Program EVALPLOT
(Version 2017-1)
by
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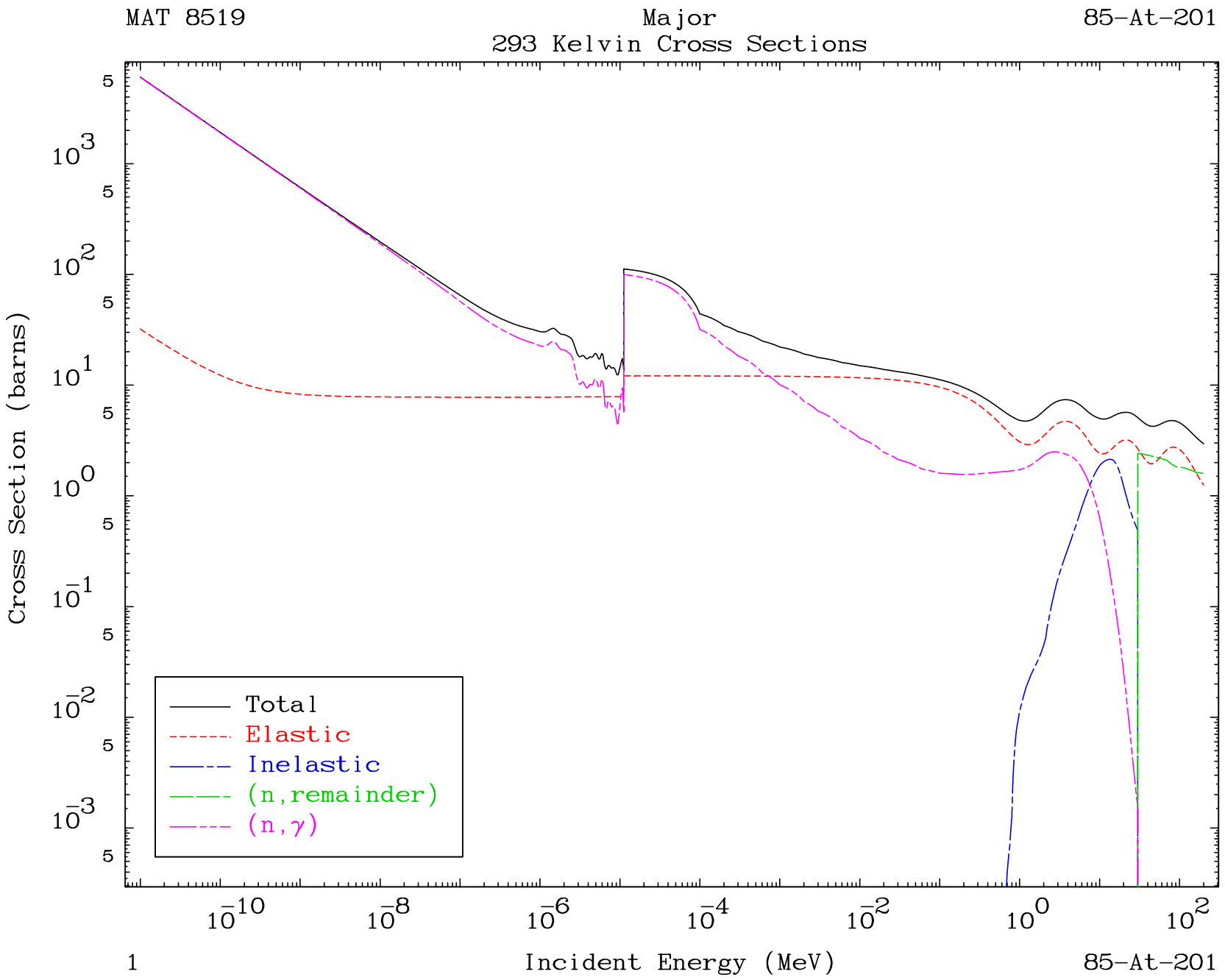
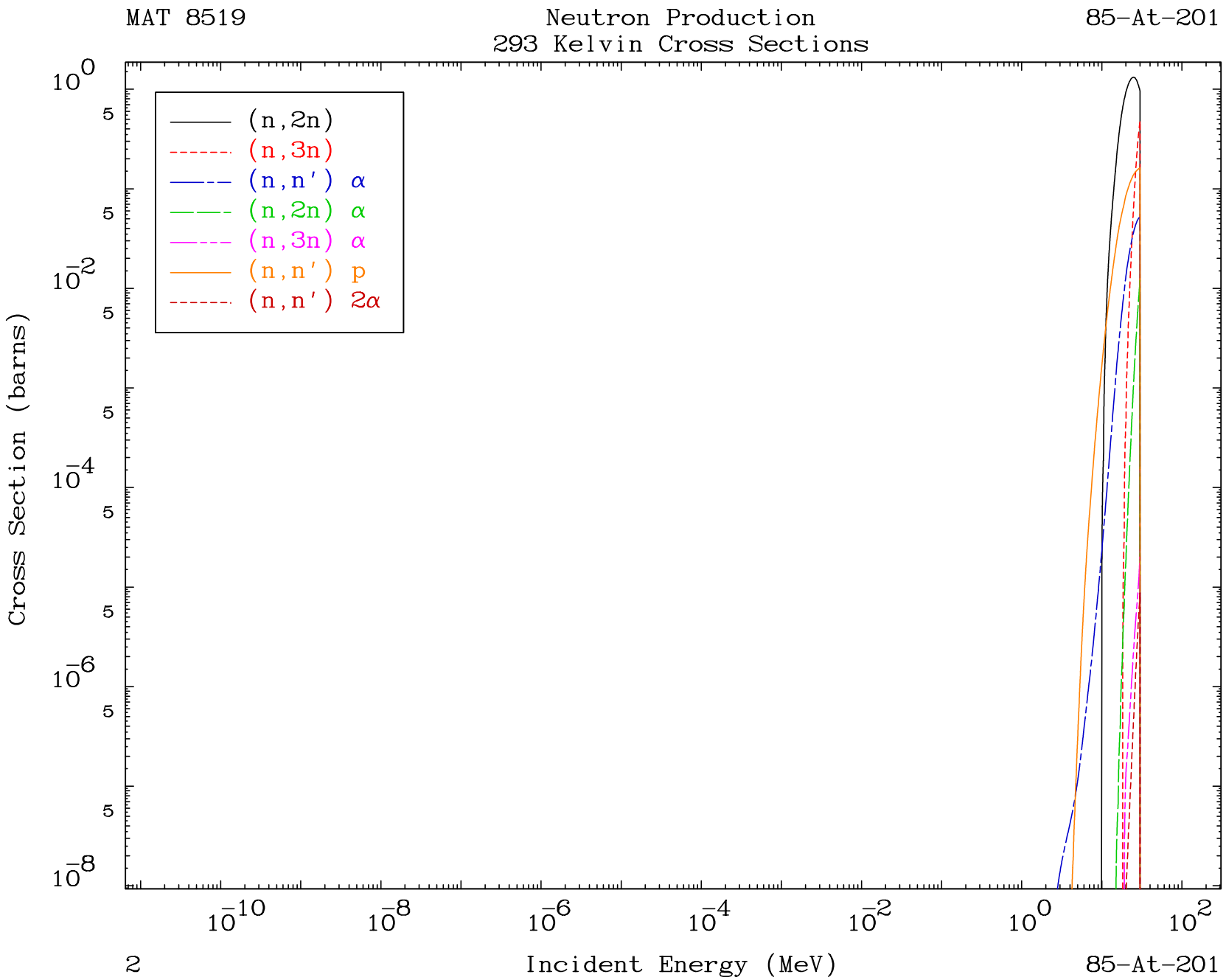
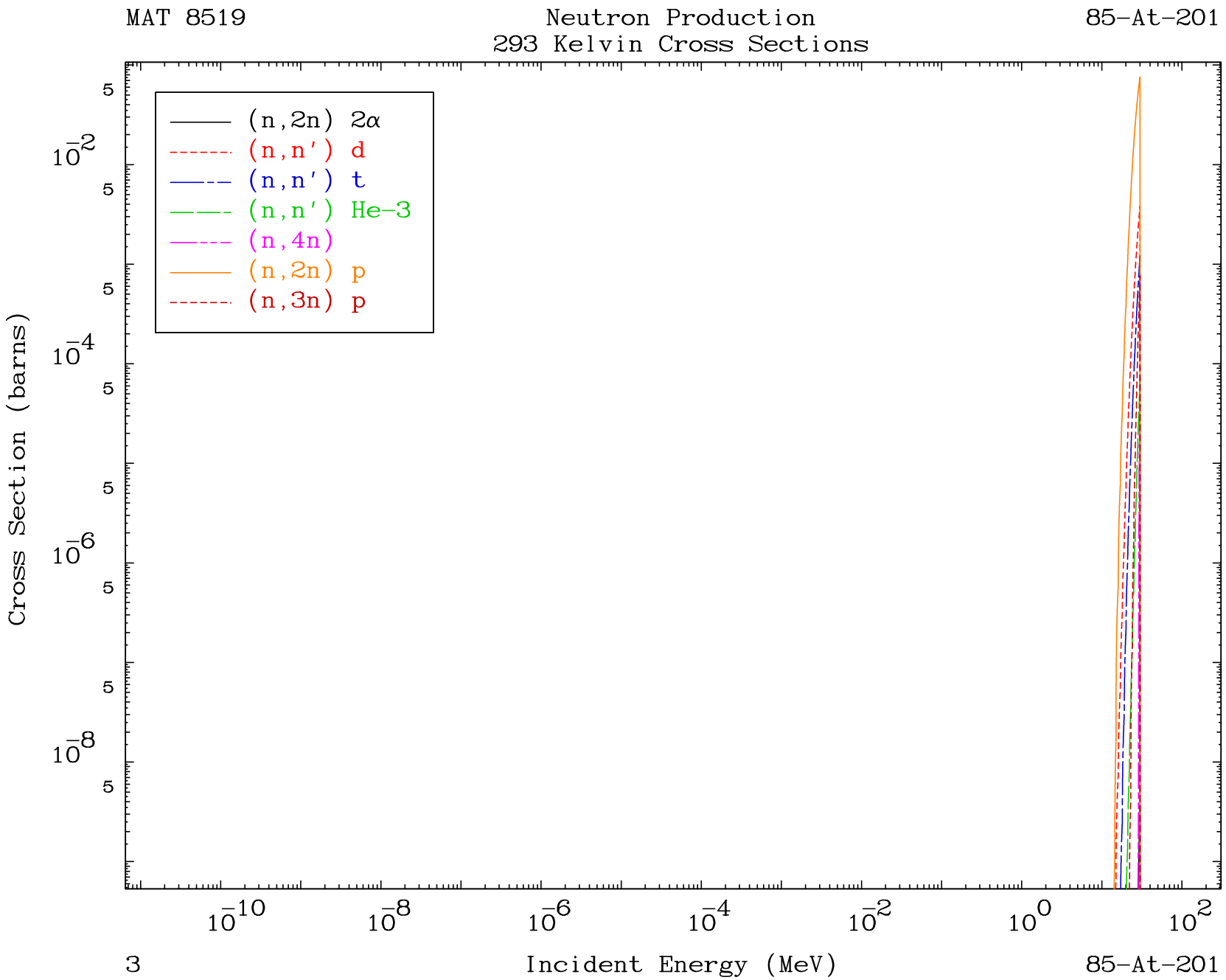
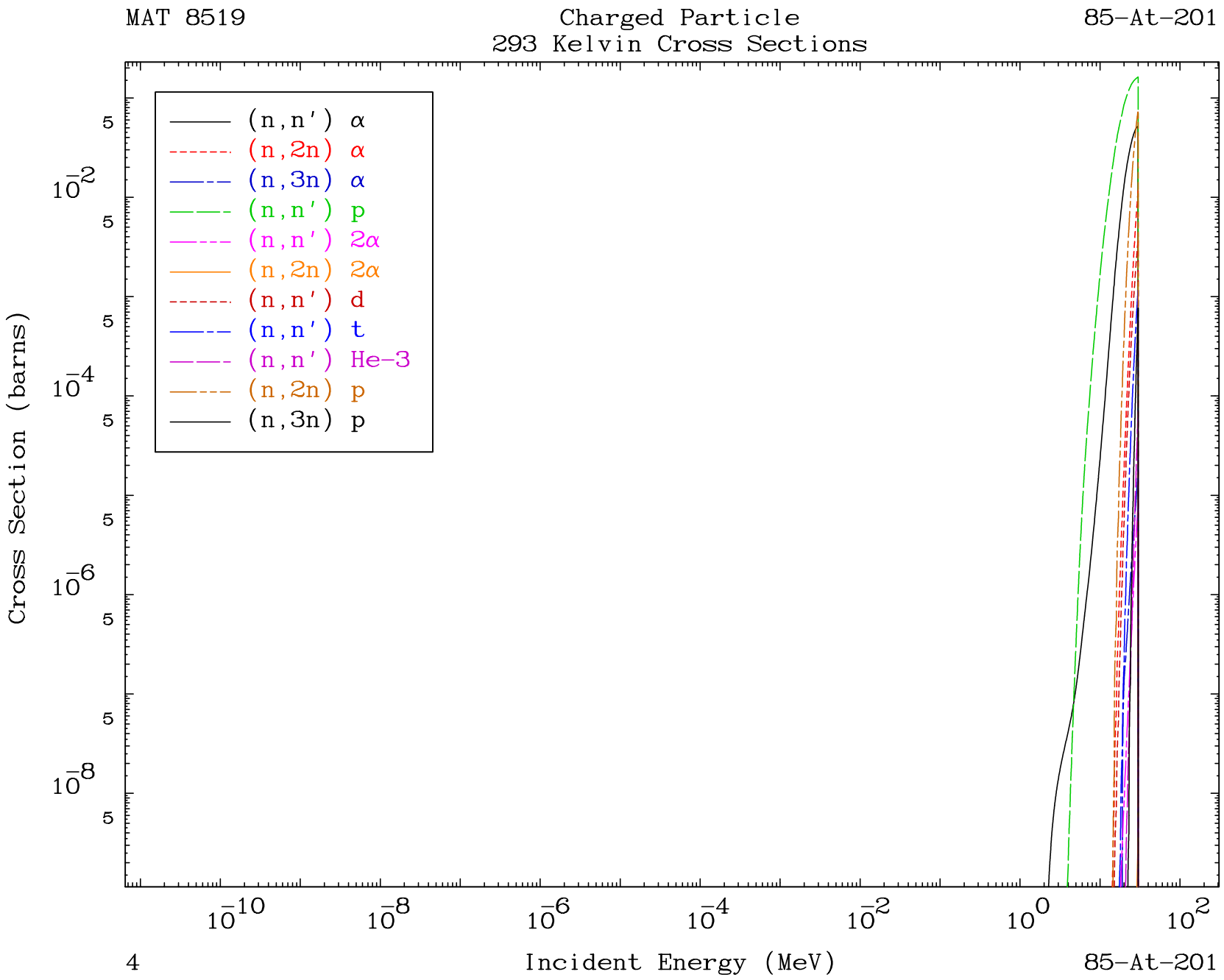
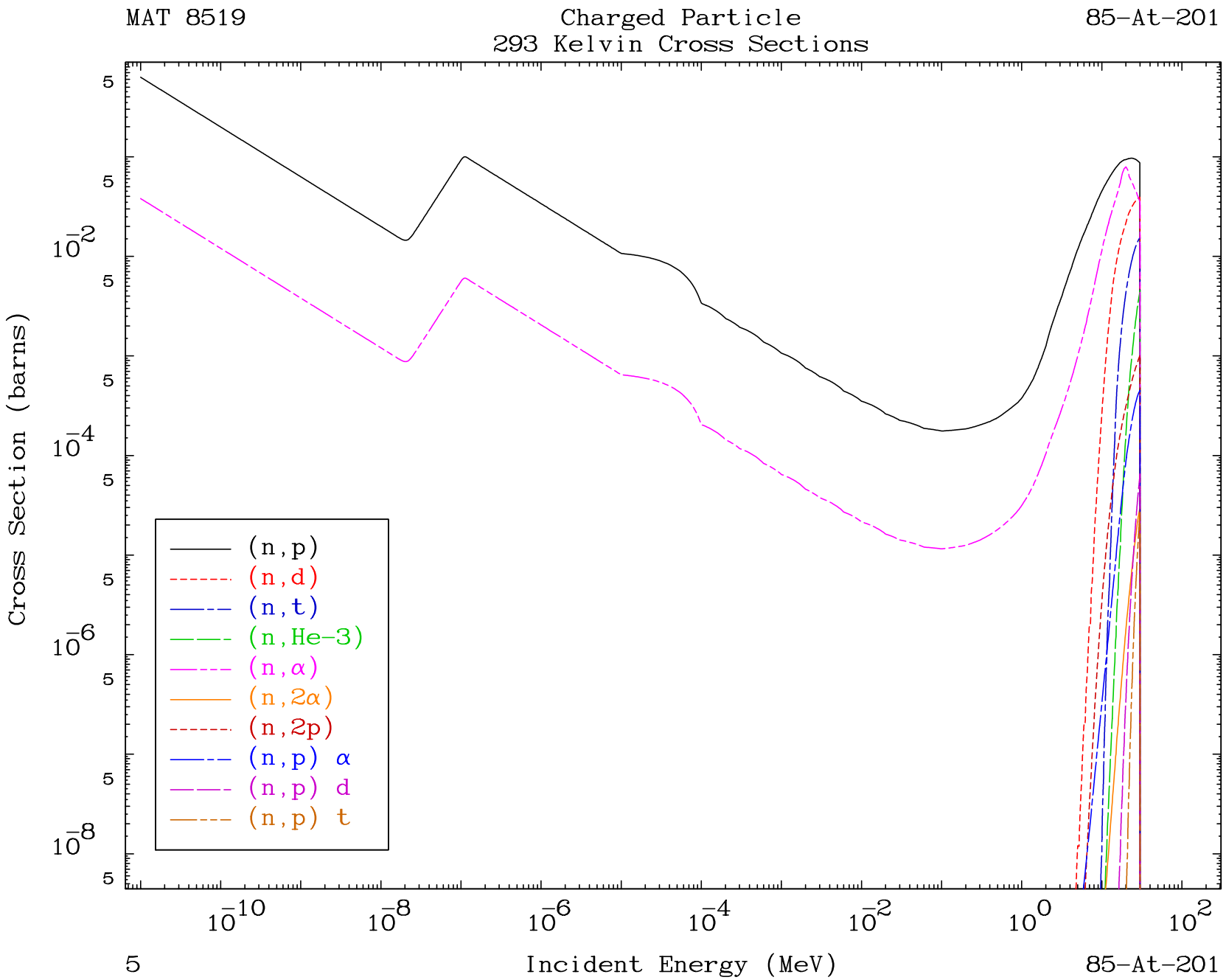
Press Mouse Button to Start

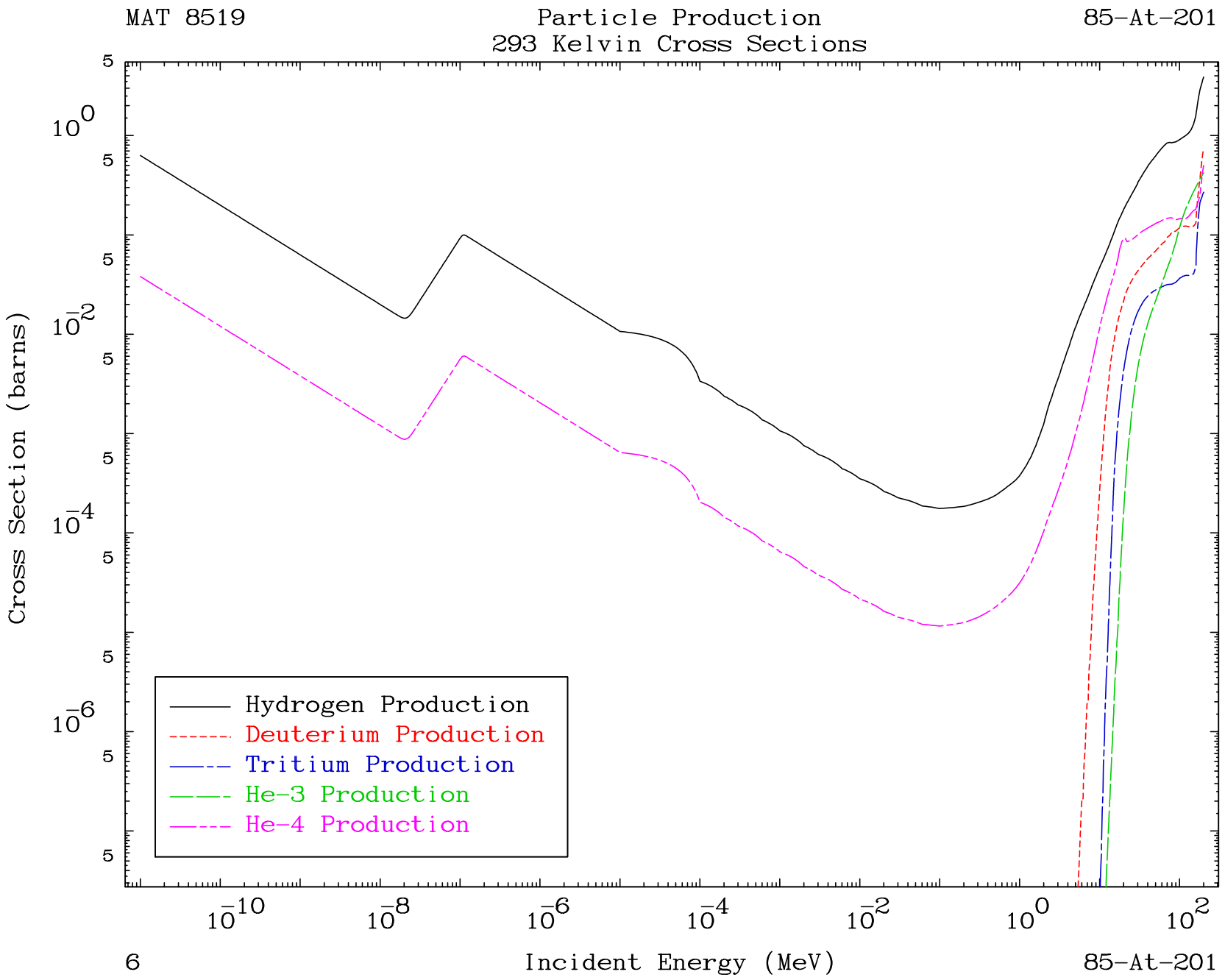

MAT 8519
Major
85-At-201
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
85-At-201

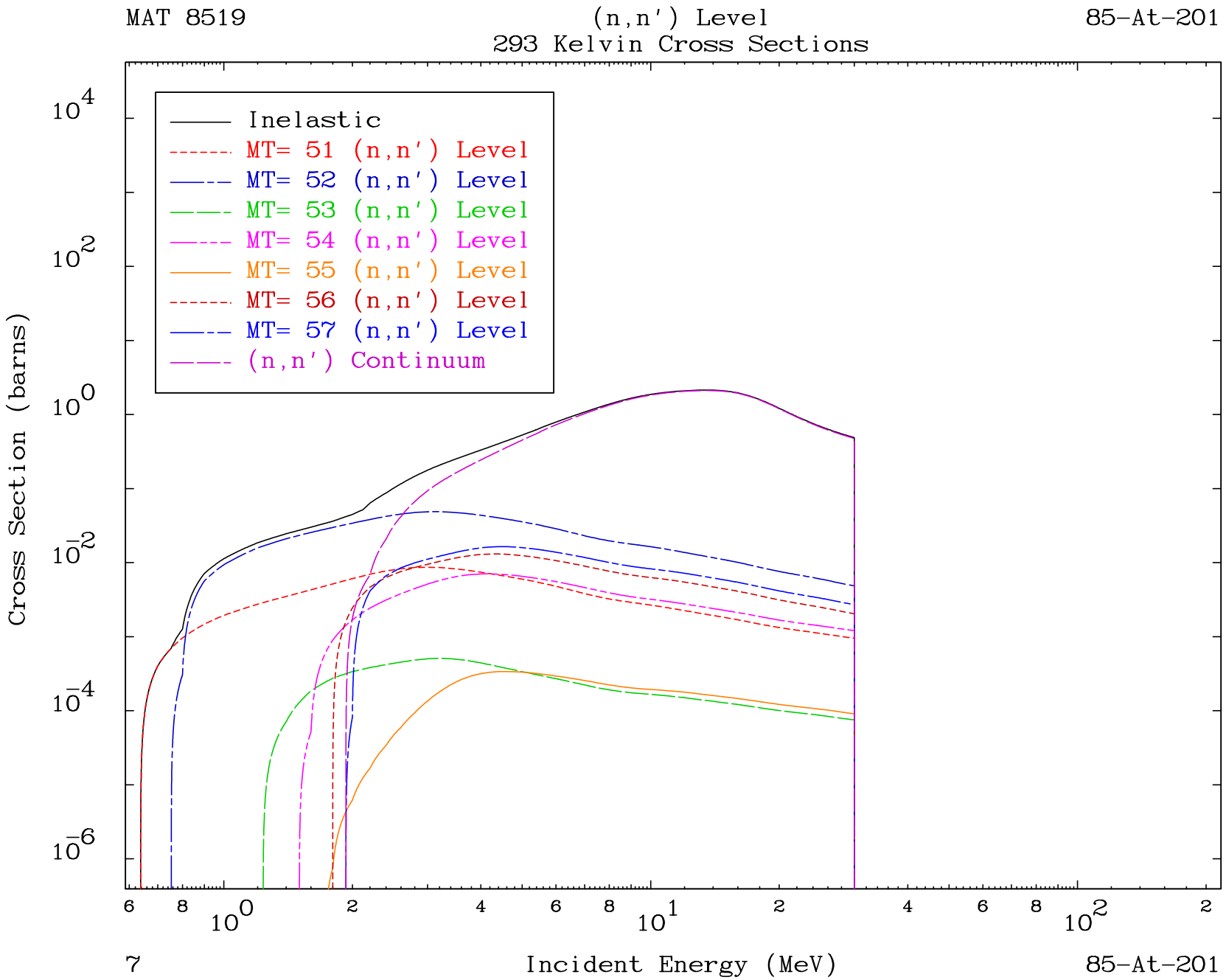

MAT 8519
Neutron Production
293 Kelvin Cross Sections
85-At-201
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
2
85-At-201

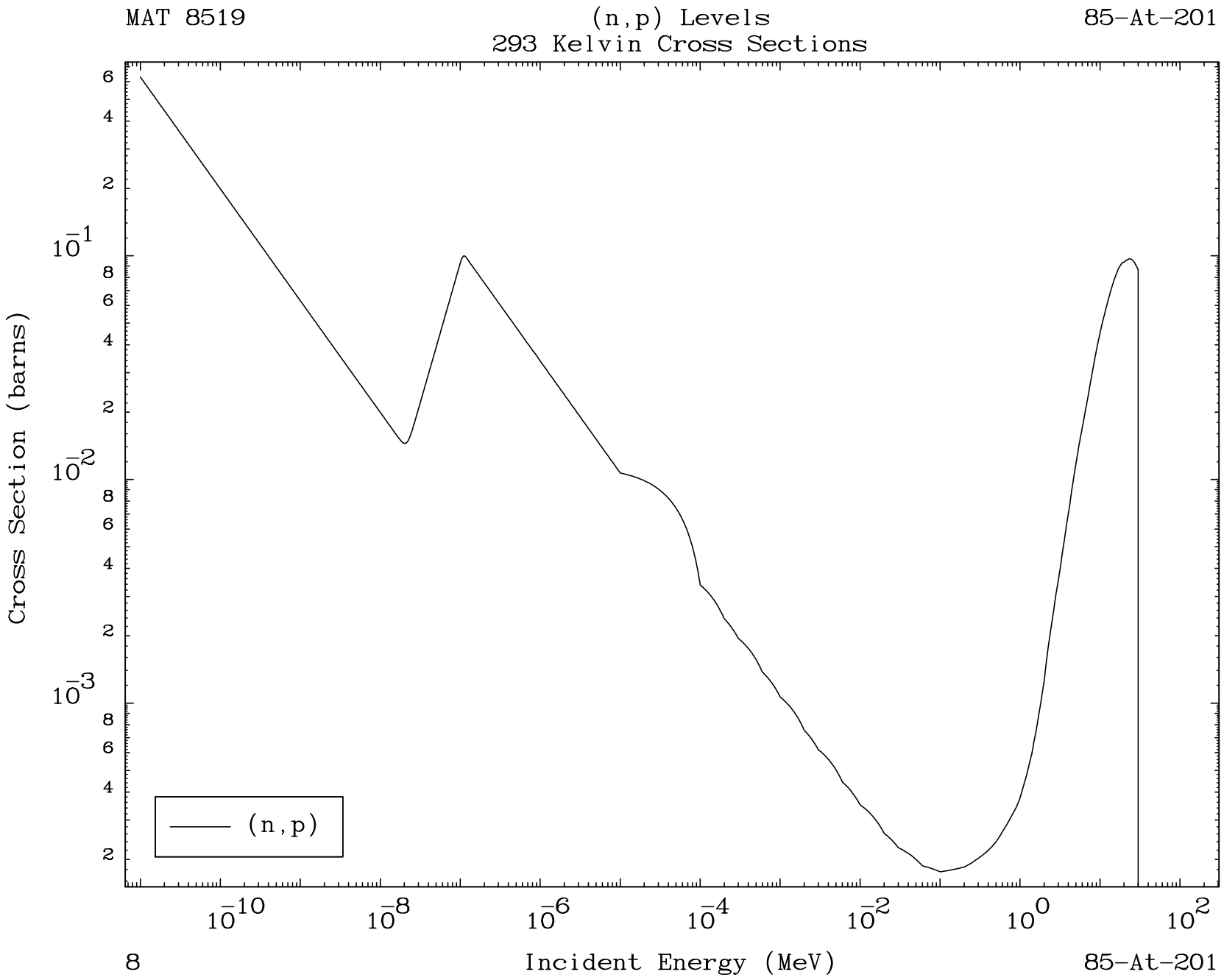

MAT 8519
Neutron Production
293 Kelvin Cross Sections
85-At-201
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
3
85-At-201

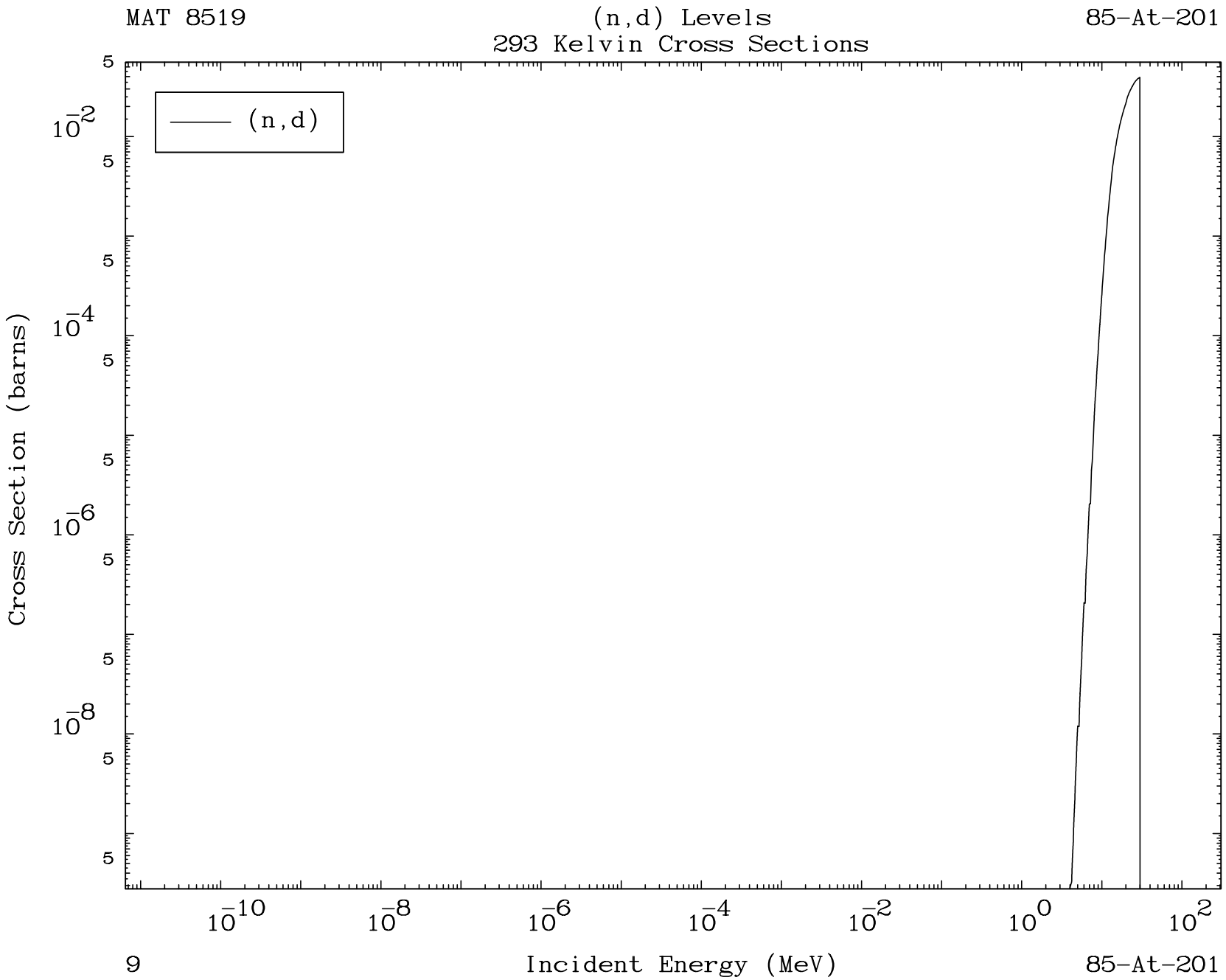

MAT 8519
Charged Particle
293 Kelvin Cross Sections
85-At-201
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
85-At-201

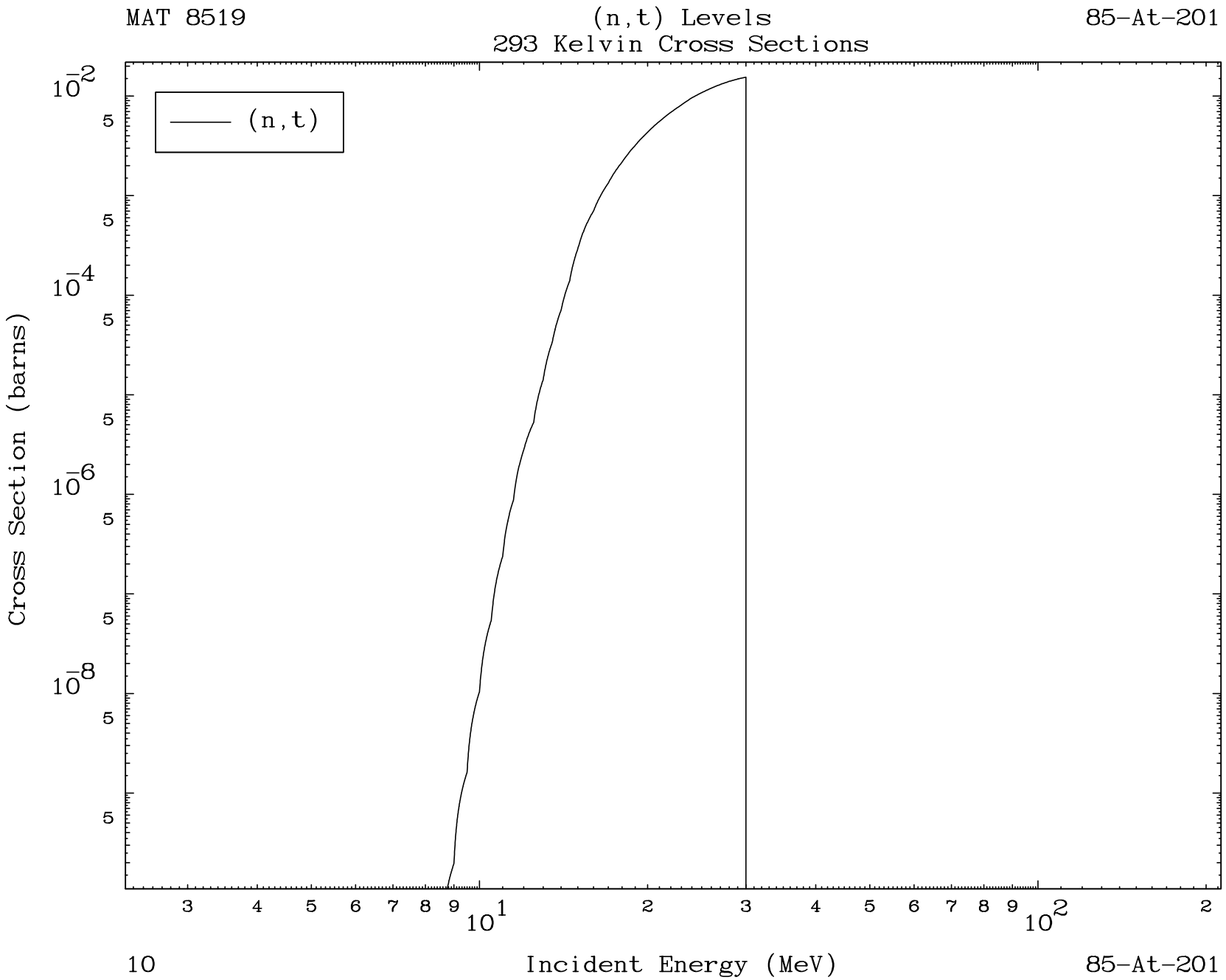

MAT 8519
Charged Particle
293 Kelvin Cross Sections
85-At-201
Cross Section (barns)
Incident Energy (MeV)
85-At-201
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

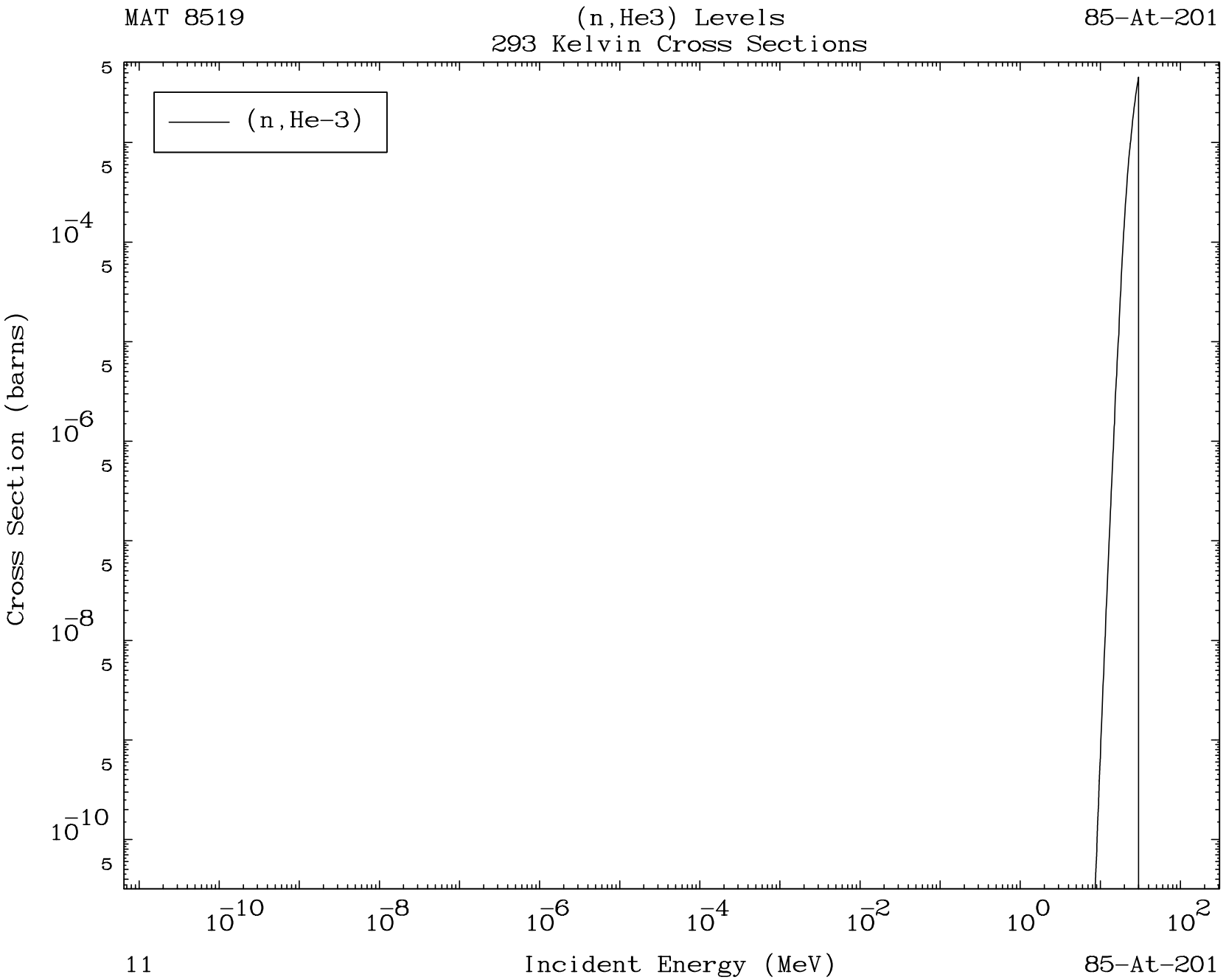

MAT 8519
Particle Production
293 Kelvin Cross Sections
85-At-201
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
6
85-At-201

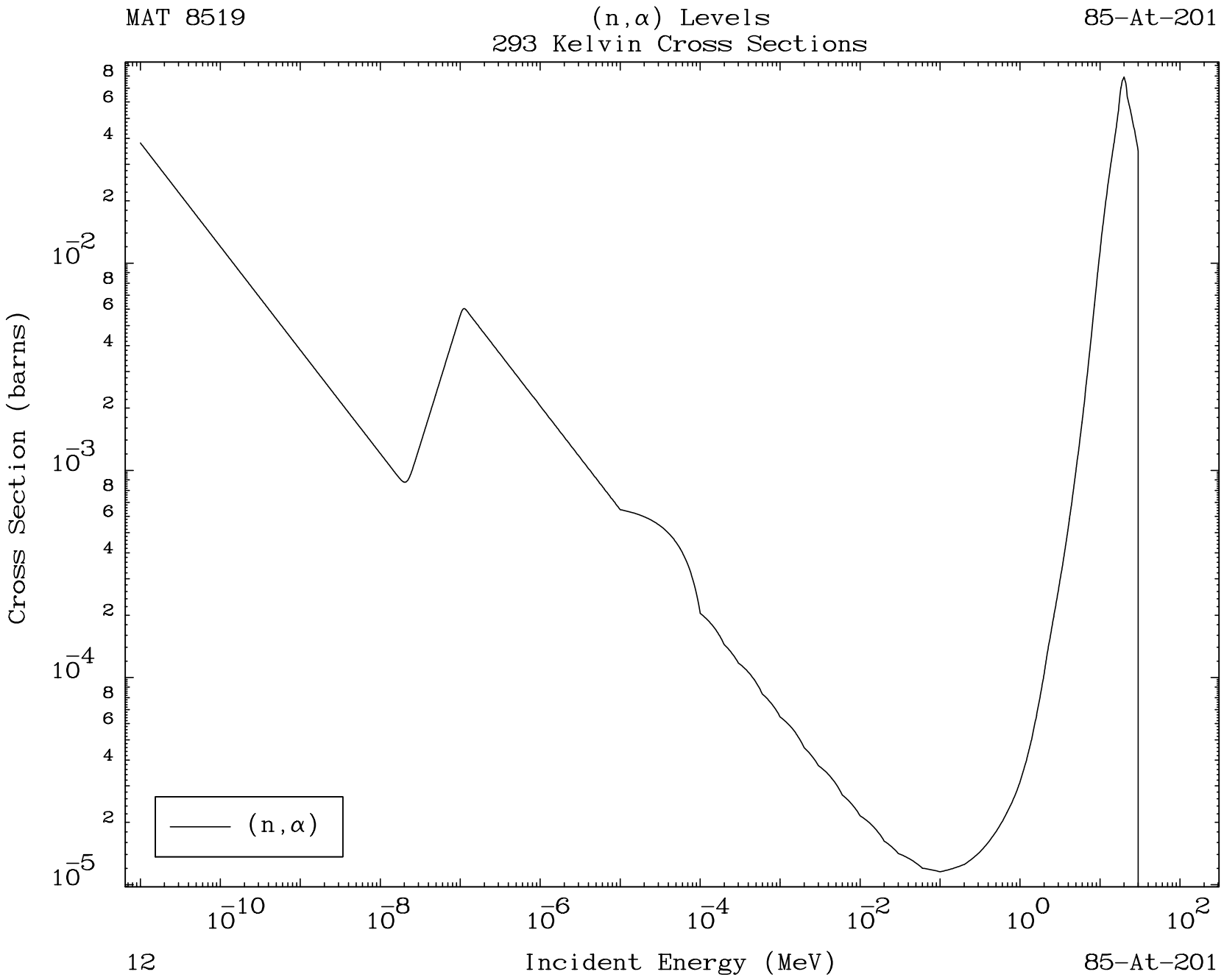

MAT 8519
(n,n') Level
85-At-201
293 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
7
85-At-201

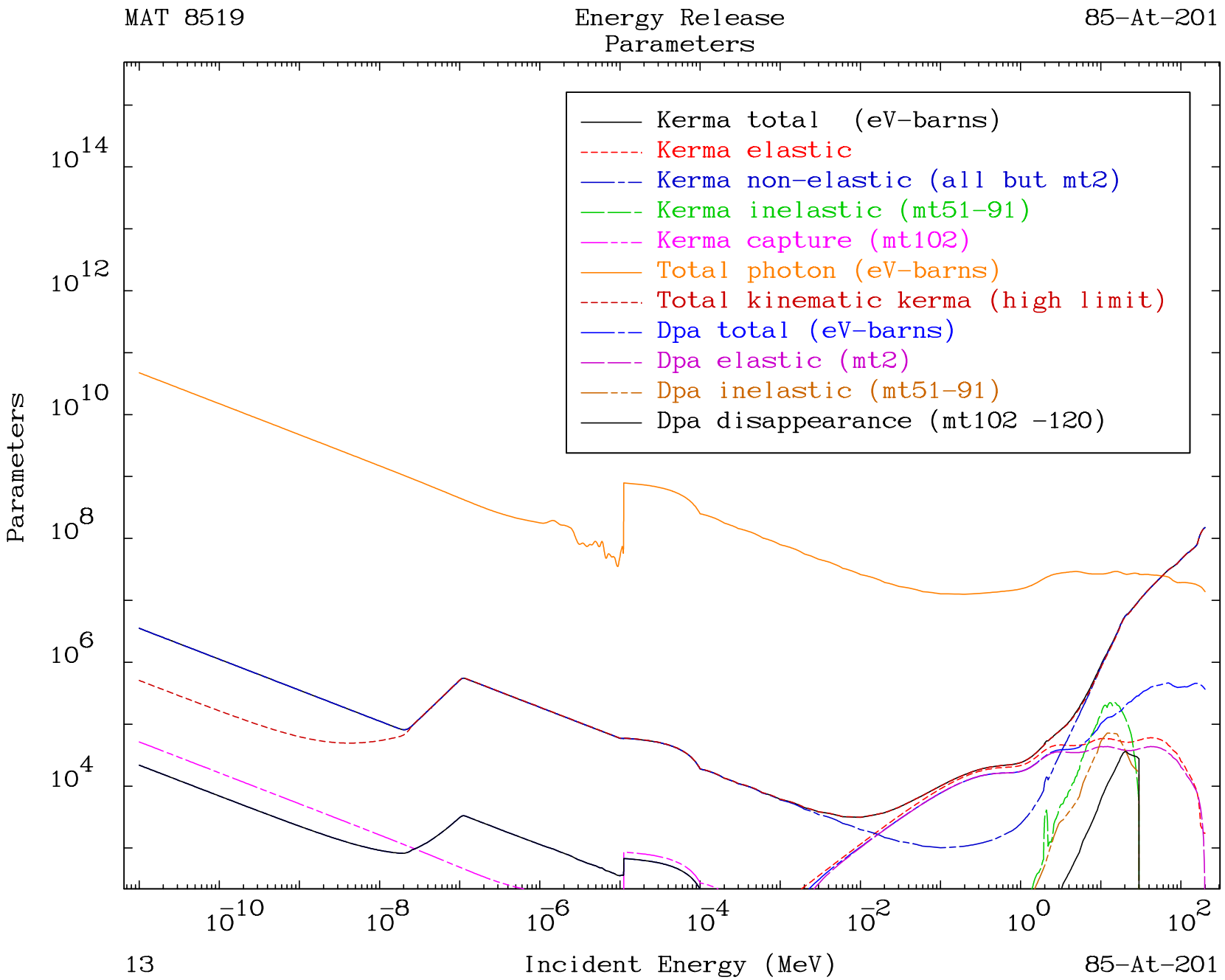

MAT 8519
(n,p) Levels
85-At-201
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
(n,p)
8
85-At-201

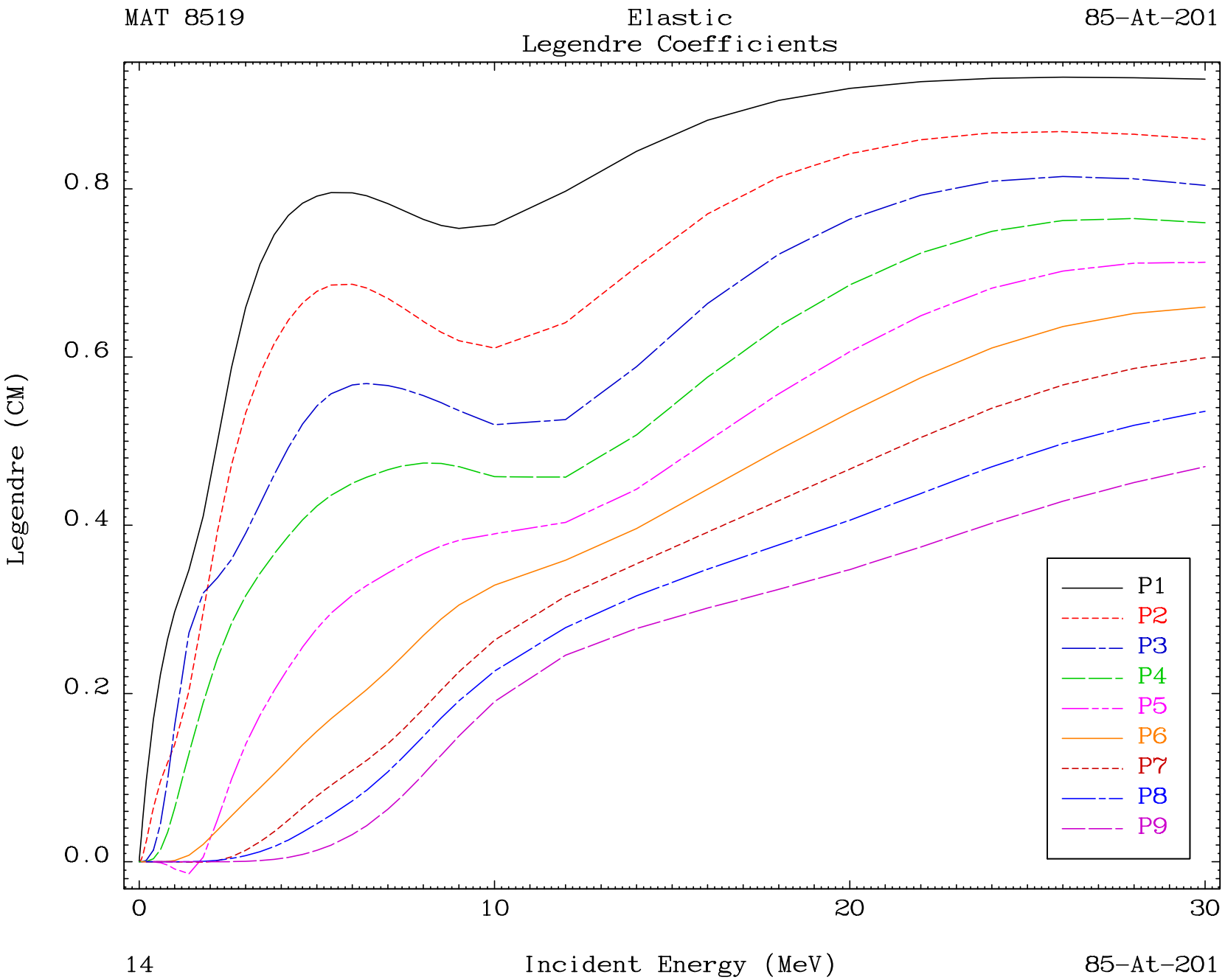

MAT 8519
(n,d) Levels
85-At-201
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
9
85-At-201

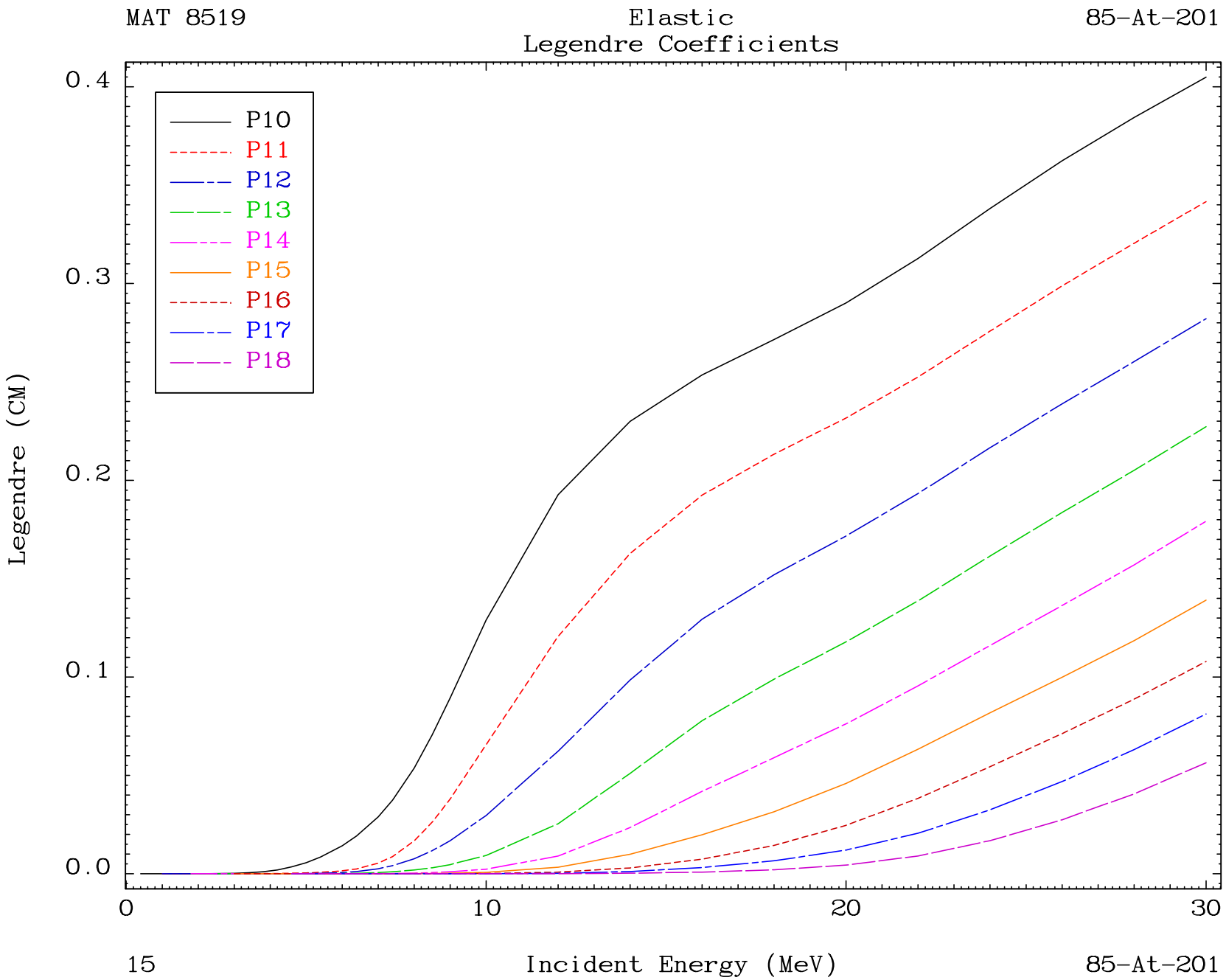

MAT 8519
(n,t) Levels
85-At-201
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
3 4 5 6 7 8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
10
Incident Energy (MeV)
85-At-201

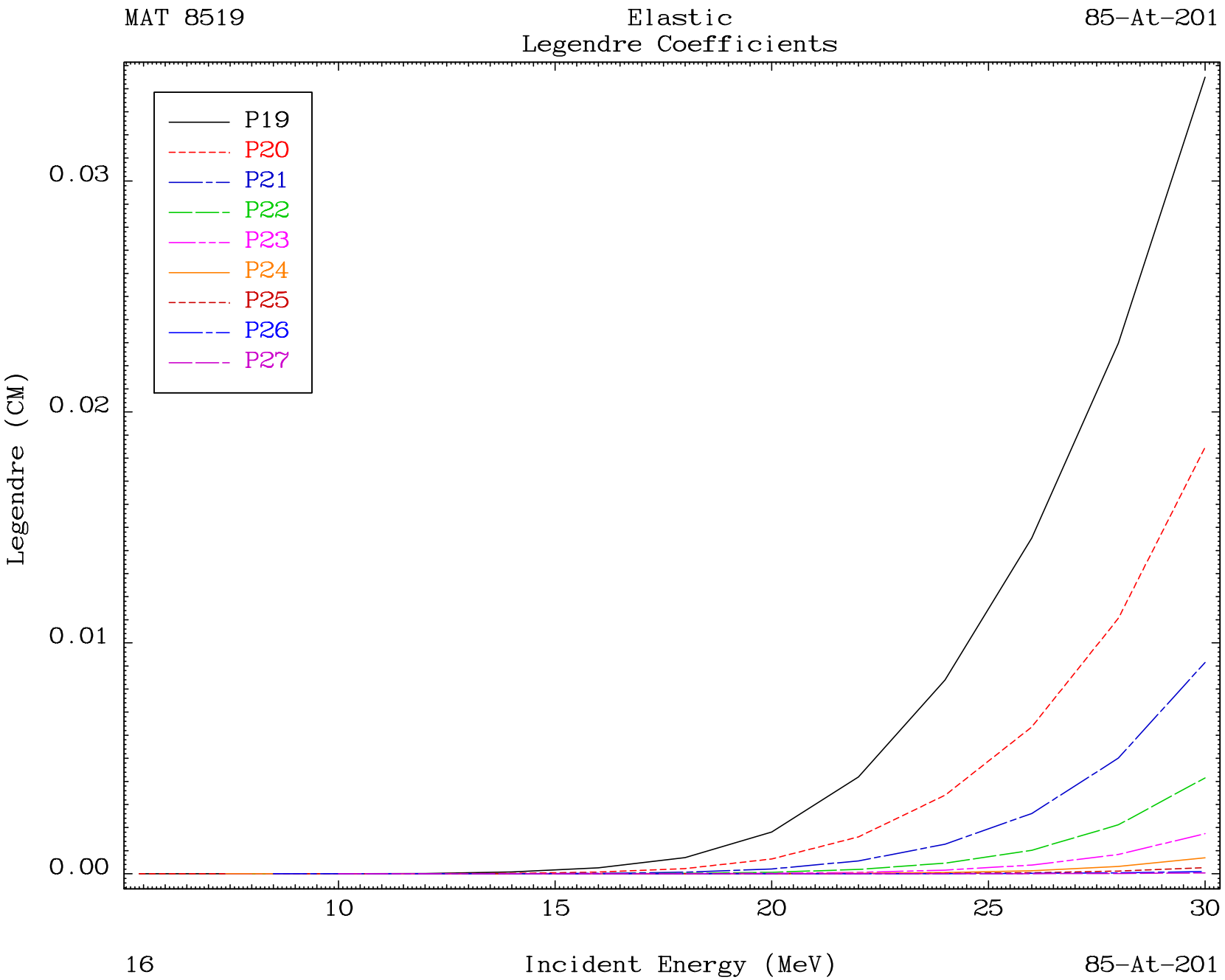

MAT 8519
(n,He3) Levels
85-At-201
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
11
85-At-201

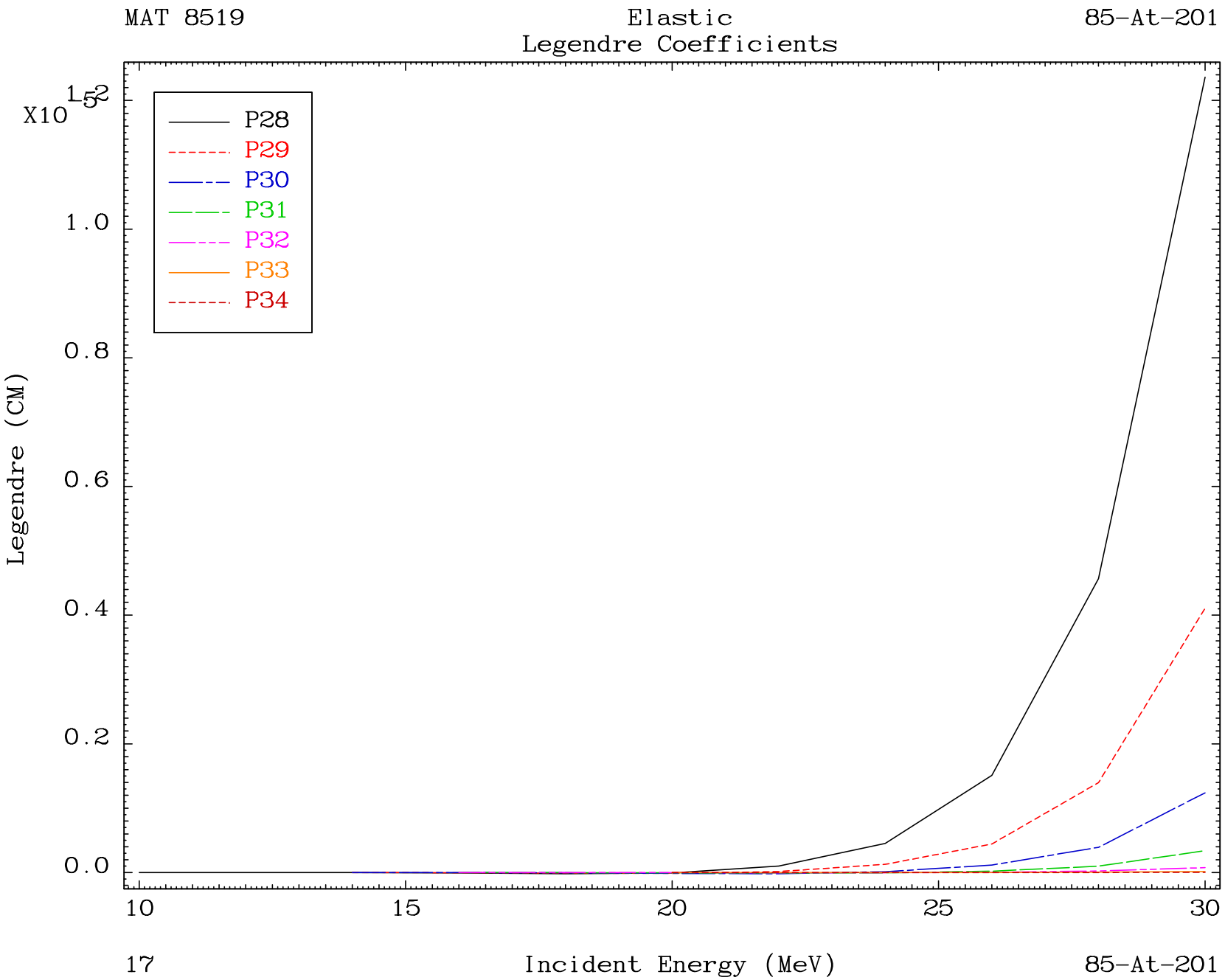

MAT 8519
(n,α) Levels
85-At-201
293 Kelvin Cross Sections
Cross Section (barns)
(n,α)
Incident Energy (MeV)
12
85-At-201

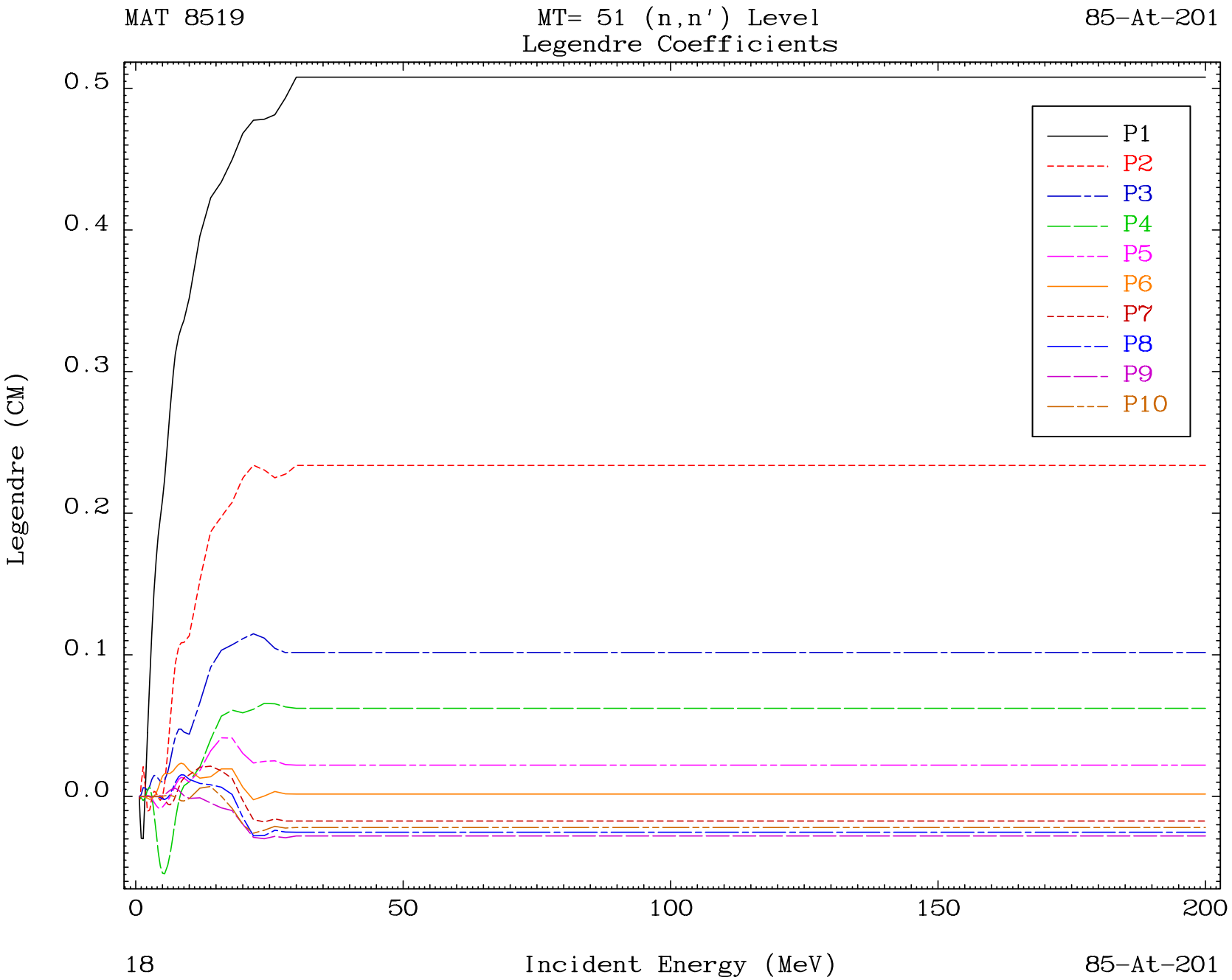

MAT 8519
Energy Release
Parameters
85-At-201
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
$10^{14}$
$10^{12}$
$10^{10}$
$10^{8}$
$10^{6}$
$10^{4}$
$10^{-10}$
$10^{-8}$
$10^{-6}$
$10^{-4}$
$10^{-2}$
$10^{0}$
$10^{2}$
13
Incident Energy (MeV)
85-At-201

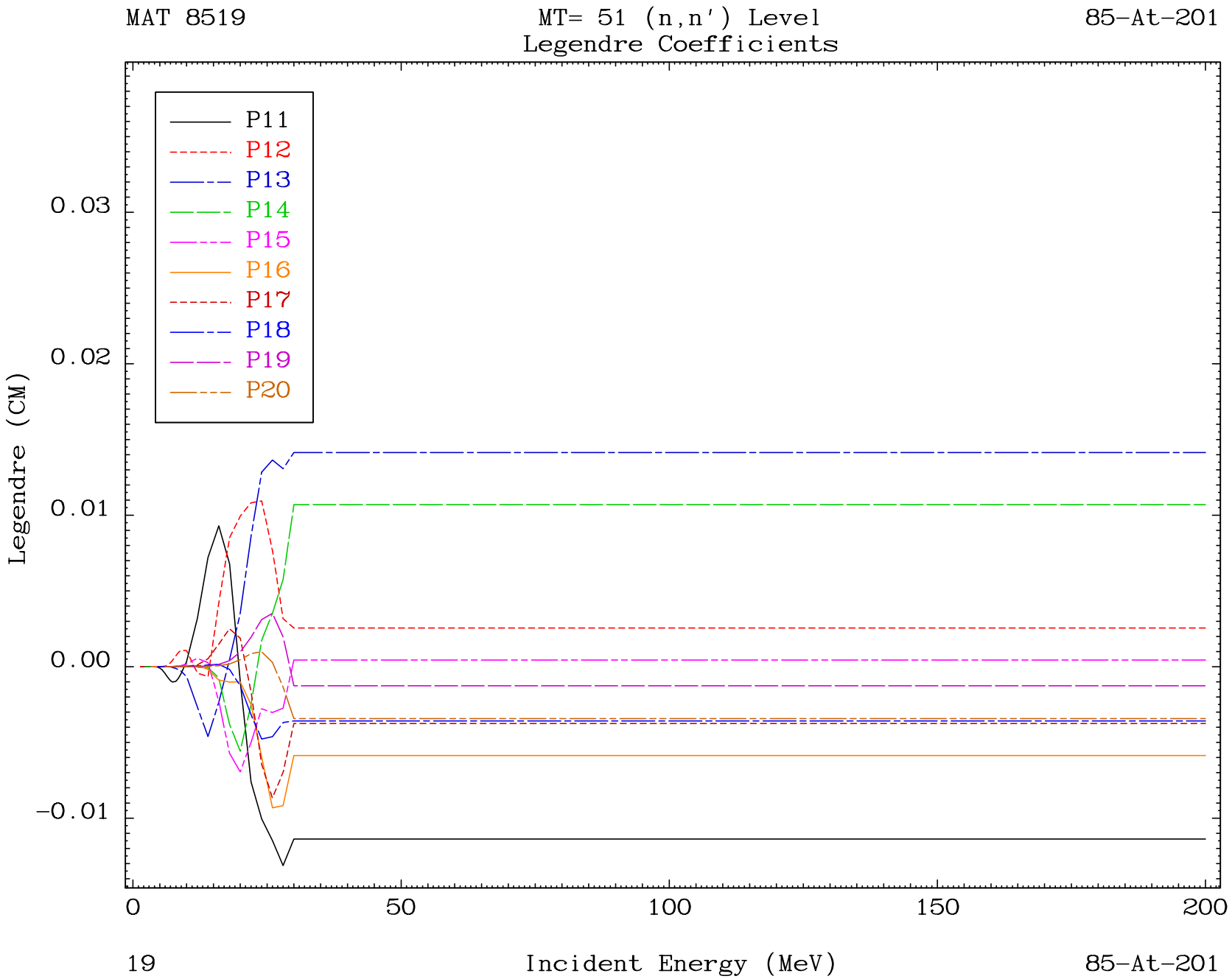

MAT 8519
Elastic
Legendre Coefficients
85-At-201
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
14
Incident Energy (MeV)
85-At-201
P1
P2
P3
P4
P5
P6
P7
P8
P9

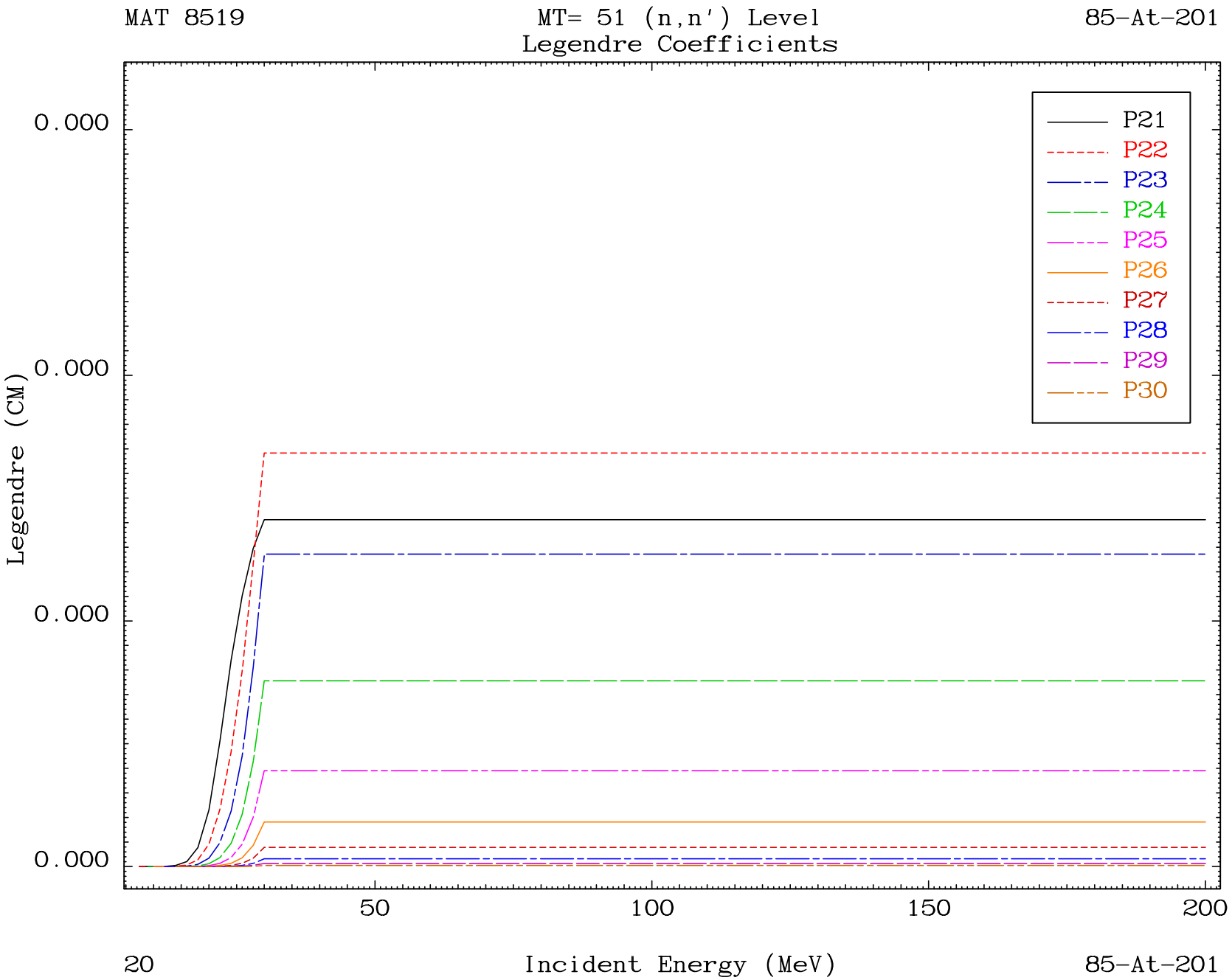

MAT 8519
Elastic
Legendre Coefficients
85-At-201
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
10
20
30
15
Incident Energy (MeV)
85-At-201

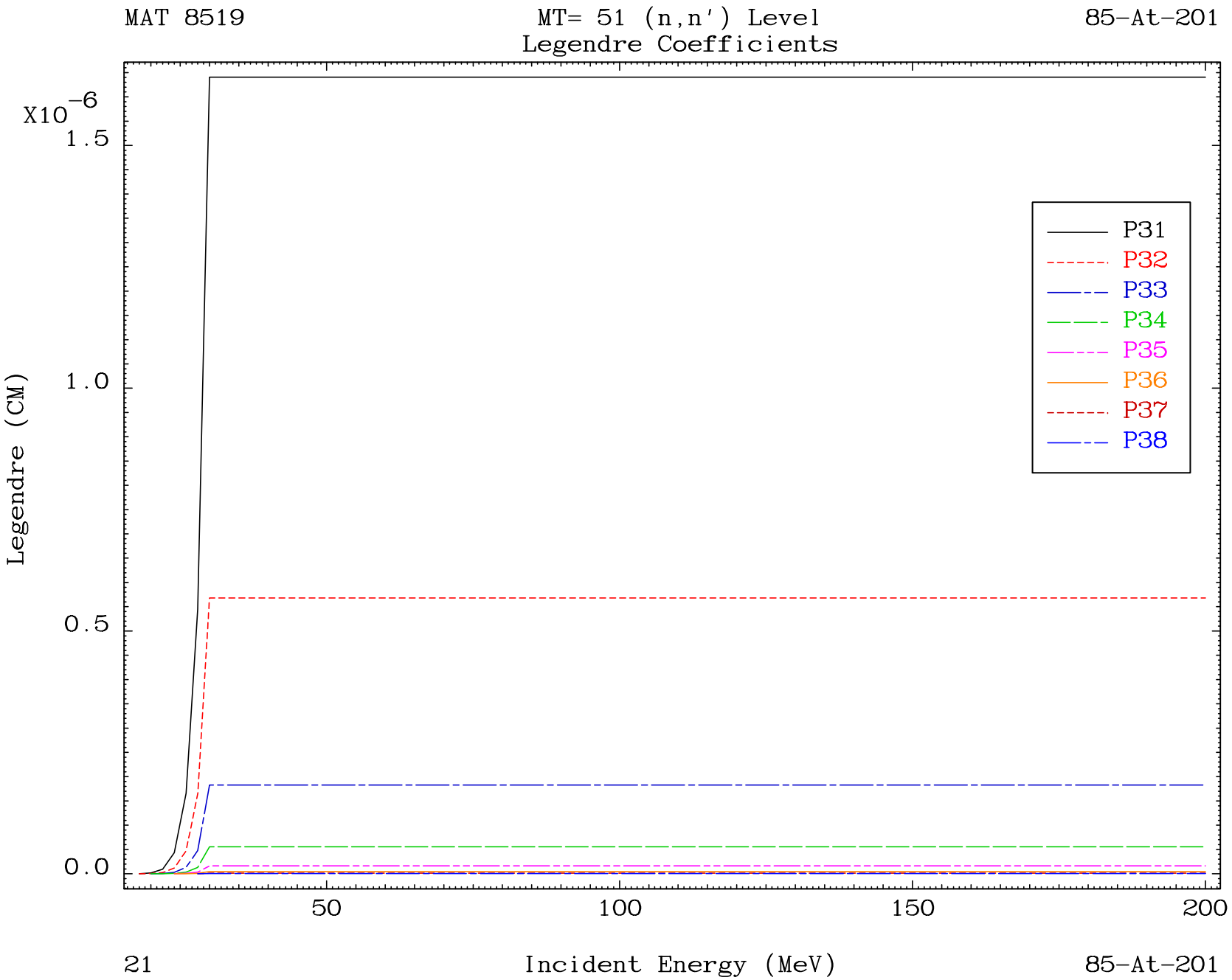

MAT 8519
Elastic
Legendre Coefficients
85-At-201
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.03
0.02
0.01
0.00
Legendre (CM)
10
15
20
25
30
16
Incident Energy (MeV)
85-At-201

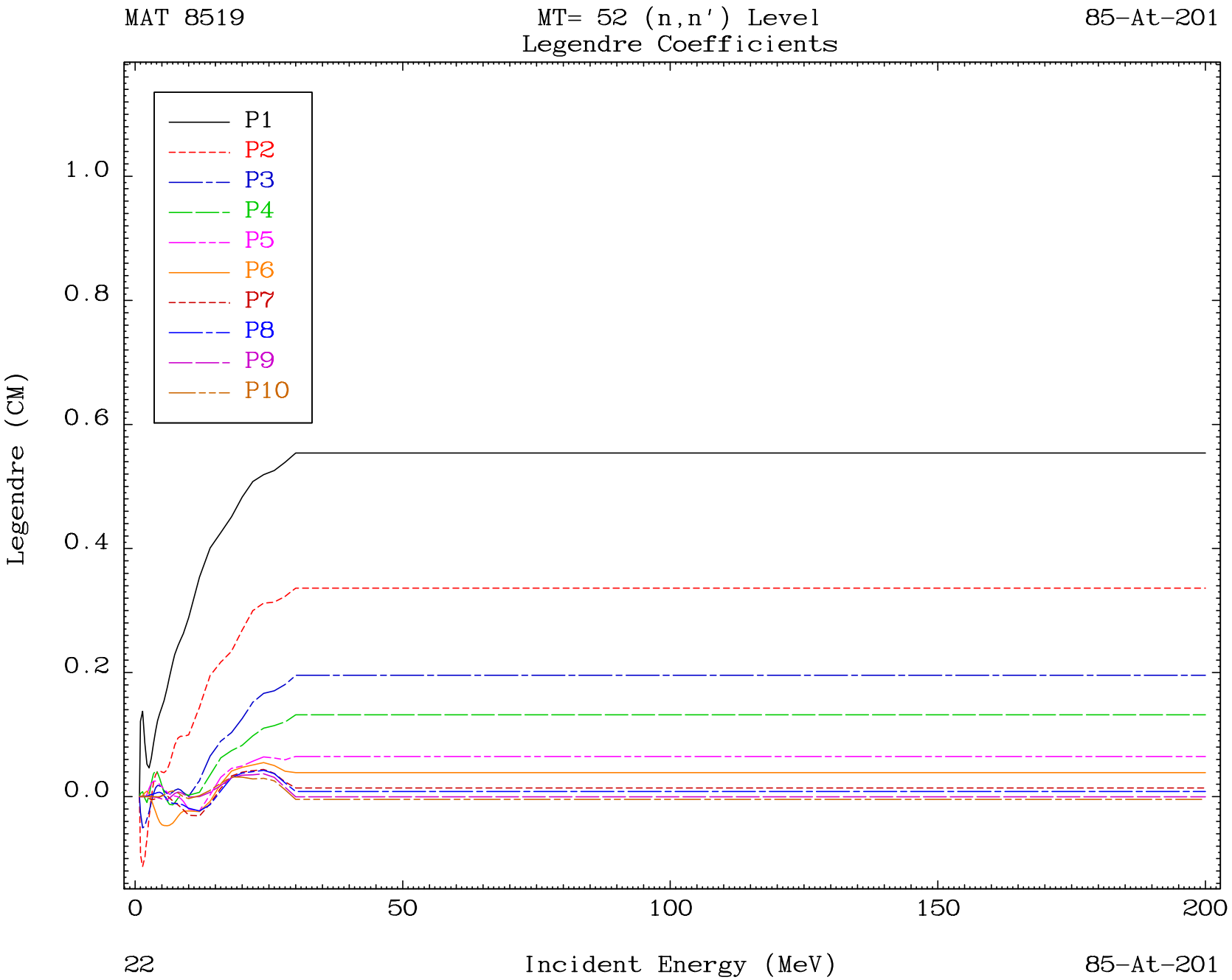

MAT 8519
Elastic
Legendre Coefficients
85-At-201
X10 -2
1.5
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
17
Incident Energy (MeV)
85-At-201

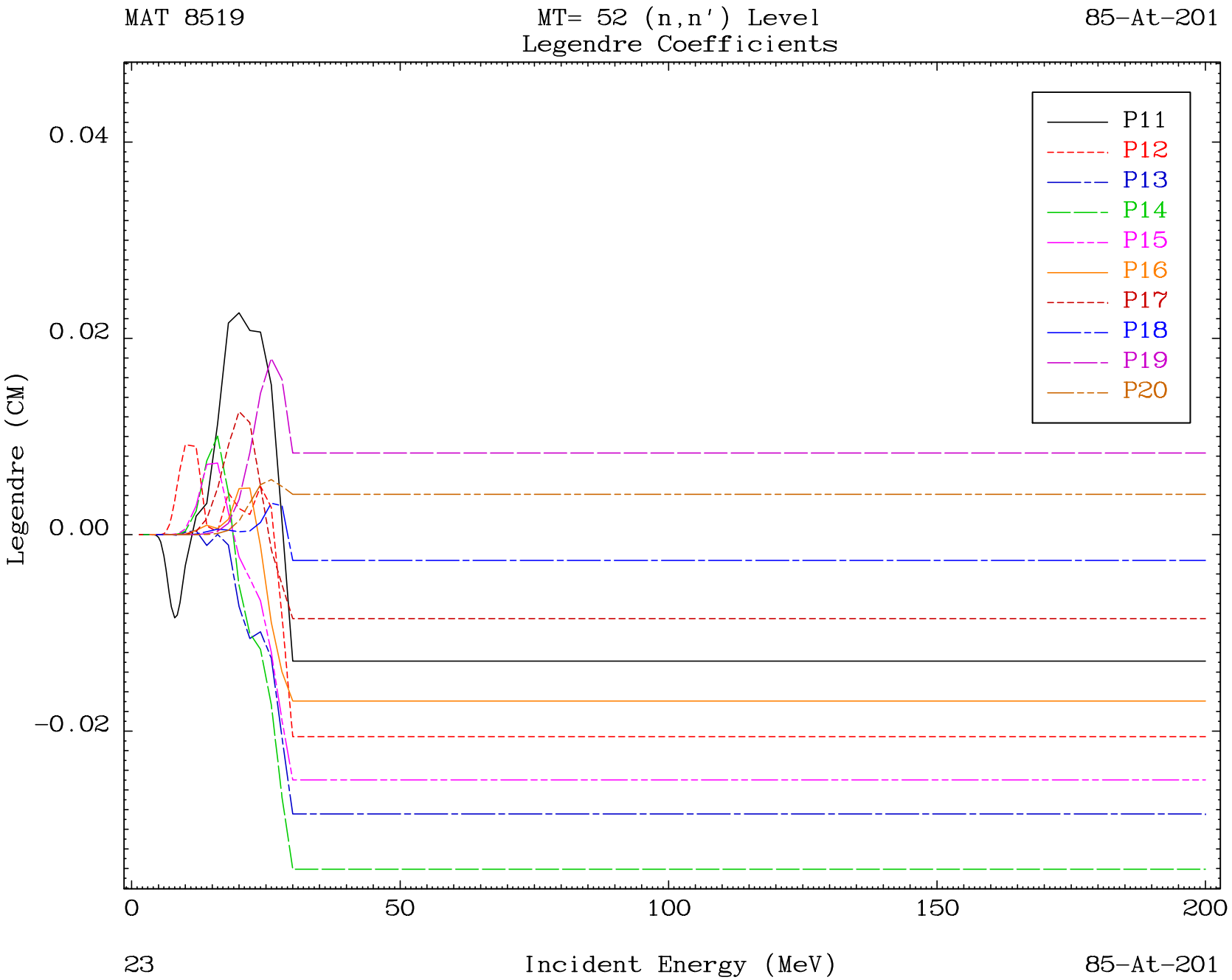

MAT 8519
MT= 51 (n,n') Level
Legendre Coefficients
85-At-201
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
Incident Energy (MeV)
18
85-At-201
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

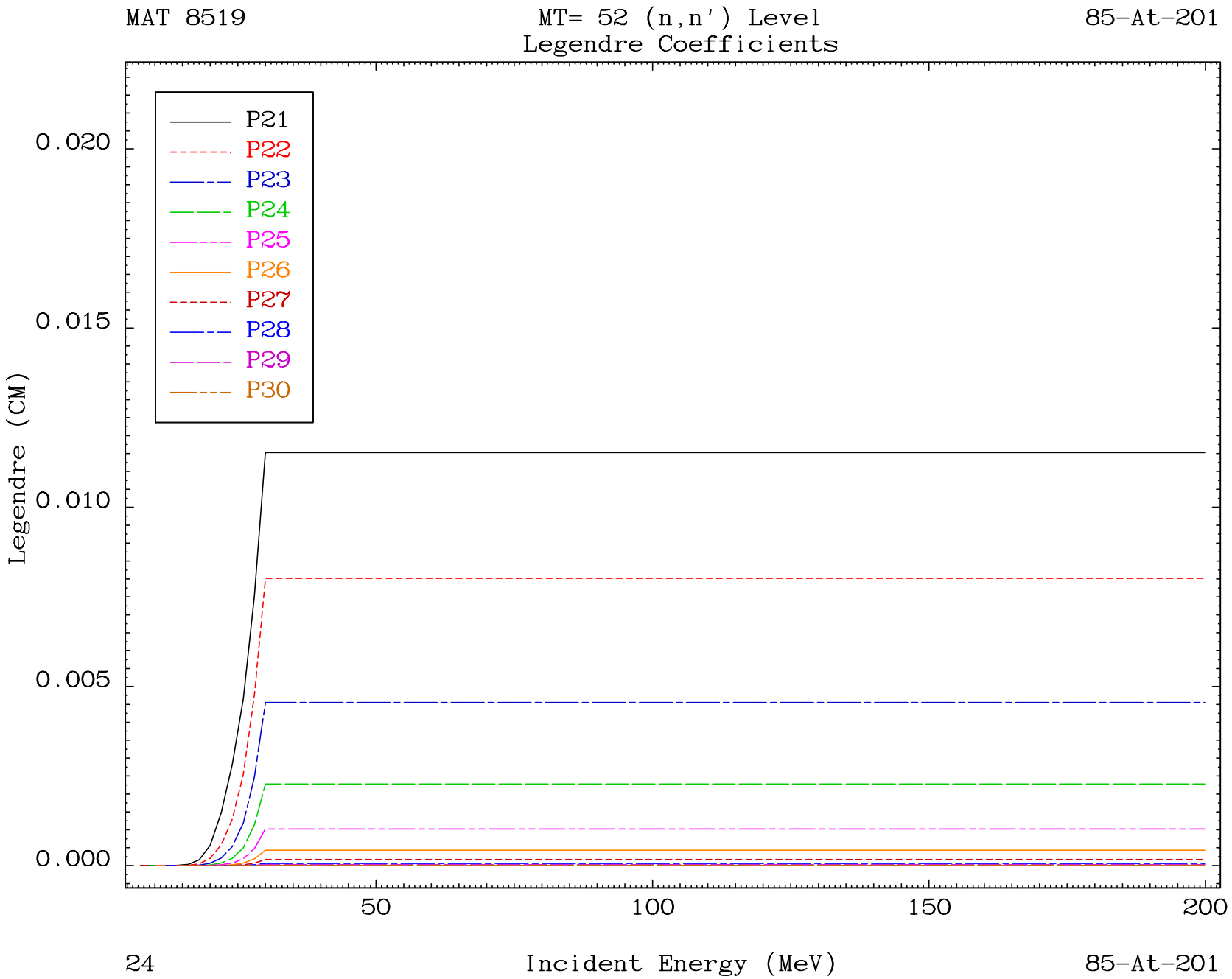

MAT 8519
MT= 51 (n,n') Level
Legendre Coefficients
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
19
Incident Energy (MeV)
85-At-201

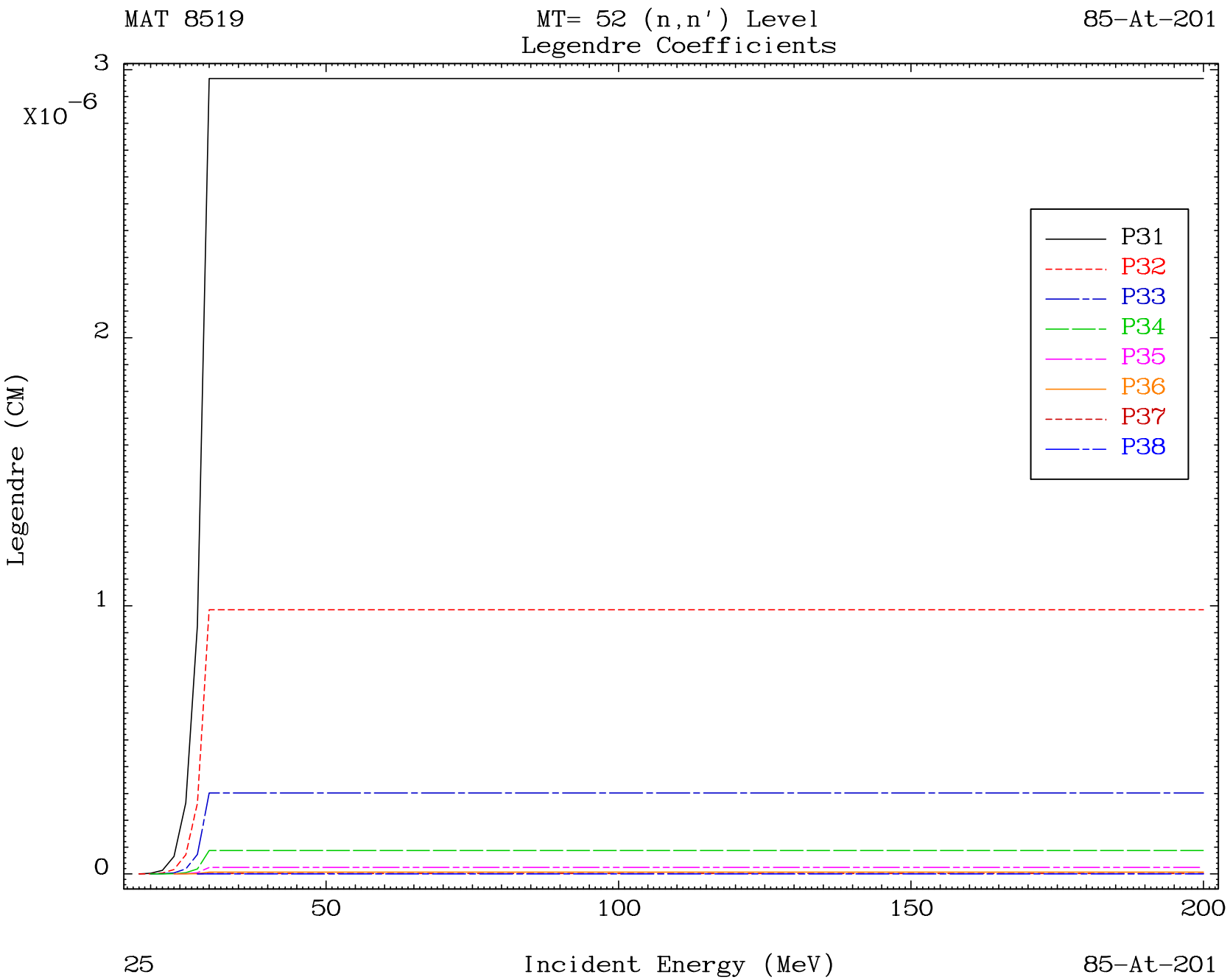

MAT 8519
MT= 51 (n,n') Level
Legendre Coefficients
85-At-201
0.000
0.000
0.000
0.000
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
20
Incident Energy (MeV)
85-At-201

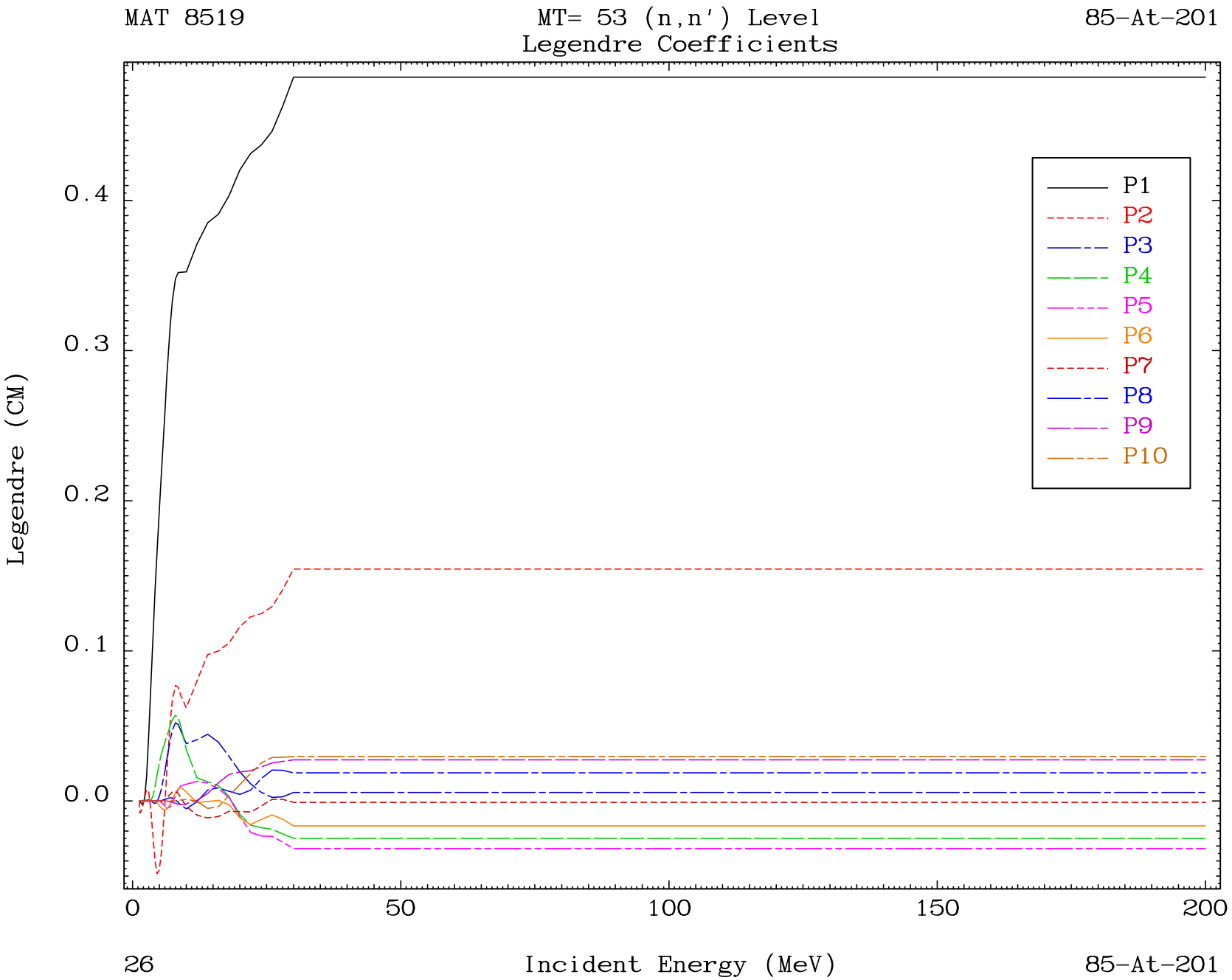

MAT 8519
MT= 51 (n,n') Level
Legendre Coefficients
85-At-201
X10^-6
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
21
Incident Energy (MeV)
85-At-201

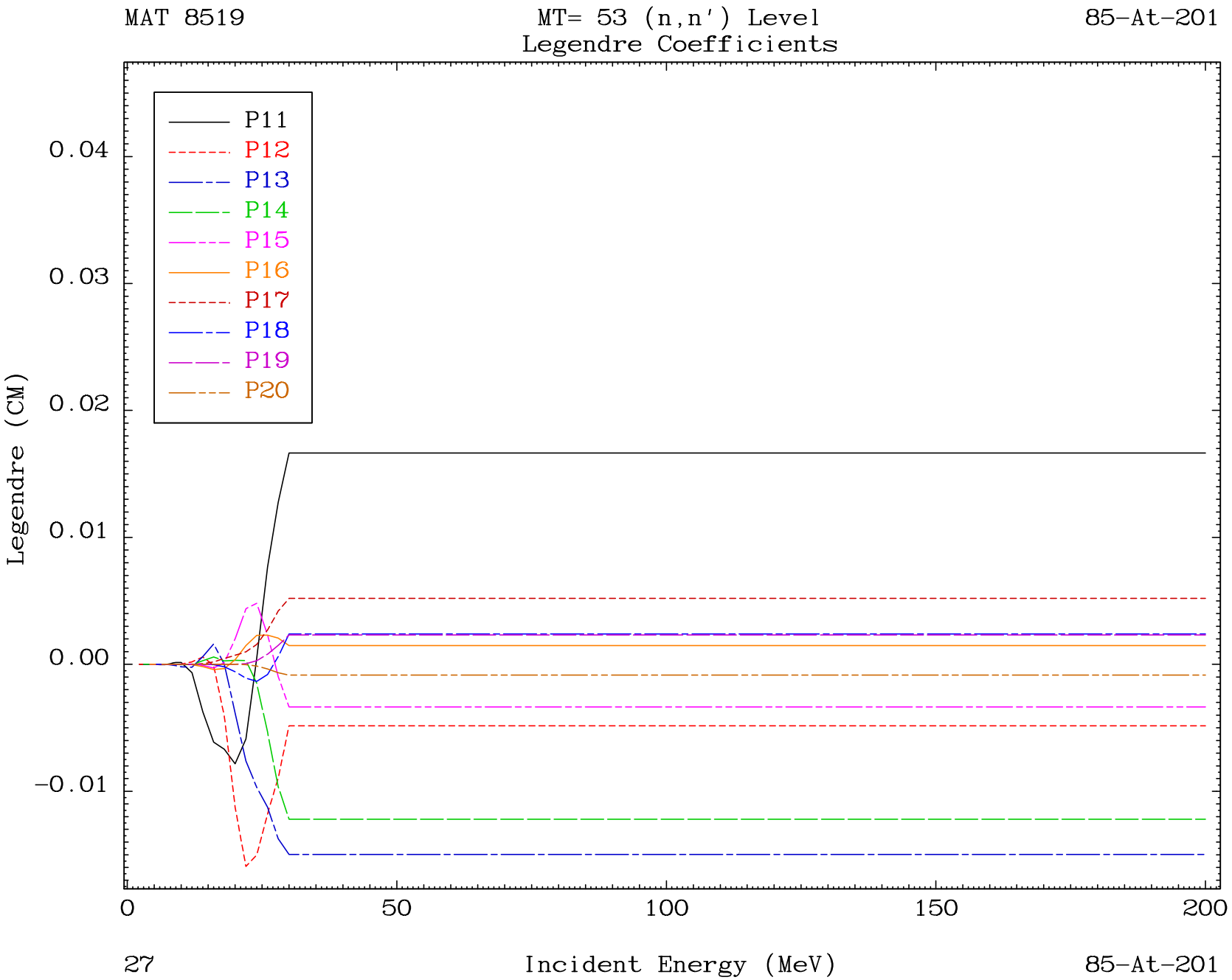

MAT 8519
MT= 52 (n,n') Level
Legendre Coefficients
85-At-201
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
Legendre (CM)
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
22
Incident Energy (MeV)
85-At-201

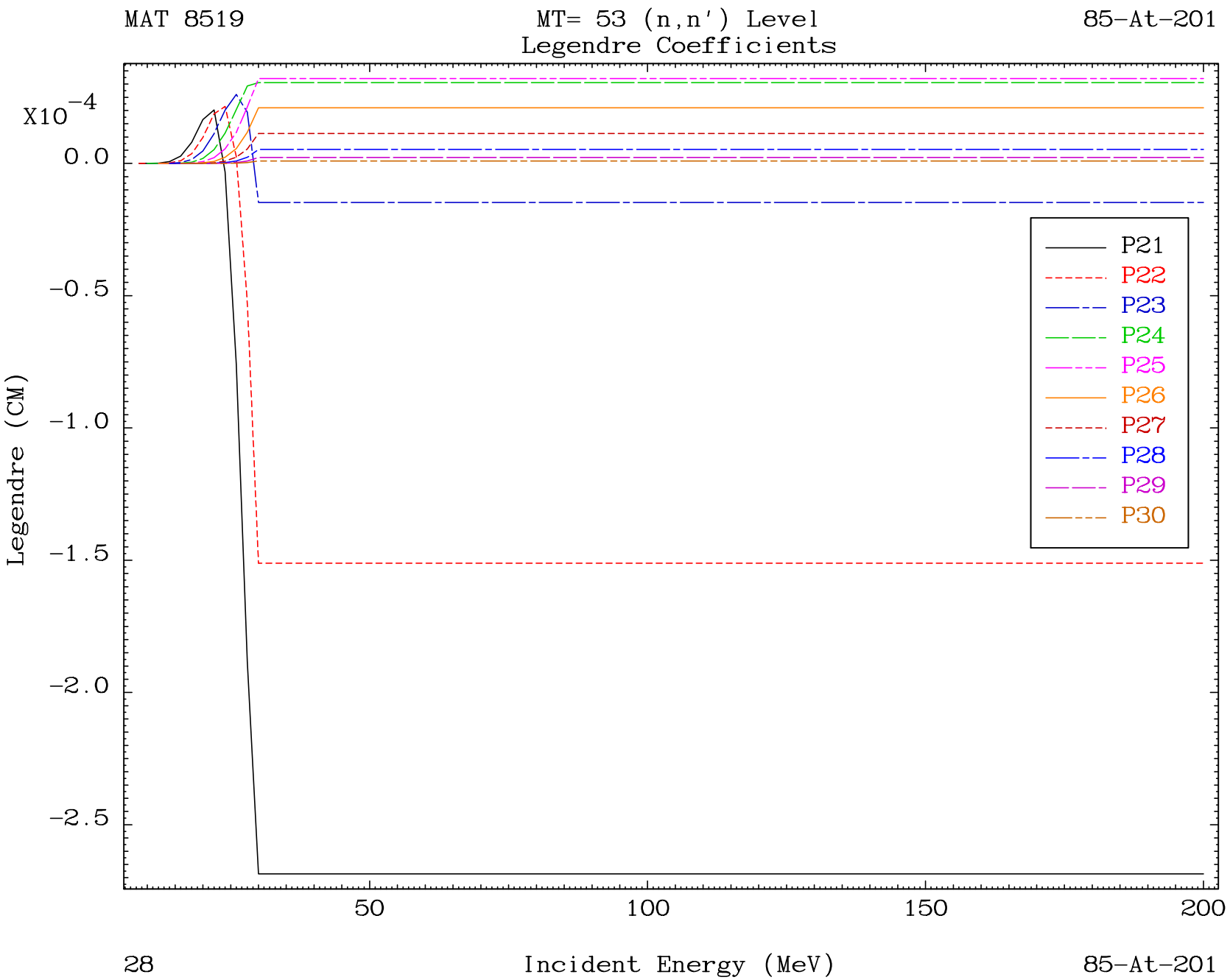

MAT 8519
MT= 52 (n,n') Level
Legendre Coefficients
85-At-201
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
23
Incident Energy (MeV)
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

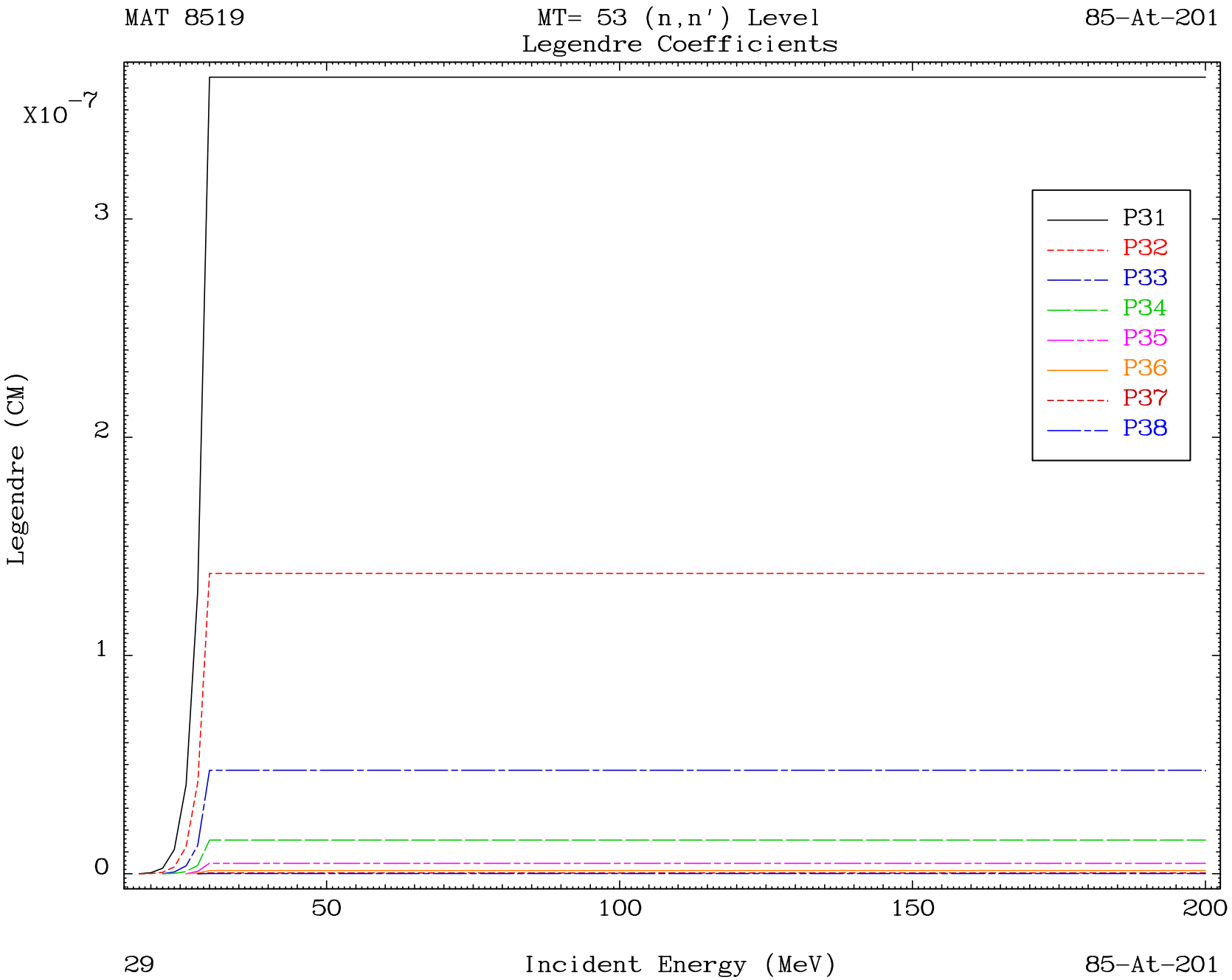

MAT 8519
MT= 52 (n,n') Level
Legendre Coefficients
85-At-201
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
24
Incident Energy (MeV)
85-At-201

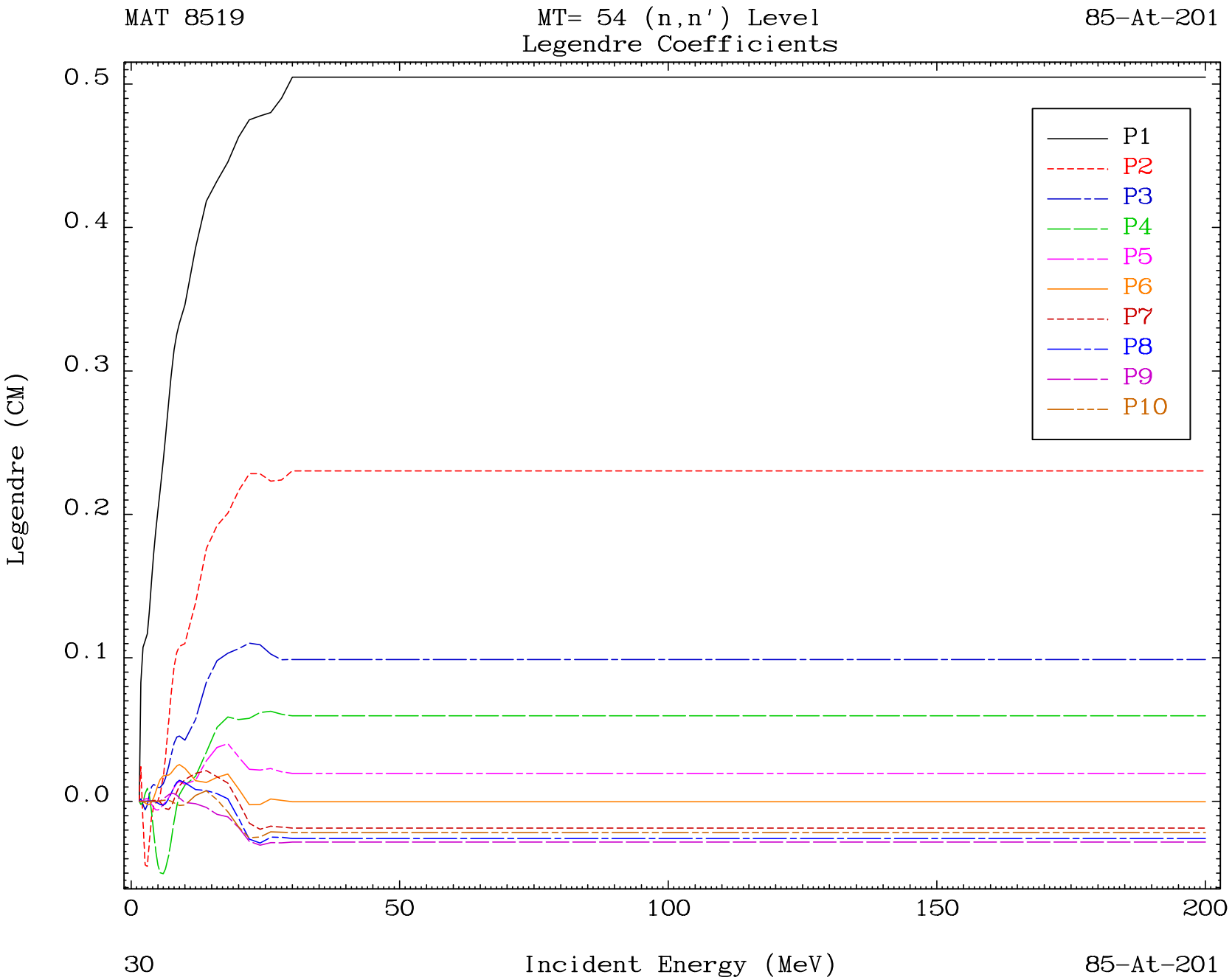

MAT 8519
MT= 52 (n,n') Level
Legendre Coefficients
85-At-201
X10^-6
3
2
1
0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
25
Incident Energy (MeV)
85-At-201

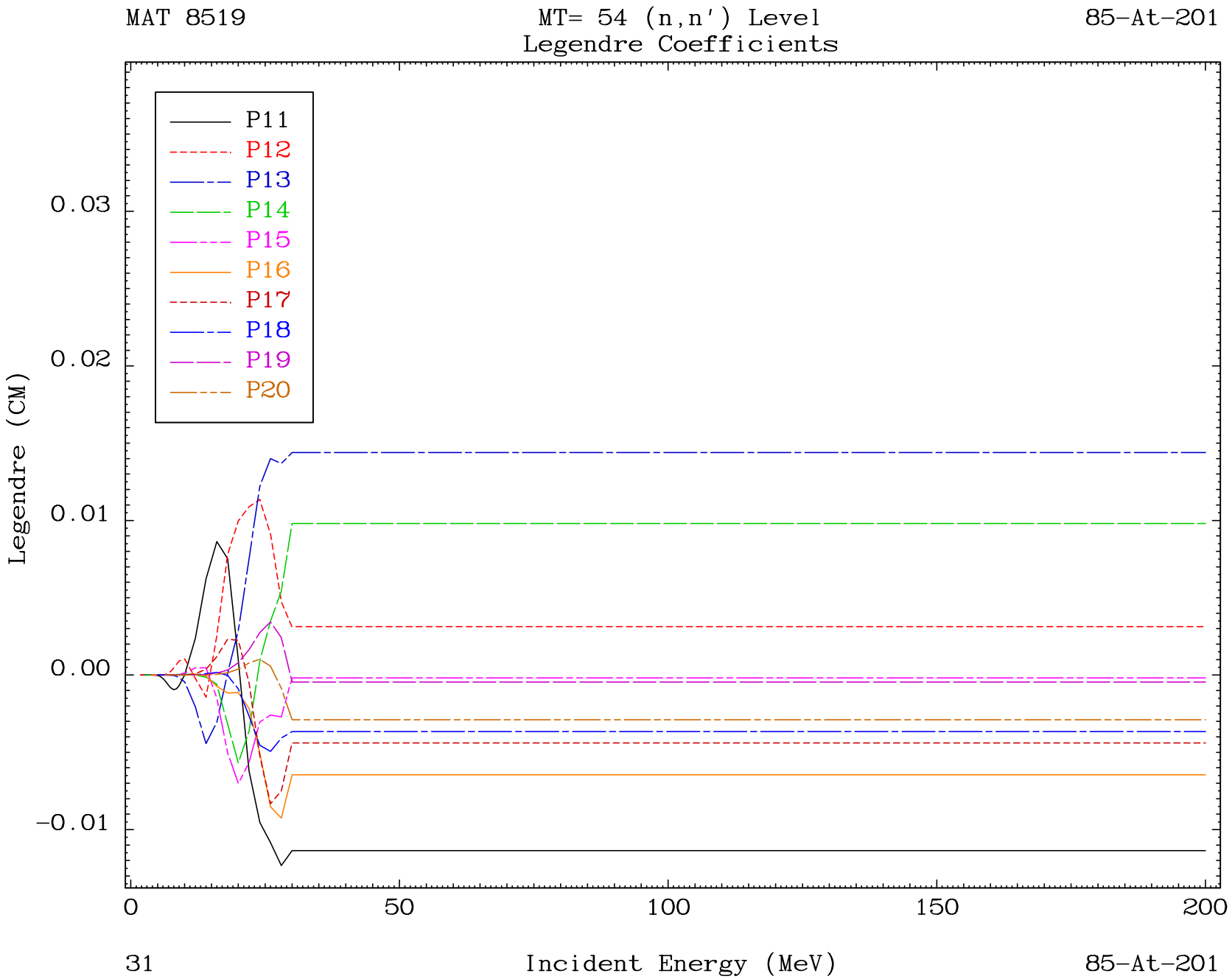

MAT 8519
MT= 53 (n,n') Level
Legendre Coefficients
85-At-201
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
26
Incident Energy (MeV)
85-At-201

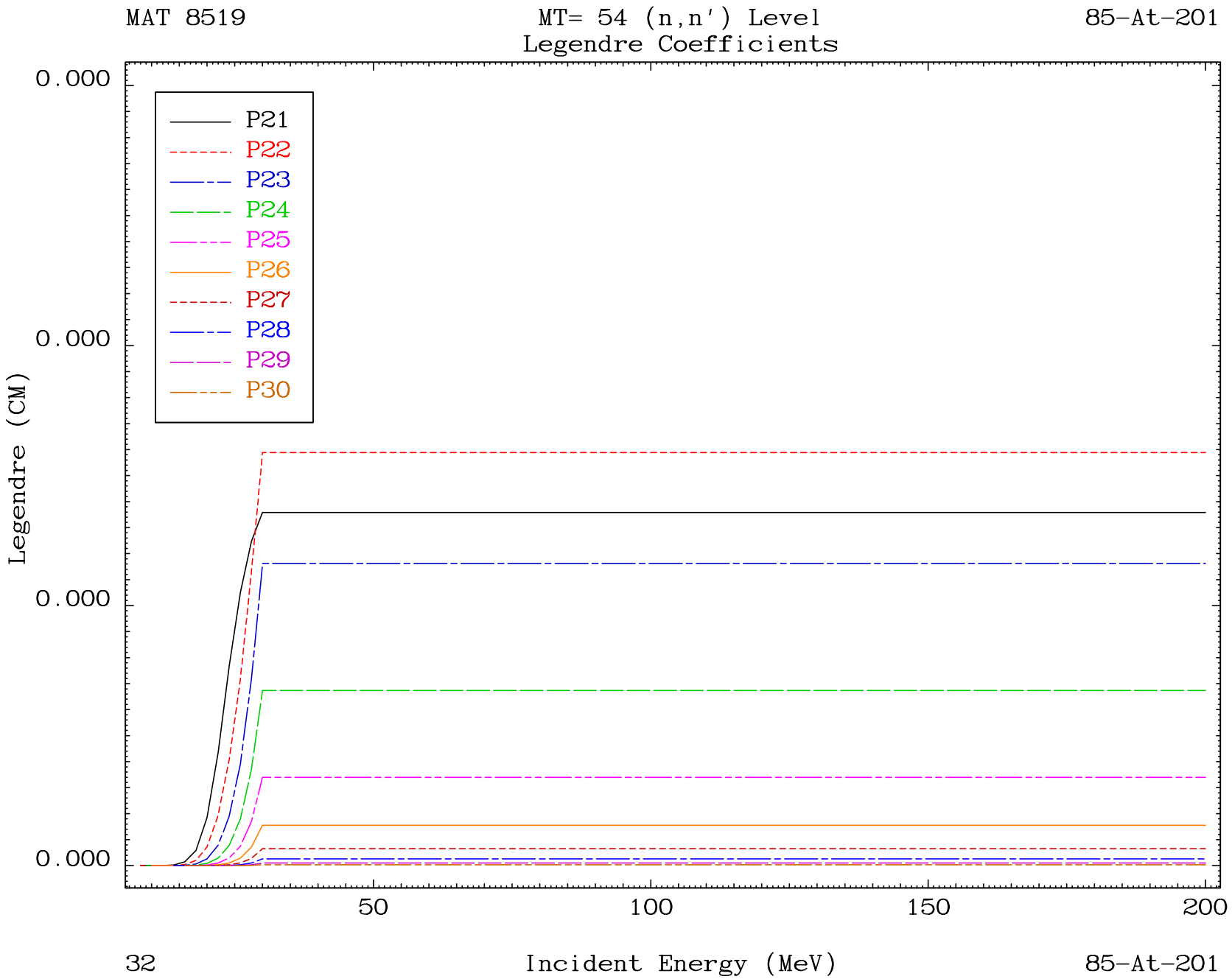

MAT 8519
MT= 53 (n,n') Level
Legendre Coefficients
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
27
Incident Energy (MeV)
85-At-201

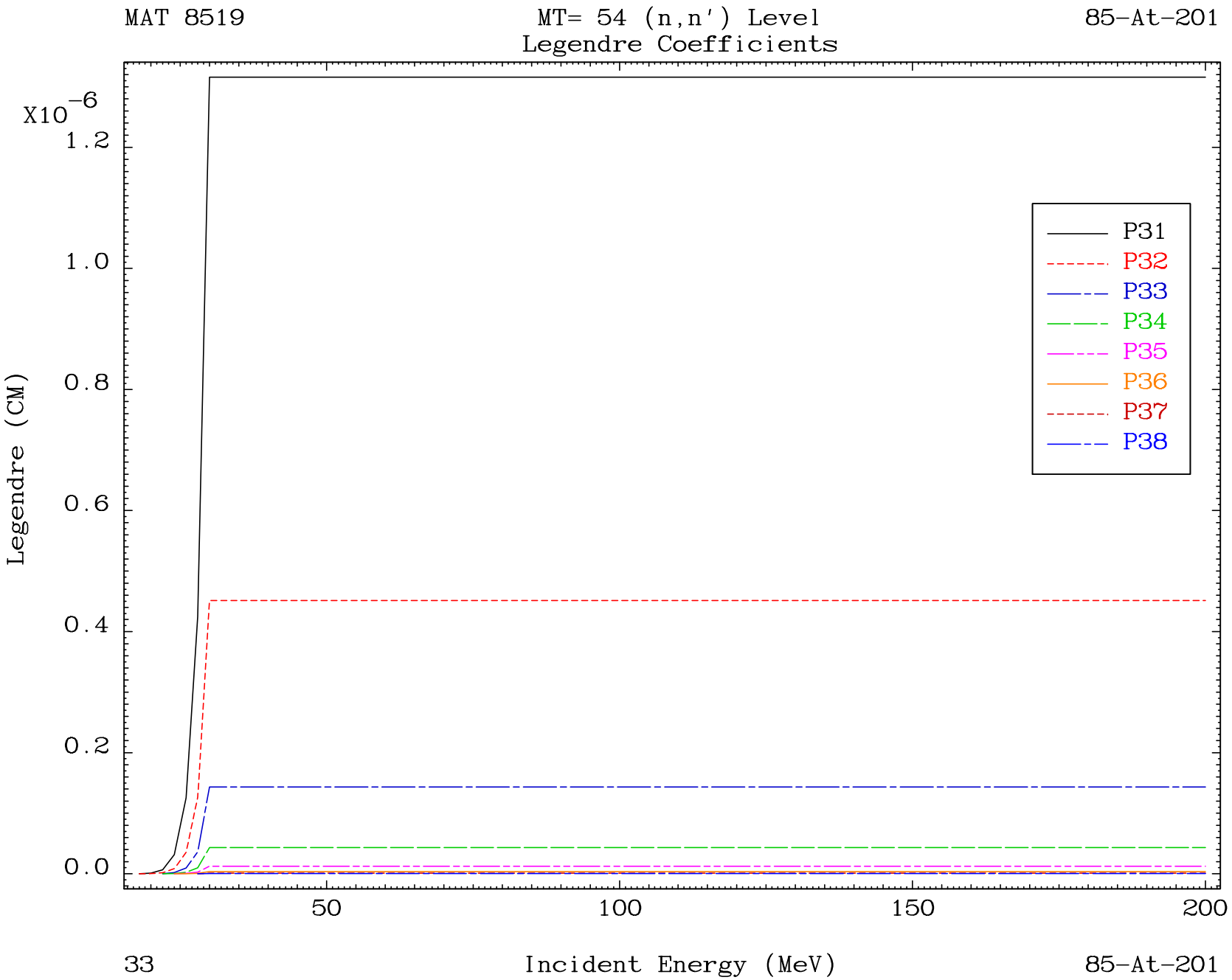

MAT 8519
MT= 53 (n,n') Level
Legendre Coefficients
85-At-201
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
28
Incident Energy (MeV)
85-At-201
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30

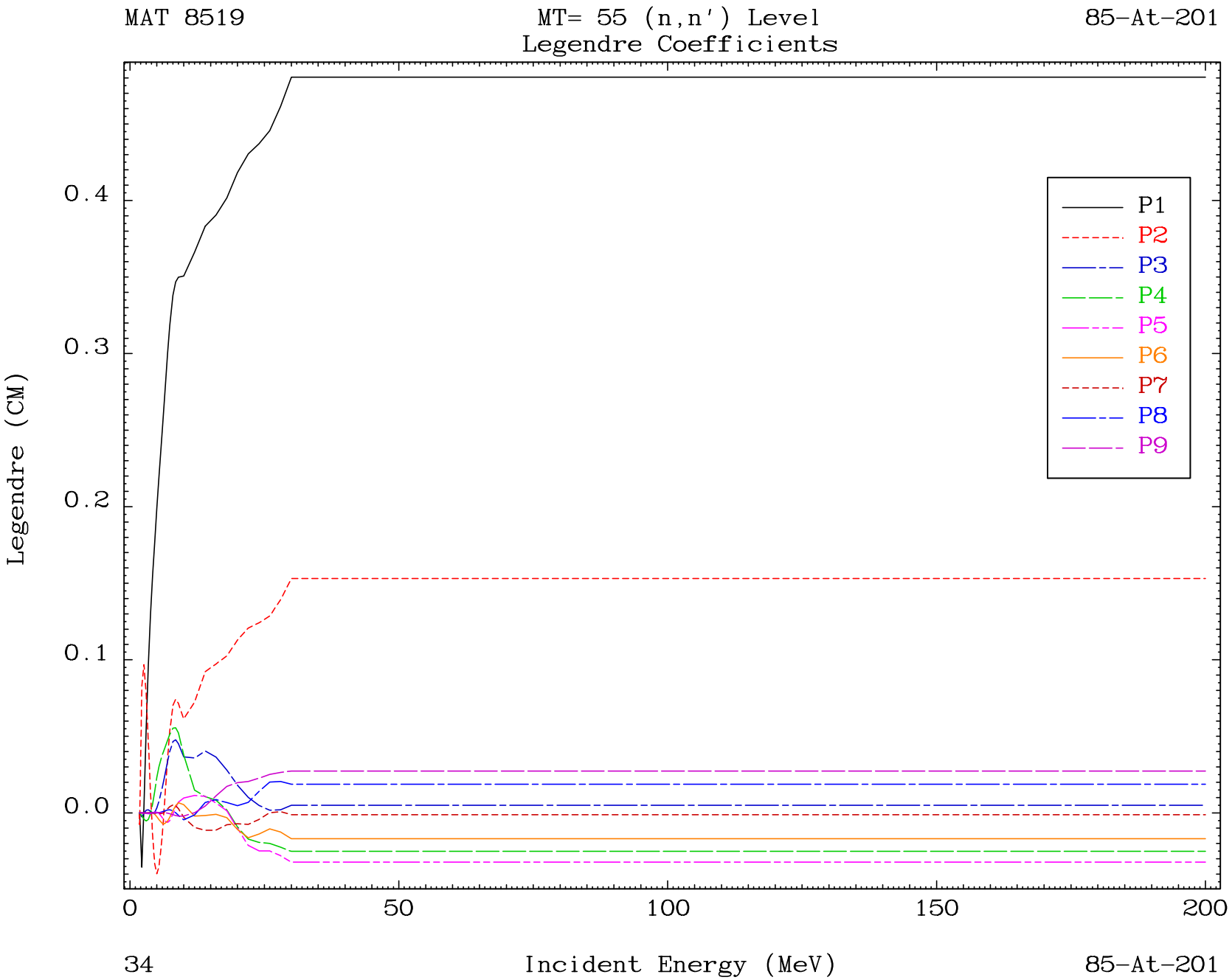

MAT 8519
MT= 53 (n,n') Level
Legendre Coefficients
85-At-201
X10-7
3
2
1
0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
29
Incident Energy (MeV)
85-At-201

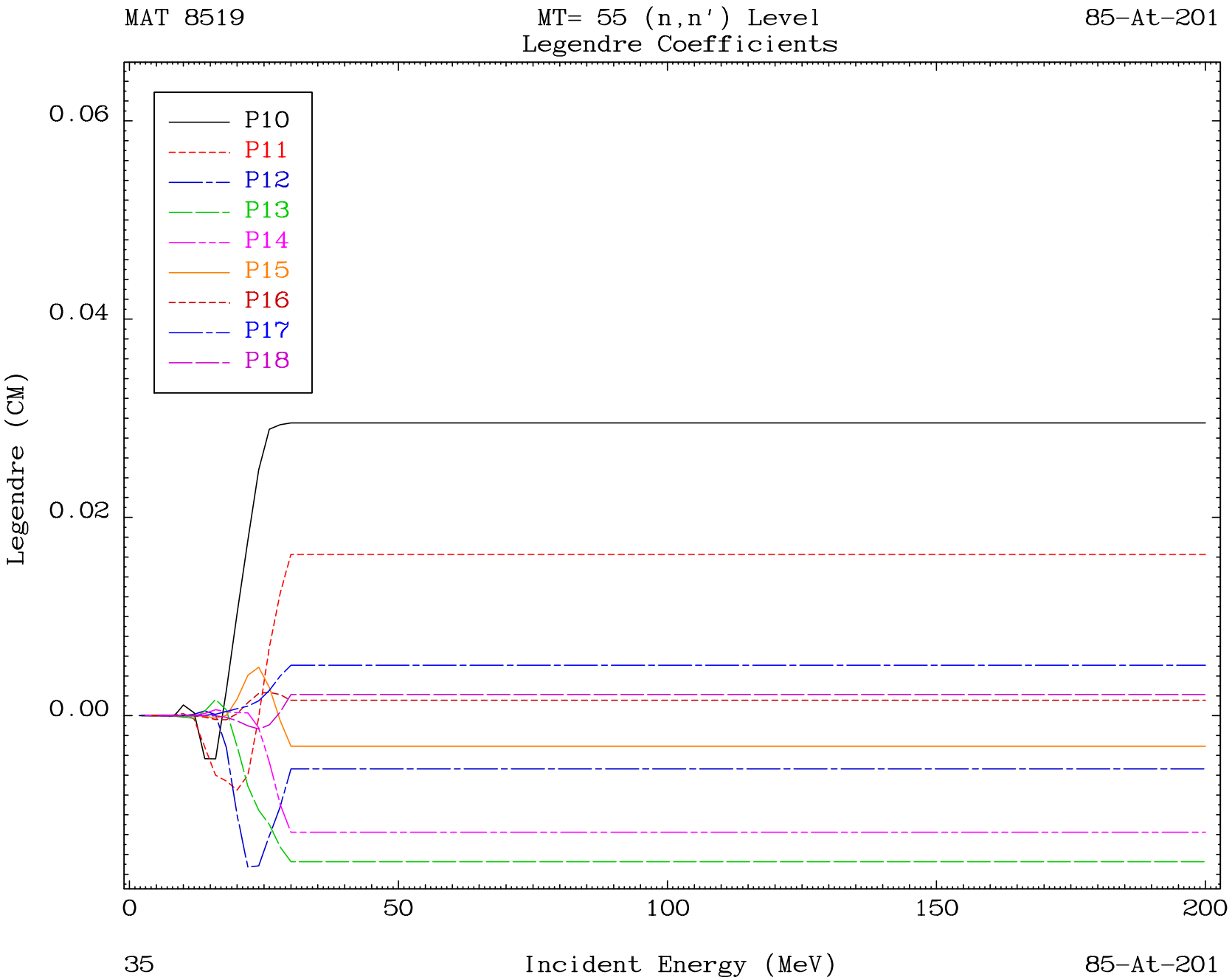

MAT 8519
MT= 54 (n,n') Level
Legendre Coefficients
85-At-201
0.5
0.4
0.3
0.2
0.1
0.0
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
50
100
150
200
30
Incident Energy (MeV)
85-At-201

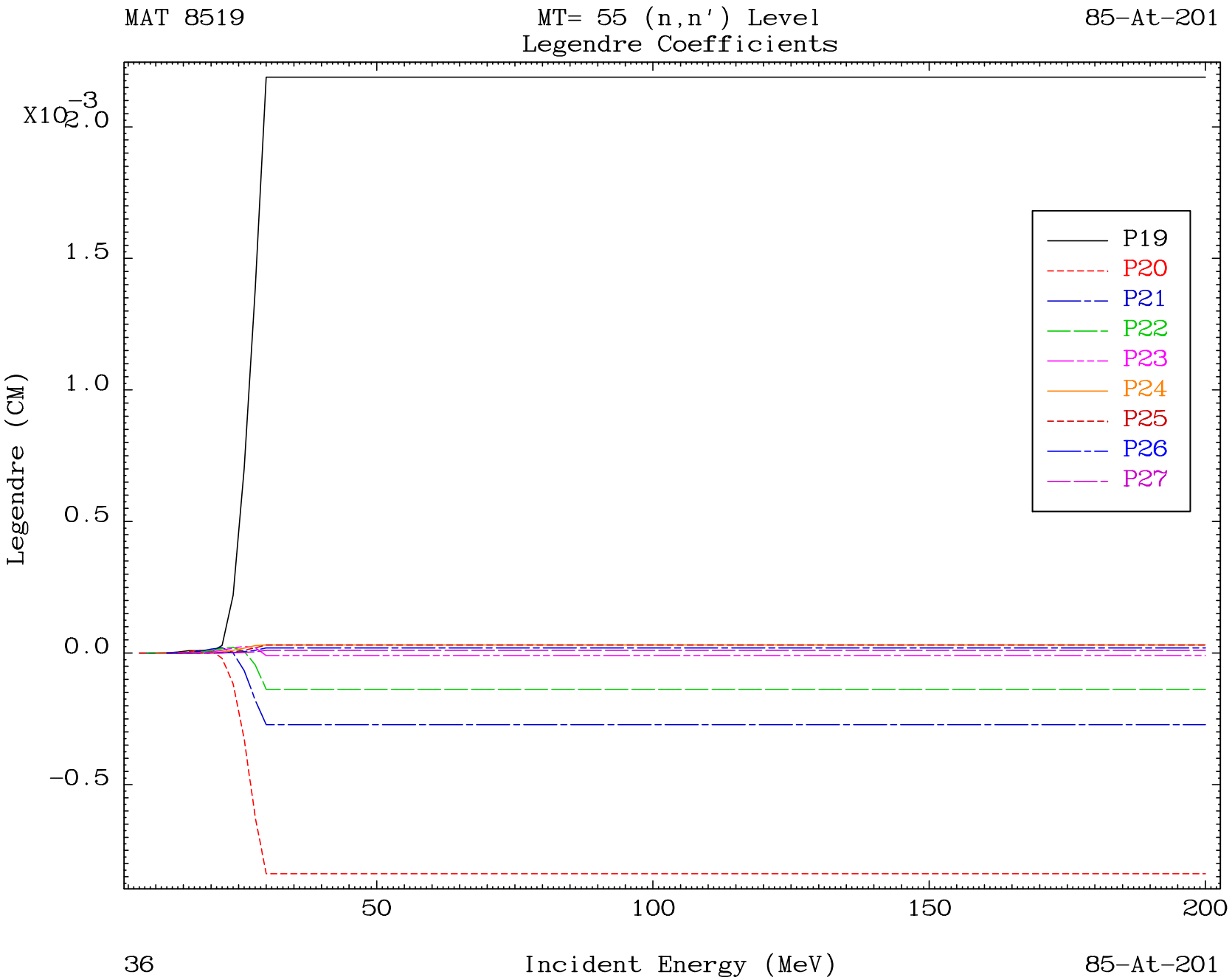

MAT 8519
MT= 54 (n,n') Level
Legendre Coefficients
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
31
Incident Energy (MeV)
85-At-201

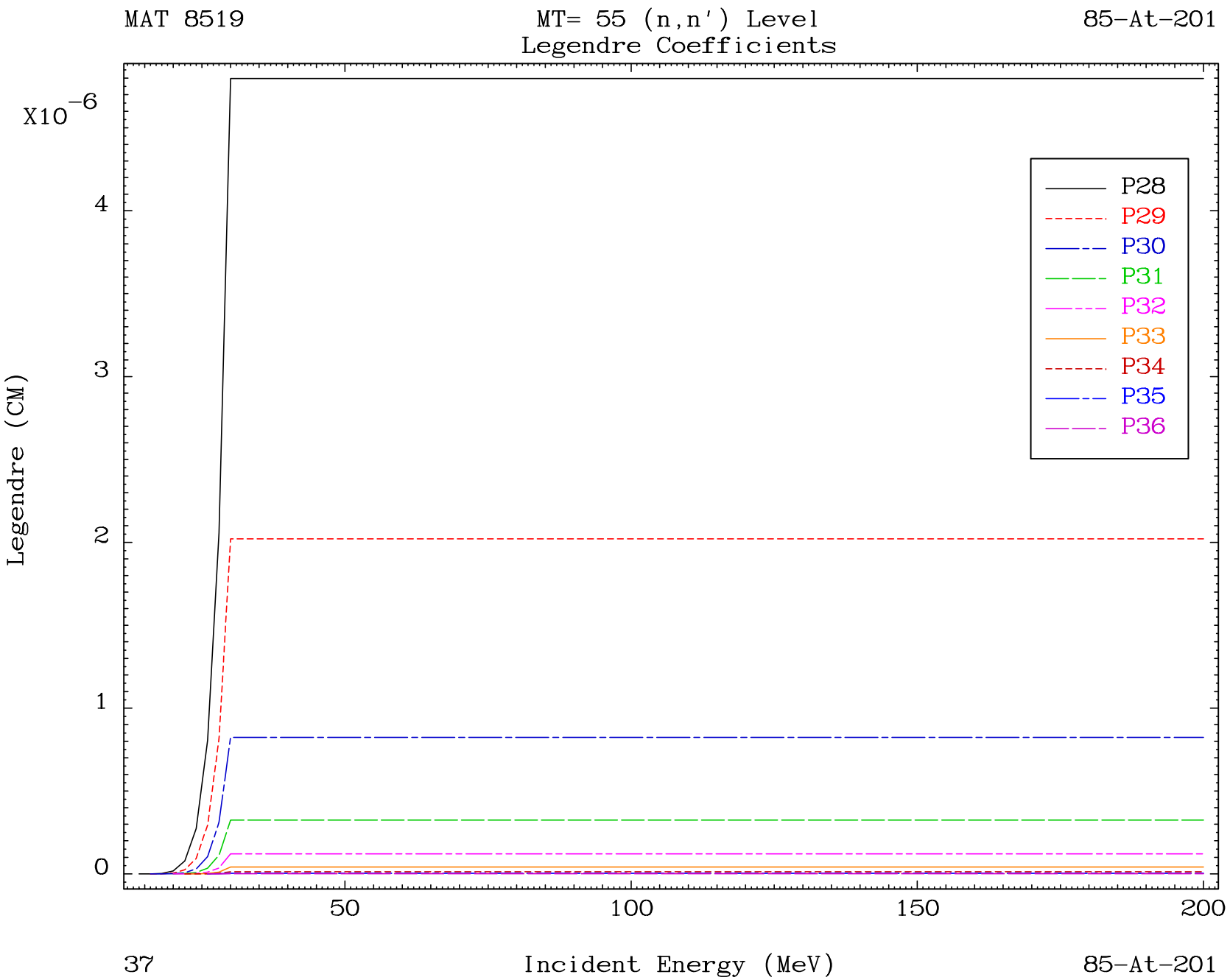

MAT 8519
MT= 54 (n,n') Level
Legendre Coefficients
85-At-201
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.000
0.000
0.000
0.000
Legendre (CM)
50
100
150
200
32
Incident Energy (MeV)
85-At-201

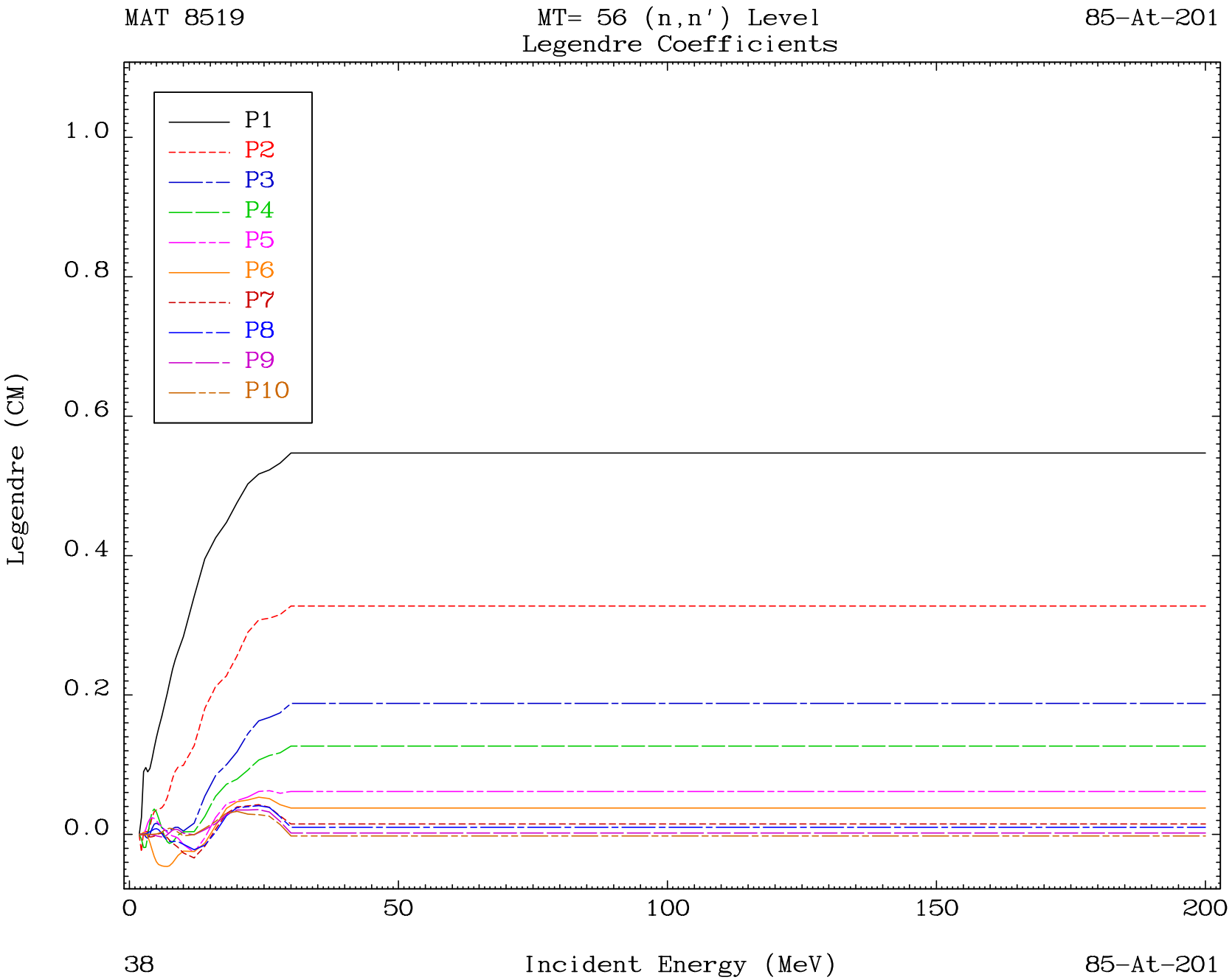

MAT 8519
MT= 54 (n,n') Level
Legendre Coefficients
85-At-201
X10^-6
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
33
Incident Energy (MeV)
85-At-201

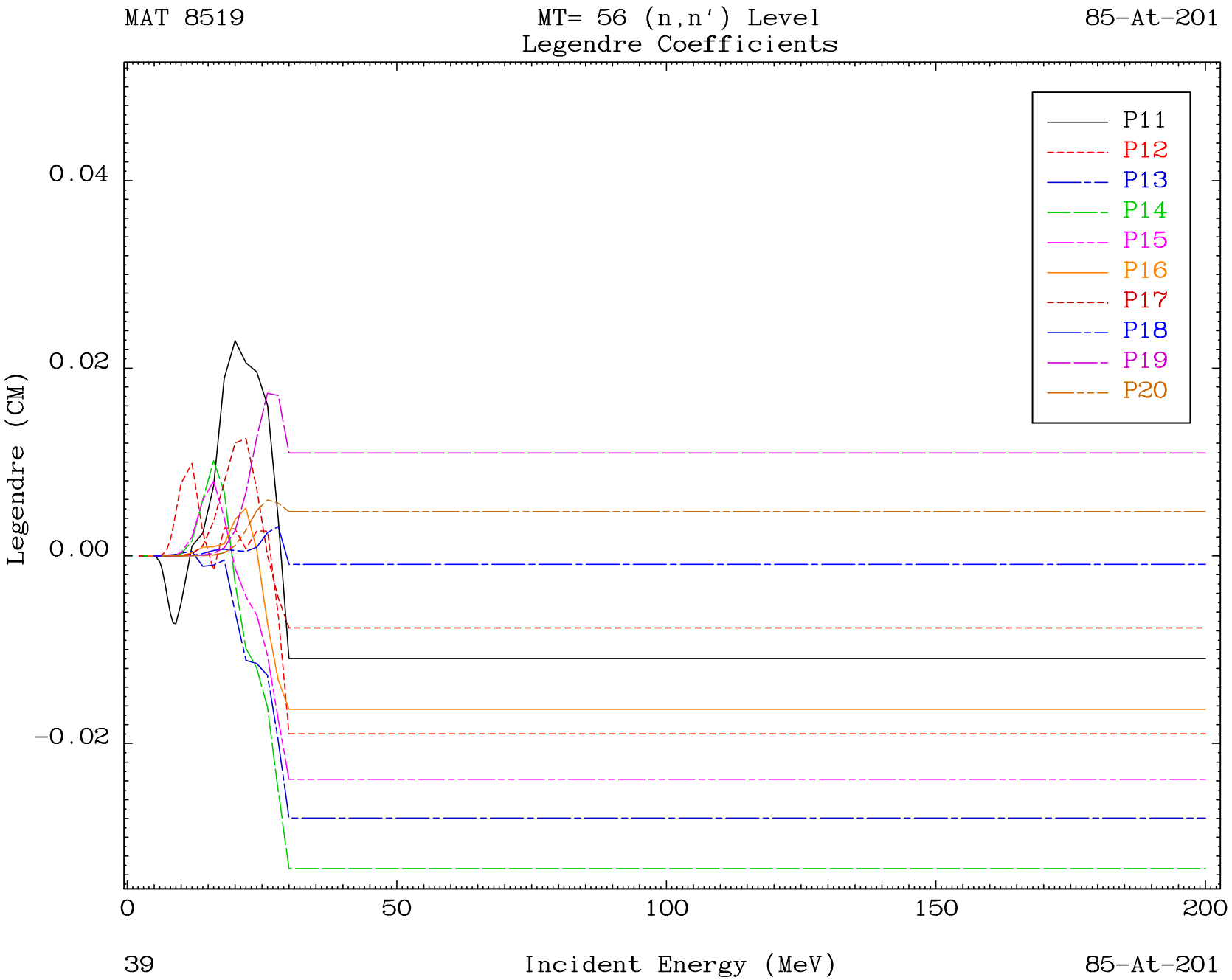

MAT 8519
MT= 55 (n,n') Level
Legendre Coefficients
85-At-201
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
34
Incident Energy (MeV)
85-At-201

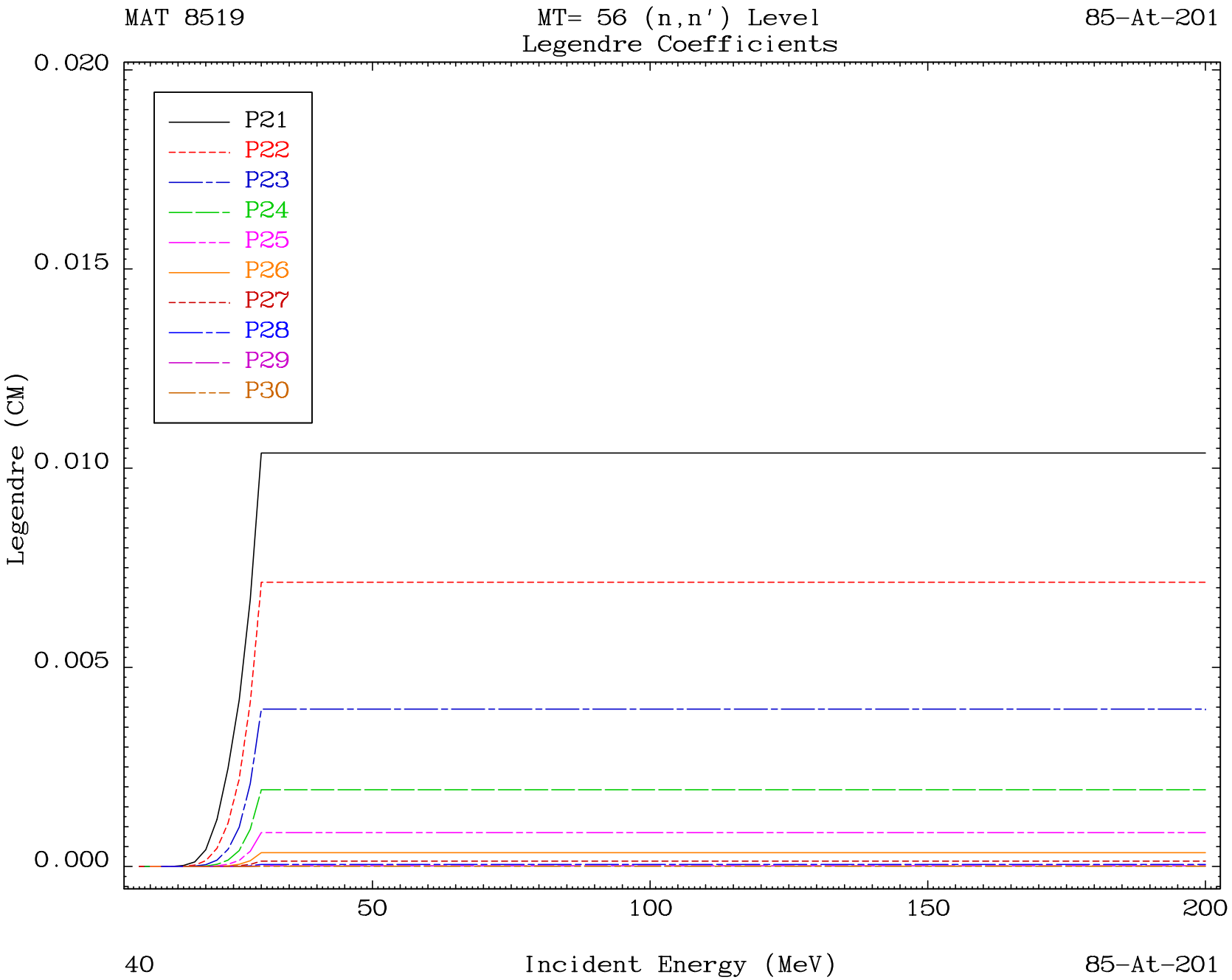

MAT 8519
MT= 55 (n,n') Level
Legendre Coefficients
85-At-201
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.06
0.04
0.02
0.00
Legendre (CM)
0
50
100
150
200
35
Incident Energy (MeV)
85-At-201

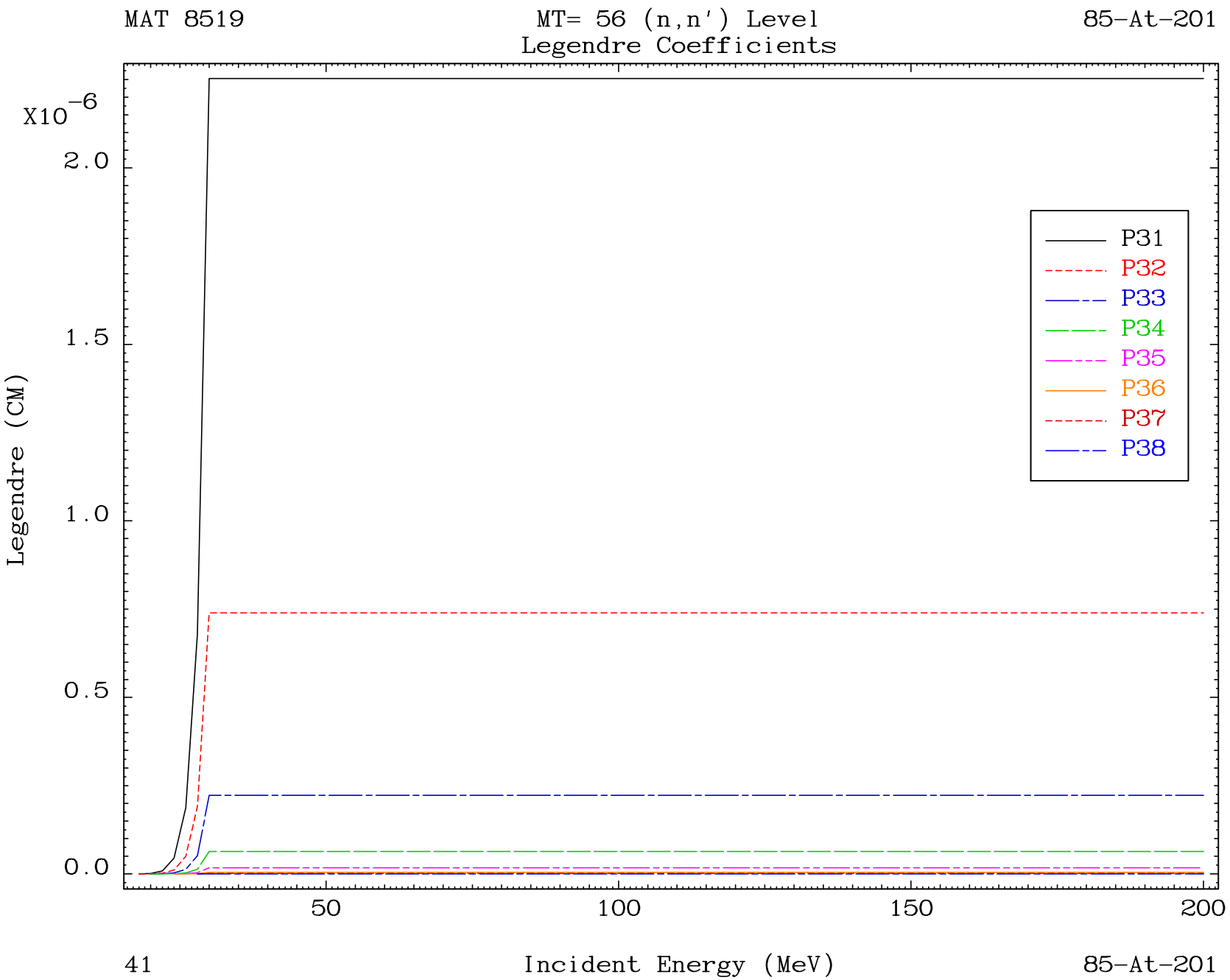

MAT 8519
MT= 55 (n,n') Level
Legendre Coefficients
85-At-201
X10-3
2.0
1.5
1.0
0.5
0.0
-0.5
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
36
Incident Energy (MeV)
85-At-201

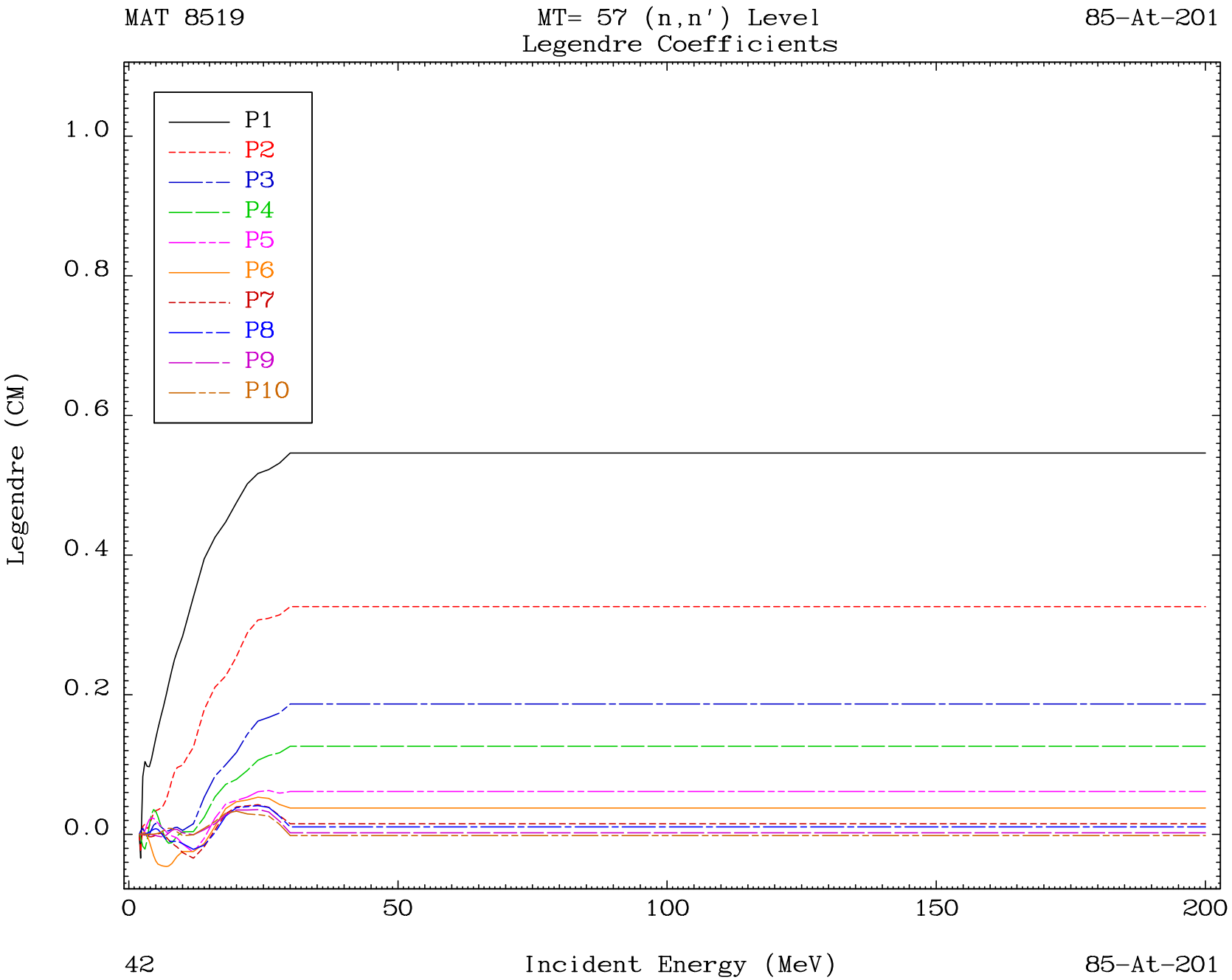

MAT 8519
MT= 55 (n,n') Level
Legendre Coefficients
85-At-201
X10 −6
4
3
2
1
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
37
Incident Energy (MeV)
85-At-201

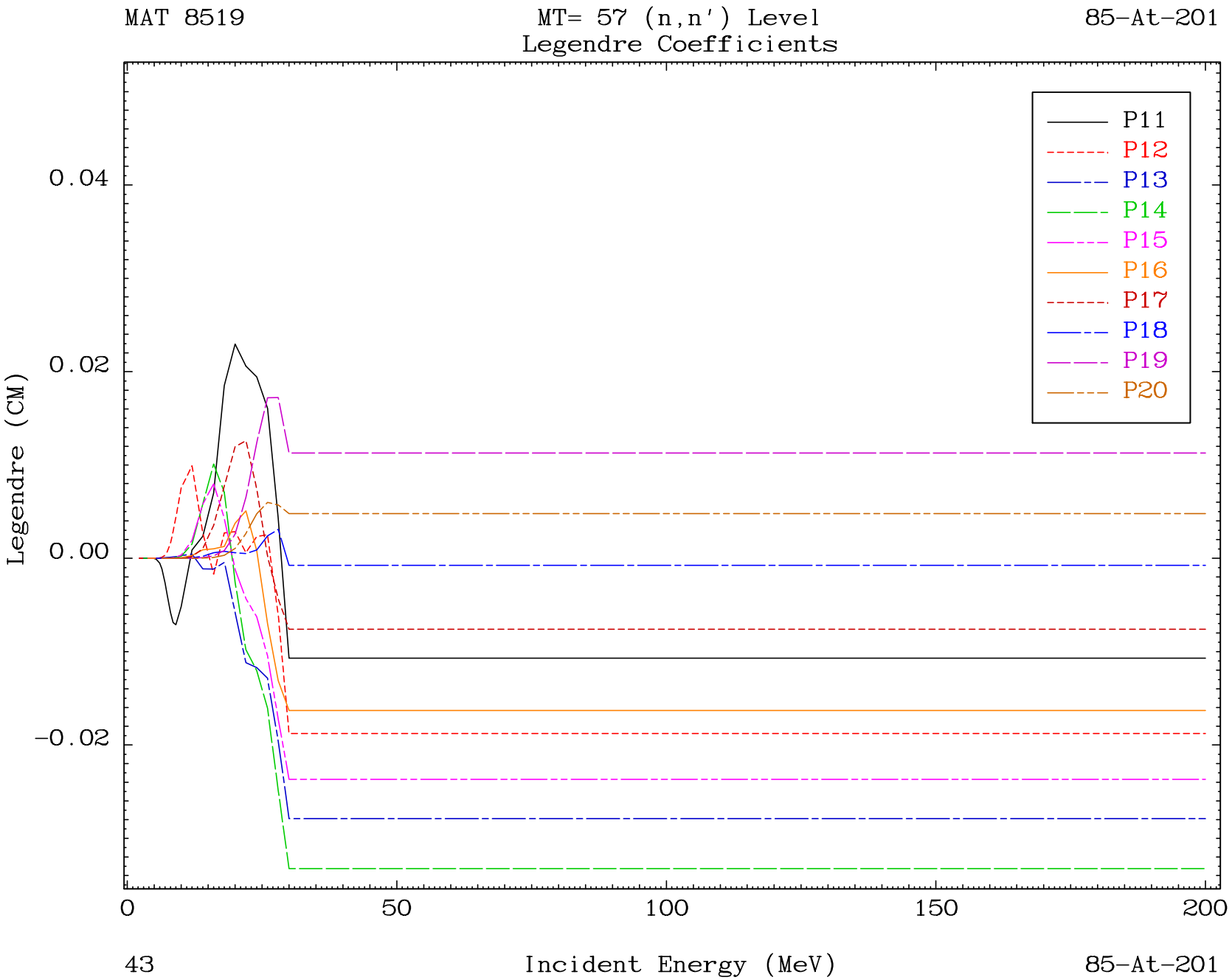

MAT 8519
MT= 56 (n,n') Level
Legendre Coefficients
85-At-201
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
0
50
100
150
200
38
Incident Energy (MeV)
85-At-201

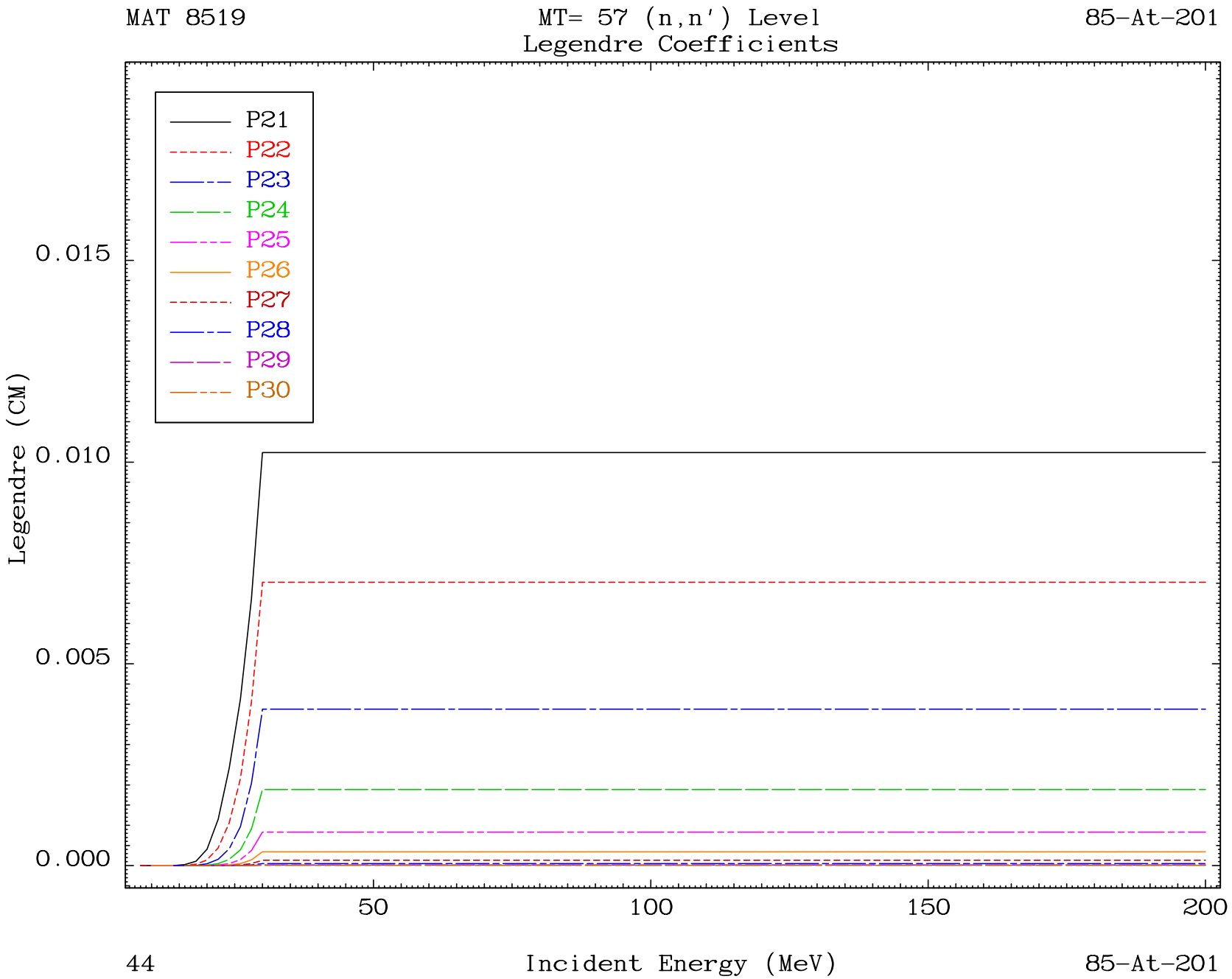

MAT 8519
MT= 56 (n,n') Level
Legendre Coefficients
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
39
Incident Energy (MeV)
85-At-201

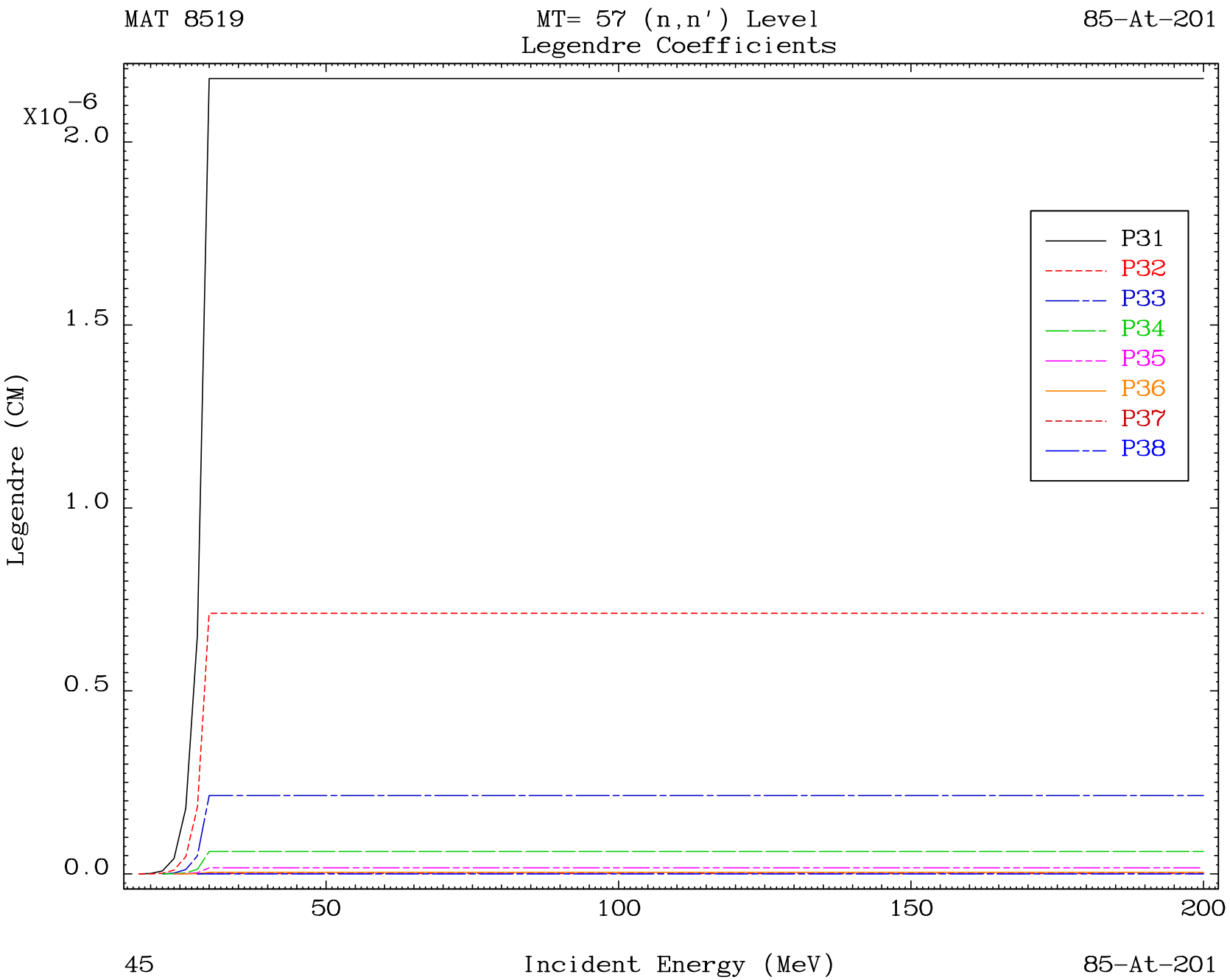

MAT 8519
MT= 56 (n,n') Level
Legendre Coefficients
85-At-201
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
40
Incident Energy (MeV)
85-At-201

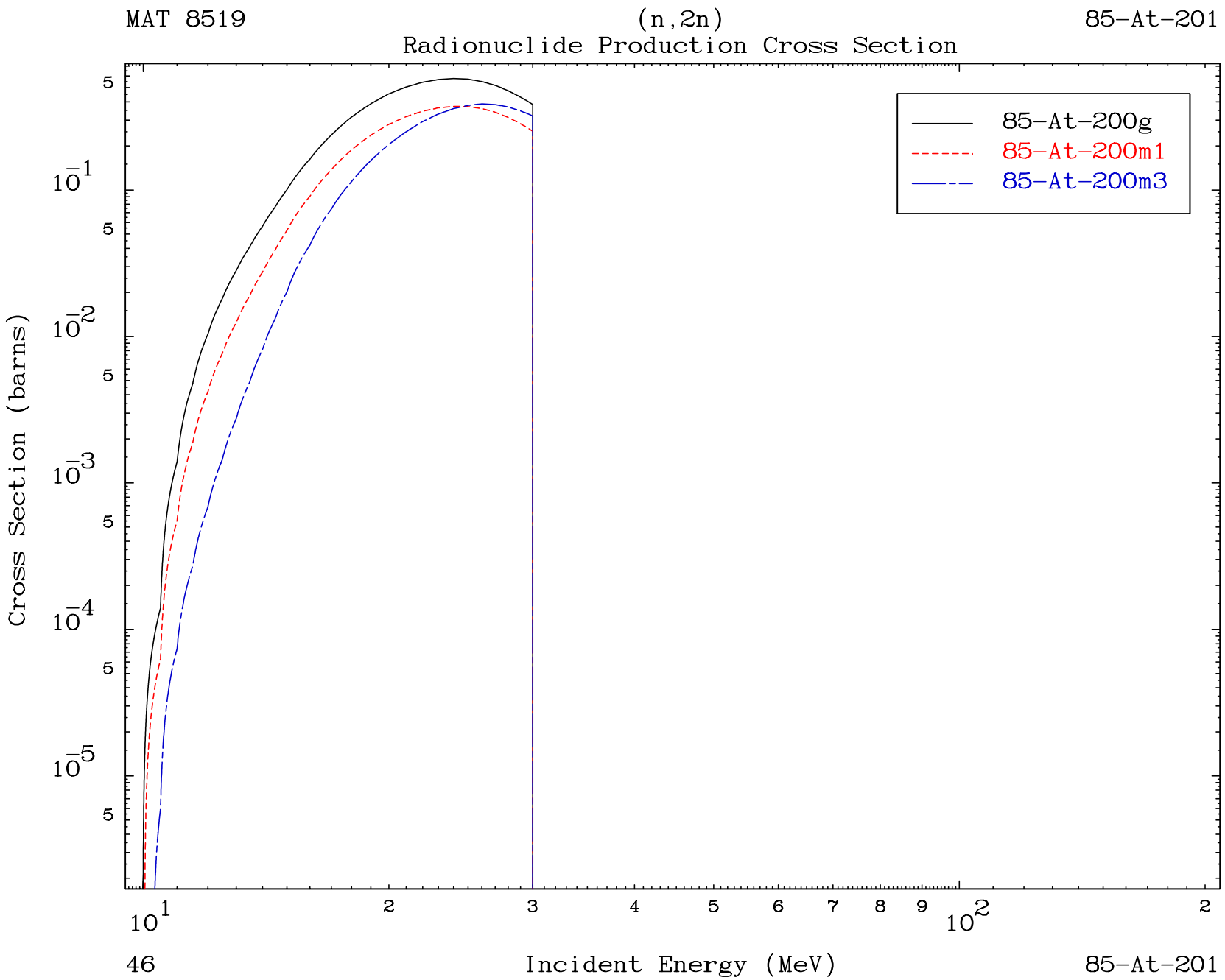

MAT 8519
MT= 56 (n,n') Level
Legendre Coefficients
85-At-201
X10^-6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
41
Incident Energy (MeV)
85-At-201

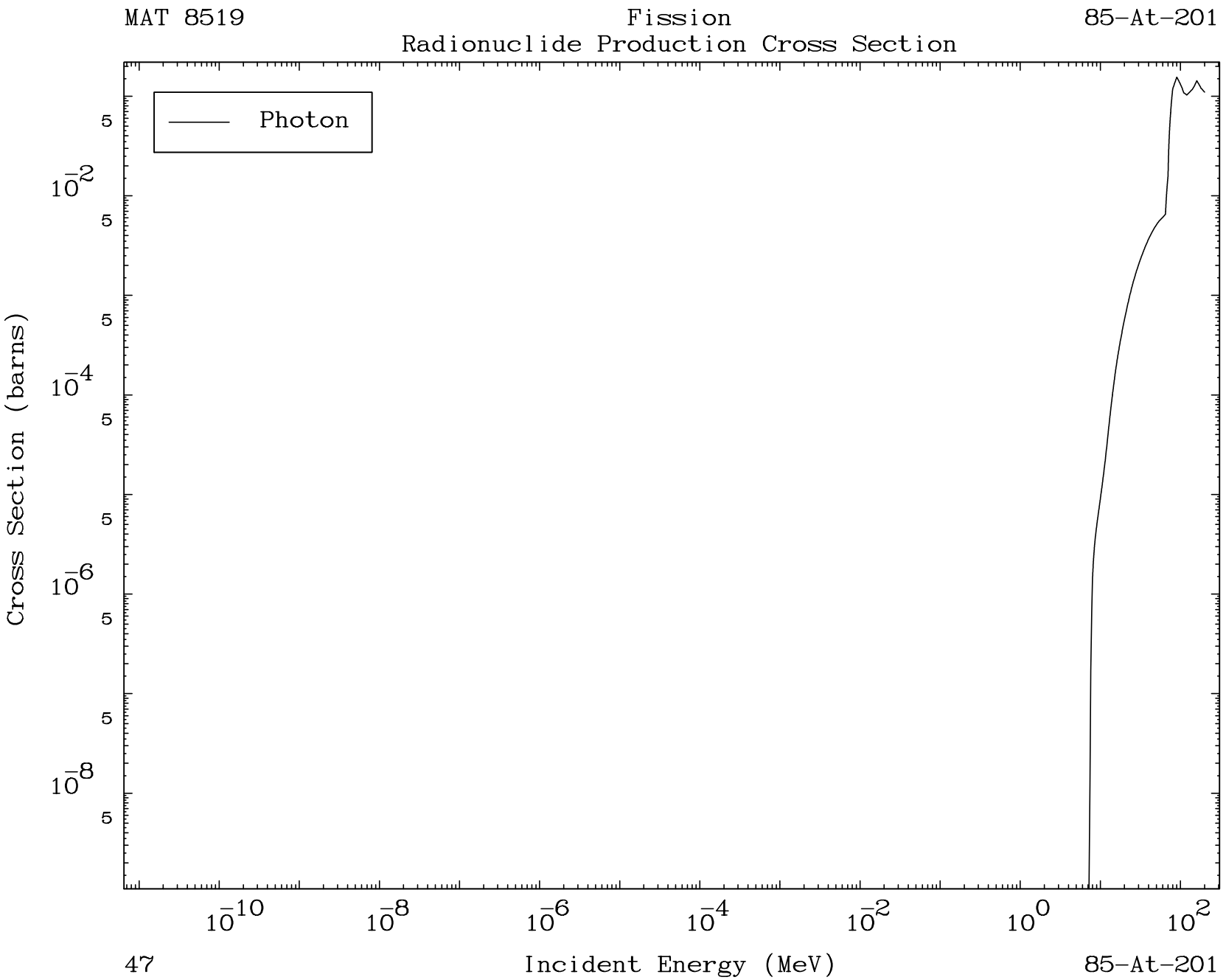

MAT 8519
MT= 57 (n,n') Level
Legendre Coefficients
85-At-201
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
0
50
100
150
200
42
Incident Energy (MeV)
85-At-201

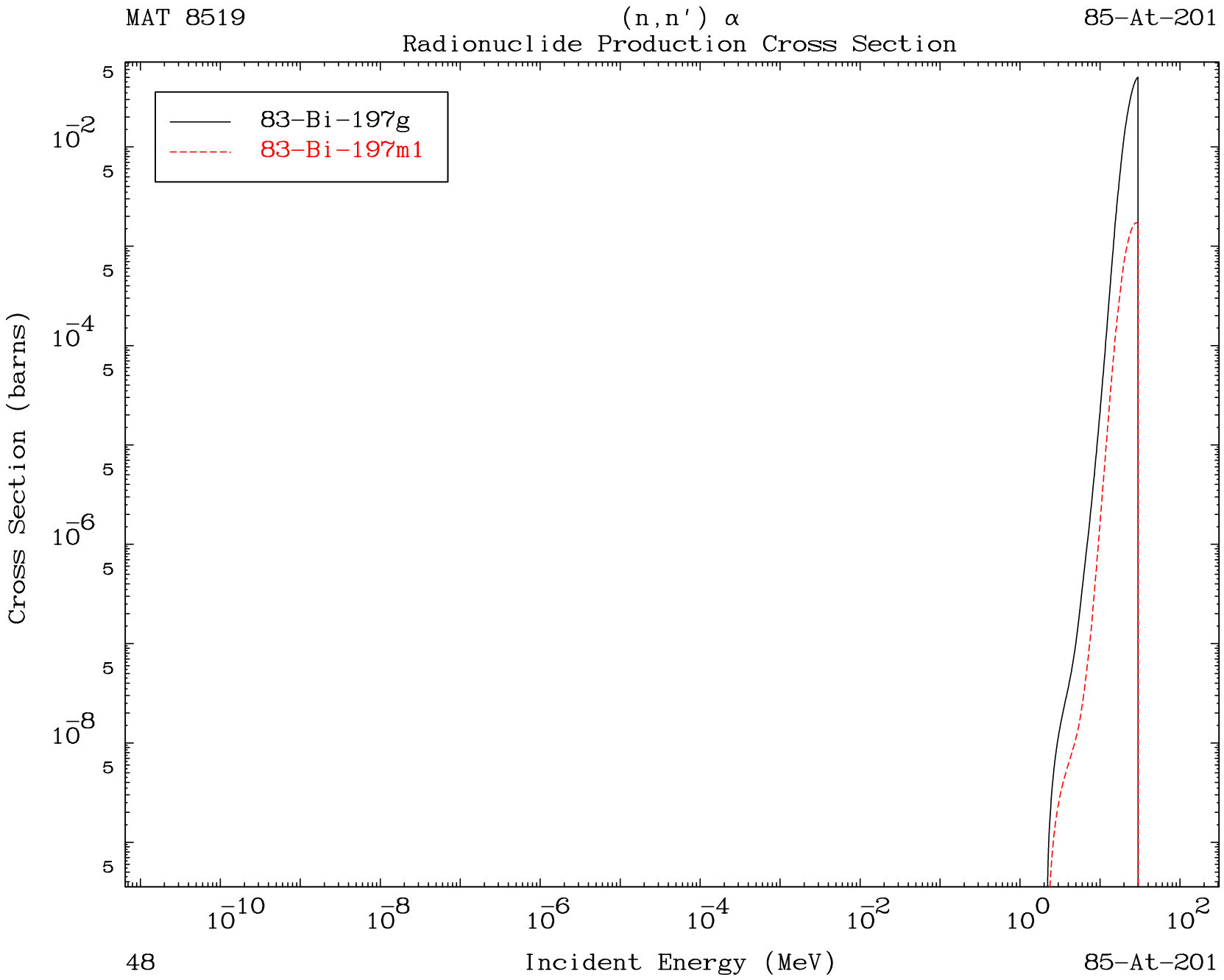

MAT 8519
MT= 57 (n,n') Level
Legendre Coefficients
85-At-201
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
43
Incident Energy (MeV)
85-At-201

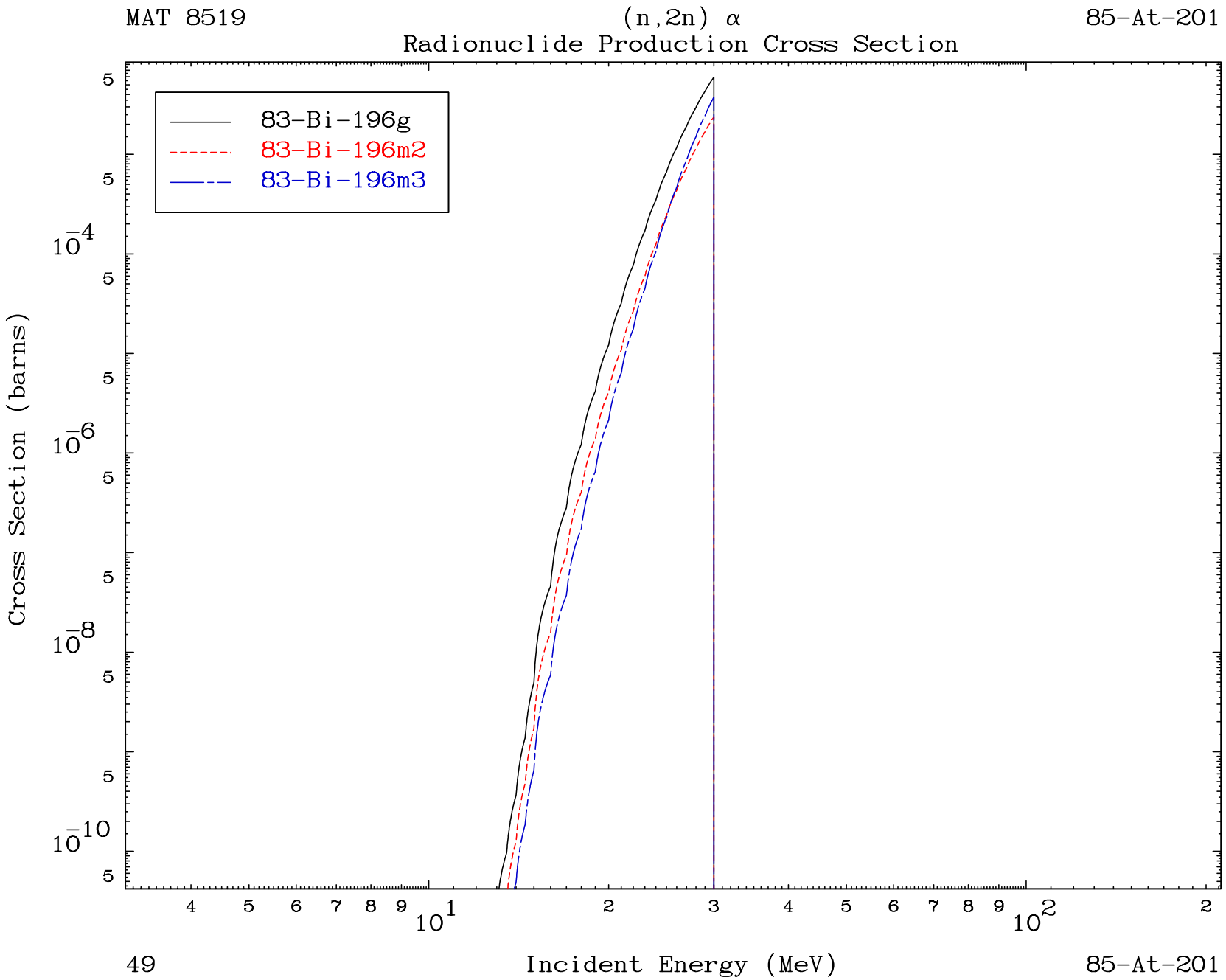

MAT 8519
MT= 57 (n,n') Level
Legendre Coefficients
85-At-201
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
44
Incident Energy (MeV)
85-At-201

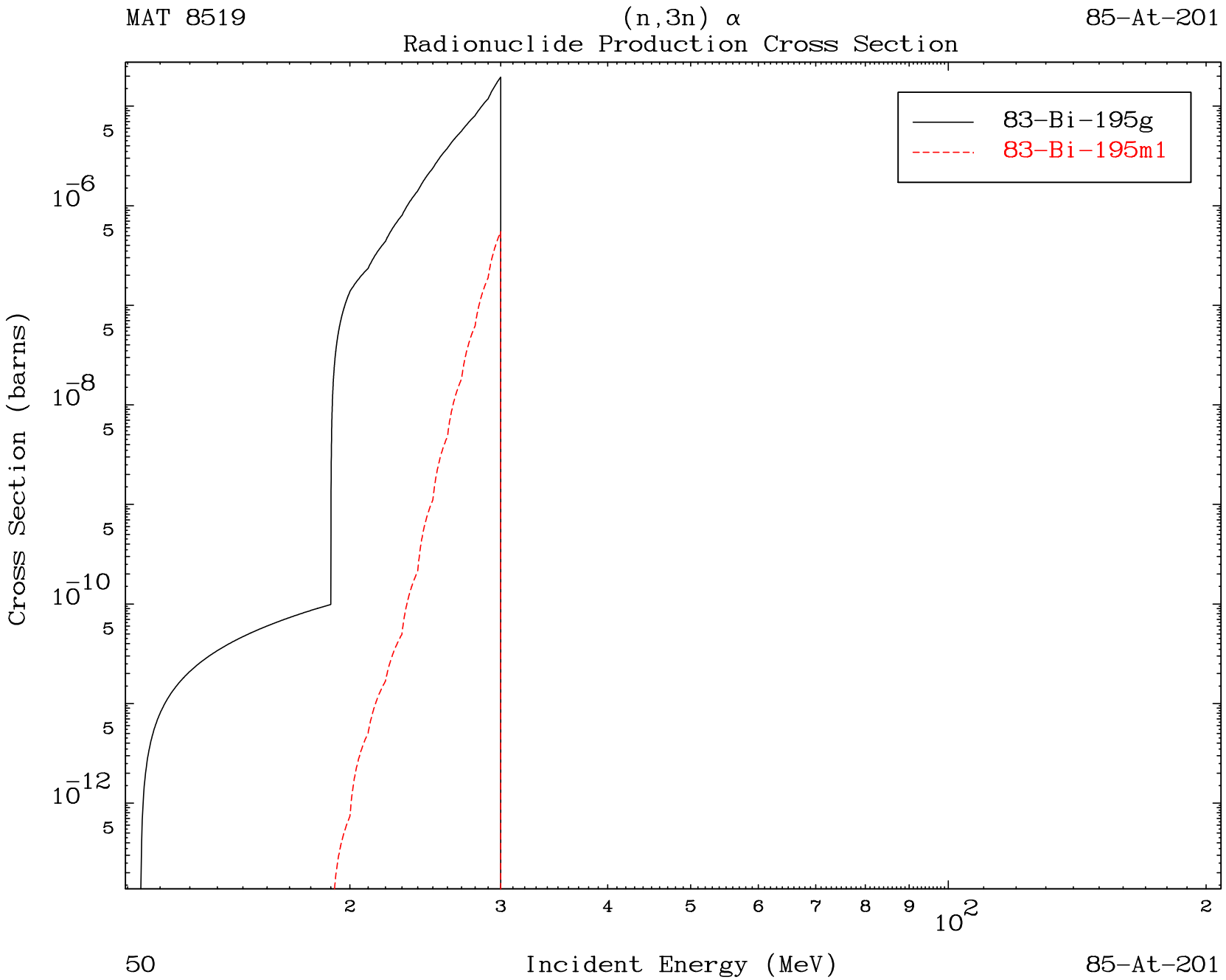

MAT 8519
MT= 57 (n,n') Level
Legendre Coefficients
85-At-201
X10 -6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
45
Incident Energy (MeV)
85-At-201

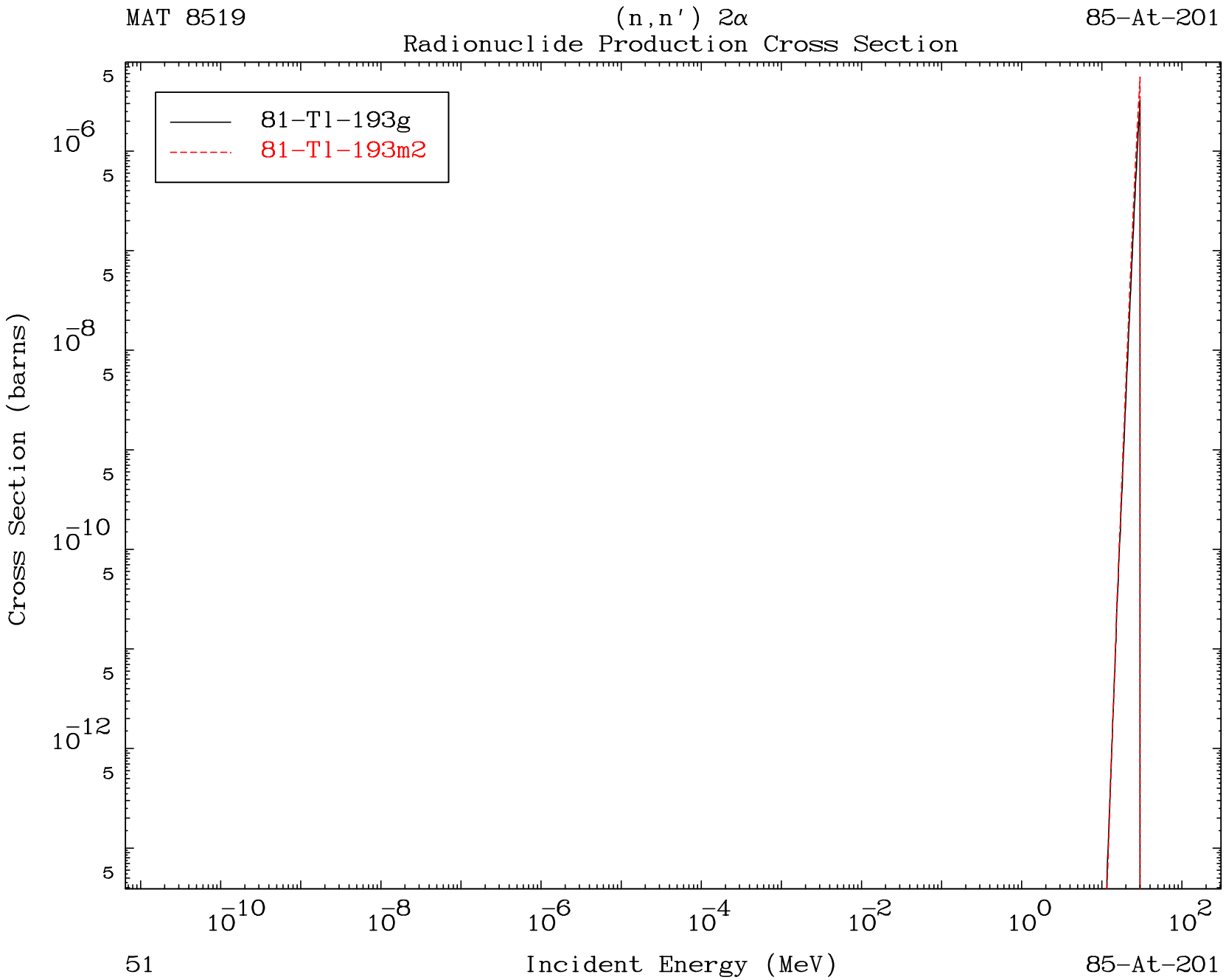

MAT 8519
(n,2n)
85-At-201
Radionuclide Production Cross Section
85-At-200g
85-At-200m1
85-At-200m3
Cross Section (barns)
Incident Energy (MeV)
46
85-At-201

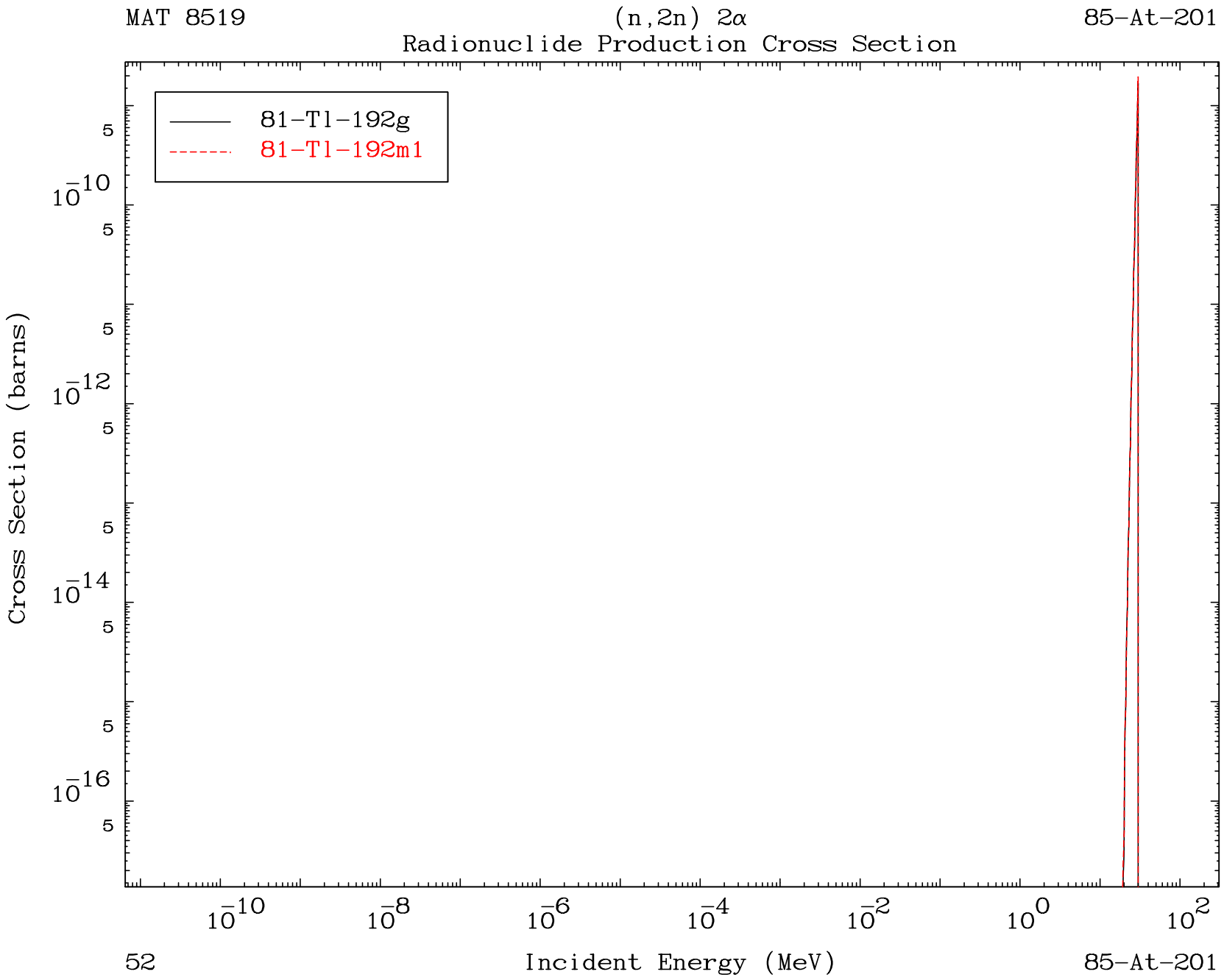

MAT 8519
Fission
85-At-201
Radionuclide Production Cross Section
Photon
Cross Section (barns)
Incident Energy (MeV)
47
85-At-201

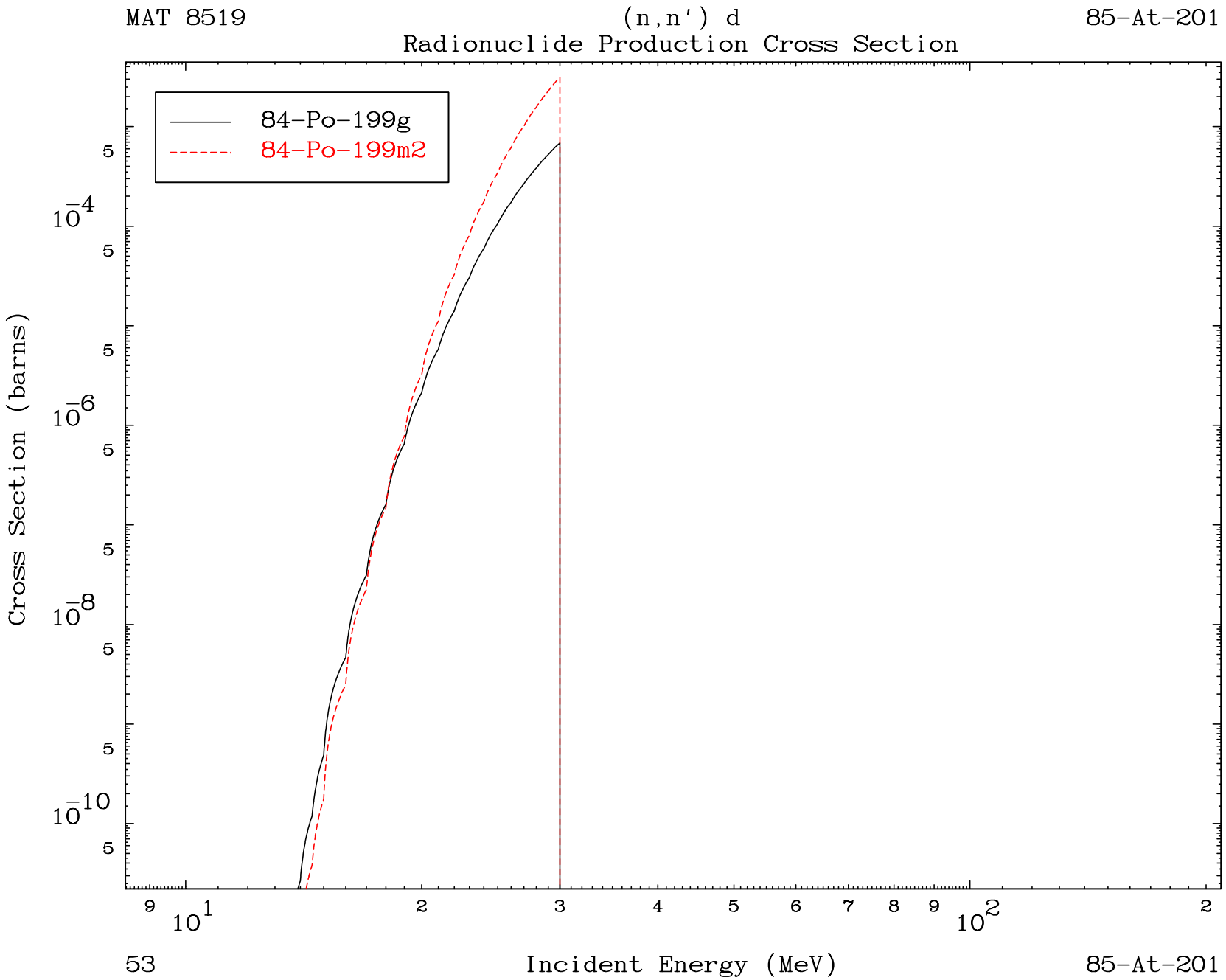

MAT 8519
(n,n') α
85-At-201
Radionuclide Production Cross Section
83-Bi-197g
83-Bi-197m1
Cross Section (barns)
Incident Energy (MeV)
48
85-At-201

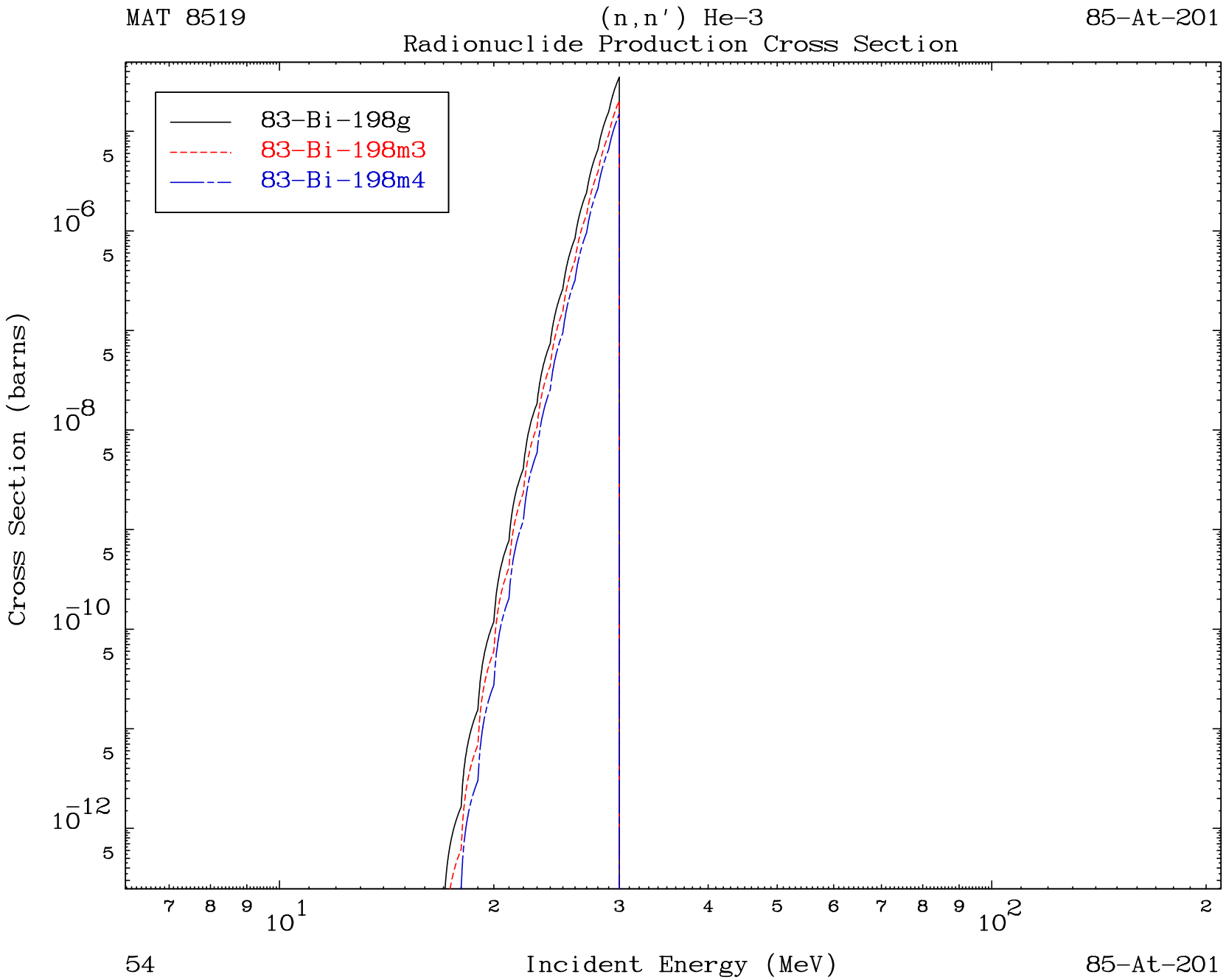

MAT 8519
(n,2n) α
85-At-201
Radionuclide Production Cross Section
83-Bi-196g
83-Bi-196m2
83-Bi-196m3
Cross Section (barns)
Incident Energy (MeV)
49
85-At-201

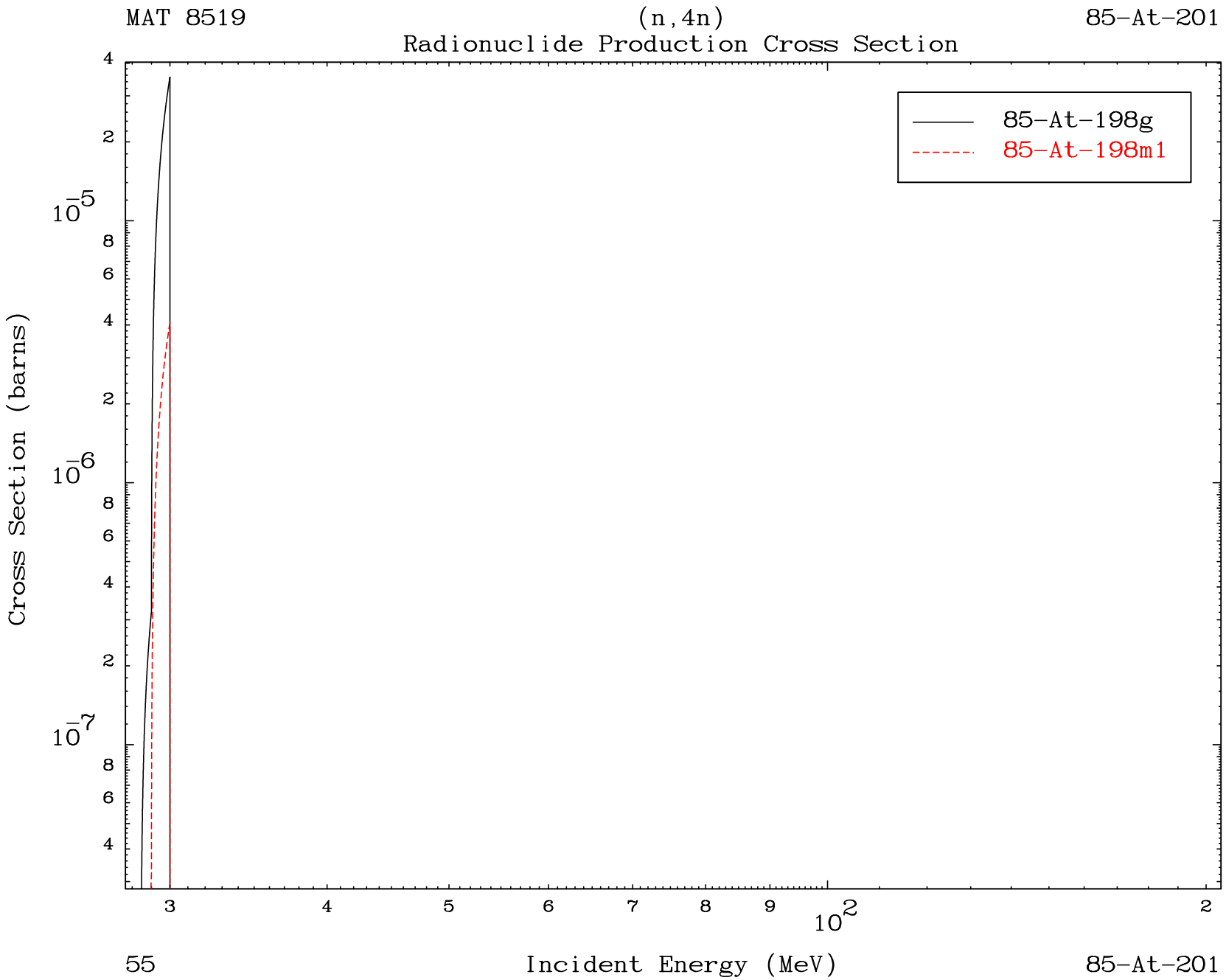

MAT 8519
(n,3n) α
85-At-201
Radionuclide Production Cross Section
83-Bi-195g
83-Bi-195m1
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
2
3
4
5
6
7
8
9
10^2
2
50
Incident Energy (MeV)
85-At-201

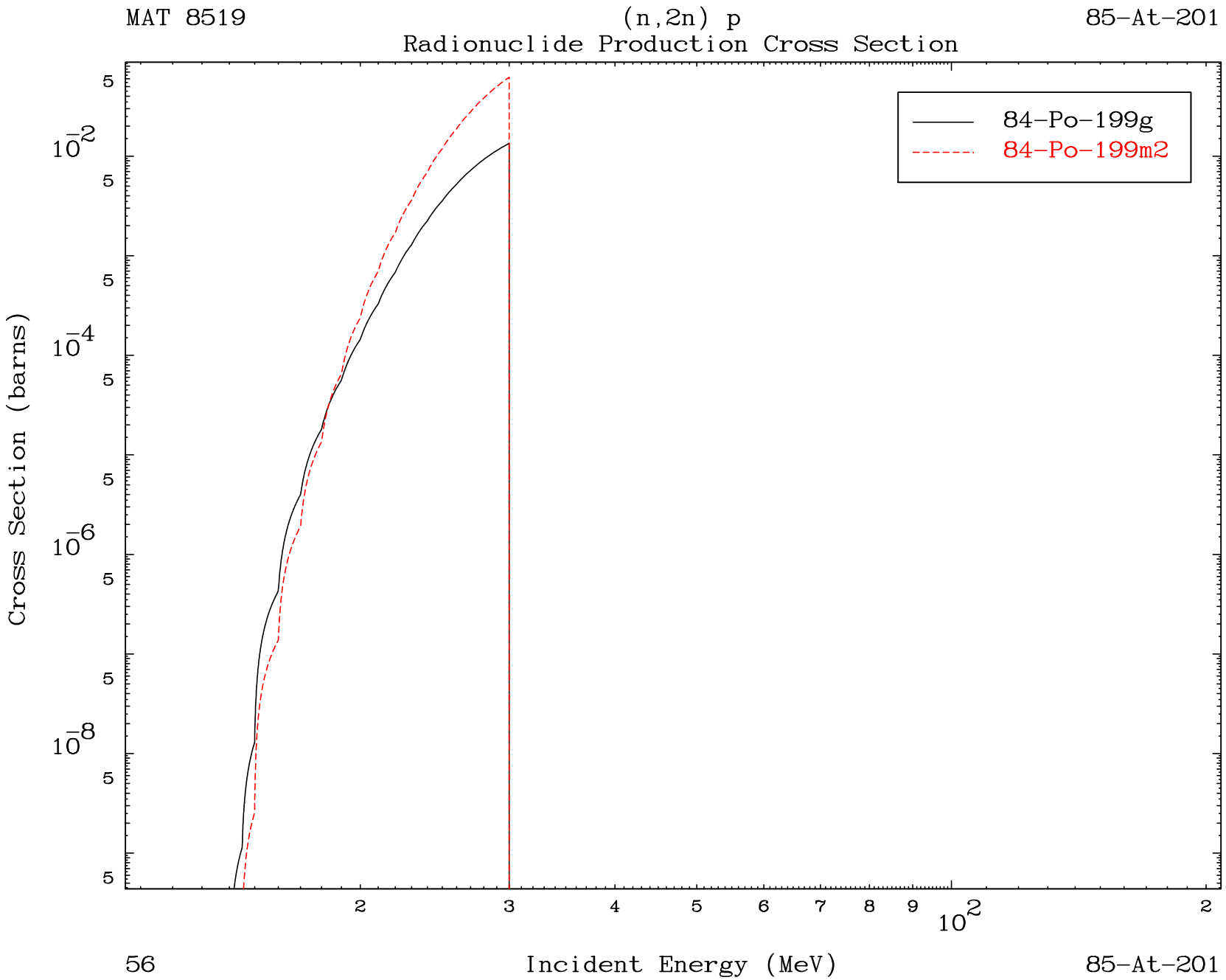

MAT 8519
(n,n') 2α
85-At-201
Radionuclide Production Cross Section
81-Tl-193g
81-Tl-193m2
Cross Section (barns)
Incident Energy (MeV)
51
85-At-201

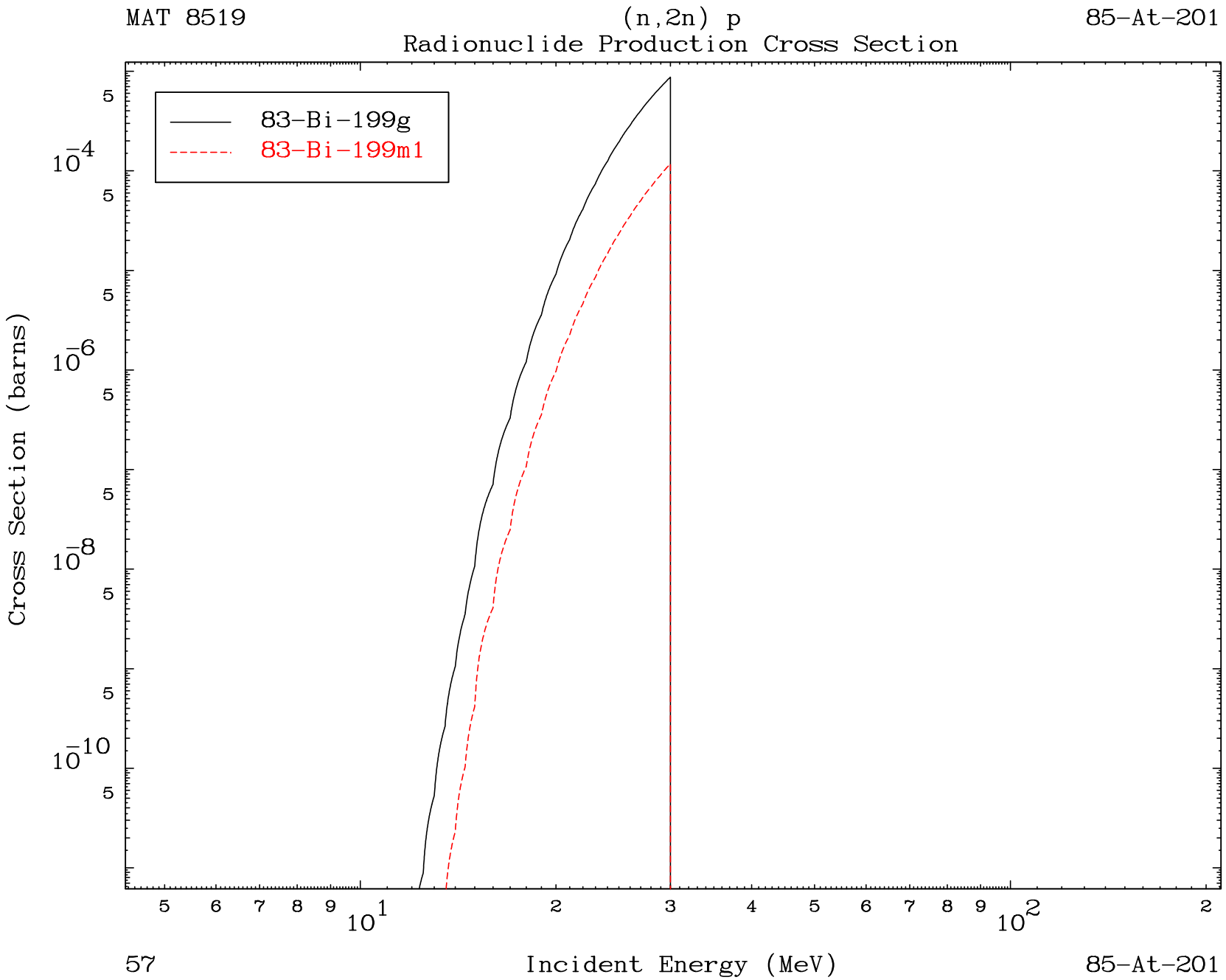

MAT 8519
(n,2n) 2α
85-At-201
Radionuclide Production Cross Section
81-Tl-192g
81-Tl-192m1
Cross Section (barns)
Incident Energy (MeV)
52
85-At-201

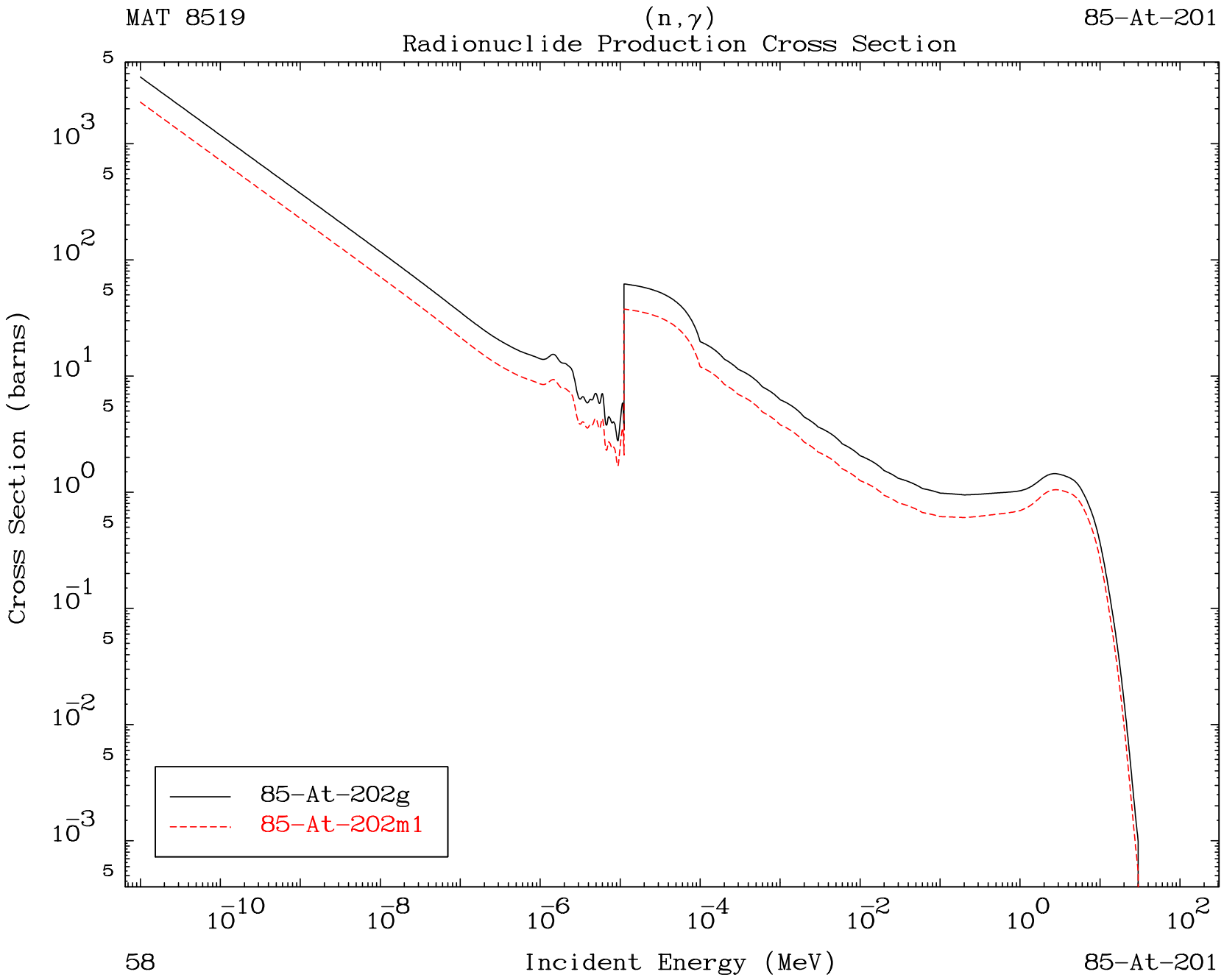

MAT 8519
(n,n') d
85-At-201
Radionuclide Production Cross Section
84-Po-199g
84-Po-199m2
Cross Section (barns)
10-4
10-6
10-8
10-10
5
9
10 1
2
3
4
5
6
7
8
9
10 2
2
53
Incident Energy (MeV)
85-At-201

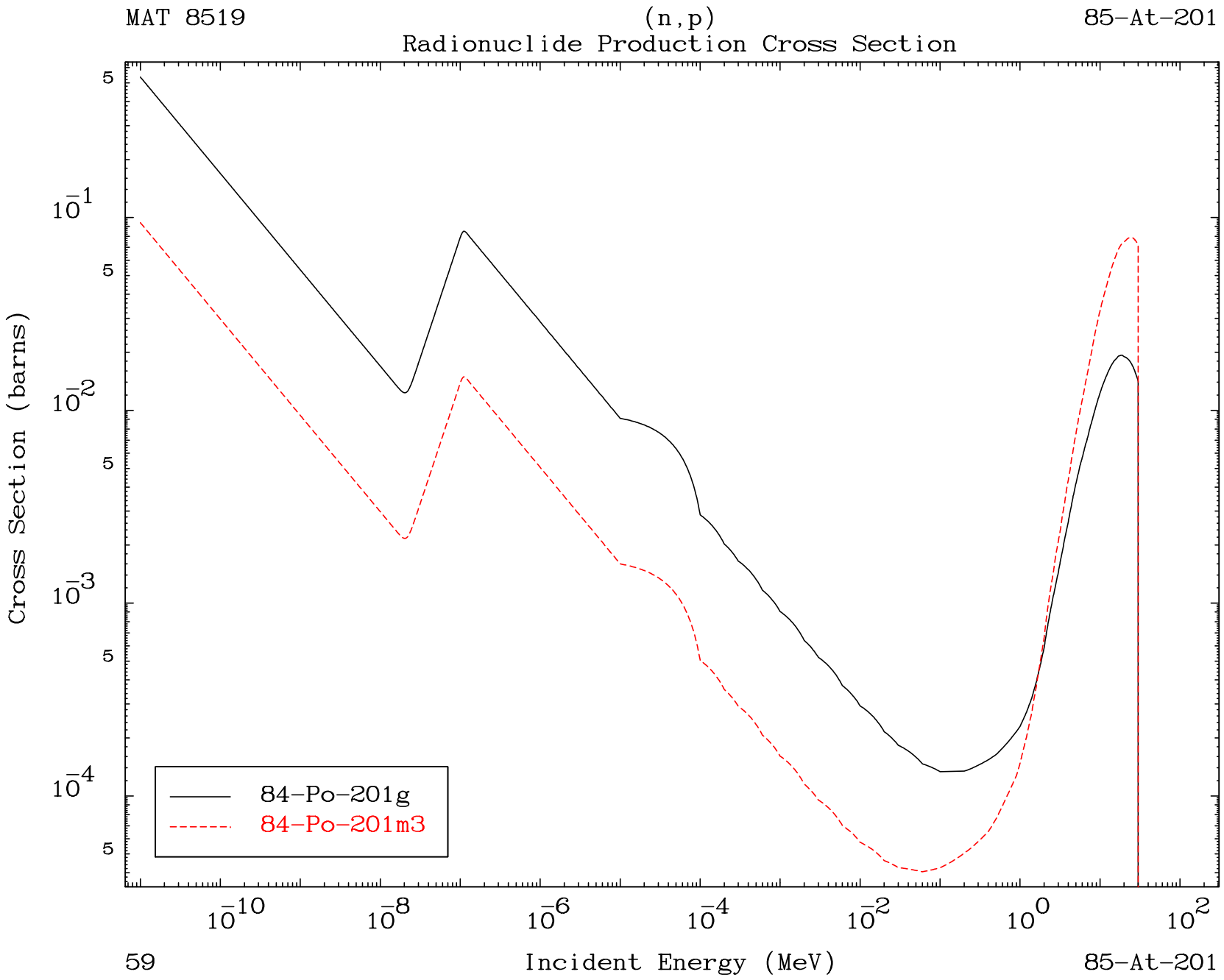

MAT 8519
(n,n') He-3
85-At-201
Radionuclide Production Cross Section
83-Bi-198g
83-Bi-198m3
83-Bi-198m4
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
7 8 9
10^1
2 3 4 5 6 7 8 9
10^2
2
54
Incident Energy (MeV)
85-At-201

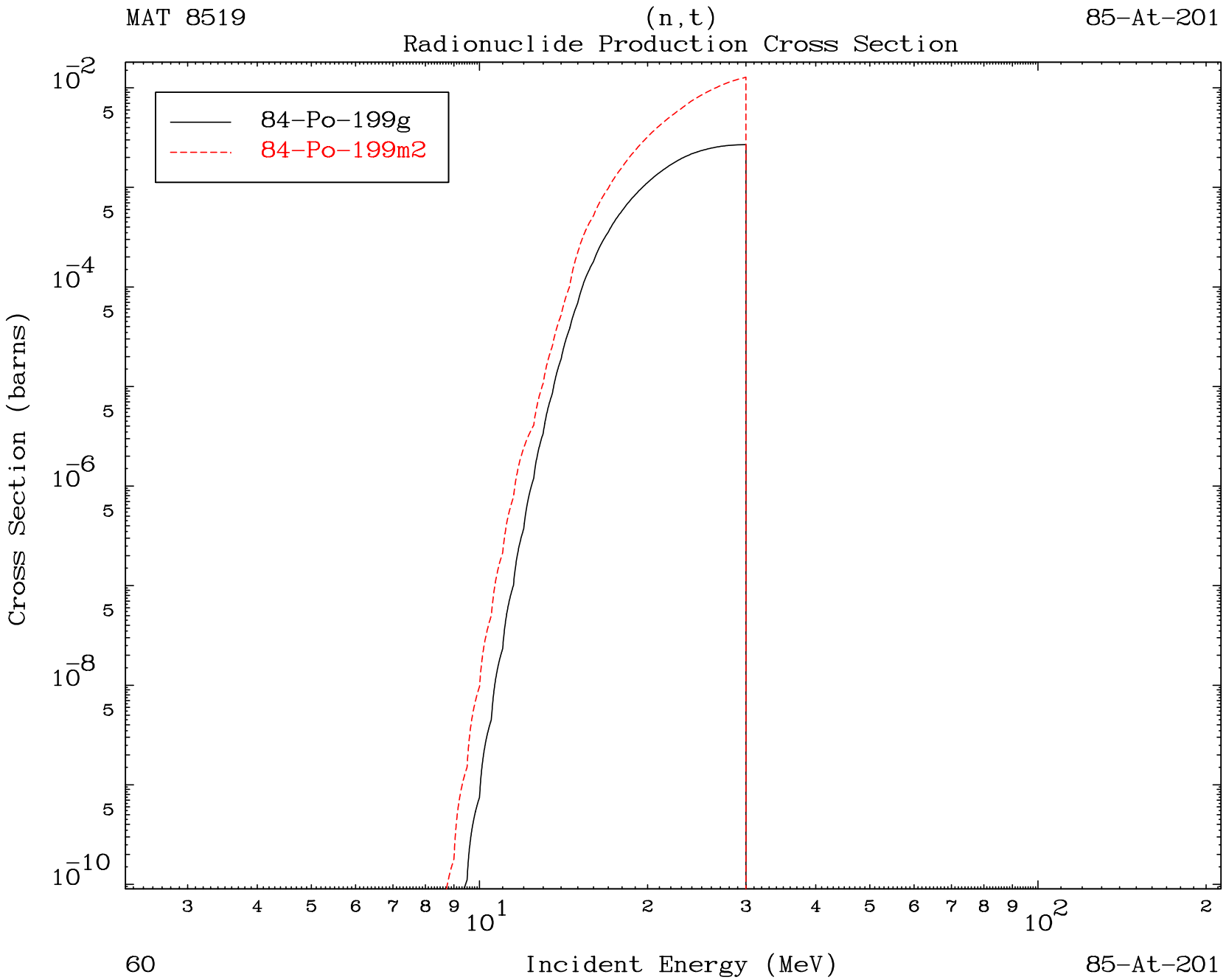

MAT 8519
(n,4n)
85-At-201
Radionuclide Production Cross Section
85-At-198g
85-At-198m1
Cross Section (barns)
10-5
10-6
10-7
4
2
8
6
4
2
8
6
4
2
8
6
4
3
4
5
6
7
8
9
10 2
2
55
Incident Energy (MeV)
85-At-201

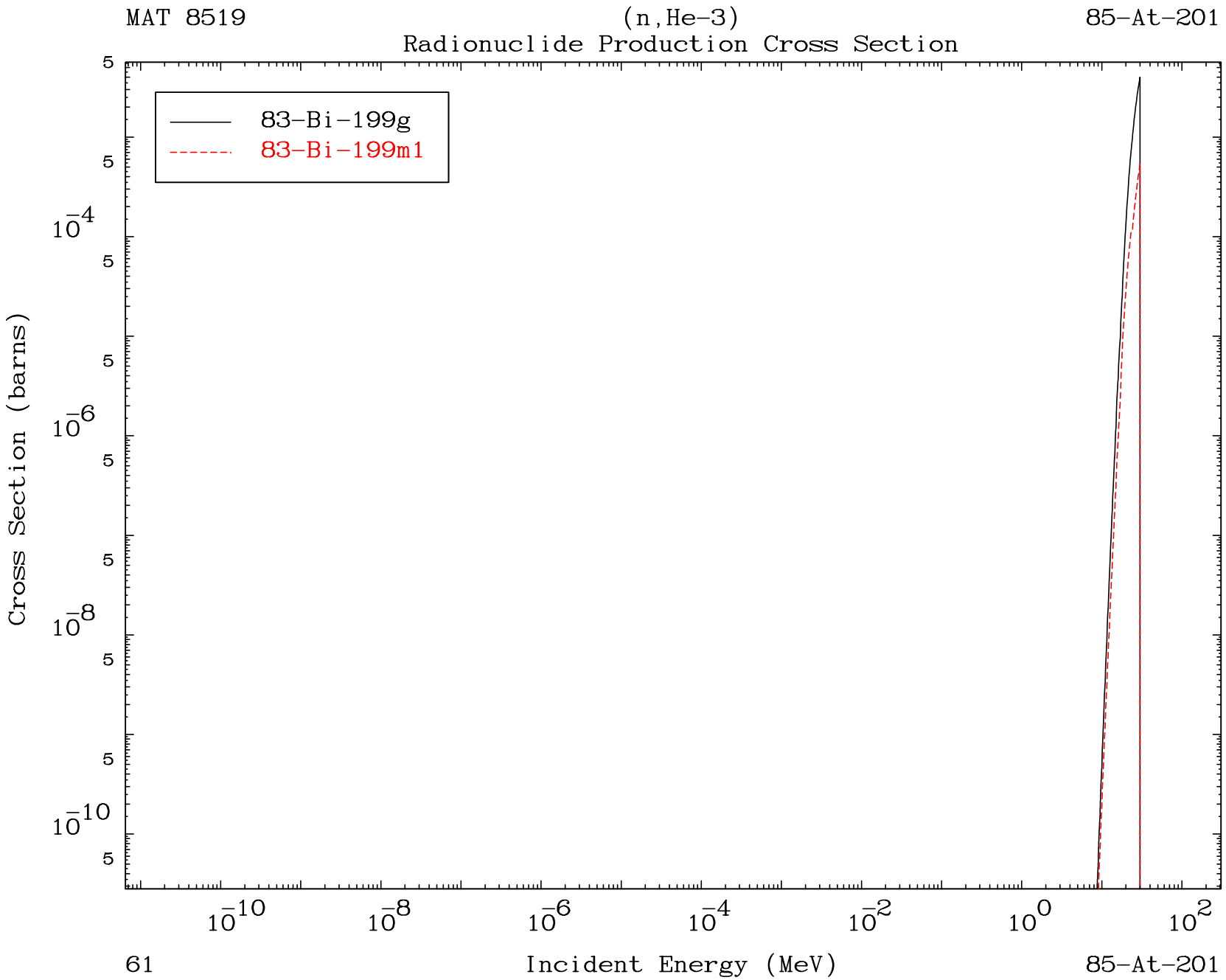

MAT 8519
(n,2n) p
85-At-201
Radionuclide Production Cross Section
84-Po-199g
84-Po-199m2
Cross Section (barns)
Incident Energy (MeV)
56
85-At-201

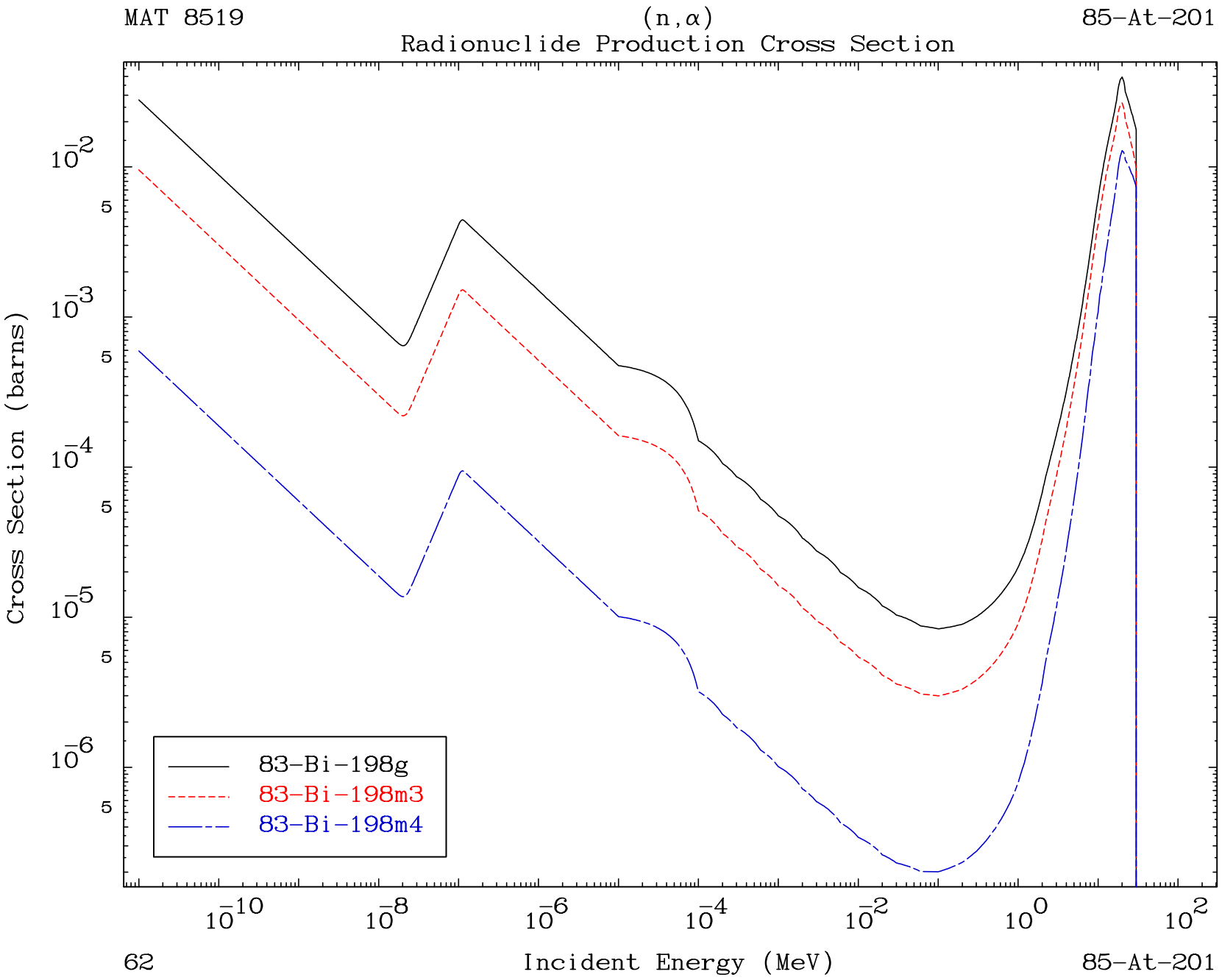

MAT 8519
(n,2n) p
85-At-201
Radionuclide Production Cross Section
83-Bi-199g
83-Bi-199m1
Cross Section (barns)
Incident Energy (MeV)
57
85-At-201

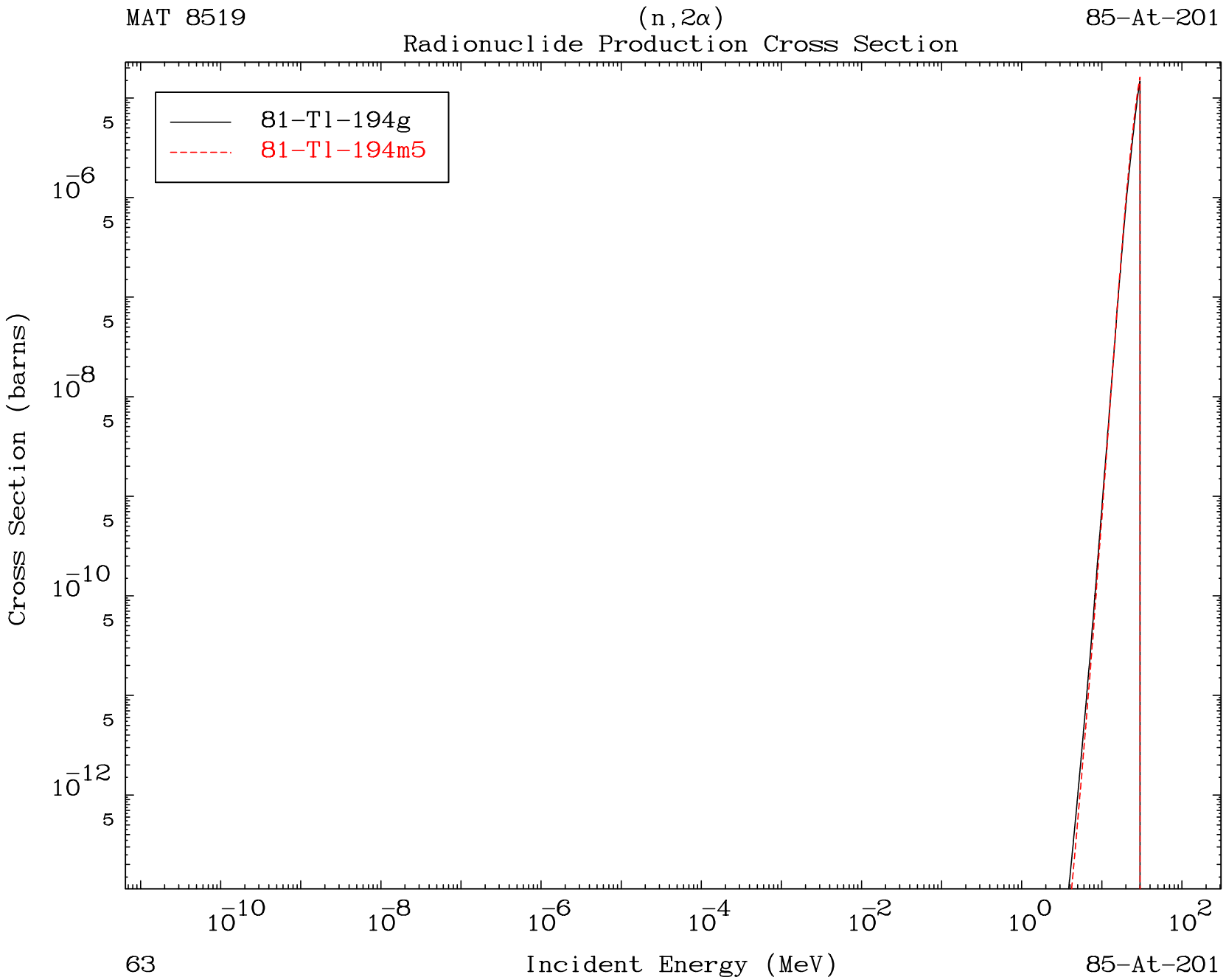

MAT 8519
(n,γ)
85-At-201
Radionuclide Production Cross Section
Cross Section (barns)
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
85-At-202g
85-At-202m1
58
85-At-201

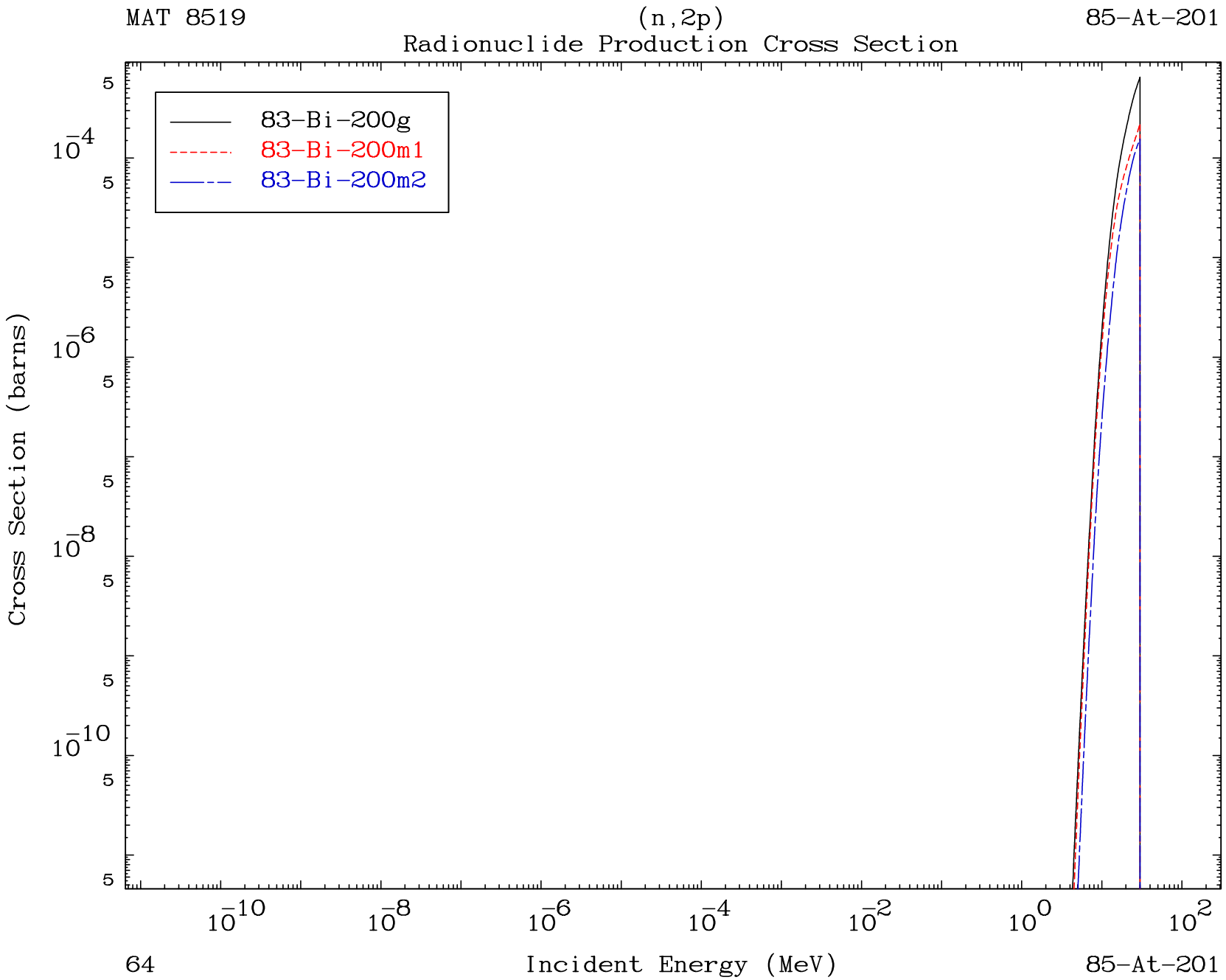

MAT 8519
(n,p)
85-At-201
Radionuclide Production Cross Section
Cross Section (barns)
5
10-1
5
10-2
5
10-3
5
10-4
5
84-Po-201g
84-Po-201m3
10-10
10-8
10-6
10-4
10-2
100
102
59
Incident Energy (MeV)
85-At-201

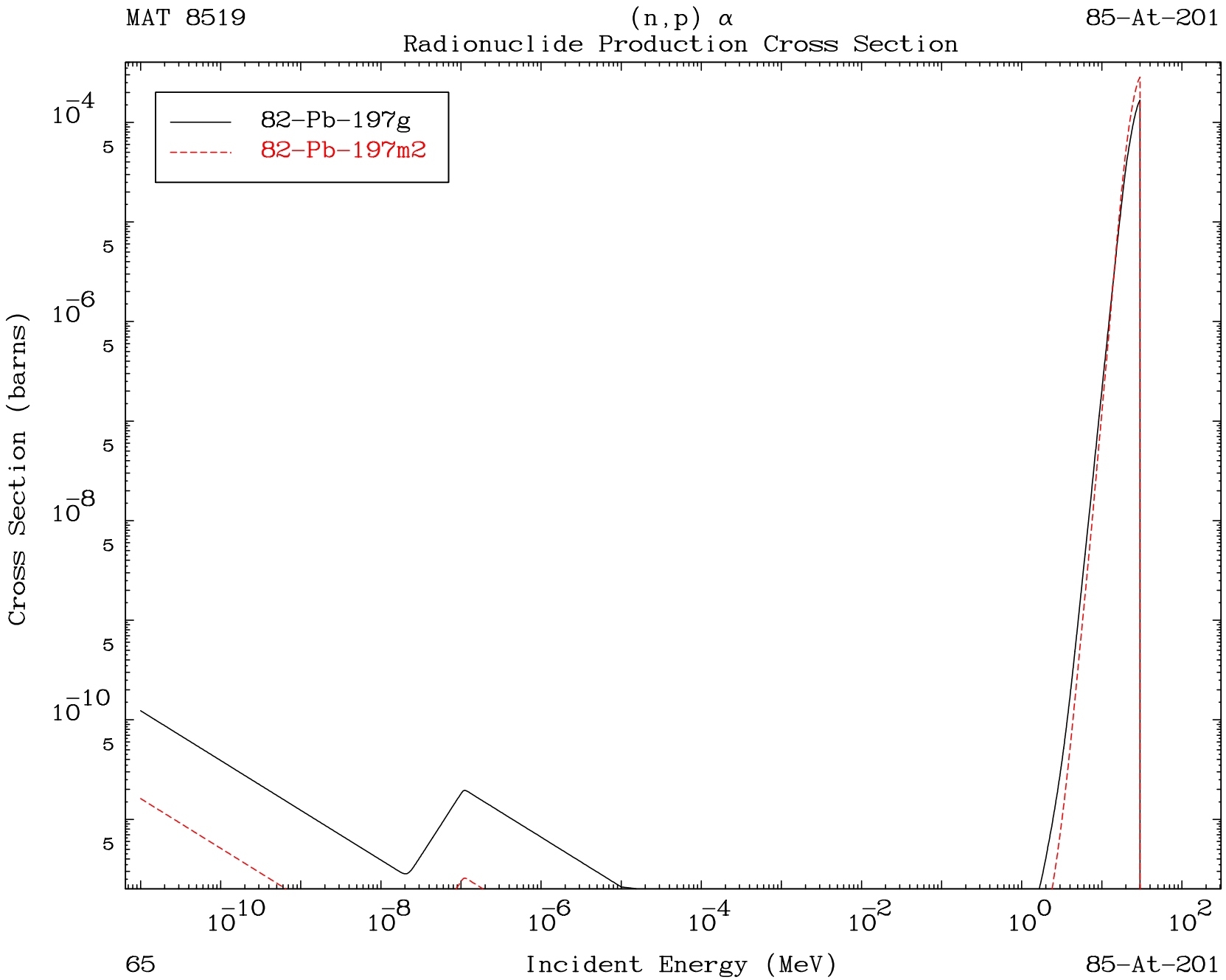

MAT 8519
(n,t)
85-At-201
Radionuclide Production Cross Section
84-Po-199g
84-Po-199m2
Cross Section (barns)
Incident Energy (MeV)
60
85-At-201

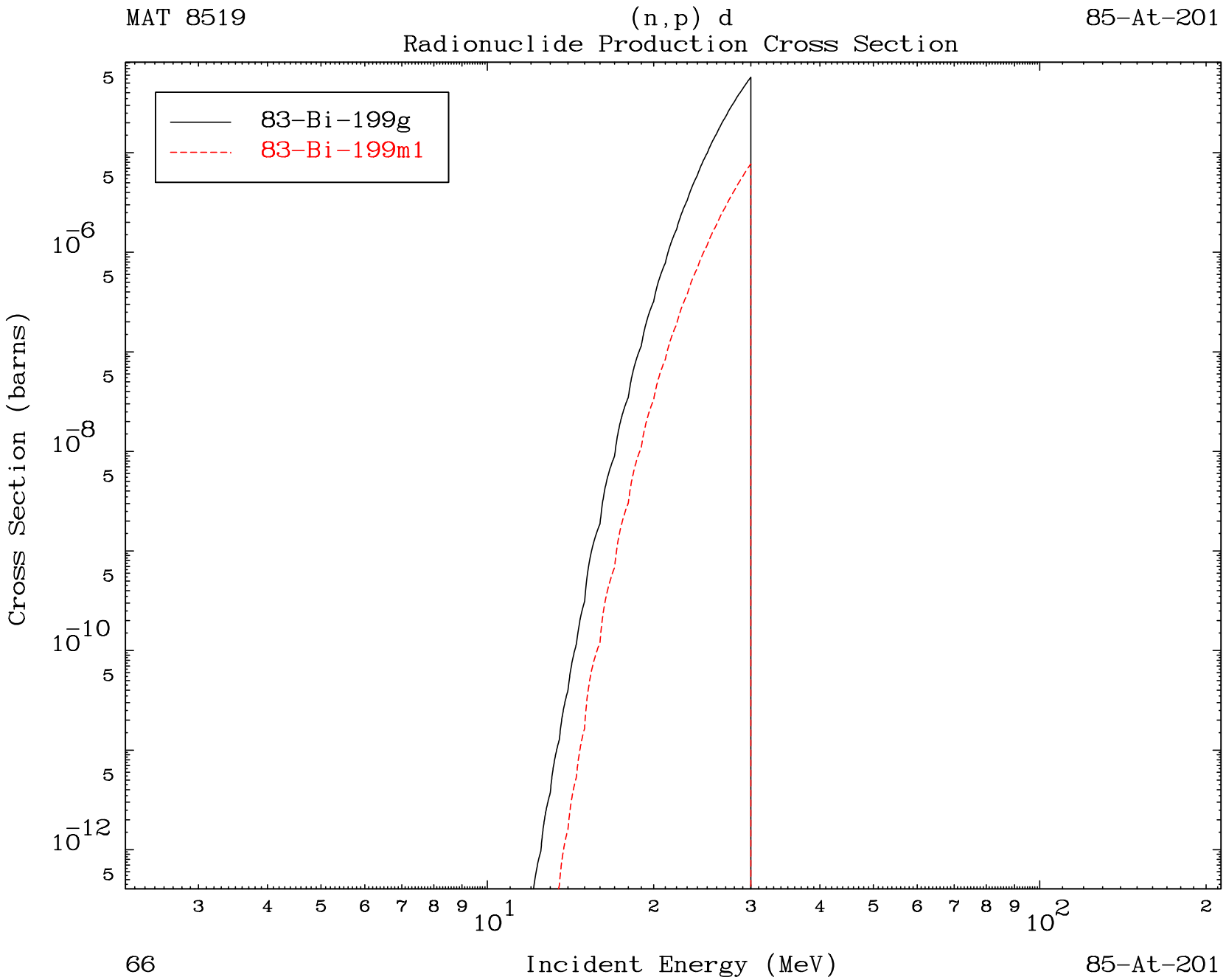

MAT 8519
(n,He-3)
85-At-201
Radionuclide Production Cross Section
83-Bi-199g
83-Bi-199m1
Cross Section (barns)
Incident Energy (MeV)
61
85-At-201

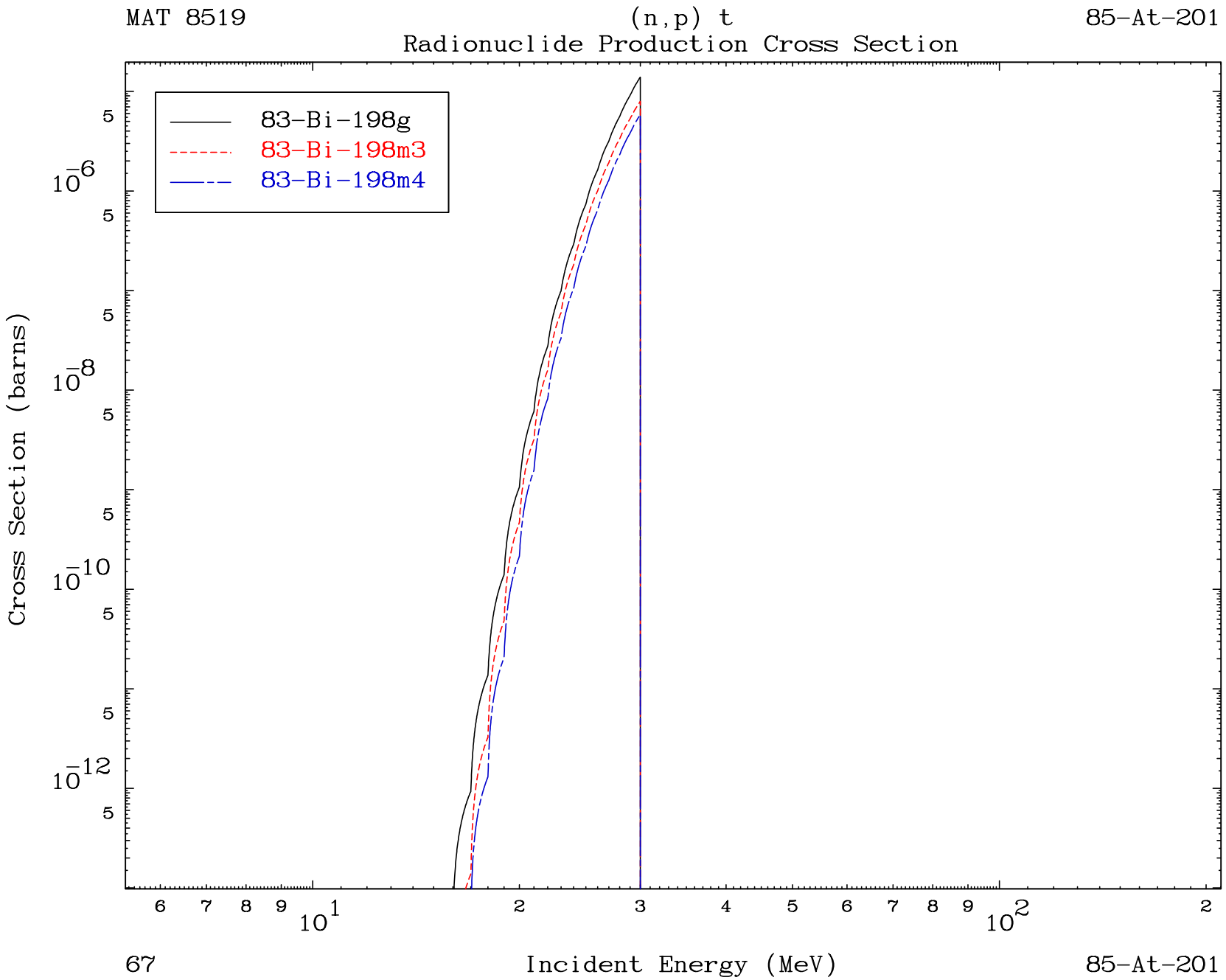

MAT 8519
(n,α)
85-At-201
Radionuclide Production Cross Section
Cross Section (barns)
10-2
5
10-3
5
10-4
5
10-5
5
10-6
5
83-Bi-198g
83-Bi-198m3
83-Bi-198m4
10-10
10-8
10-6
10-4
10-2
100
102
62
Incident Energy (MeV)
85-At-201


MAT 8519
(n,2α)
85-At-201
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
63
Incident Energy (MeV)
85-At-201


MAT 8519
(n,2p)
85-At-201
Radionuclide Production Cross Section
83-Bi-200g
83-Bi-200m1
83-Bi-200m2
Cross Section (barns)
Incident Energy (MeV)
64
85-At-201


MAT 8519
(n,p) α
85-At-201
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
Incident Energy (MeV)
65
85-At-201


MAT 8519
(n,p) d
85-At-201
Radionuclide Production Cross Section
83-Bi-199g
83-Bi-199m1
Cross Section (barns)
Incident Energy (MeV)
66
85-At-201


MAT 8519
(n,p) t
85-At-201
Radionuclide Production Cross Section
83-Bi-198g
83-Bi-198m3
83-Bi-198m4
Cross Section (barns)
Incident Energy (MeV)
67
85-At-201