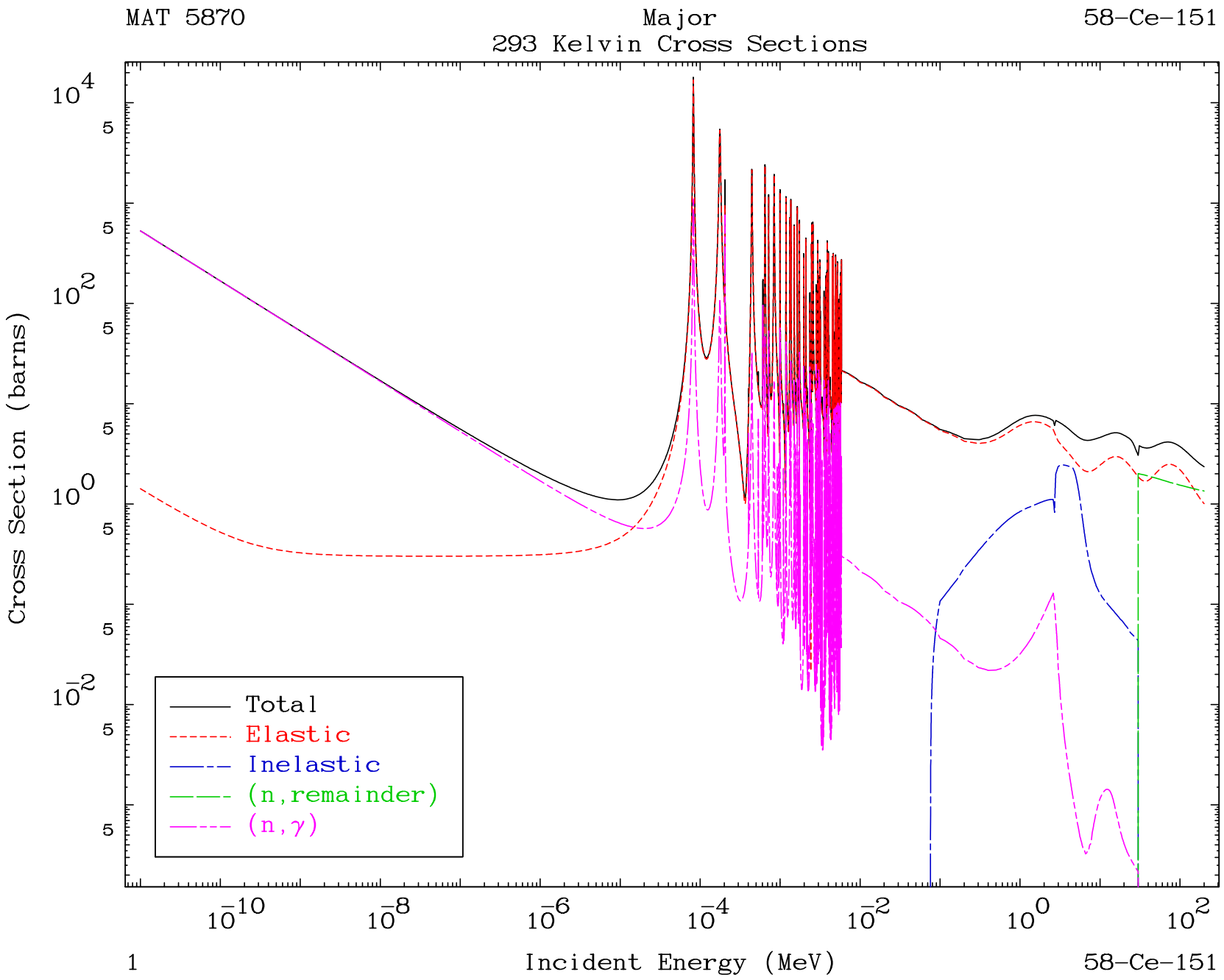
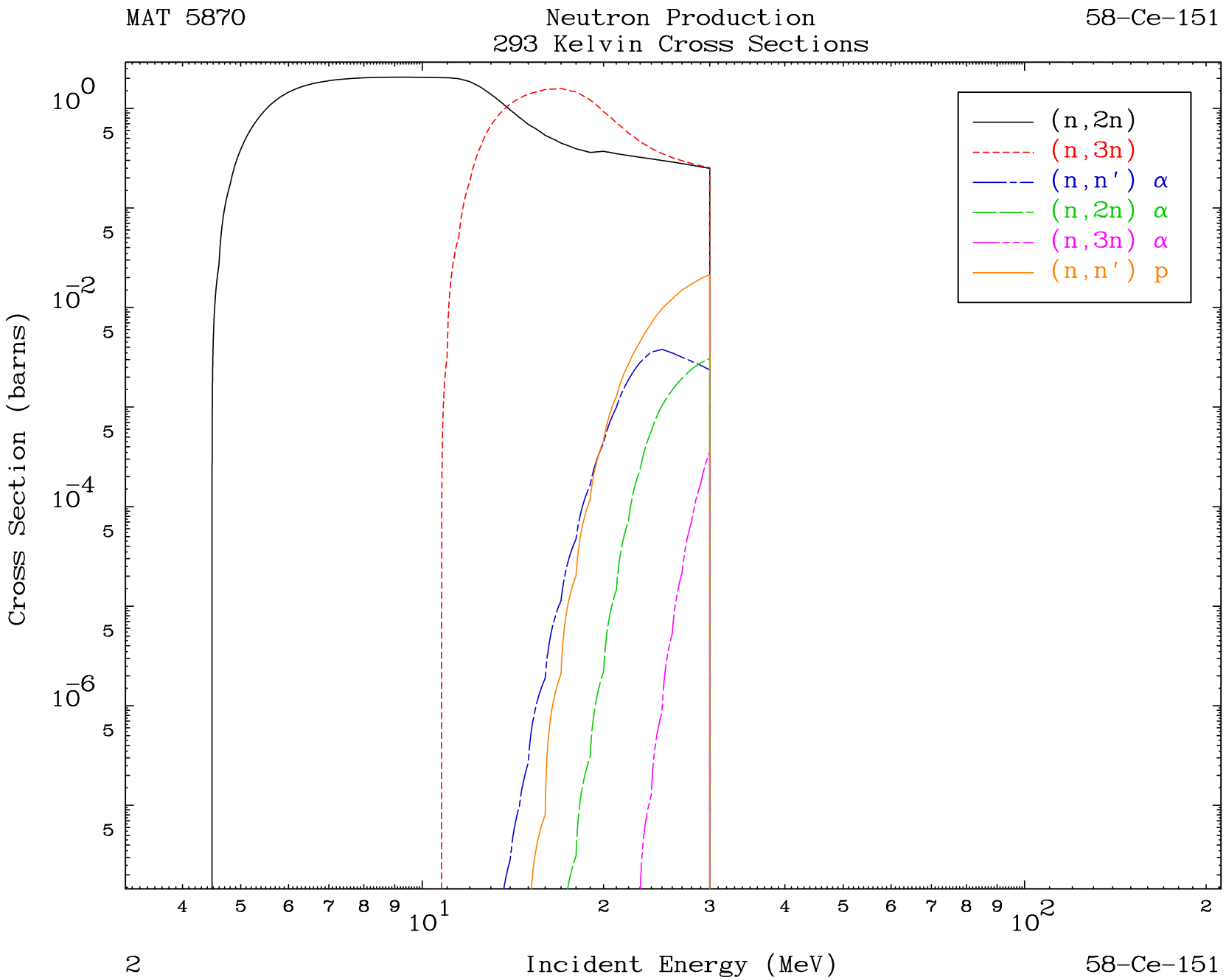
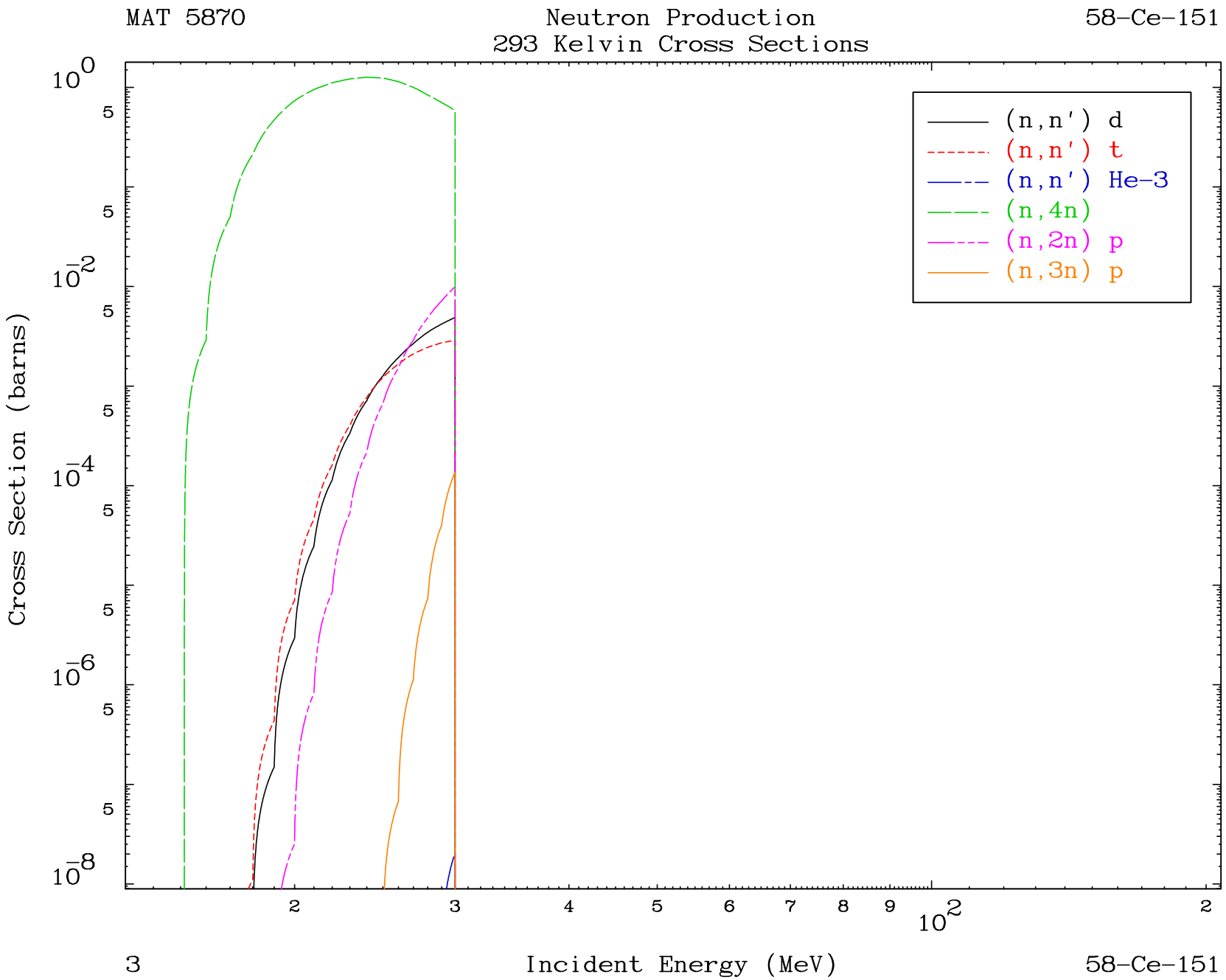
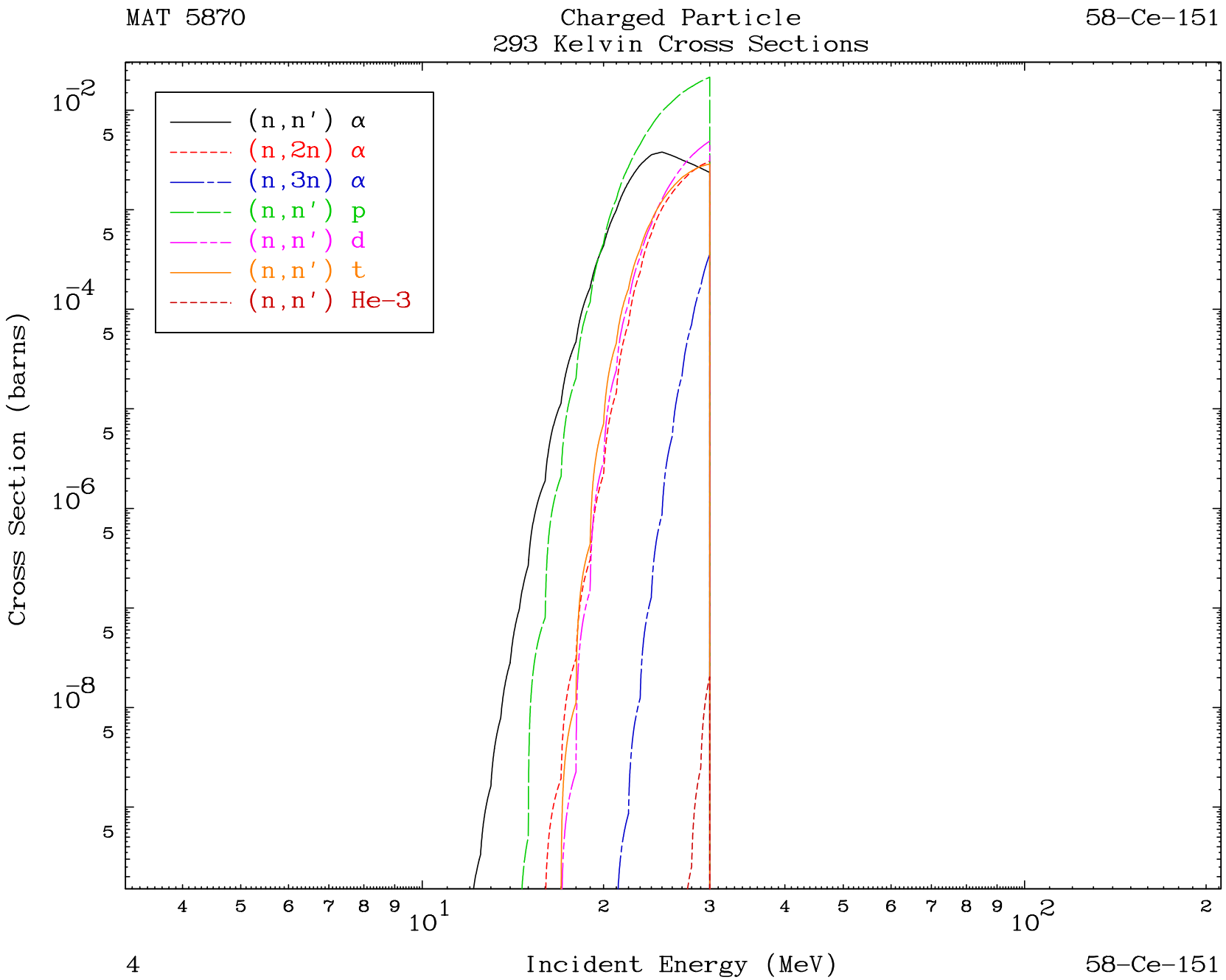
Program EVALPLOT
(Version 2017-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

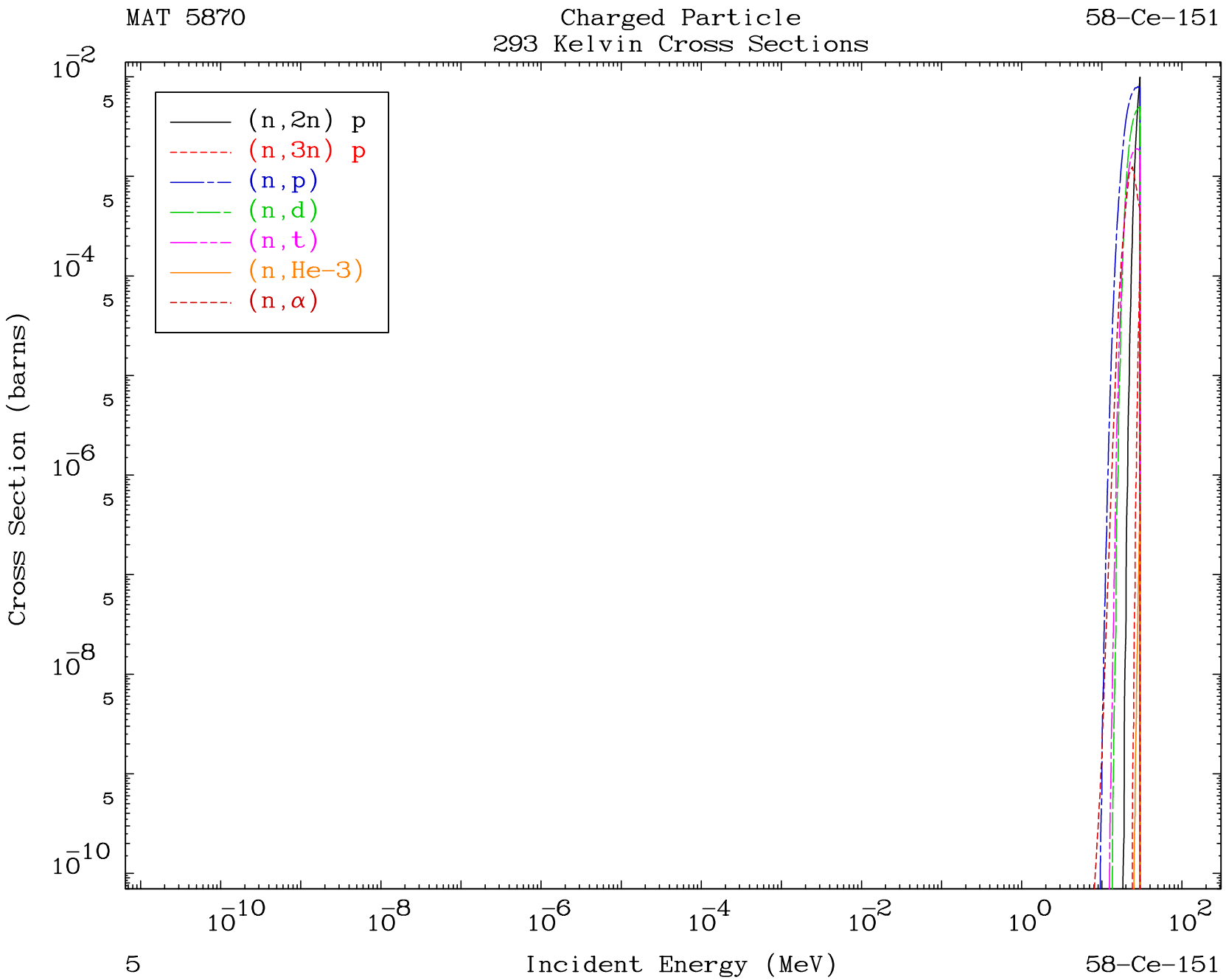
Press Mouse Button to Start

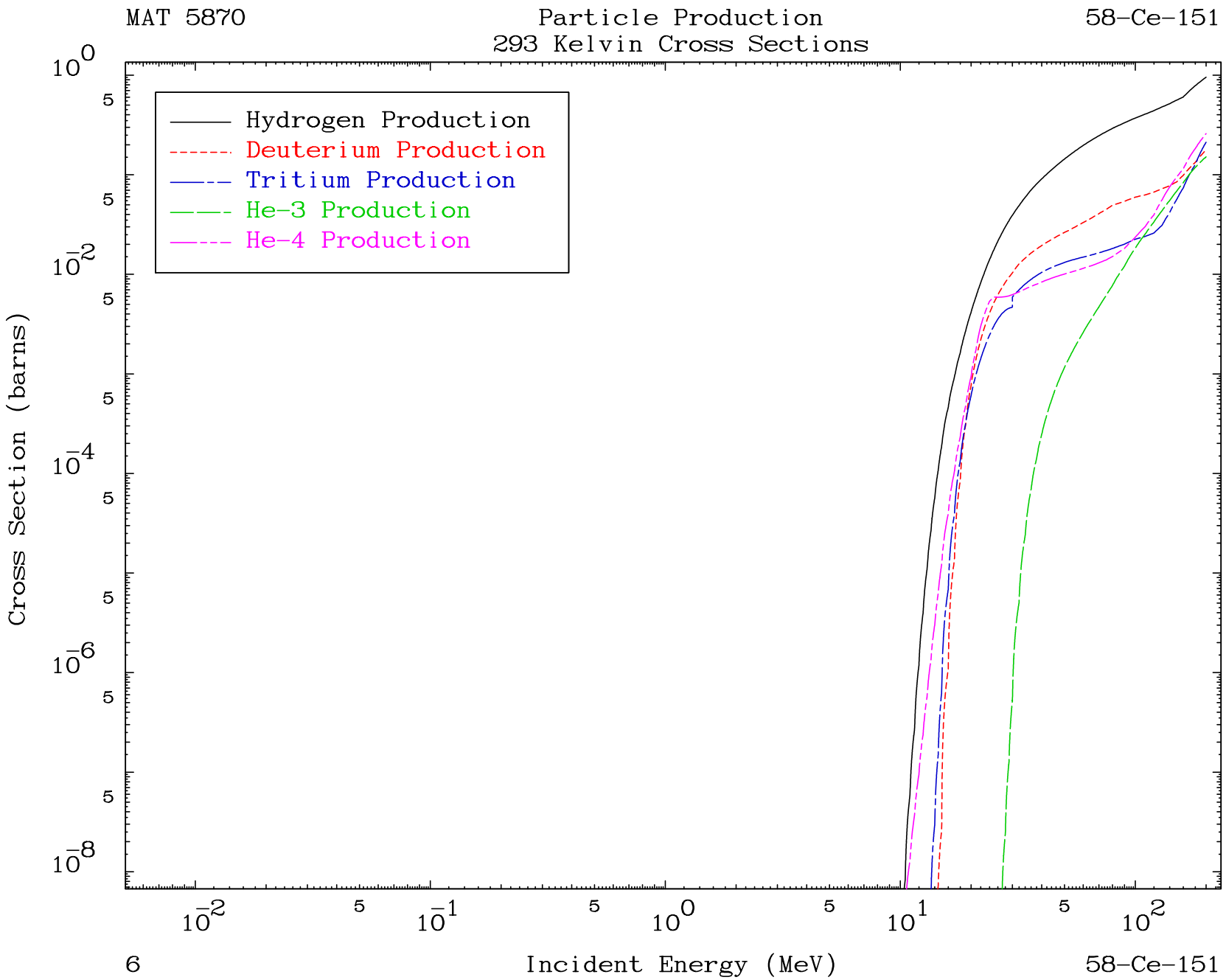

MAT 5870
Major
58-Ce-151
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
58-Ce-151
1
Total
Elastic
Inelastic
(n,remainder)
(n,γ)

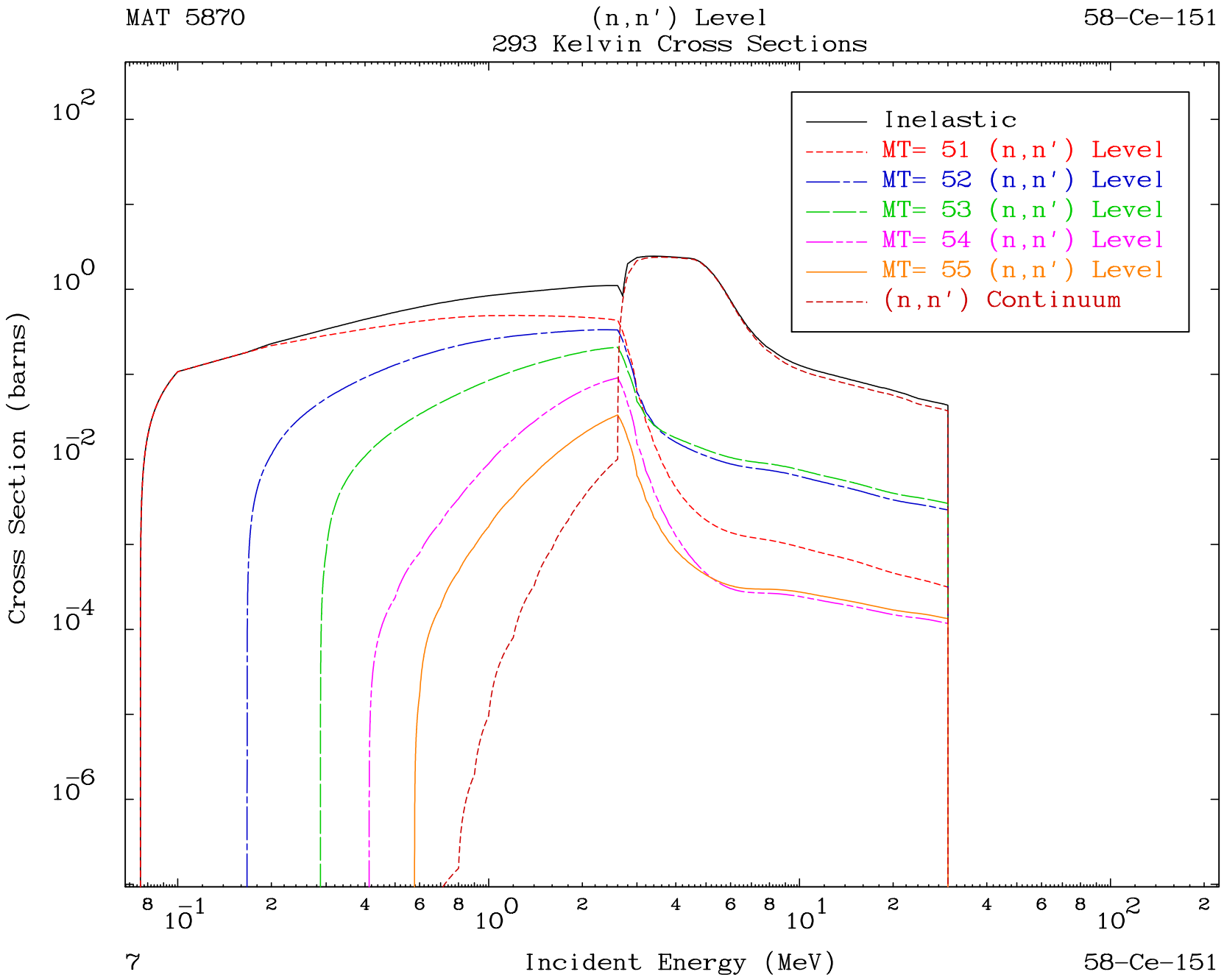

MAT 5870
Neutron Production
293 Kelvin Cross Sections
58-Ce-151
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
Cross Section (barns)
Incident Energy (MeV)
58-Ce-151
2

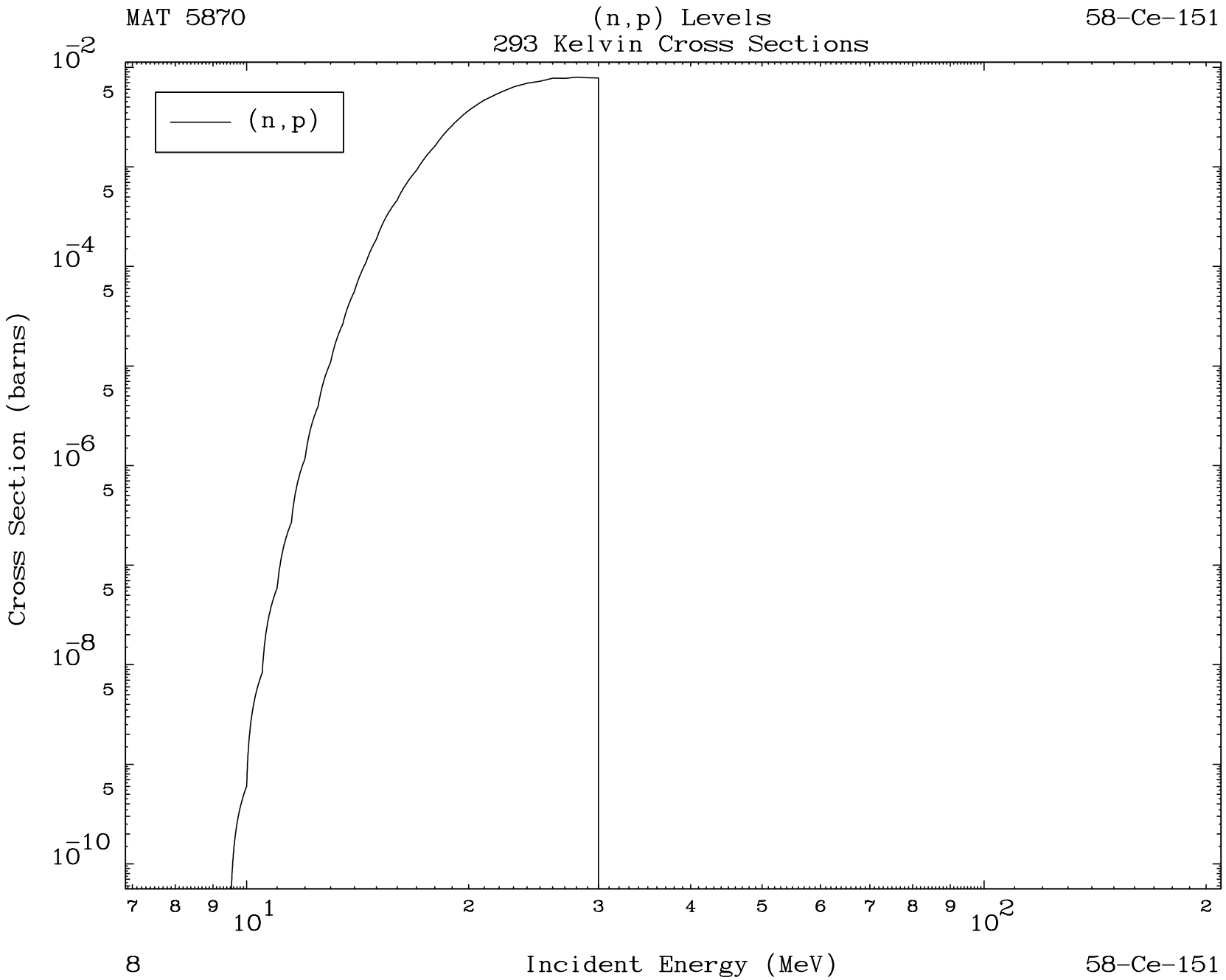

MAT 5870
Neutron Production
293 Kelvin Cross Sections
58-Ce-151
Cross Section (barns)
Incident Energy (MeV)
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
3
58-Ce-151

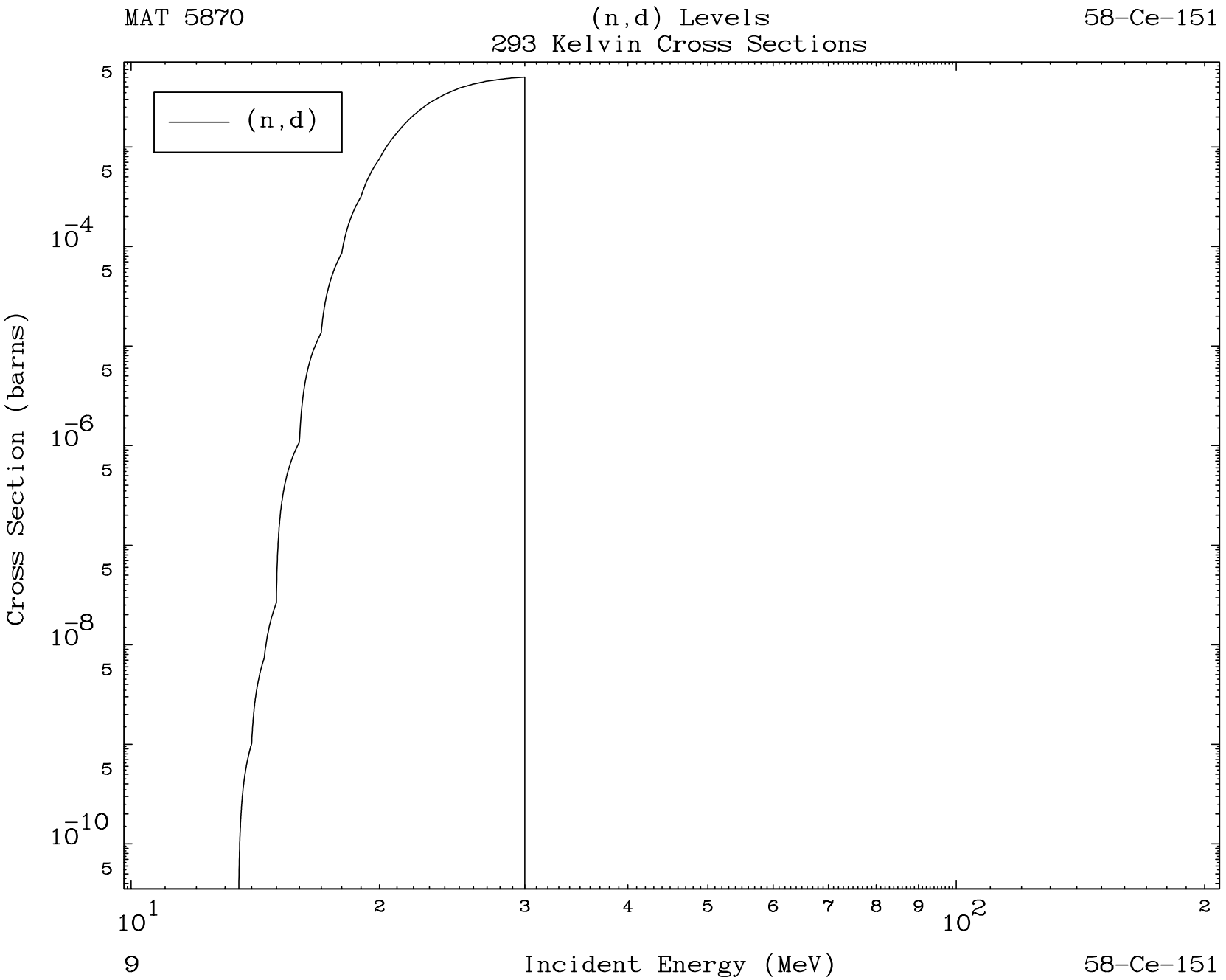

MAT 5870
Charged Particle
58-Ce-151
293 Kelvin Cross Sections
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') d
(n,n') t
(n,n') He-3
Cross Section (barns)
Incident Energy (MeV)
4
58-Ce-151

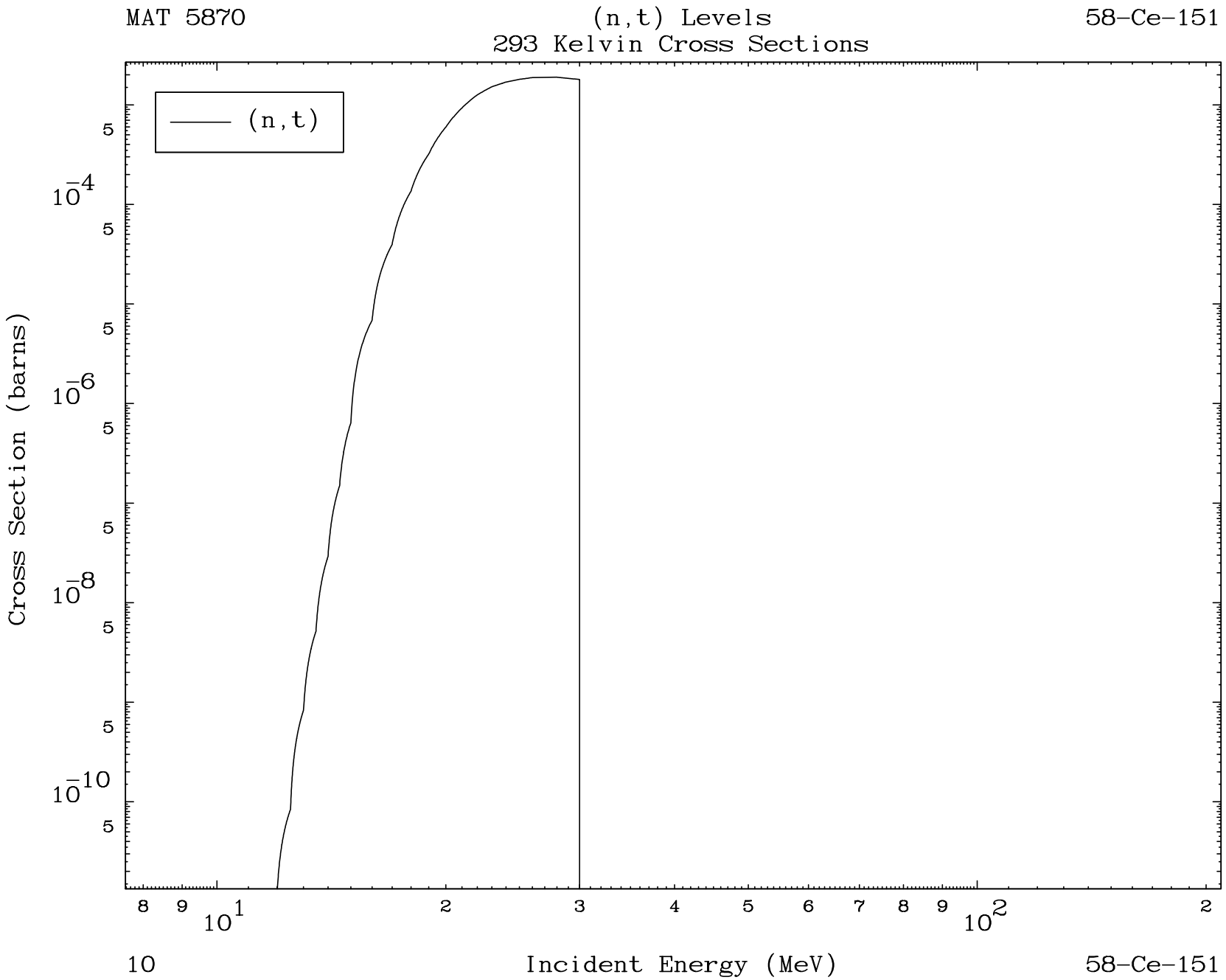

MAT 5870
Charged Particle
58-Ce-151
293 Kelvin Cross Sections
(n,2n) p
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
Cross Section (barns)
Incident Energy (MeV)
58-Ce-151
5

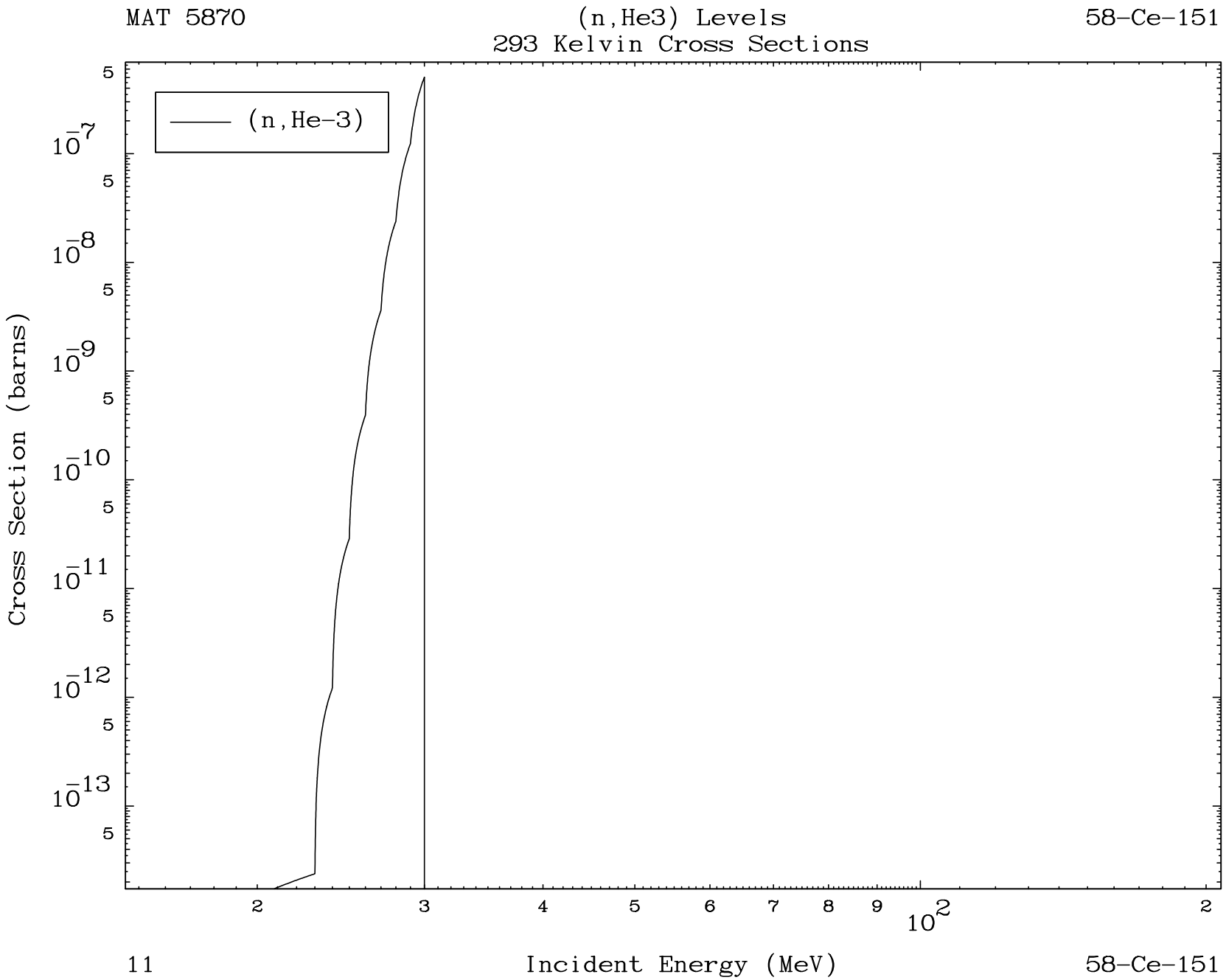

MAT 5870
Particle Production
293 Kelvin Cross Sections
58-Ce-151
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
58-Ce-151
6

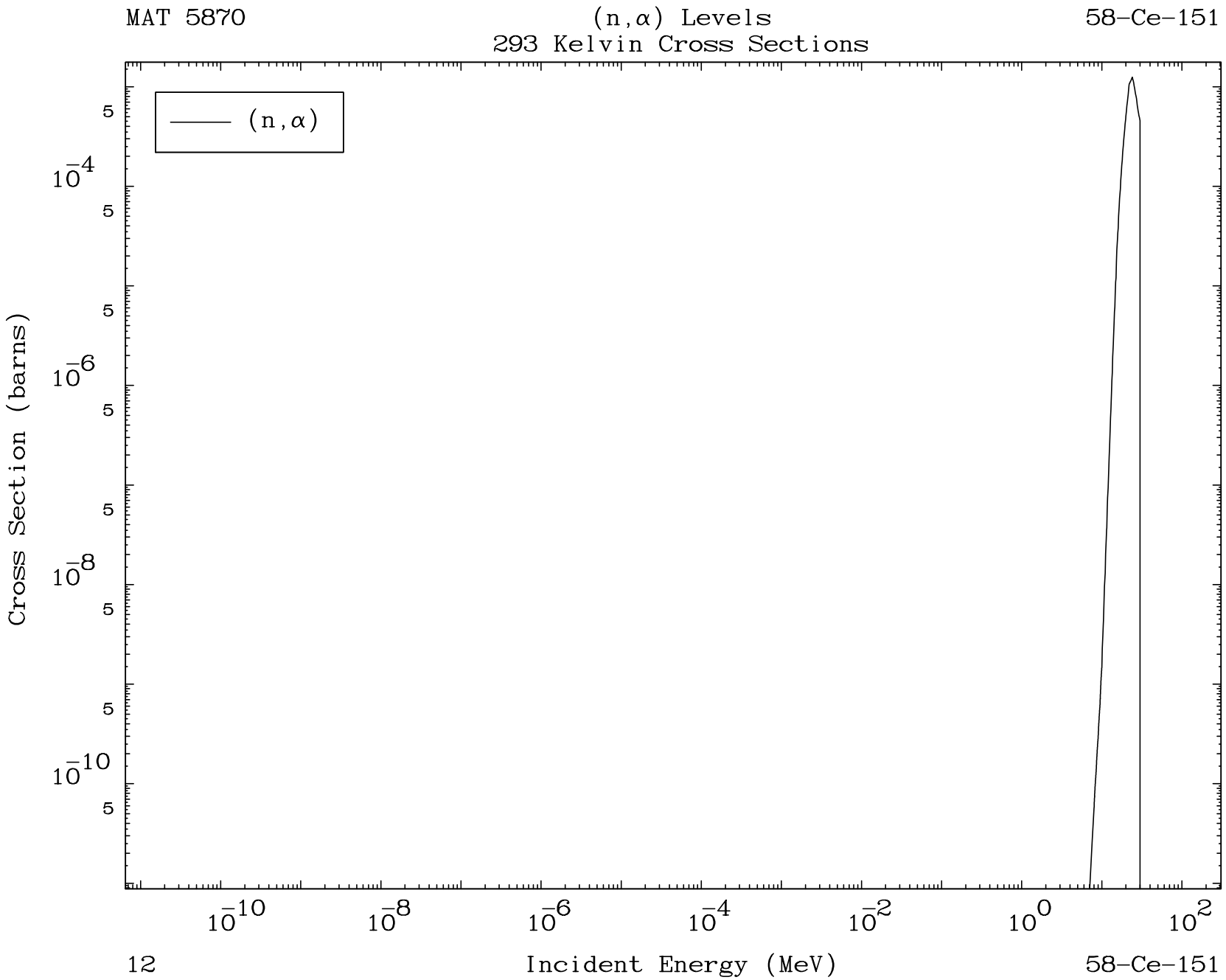

MAT 5870
(n,n') Level
293 Kelvin Cross Sections
58-Ce-151
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
7
58-Ce-151

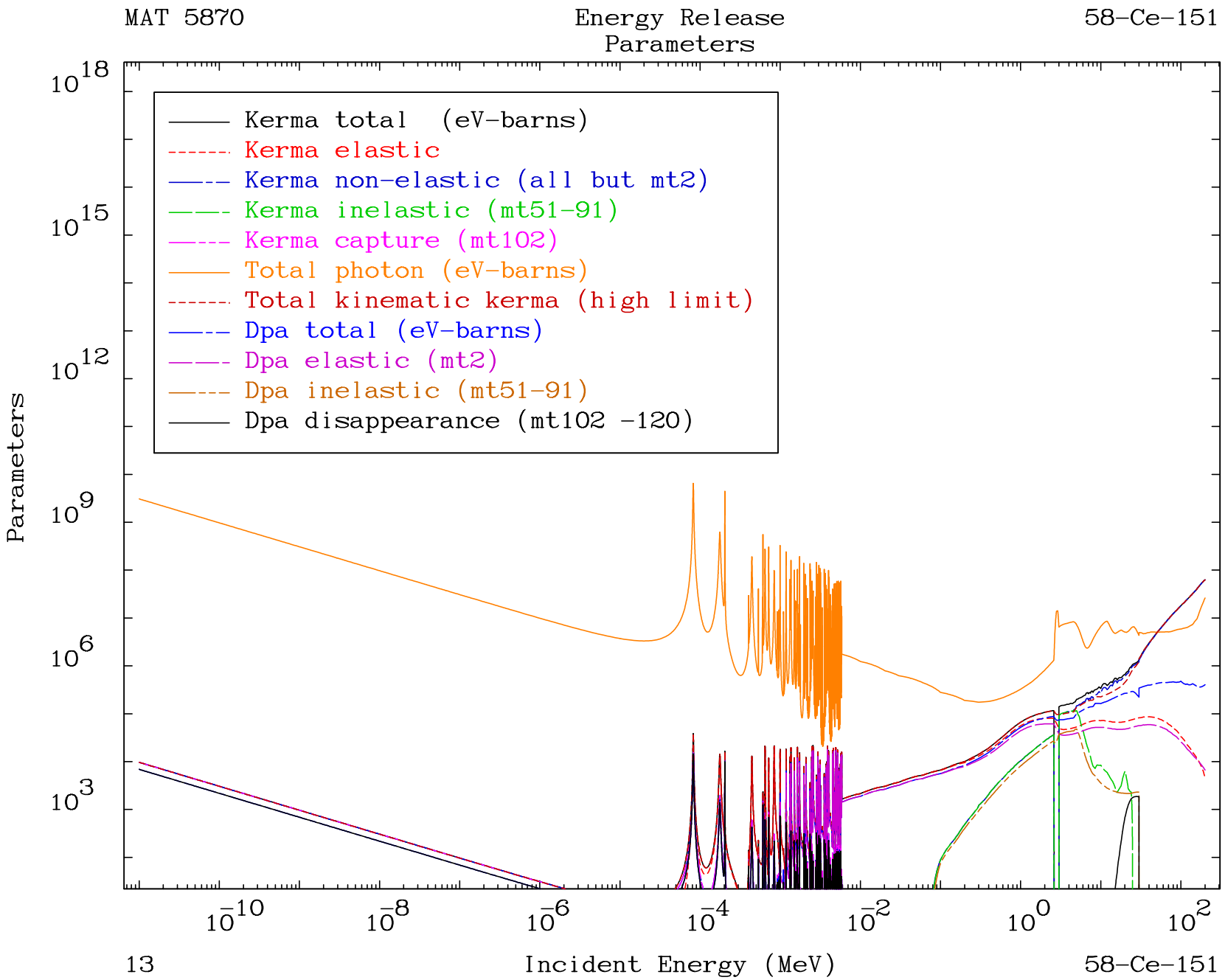

MAT 5870
(n,p) Levels
58-Ce-151
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
8
58-Ce-151

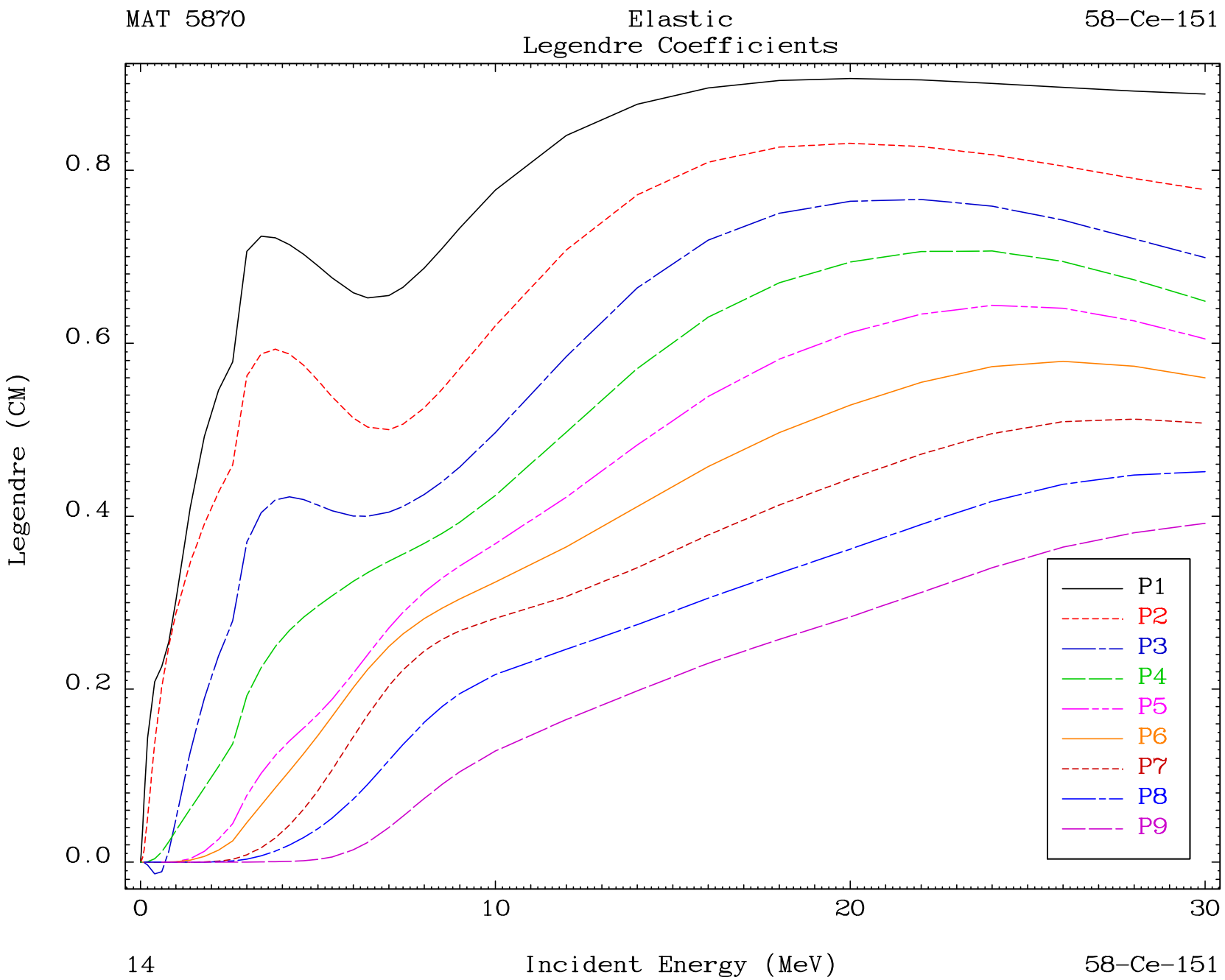

MAT 5870
(n,d) Levels
58-Ce-151
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^1
10^2
Incident Energy (MeV)
58-Ce-151

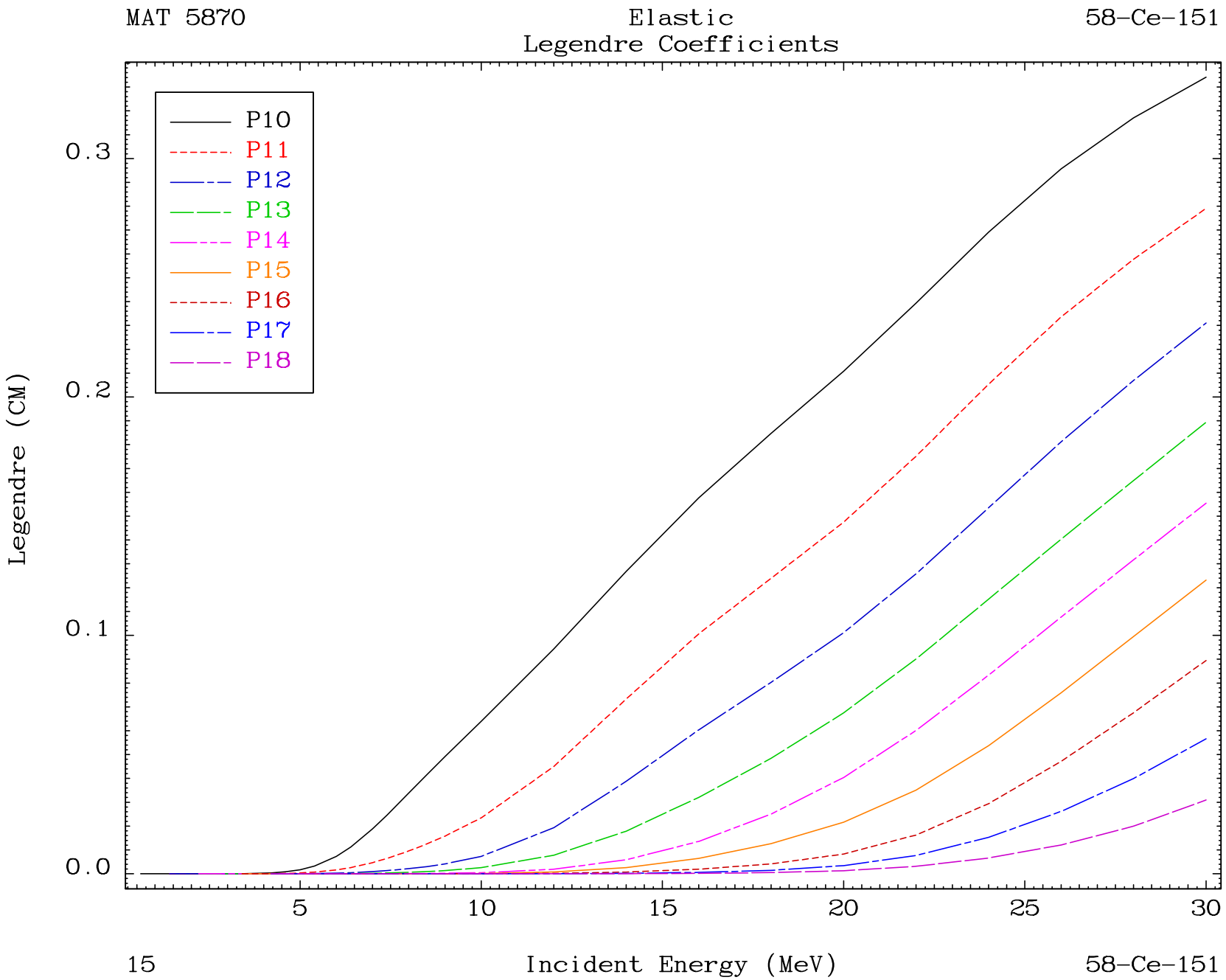

MAT 5870
(n,t) Levels
58-Ce-151
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^1
10^2
Incident Energy (MeV)
58-Ce-151

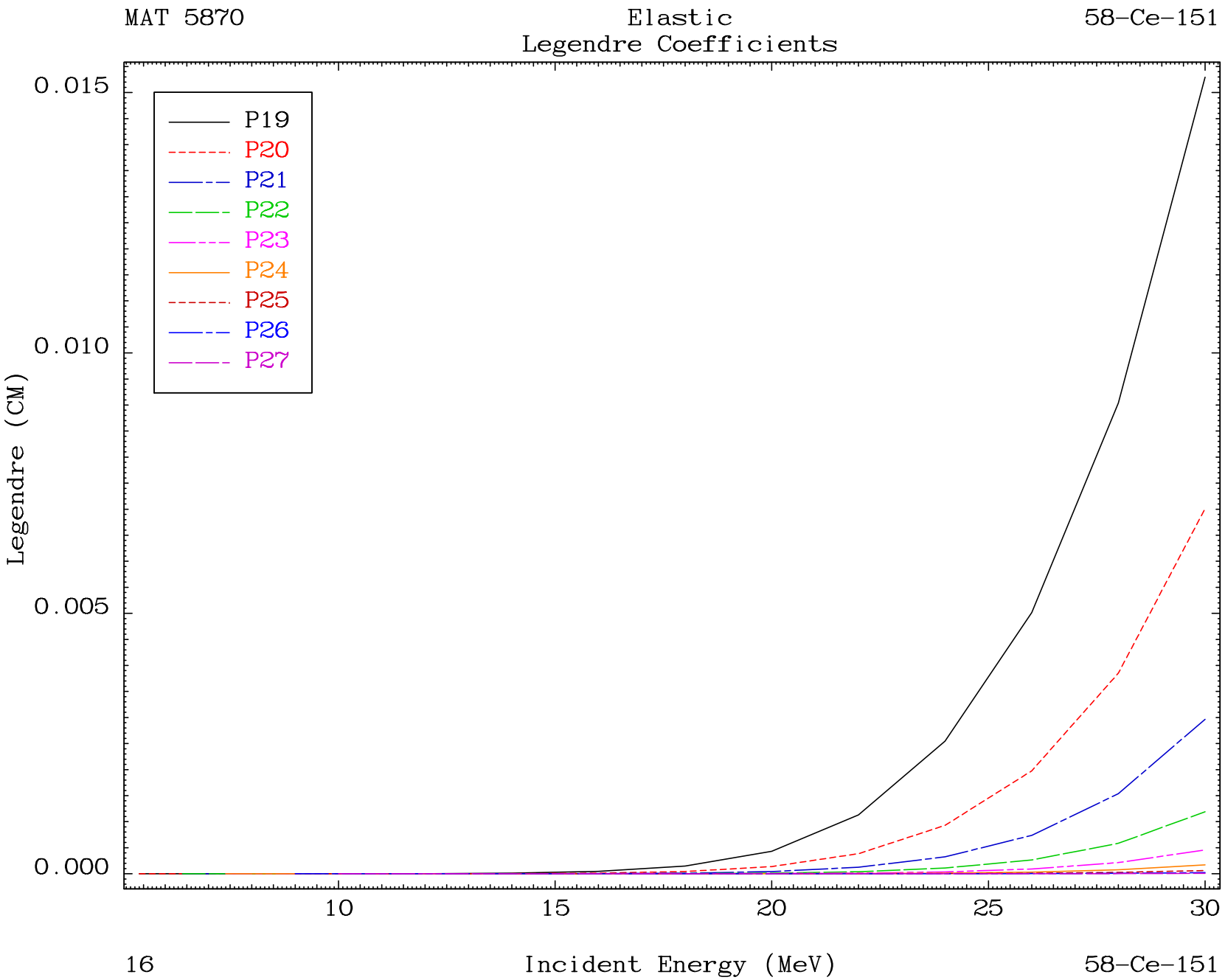

MAT 5870
(n,He3) Levels
58-Ce-151
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
11
58-Ce-151

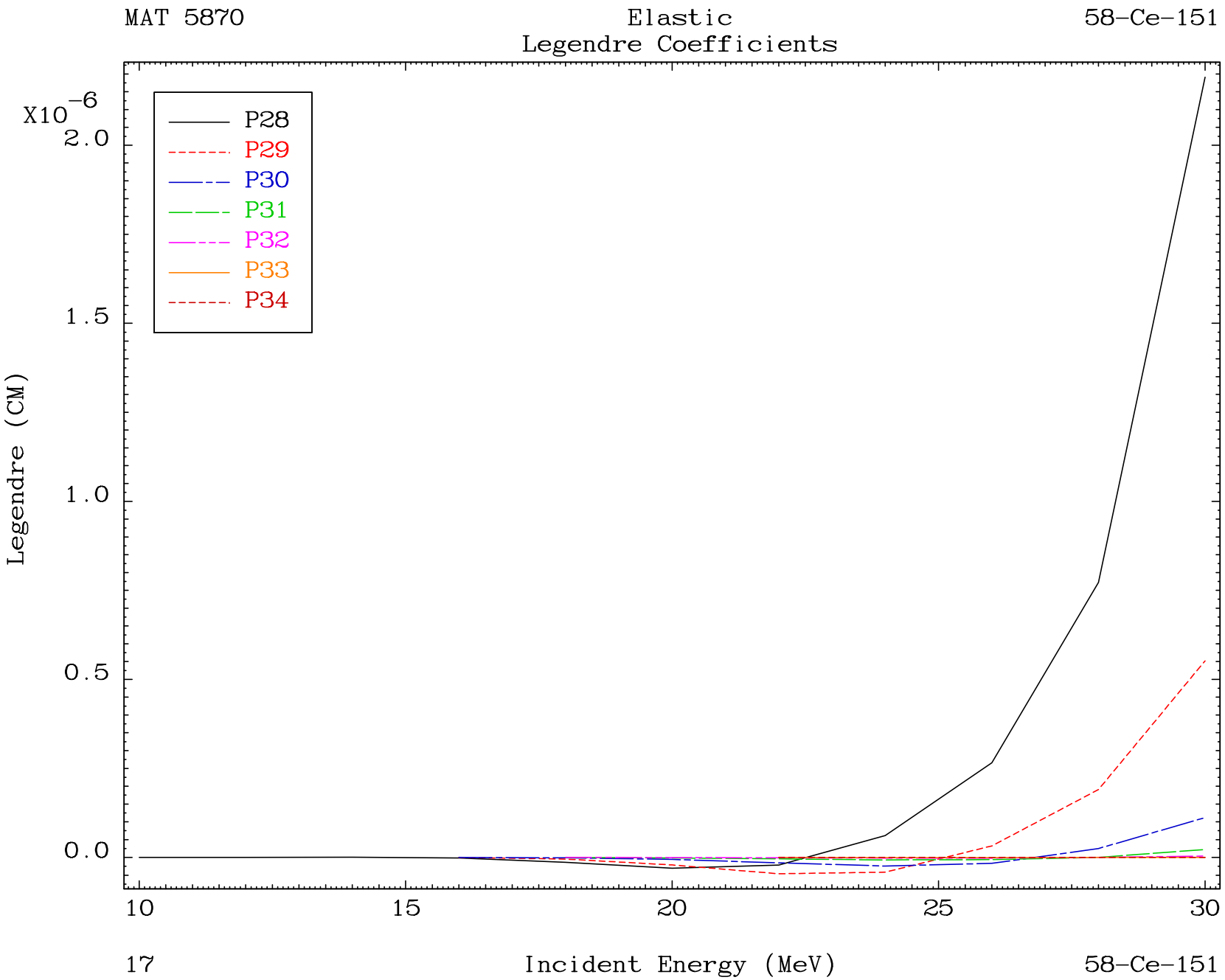

MAT 5870
(n,α) Levels
58-Ce-151
293 Kelvin Cross Sections
(n,α)
Cross Section (barns)
Incident Energy (MeV)
12
58-Ce-151

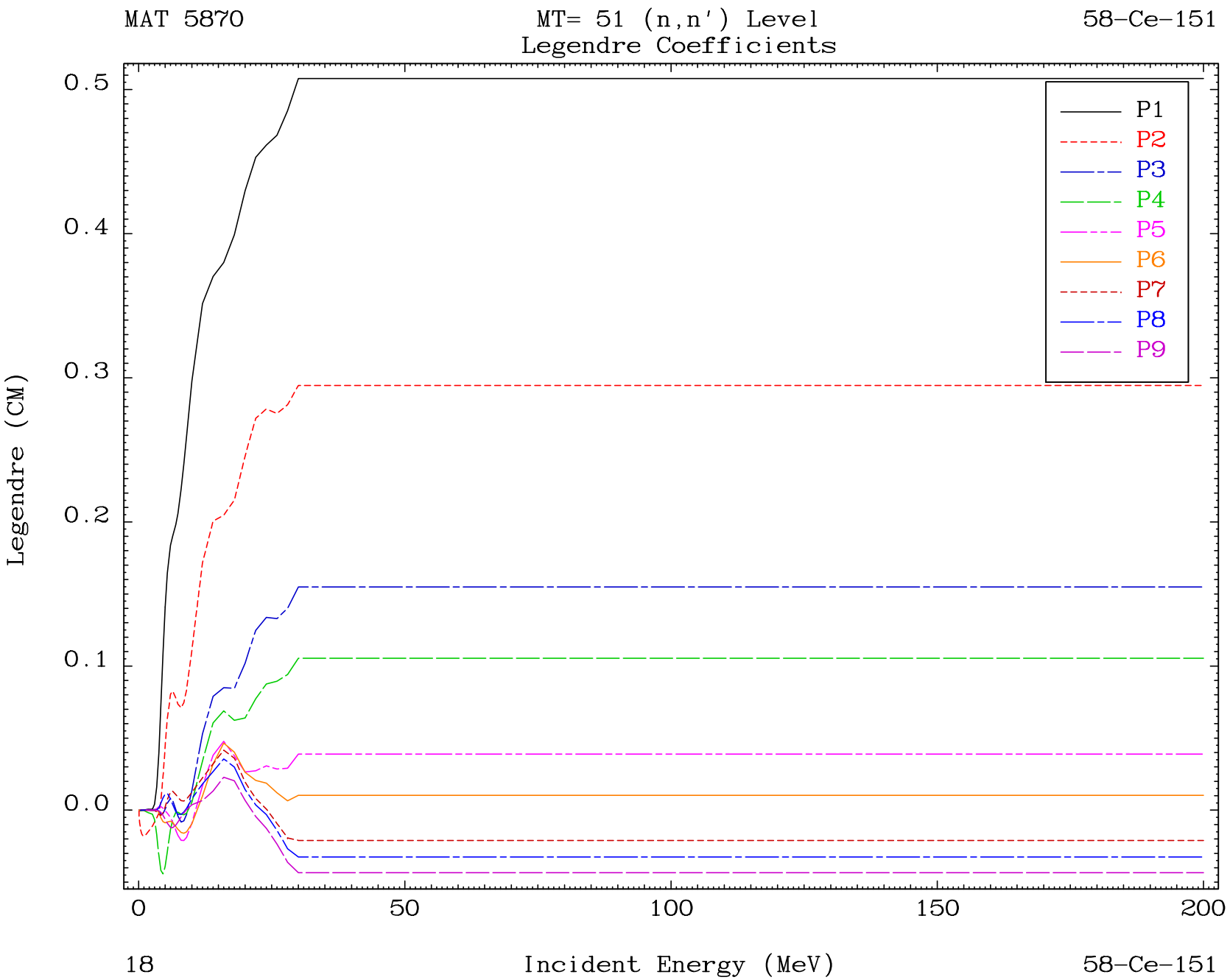

MAT 5870
Energy Release
Parameters
58-Ce-151
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (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}
13
Incident Energy (MeV)
58-Ce-151

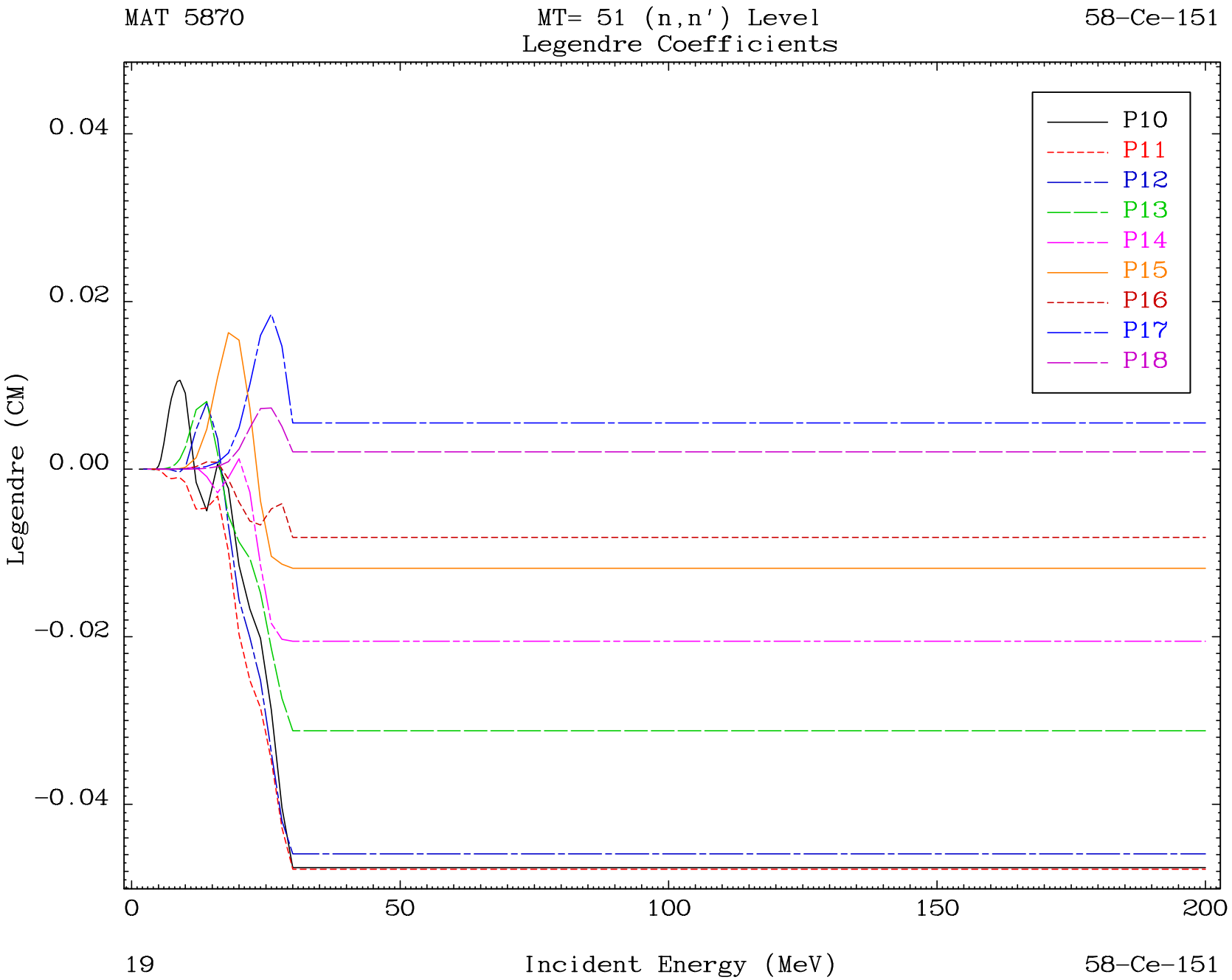

MAT 5870
Elastic
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
14
Incident Energy (MeV)
58-Ce-151
P1
P2
P3
P4
P5
P6
P7
P8
P9

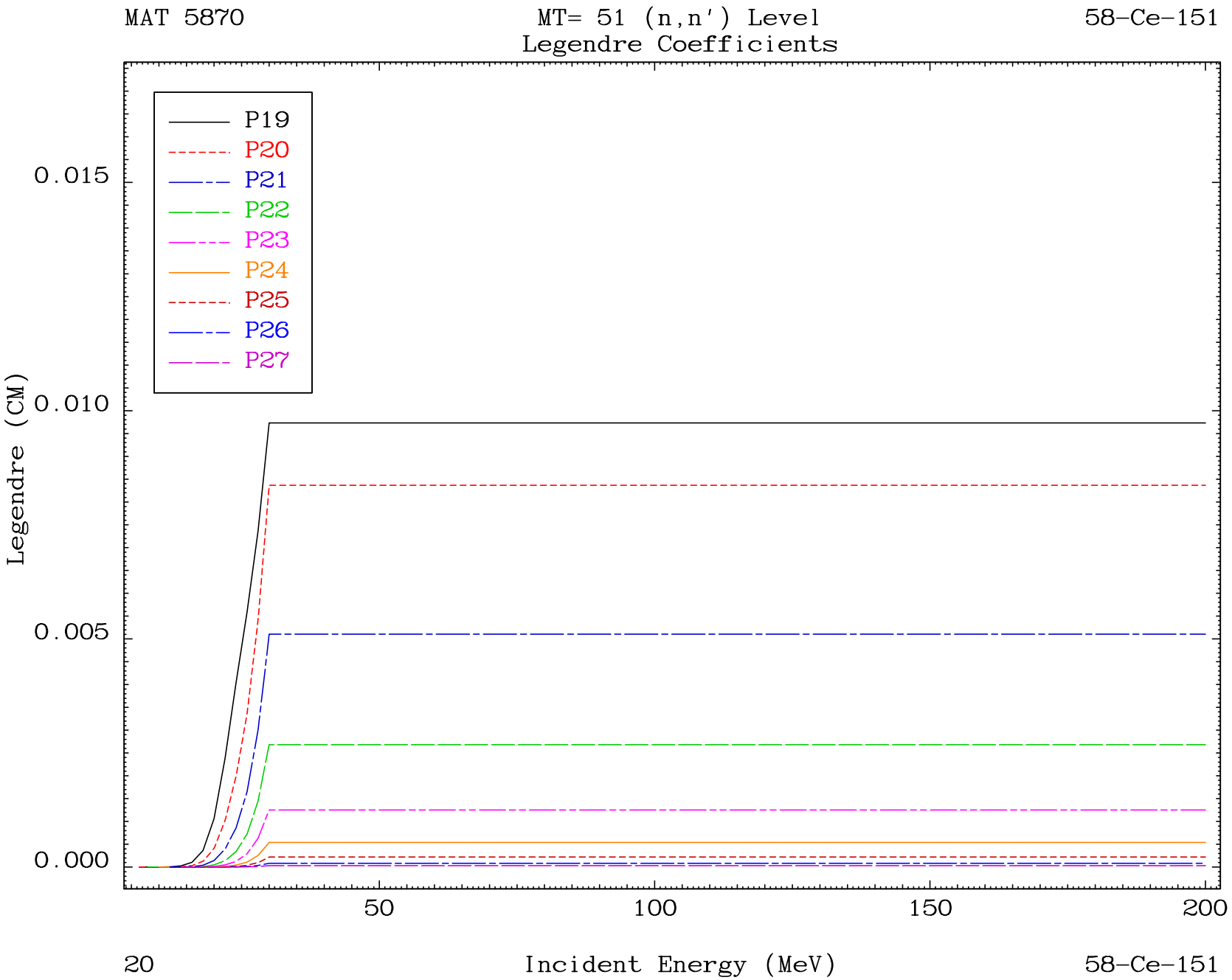

MAT 5870
Elastic
Legendre Coefficients
58-Ce-151
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.0
0.1
0.2
0.3
5
10
15
20
25
30
15
Incident Energy (MeV)
58-Ce-151

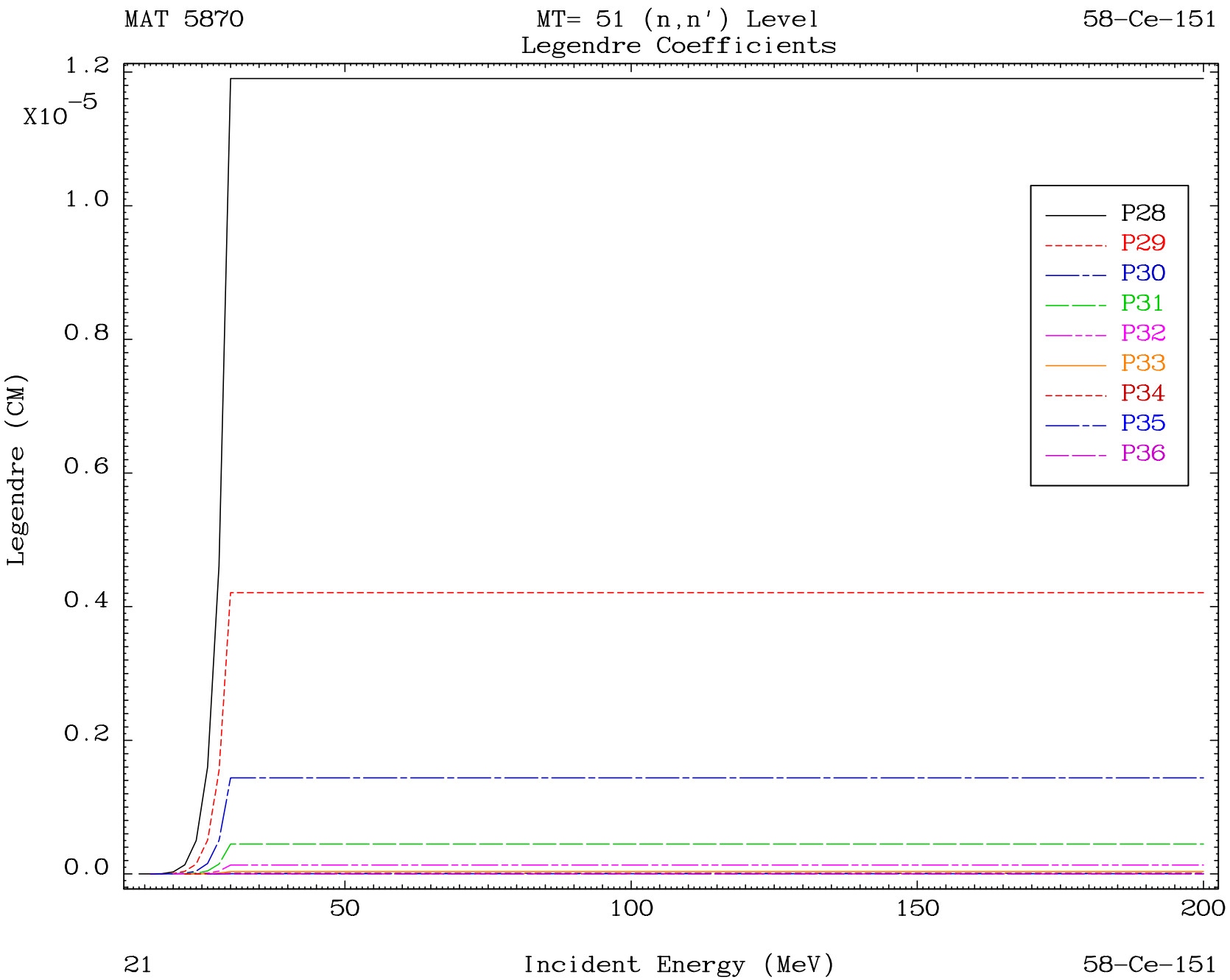

MAT 5870
Elastic
Legendre Coefficients
58-Ce-151
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
10
15
20
25
30
16
Incident Energy (MeV)
58-Ce-151

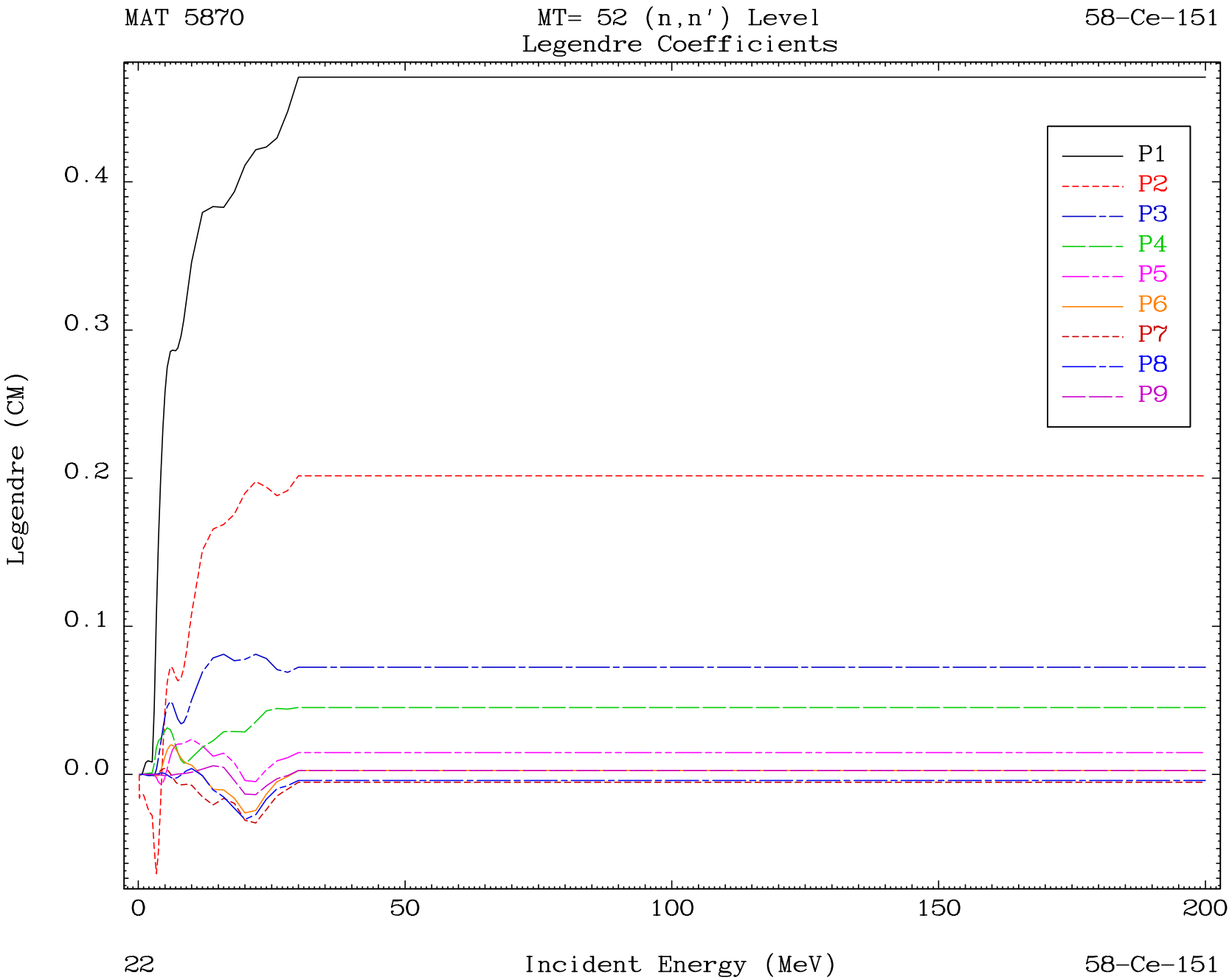

MAT 5870
Elastic
Legendre Coefficients
58-Ce-151
X10^-6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
17
Incident Energy (MeV)
58-Ce-151

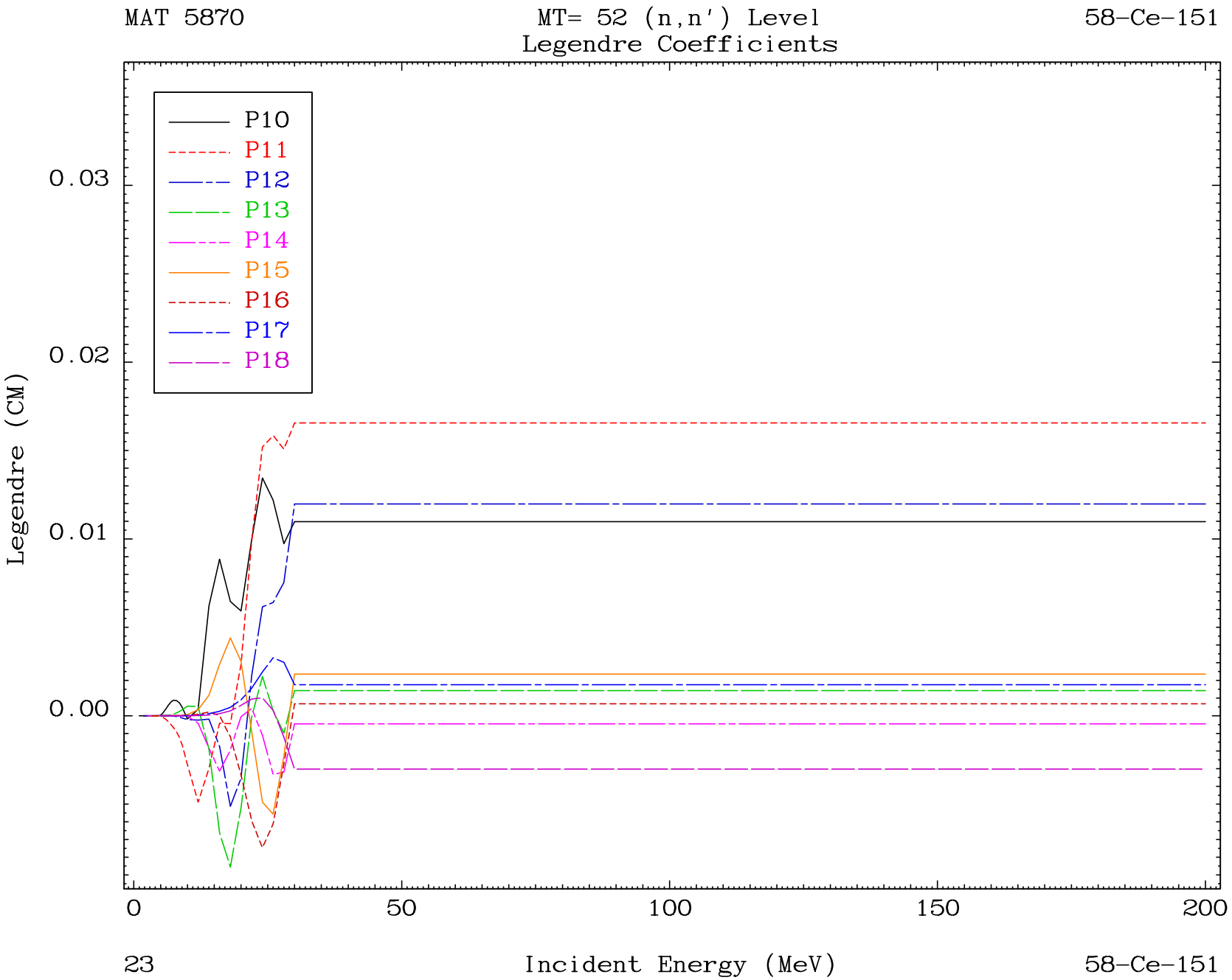

MAT 5870
MT= 51 (n,n') Level
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
18
Incident Energy (MeV)
58-Ce-151

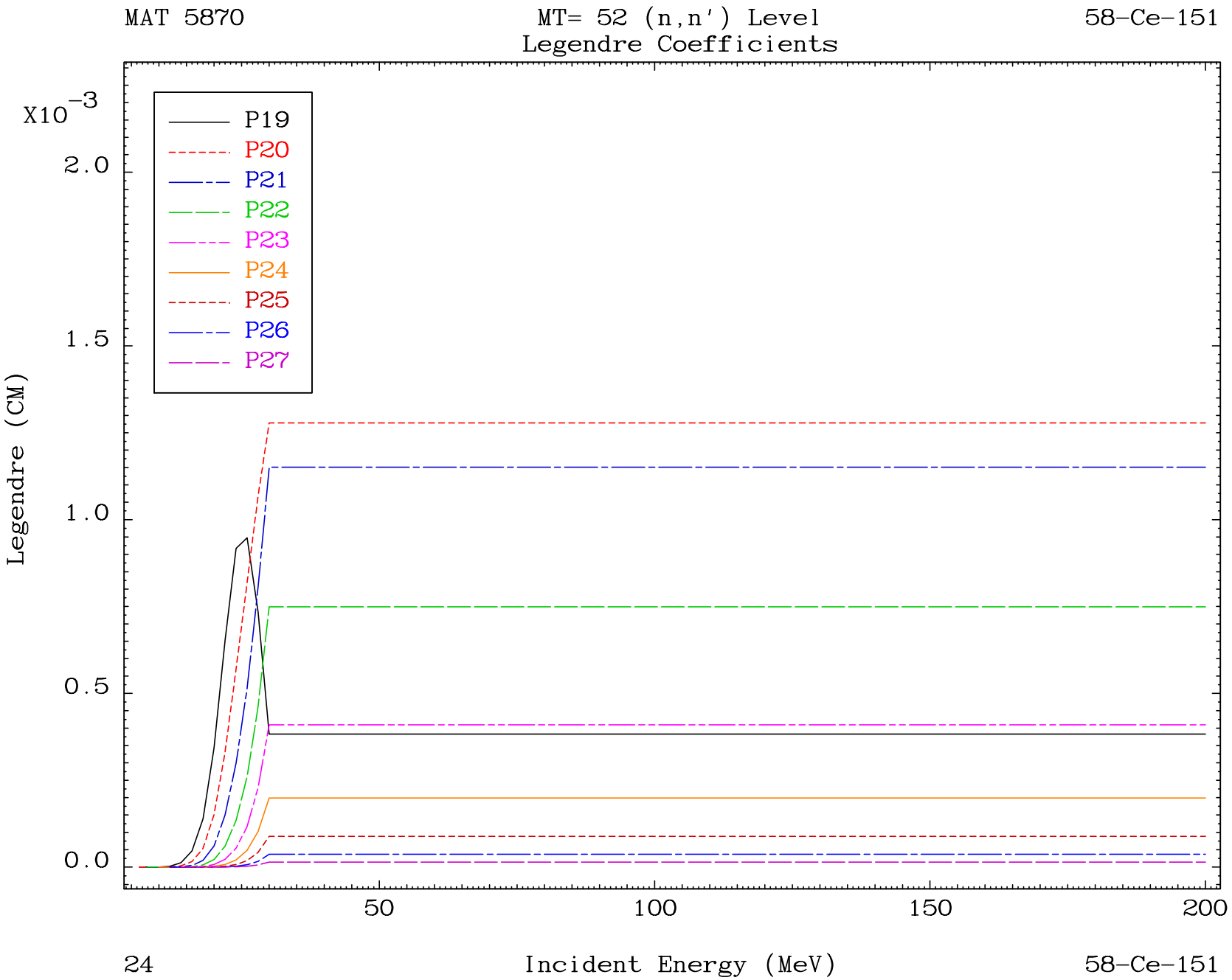

MAT 5870
MT= 51 (n,n') Level
Legendre Coefficients
58-Ce-151
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
19
Incident Energy (MeV)
58-Ce-151

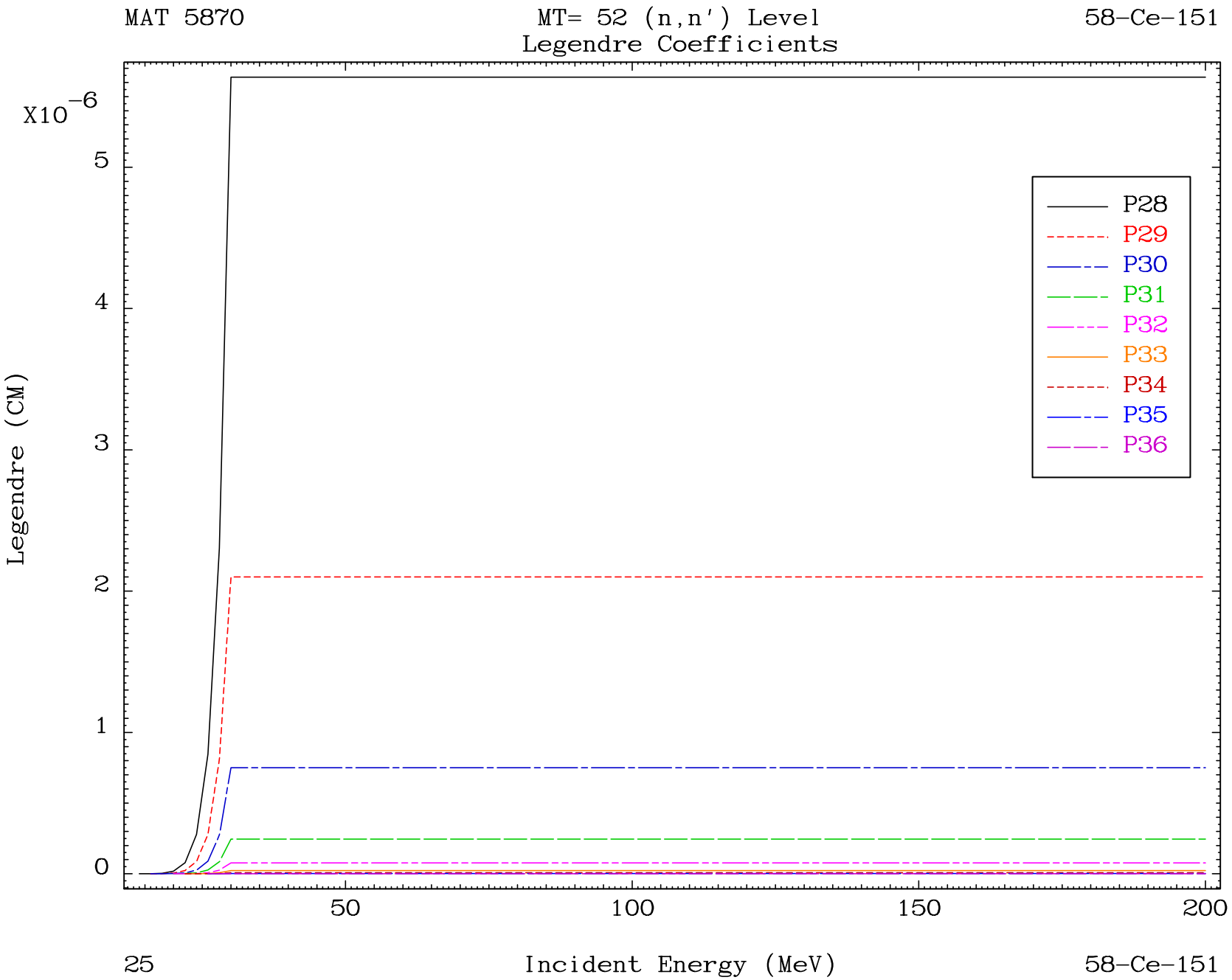

MAT 5870
MT= 51 (n,n') Level
Legendre Coefficients
58-Ce-151
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
20
Incident Energy (MeV)
58-Ce-151

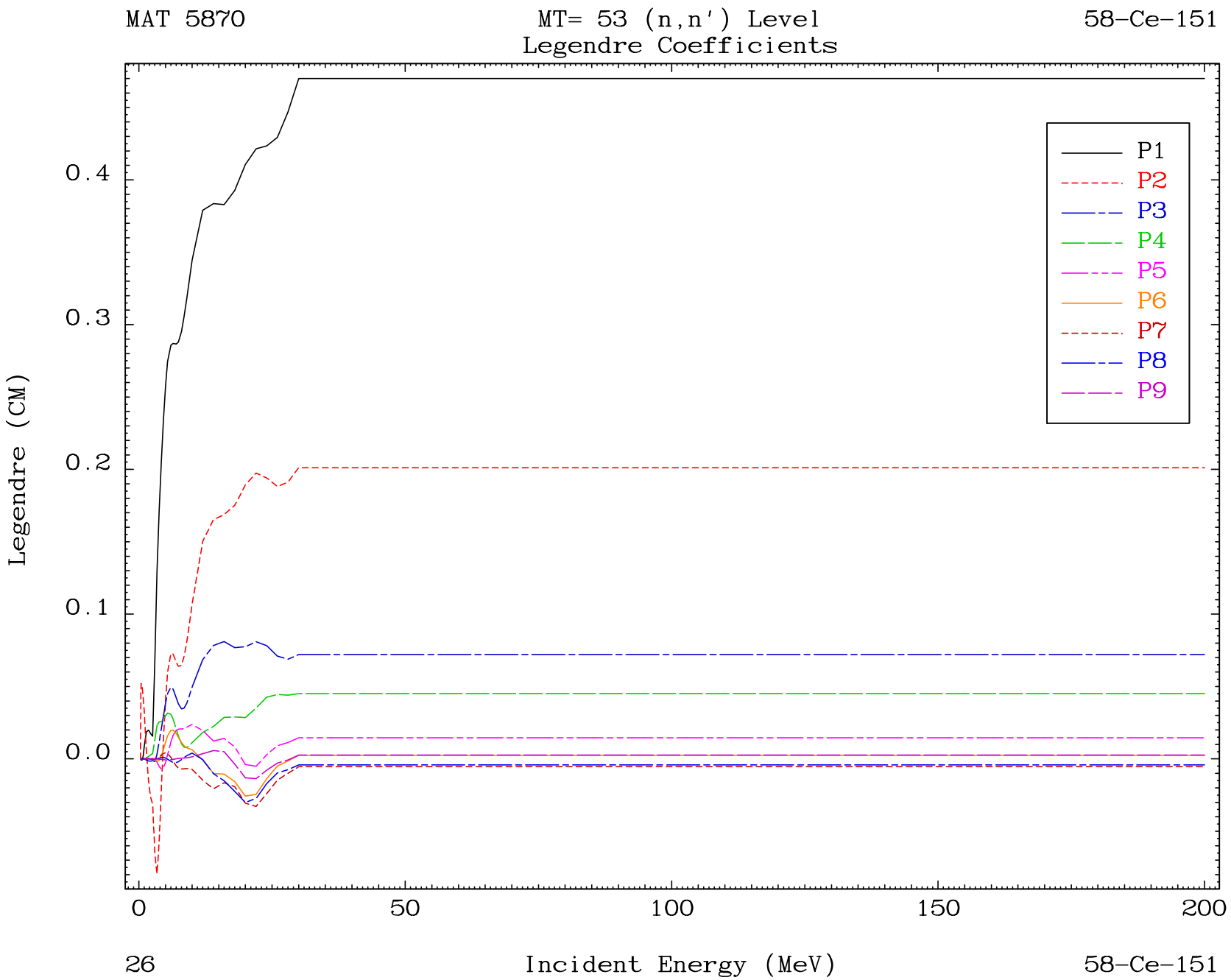

MAT 5870
MT= 51 (n,n') Level
Legendre Coefficients
58-Ce-151
X10^-5
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
21
Incident Energy (MeV)
58-Ce-151

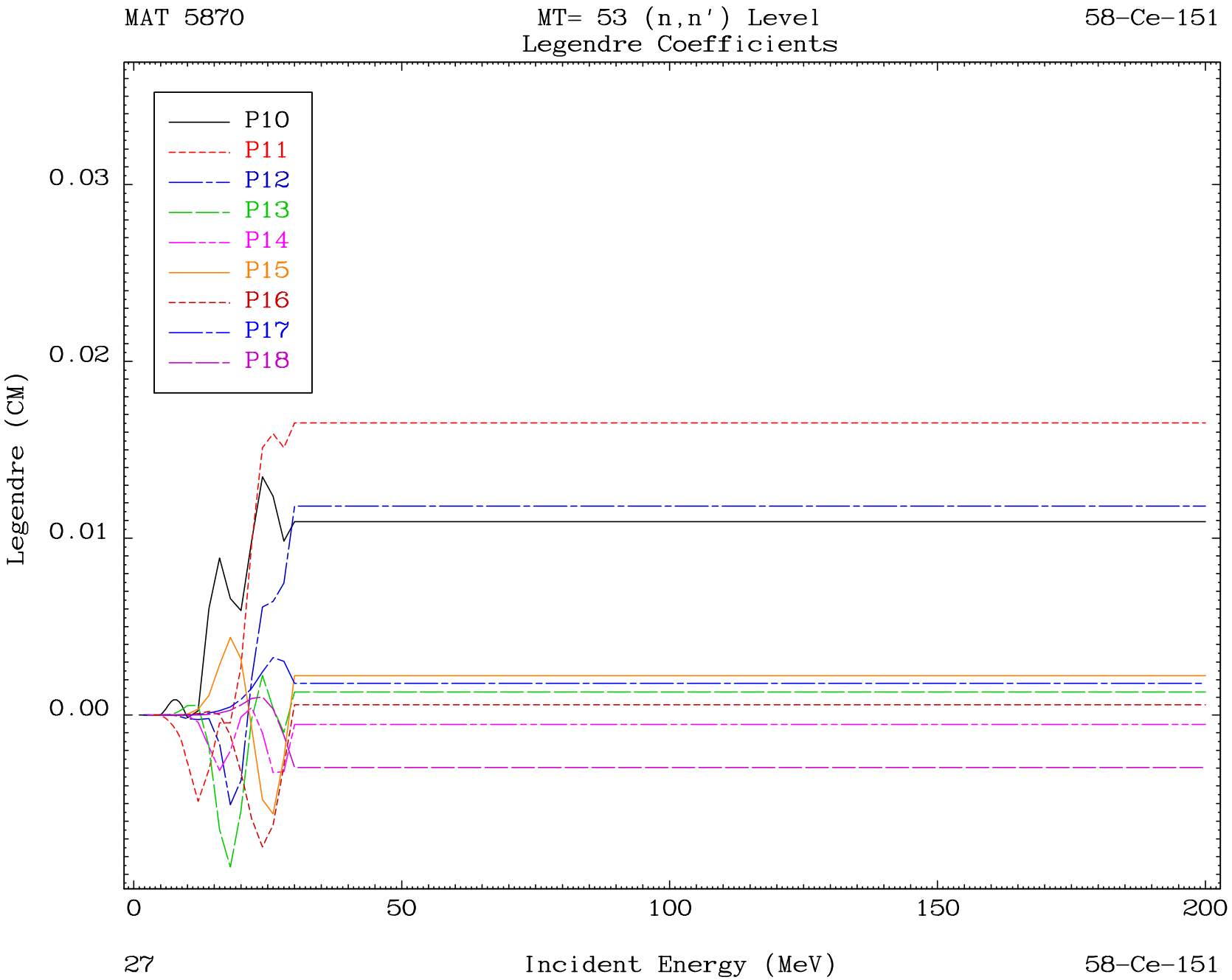

MAT 5870
MT= 52 (n,n') Level
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
22
Incident Energy (MeV)
58-Ce-151
P1
P2
P3
P4
P5
P6
P7
P8
P9

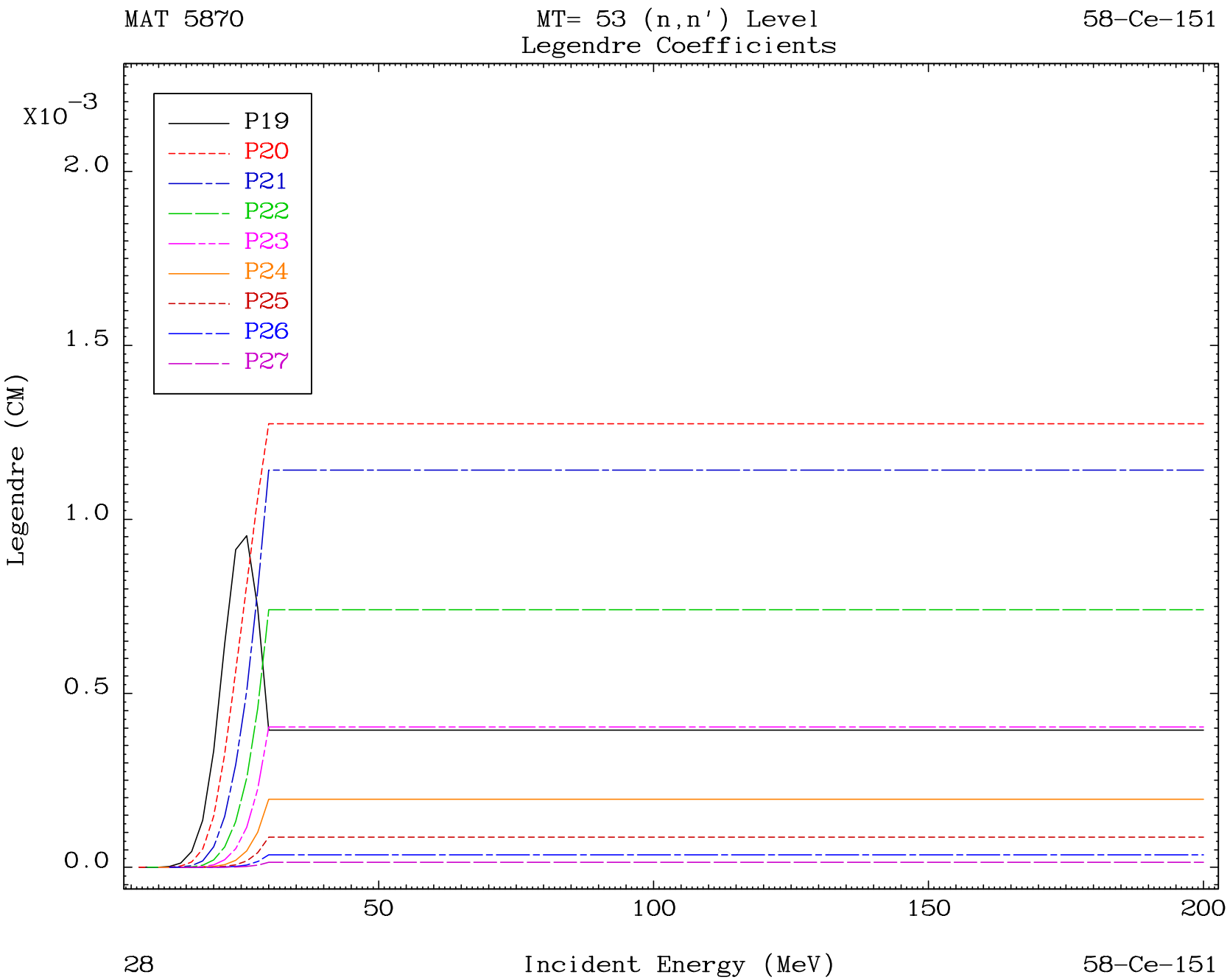

MAT 5870
MT= 52 (n,n') Level
Legendre Coefficients
58-Ce-151
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
23
Incident Energy (MeV)
58-Ce-151

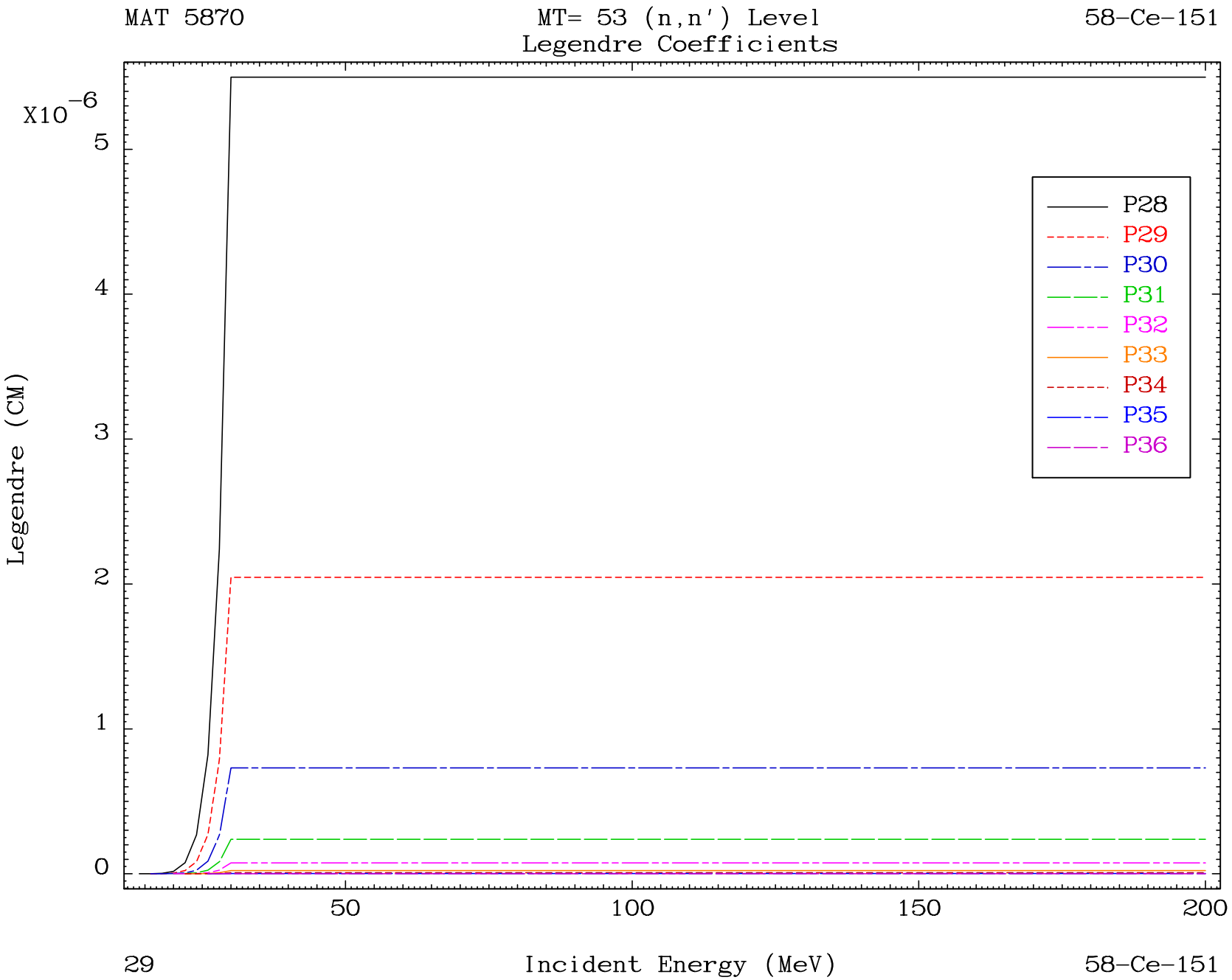

MAT 5870
MT= 52 (n,n') Level
Legendre Coefficients
58-Ce-151
X10^-3
2.0
1.5
1.0
0.5
0.0
P19
P20
P21
P22
P23
P24
P25
P26
P27
Legendre (CM)
50
100
150
200
24
Incident Energy (MeV)
58-Ce-151

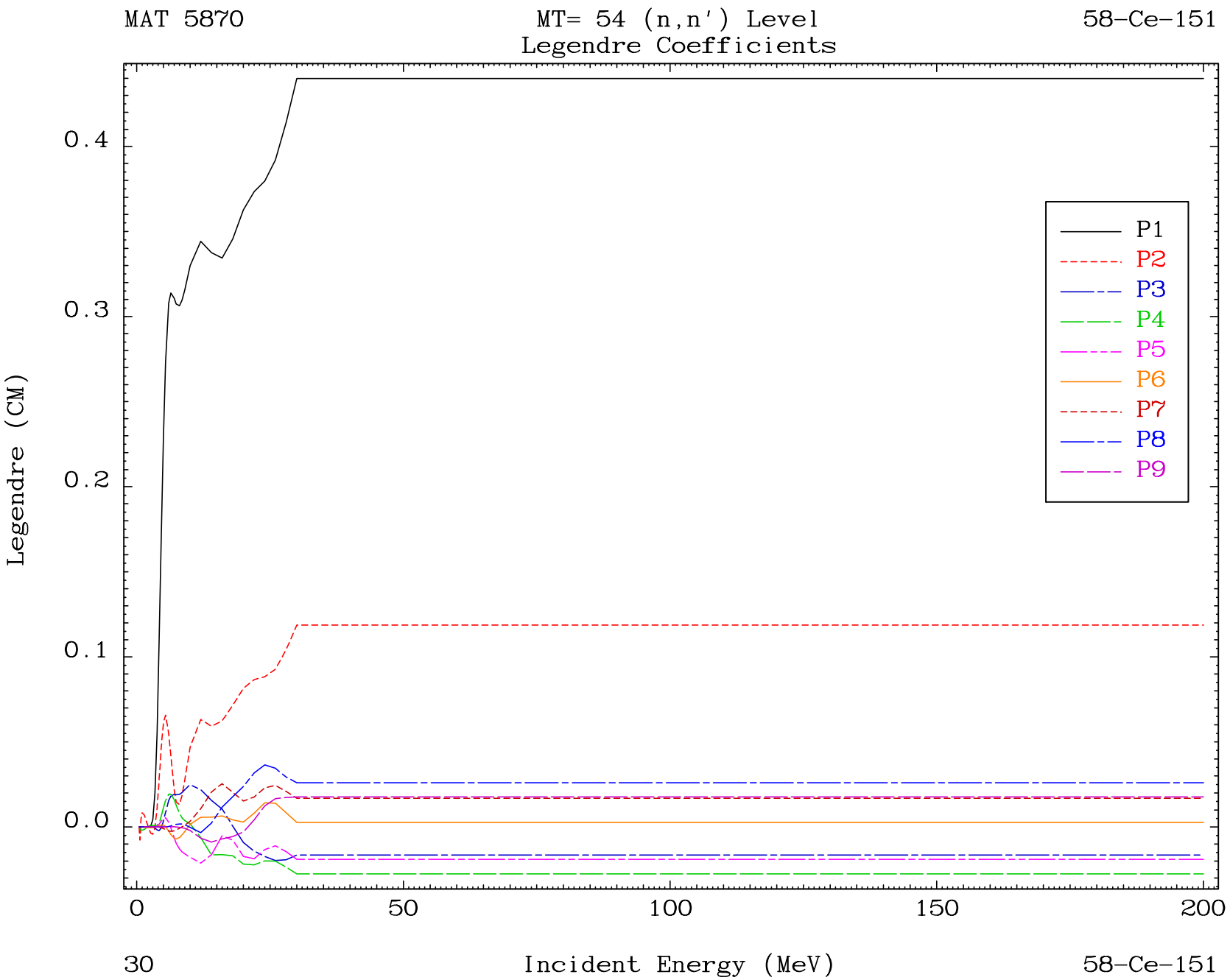

MAT 5870
MT= 52 (n,n') Level
Legendre Coefficients
58-Ce-151
X10 -6
5
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
25
Incident Energy (MeV)
58-Ce-151

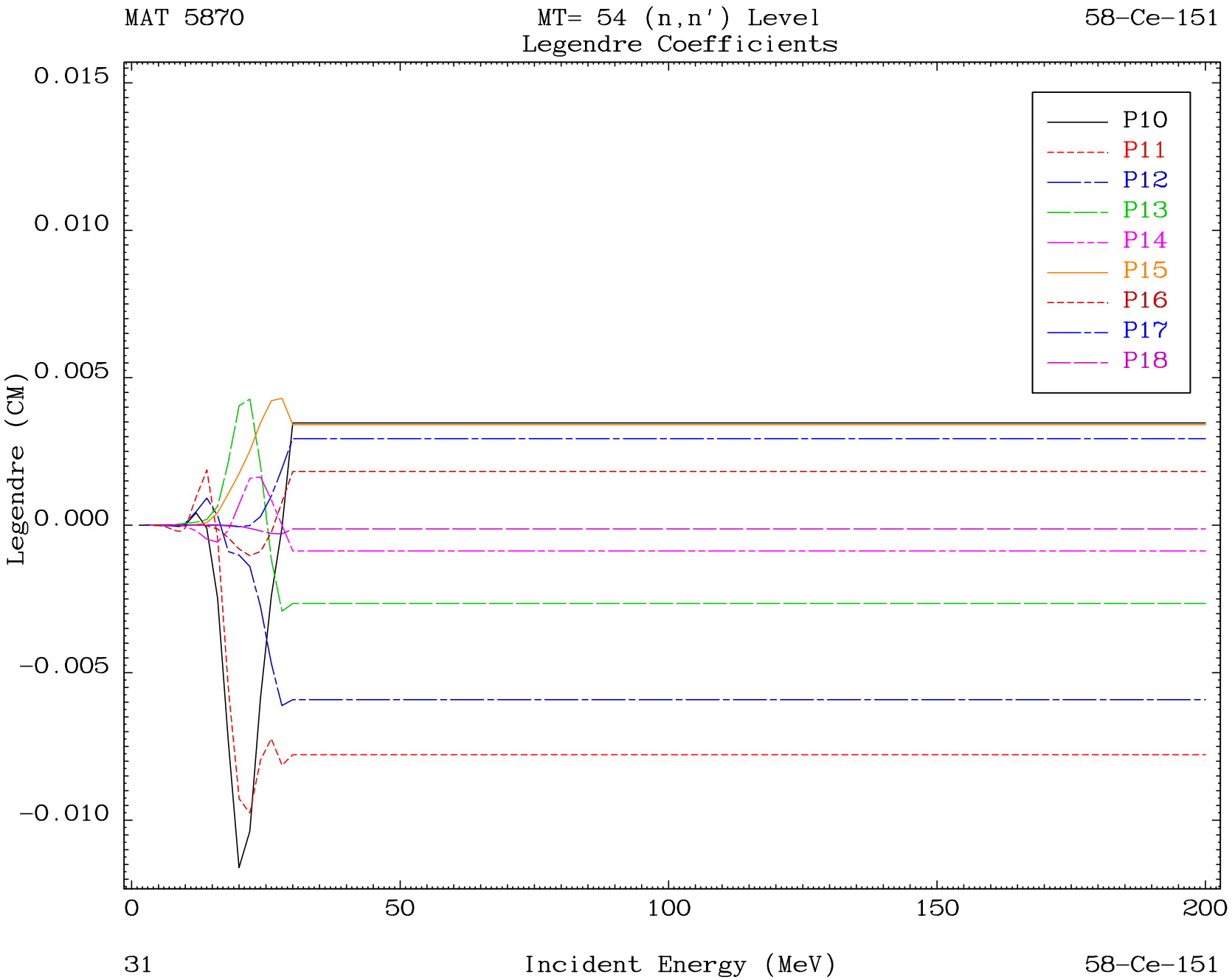

MAT 5870
MT= 53 (n,n') Level
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
Incident Energy (MeV)
26
58-Ce-151
P1
P2
P3
P4
P5
P6
P7
P8
P9

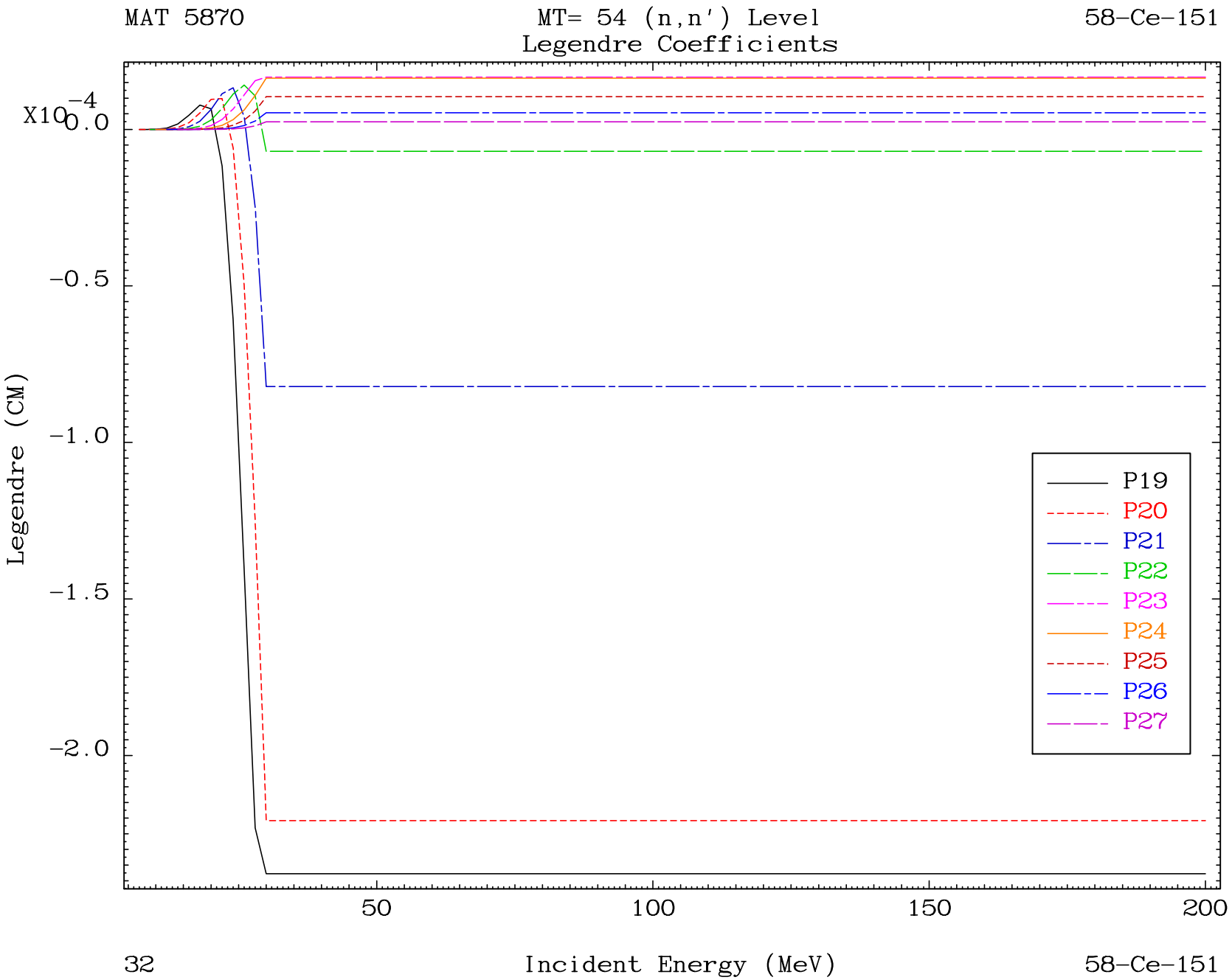

MAT 5870
MT= 53 (n,n') Level
Legendre Coefficients
58-Ce-151
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
27
Incident Energy (MeV)
58-Ce-151

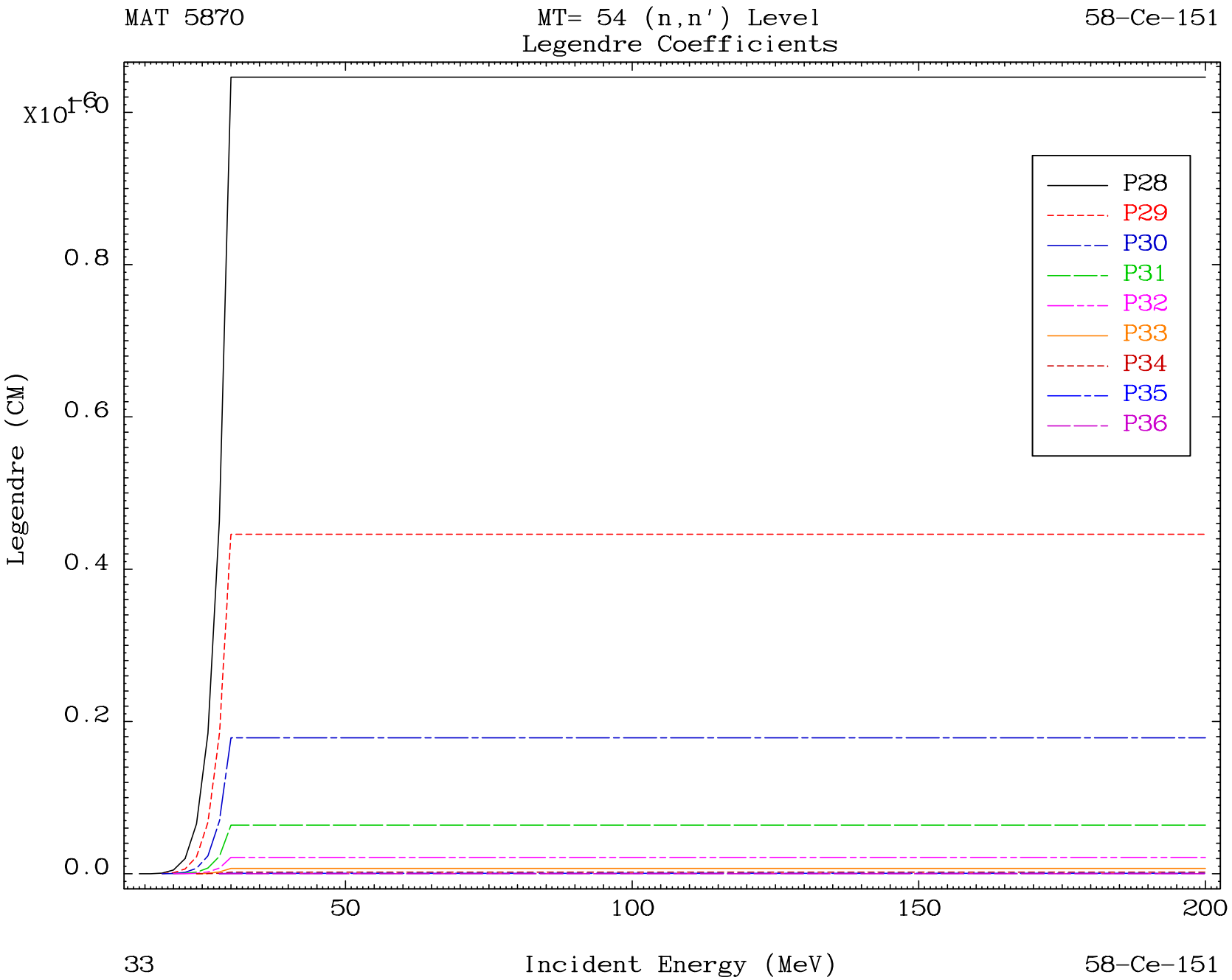

MAT 5870
MT= 53 (n,n') Level
Legendre Coefficients
58-Ce-151
X10^-3
2.0
1.5
1.0
0.5
0.0
P19
P20
P21
P22
P23
P24
P25
P26
P27
Legendre (CM)
50
100
150
200
28
Incident Energy (MeV)
58-Ce-151

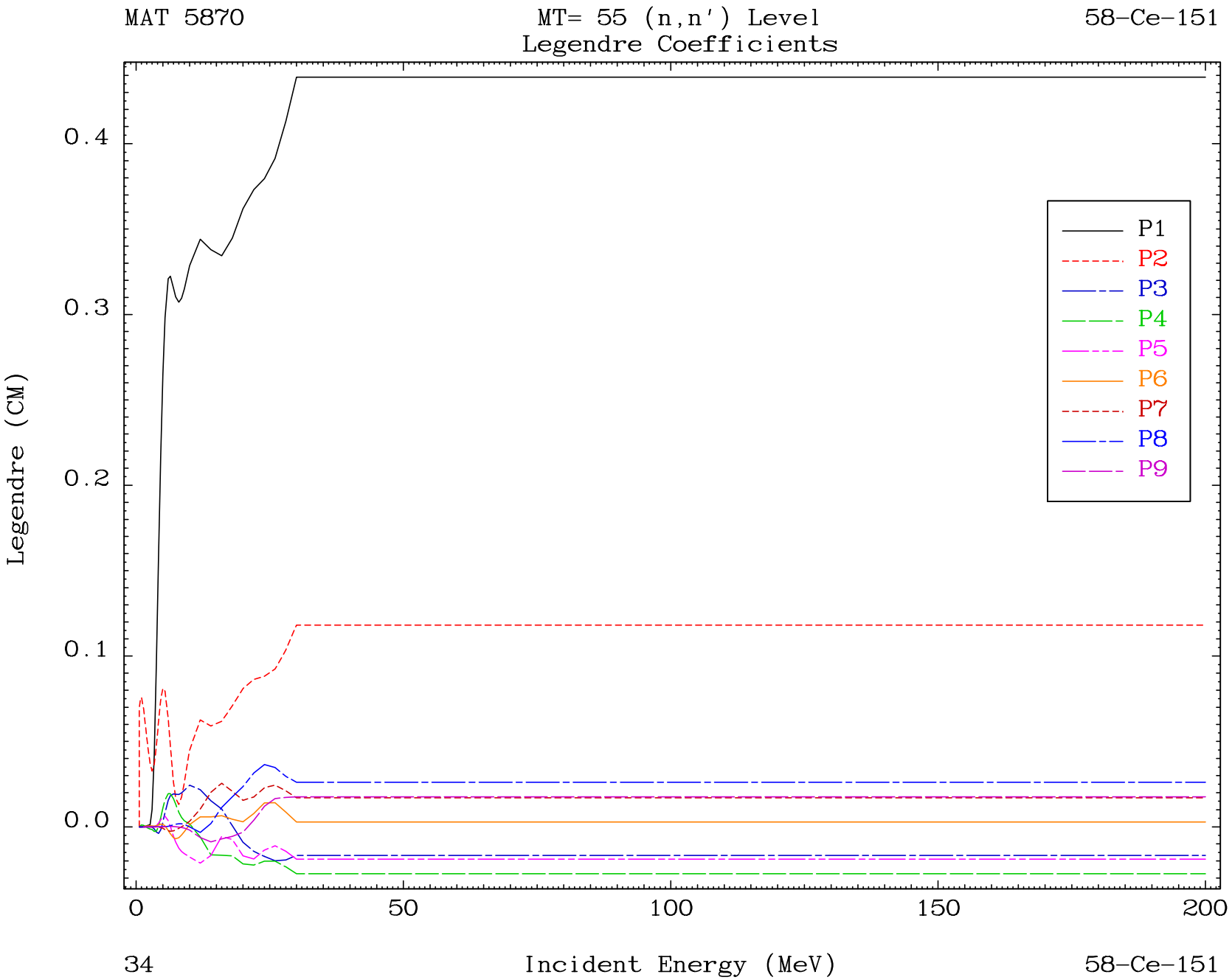

MAT 5870
MT= 53 (n,n') Level
Legendre Coefficients
58-Ce-151
X10 -6
5
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
29
Incident Energy (MeV)
58-Ce-151

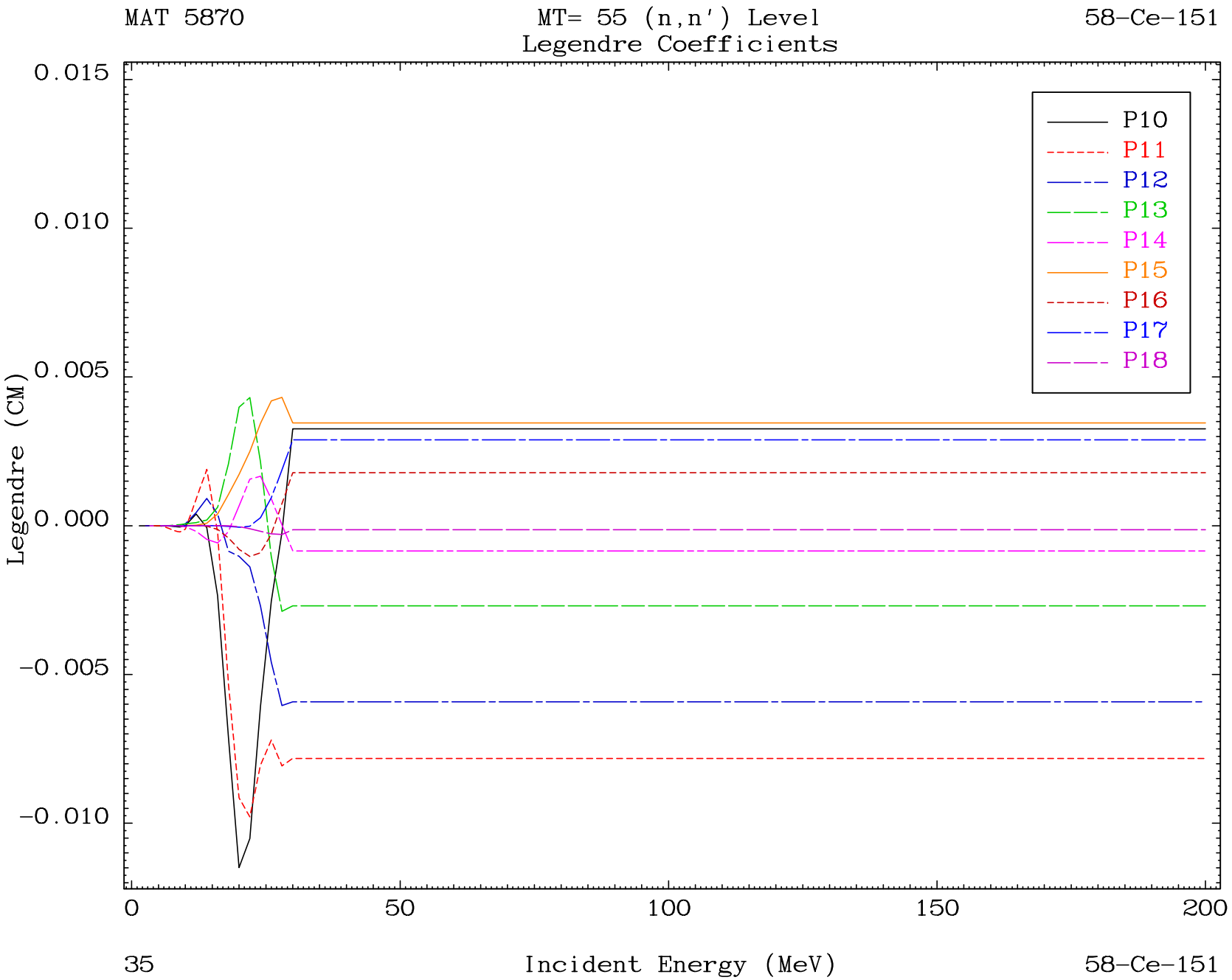

MAT 5870
MT= 54 (n,n') Level
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
30
Incident Energy (MeV)
58-Ce-151
P1
P2
P3
P4
P5
P6
P7
P8
P9

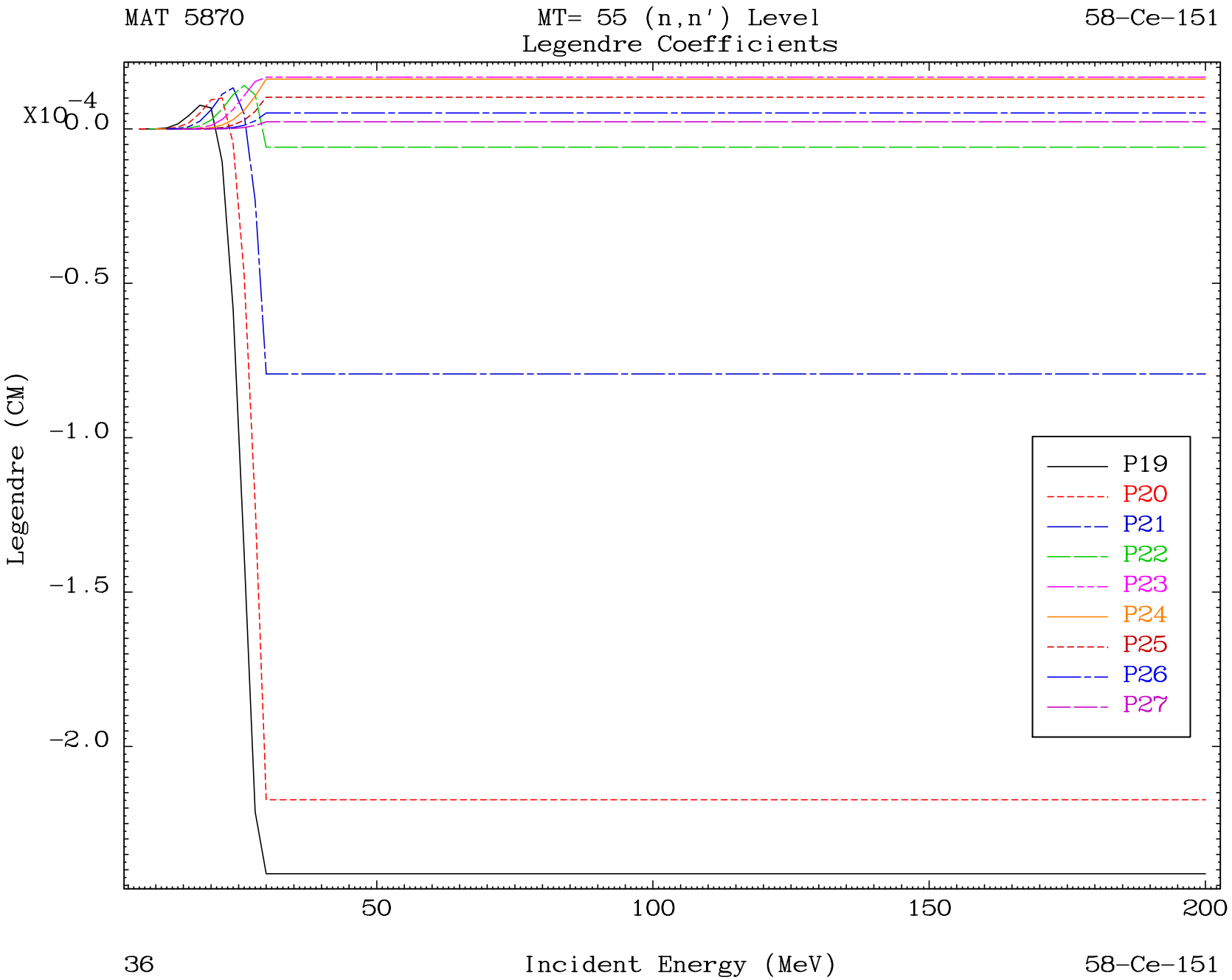

MAT 5870
MT= 54 (n,n') Level
Legendre Coefficients
58-Ce-151
0.015
0.010
0.005
0.000
-0.005
-0.010
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
31
Incident Energy (MeV)
58-Ce-151

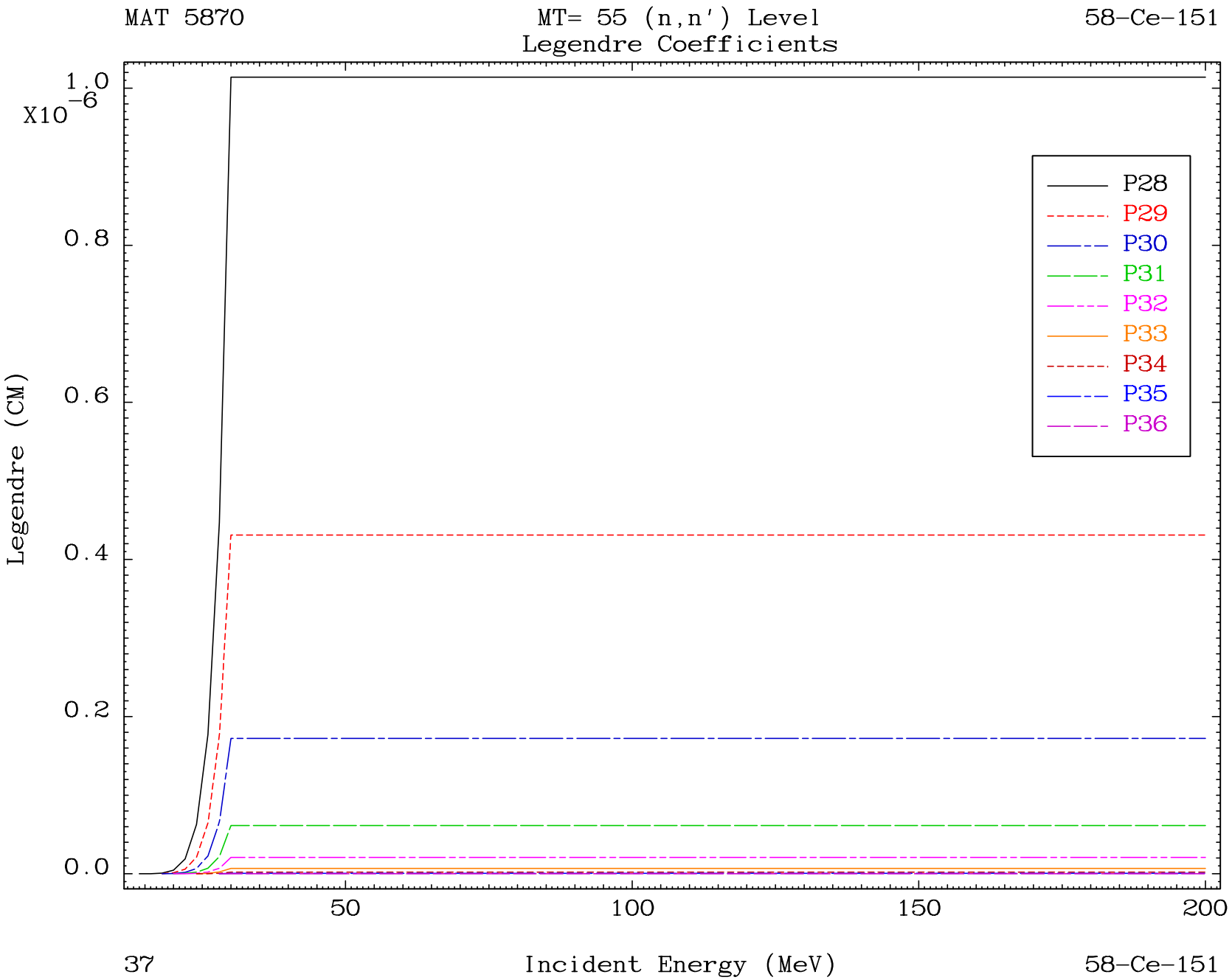

MAT 5870
MT= 54 (n,n') Level
Legendre Coefficients
58-Ce-151
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
32
Incident Energy (MeV)
58-Ce-151
P19
P20
P21
P22
P23
P24
P25
P26
P27


MAT 5870
MT= 54 (n,n') Level
Legendre Coefficients
58-Ce-151
X10+0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
33
Incident Energy (MeV)
58-Ce-151


MAT 5870
MT= 55 (n,n') Level
Legendre Coefficients
58-Ce-151
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
34
Incident Energy (MeV)
58-Ce-151
P1
P2
P3
P4
P5
P6
P7
P8
P9


MAT 5870
MT= 55 (n,n') Level
Legendre Coefficients
58-Ce-151
0.015
0.010
0.005
0.000
-0.005
-0.010
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
35
Incident Energy (MeV)
58-Ce-151


MAT 5870
MT= 55 (n,n') Level
Legendre Coefficients
58-Ce-151
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
36
58-Ce-151
P19
P20
P21
P22
P23
P24
P25
P26
P27


MAT 5870
MT= 55 (n,n') Level
Legendre Coefficients
58-Ce-151
X10 -6
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
37
Incident Energy (MeV)
58-Ce-151