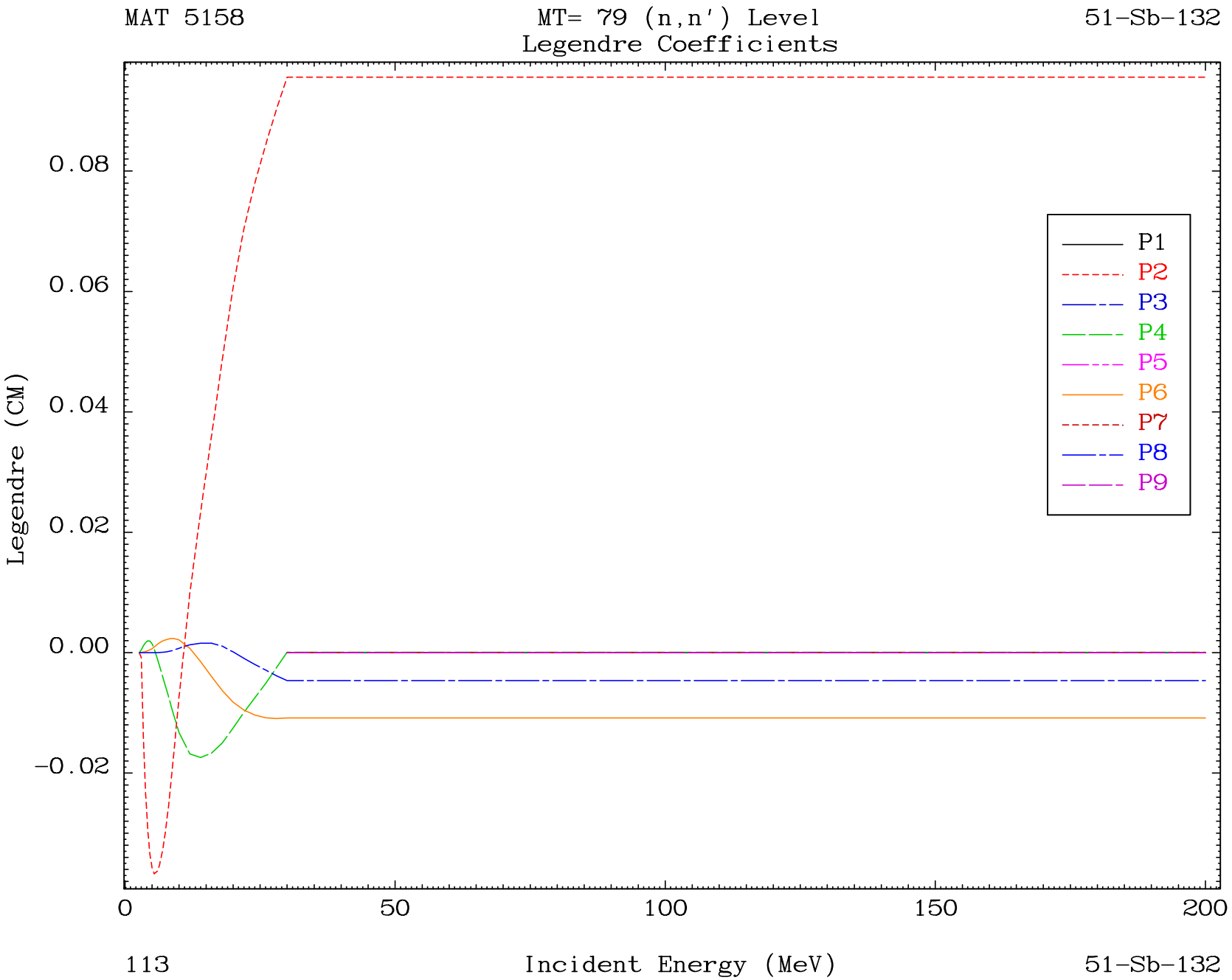

MAT 5158
MT= 77 (n,n') Level
Legendre Coefficients
51-Sb-132
X10-3
P19
P20
P21
P22
P23
P24
P25
P26
P27
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
108
Incident Energy (MeV)
51-Sb-132

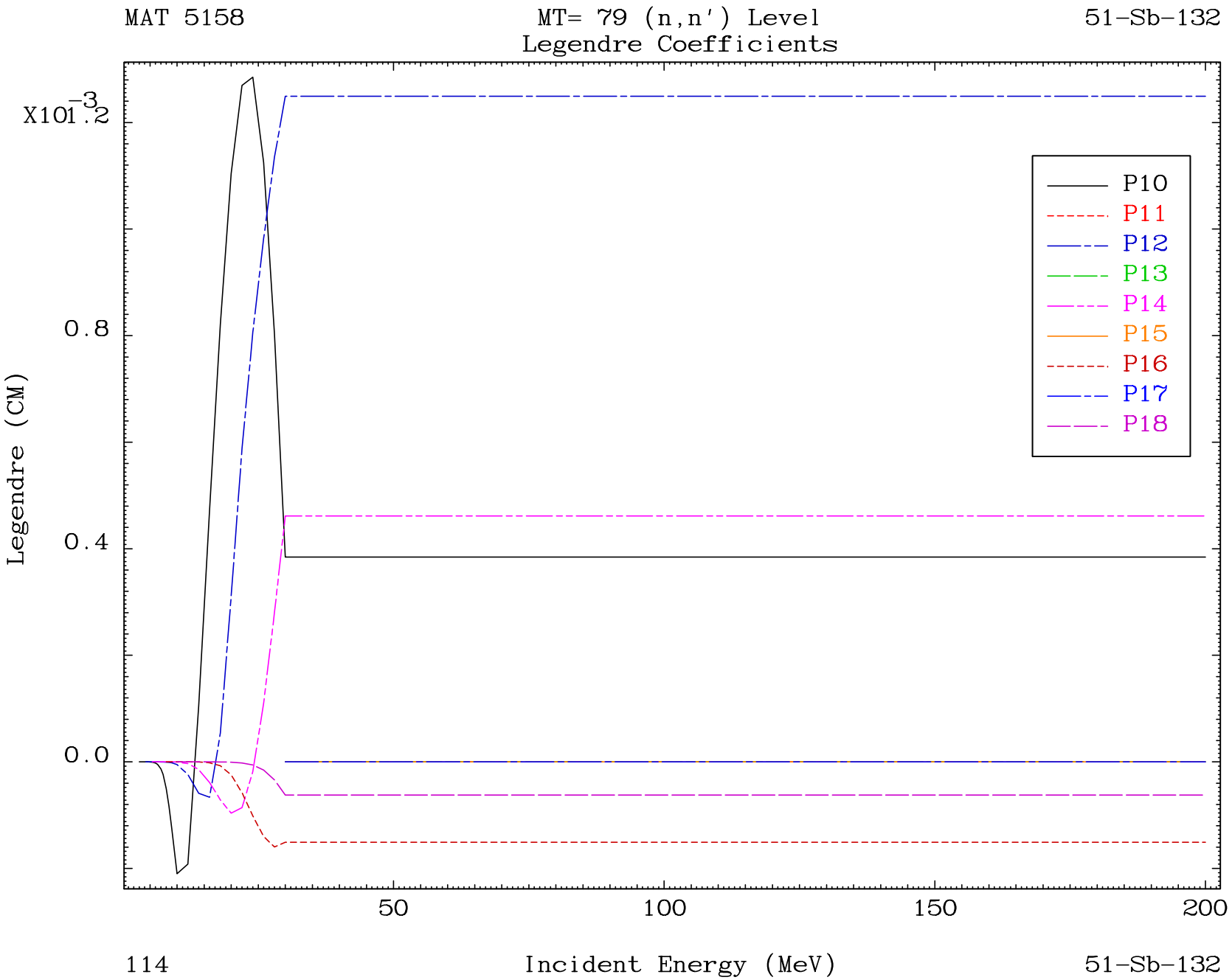

MAT 5158
MT= 77 (n,n') Level
Legendre Coefficients
51-Sb-132
1.5
X10 −6
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
50
100
150
200
109
Incident Energy (MeV)
51-Sb-132

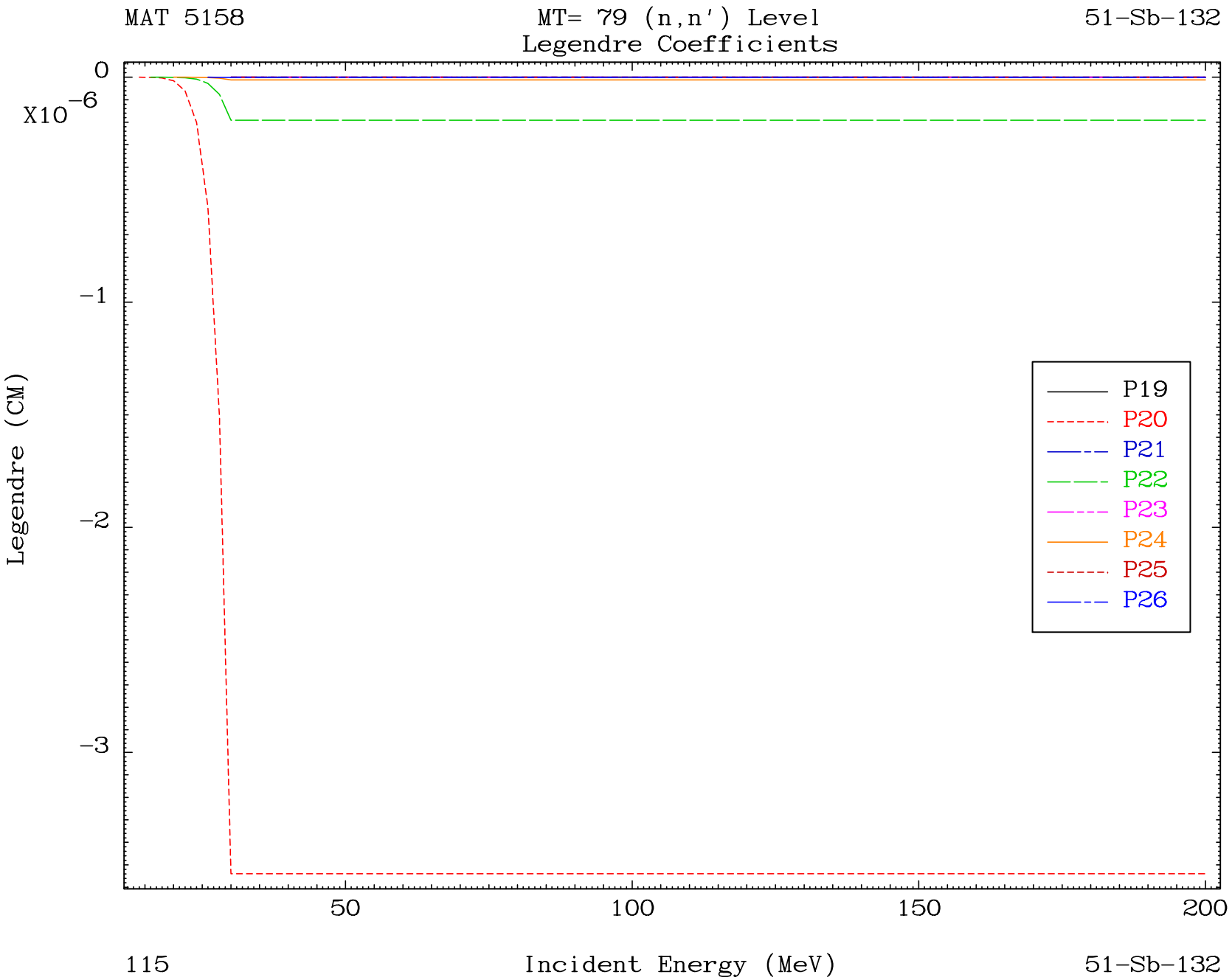

MAT 5158
MT= 78 (n,n') Level
Legendre Coefficients
51-Sb-132
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
0
50
100
150
200
110
Incident Energy (MeV)
51-Sb-132

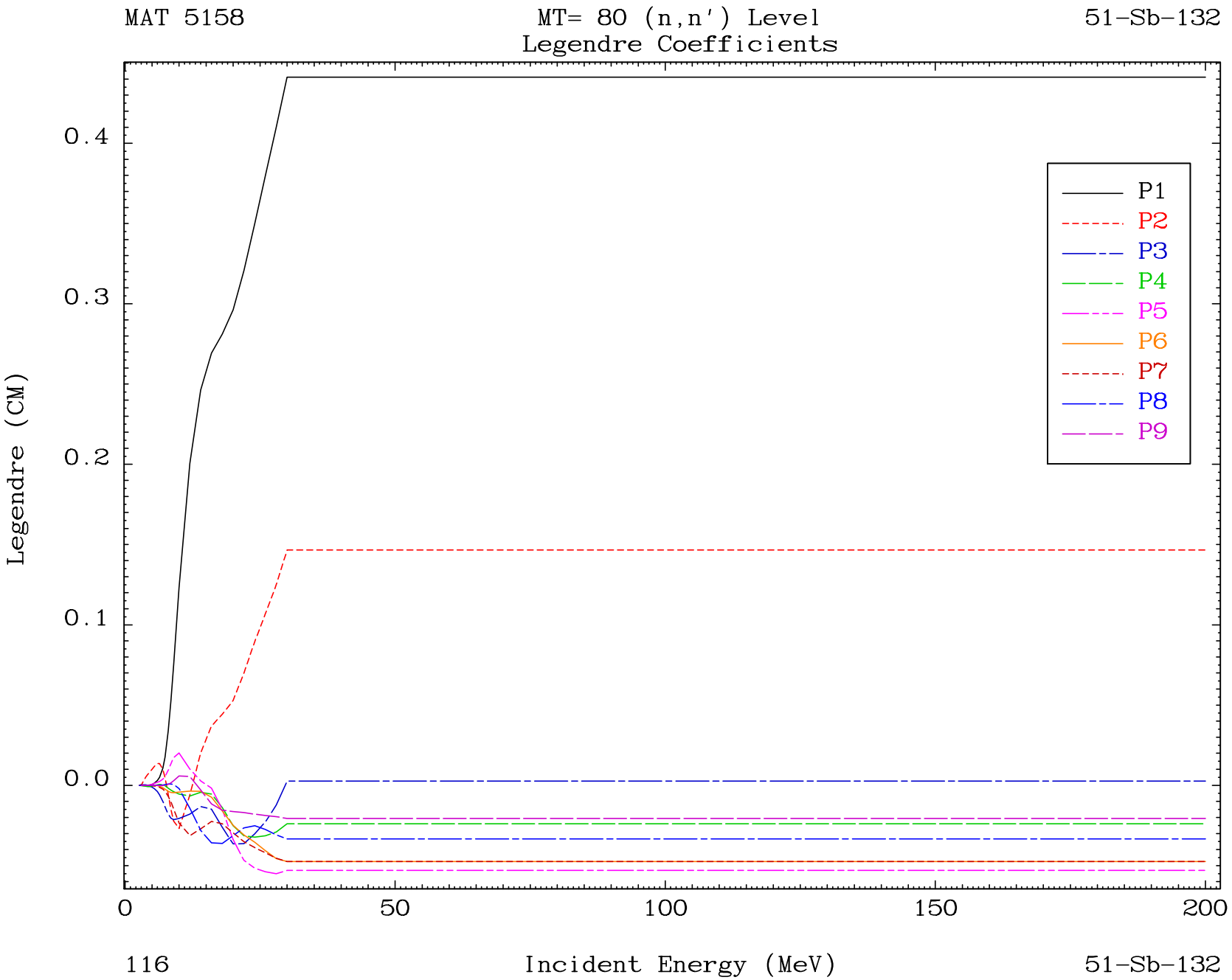

MAT 5158
MT= 78 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-4
5
4
3
2
1
0
Legendre (CM)
P9
P10
P11
P12
P13
P14
P15
P16
50
100
150
200
111
Incident Energy (MeV)
51-Sb-132

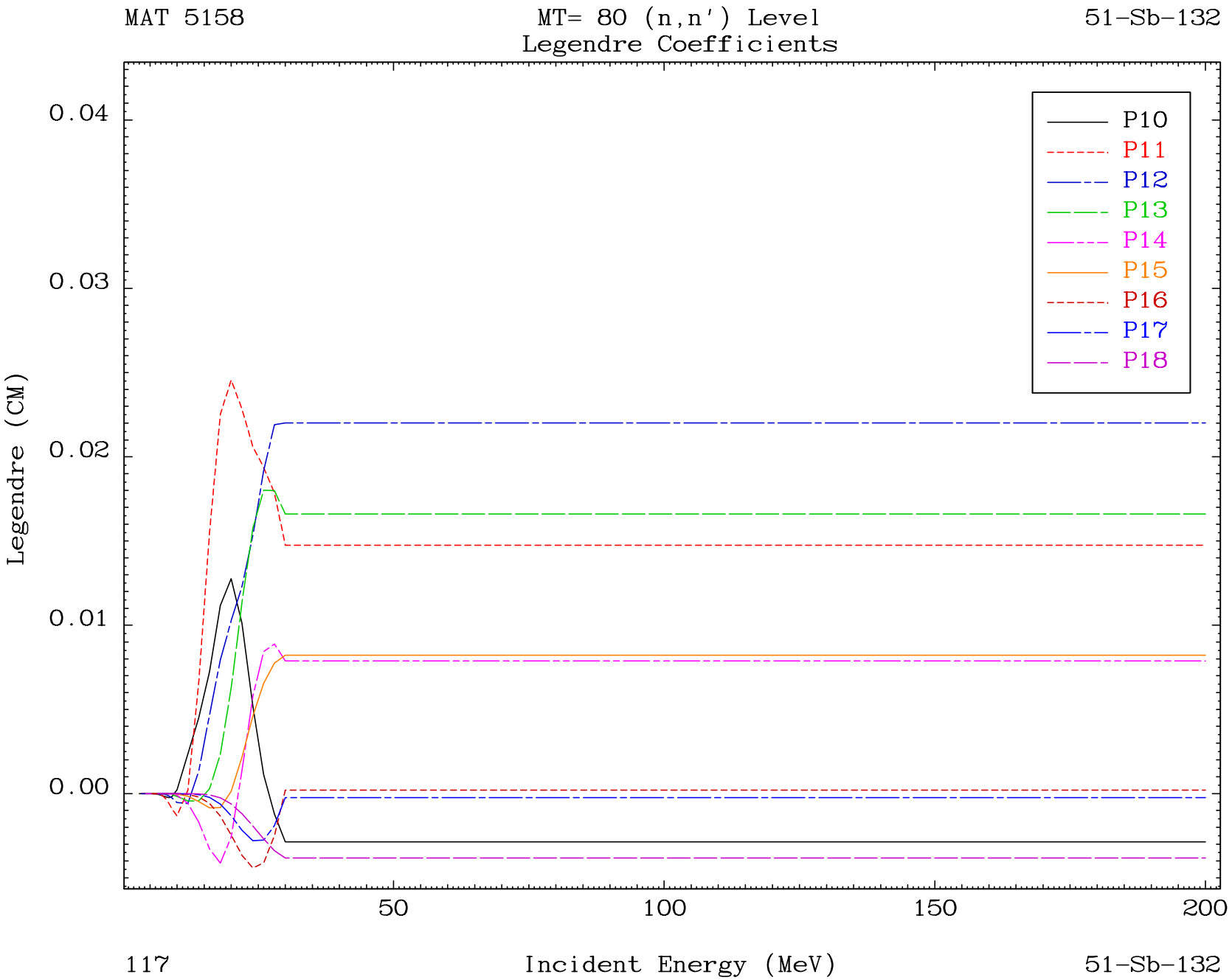

MAT 5158
MT= 78 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-6
8
6
4
2
0
Legendre (CM)
50
100
150
200
112
Incident Energy (MeV)
51-Sb-132
P17
P18
P19
P20
P21
P22
P23
P24

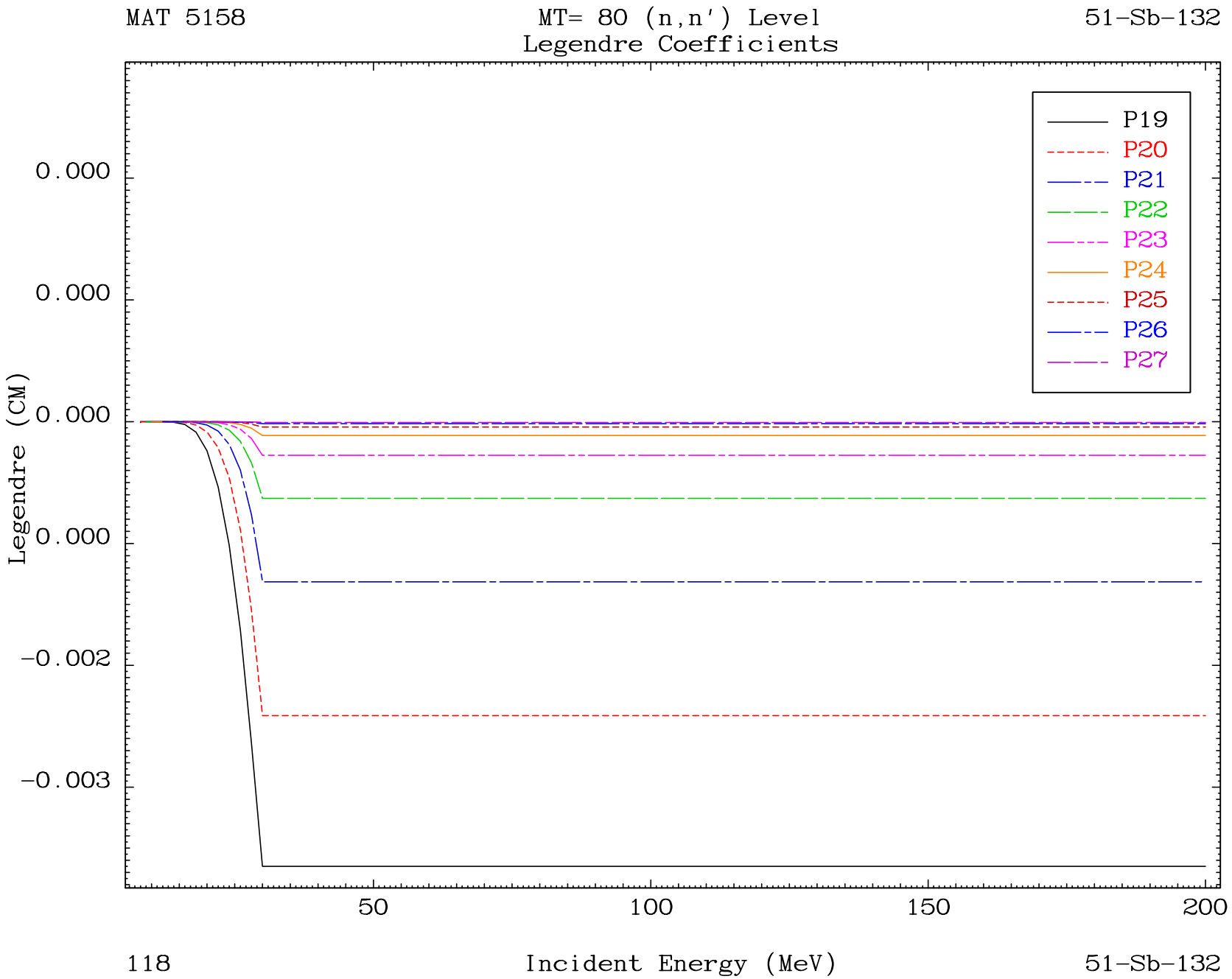

MAT 5158
MT= 79 (n,n') Level
Legendre Coefficients
51-Sb-132
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
113
Incident Energy (MeV)
51-Sb-132

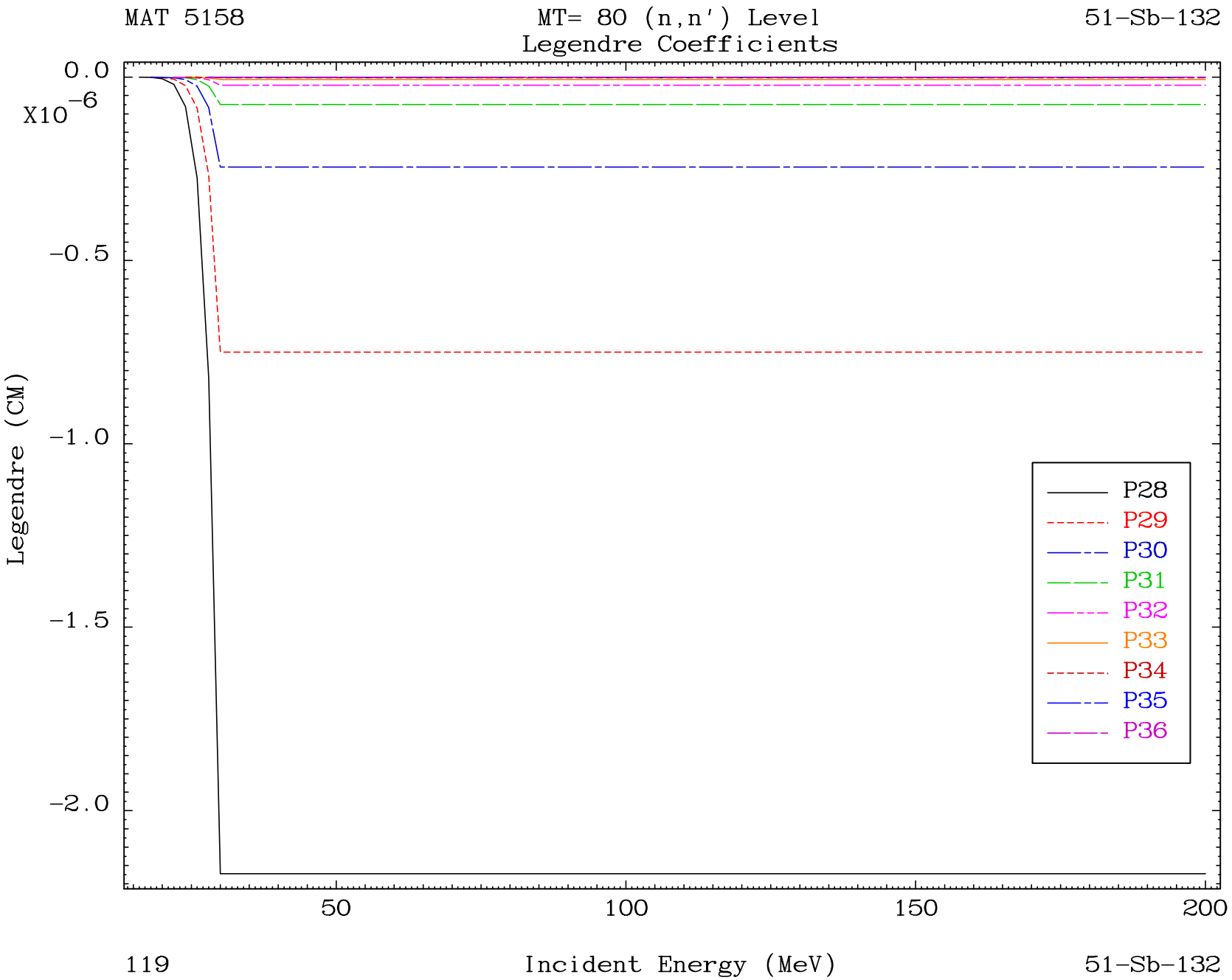

MAT 5158
MT= 79 (n,n') Level
Legendre Coefficients
51-Sb-132
X10^-3
1.2
0.8
0.4
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
114
Incident Energy (MeV)
51-Sb-132

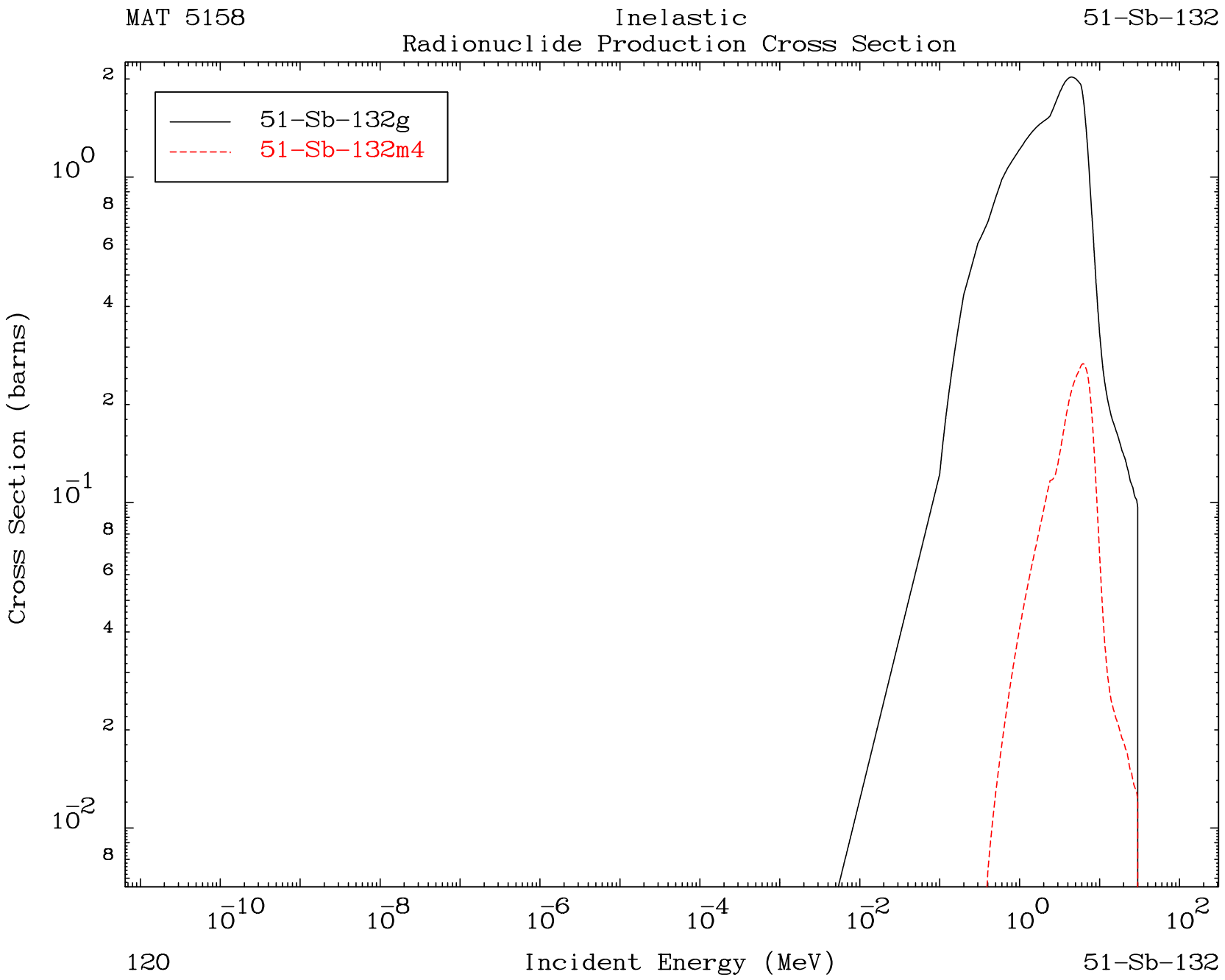

MAT 5158
MT= 79 (n,n') Level
Legendre Coefficients
51-Sb-132
0
X10−6
−1
−2
−3
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
115
Incident Energy (MeV)
51-Sb-132

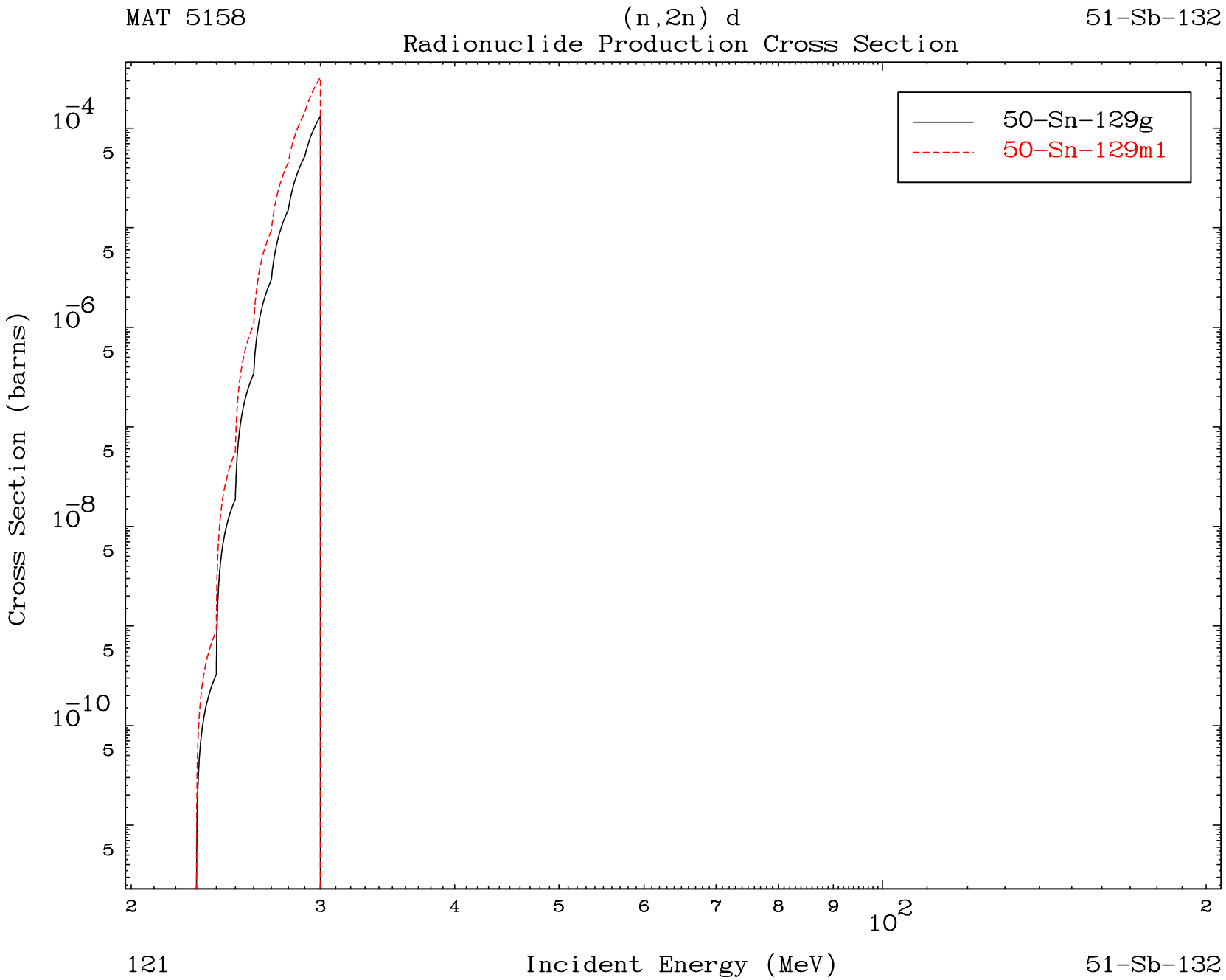

MAT 5158
MT= 80 (n,n') Level
Legendre Coefficients
51-Sb-132
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
116
Incident Energy (MeV)
51-Sb-132

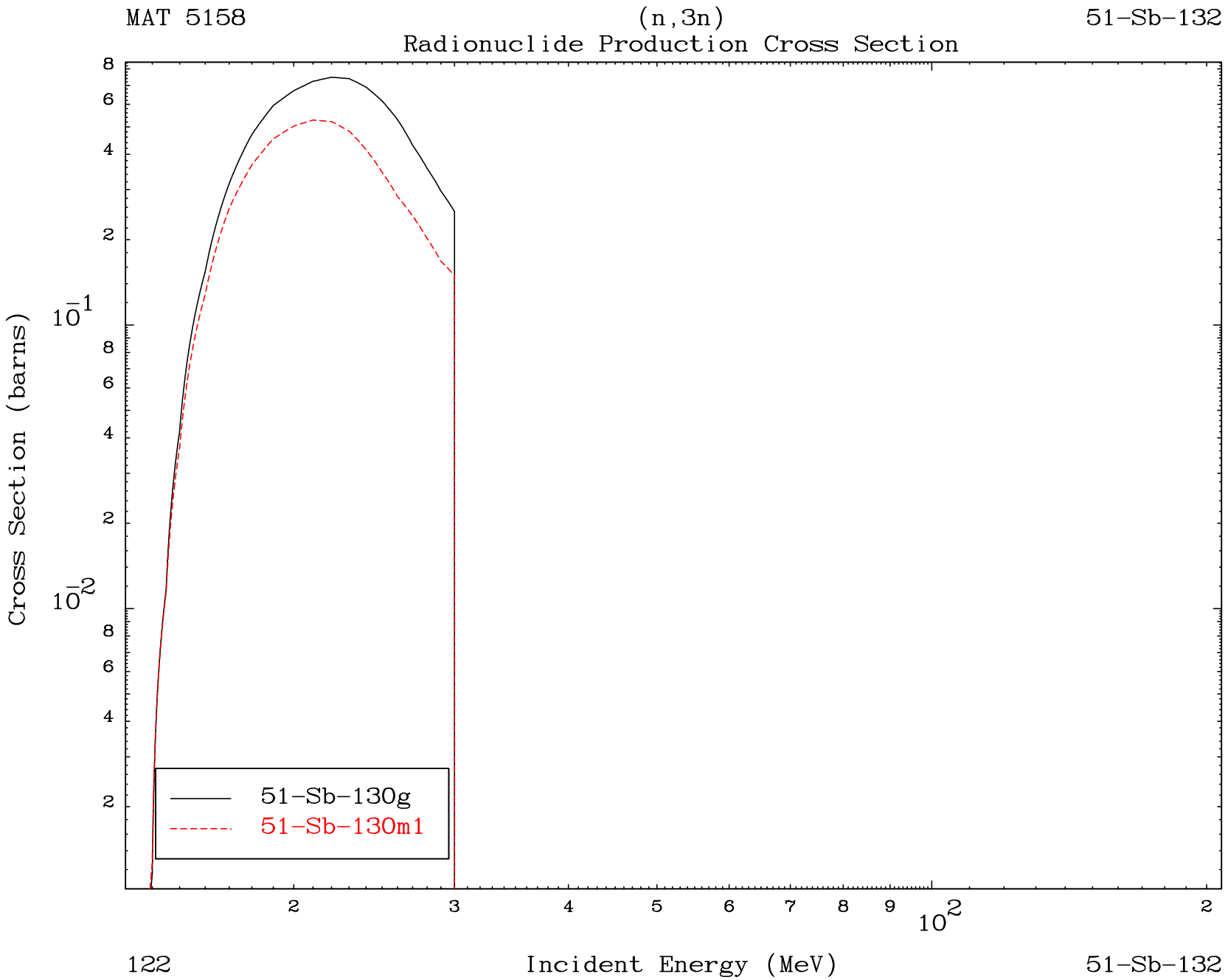

MAT 5158
MT= 80 (n,n') Level
Legendre Coefficients
51-Sb-132
0.04
0.03
0.02
0.01
0.00
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
50
100
150
200
117
Incident Energy (MeV)
51-Sb-132

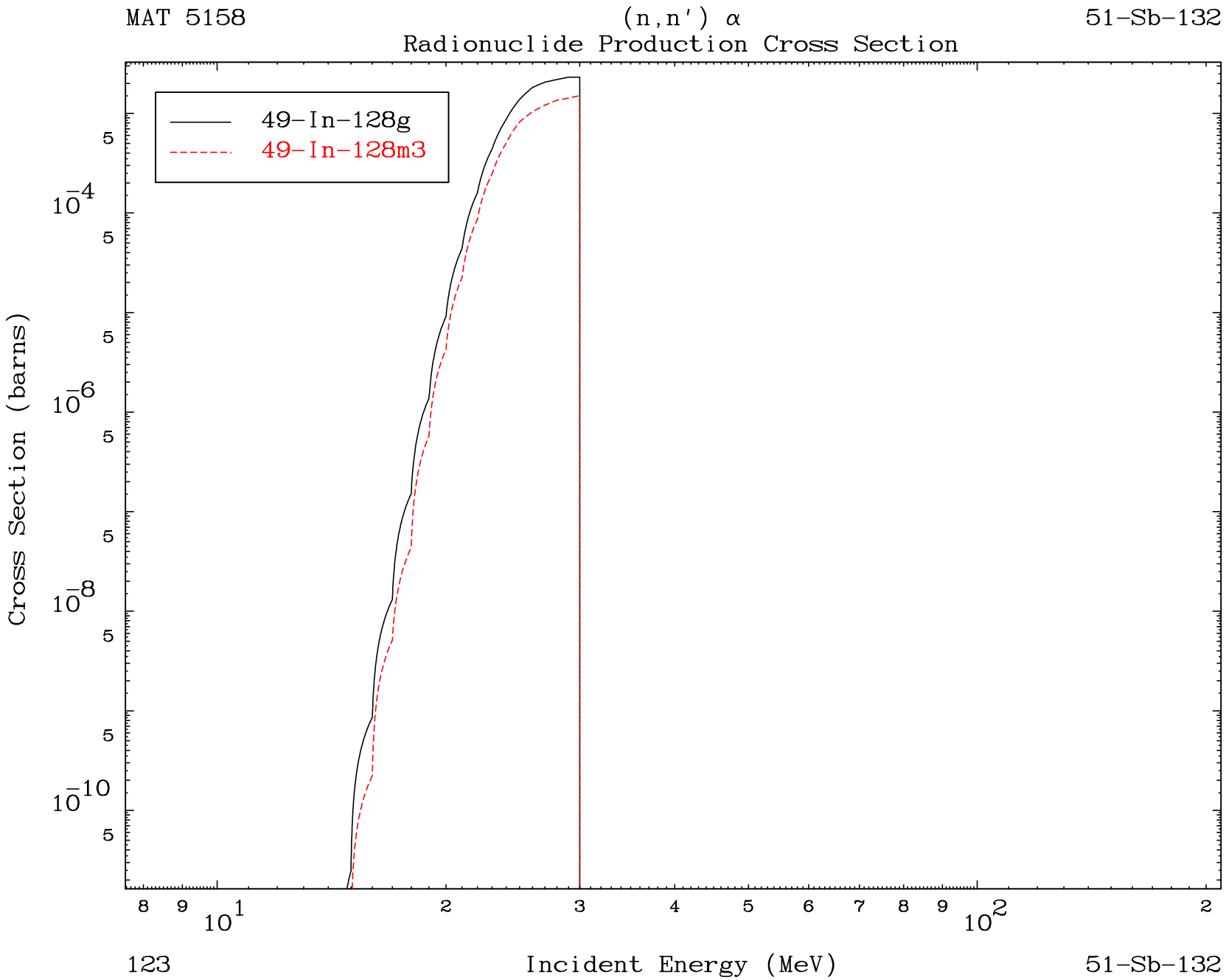

MAT 5158
MT= 80 (n,n') Level
Legendre Coefficients
51-Sb-132
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.000
0.000
0.000
0.000
-0.002
-0.003
Legendre (CM)
50
100
150
200
118
Incident Energy (MeV)
51-Sb-132

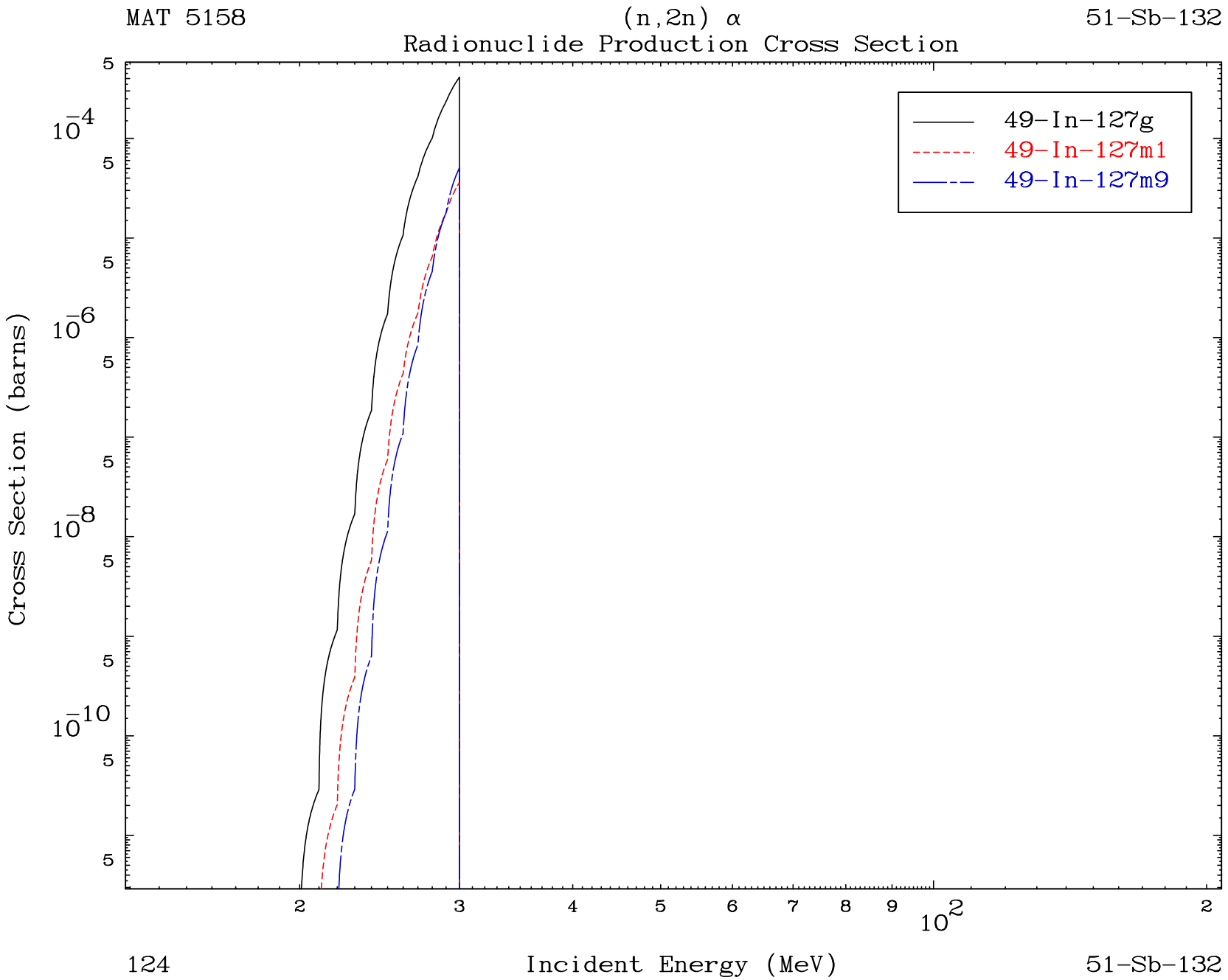

MAT 5158
MT= 80 (n,n') Level
Legendre Coefficients
51-Sb-132
0.0
X10−6
−0.5
−1.0
−1.5
−2.0
Legendre (CM)
50
100
150
200
119
Incident Energy (MeV)
51-Sb-132
P28
P29
P30
P31
P32
P33
P34
P35
P36

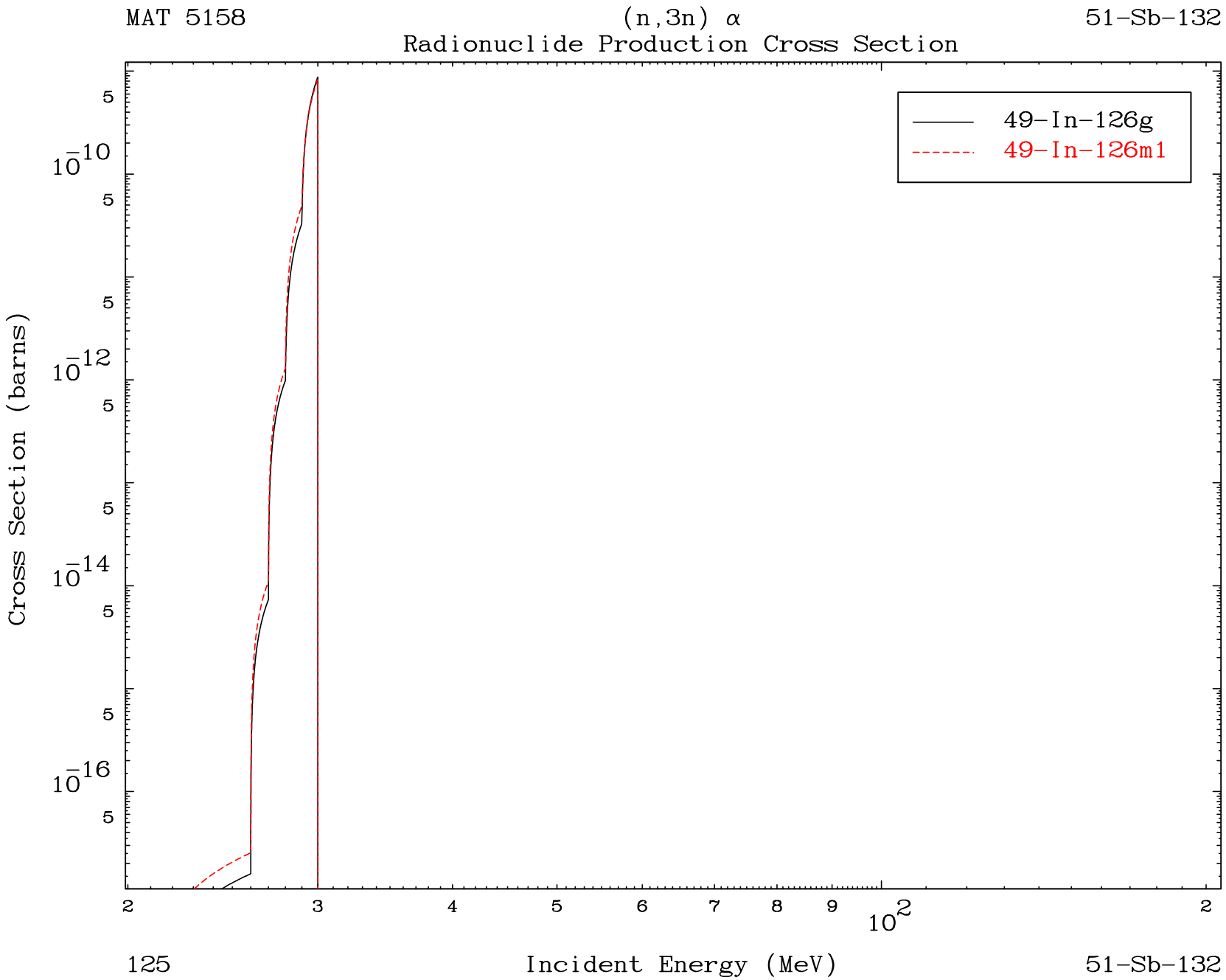

MAT 5158
Inelastic
51-Sb-132
Radionuclide Production Cross Section
51-Sb-132g
51-Sb-132m4
Cross Section (barns)
Incident Energy (MeV)
120
51-Sb-132

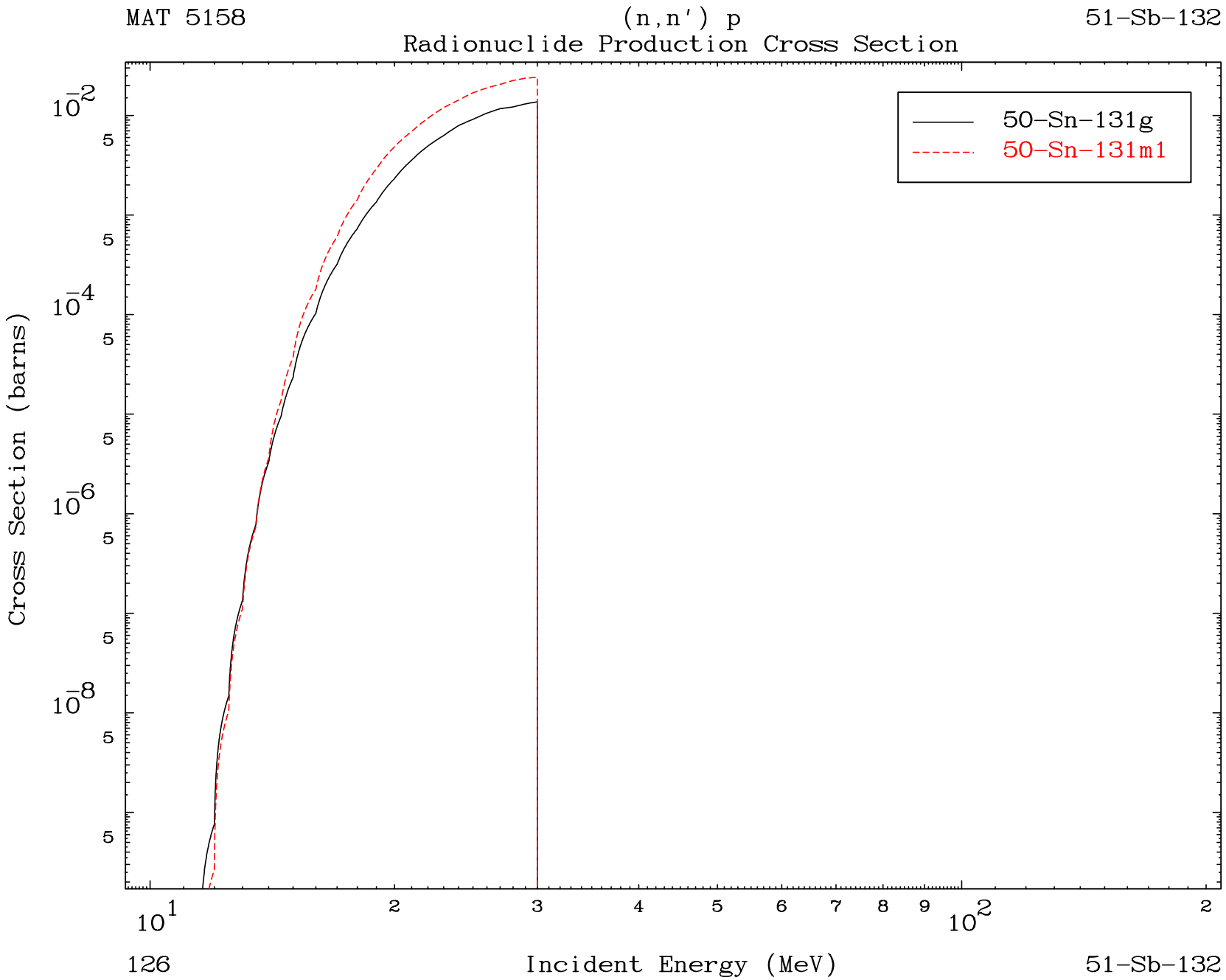

MAT 5158
(n,2n) d
51-Sb-132
Radionuclide Production Cross Section
50-Sn-129g
50-Sn-129m1
Cross Section (barns)
10-4
10-6
10-8
10-10
5
2
3
4
5
6
7
8
9
10 2
2
121
Incident Energy (MeV)
51-Sb-132

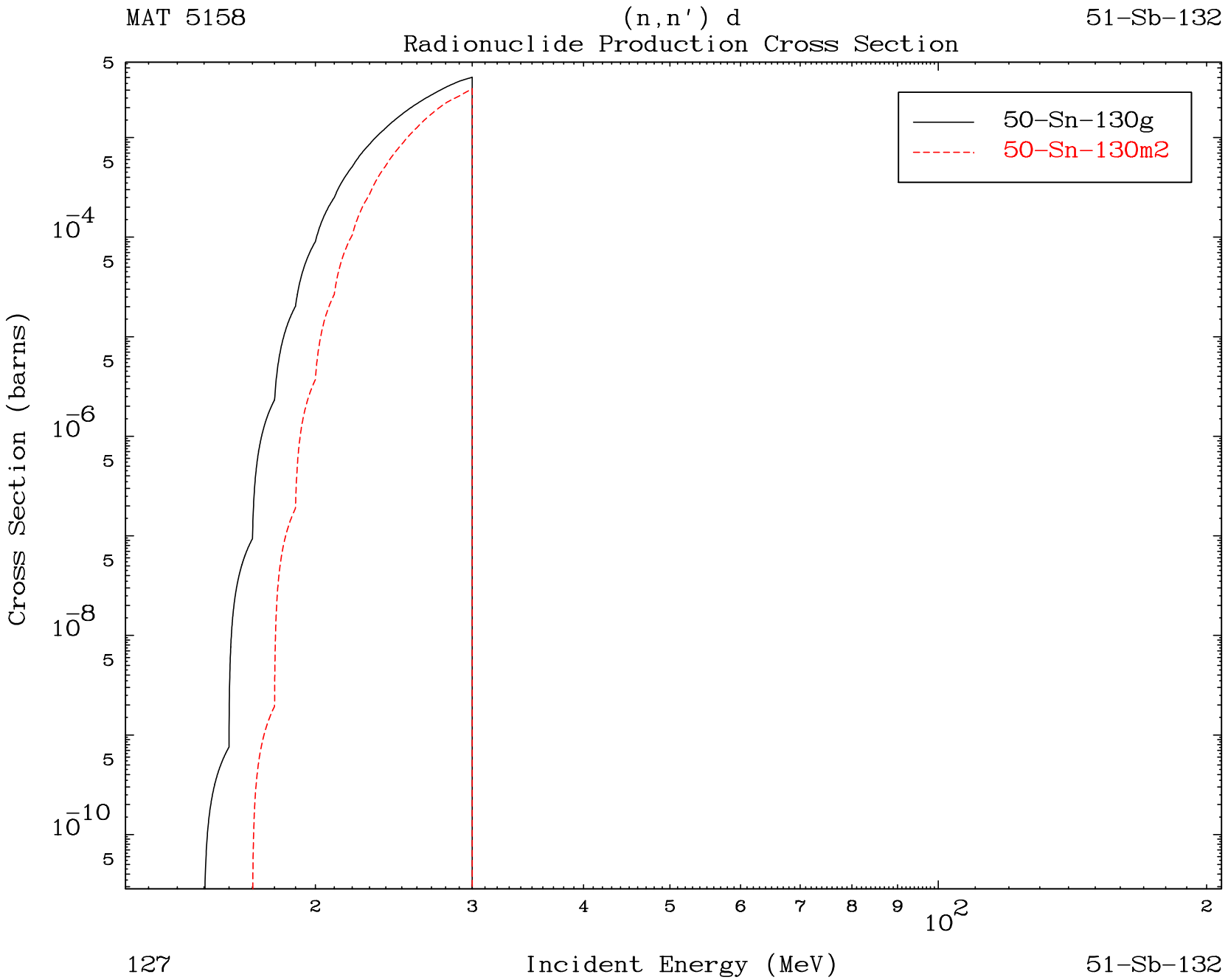

MAT 5158
(n,3n)
51-Sb-132
Radionuclide Production Cross Section
Cross Section (barns)
10-1
10-2
8
6
4
2
8
6
4
2
8
6
4
2
2
3
4
5
6
7
8
9
10 2
2
51-Sb-130g
51-Sb-130m1
122
Incident Energy (MeV)
51-Sb-132

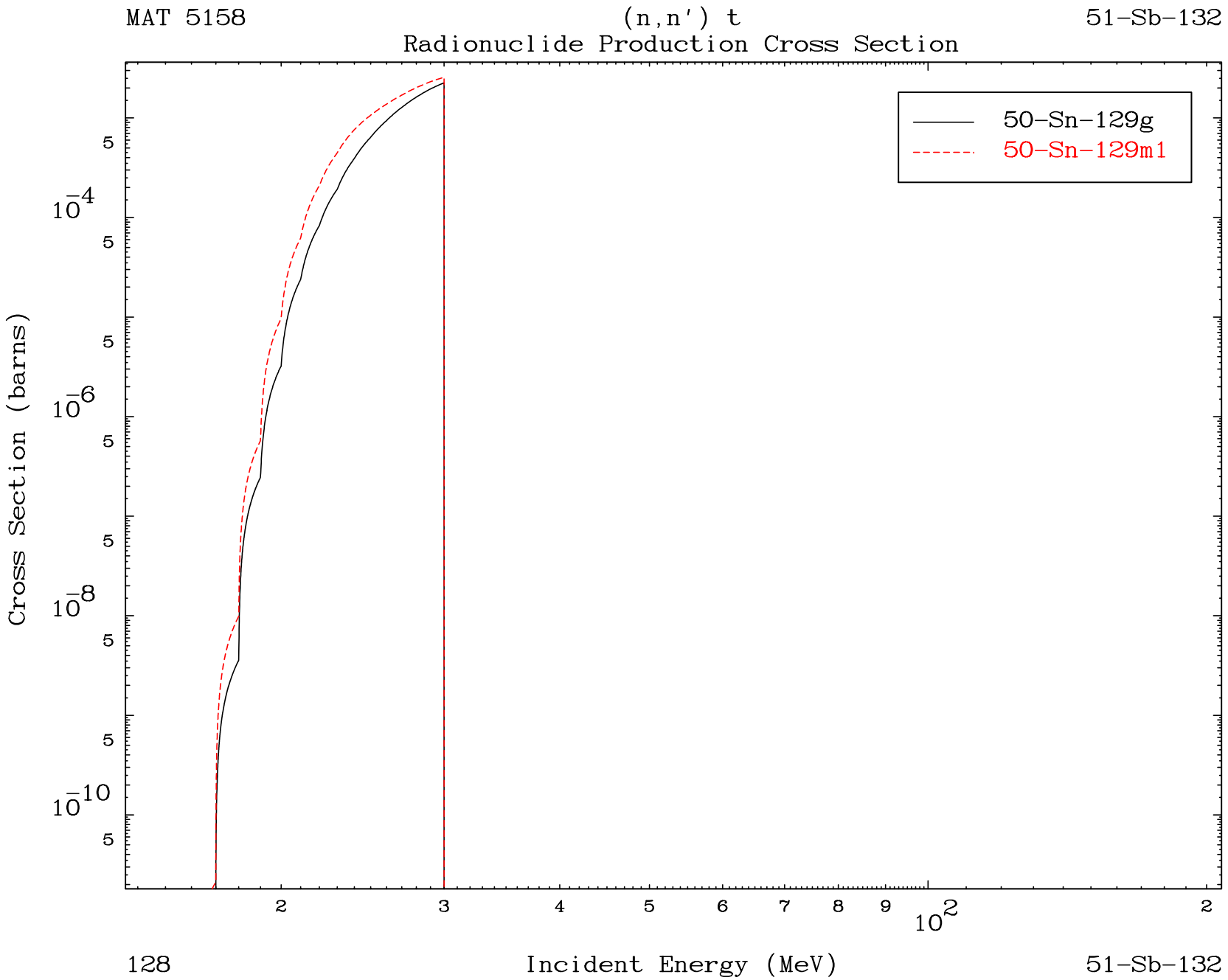

MAT 5158
(n,n') α
51-Sb-132
Radionuclide Production Cross Section
49-In-128g
49-In-128m3
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
123
Incident Energy (MeV)
51-Sb-132

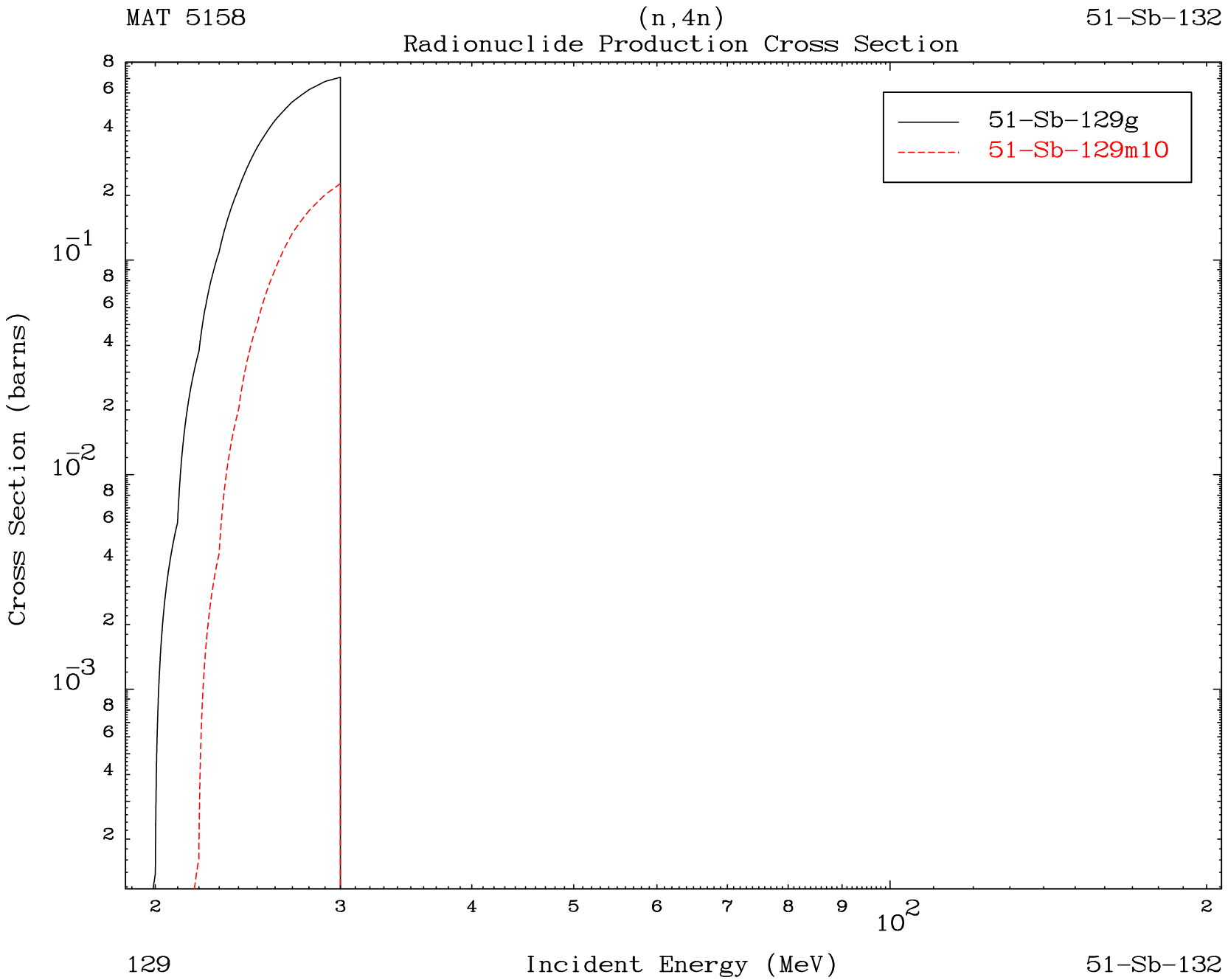

MAT 5158
(n,2n) α
51-Sb-132
Radionuclide Production Cross Section
49-In-127g
49-In-127m1
49-In-127m9
Cross Section (barns)
10-4
10-6
10-8
10-10
2
3
4
5
6
7
8
9
10 2
2
124
Incident Energy (MeV)
51-Sb-132

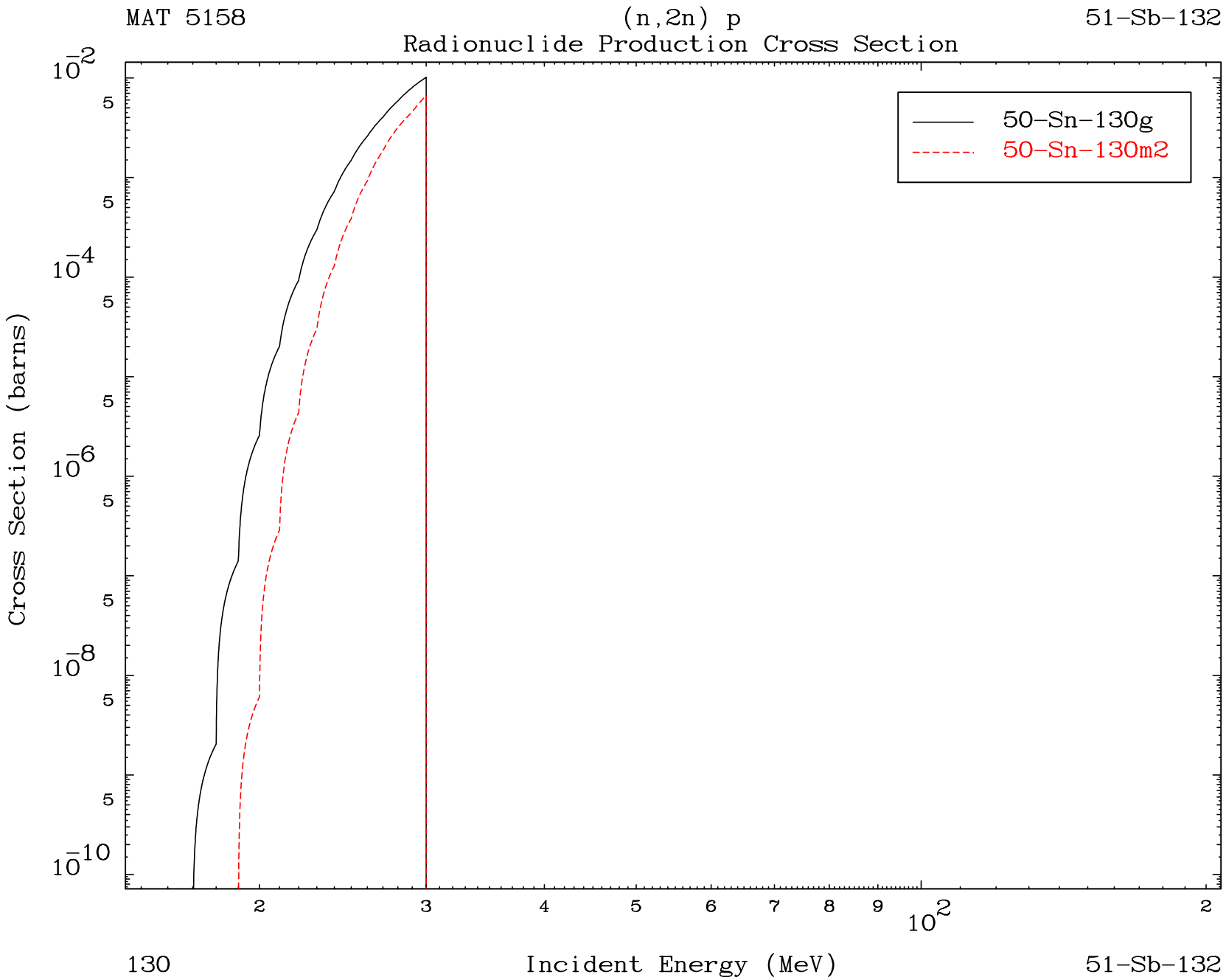

MAT 5158
(n,3n) α
51-Sb-132
Radionuclide Production Cross Section
49-In-126g
49-In-126m1
Cross Section (barns)
10-10
10-12
10-14
10-16
2
3
4
5
6
7
8
9
10 2
2
125
Incident Energy (MeV)
51-Sb-132

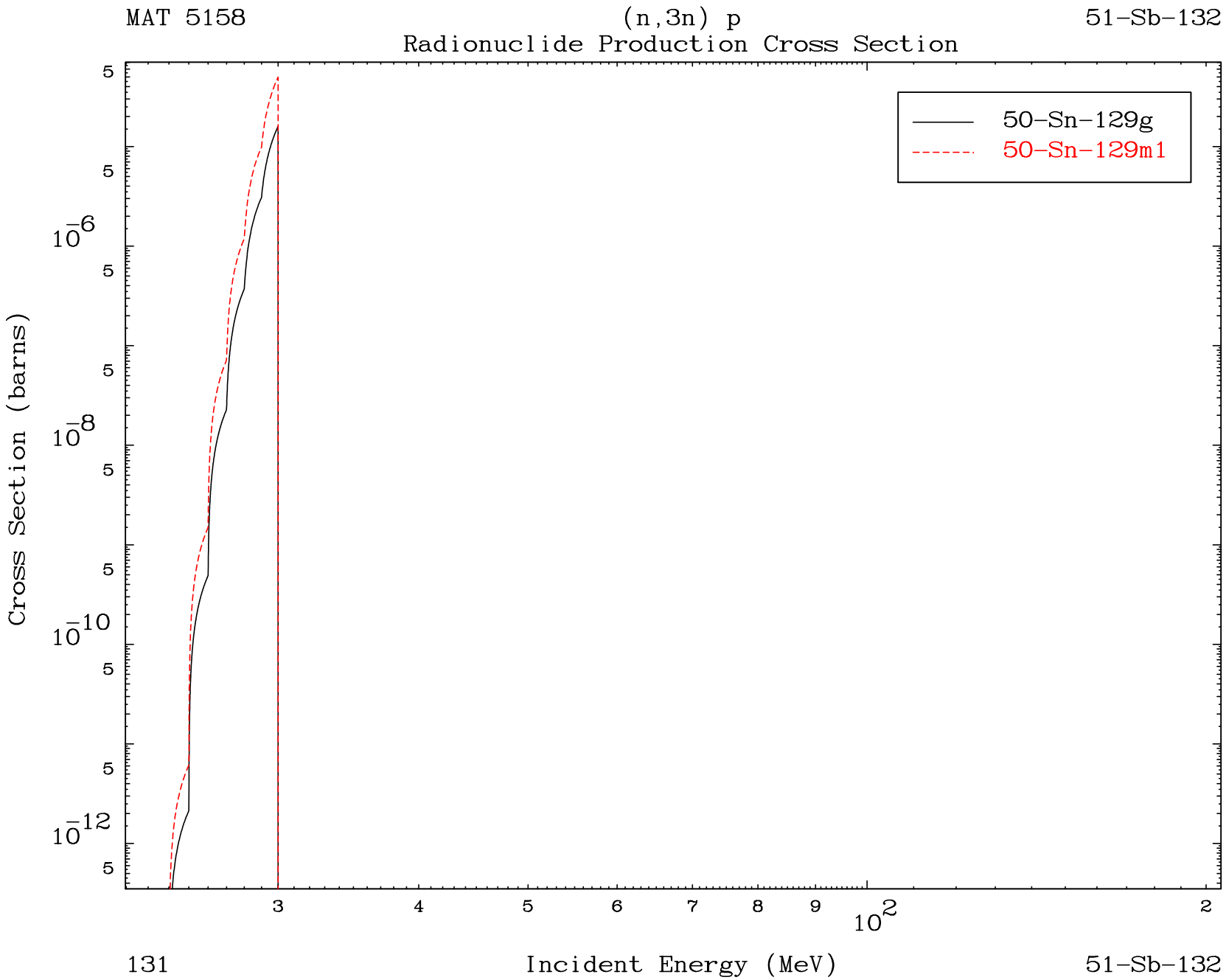

MAT 5158
(n,n') p
51-Sb-132
Radionuclide Production Cross Section
50-Sn-131g
50-Sn-131m1
Cross Section (barns)
Incident Energy (MeV)
126
51-Sb-132

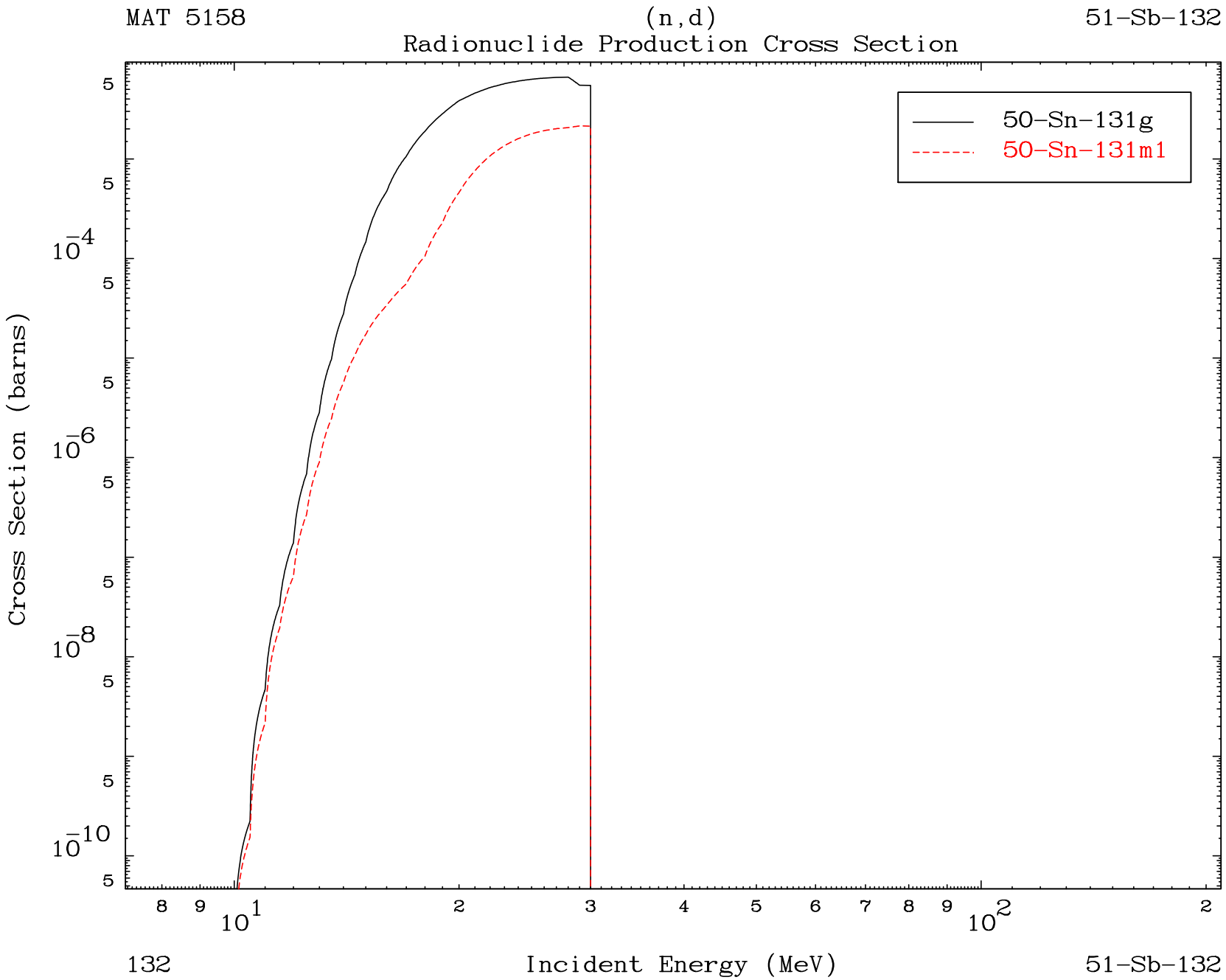

MAT 5158
(n,n') d
51-Sb-132
Radionuclide Production Cross Section
50-Sn-130g
50-Sn-130m2
Cross Section (barns)
10-4
10-6
10-8
10-10
5
2
3
4
5
6
7
8
9
10 2
2
127
Incident Energy (MeV)
51-Sb-132

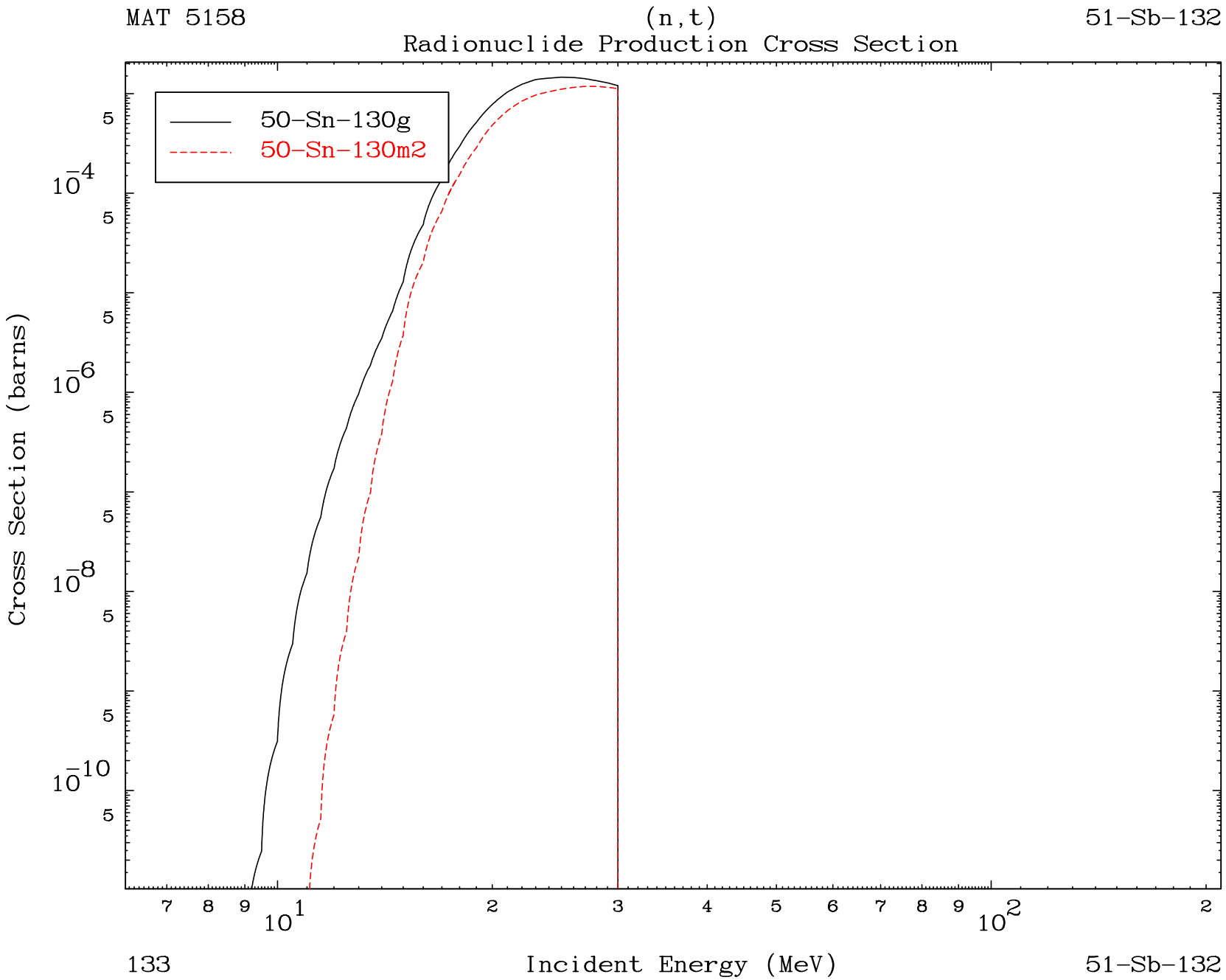

MAT 5158
(n,n') t
51-Sb-132
Radionuclide Production Cross Section
50-Sn-129g
50-Sn-129m1
Cross Section (barns)
10-4
10-6
10-8
10-10
2
3
4
5
6
7
8
9
10 2
2
128
Incident Energy (MeV)
51-Sb-132

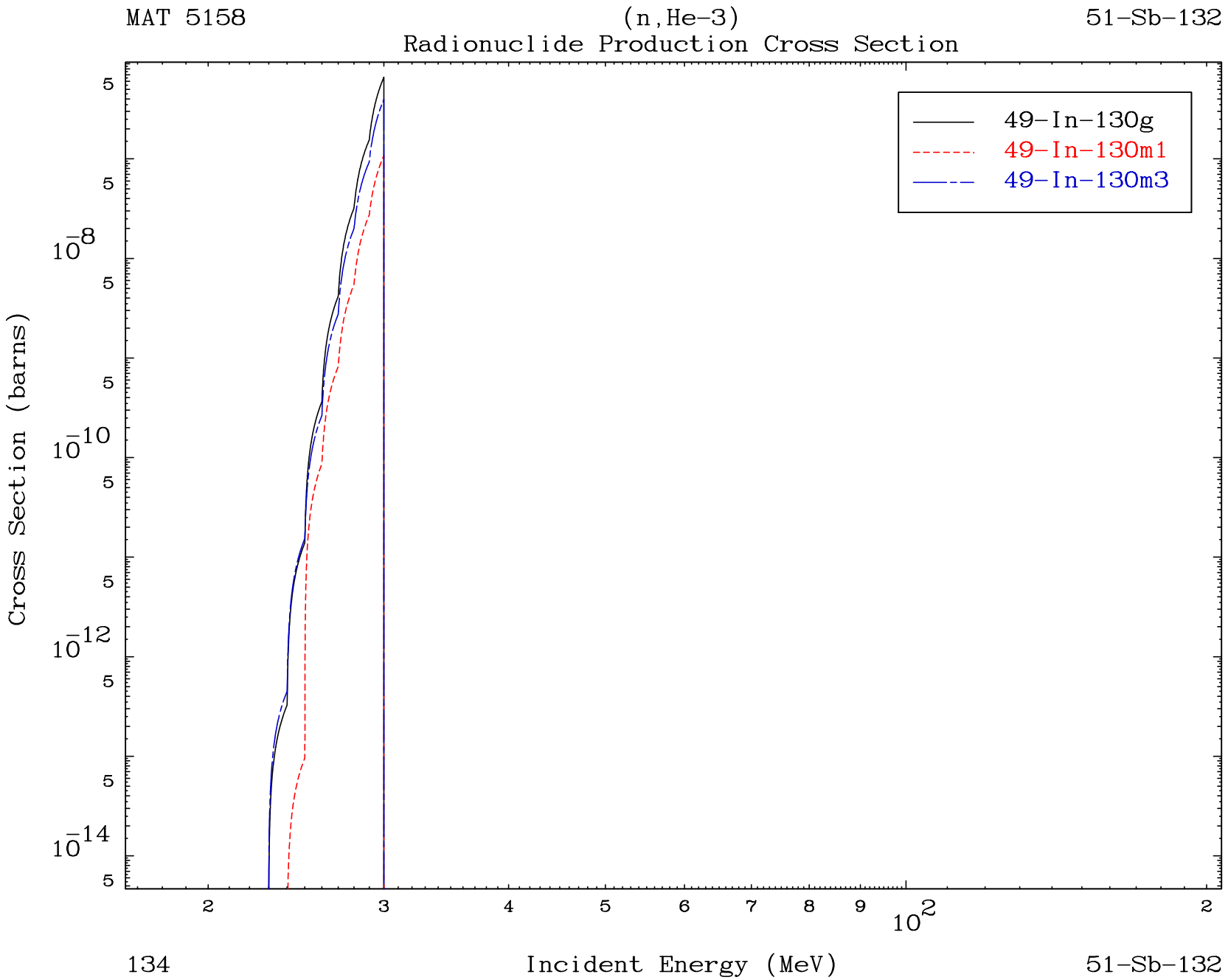

MAT 5158
(n,4n)
51-Sb-132
Radionuclide Production Cross Section
51-Sb-129g
51-Sb-129m10
Cross Section (barns)
Incident Energy (MeV)
129
51-Sb-132

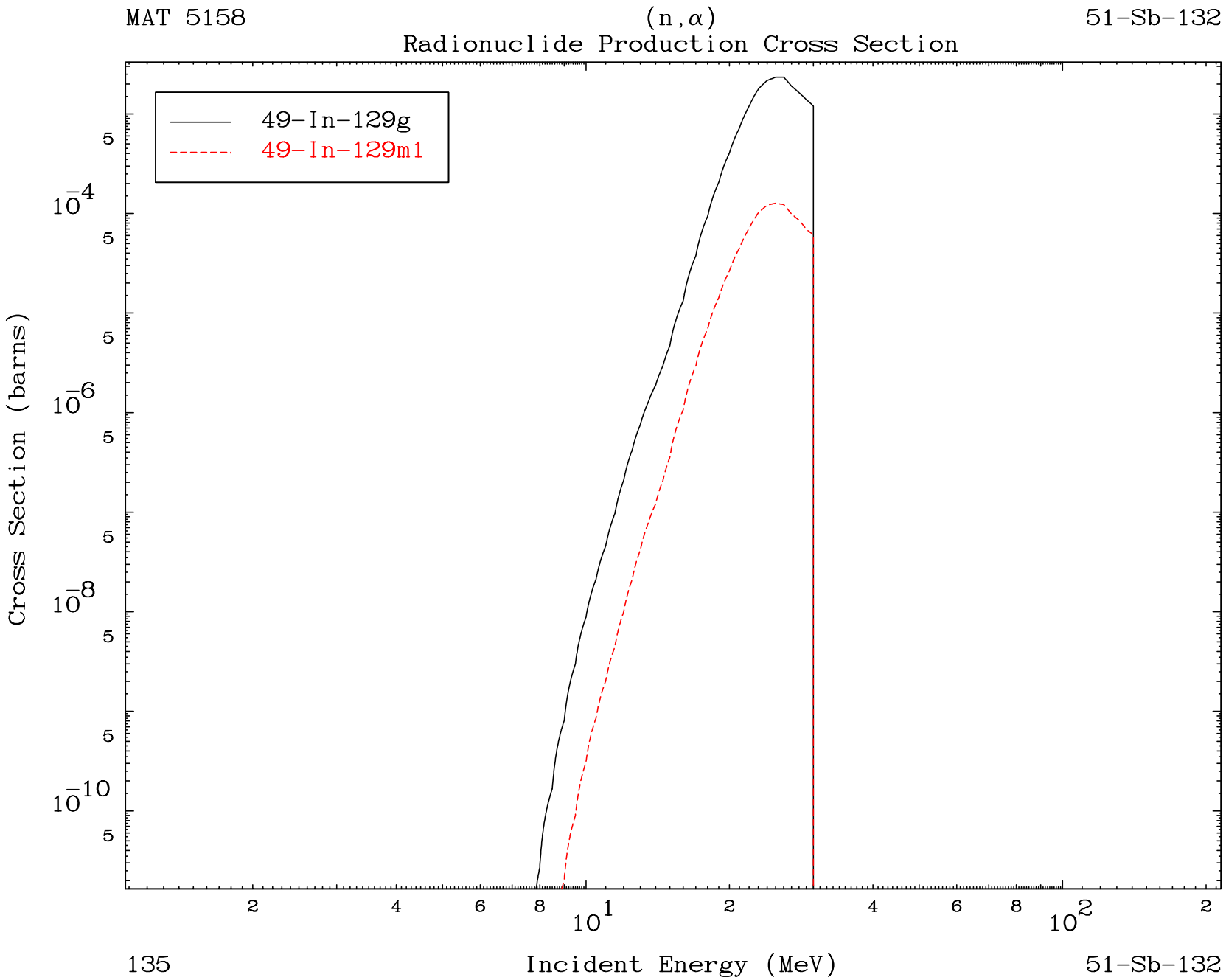

MAT 5158
(n,2n) p
51-Sb-132
Radionuclide Production Cross Section
50-Sn-130g
50-Sn-130m2
Cross Section (barns)
Incident Energy (MeV)
130
51-Sb-132


MAT 5158
(n,3n) p
51-Sb-132
Radionuclide Production Cross Section
50-Sn-129g
50-Sn-129m1
Cross Section (barns)
Incident Energy (MeV)
131
51-Sb-132


MAT 5158
(n,d)
51-Sb-132
Radionuclide Production Cross Section
50-Sn-131g
50-Sn-131m1
Cross Section (barns)
Incident Energy (MeV)
132
51-Sb-132


MAT 5158
(n,t)
51-Sb-132
Radionuclide Production Cross Section
50-Sn-130g
50-Sn-130m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^1
10^2
Incident Energy (MeV)
133
51-Sb-132


MAT 5158
(n,He-3)
51-Sb-132
Radionuclide Production Cross Section
49-In-130g
49-In-130m1
49-In-130m3
Cross Section (barns)
Incident Energy (MeV)
134
51-Sb-132


MAT 5158
(n,α)
51-Sb-132
Radionuclide Production Cross Section
49-In-129g
49-In-129m1
Cross Section (barns)
10-4
10-6
10-8
10-10
2
4
6
8
101
2
4
6
8
102
2
135
Incident Energy (MeV)
51-Sb-132