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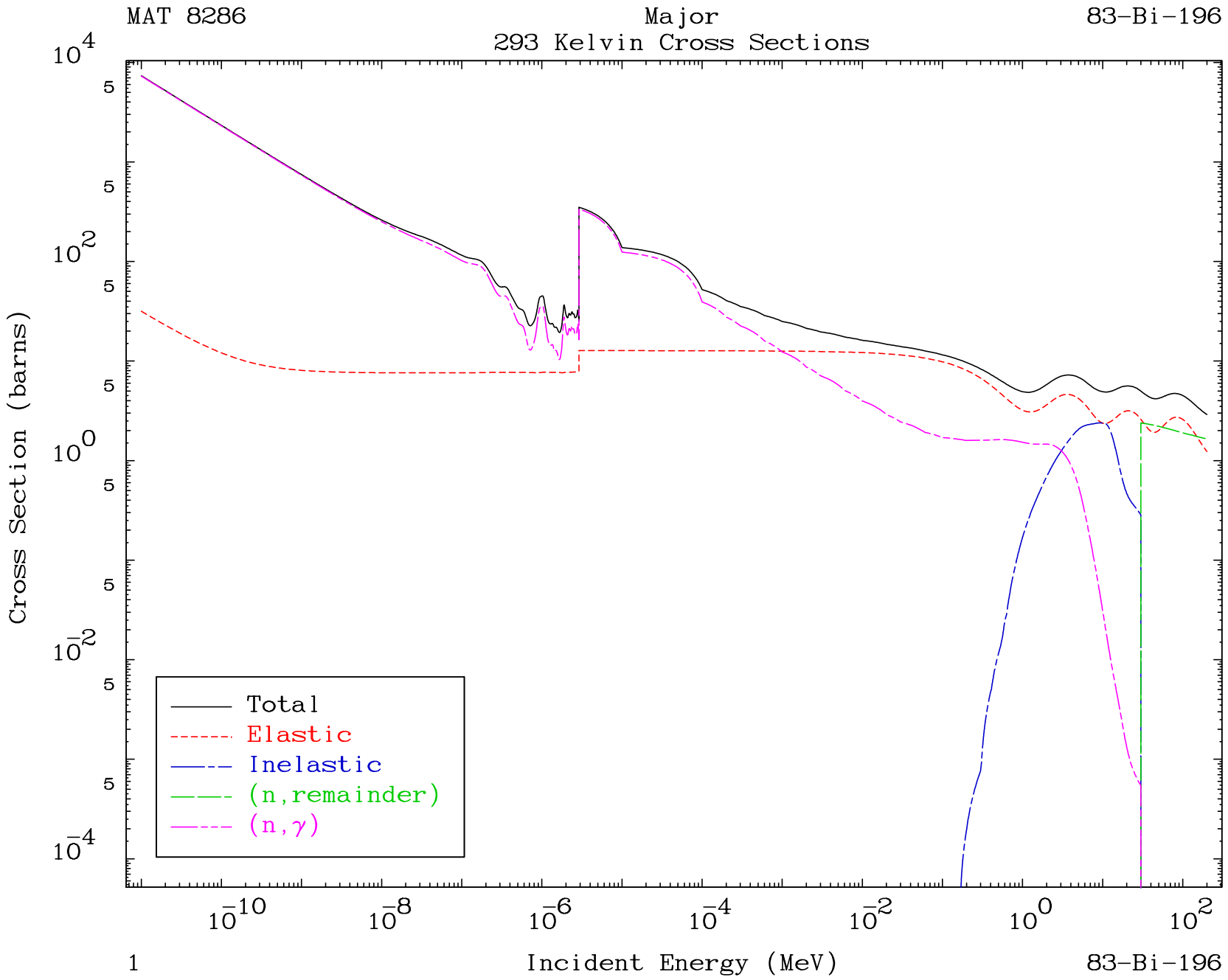
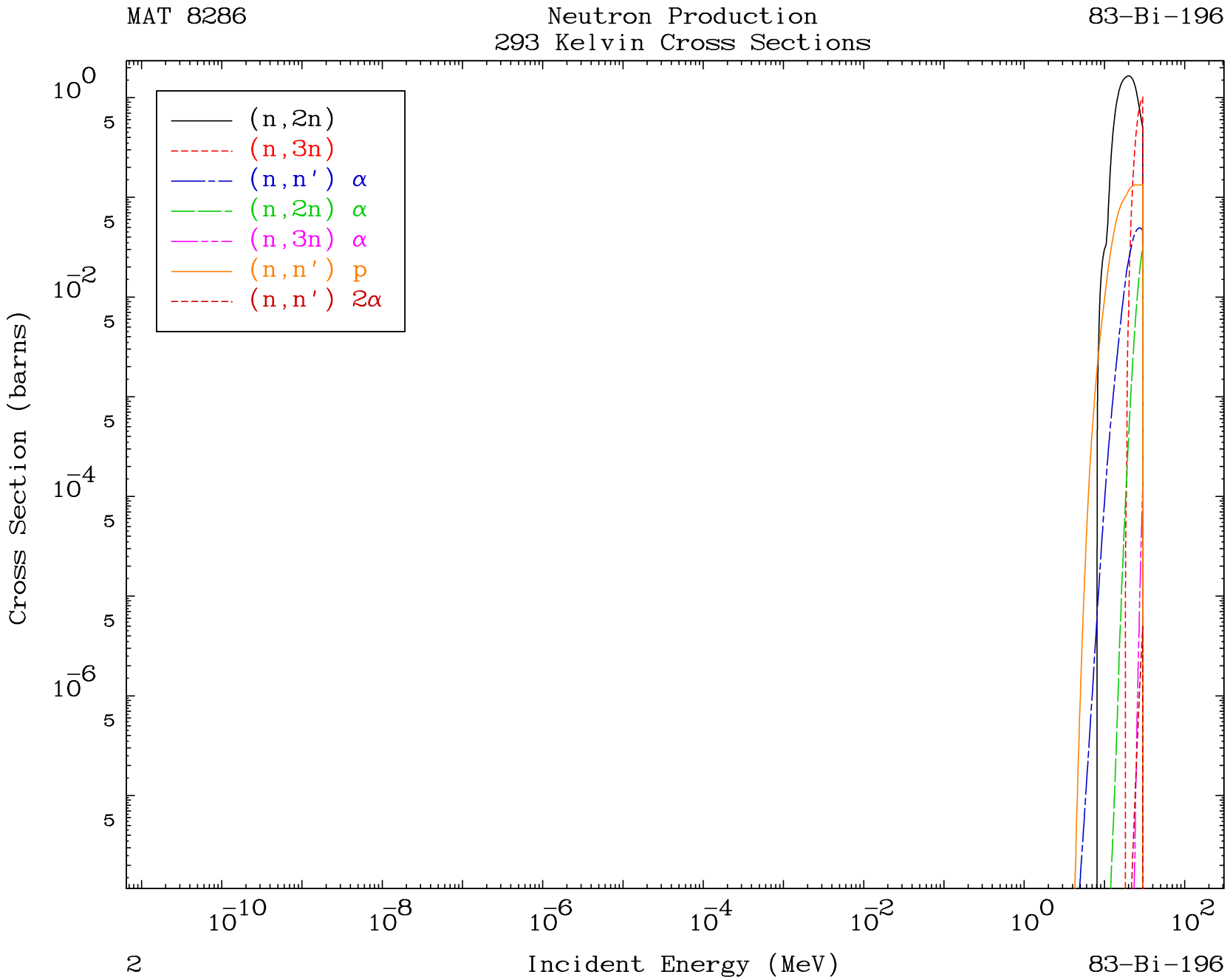
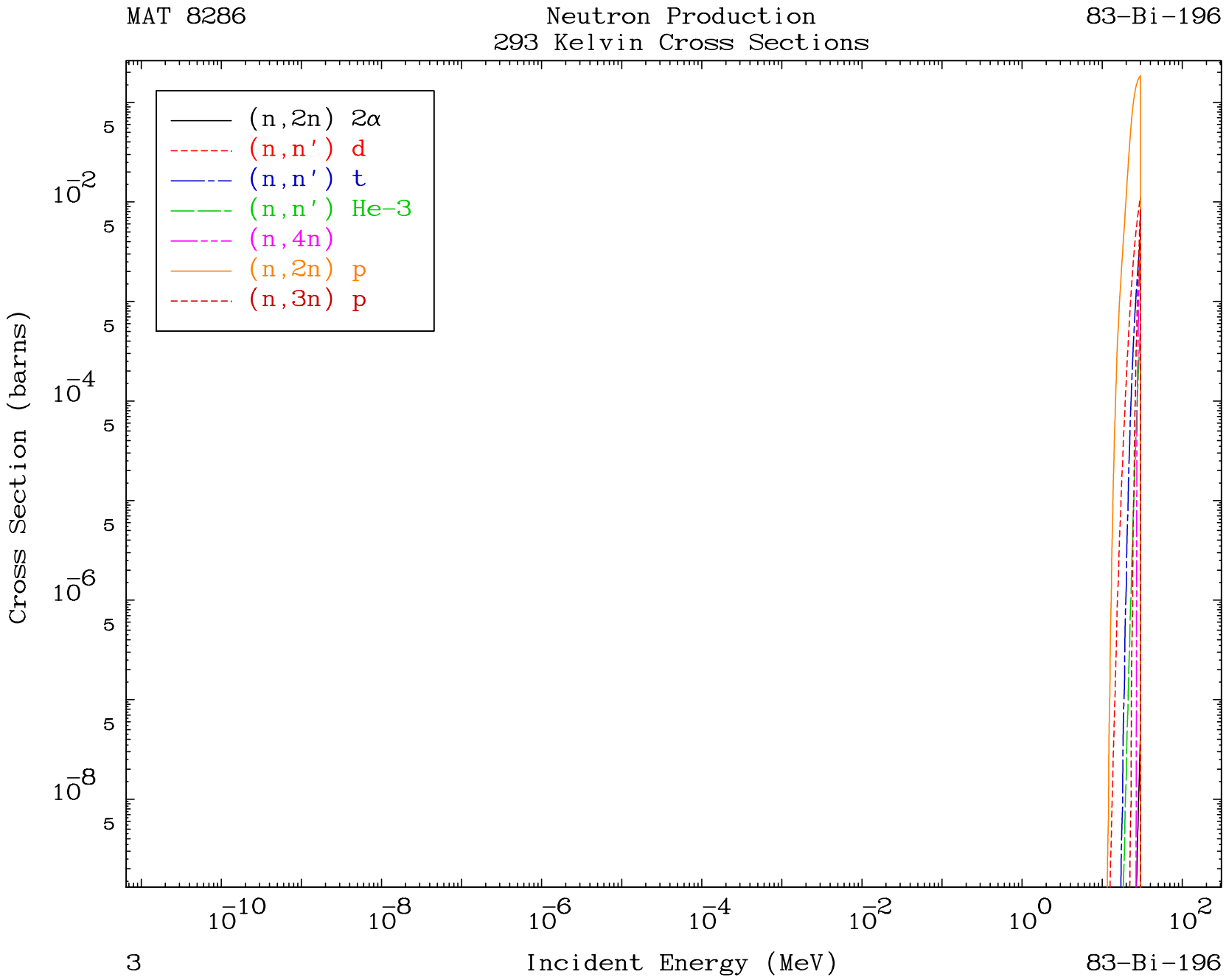
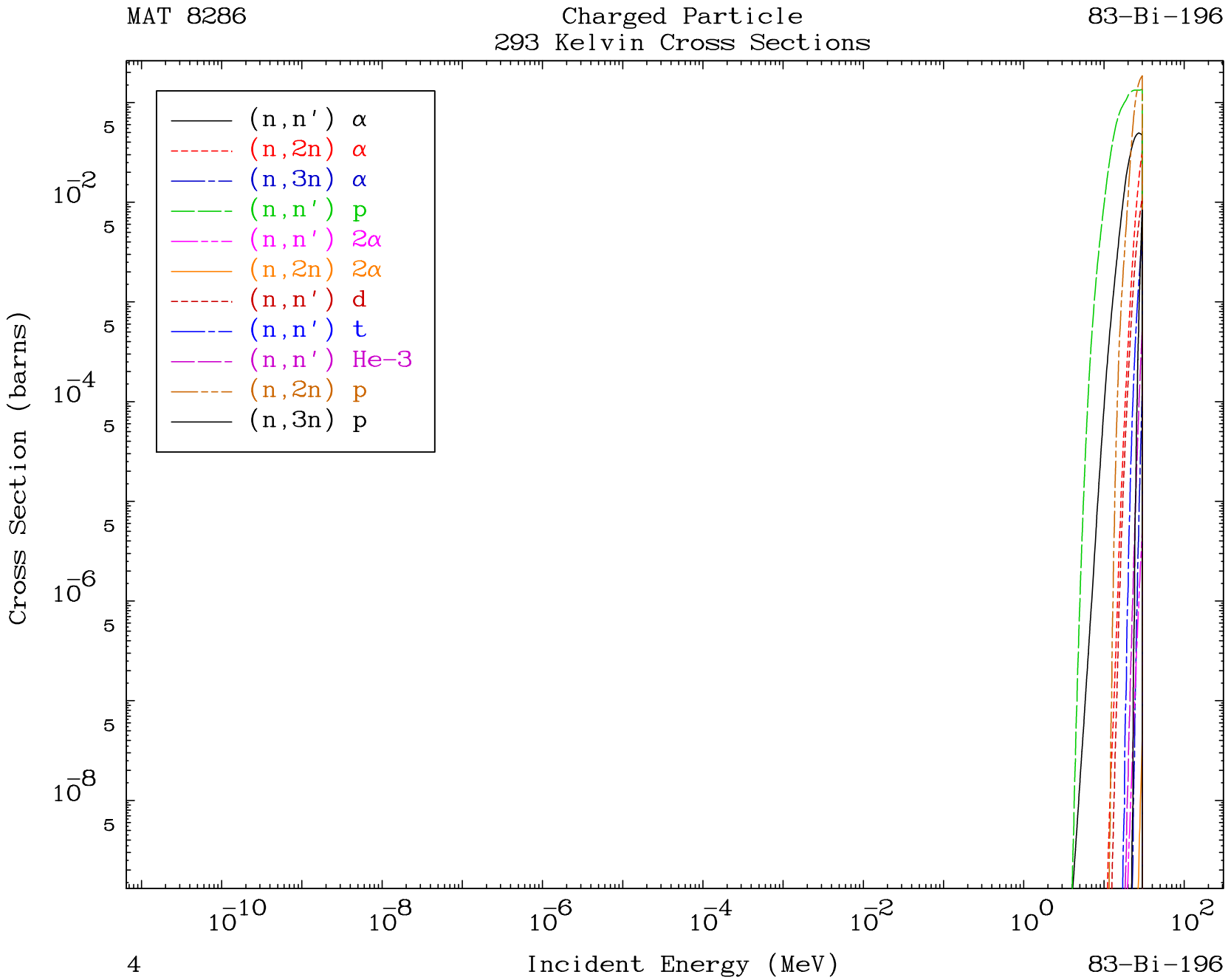
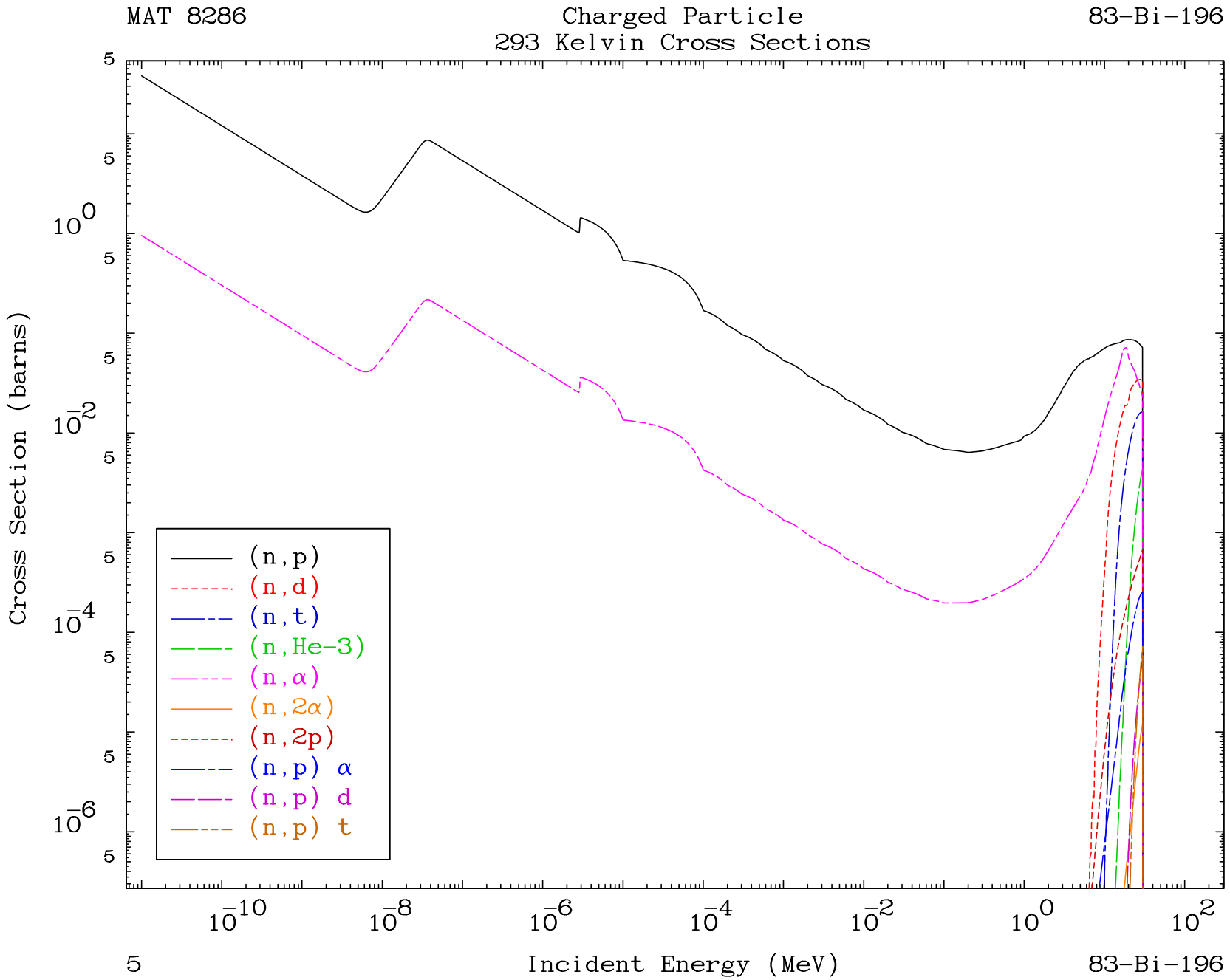
Press Mouse Button to Start

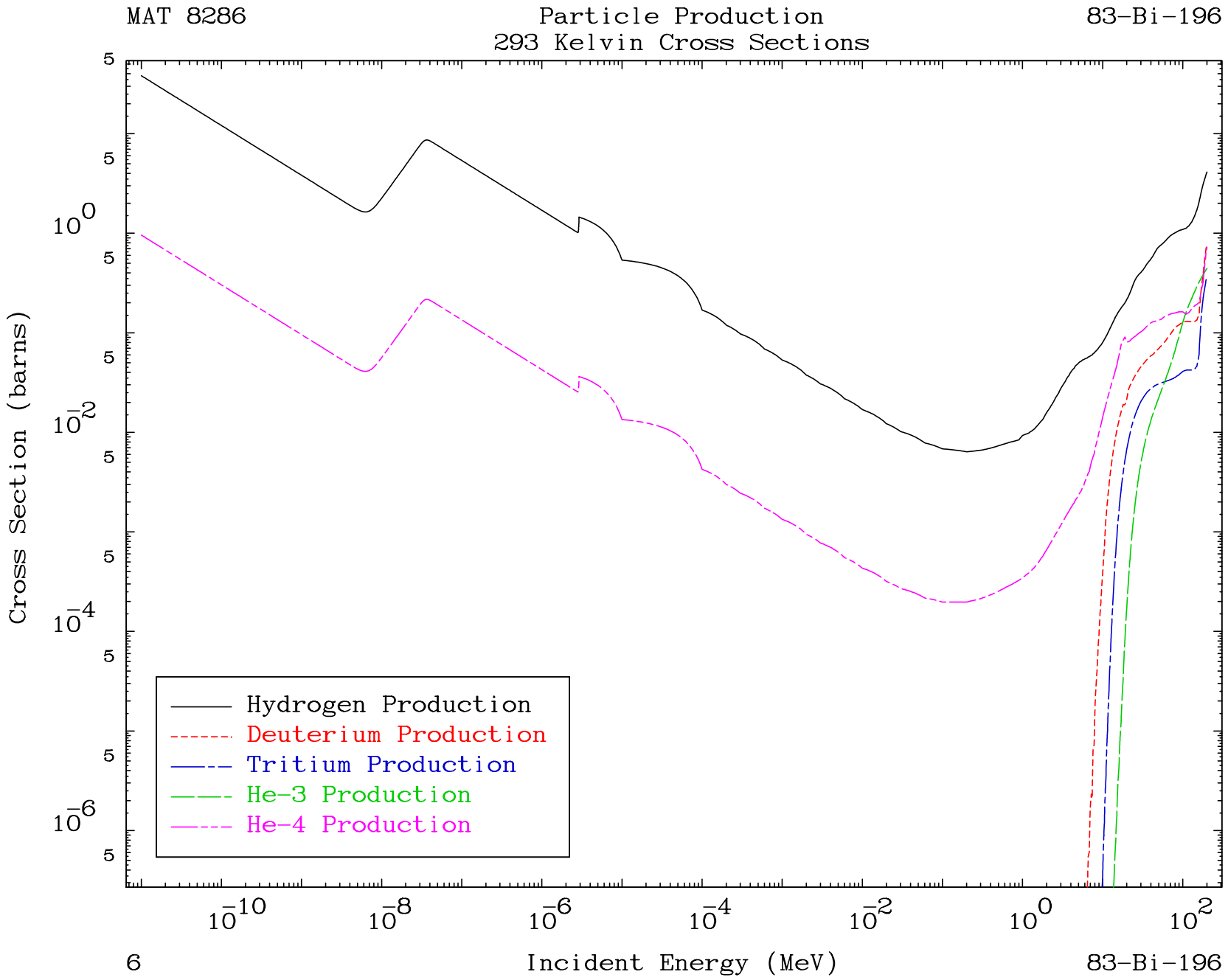

MAT 8286
Major
83-Bi-196
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
83-Bi-196

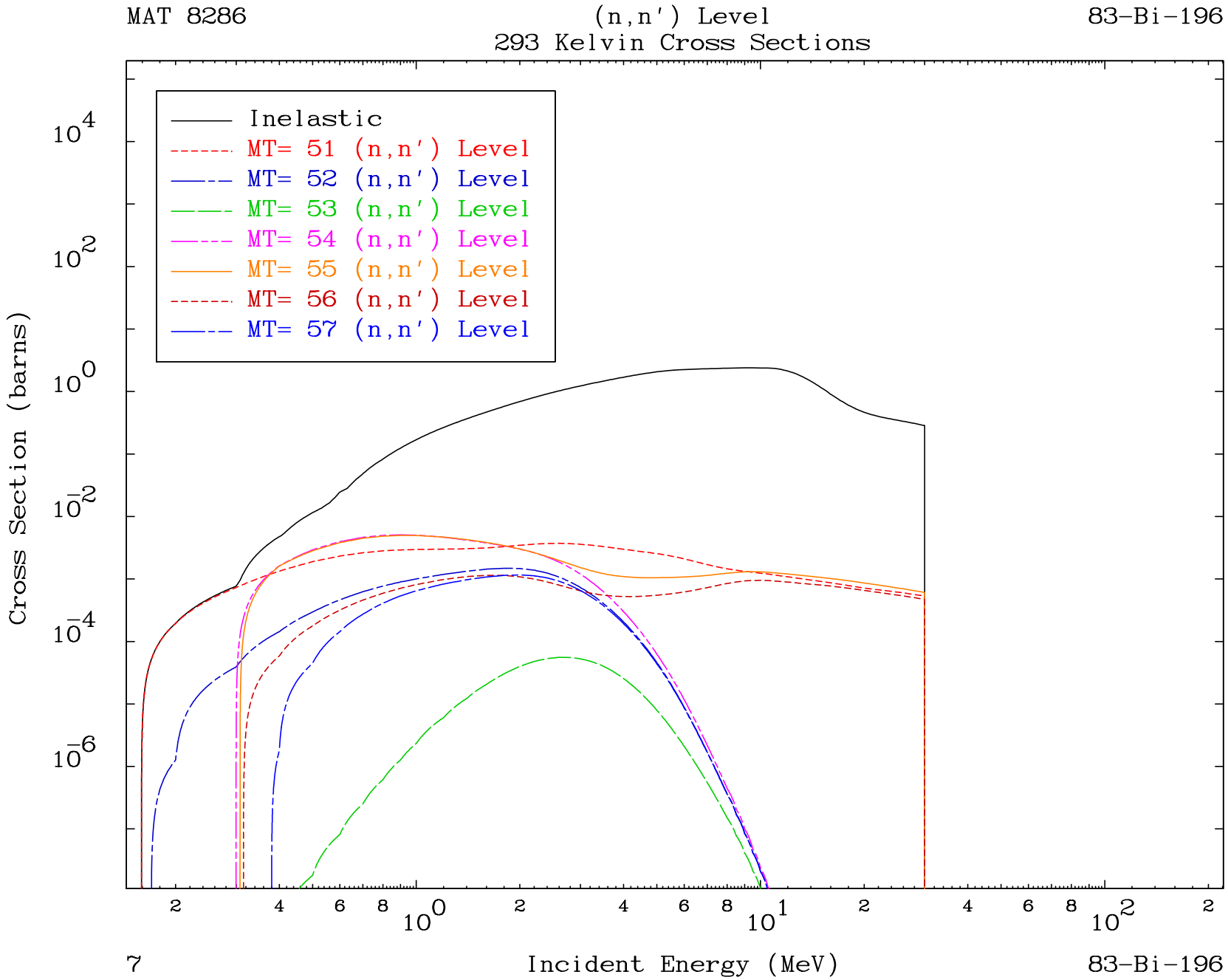

MAT 8286
Neutron Production
293 Kelvin Cross Sections
83-Bi-196
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
2
83-Bi-196

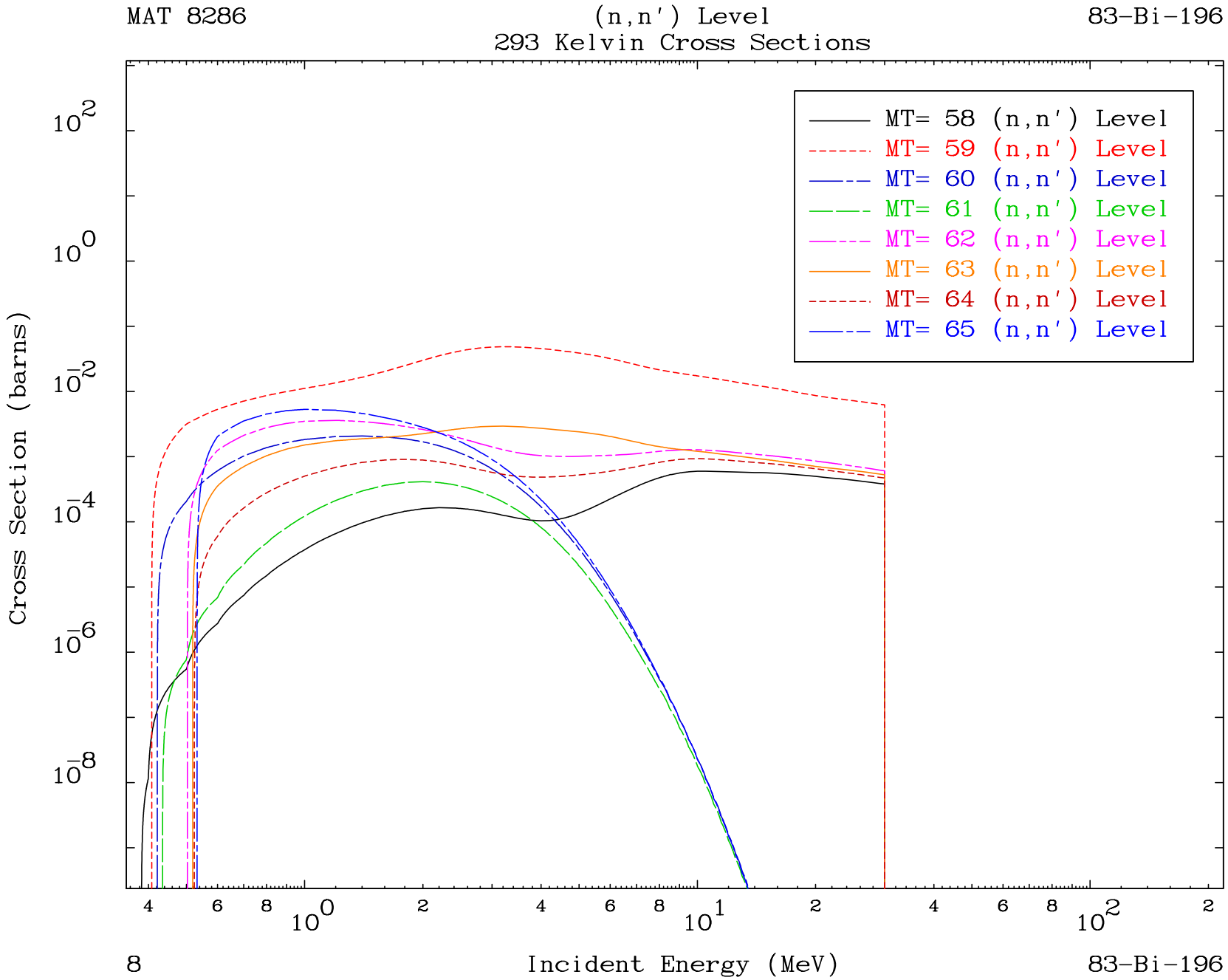

MAT 8286
Neutron Production
293 Kelvin Cross Sections
83-Bi-196
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
10^-10
10^0
10^2
Incident Energy (MeV)
3
83-Bi-196

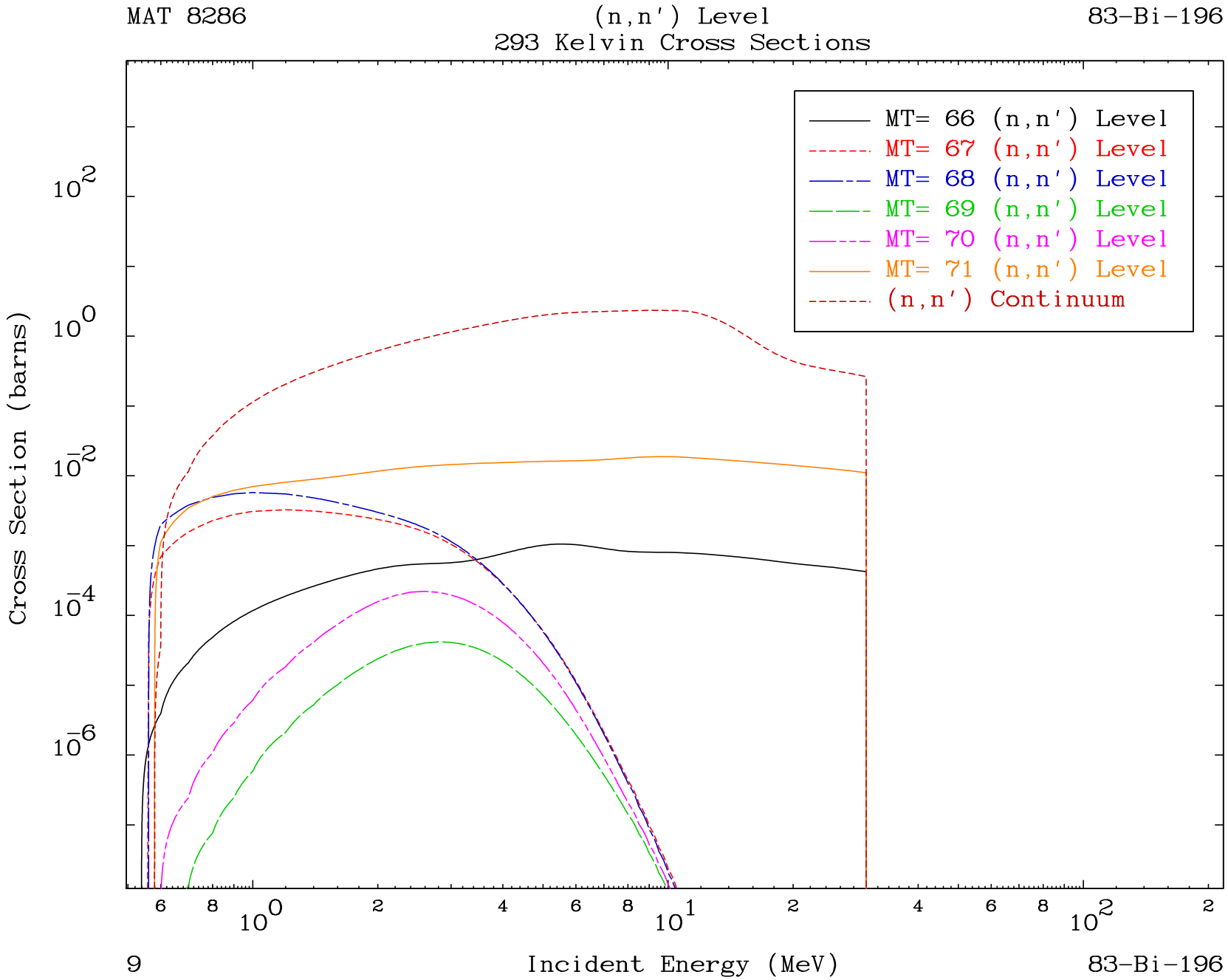

MAT 8286
Charged Particle
293 Kelvin Cross Sections
83-Bi-196
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
83-Bi-196

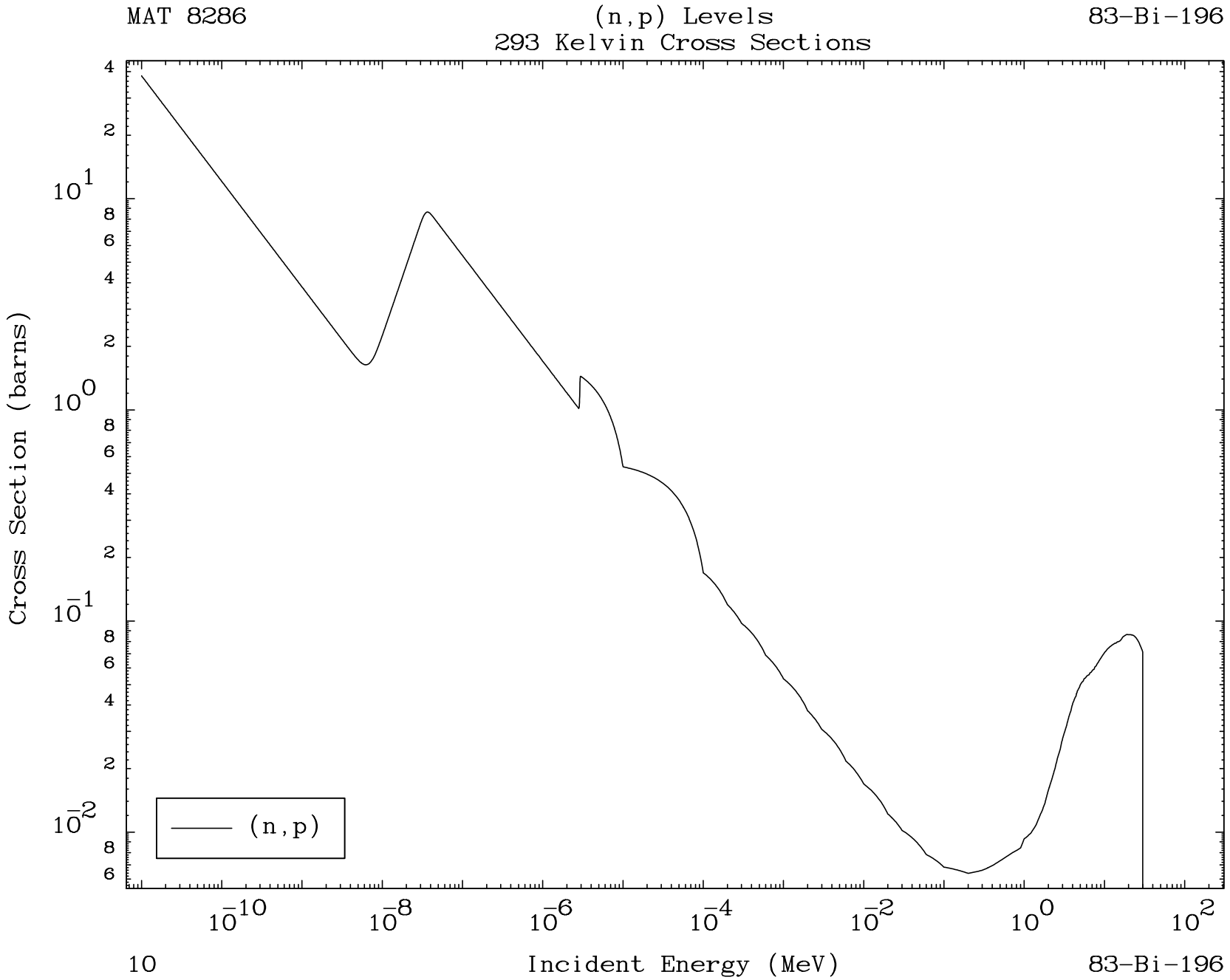

MAT 8286
Charged Particle
293 Kelvin Cross Sections
83-Bi-196
Cross Section (barns)
Incident Energy (MeV)
83-Bi-196
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

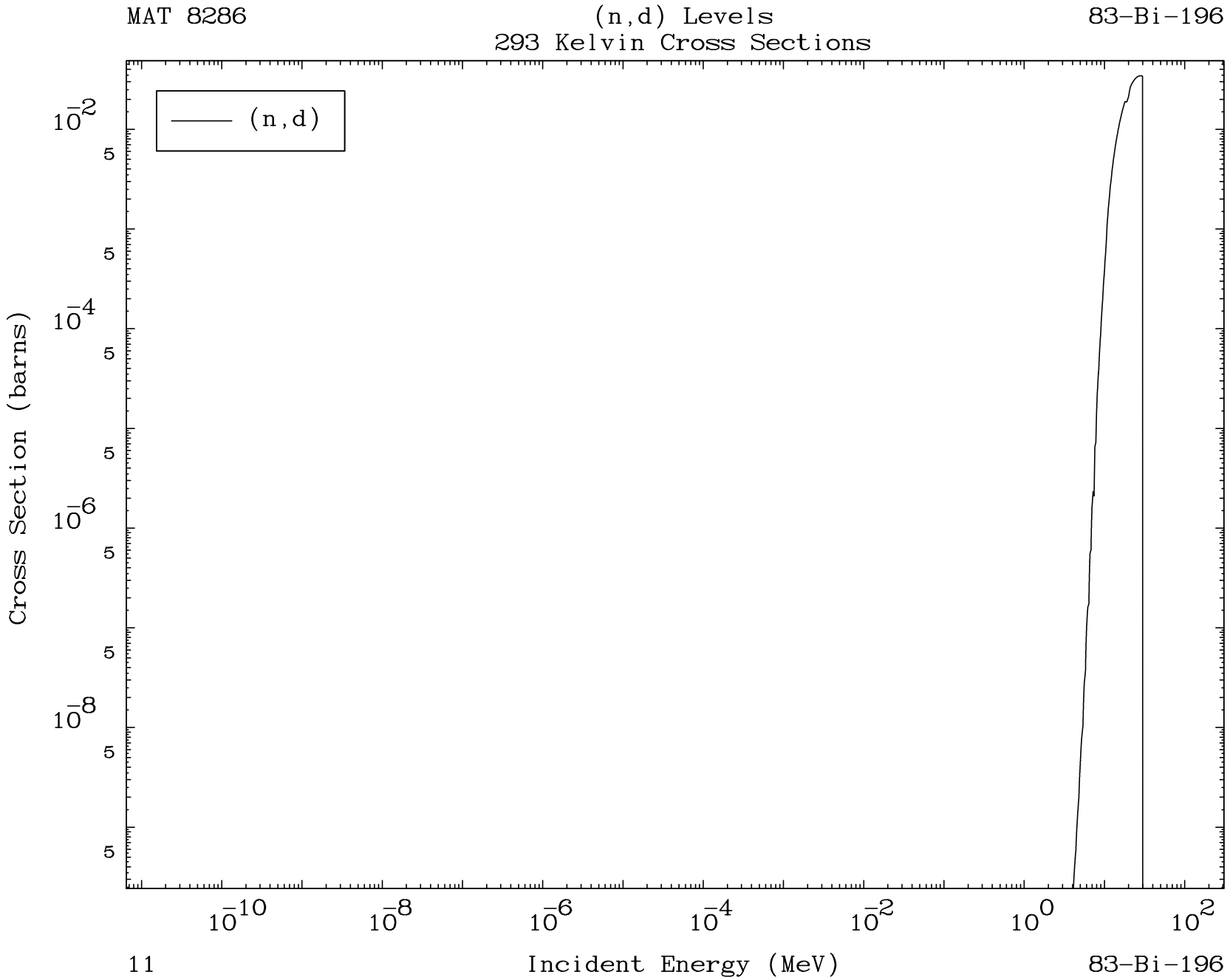

MAT 8286
Particle Production
293 Kelvin Cross Sections
83-Bi-196
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
6
83-Bi-196

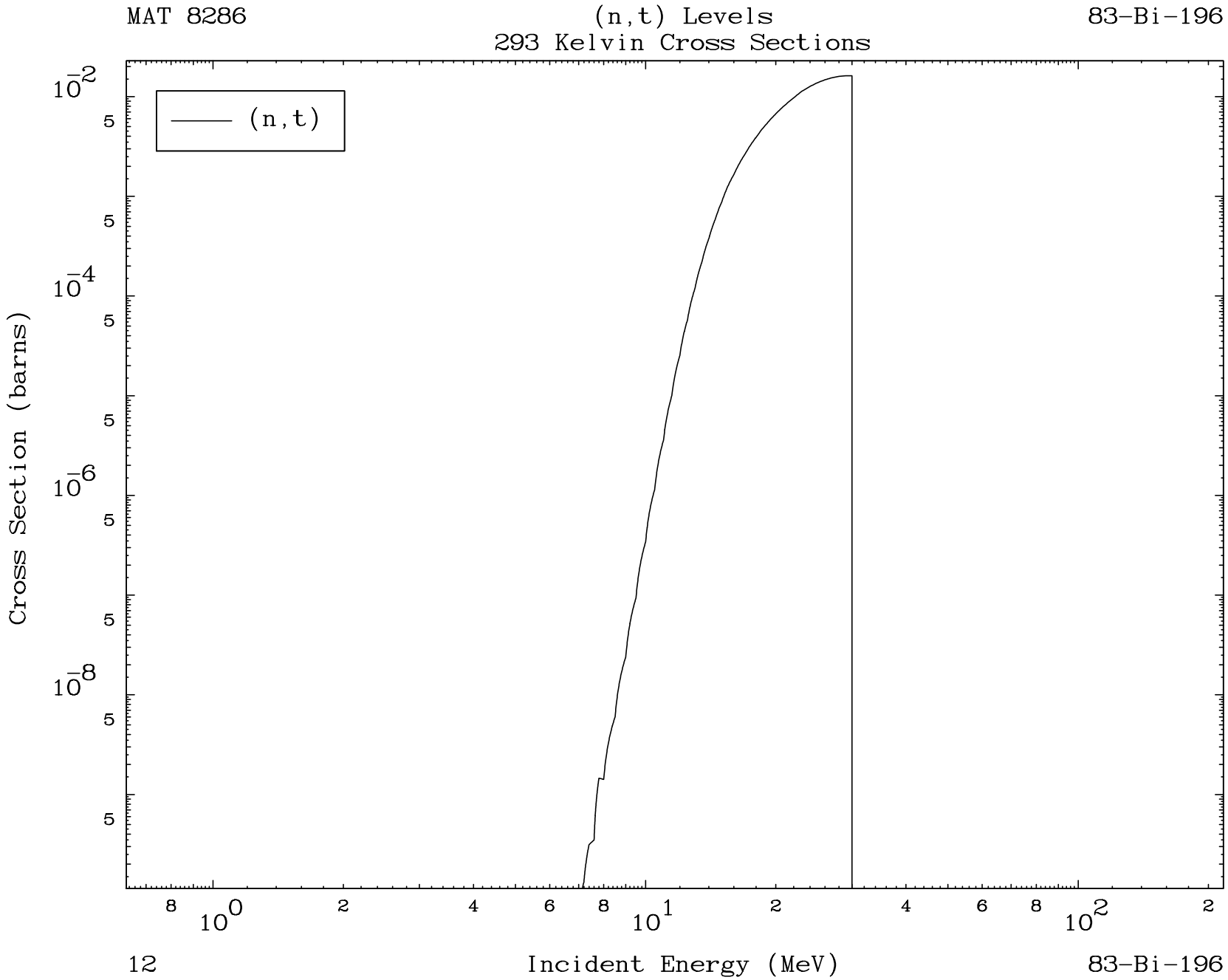

MAT 8286
(n,n') Level
83-Bi-196
293 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
Cross Section (barns)
10^4
10^2
10^0
10^-2
10^-4
10^-6
2
4
6
8
10^0
2
4
6
8
10^1
2
4
6
8
10^2
2
7
Incident Energy (MeV)
83-Bi-196

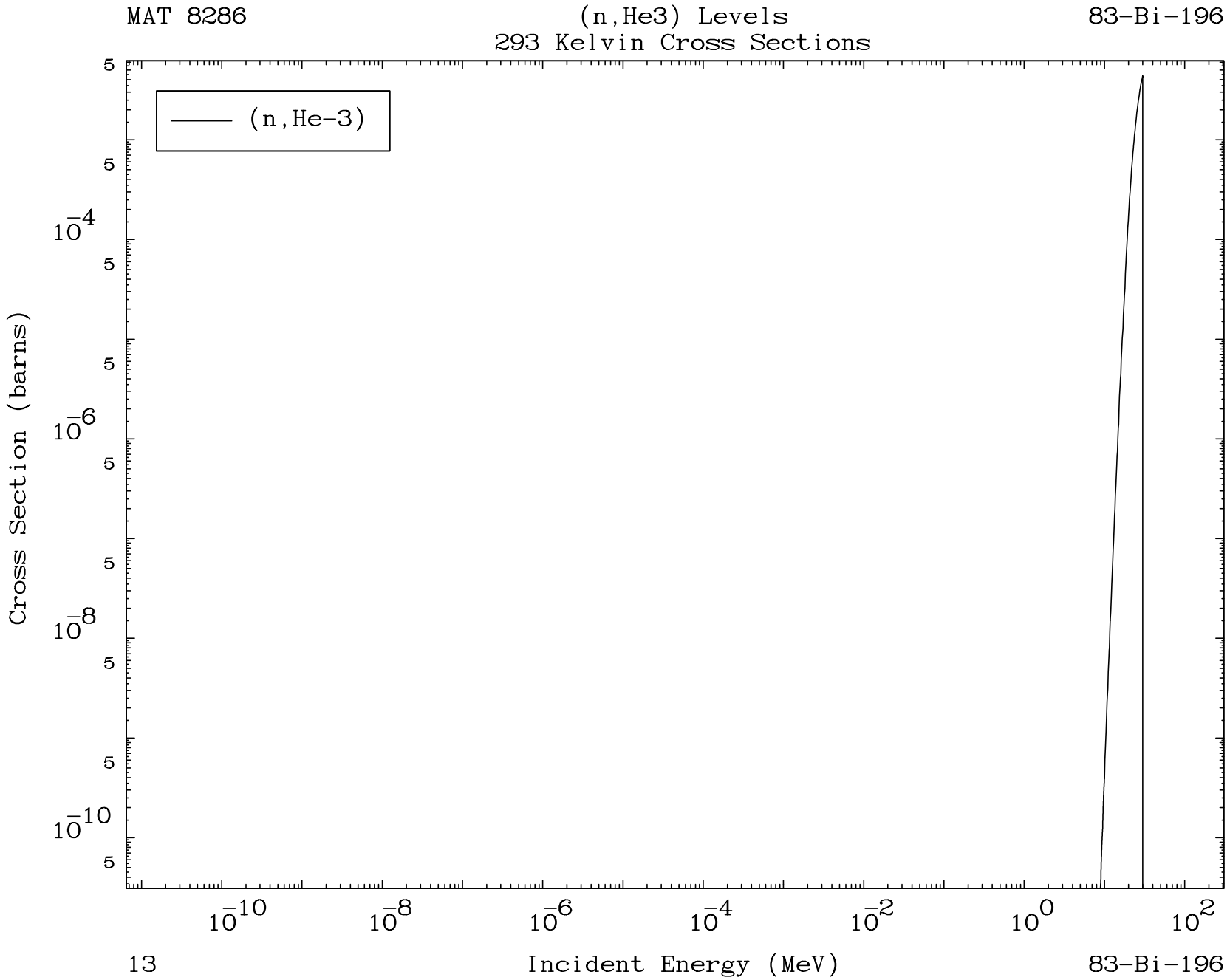

MAT 8286
(n,n') Level
293 Kelvin Cross Sections
83-Bi-196
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
8
83-Bi-196

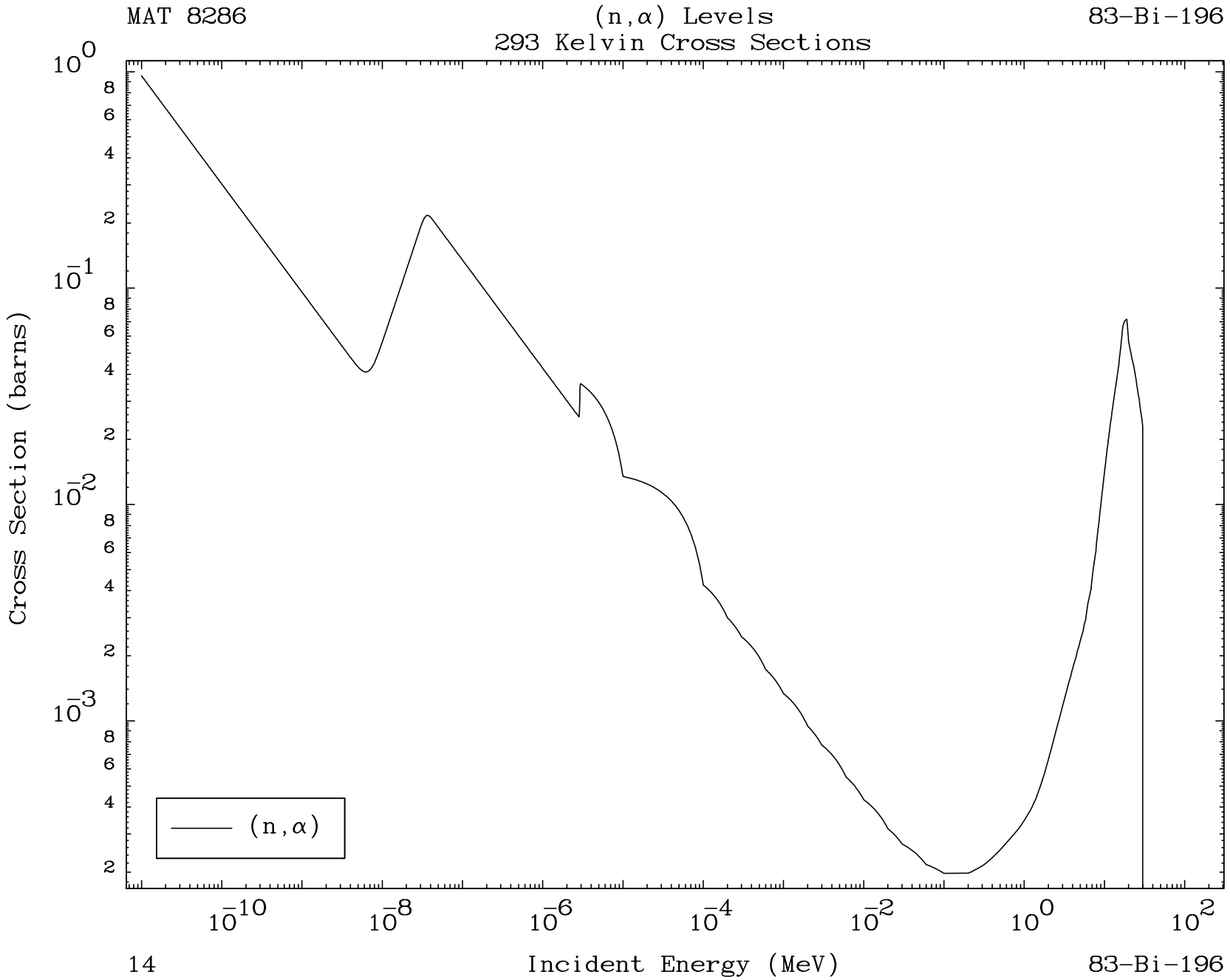

MAT 8286
(n,n') Level
293 Kelvin Cross Sections
83-Bi-196
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
MT= 70 (n,n') Level
MT= 71 (n,n') Level
(n,n') Continuum
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-6
6 8 10^0 2 4 6 8 10^1 2 4 6 8 10^2 2
Incident Energy (MeV)
9
83-Bi-196

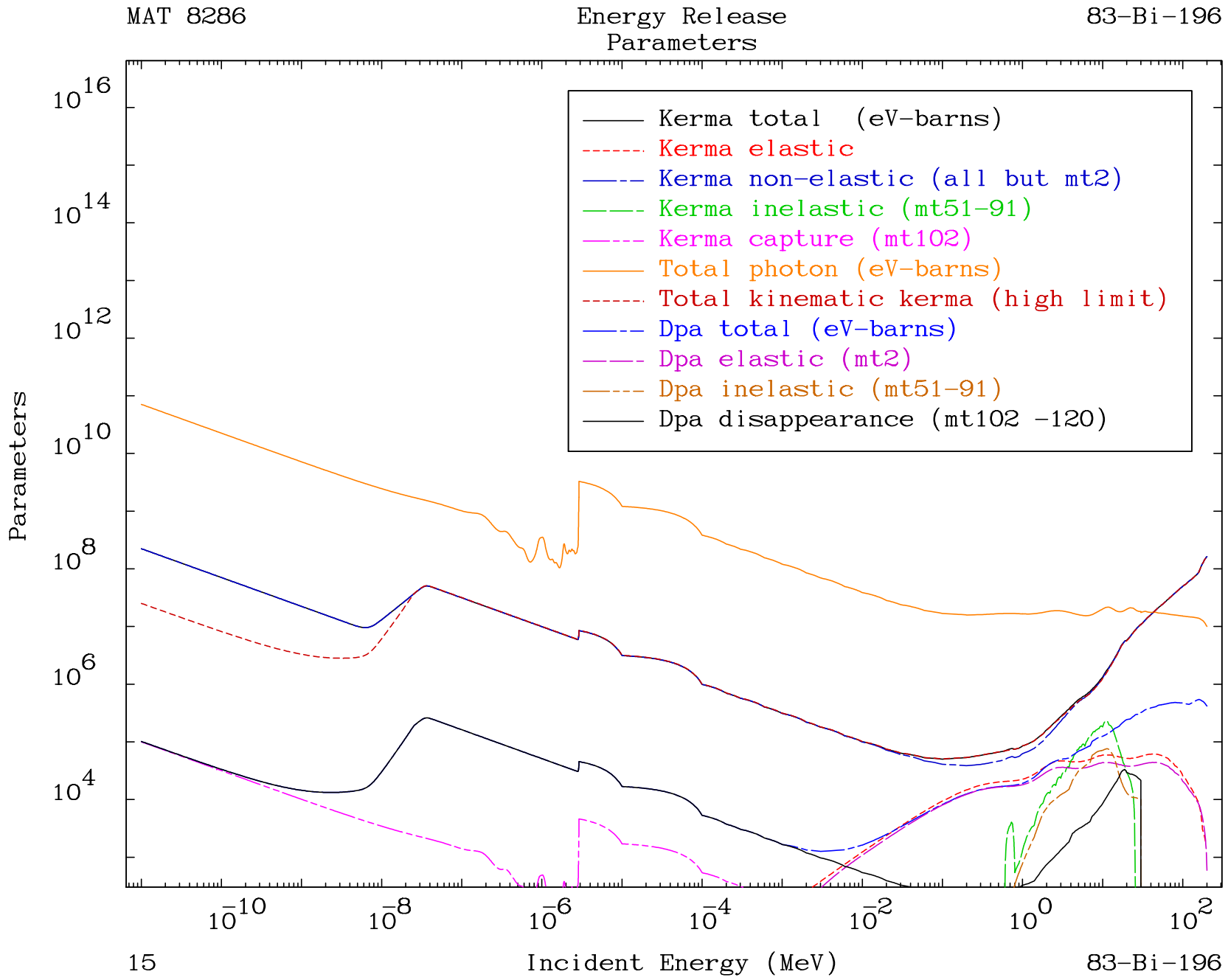

MAT 8286
(n,p) Levels
83-Bi-196
293 Kelvin Cross Sections
Cross Section (barns)
(n,p)
Incident Energy (MeV)
10
83-Bi-196

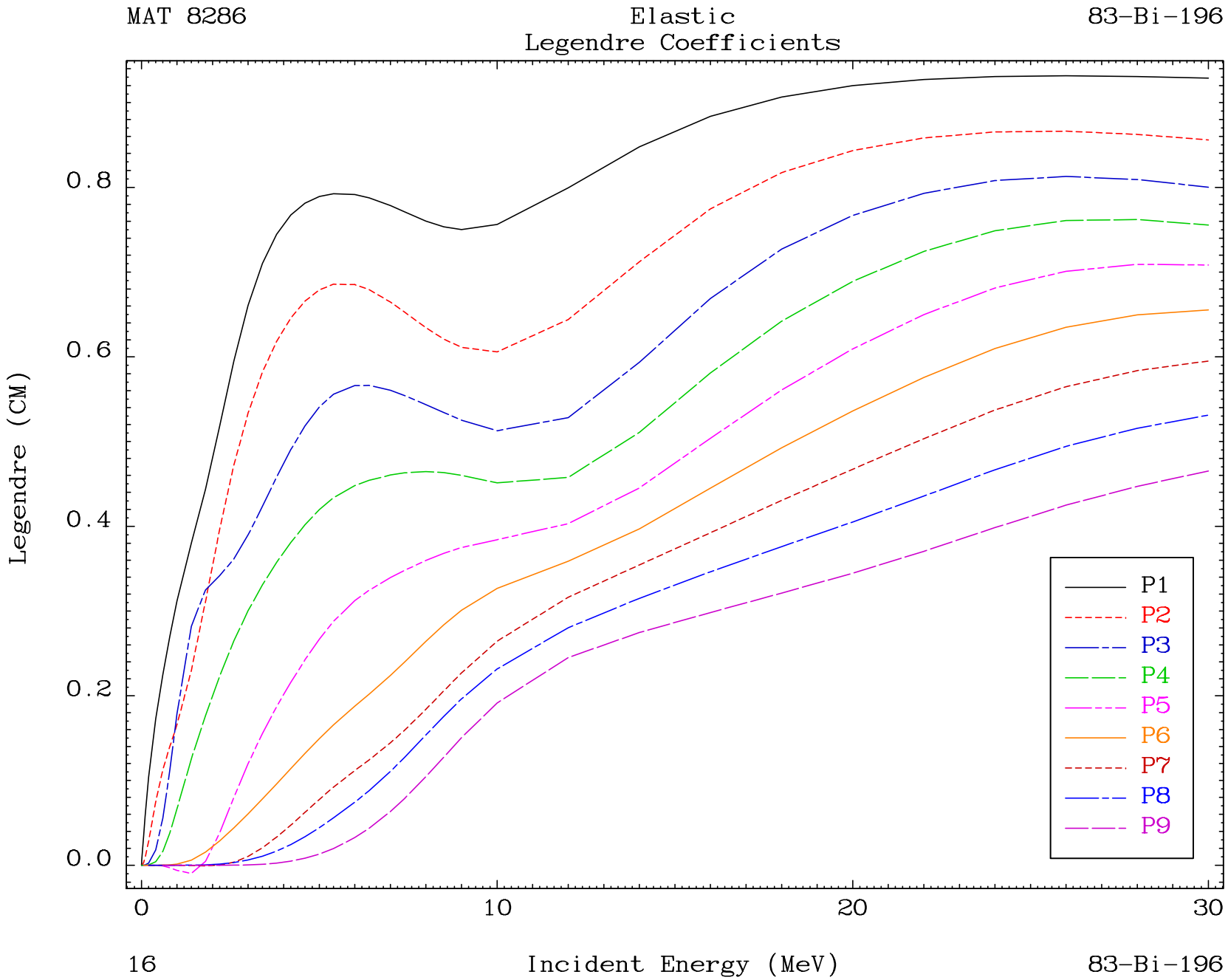

MAT 8286
(n,d) Levels
83-Bi-196
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
11
83-Bi-196

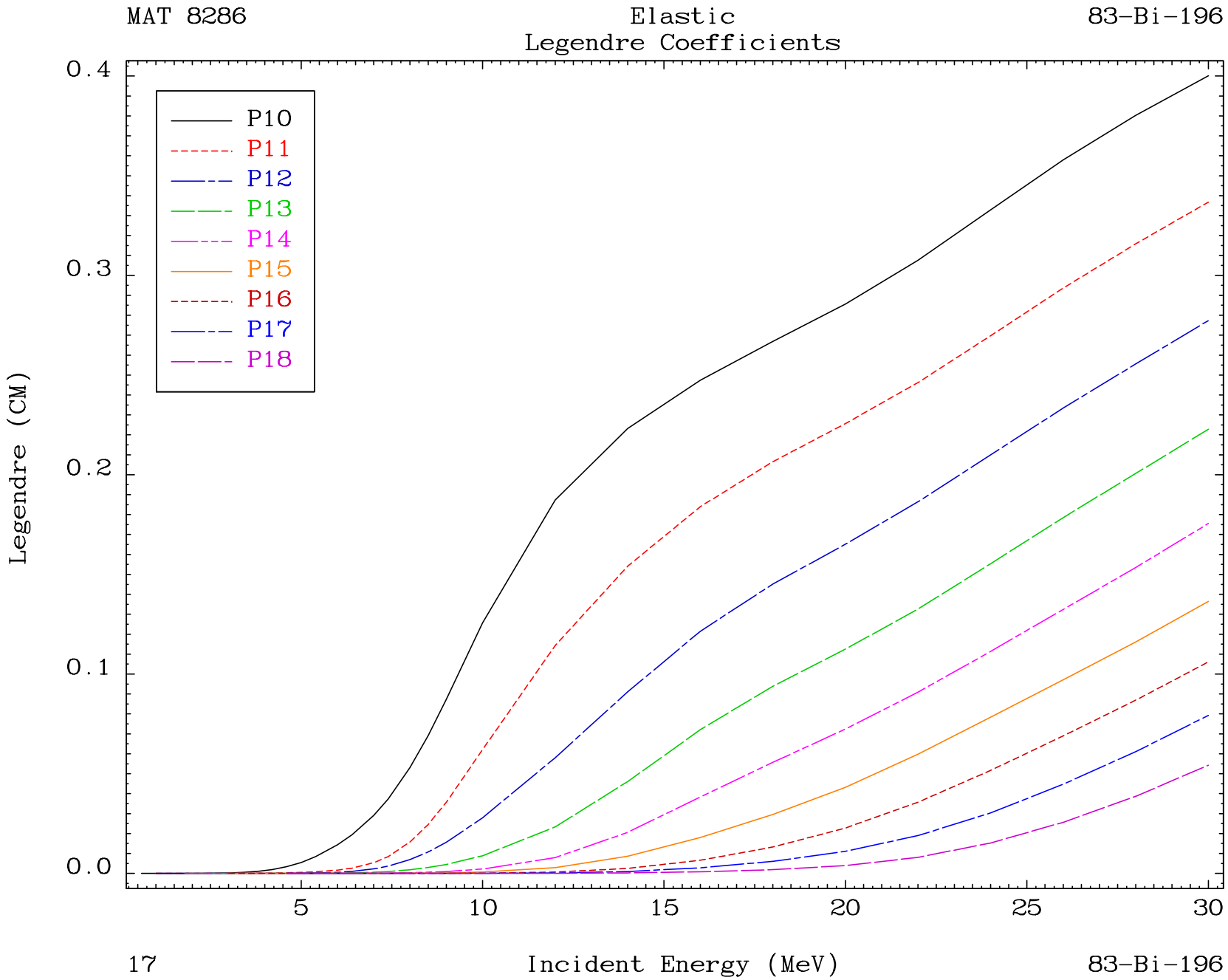

MAT 8286
(n,t) Levels
83-Bi-196
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
12
83-Bi-196

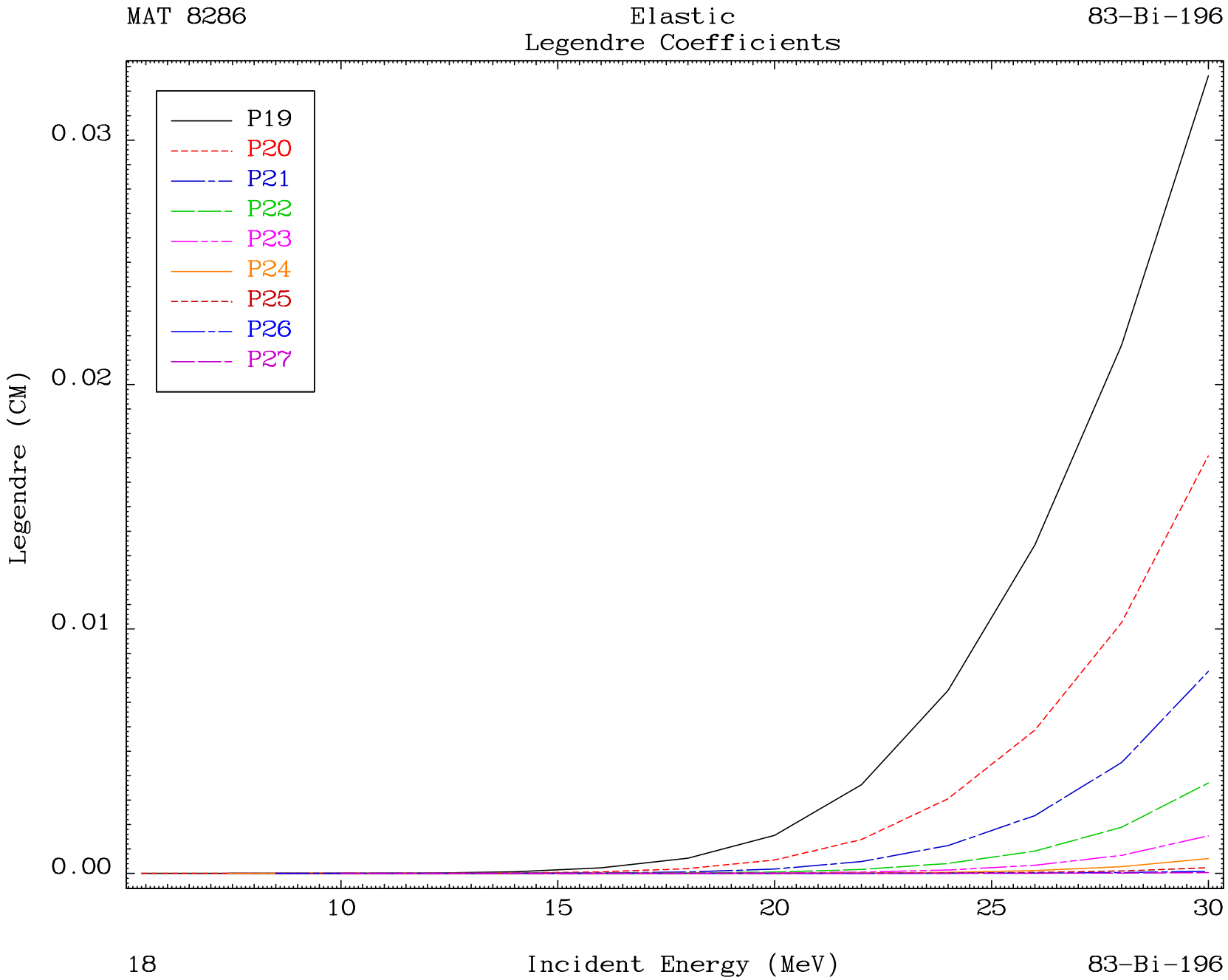

MAT 8286
(n,He3) Levels
83-Bi-196
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
13
83-Bi-196

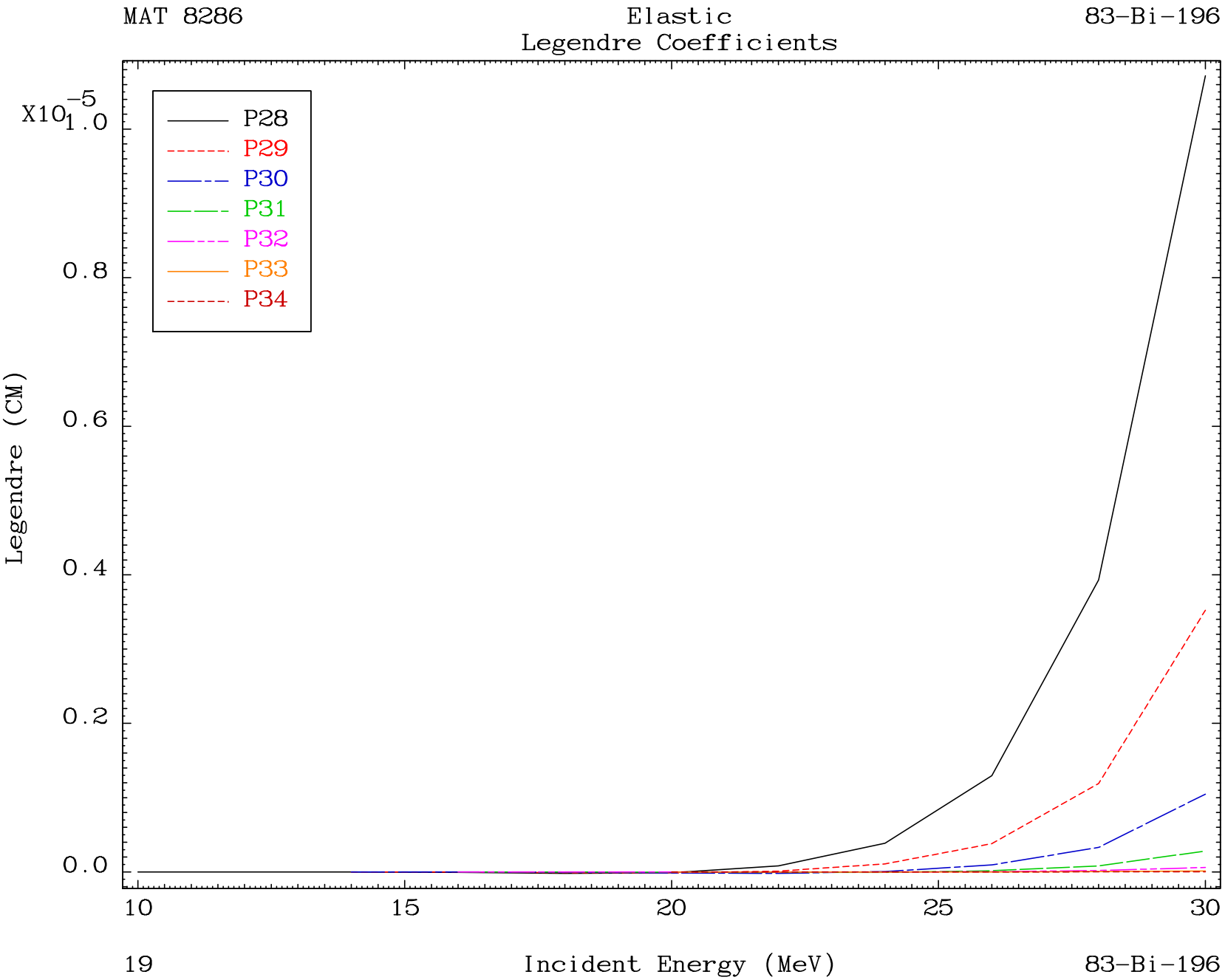

MAT 8286
(n,α) Levels
293 Kelvin Cross Sections
83-Bi-196
Cross Section (barns)
Incident Energy (MeV)
(n,α)
14
83-Bi-196

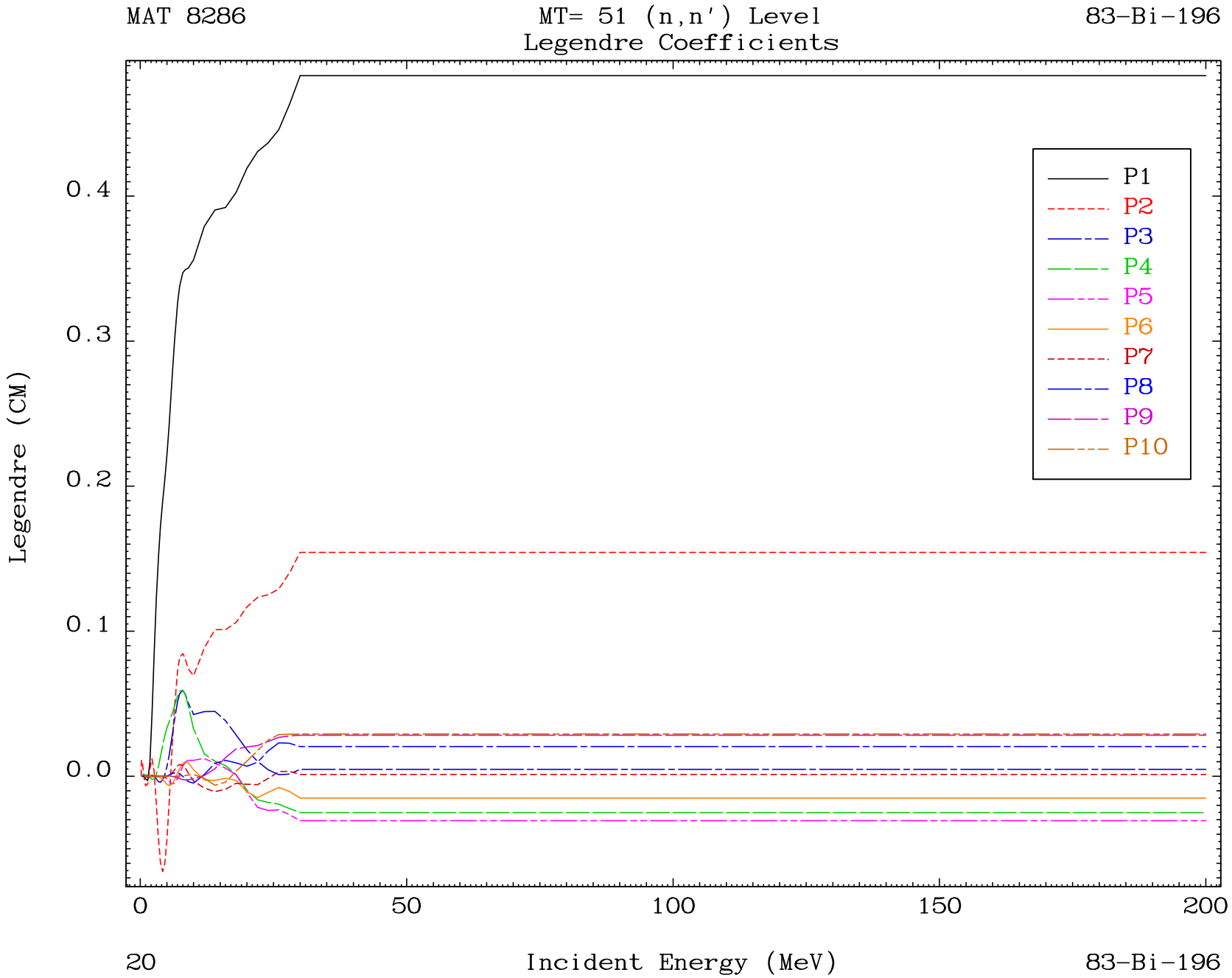

MAT 8286
Energy Release
Parameters
83-Bi-196
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{16}
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}
15
Incident Energy (MeV)
83-Bi-196

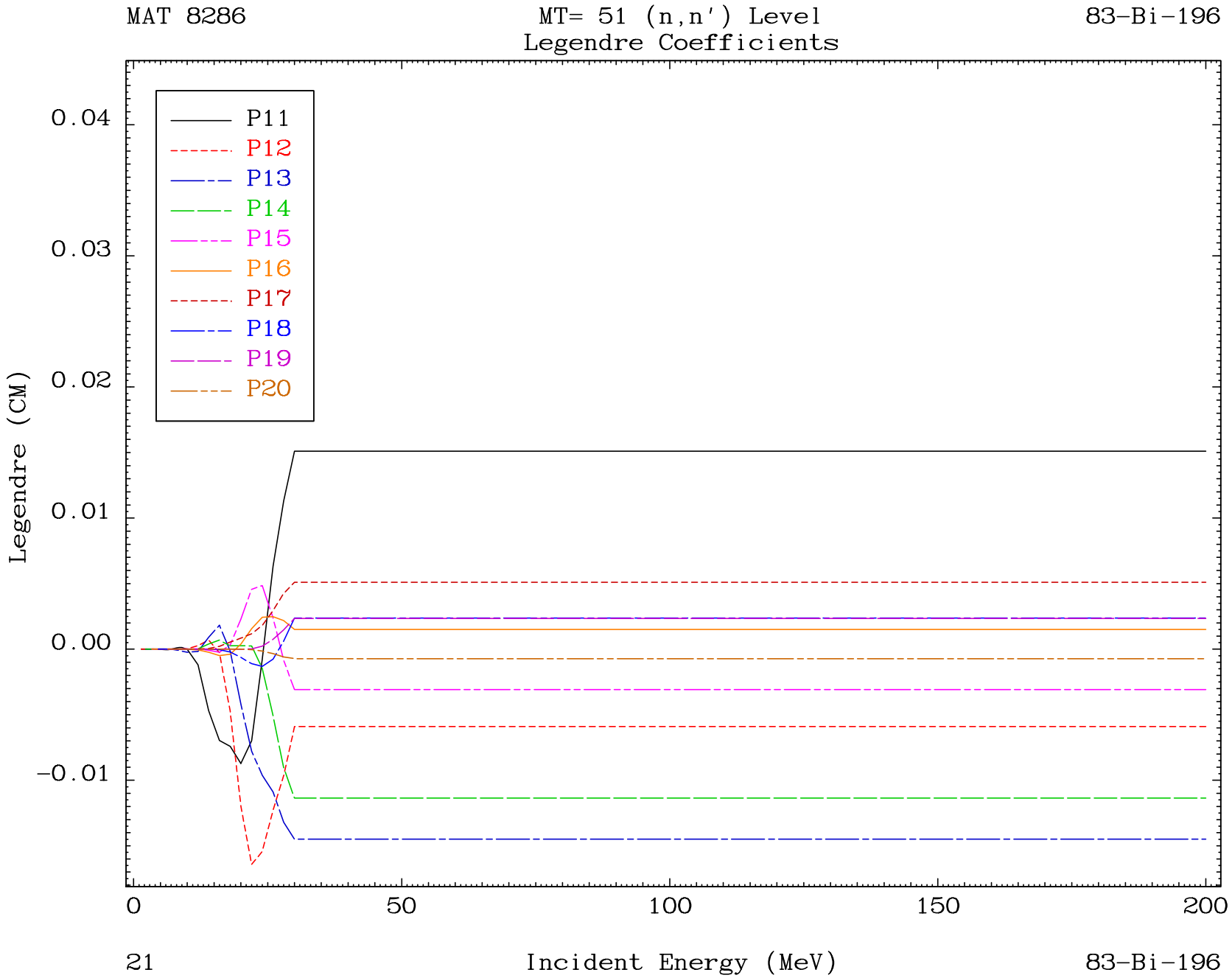

MAT 8286
Elastic
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
16
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

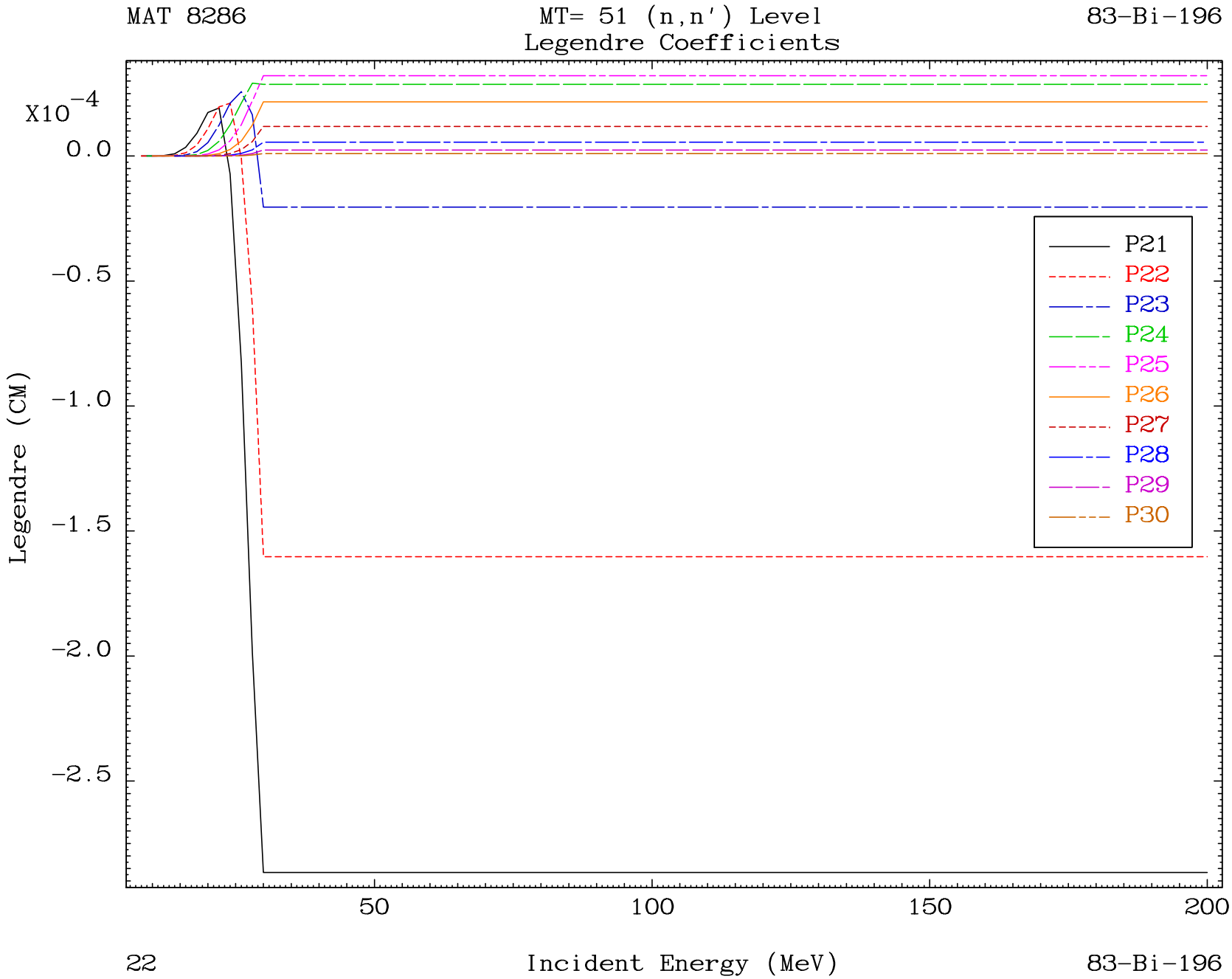

MAT 8286
Elastic
Legendre Coefficients
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
17
Incident Energy (MeV)
83-Bi-196

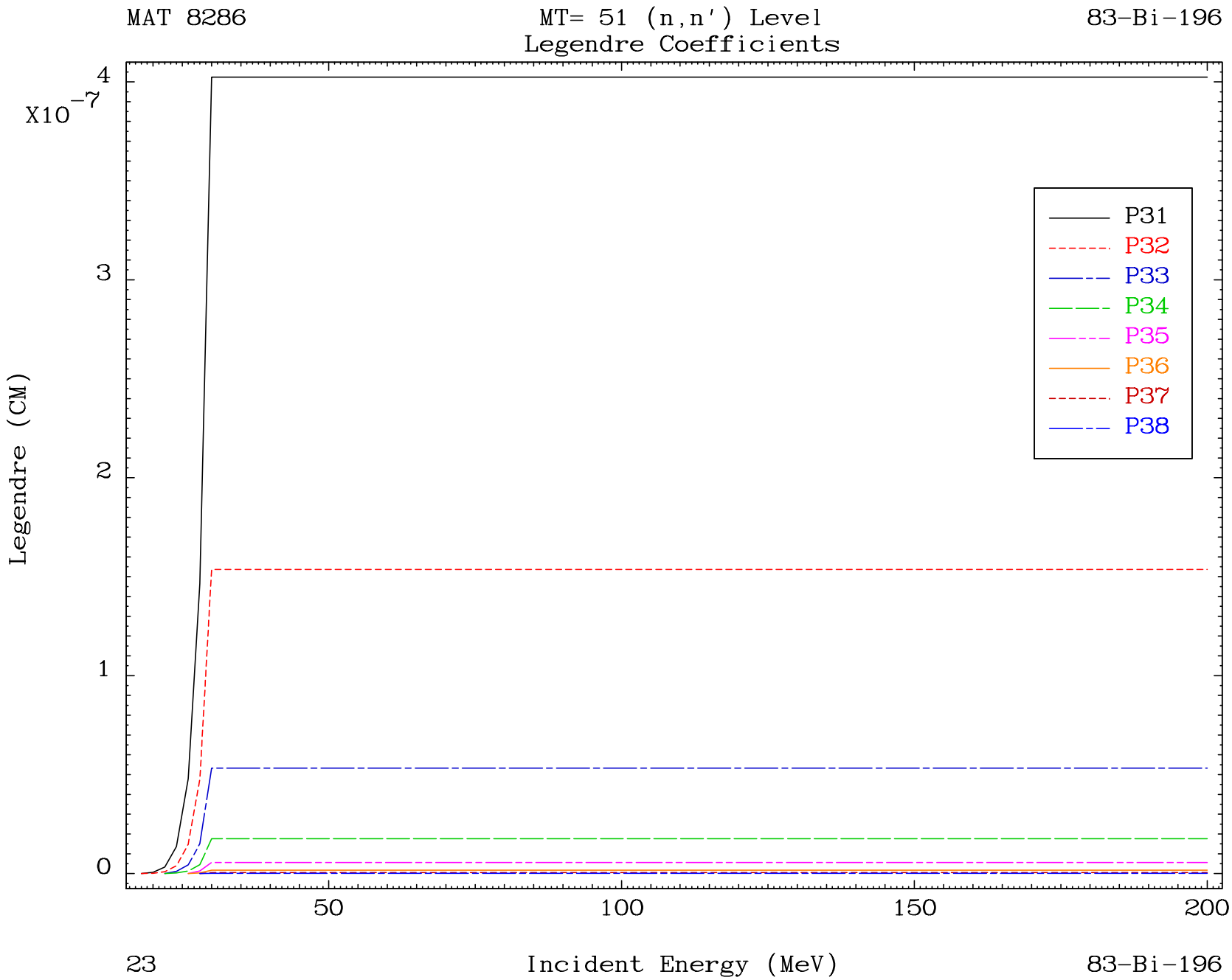

MAT 8286
Elastic
Legendre Coefficients
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.03
0.02
0.01
0.00
Legendre (CM)
10
15
20
25
30
18
Incident Energy (MeV)
83-Bi-196

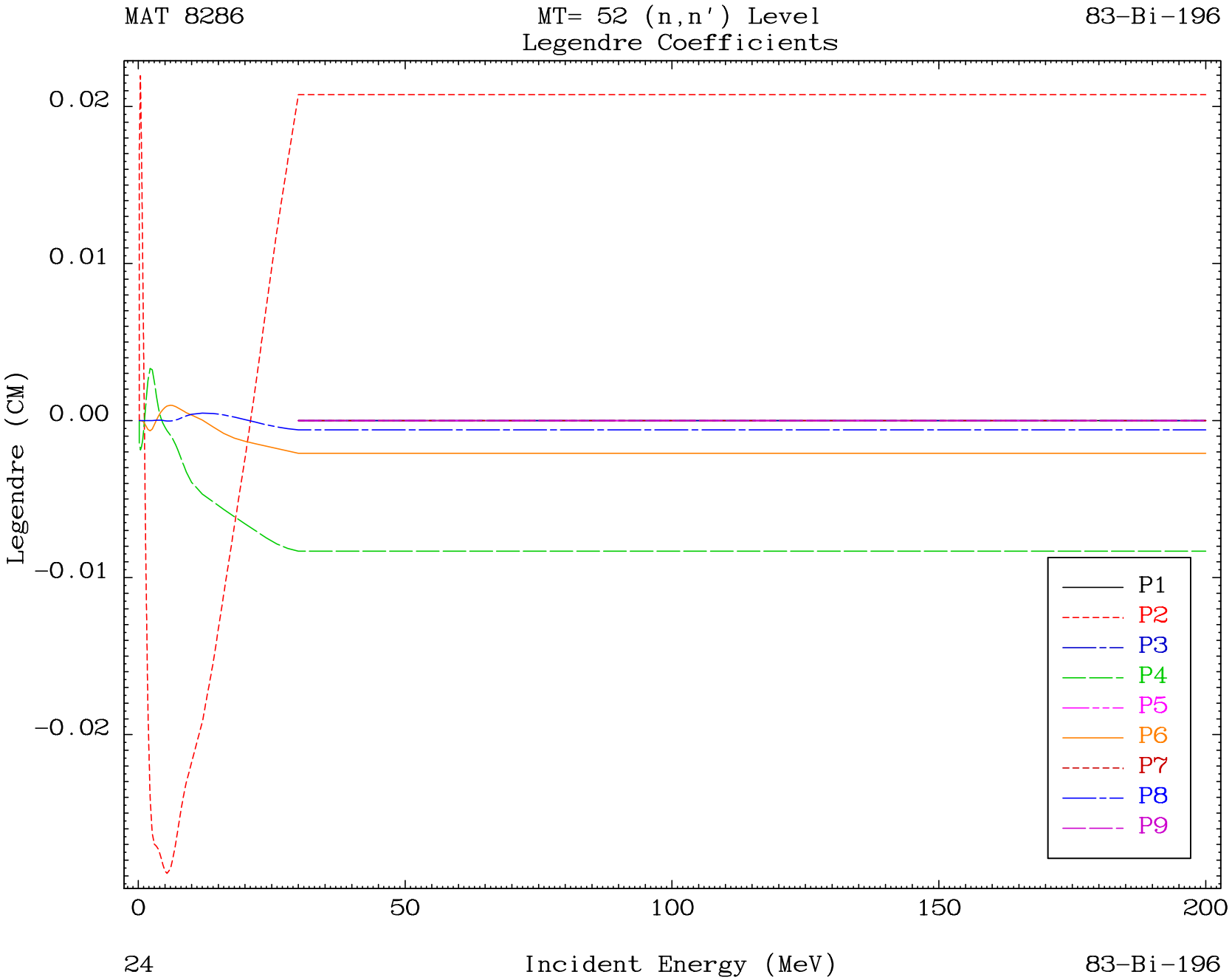

MAT 8286
Elastic
Legendre Coefficients
83-Bi-196
X10-5
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
19
Incident Energy (MeV)
83-Bi-196

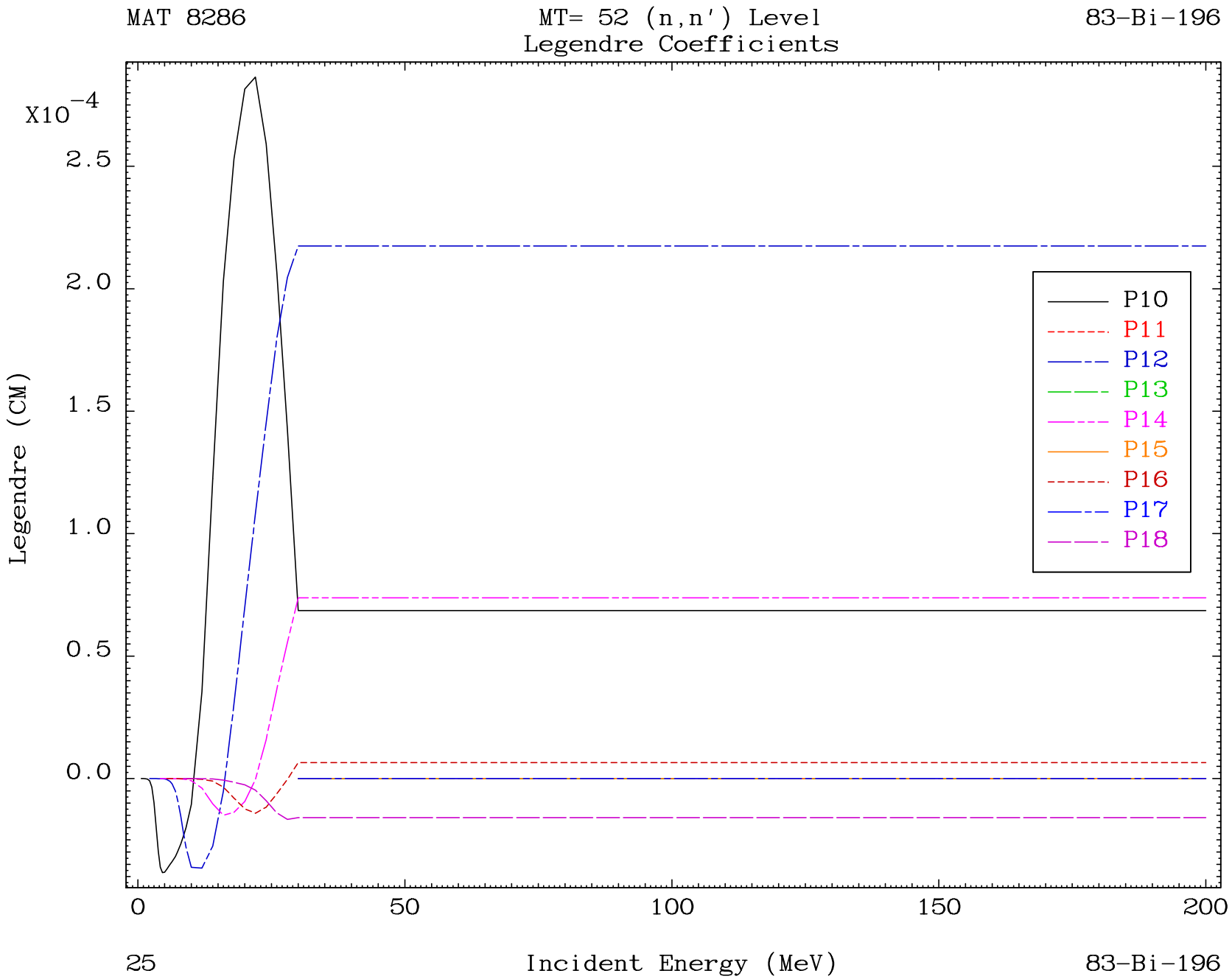

MAT 8286
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
20
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

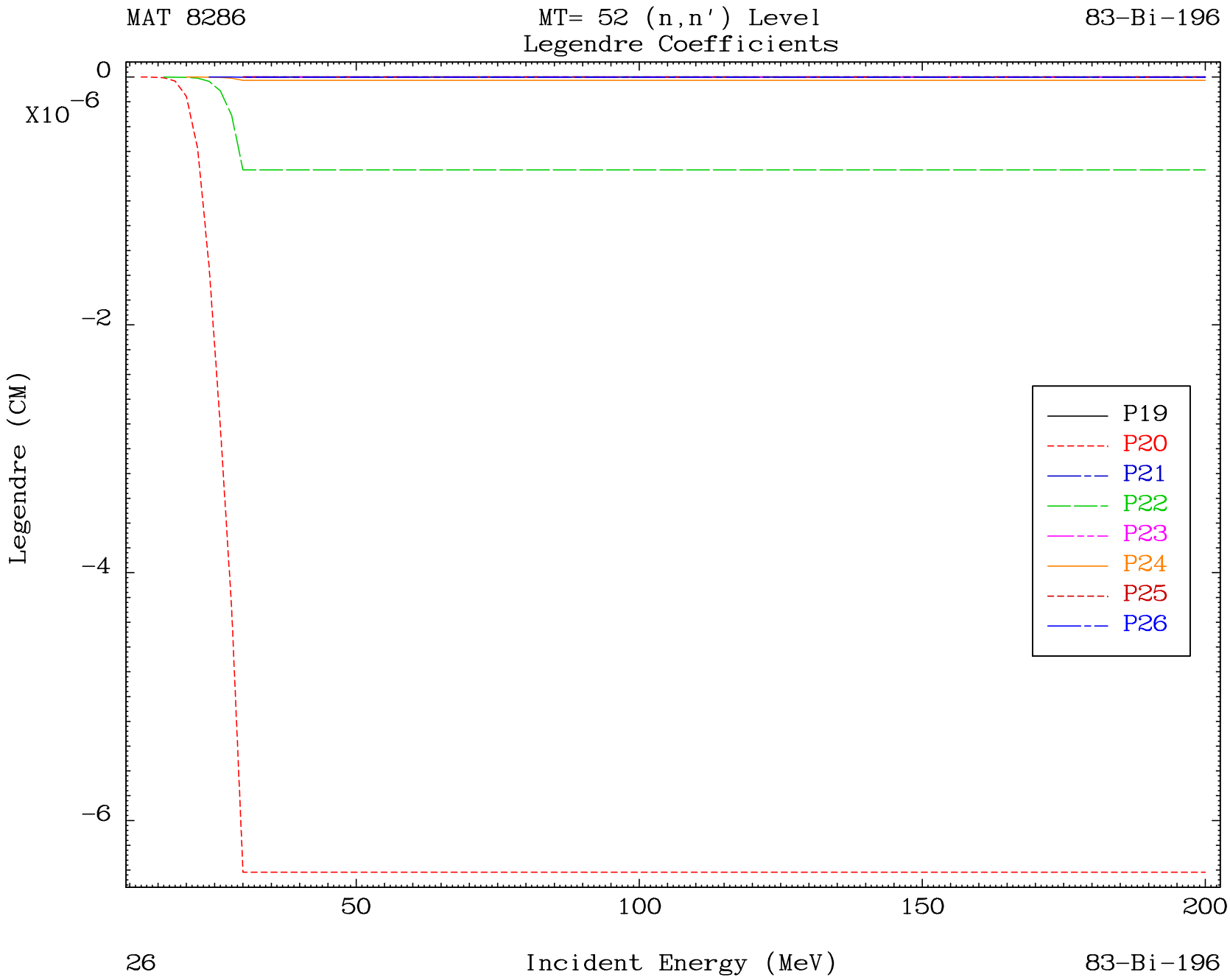

MAT 8286
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-196
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
21
Incident Energy (MeV)
83-Bi-196

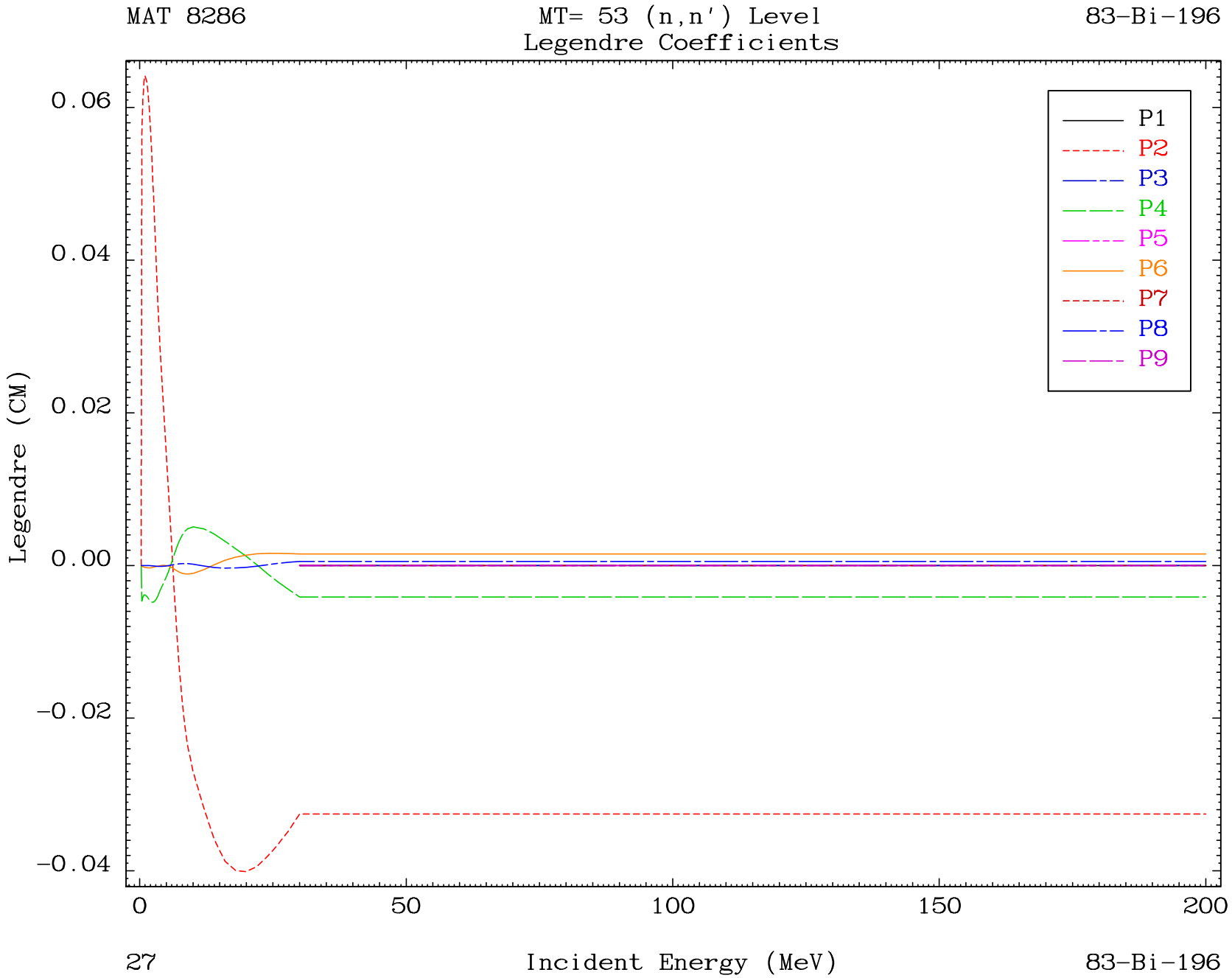

MAT 8286
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
22
Incident Energy (MeV)
83-Bi-196

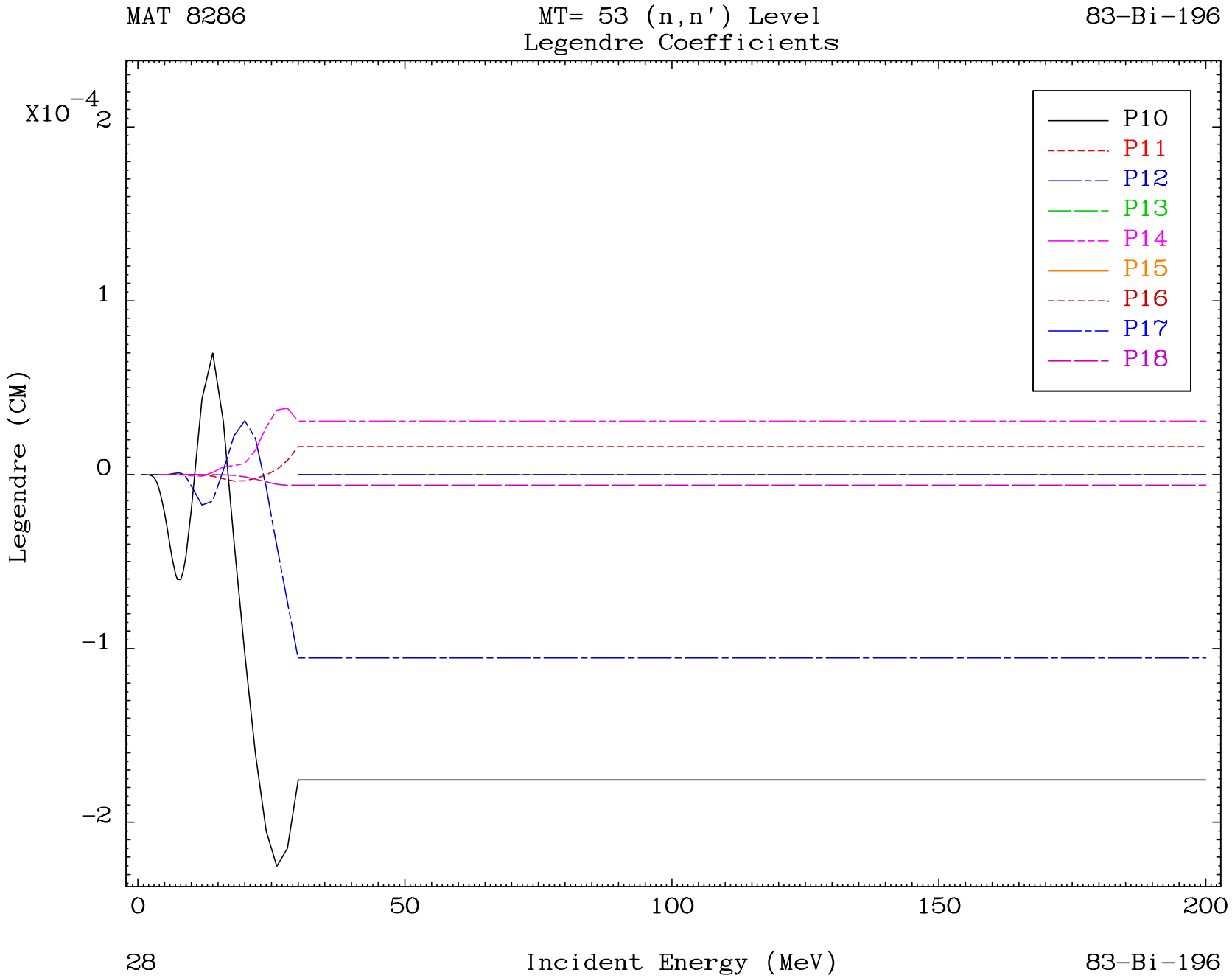

MAT 8286
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-7
4
3
2
1
0
Legendre (CM)
50
100
150
200
23
Incident Energy (MeV)
83-Bi-196
P31
P32
P33
P34
P35
P36
P37
P38

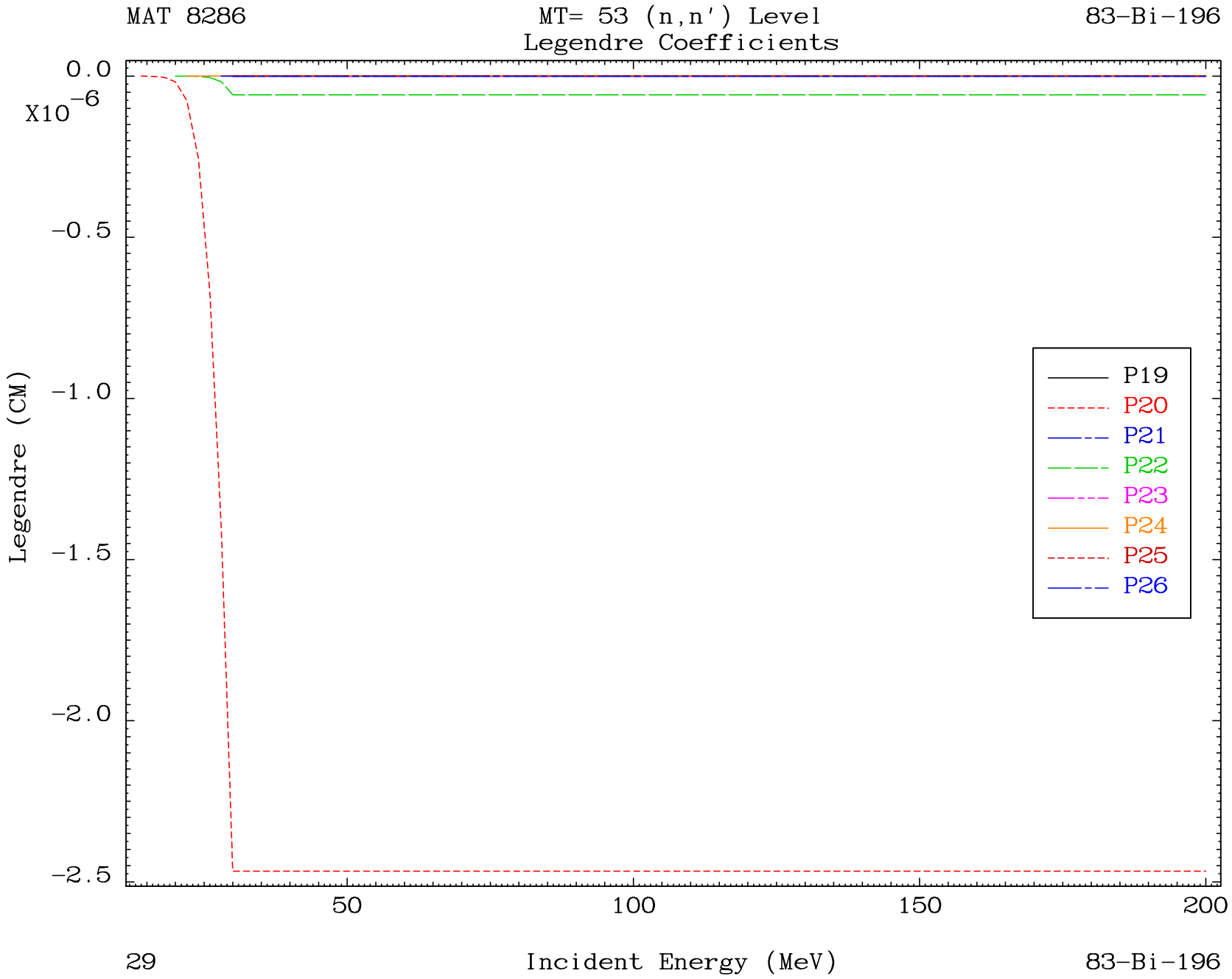

MAT 8286
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-196
0.02
0.01
0.00
-0.01
-0.02
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
24
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

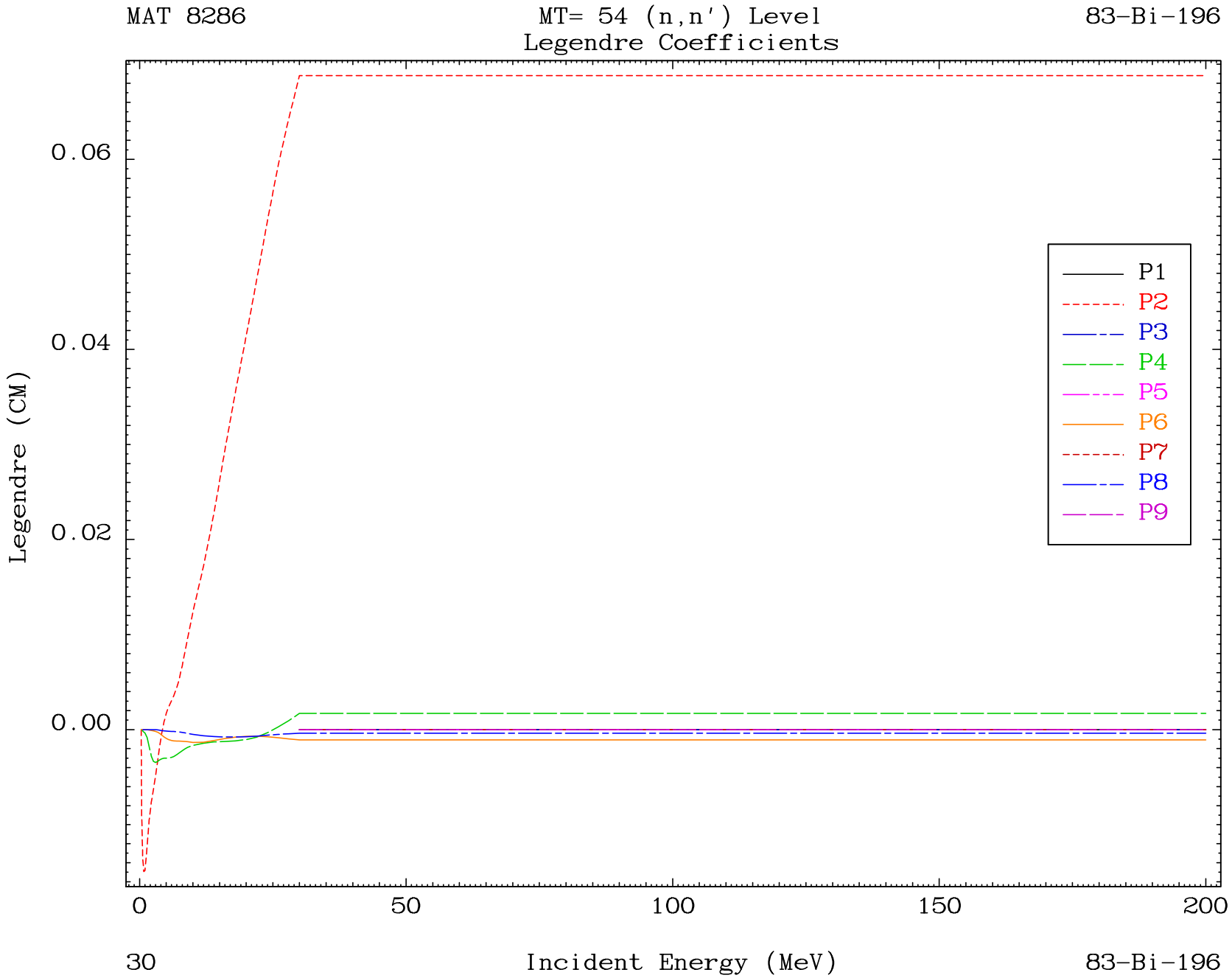

MAT 8286
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
25
Incident Energy (MeV)
83-Bi-196

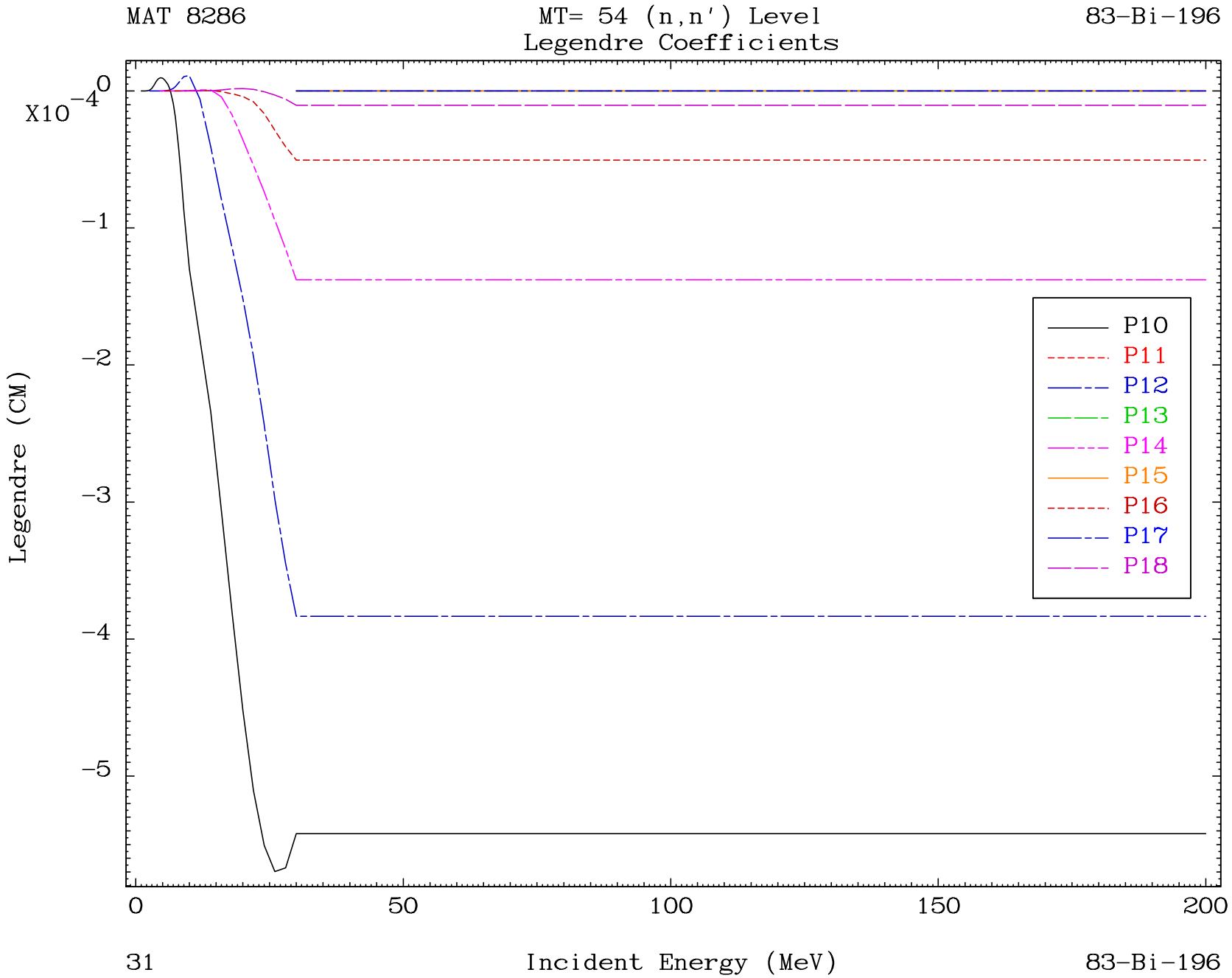

MAT 8286
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-196
0
X10^-6
-2
-4
-6
Legendre (CM)
50
100
150
200
26
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

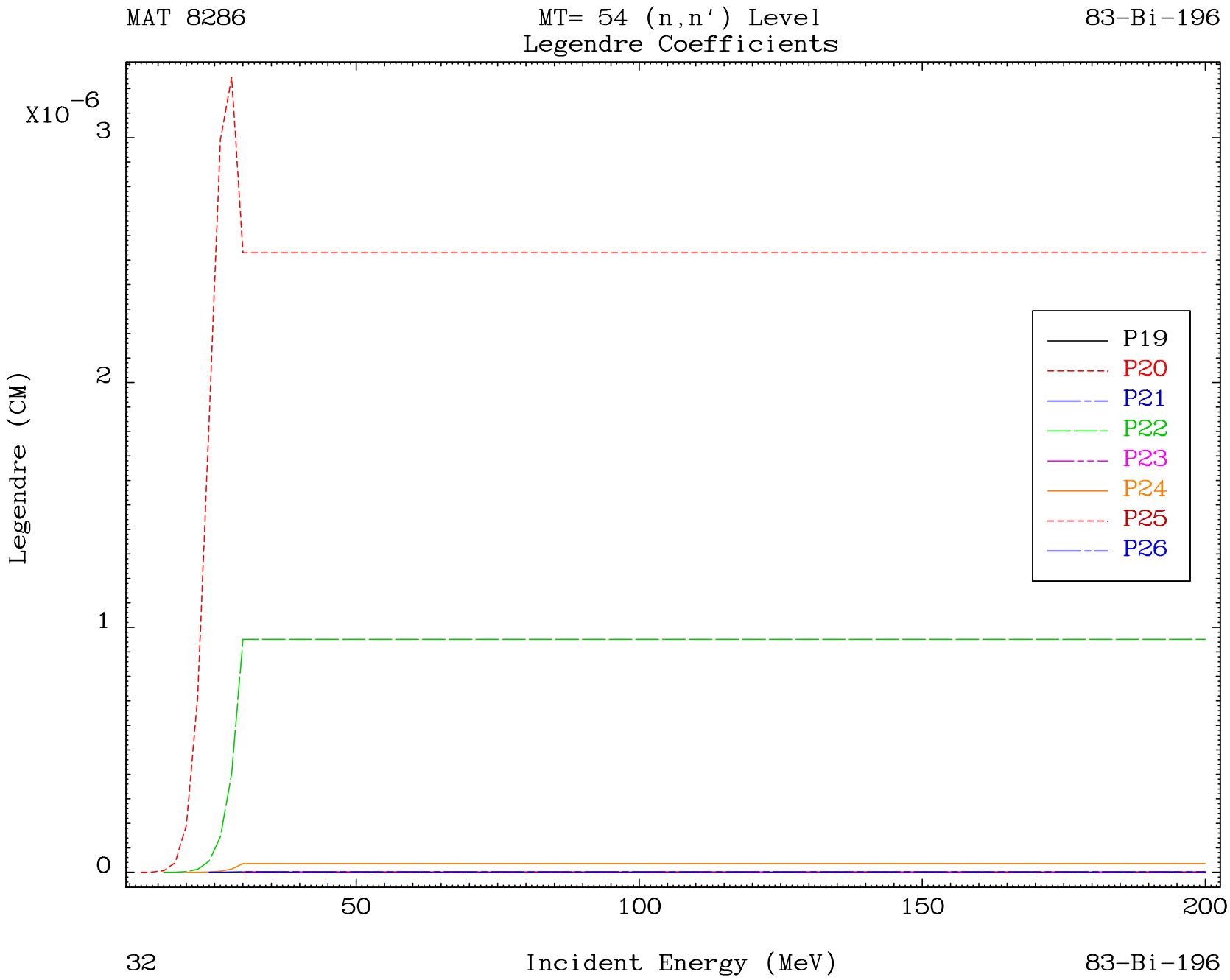

MAT 8286
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-196
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
P1
P2
P3
P4
P5
P6
P7
P8
P9
27
83-Bi-196

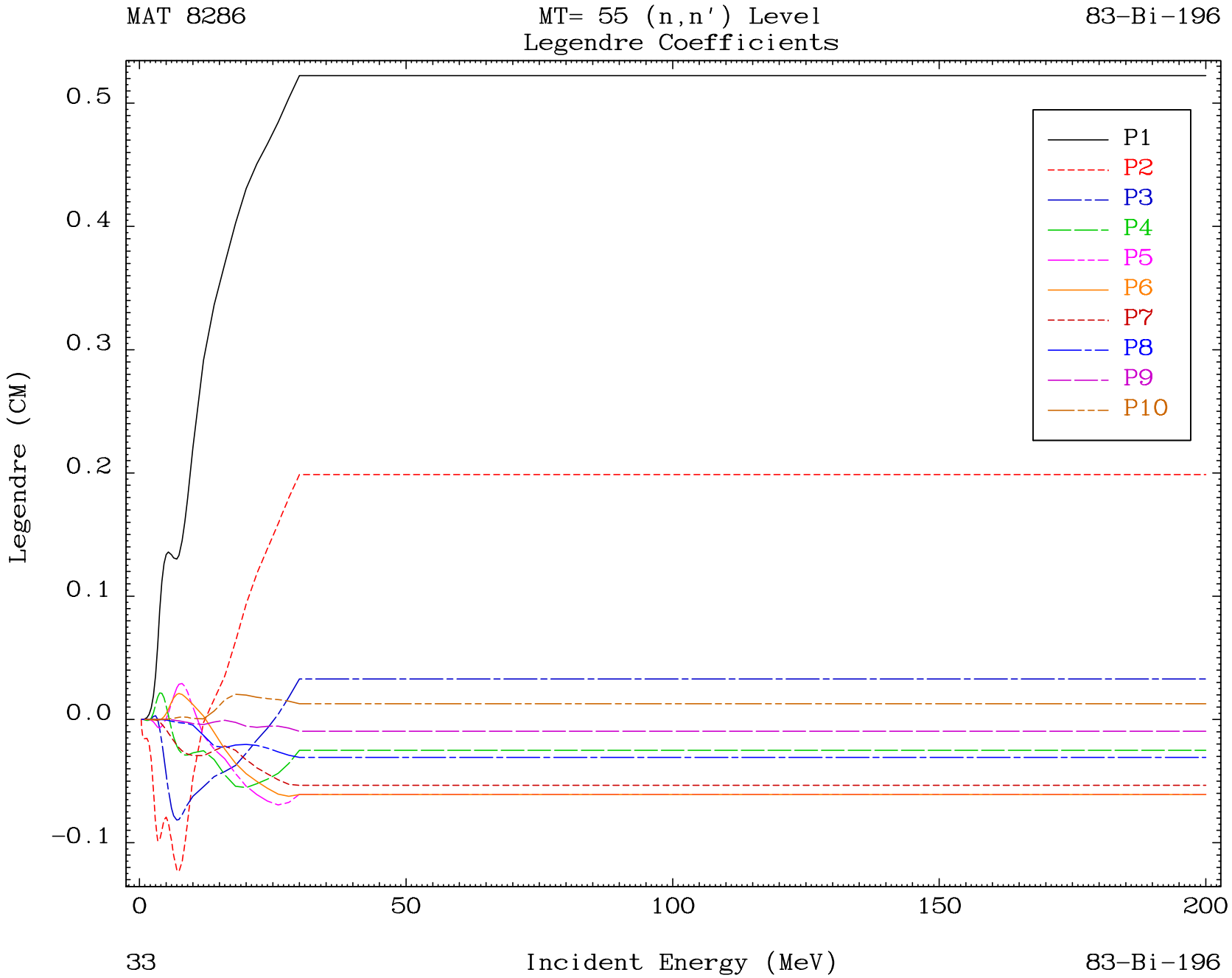

MAT 8286
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2
1
0
-1
-2
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
28
Incident Energy (MeV)
83-Bi-196

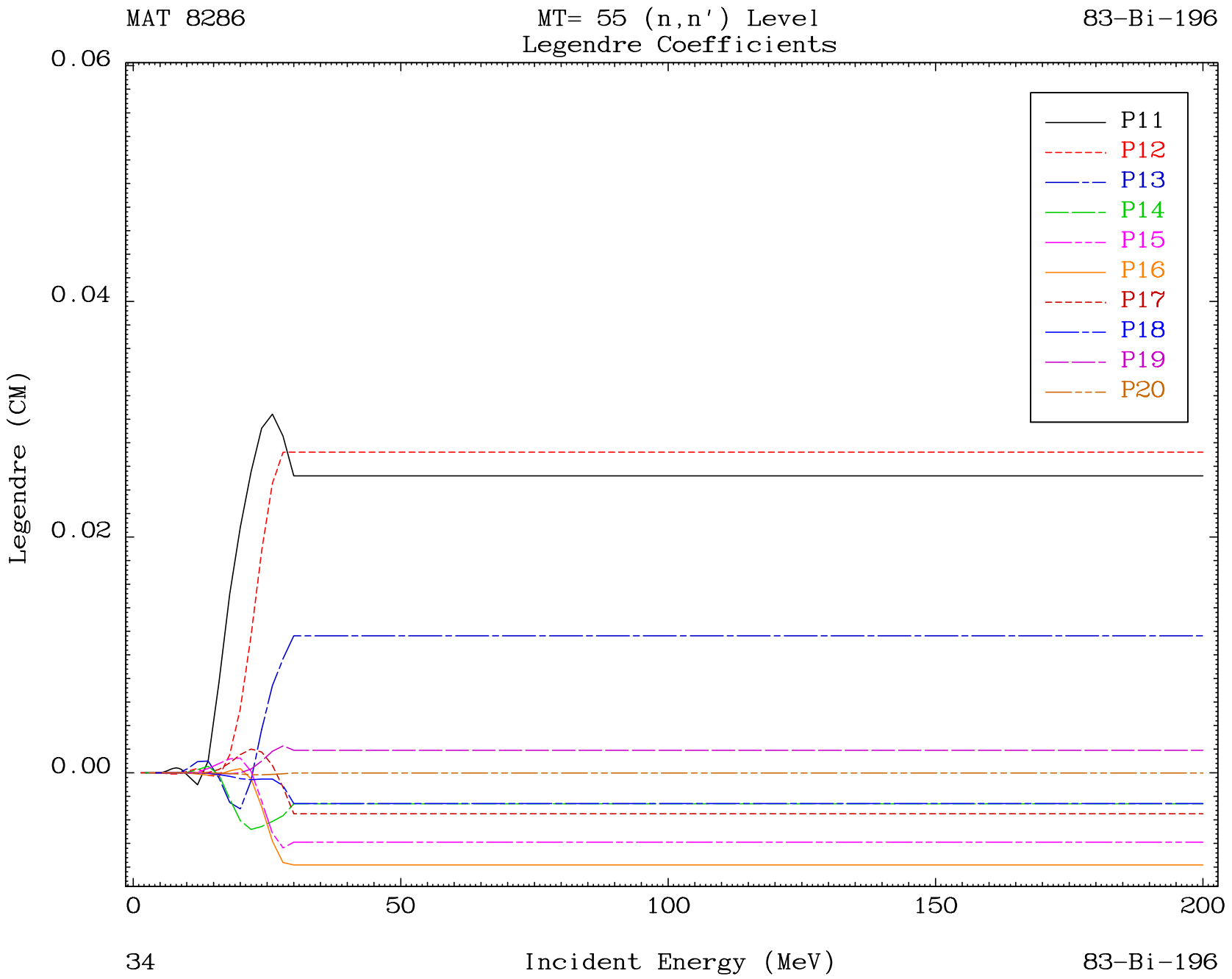

MAT 8286
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-196
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
29
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

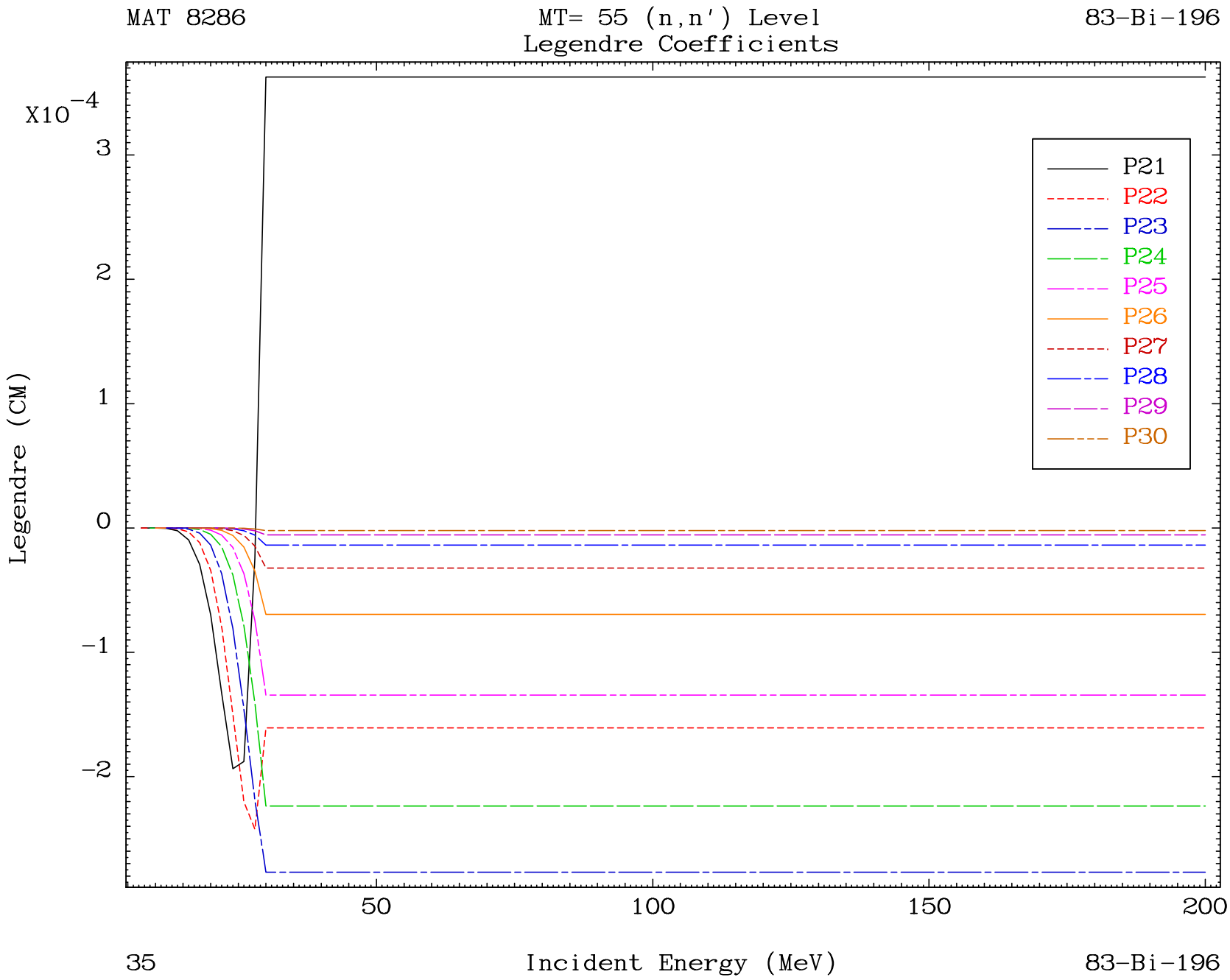

MAT 8286
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-196
0.06
0.04
0.02
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
30
Incident Energy (MeV)
83-Bi-196

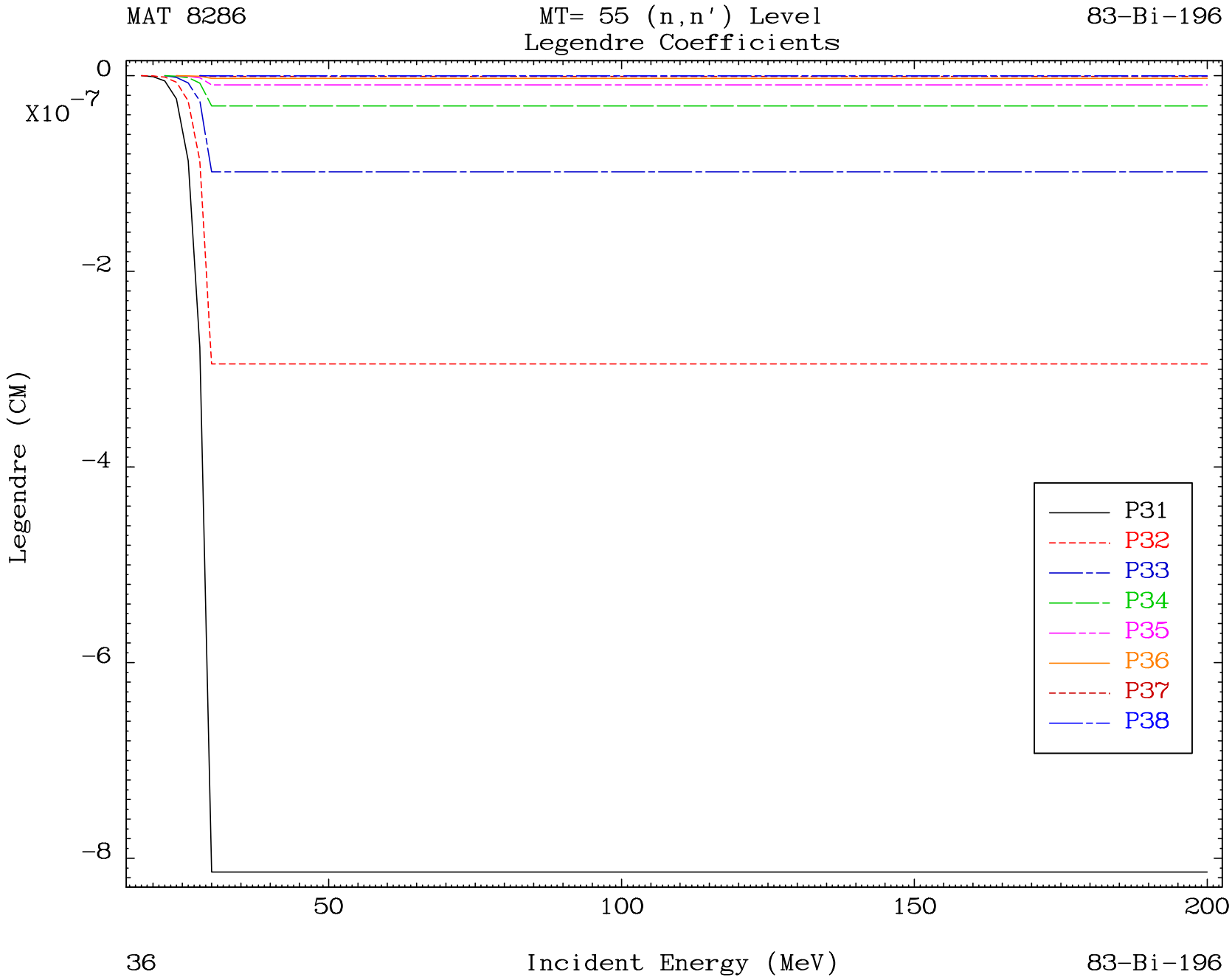

MAT 8286
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
0
-1
-2
-3
-4
-5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
31
Incident Energy (MeV)
83-Bi-196

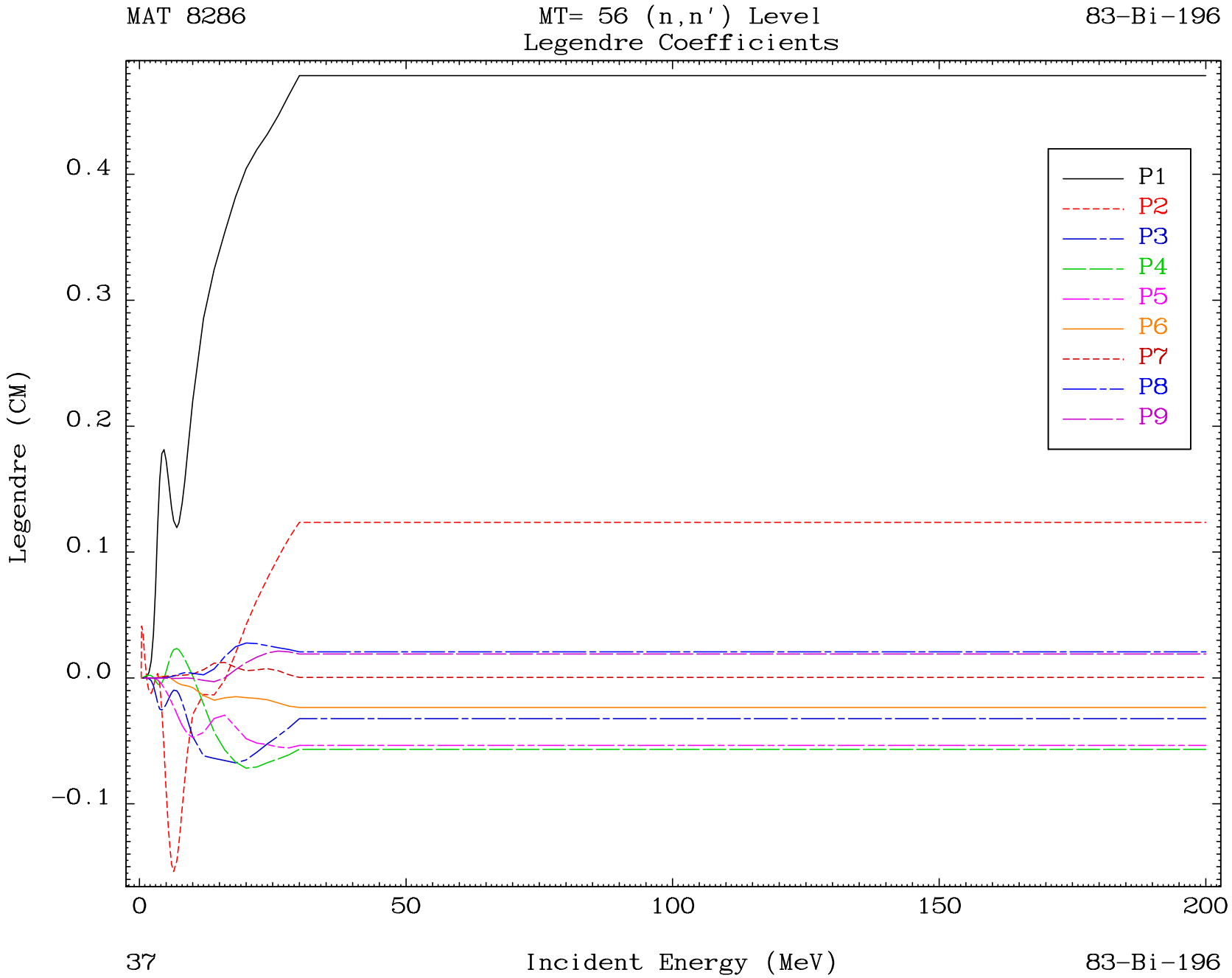

MAT 8286
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 −6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
32
Incident Energy (MeV)
83-Bi-196

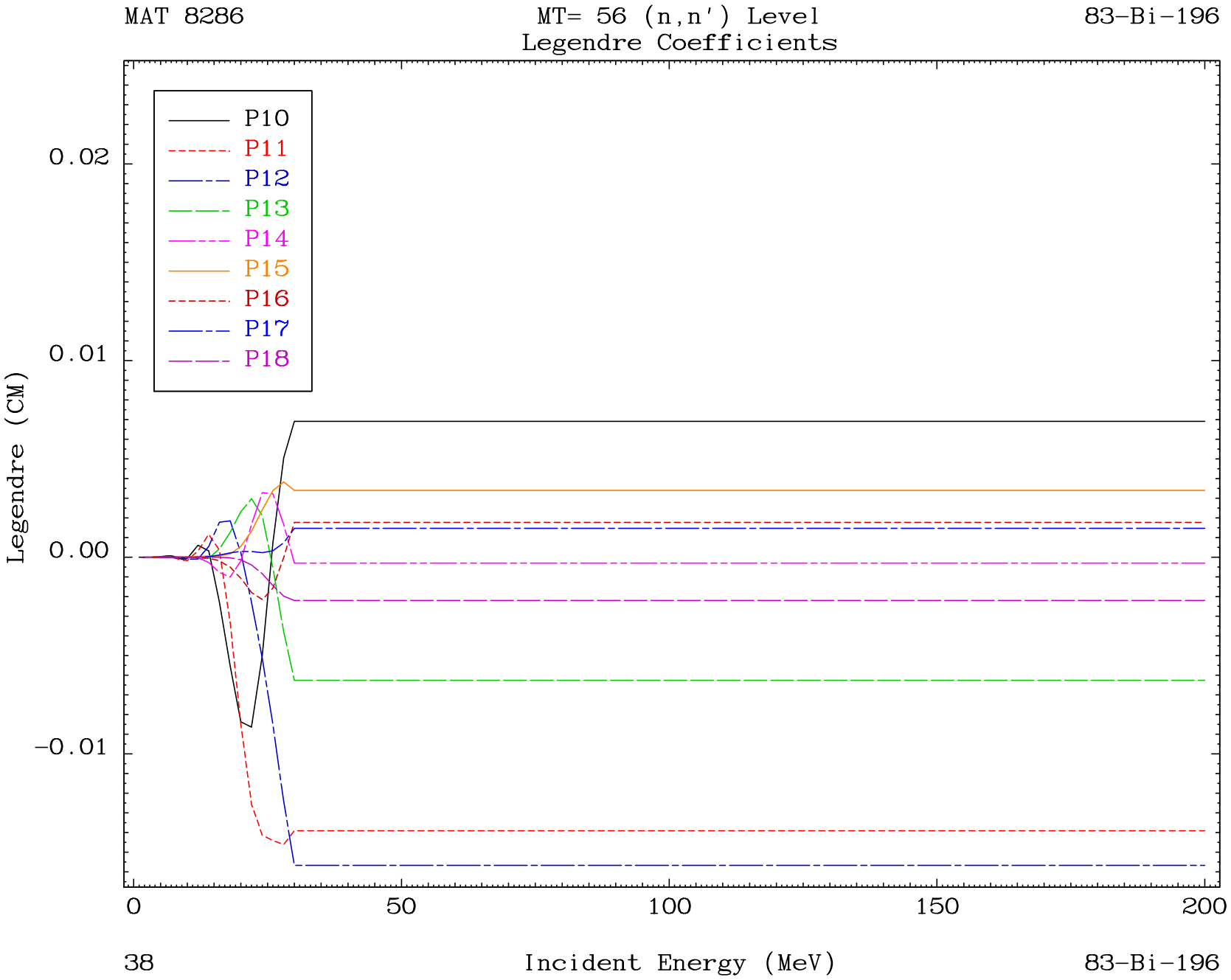

MAT 8286
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
33
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

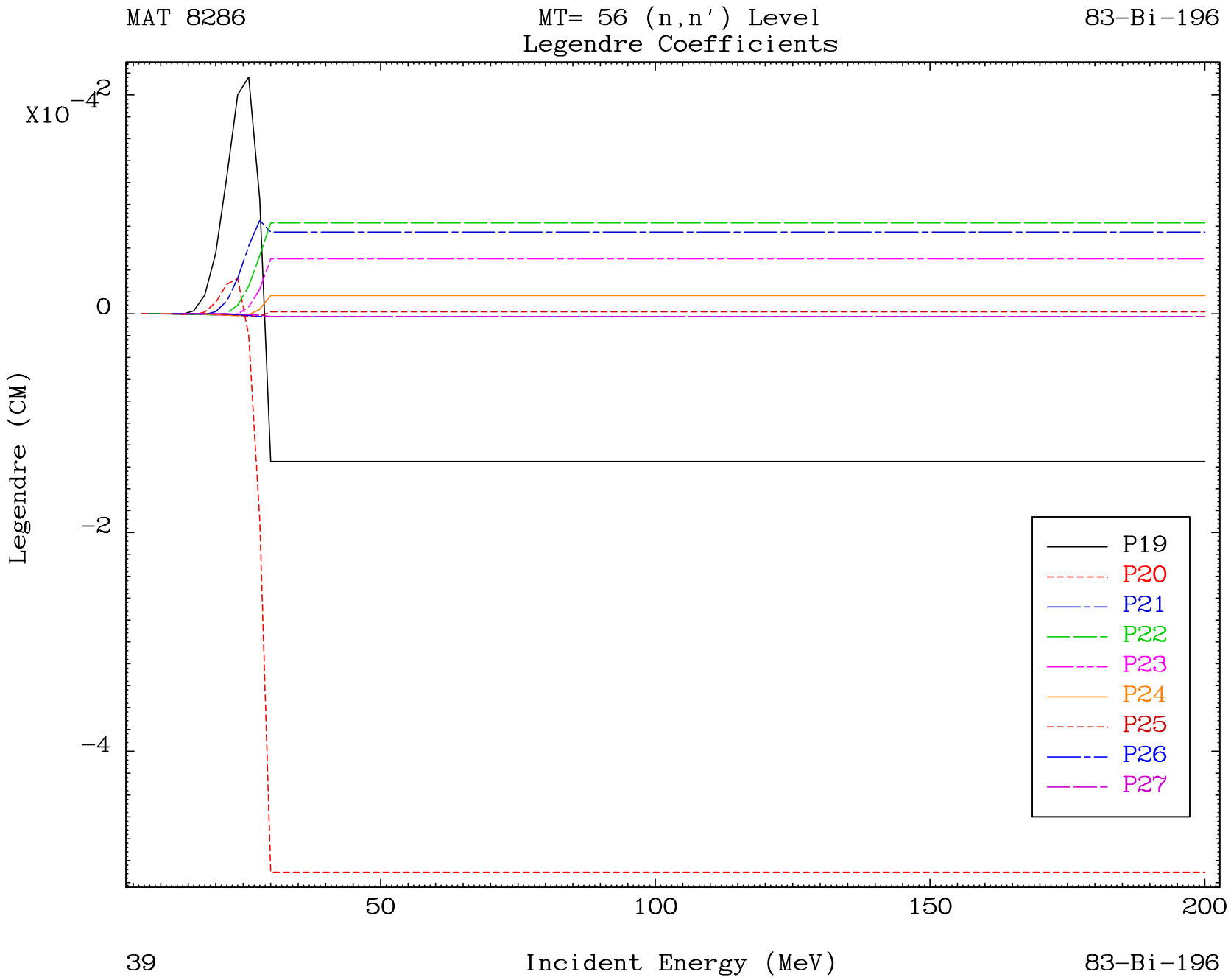

MAT 8286
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-196
0.06
0.04
0.02
0.00
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
34
Incident Energy (MeV)
83-Bi-196

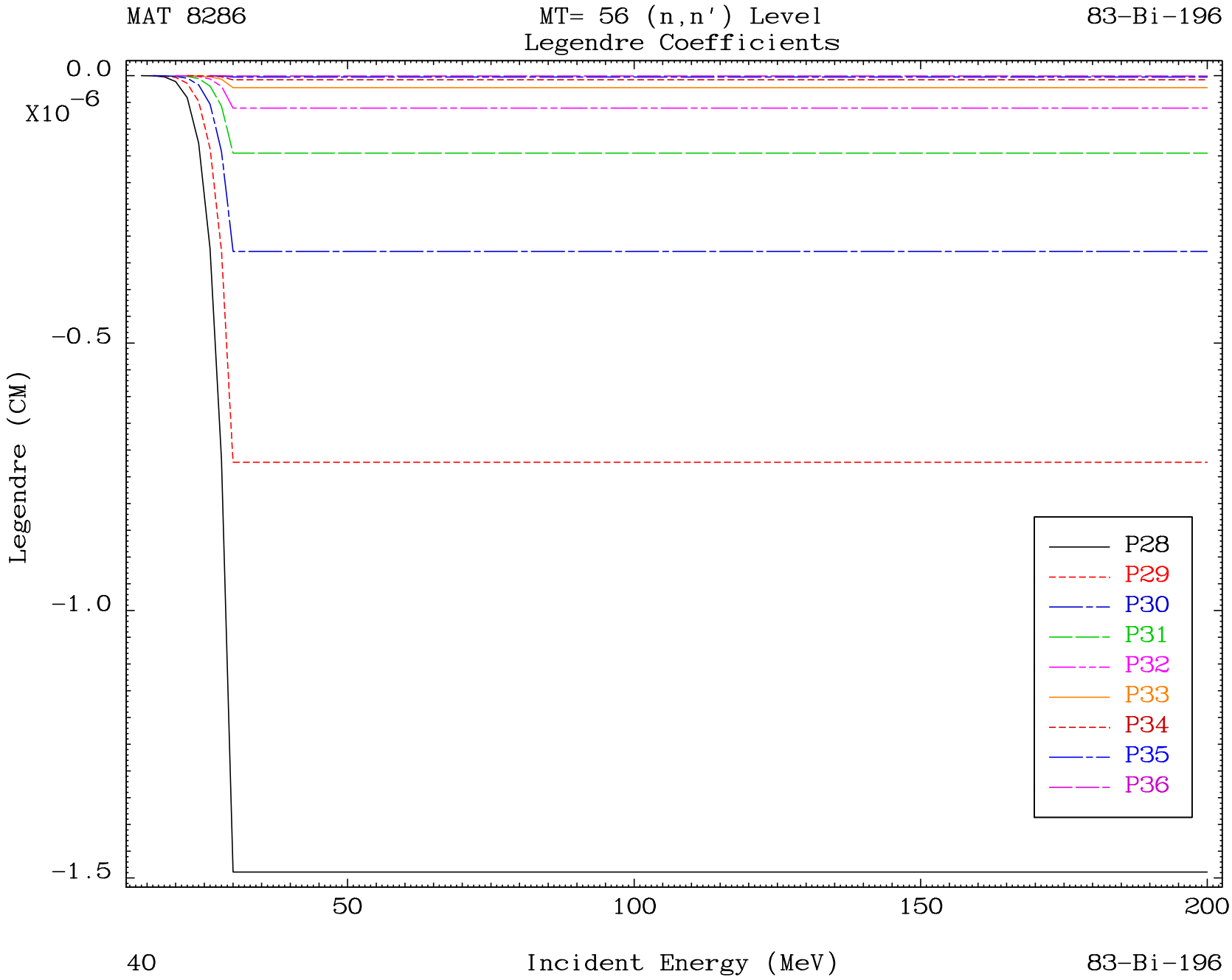

MAT 8286
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
3
2
1
0
-1
-2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
35
Incident Energy (MeV)
83-Bi-196

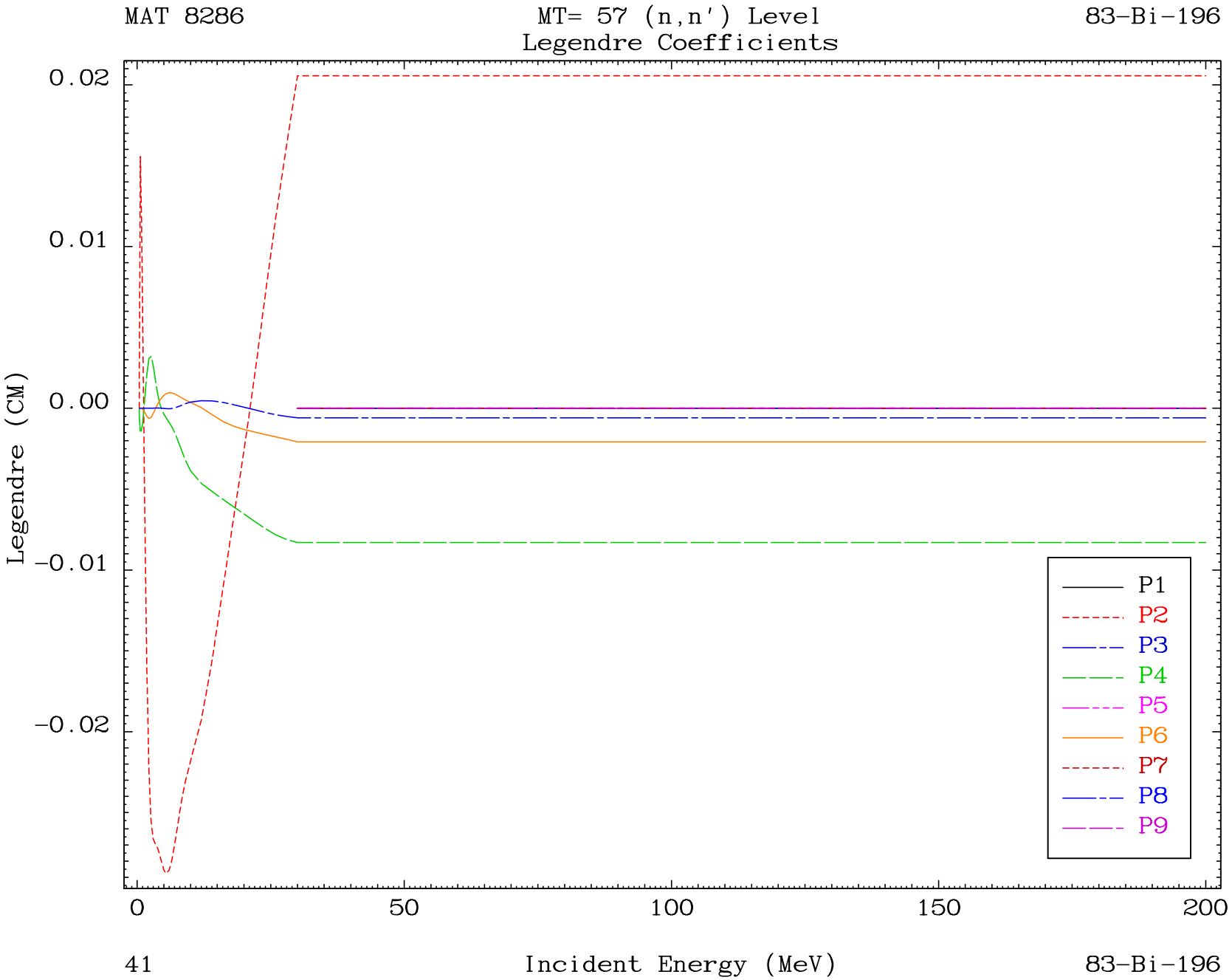

MAT 8286
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-7
0
-2
-4
-6
-8
Legendre (CM)
50
100
150
200
36
Incident Energy (MeV)
83-Bi-196
P31
P32
P33
P34
P35
P36
P37
P38

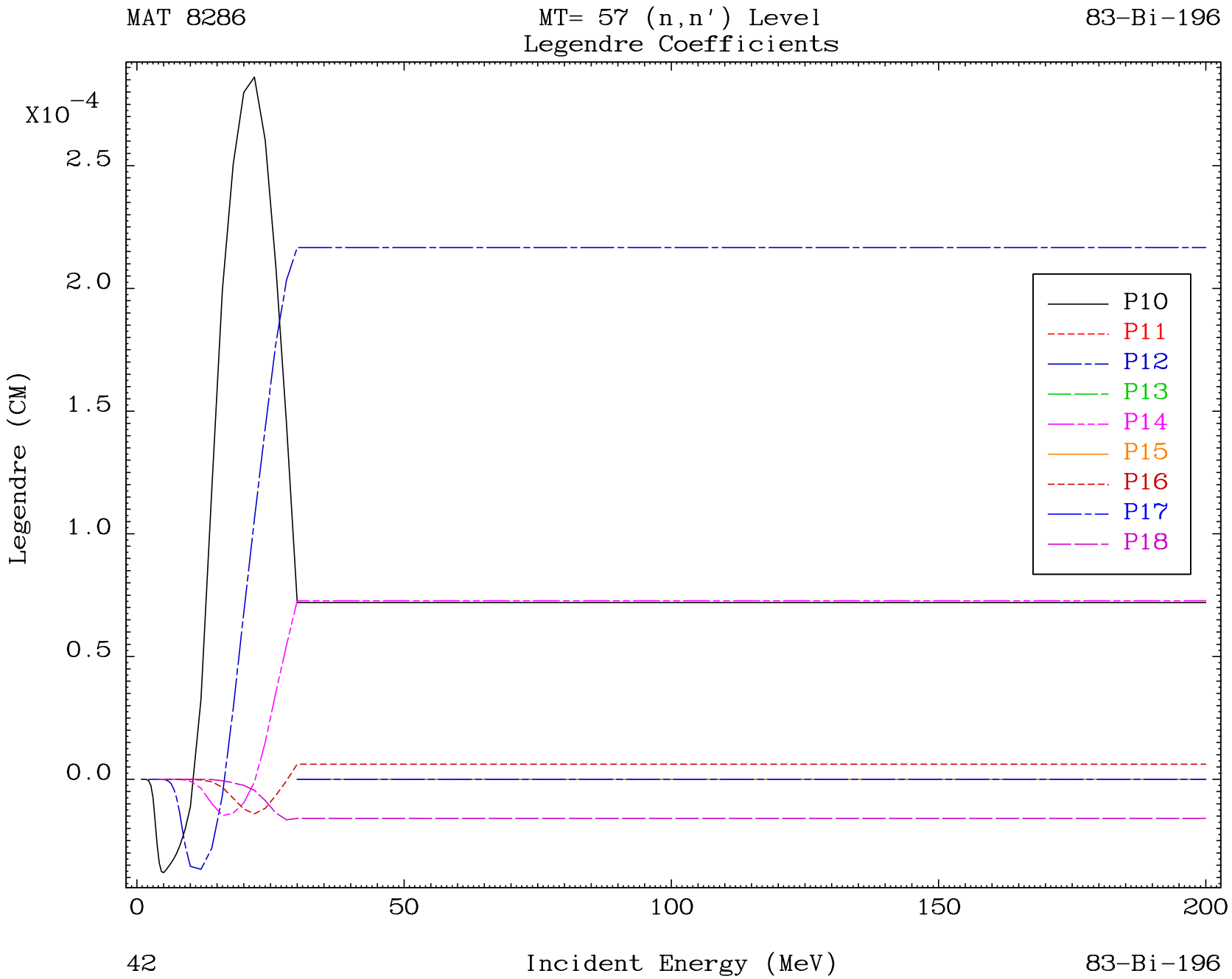

MAT 8286
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
37
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

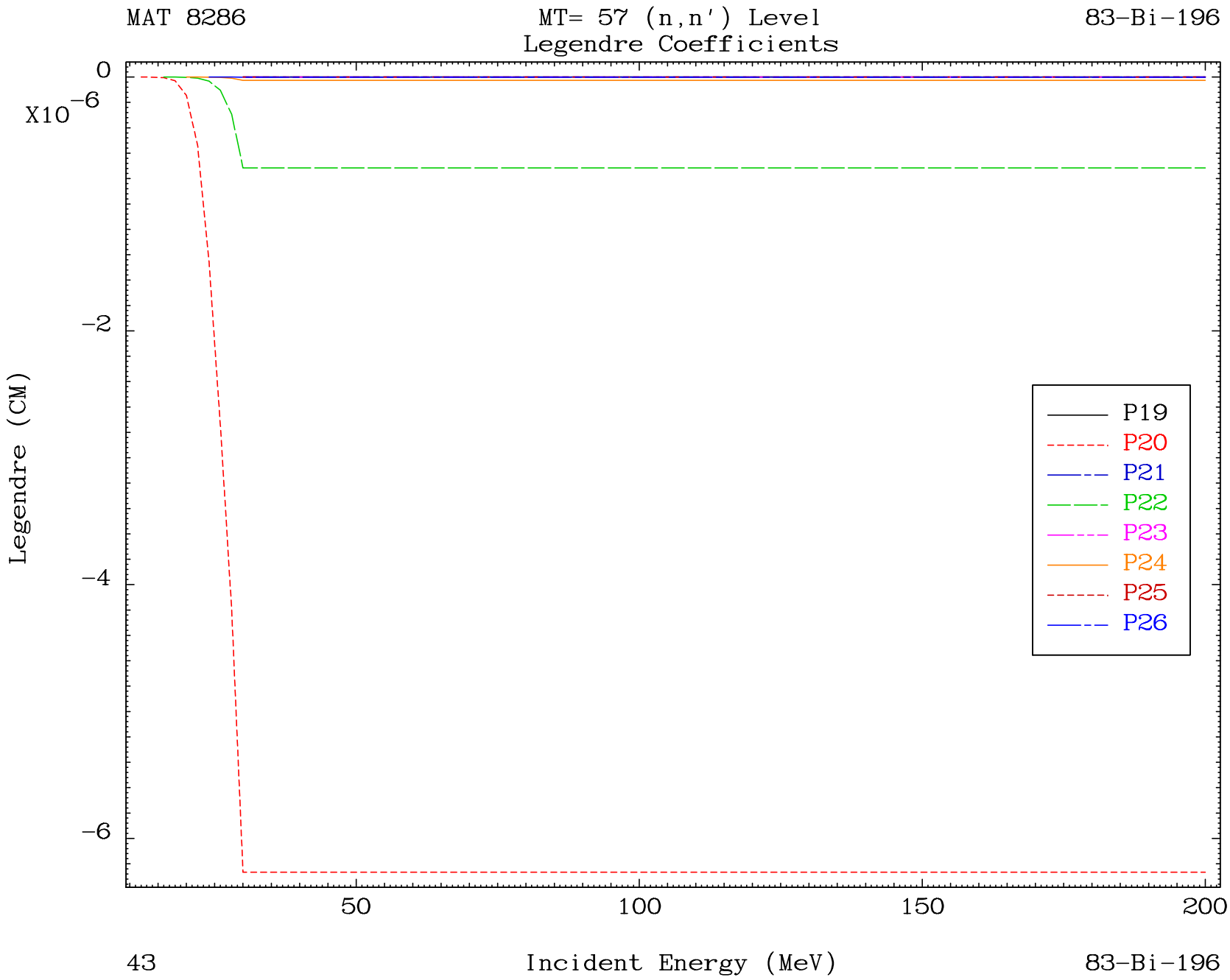

MAT 8286
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
38
Incident Energy (MeV)
83-Bi-196

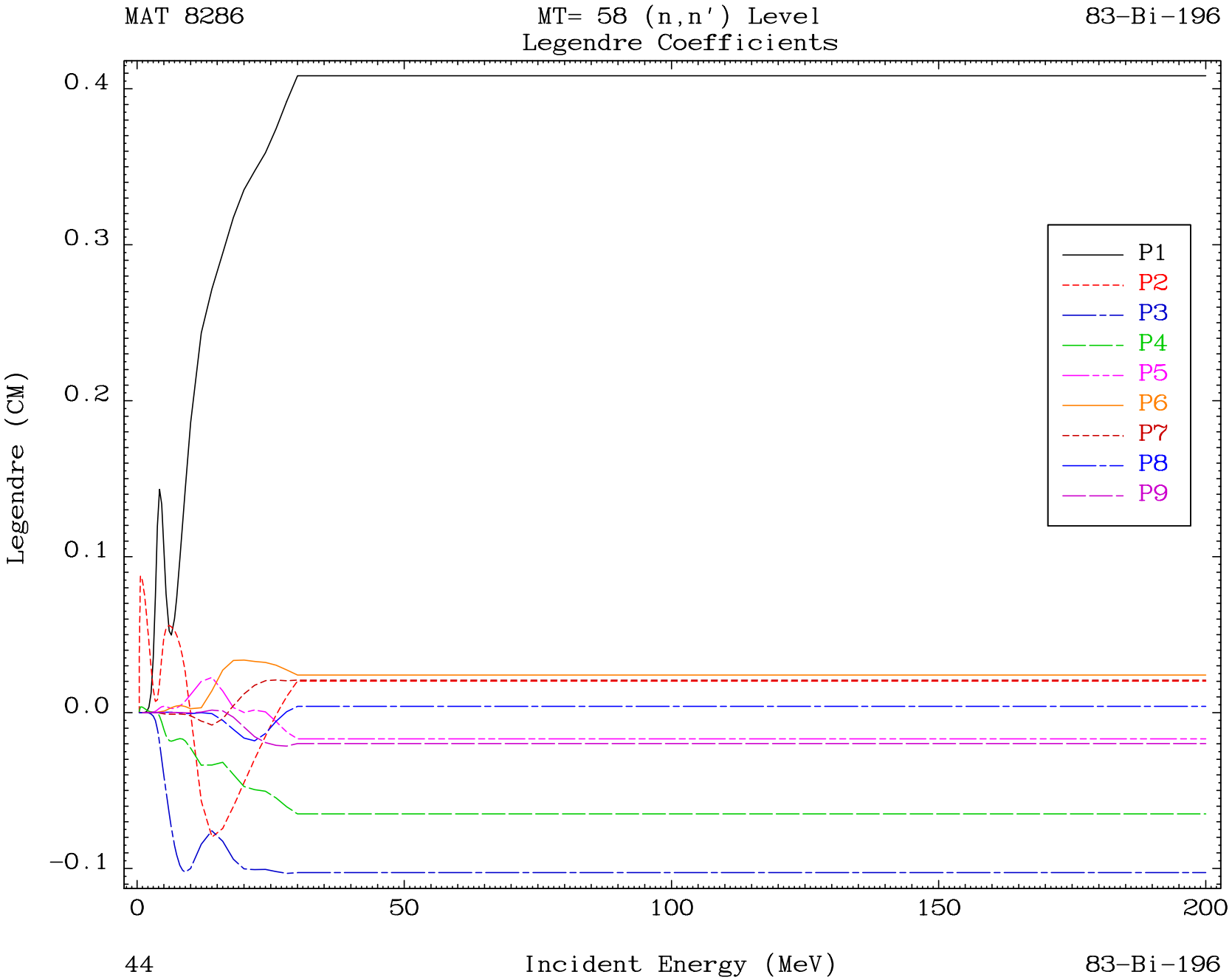

MAT 8286
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2
0
-2
-4
Legendre (CM)
50
100
150
200
39
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26
P27

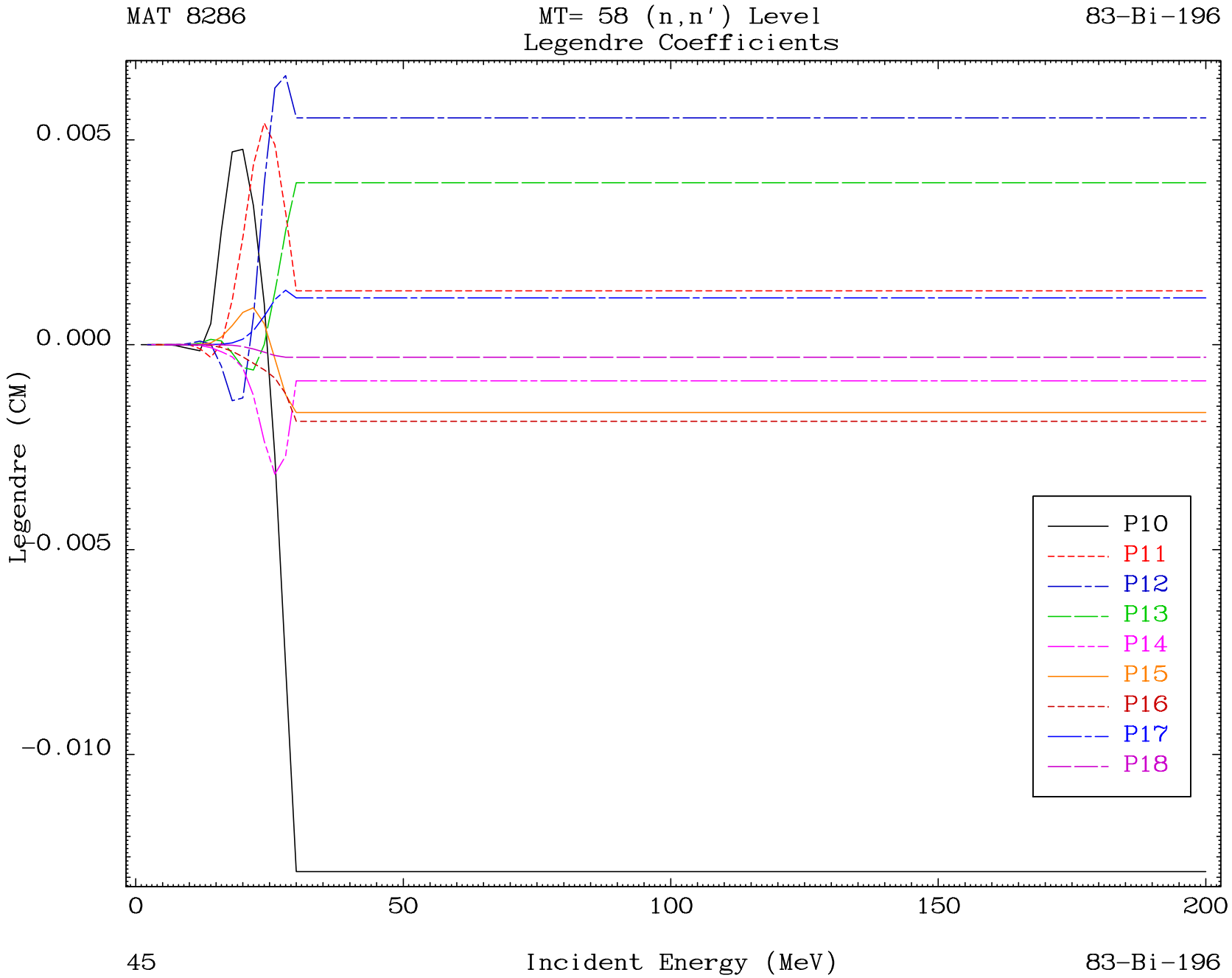

MAT 8286
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-196
0.0
X10−6
−0.5
−1.0
−1.5
Legendre (CM)
50
100
150
200
40
Incident Energy (MeV)
83-Bi-196
P28
P29
P30
P31
P32
P33
P34
P35
P36

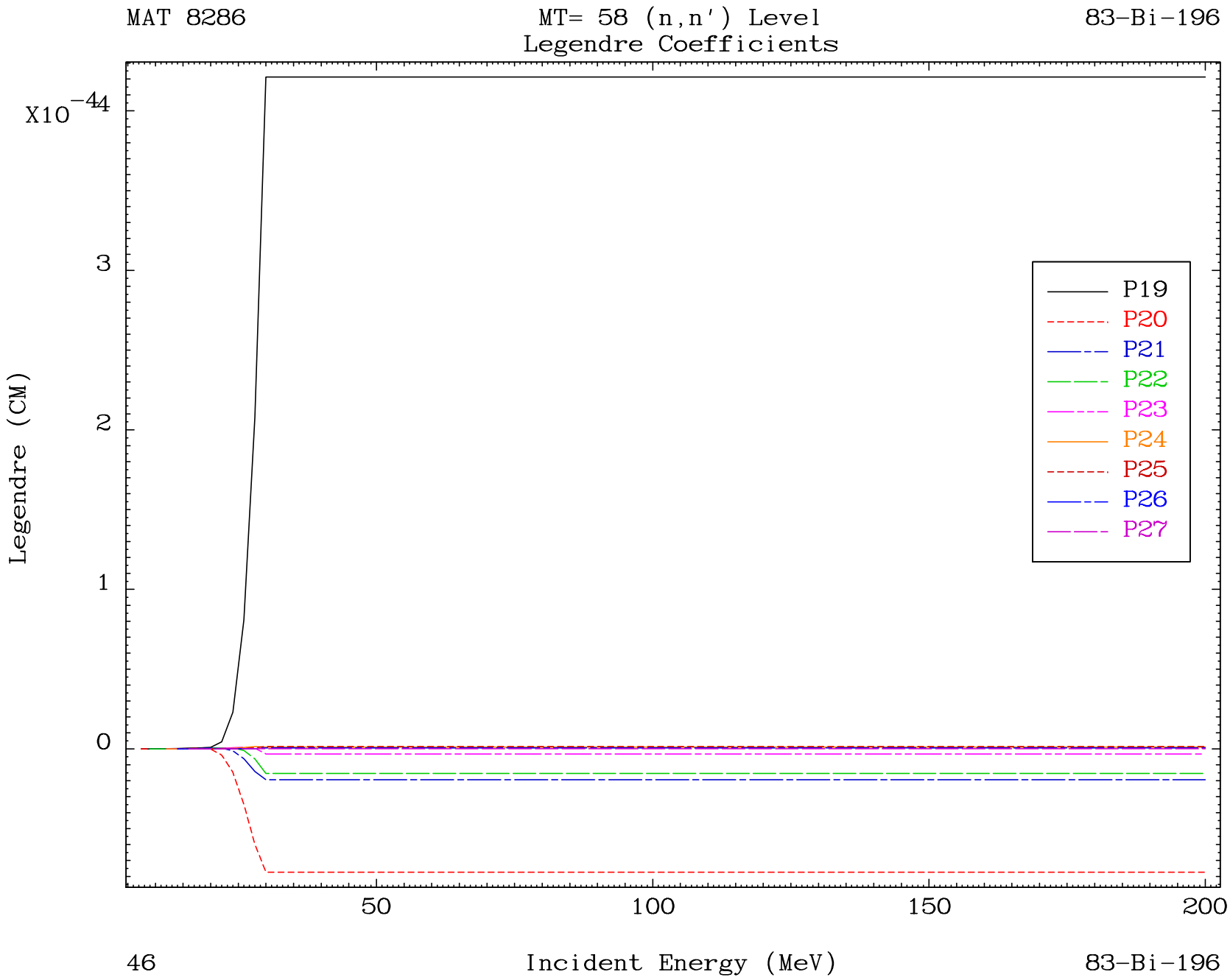

MAT 8286
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-196
0.02
0.01
0.00
-0.01
-0.02
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
41
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

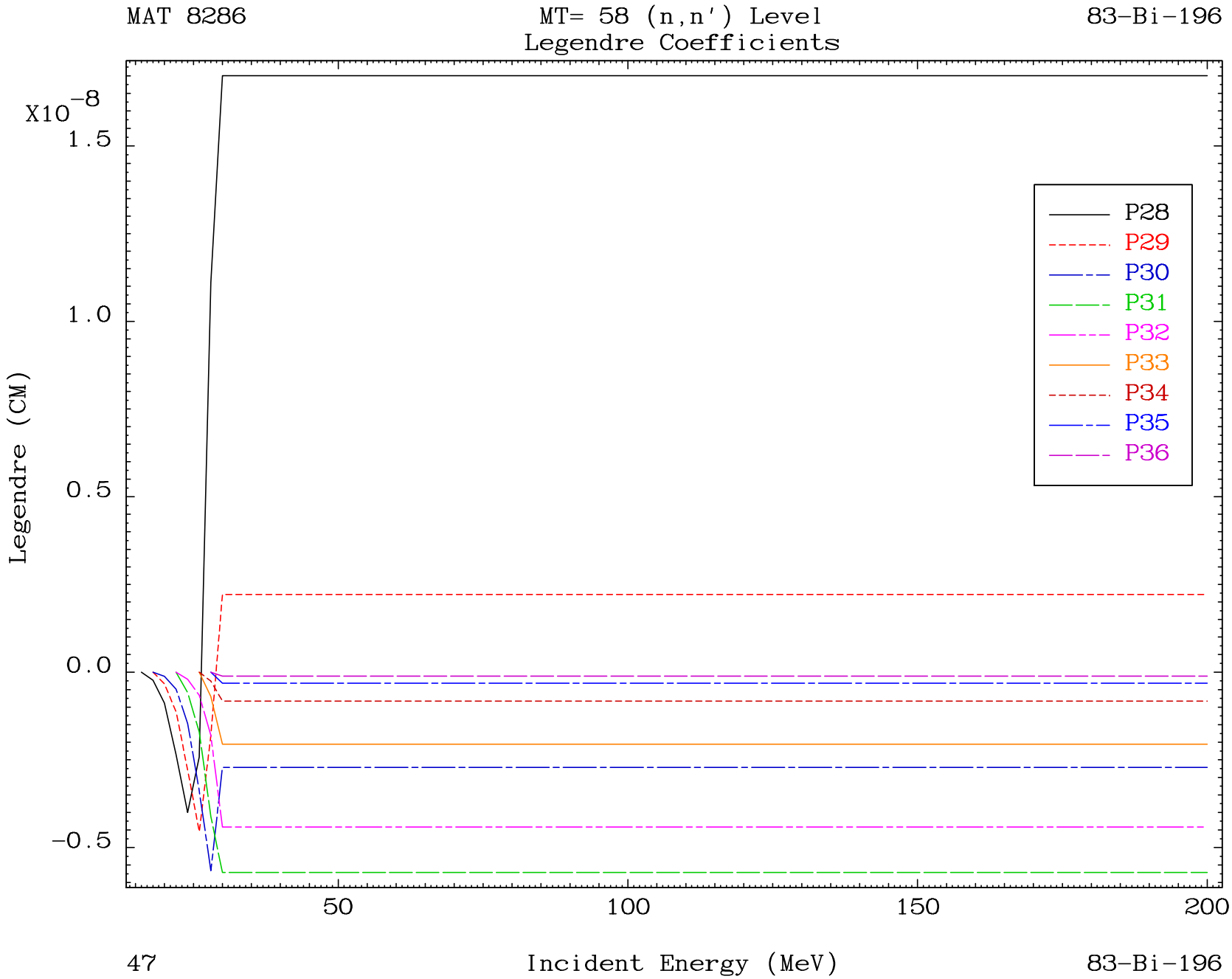

MAT 8286
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
42
Incident Energy (MeV)
83-Bi-196

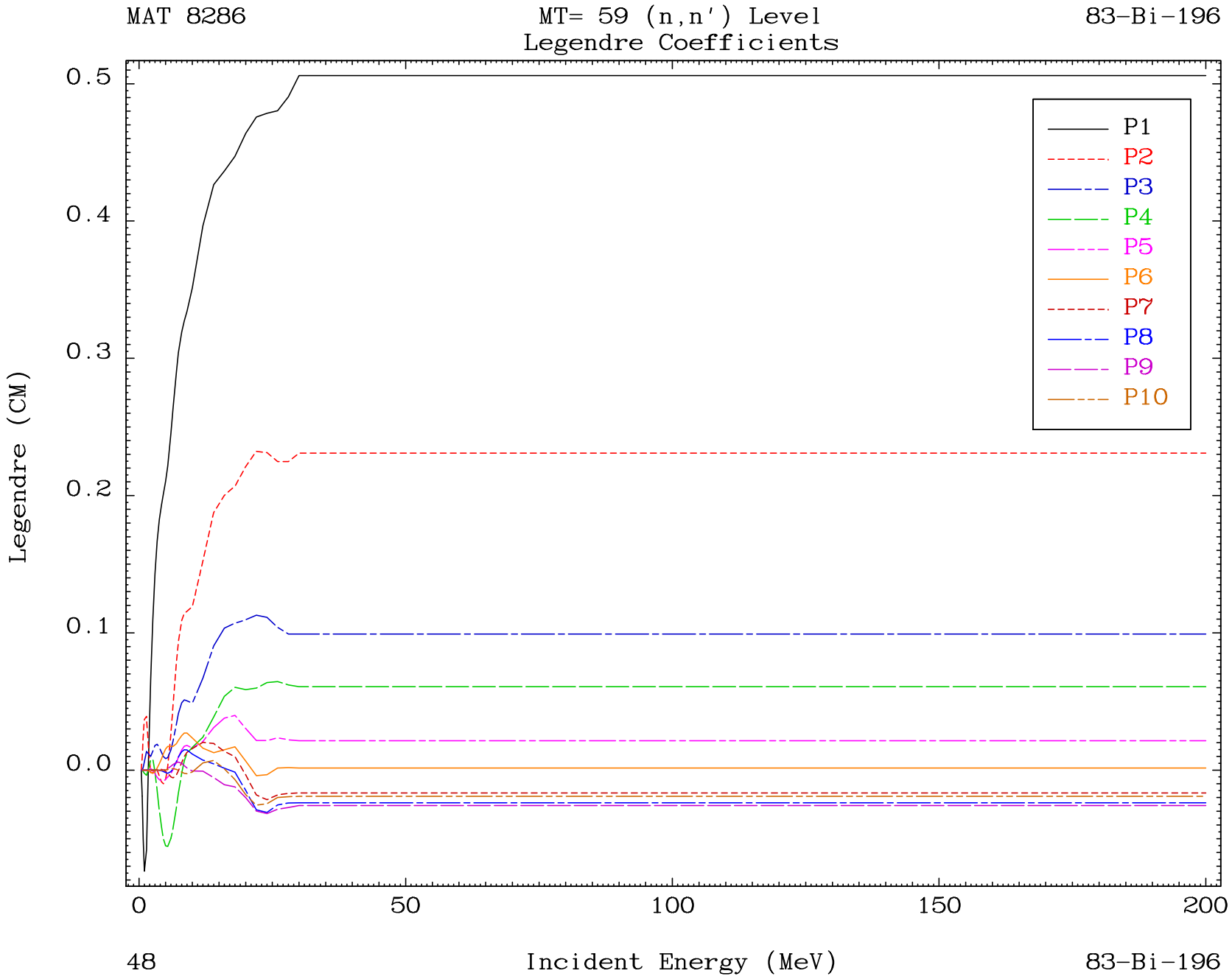

MAT 8286
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-196
0
X10 −6
−2
−4
−6
Legendre (CM)
50
100
150
200
P19
P20
P21
P22
P23
P24
P25
P26
43
Incident Energy (MeV)
83-Bi-196

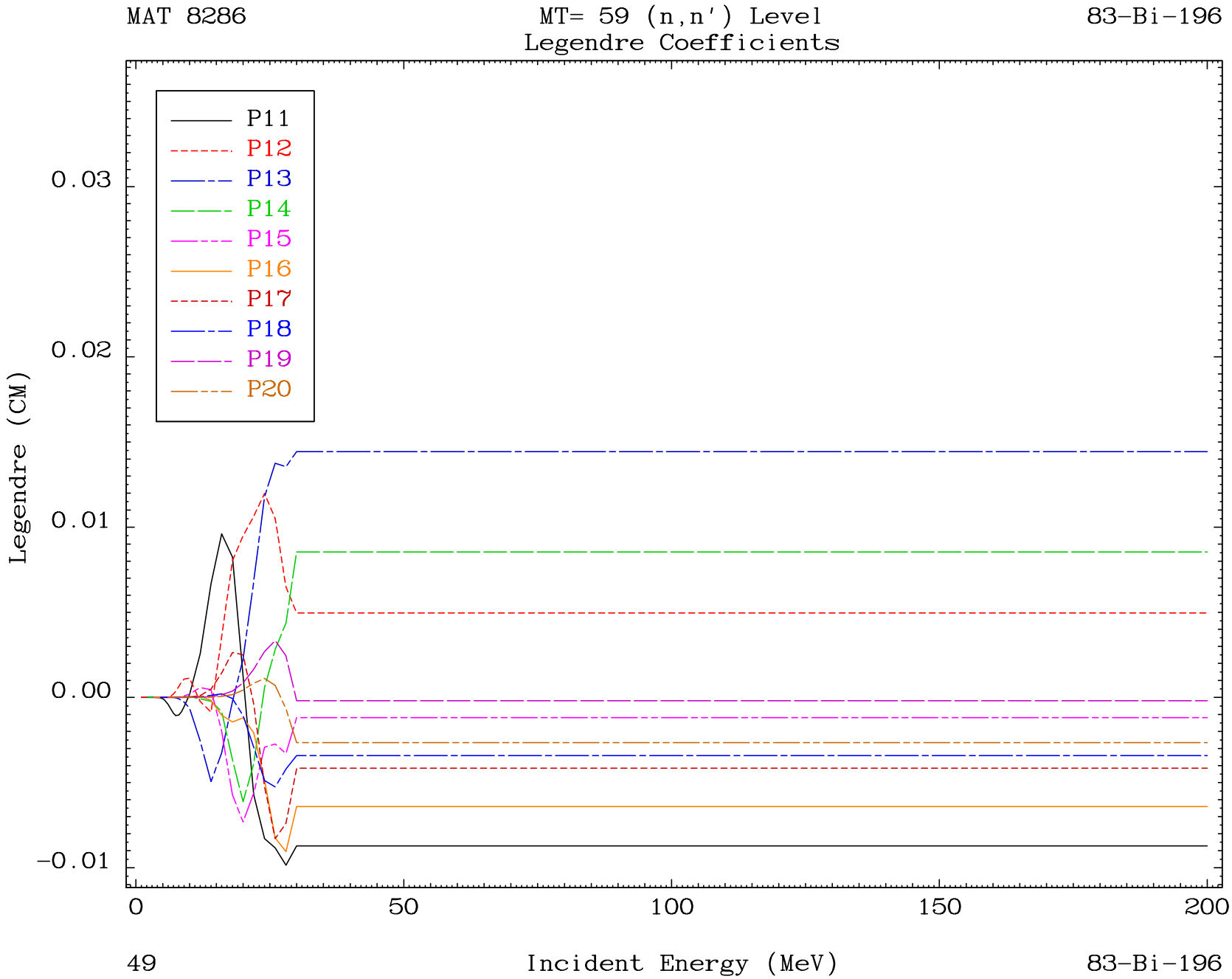

MAT 8286
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
44
Incident Energy (MeV)
83-Bi-196

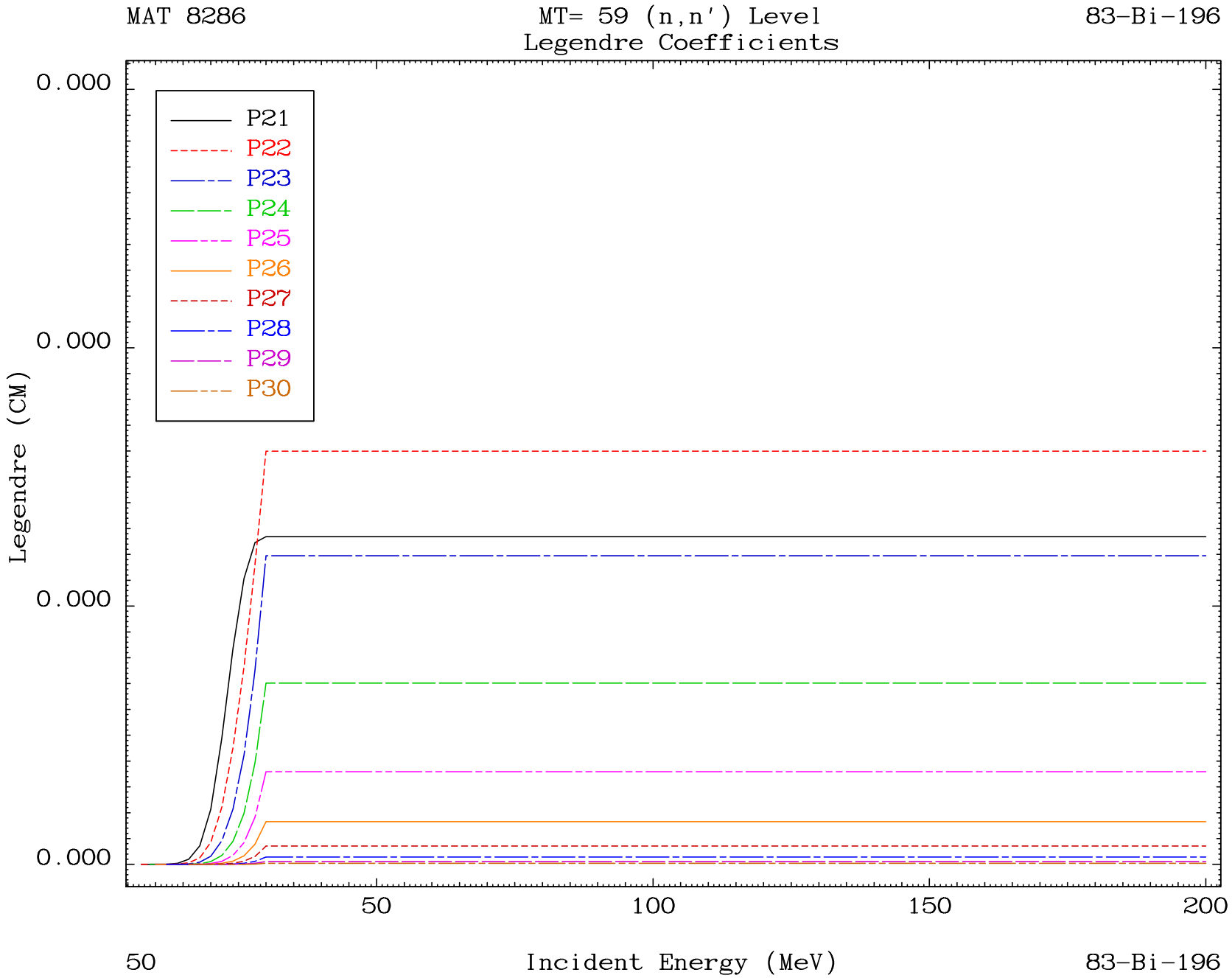

MAT 8286
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-196
0.005
0.000
-0.005
-0.010
Legendre (CM)
0
50
100
150
200
45
Incident Energy (MeV)
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18

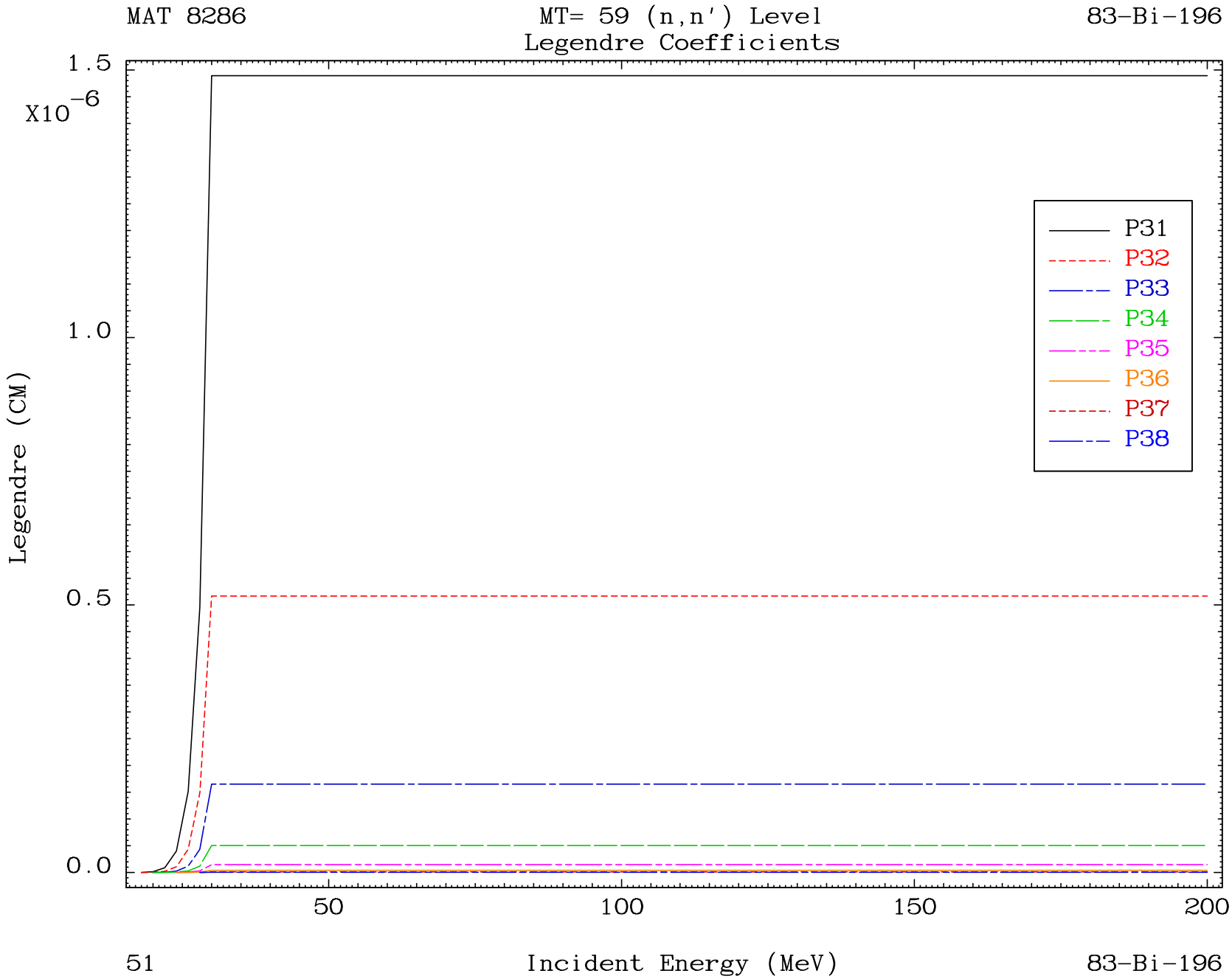

MAT 8286
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-44
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
46
Incident Energy (MeV)
83-Bi-196

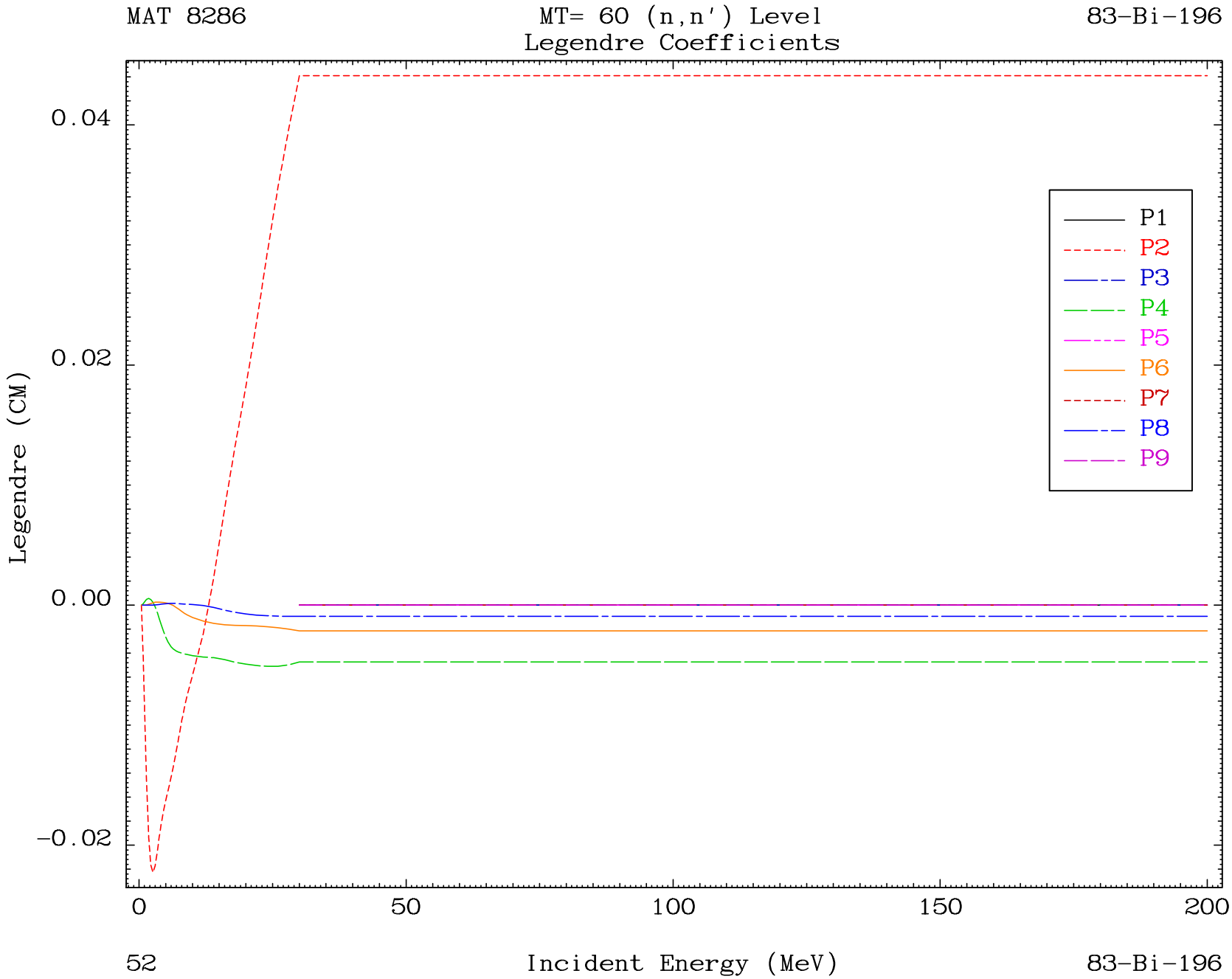

MAT 8286
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-8
1.5
1.0
0.5
0.0
-0.5
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
47
Incident Energy (MeV)
83-Bi-196

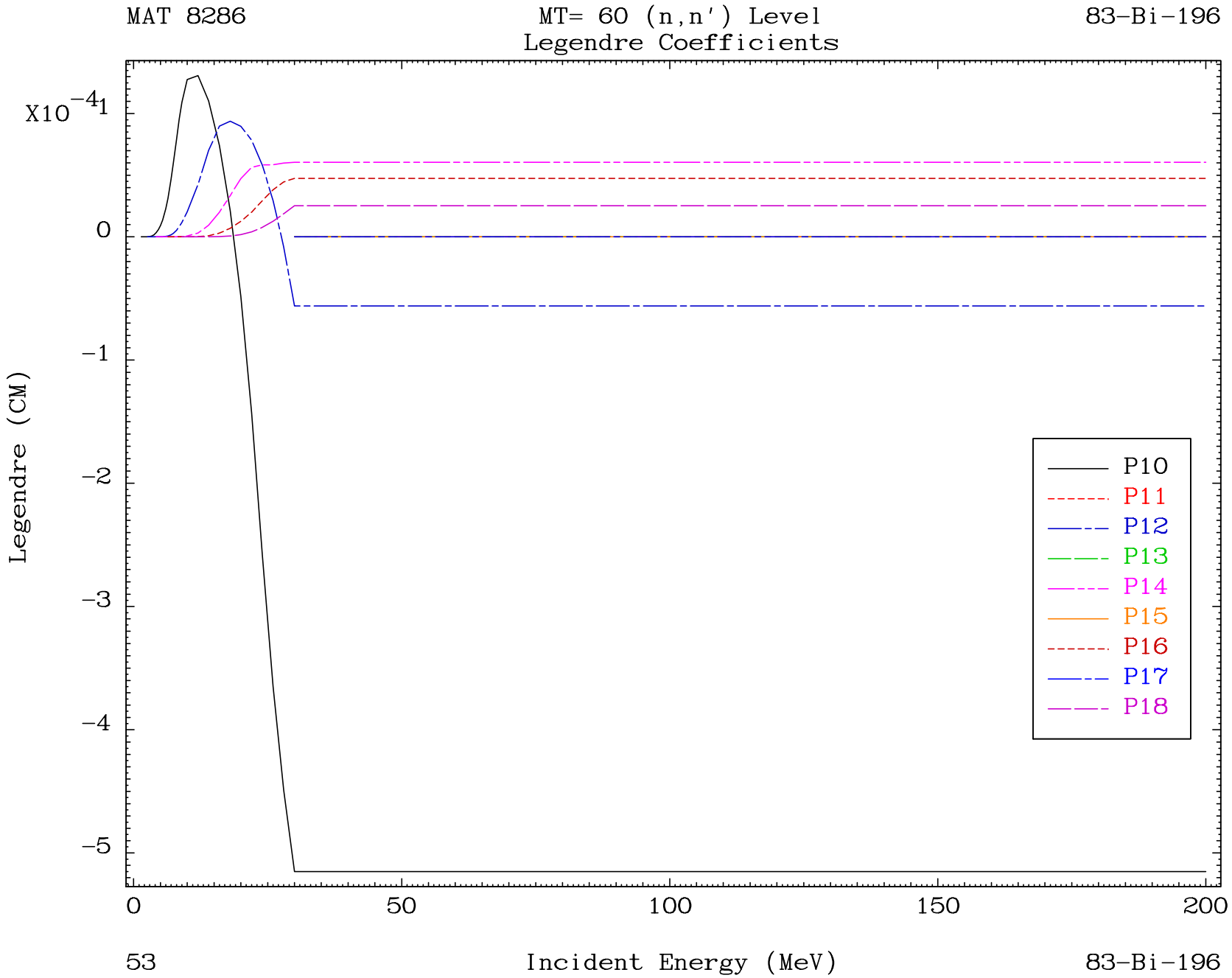

MAT 8286
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
48
Incident Energy (MeV)
83-Bi-196

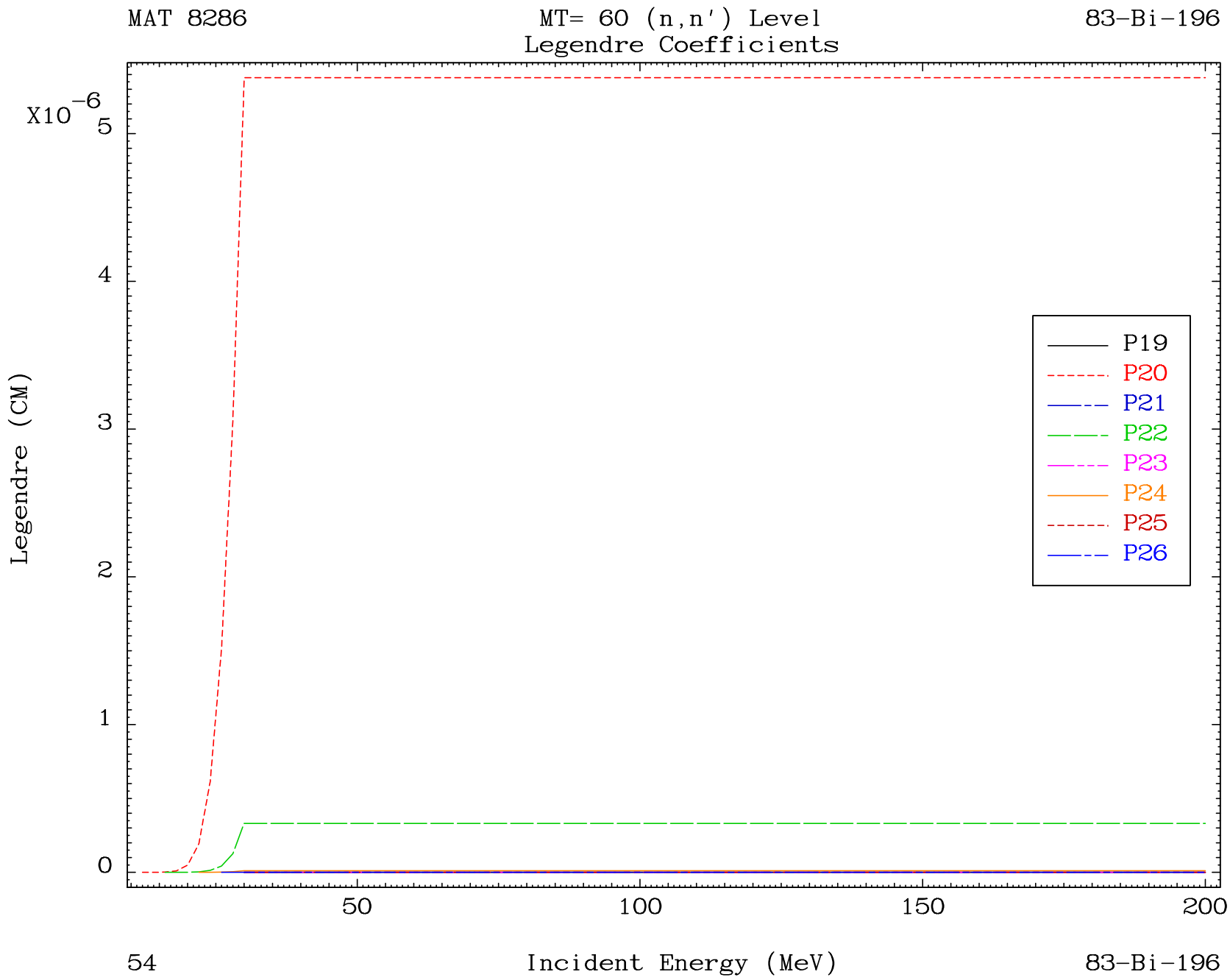

MAT 8286
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-196
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
49
Incident Energy (MeV)
83-Bi-196

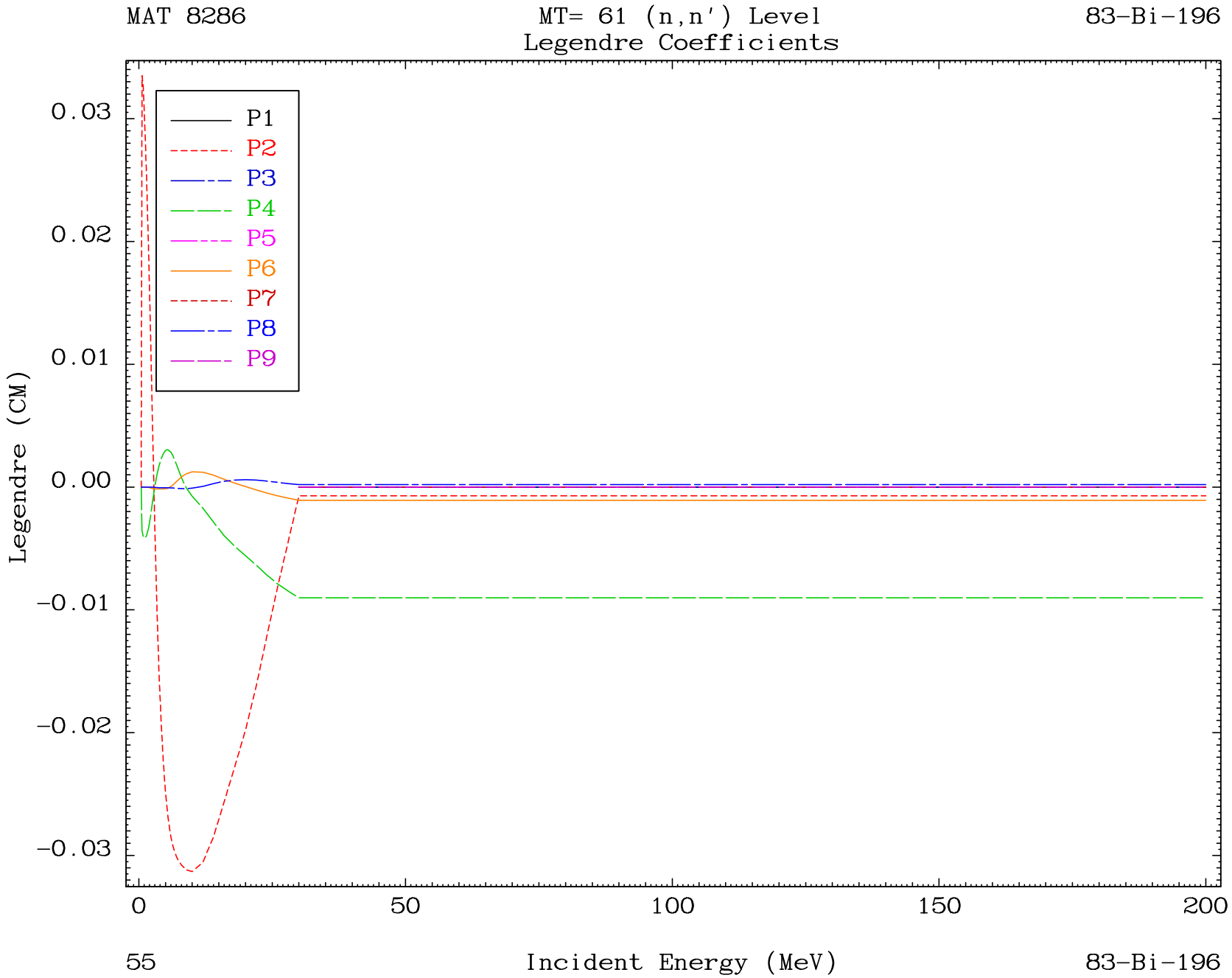

MAT 8286
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-196
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.000
0.000
0.000
0.000
Legendre (CM)
50
100
150
200
50
Incident Energy (MeV)
83-Bi-196

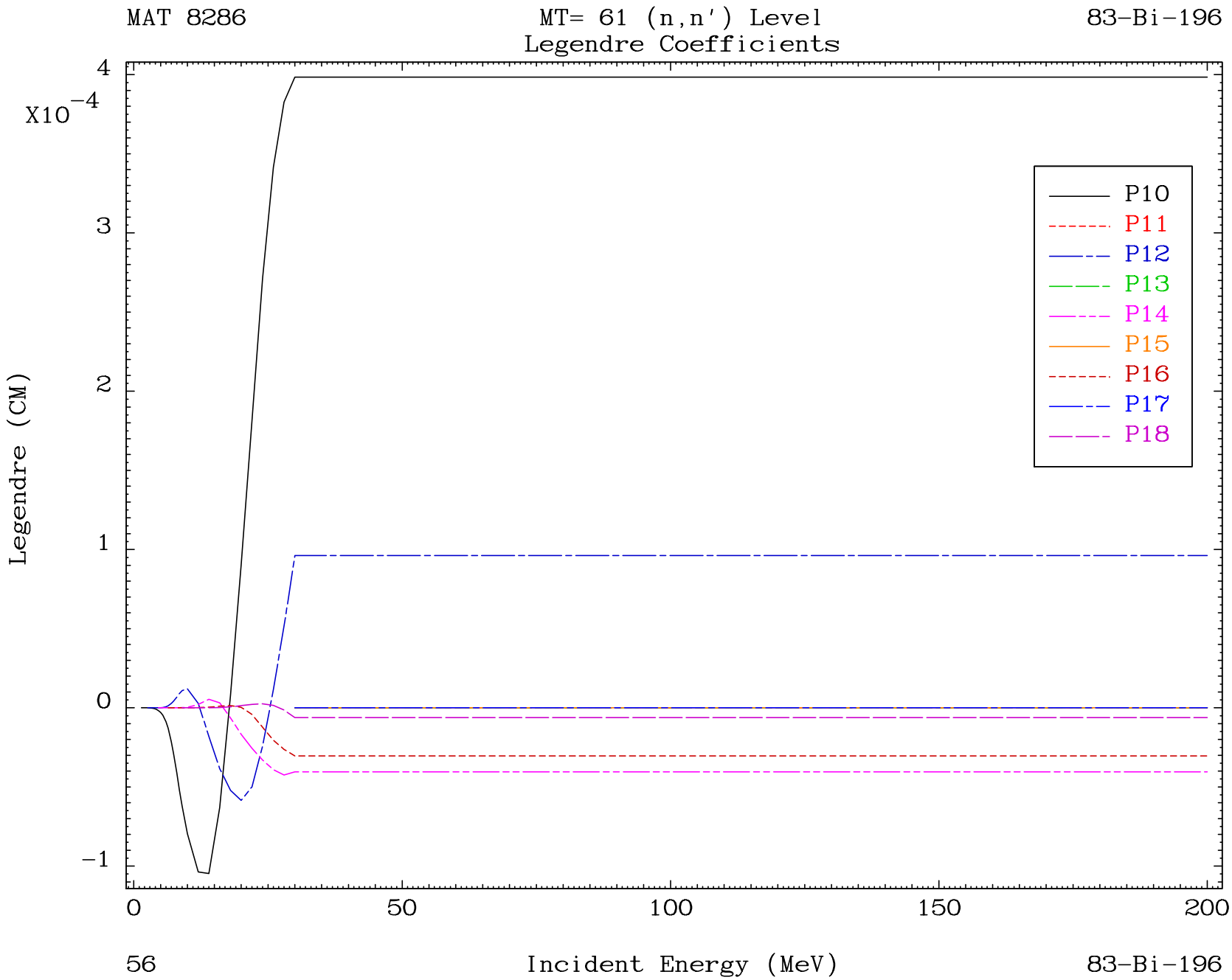

MAT 8286
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-196
1.5
X10^-6
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
51
Incident Energy (MeV)
83-Bi-196

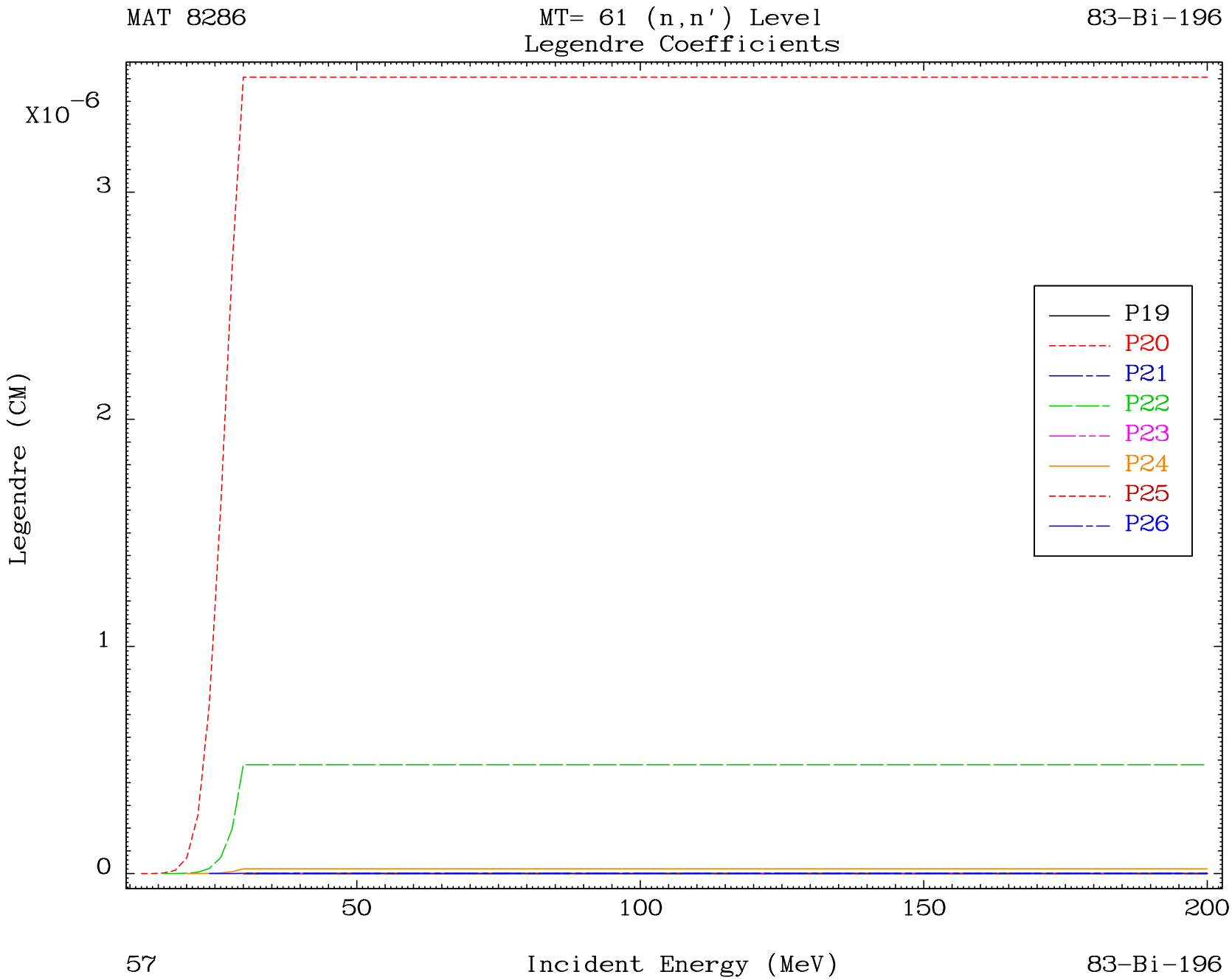

MAT 8286
MT= 60 (n,n') Level
Legendre Coefficients
83-Bi-196
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
52
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

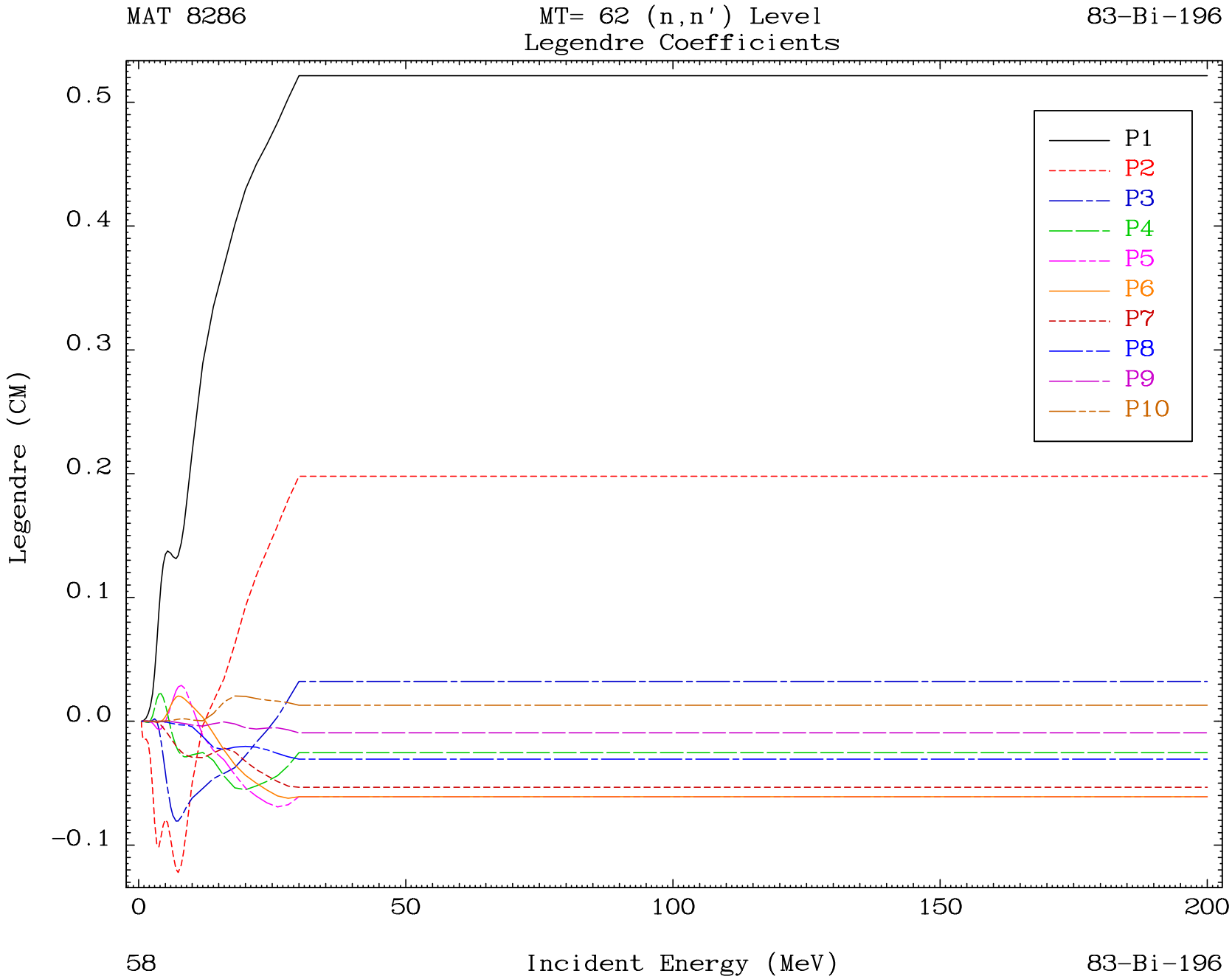

MAT 8286
MT= 60 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
1
0
-1
-2
-3
-4
-5
Legendre (CM)
0
50
100
150
200
53
Incident Energy (MeV)
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18

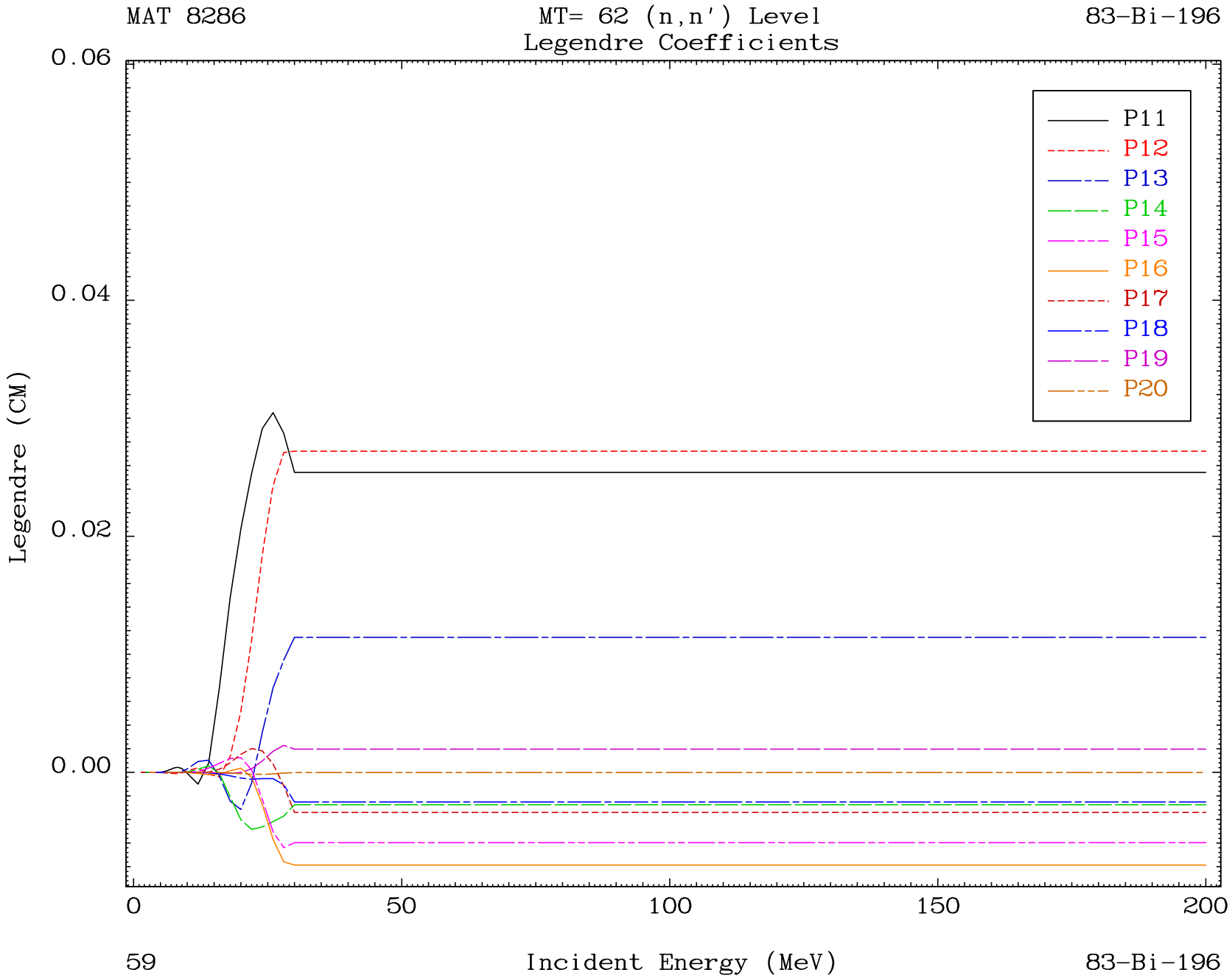

MAT 8286
MT= 60 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 −6
5
4
3
2
1
0
Legendre (CM)
50
100
150
200
54
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

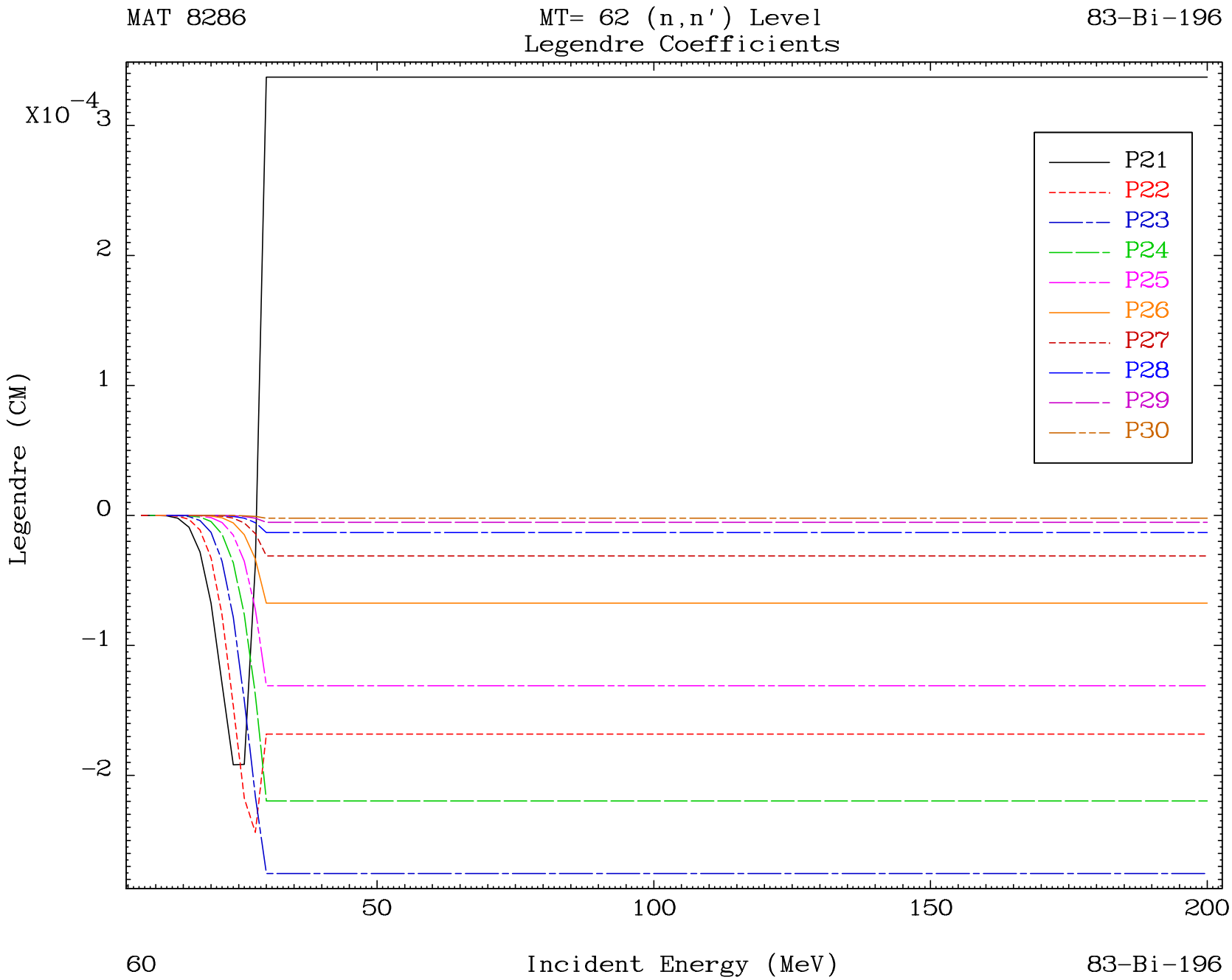

MAT 8286
MT= 61 (n,n') Level
Legendre Coefficients
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
Legendre (CM)
0
50
100
150
200
55
Incident Energy (MeV)
83-Bi-196

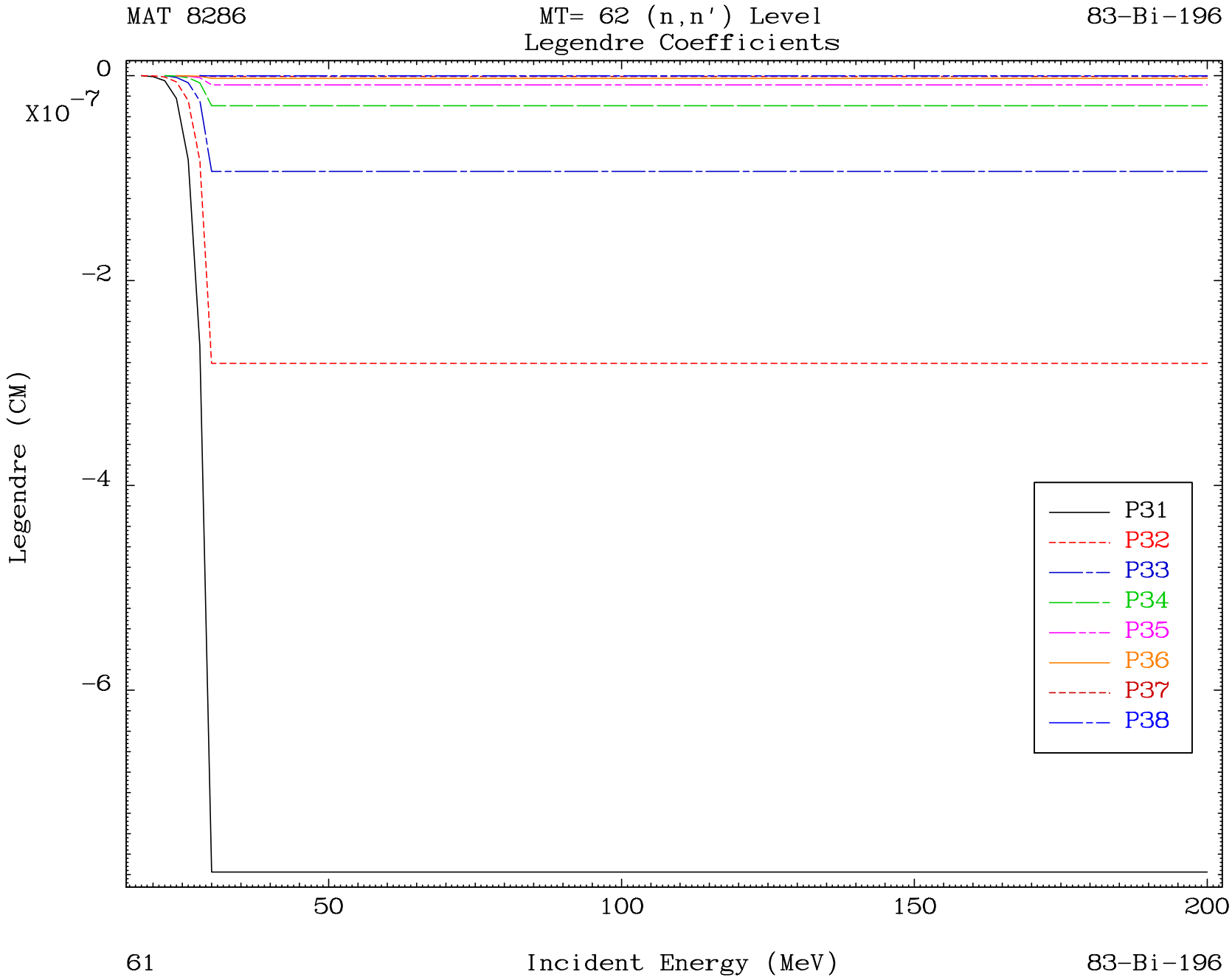

MAT 8286
MT= 61 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
4
3
2
1
0
-1
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
56
Incident Energy (MeV)
83-Bi-196

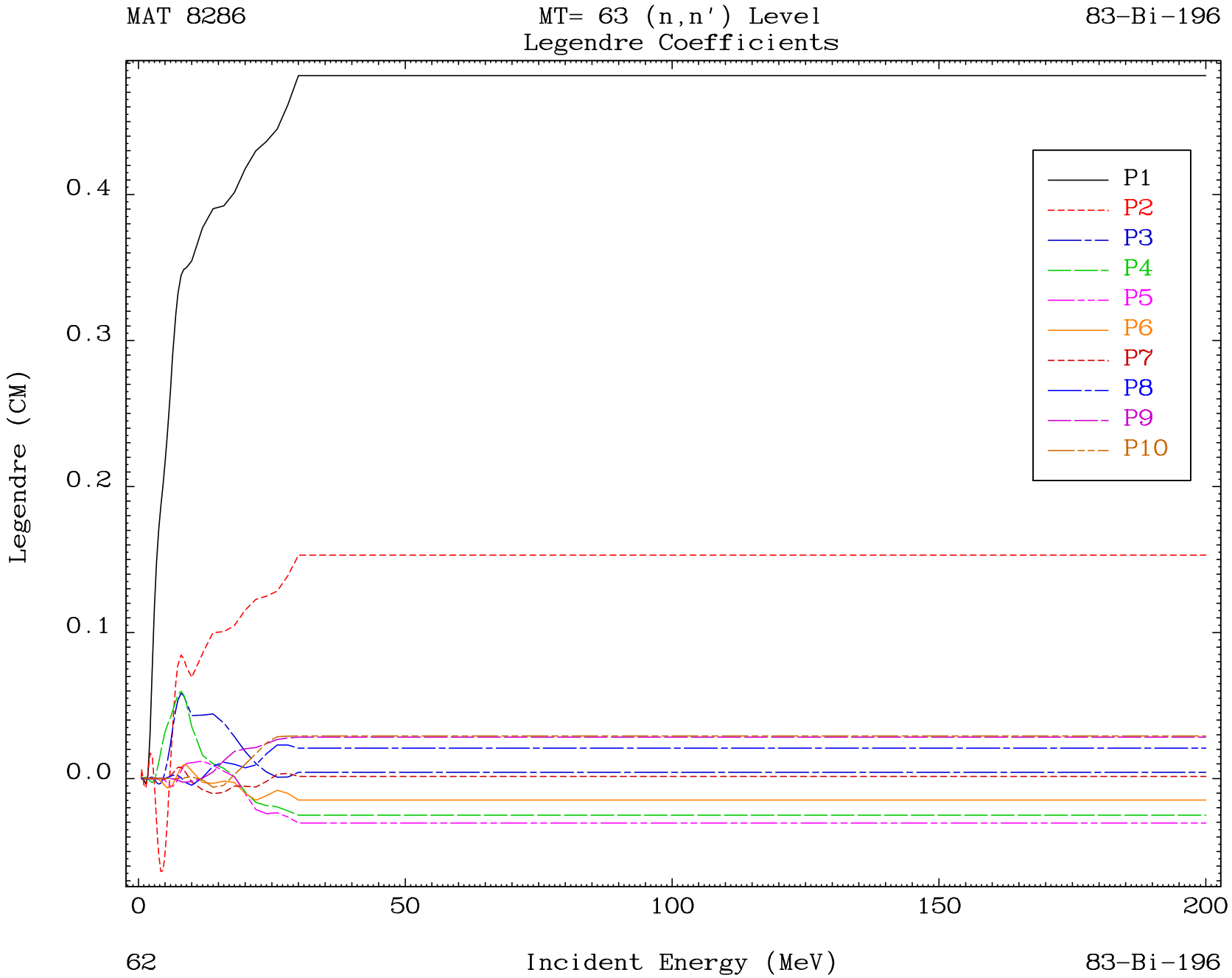

MAT 8286
MT= 61 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 −6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
57
Incident Energy (MeV)
83-Bi-196

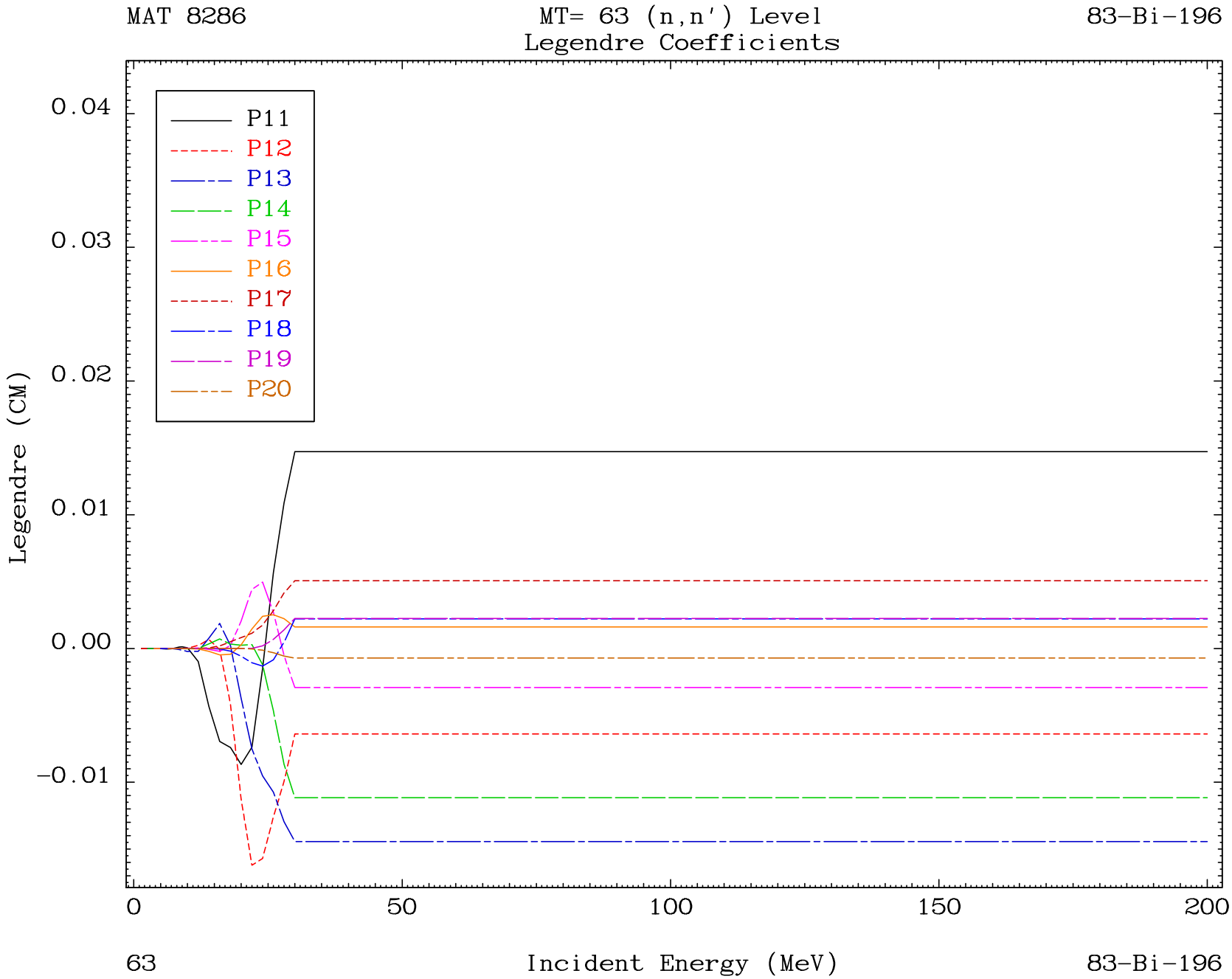

MAT 8286
MT= 62 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
58
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

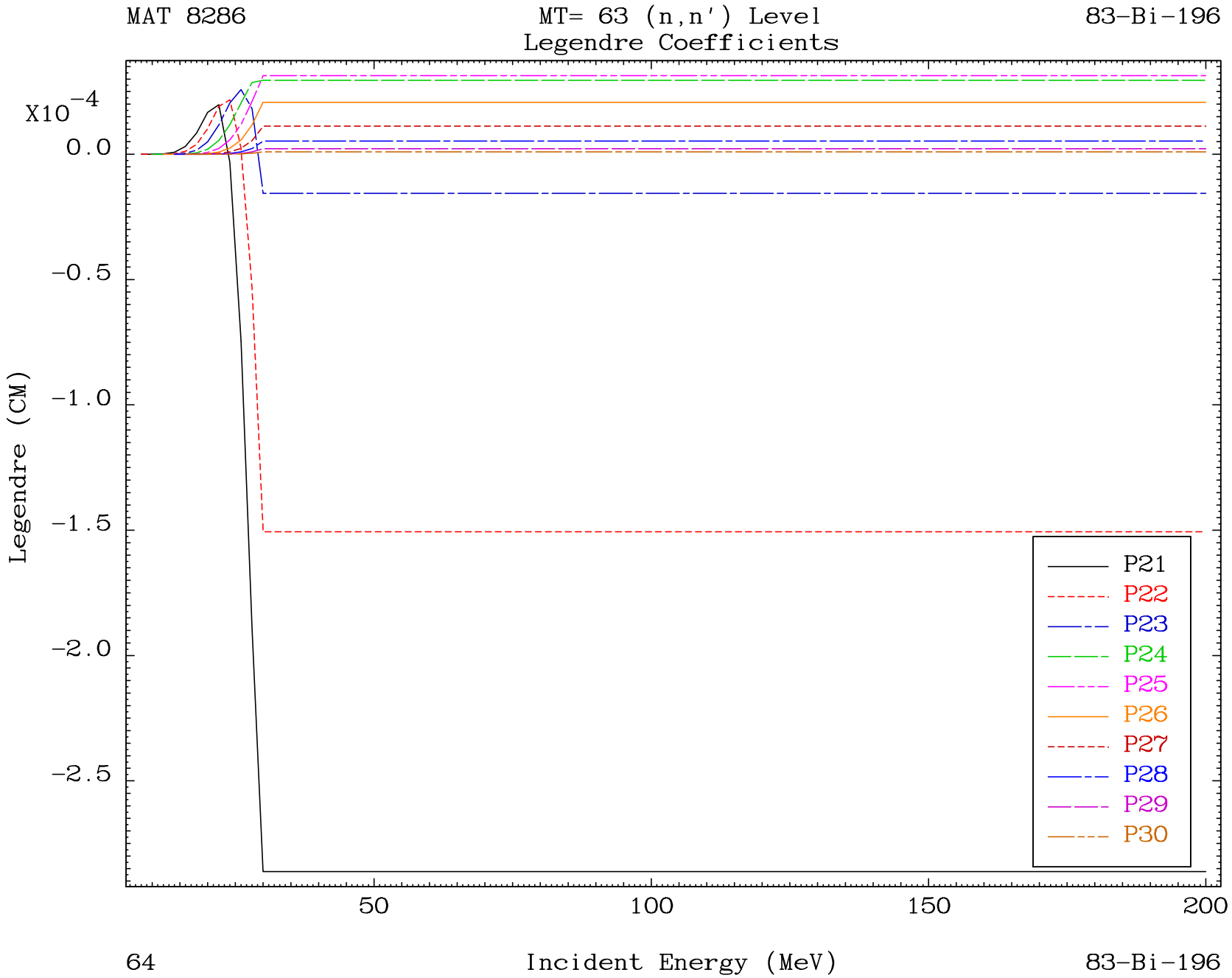

MAT 8286
MT= 62 (n,n') Level
Legendre Coefficients
83-Bi-196
0.06
0.04
0.02
0.00
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
59
Incident Energy (MeV)
83-Bi-196

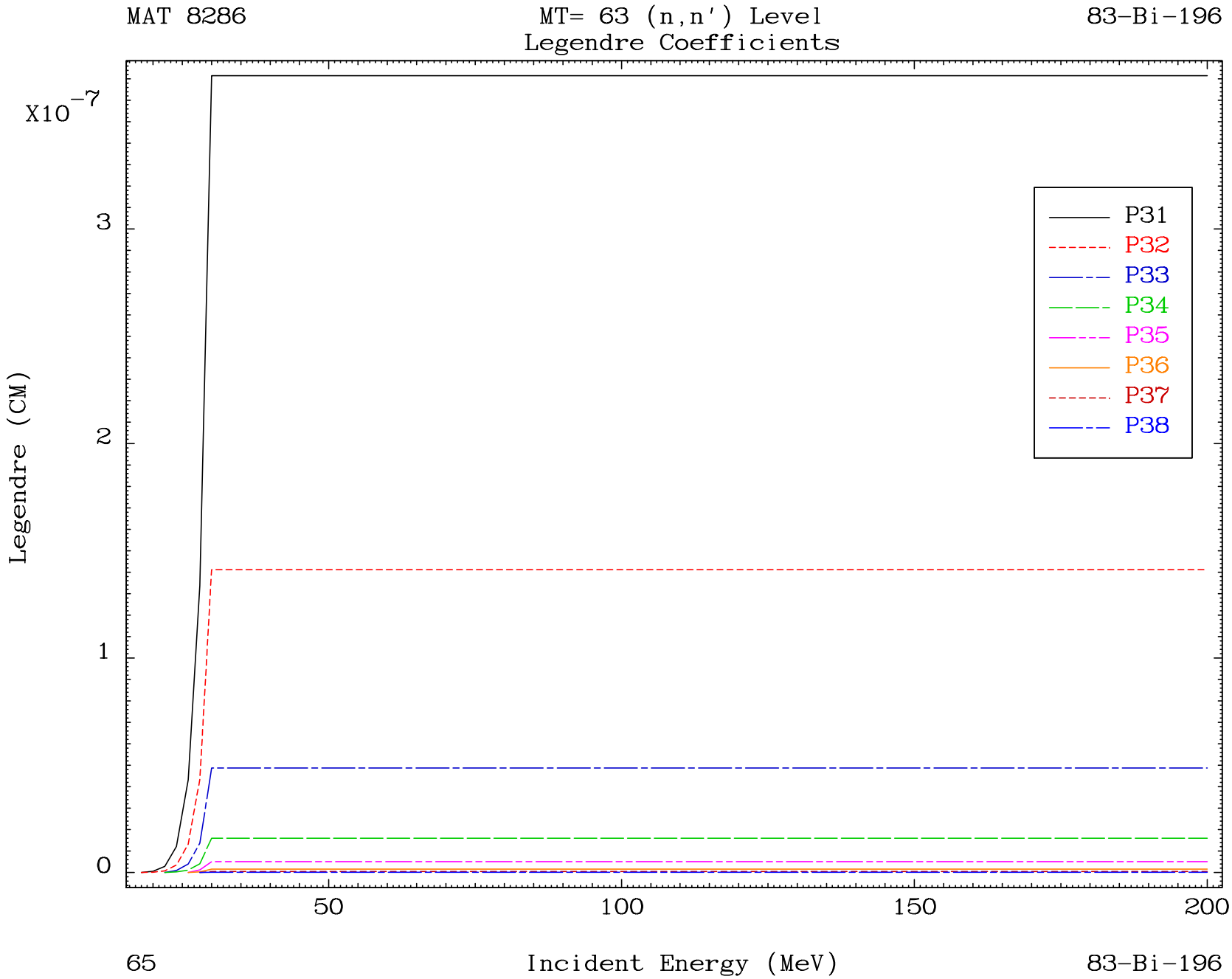

MAT 8286
MT= 62 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
3
2
1
0
-1
-2
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
60
Incident Energy (MeV)
83-Bi-196

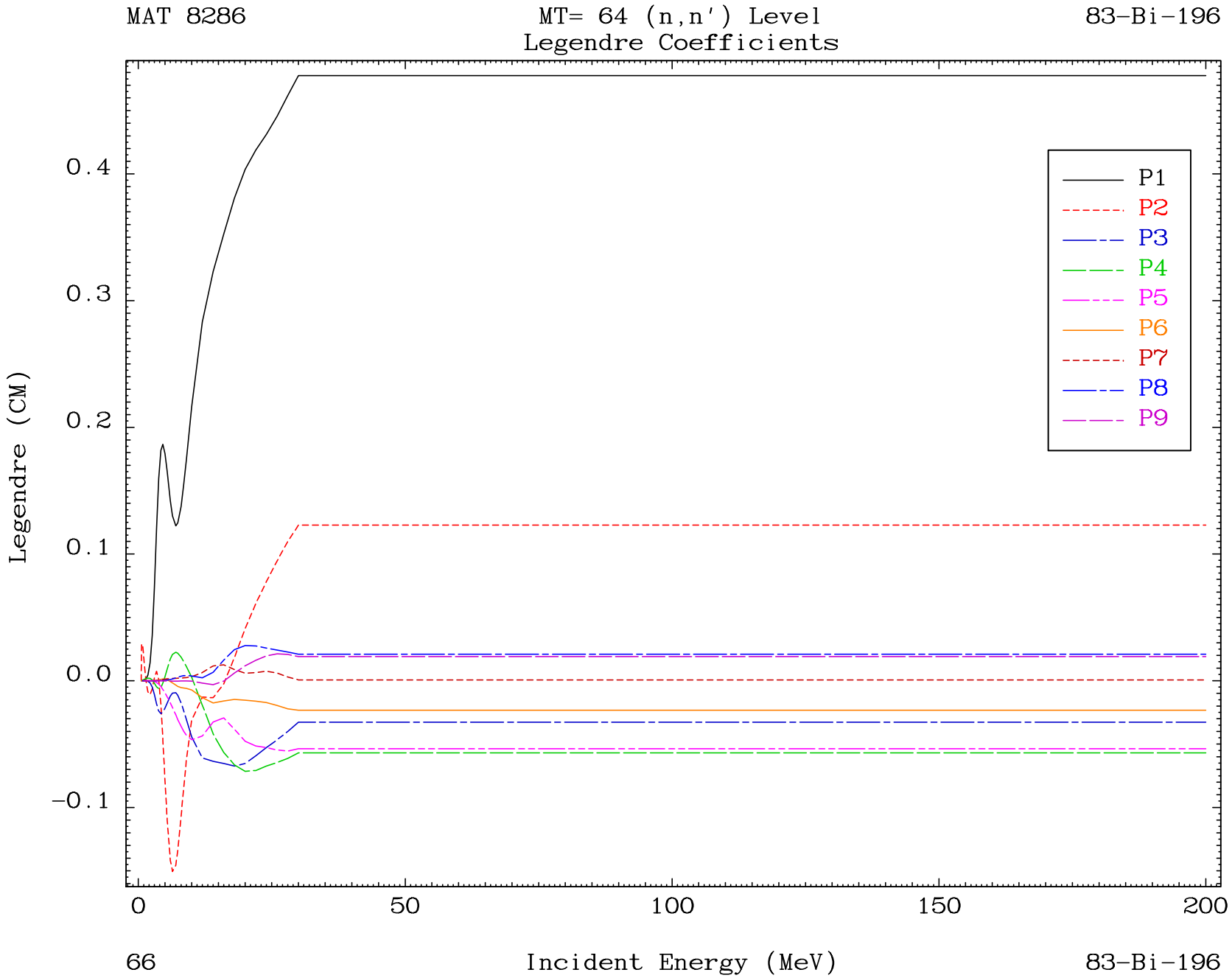

MAT 8286
MT= 62 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-7
0
-2
-4
-6
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
61
83-Bi-196
P31
P32
P33
P34
P35
P36
P37
P38

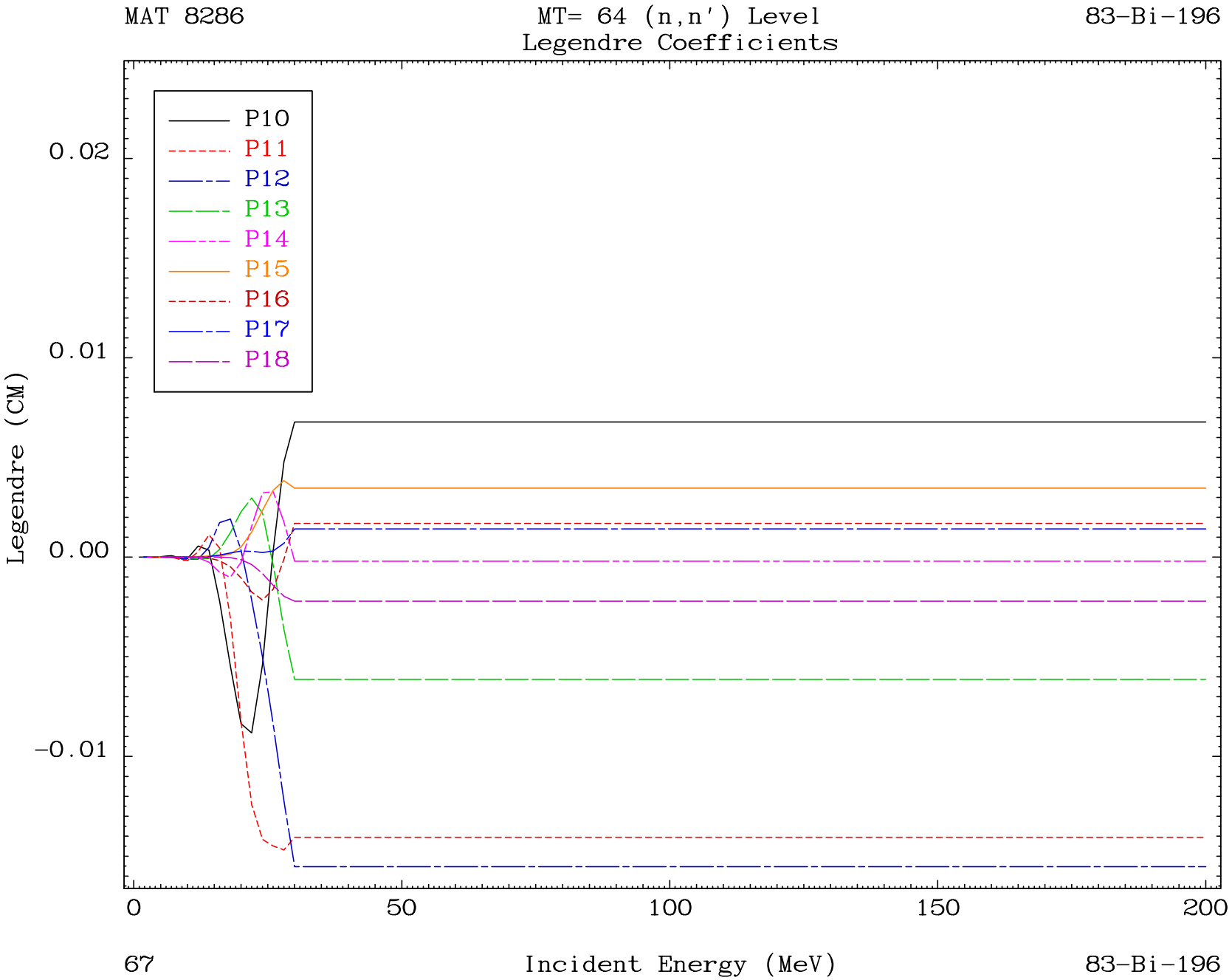

MAT 8286
MT= 63 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
62
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

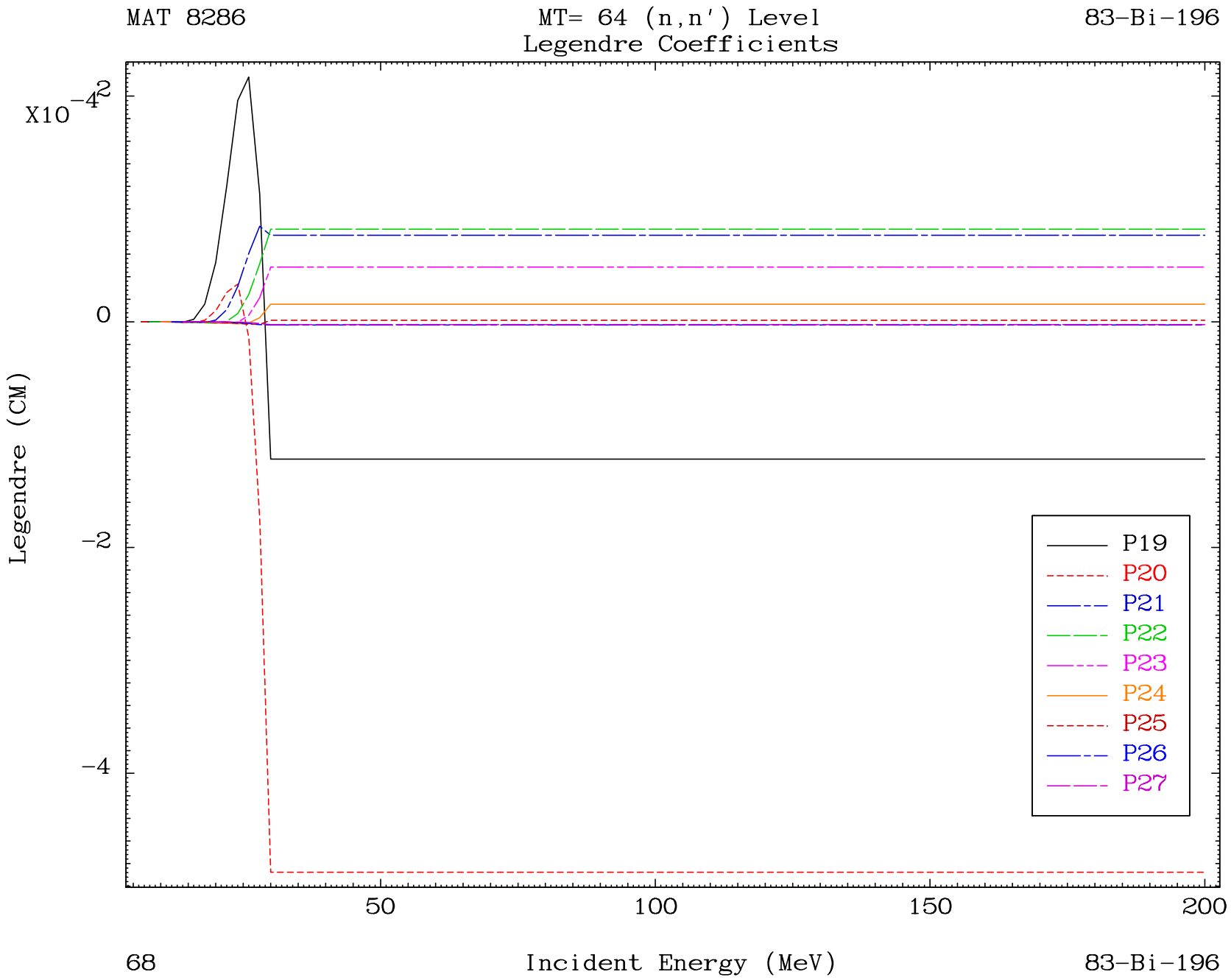

MAT 8286
MT= 63 (n,n') Level
Legendre Coefficients
83-Bi-196
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
63
Incident Energy (MeV)
83-Bi-196

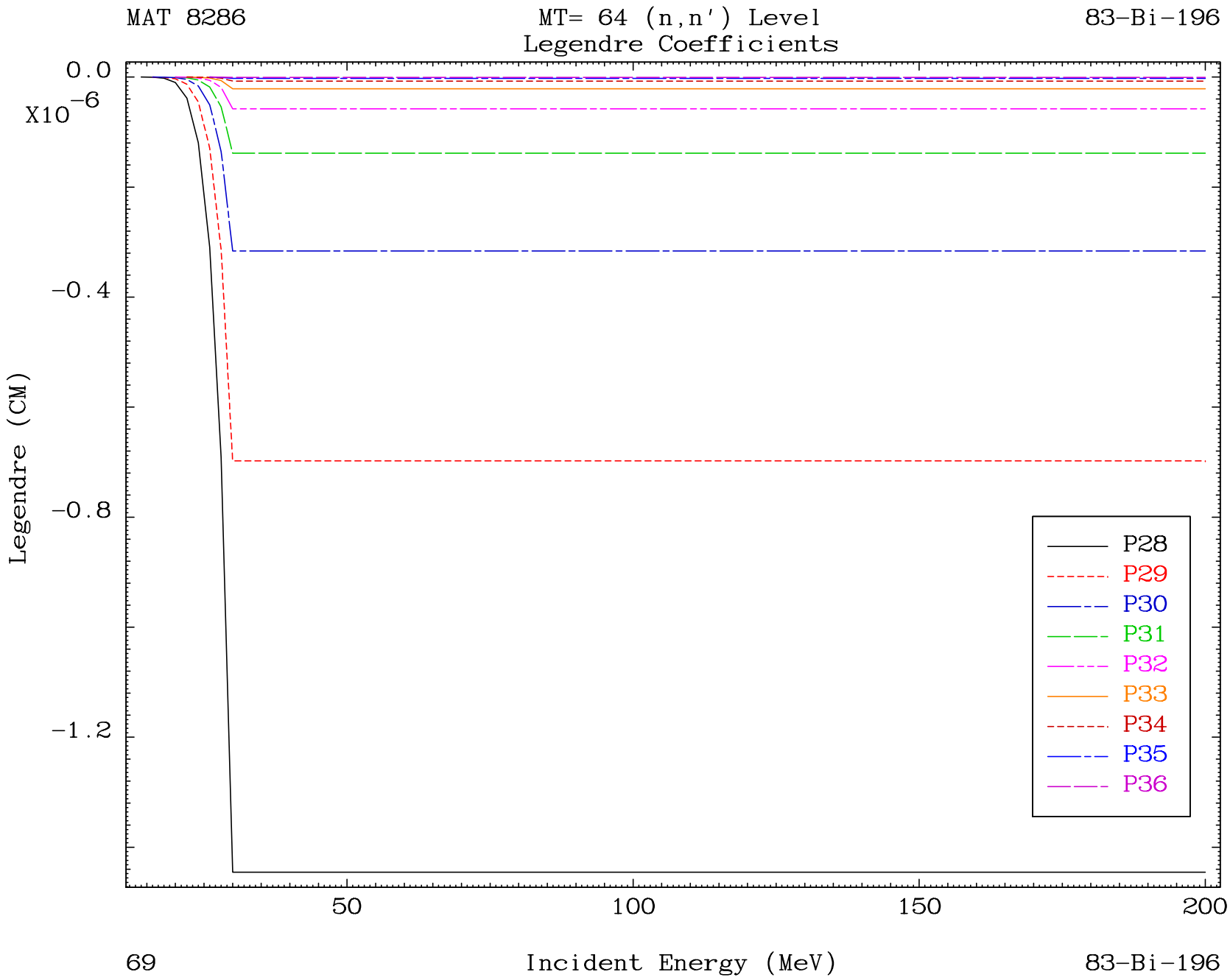

MAT 8286
MT= 63 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
64
Incident Energy (MeV)
83-Bi-196
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30

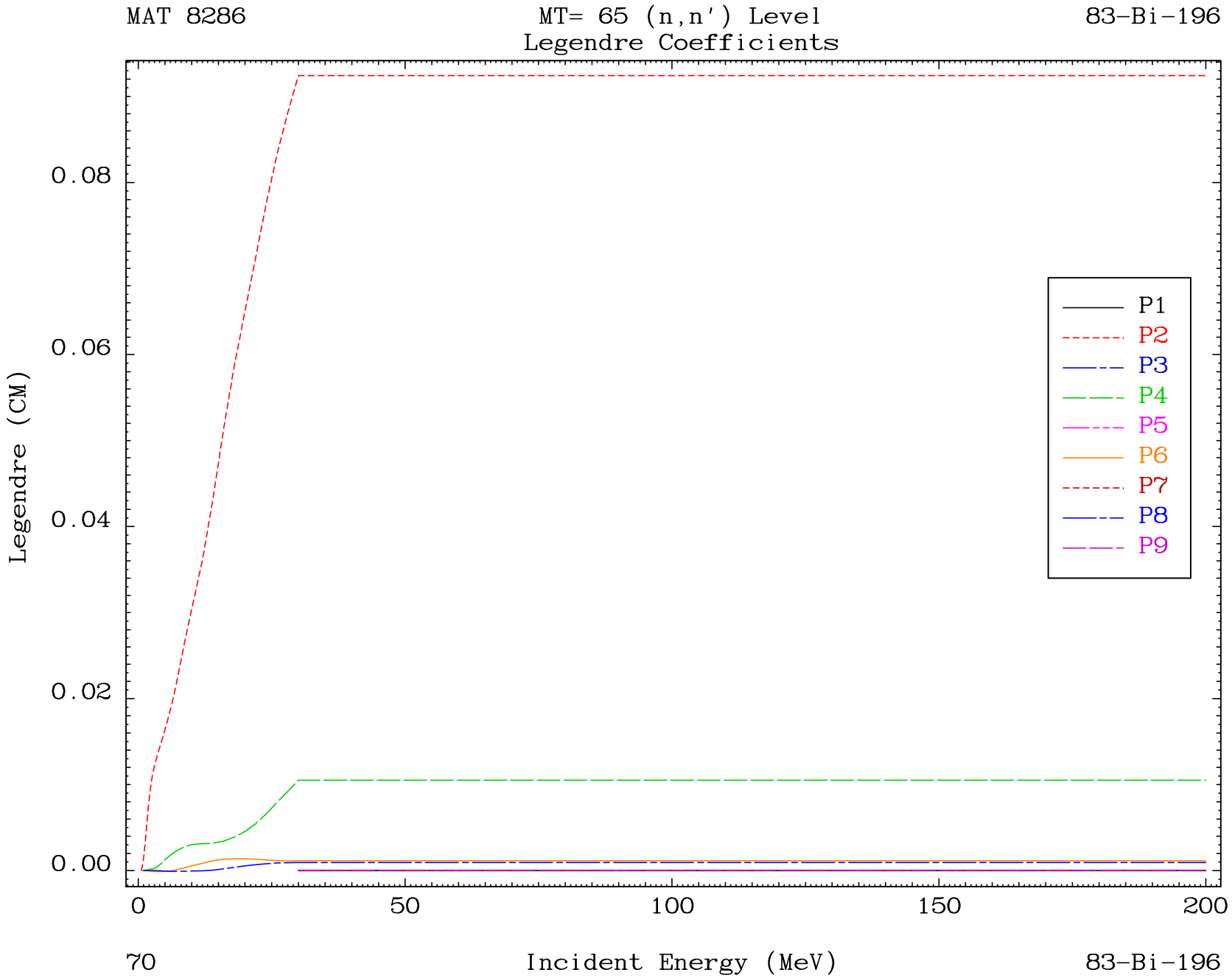

MAT 8286
MT= 63 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-7
3
2
1
0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
65
Incident Energy (MeV)
83-Bi-196

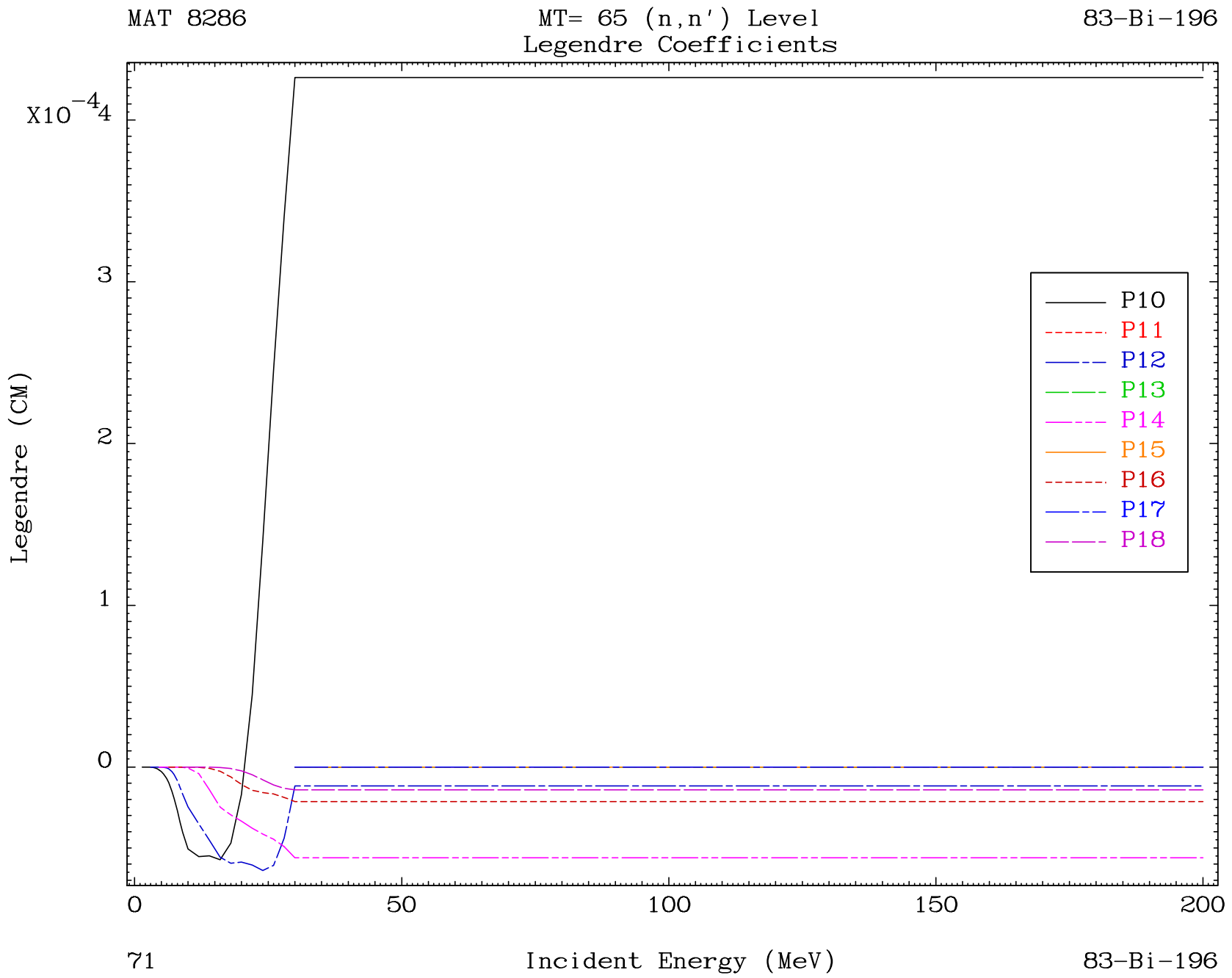

MAT 8286
MT= 64 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
66
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

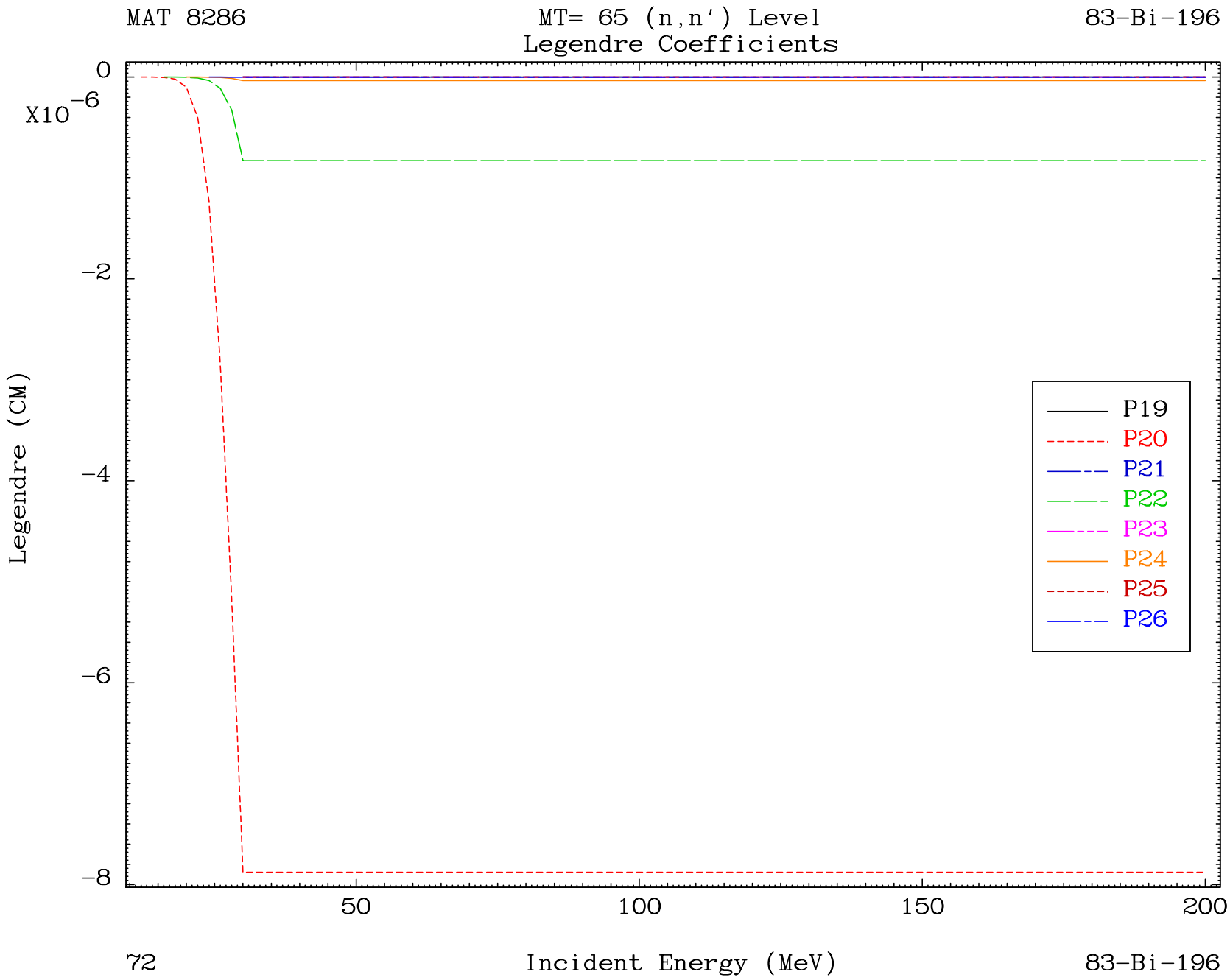

MAT 8286
MT= 64 (n,n') Level
Legendre Coefficients
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
67
Incident Energy (MeV)
83-Bi-196

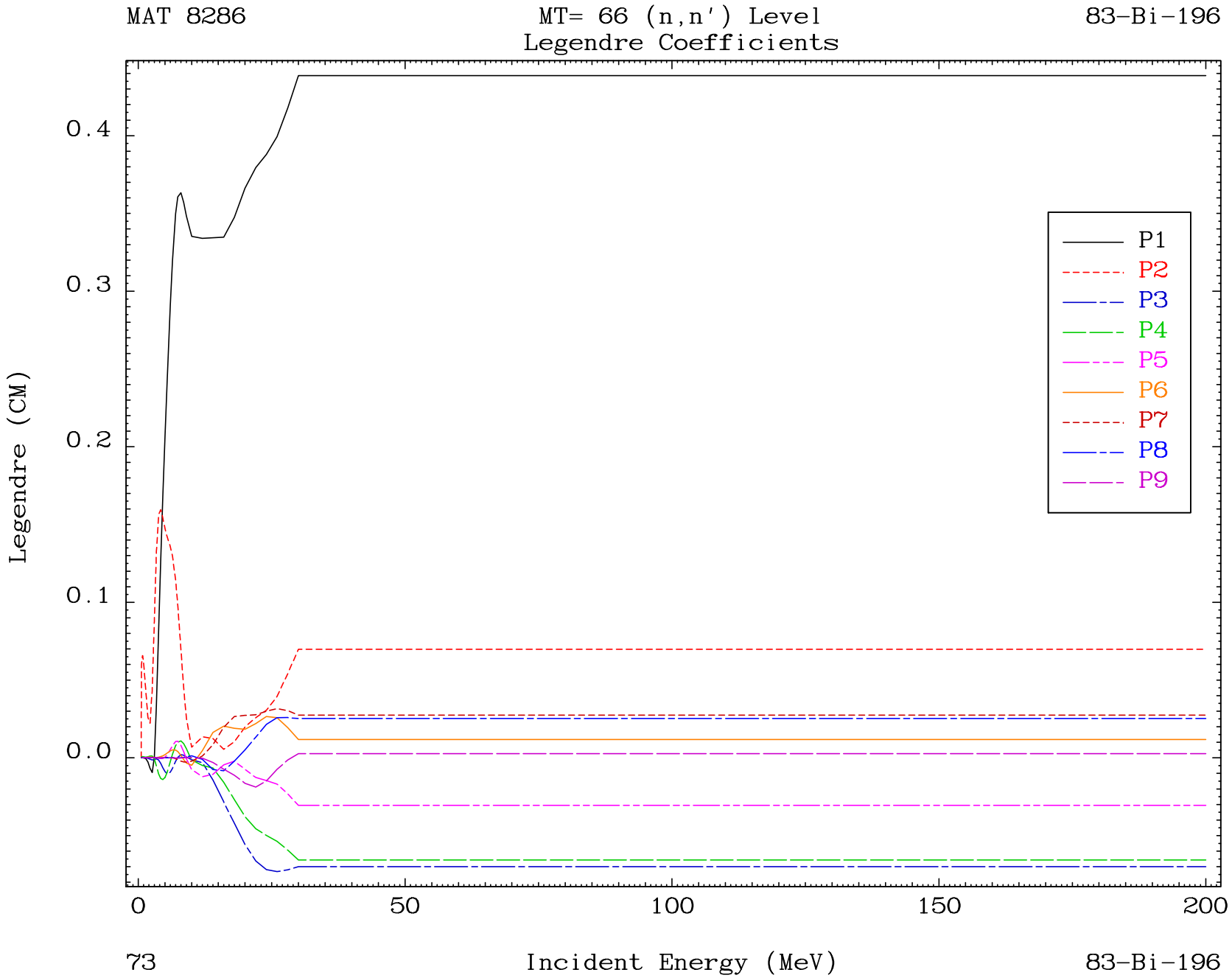

MAT 8286
MT= 64 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2
0
-2
-4
Legendre (CM)
50
100
150
200
68
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26
P27

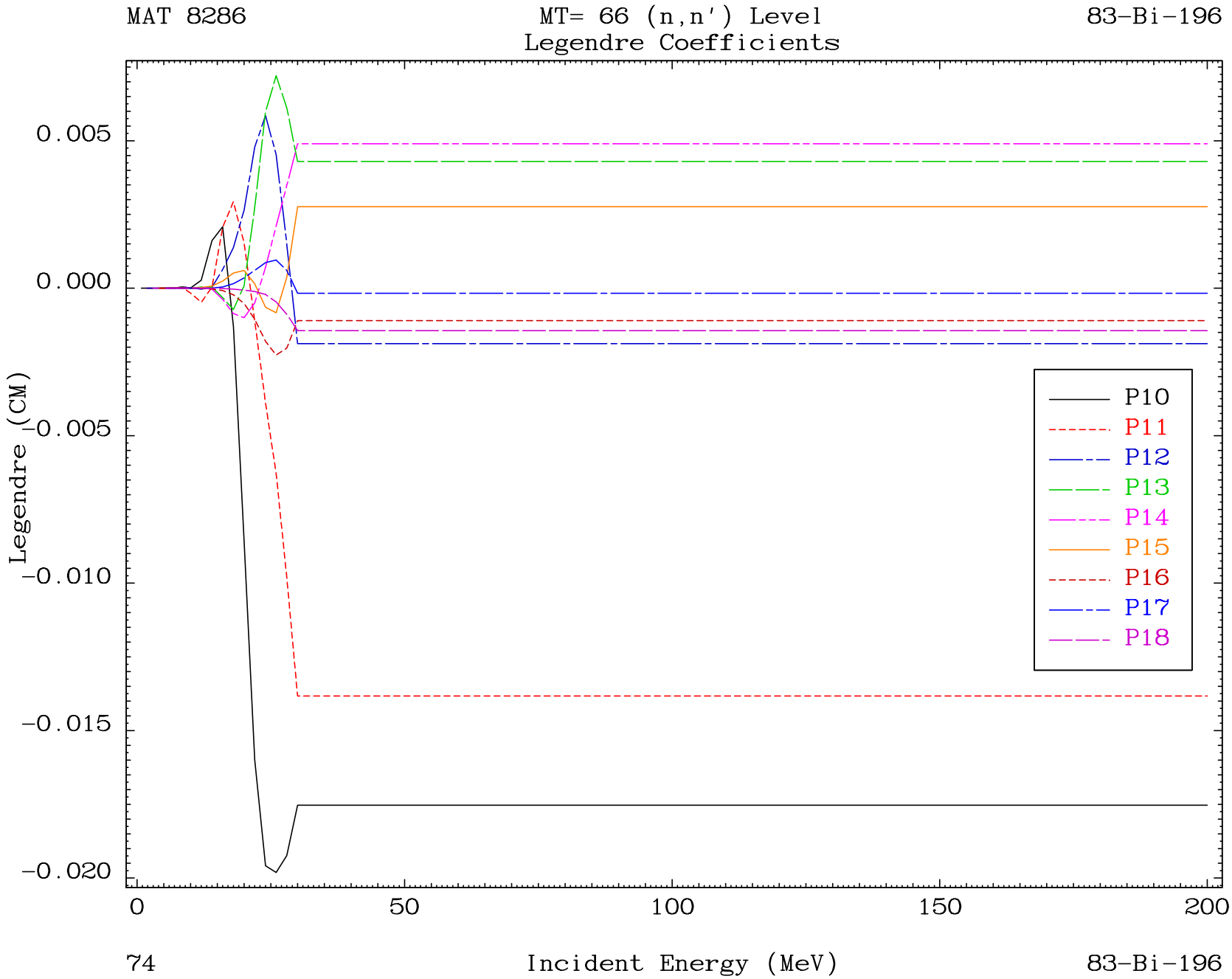

MAT 8286
MT= 64 (n,n') Level
Legendre Coefficients
83-Bi-196
0.0
X10−6
−0.4
−0.8
−1.2
Legendre (CM)
50
100
150
200
69
Incident Energy (MeV)
83-Bi-196
P28
P29
P30
P31
P32
P33
P34
P35
P36

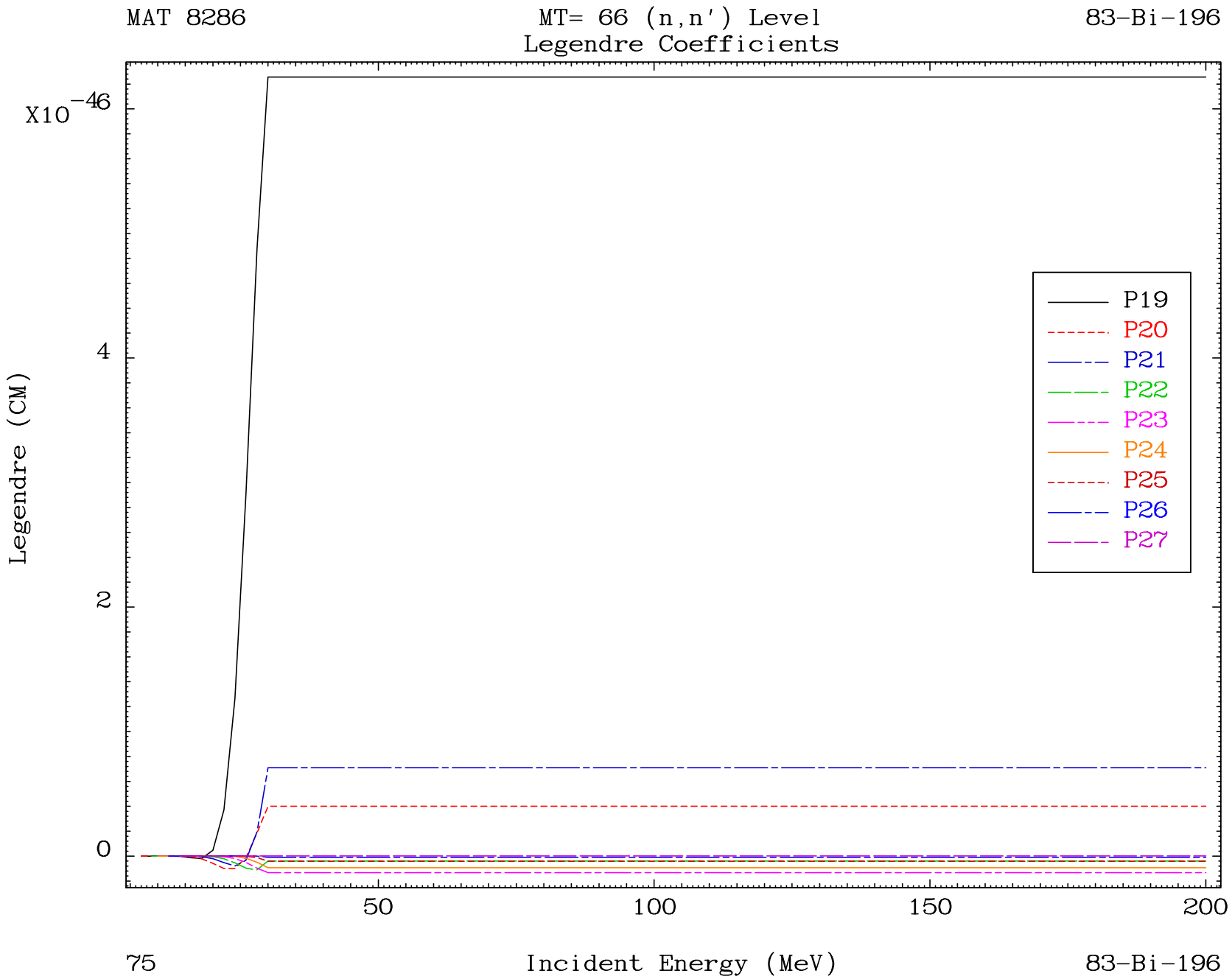

MAT 8286
MT= 65 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.08
0.06
0.04
0.02
0.00
0
50
100
150
200
70
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

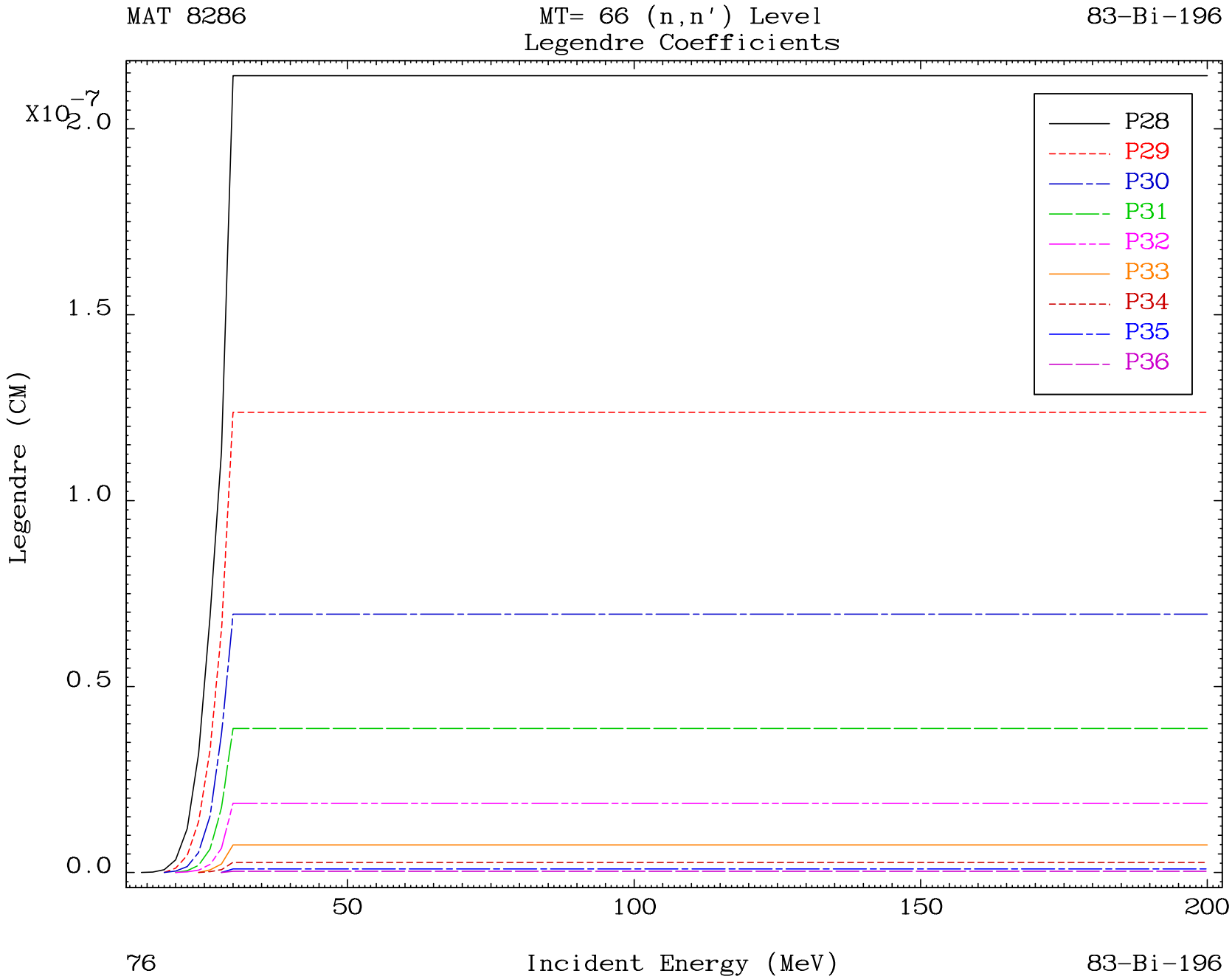

MAT 8286
MT= 65 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
4
3
2
1
0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
71
Incident Energy (MeV)
83-Bi-196

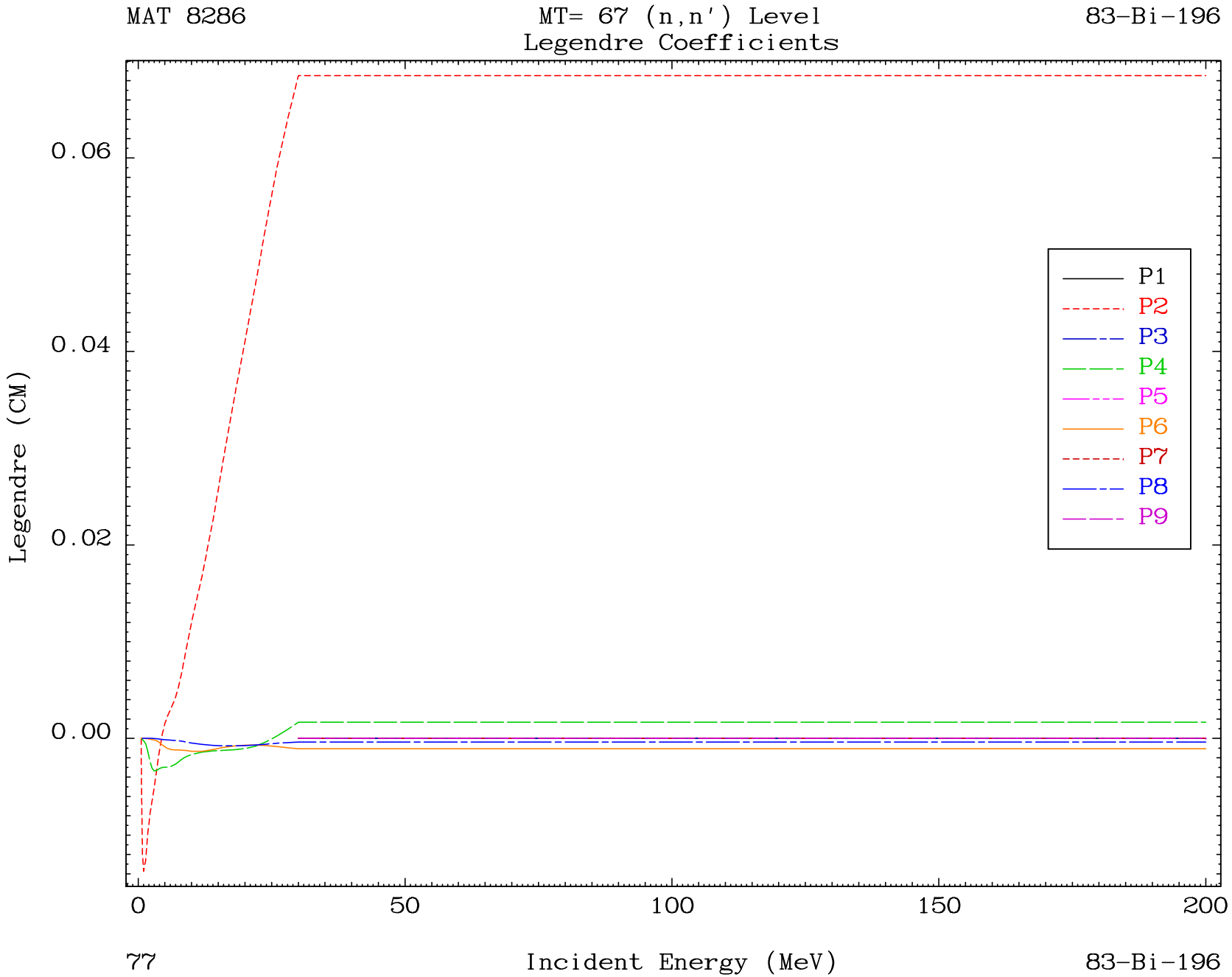

MAT 8286
MT= 65 (n,n') Level
Legendre Coefficients
83-Bi-196
0
X10 −6
−2
−4
−6
−8
Legendre (CM)
50
100
150
200
72
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

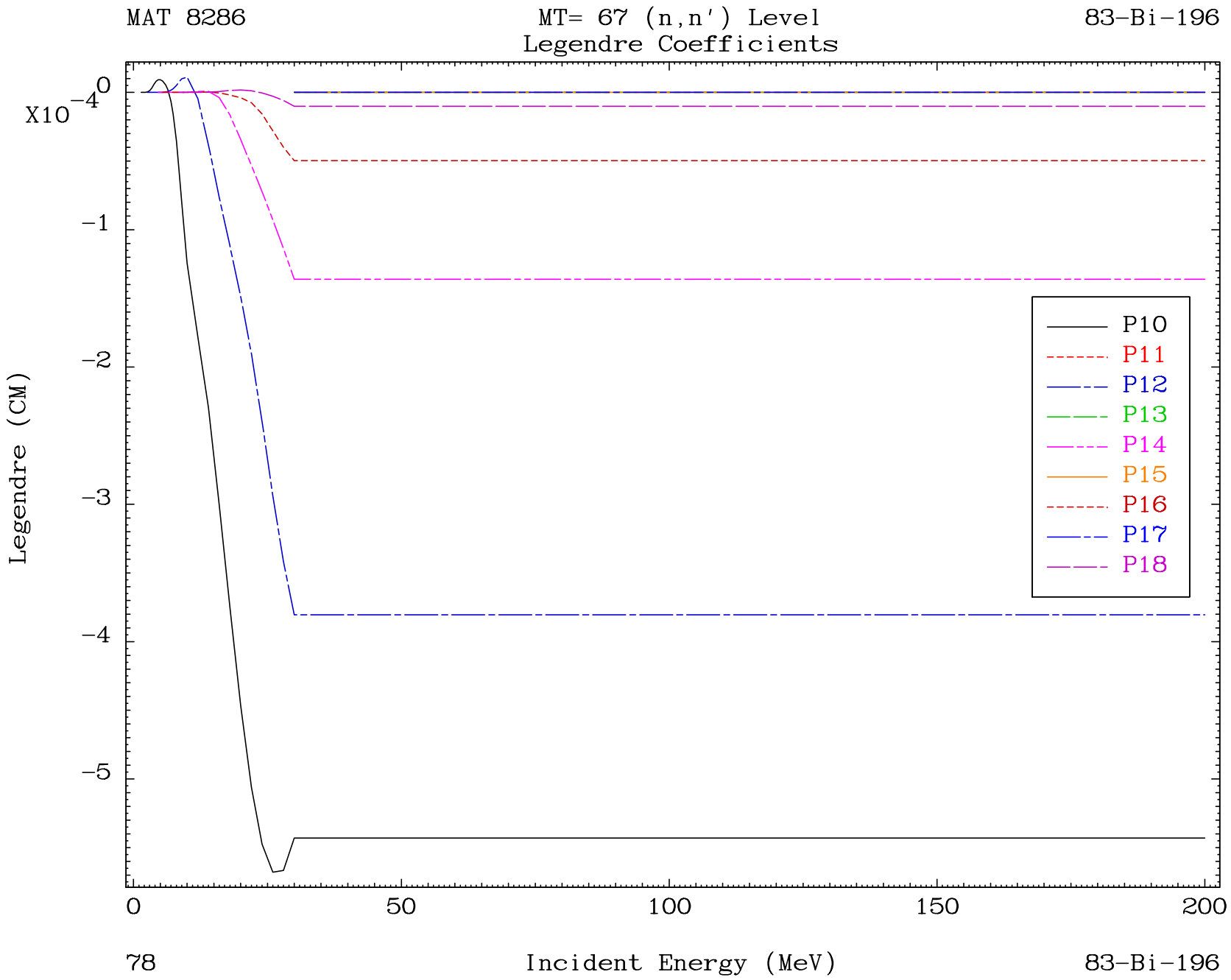

MAT 8286
MT= 66 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
73
Incident Energy (MeV)
83-Bi-196

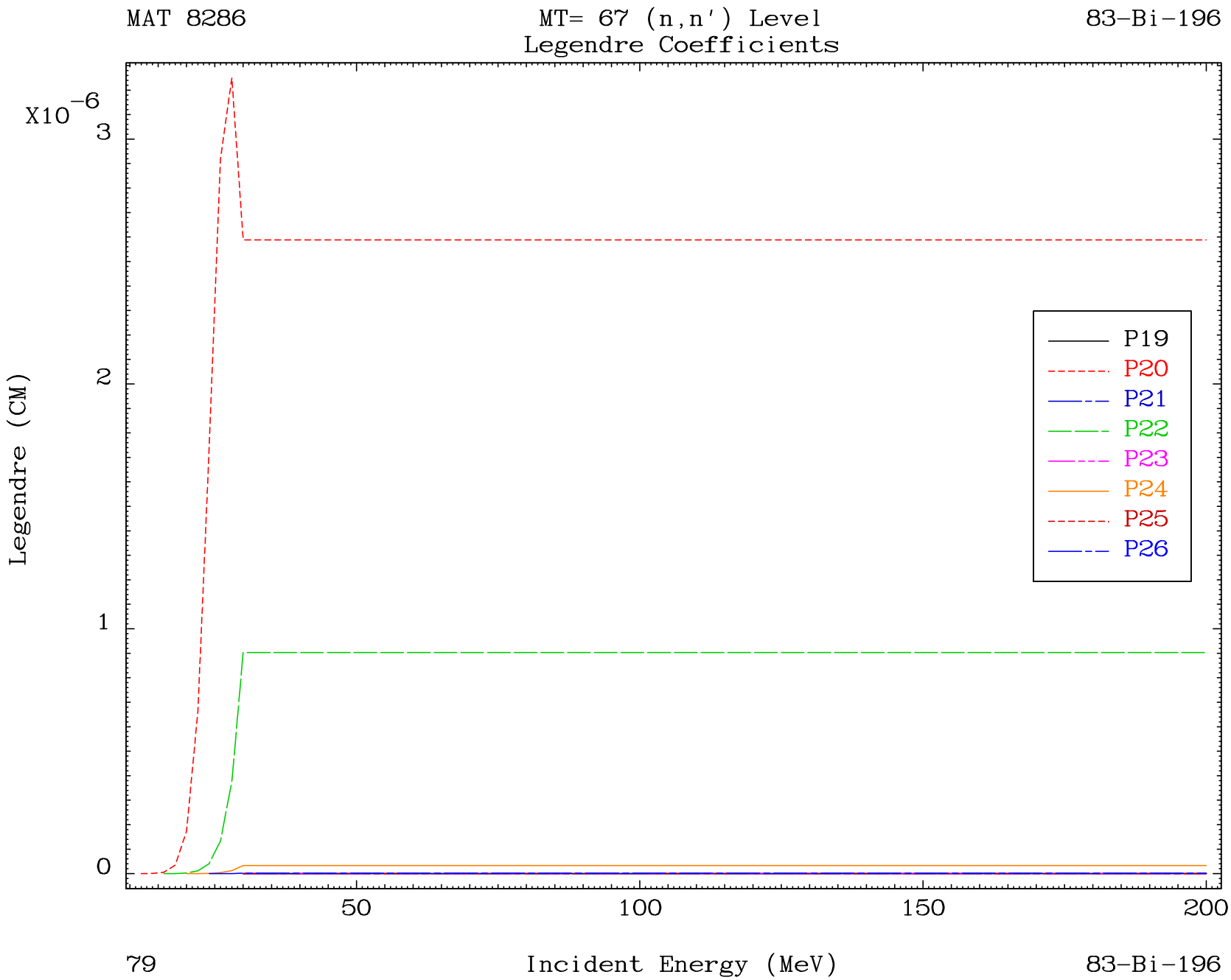

MAT 8286
MT= 66 (n,n') Level
Legendre Coefficients
83-Bi-196
0.005
0.000
−0.005
−0.010
−0.015
−0.020
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
74
83-Bi-196
P10
P11
P12
P13
P14
P15
P16
P17
P18

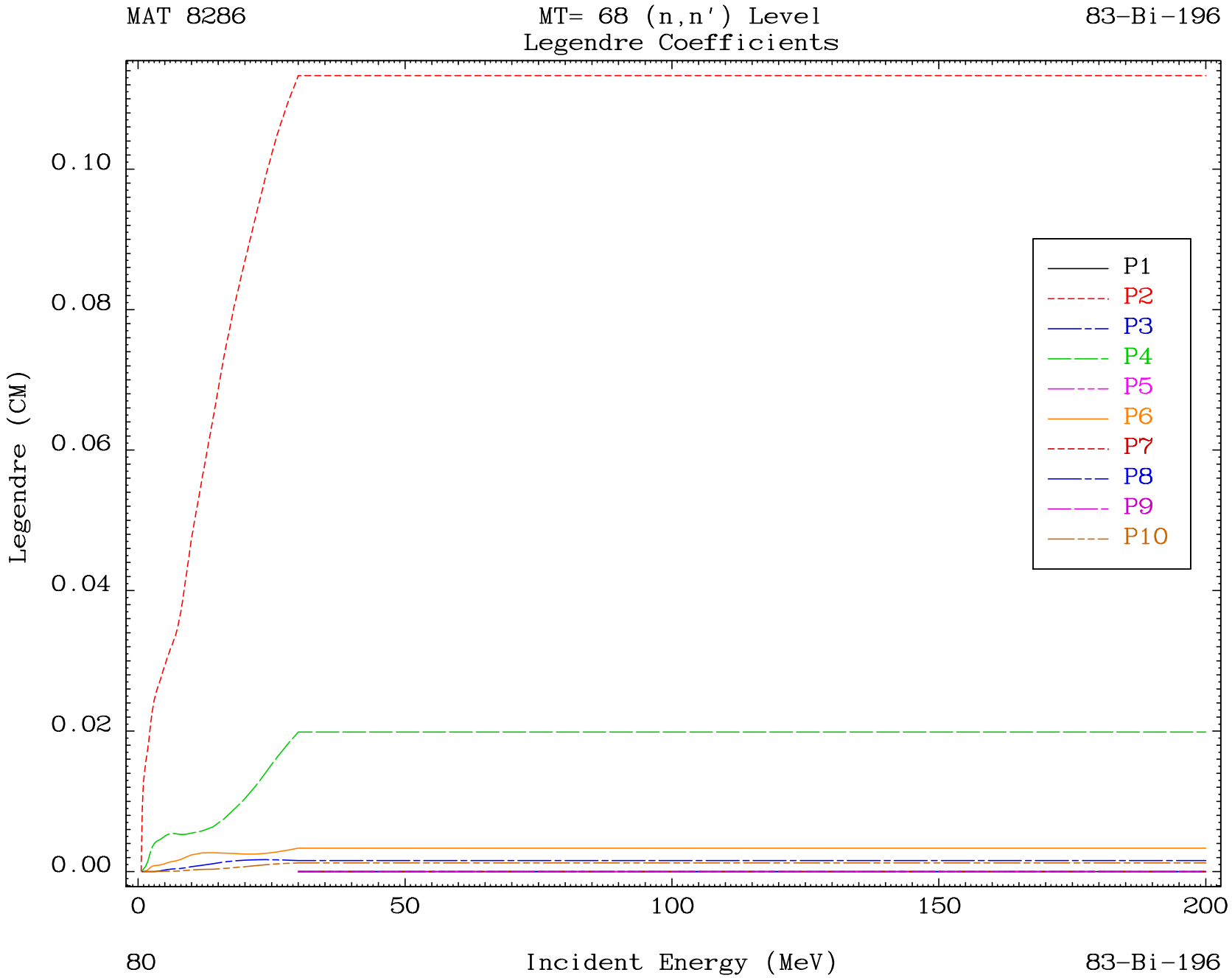

MAT 8286
MT= 66 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 -46
4
2
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
P27
50
100
150
200
75
Incident Energy (MeV)
83-Bi-196

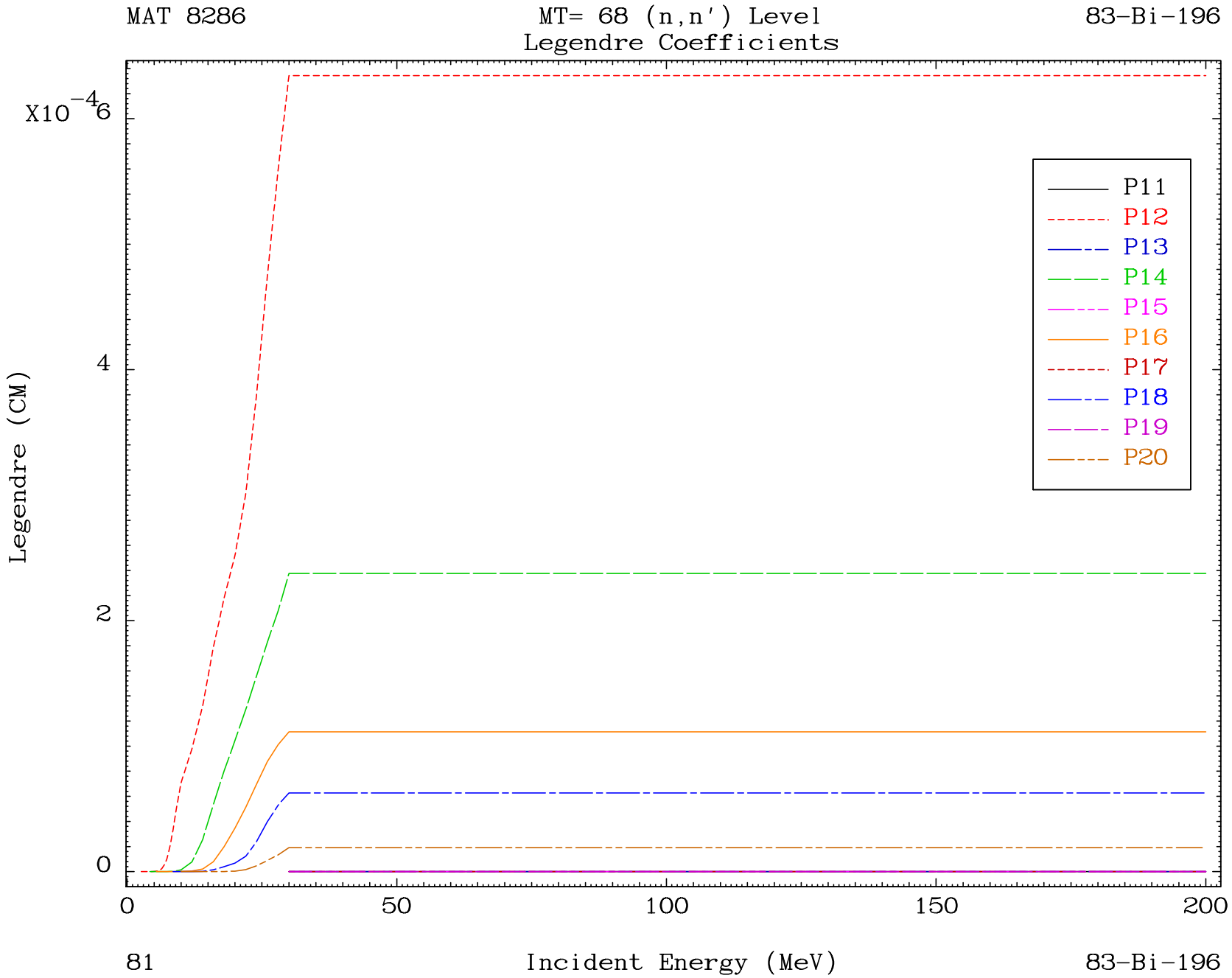

MAT 8286
MT= 66 (n,n') Level
Legendre Coefficients
83-Bi-196
X10-7
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
P35
P36
50
100
150
200
76
Incident Energy (MeV)
83-Bi-196

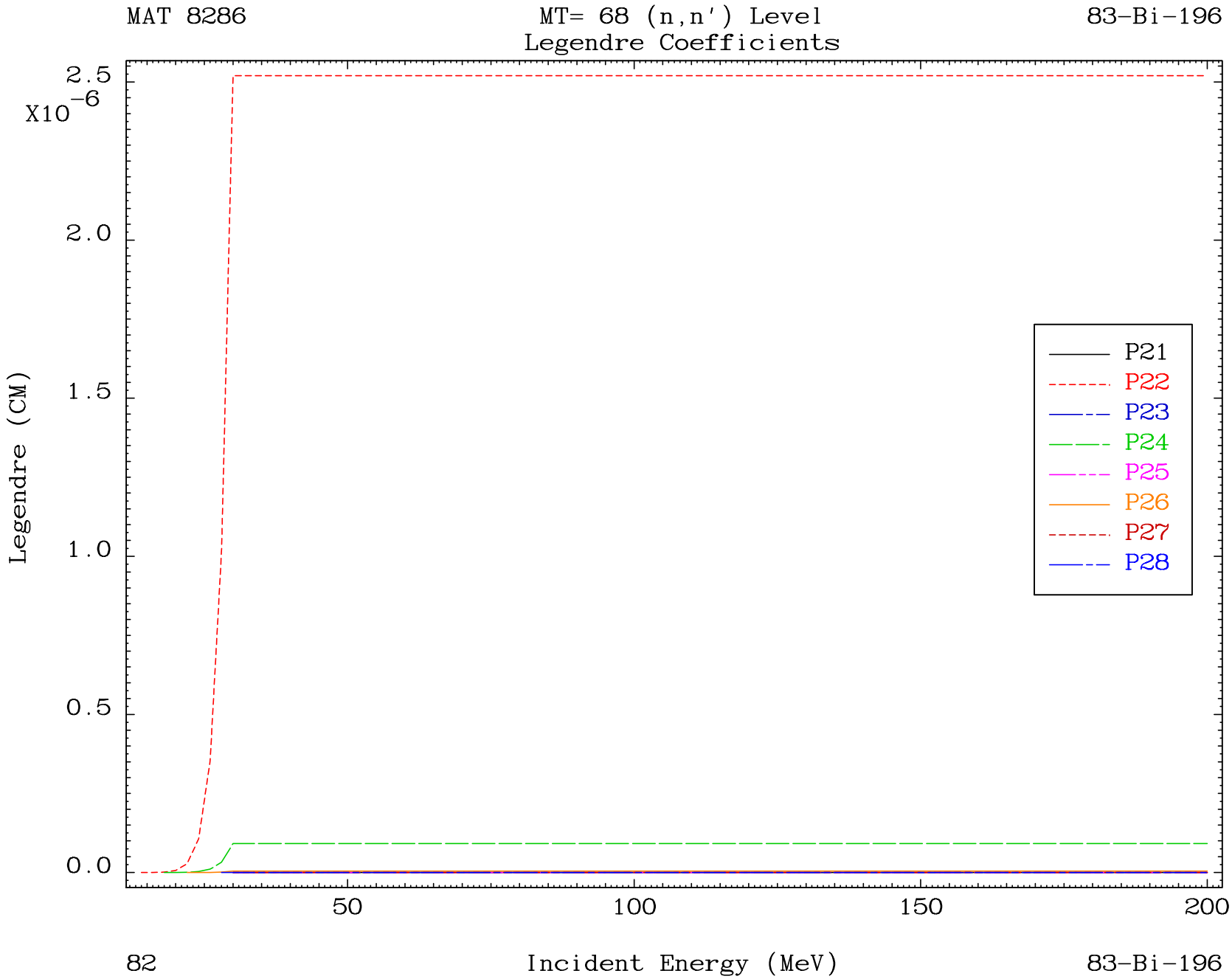

MAT 8286
MT= 67 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.06
0.04
0.02
0.00
0
50
100
150
200
77
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

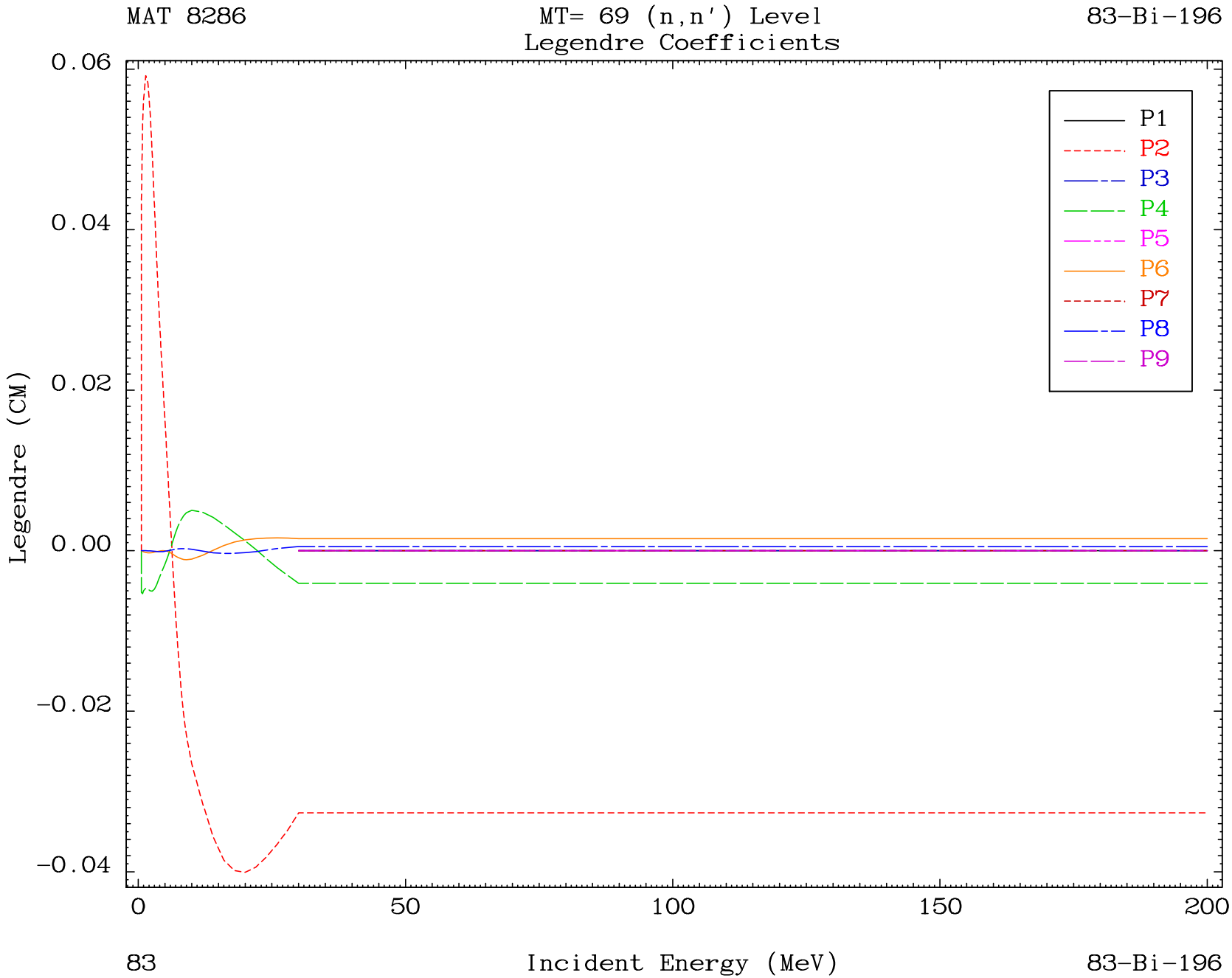

MAT 8286
MT= 67 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
0
-1
-2
-3
-4
-5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
78
Incident Energy (MeV)
83-Bi-196

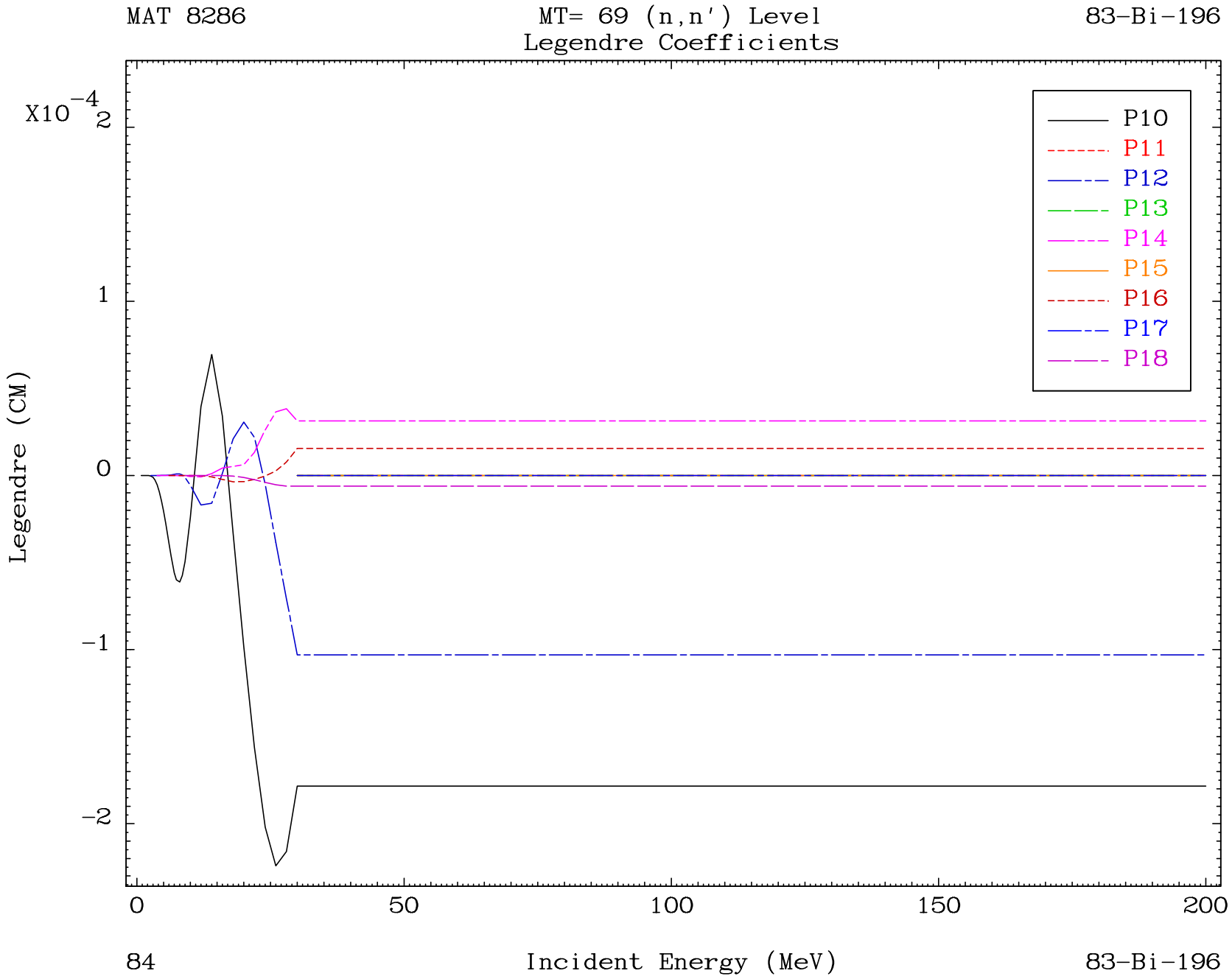

MAT 8286
MT= 67 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 −6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
79
Incident Energy (MeV)
83-Bi-196

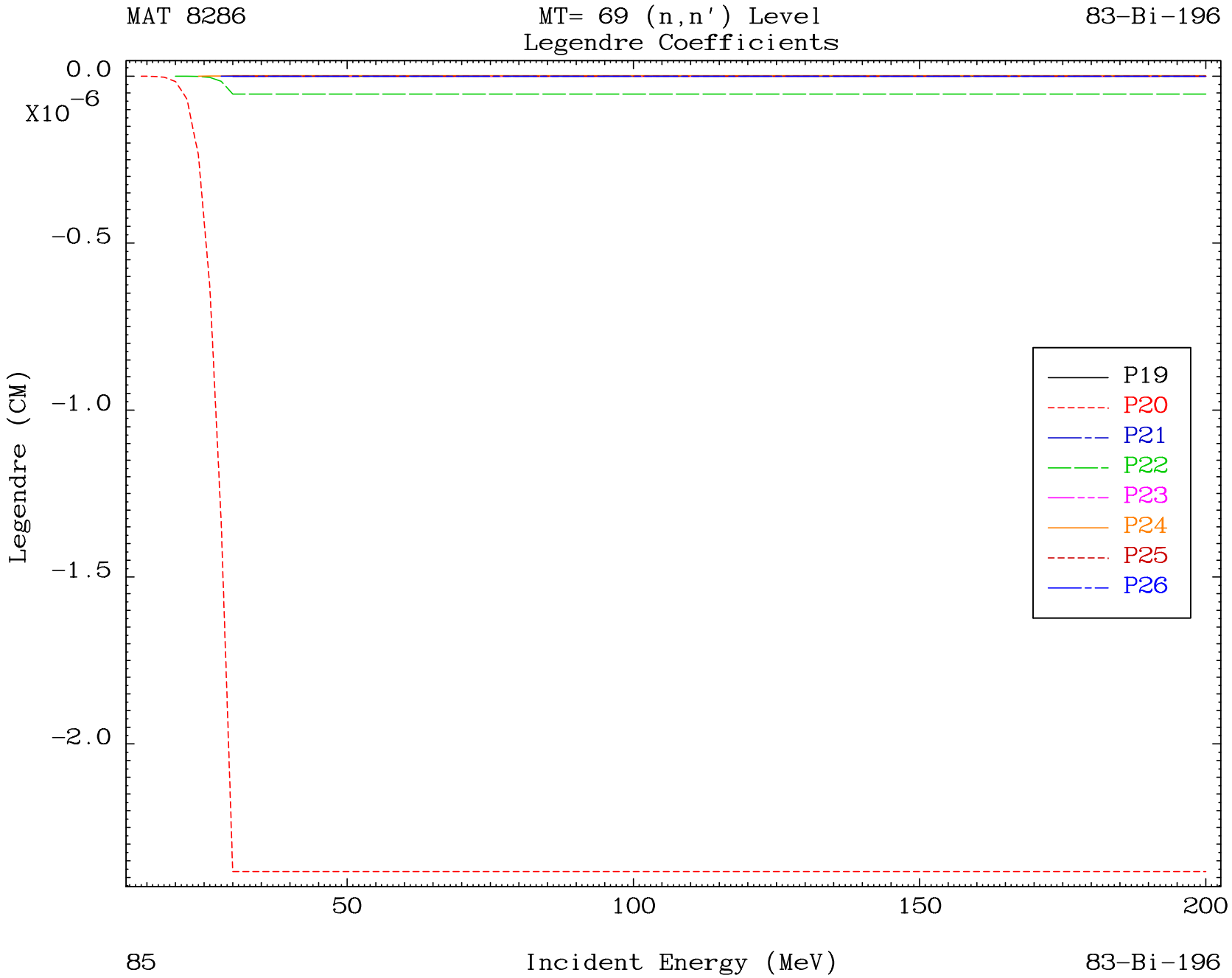

MAT 8286
MT= 68 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.10
0.08
0.06
0.04
0.02
0.00
0
50
100
150
200
80
Incident Energy (MeV)
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

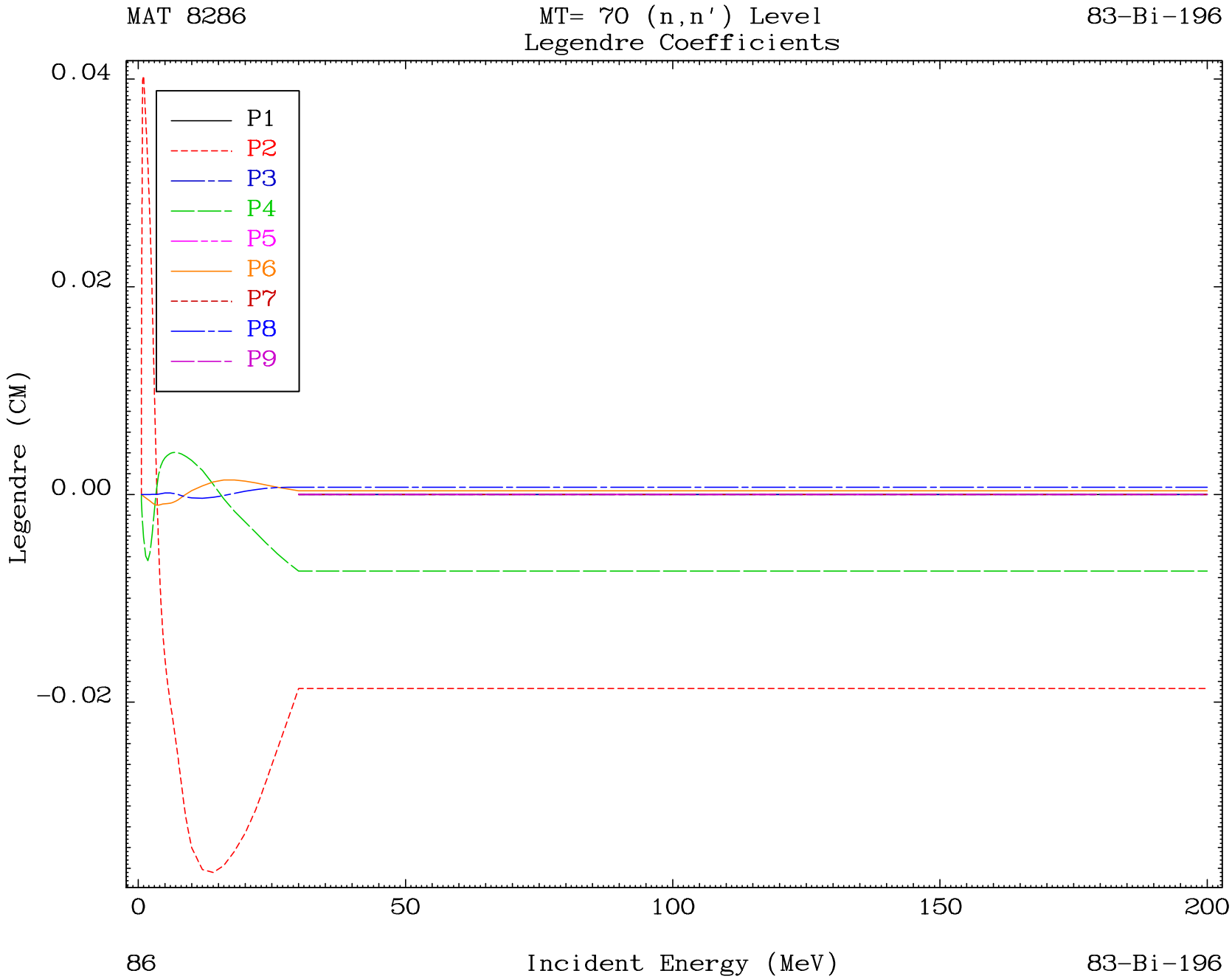

MAT 8286
MT= 68 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
6
4
2
0
Legendre (CM)
0
50
100
150
200
81
Incident Energy (MeV)
83-Bi-196
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

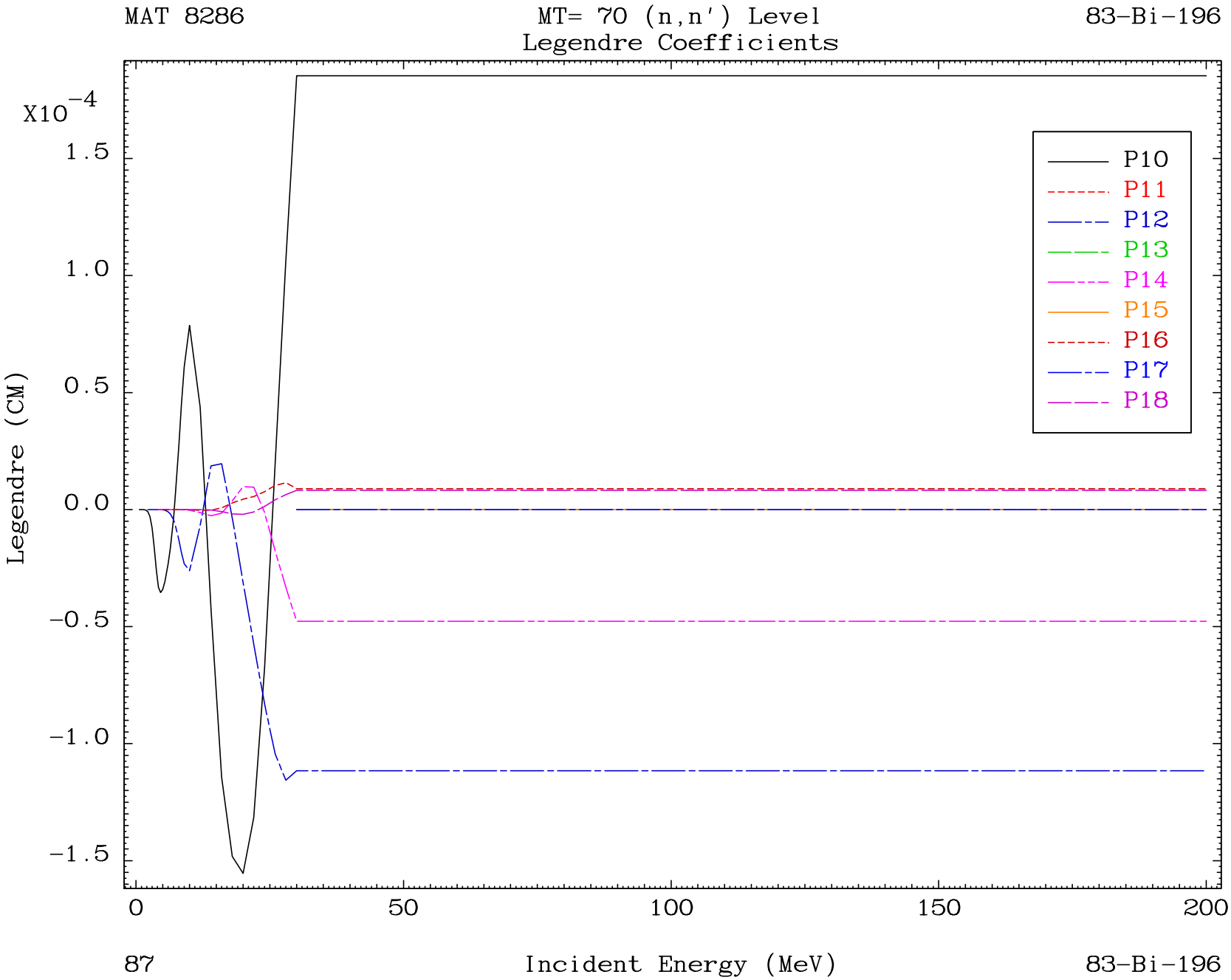

MAT 8286
MT= 68 (n,n') Level
Legendre Coefficients
83-Bi-196
X10 -6
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
50
100
150
200
82
Incident Energy (MeV)
83-Bi-196
P21
P22
P23
P24
P25
P26
P27
P28

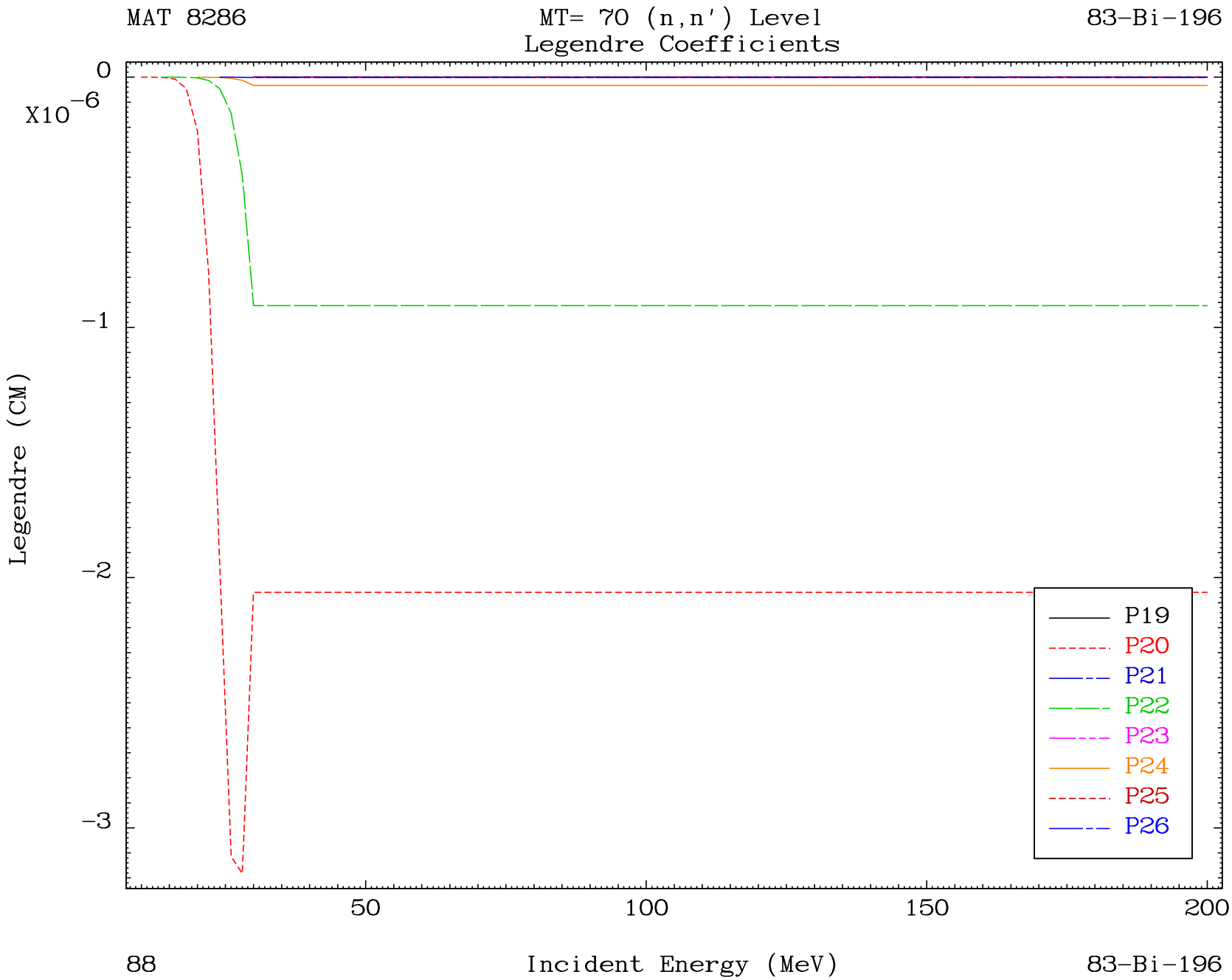

MAT 8286
MT= 69 (n,n') Level
Legendre Coefficients
83-Bi-196
0.06
0.04
0.02
0.00
-0.02
-0.04
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
83
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9

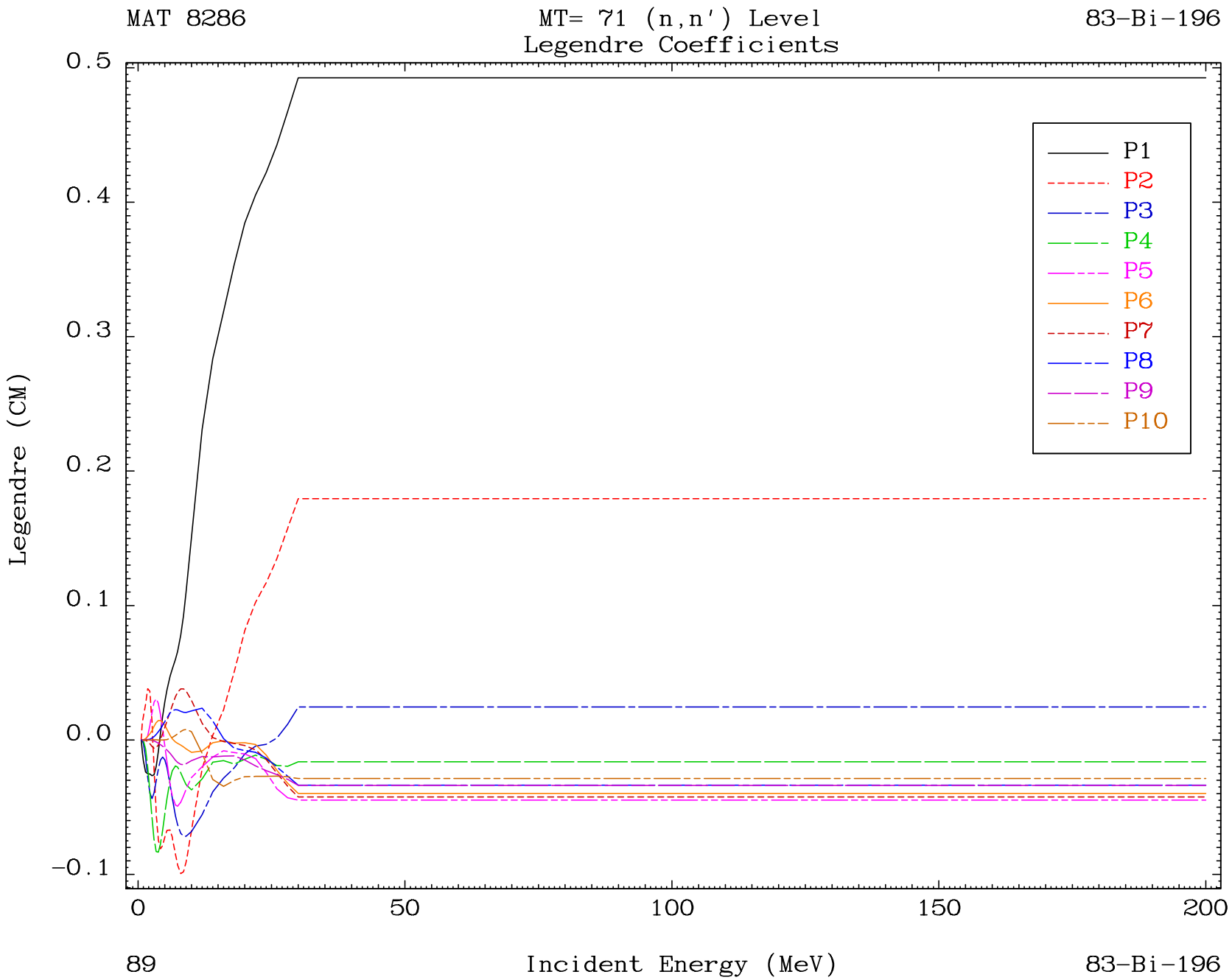

MAT 8286
MT= 69 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
2
1
0
-1
-2
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
84
Incident Energy (MeV)
83-Bi-196

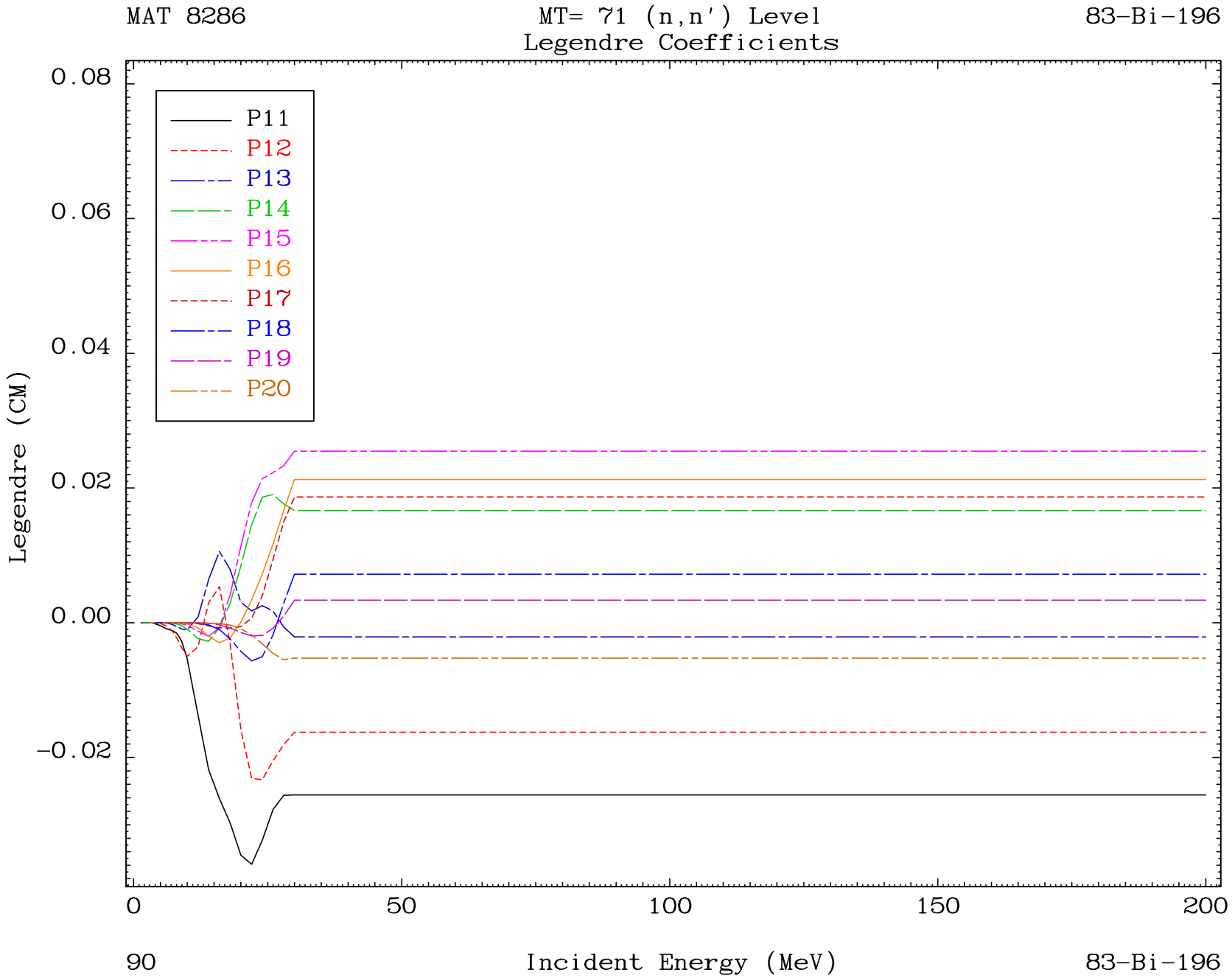

MAT 8286
MT= 69 (n,n') Level
Legendre Coefficients
83-Bi-196
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
85
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

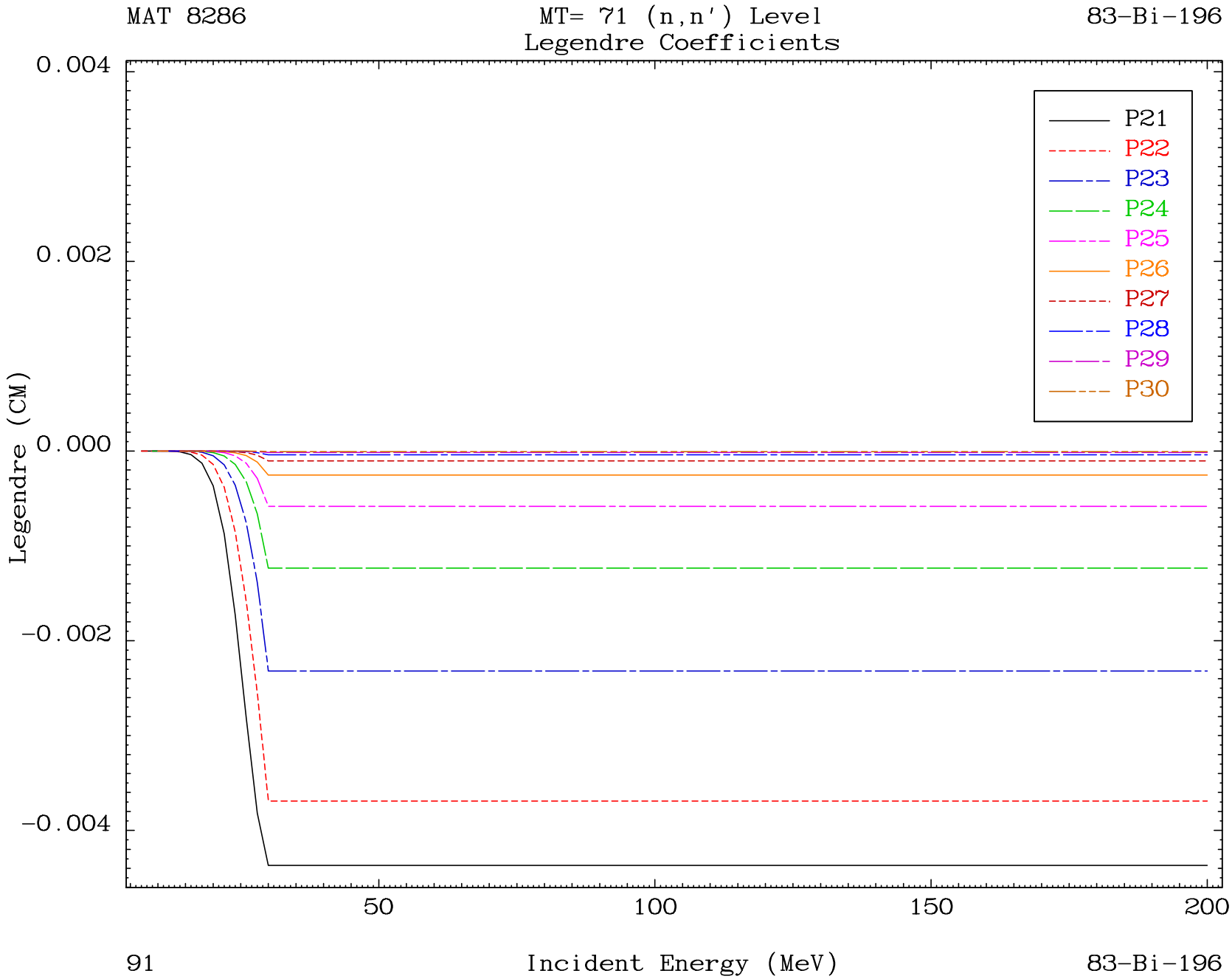

MAT 8286
MT= 70 (n,n') Level
Legendre Coefficients
83-Bi-196
0.04
0.02
0.00
-0.02
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
0
50
100
150
200
86
Incident Energy (MeV)
83-Bi-196

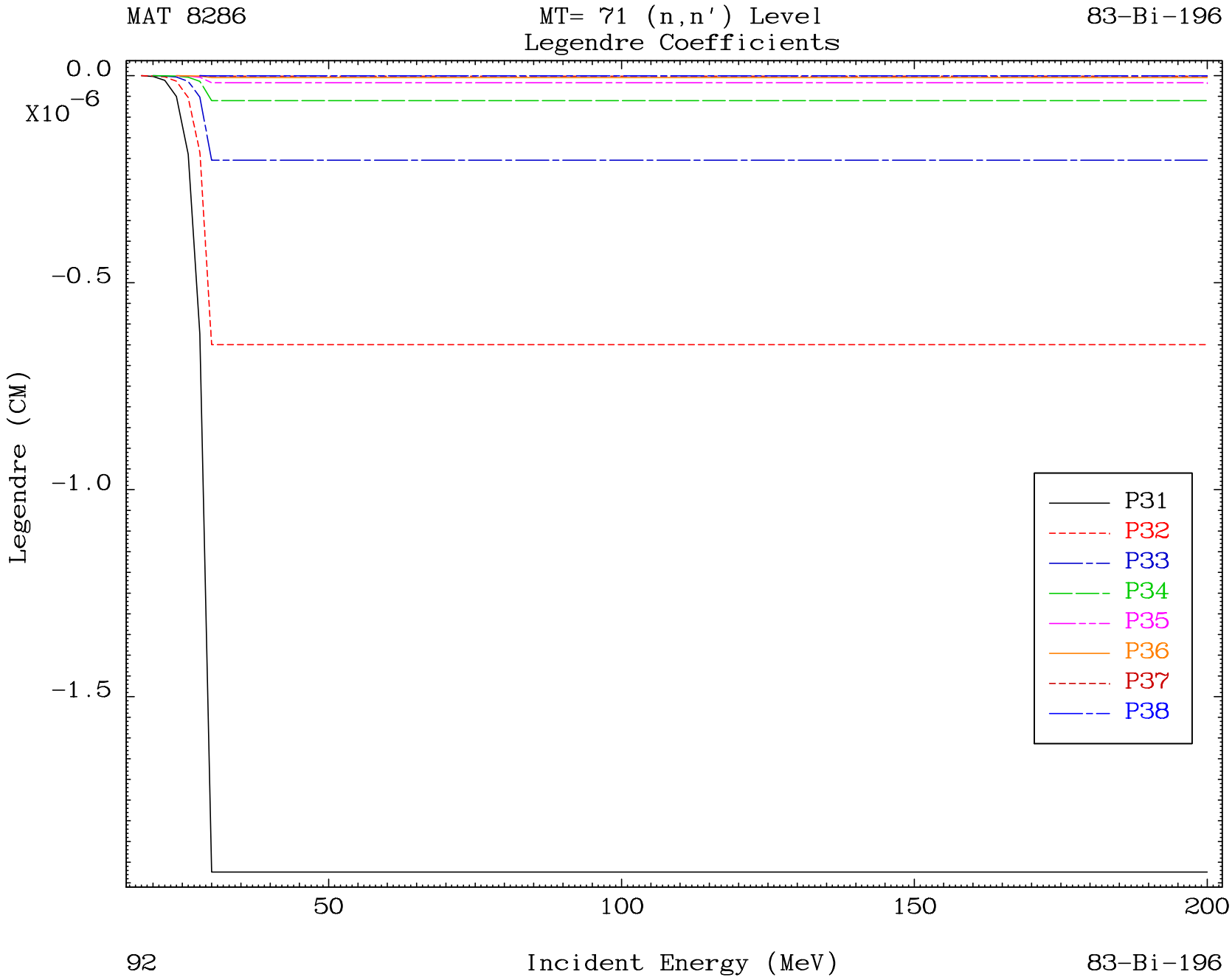

MAT 8286
MT= 70 (n,n') Level
Legendre Coefficients
83-Bi-196
X10^-4
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
87
Incident Energy (MeV)
83-Bi-196

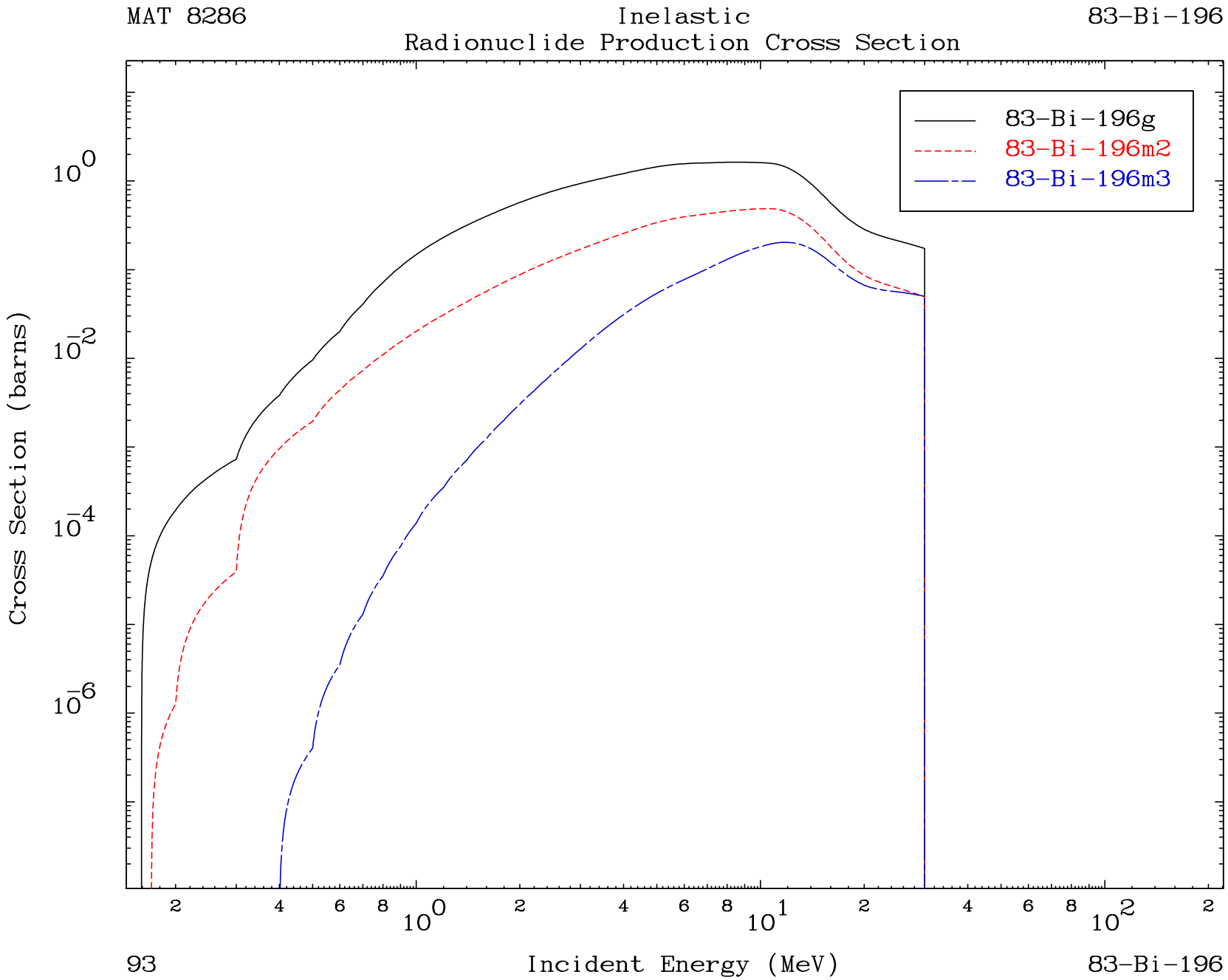

MAT 8286
MT= 70 (n,n') Level
Legendre Coefficients
83-Bi-196
0
X10^-6
-1
-2
-3
Legendre (CM)
50
100
150
200
88
Incident Energy (MeV)
83-Bi-196
P19
P20
P21
P22
P23
P24
P25
P26

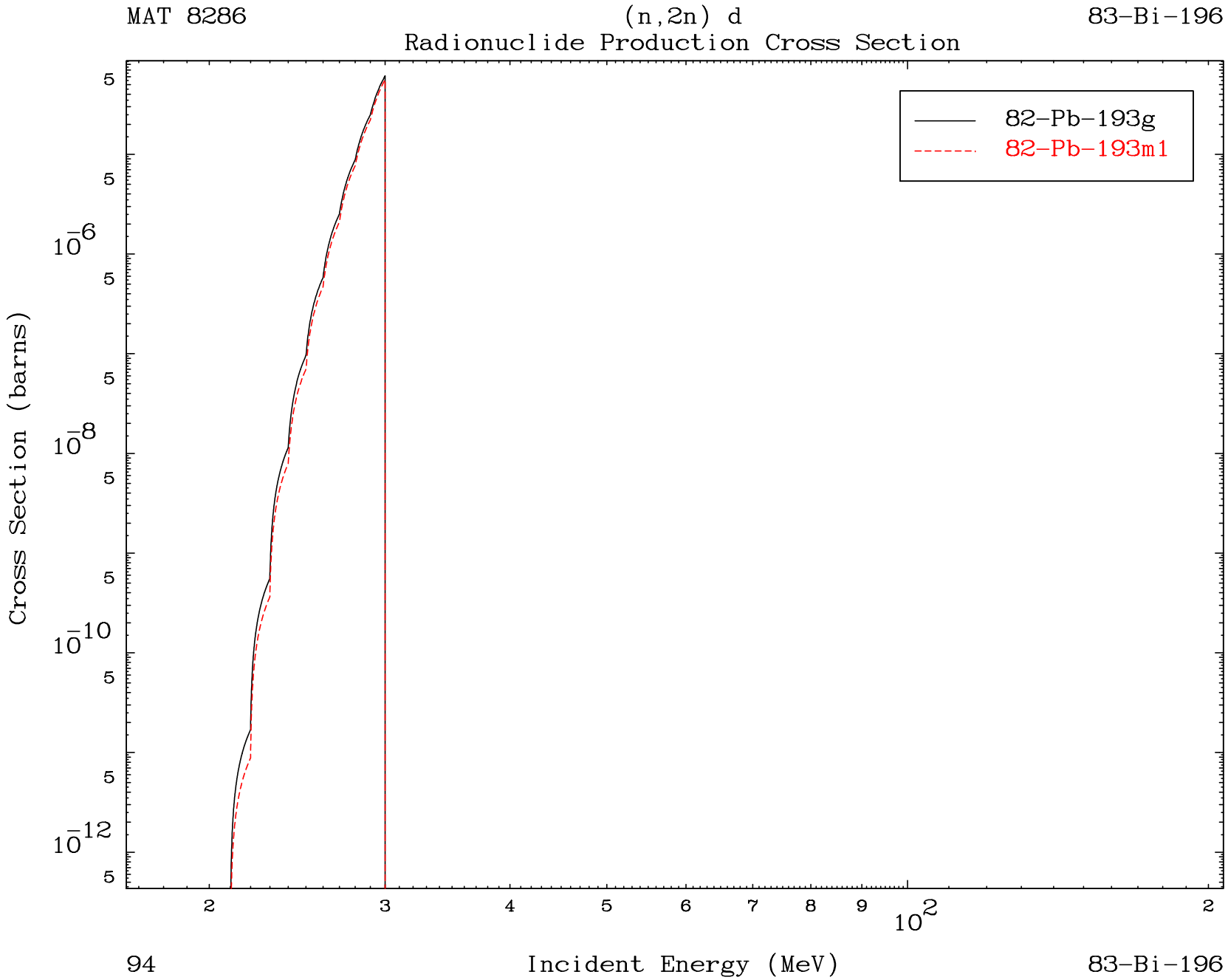

MAT 8286
MT= 71 (n,n') Level
Legendre Coefficients
83-Bi-196
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
89
83-Bi-196
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

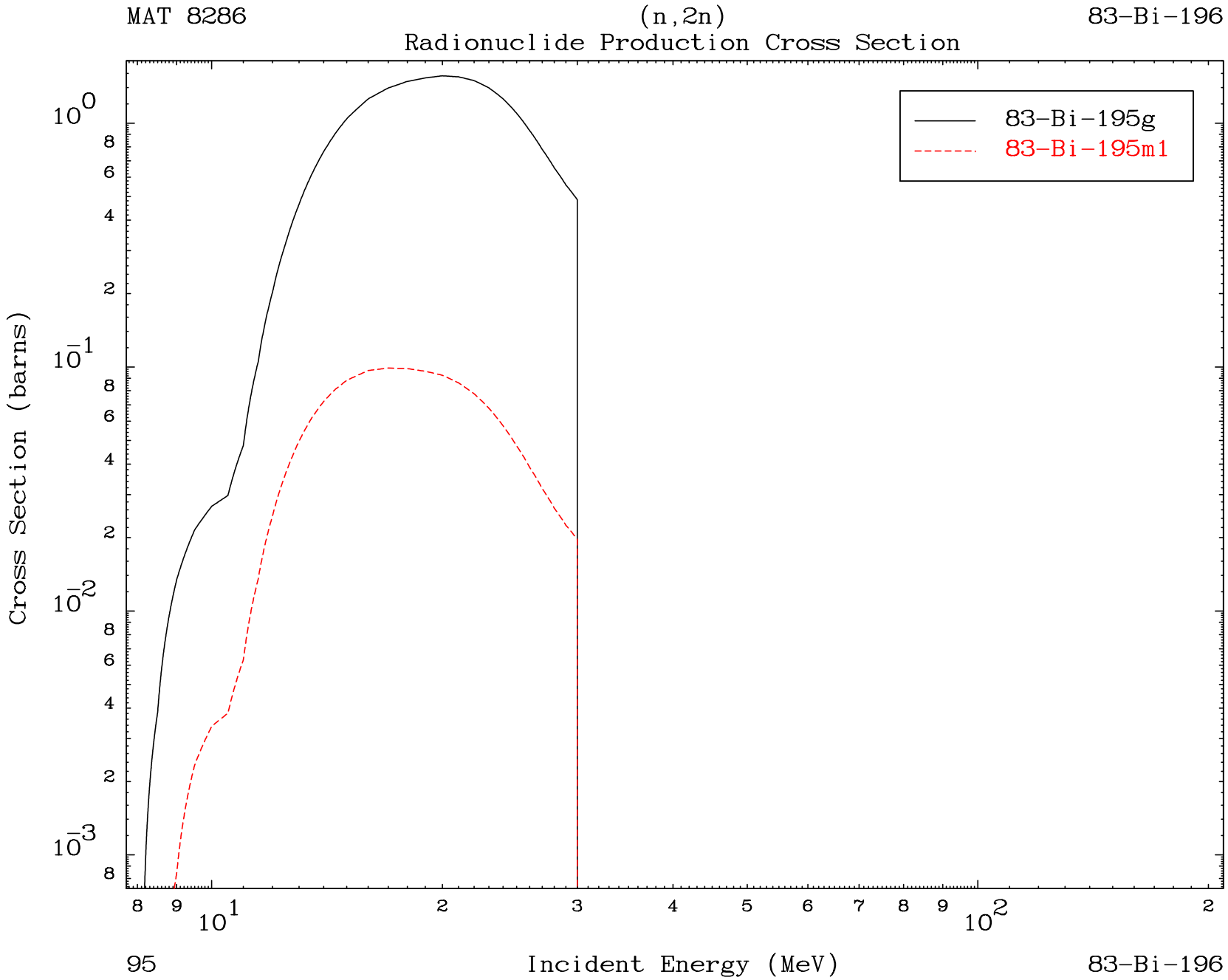

MAT 8286
MT= 71 (n,n') Level
Legendre Coefficients
83-Bi-196
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
90
Incident Energy (MeV)
83-Bi-196

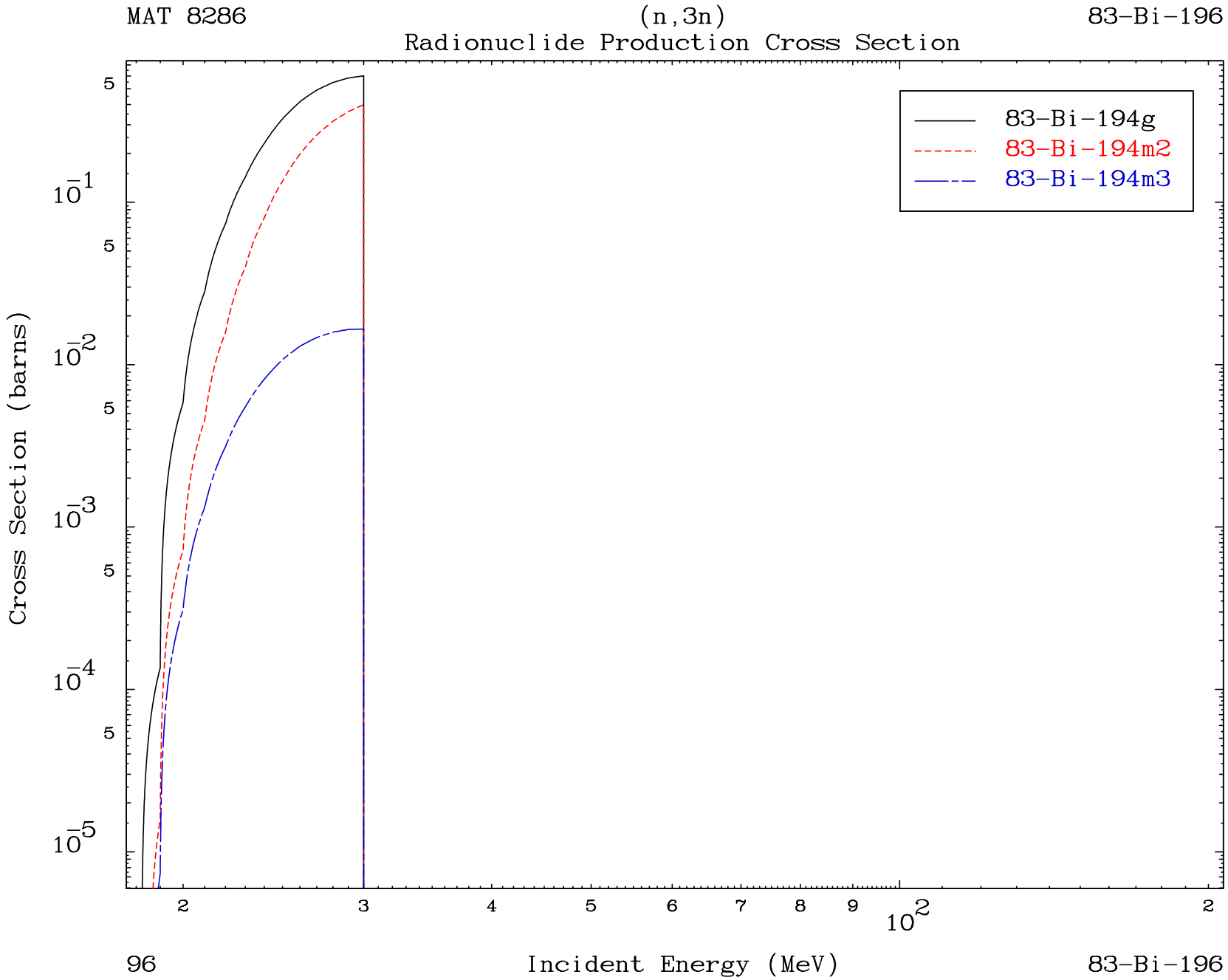

MAT 8286
MT= 71 (n,n') Level
Legendre Coefficients
83-Bi-196
0.004
0.002
0.000
-0.002
-0.004
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
91
Incident Energy (MeV)
83-Bi-196

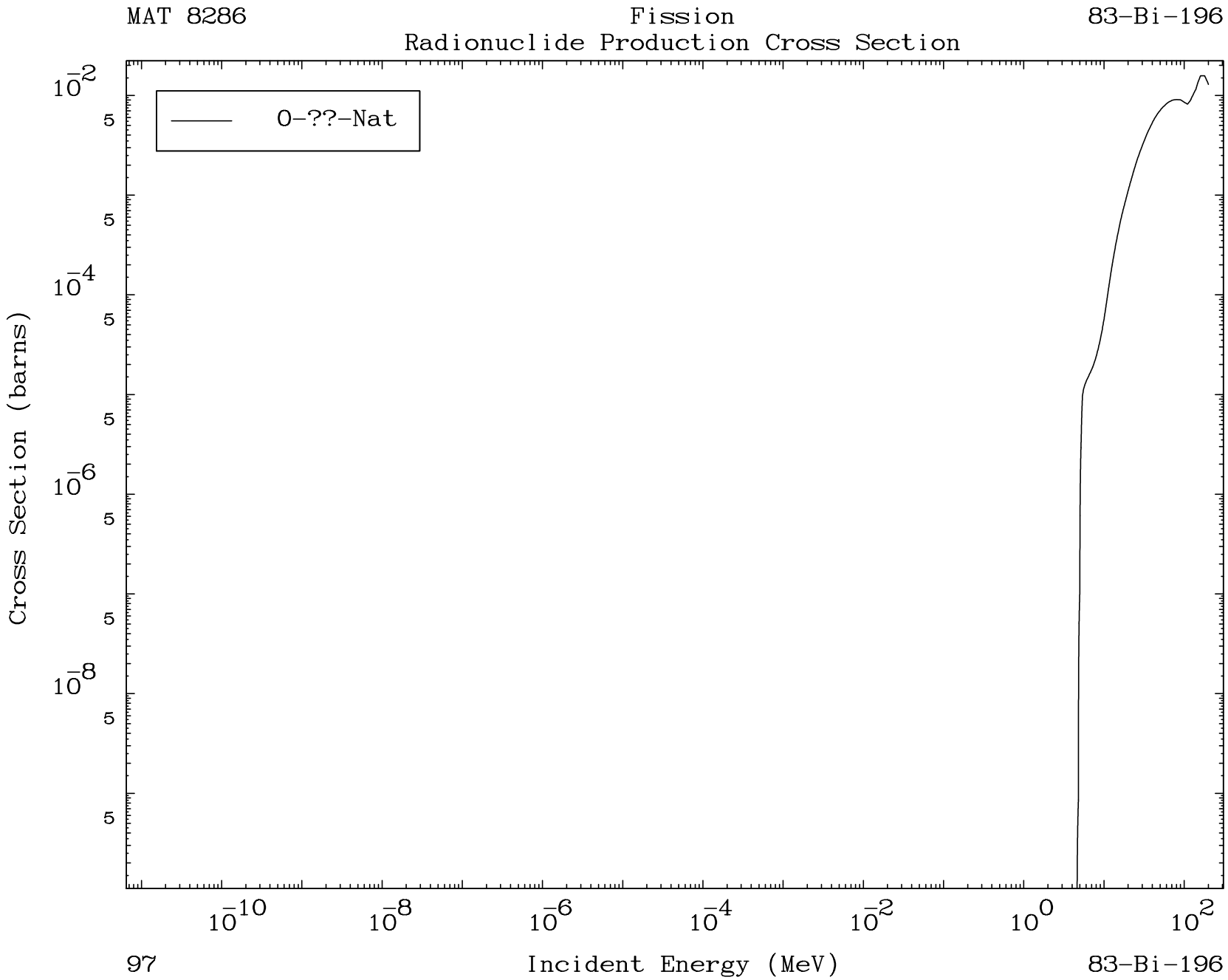

MAT 8286
MT= 71 (n,n') Level
Legendre Coefficients
83-Bi-196
0.0
X10^-6
-0.5
-1.0
-1.5
Legendre (CM)
50
100
150
200
92
Incident Energy (MeV)
83-Bi-196
P31
P32
P33
P34
P35
P36
P37
P38

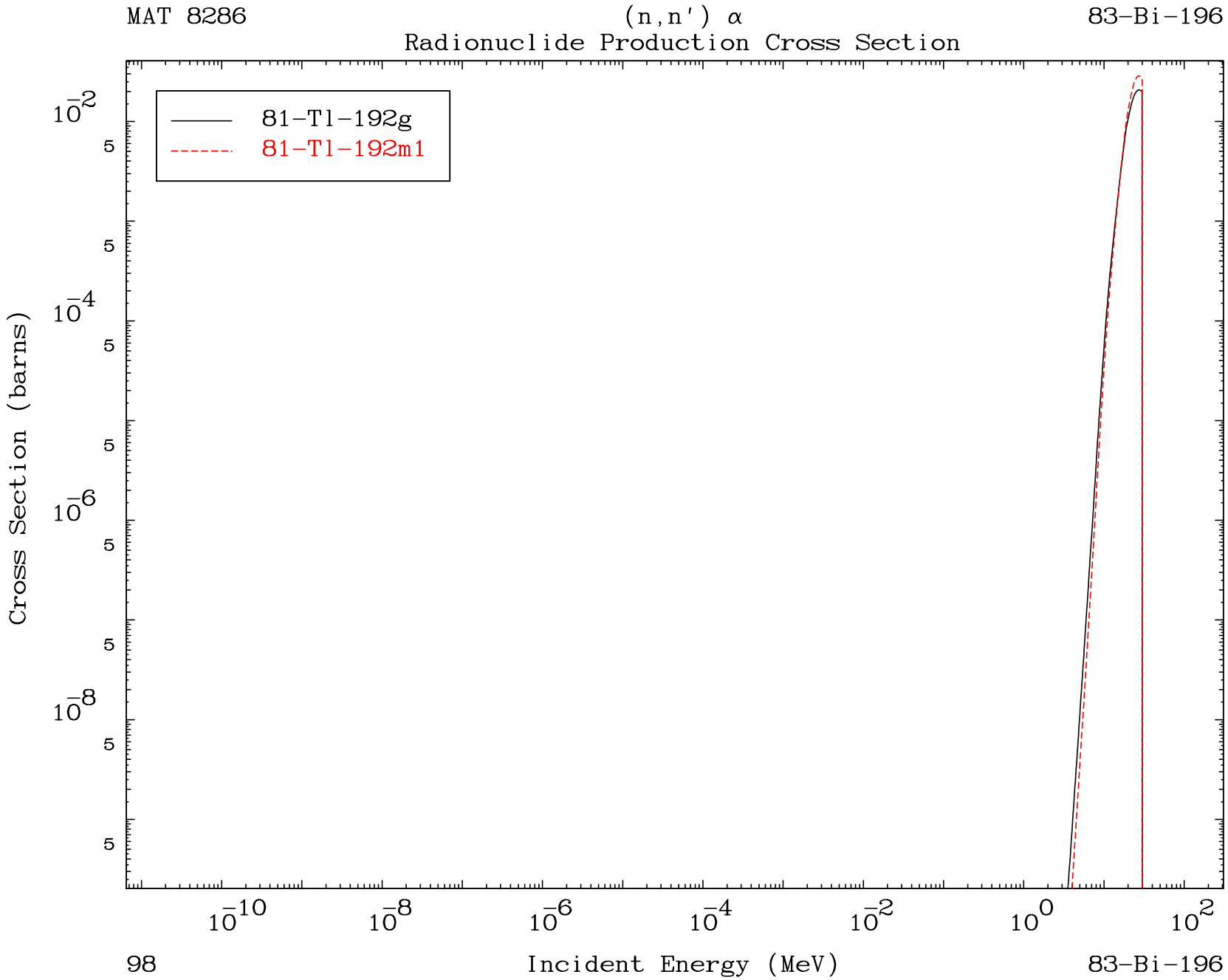

MAT 8286
Inelastic
83-Bi-196
Radionuclide Production Cross Section
83-Bi-196g
83-Bi-196m2
83-Bi-196m3
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
2
4
6
8
10^0
2
4
6
8
10^1
2
4
6
8
10^2
2
93
Incident Energy (MeV)
83-Bi-196

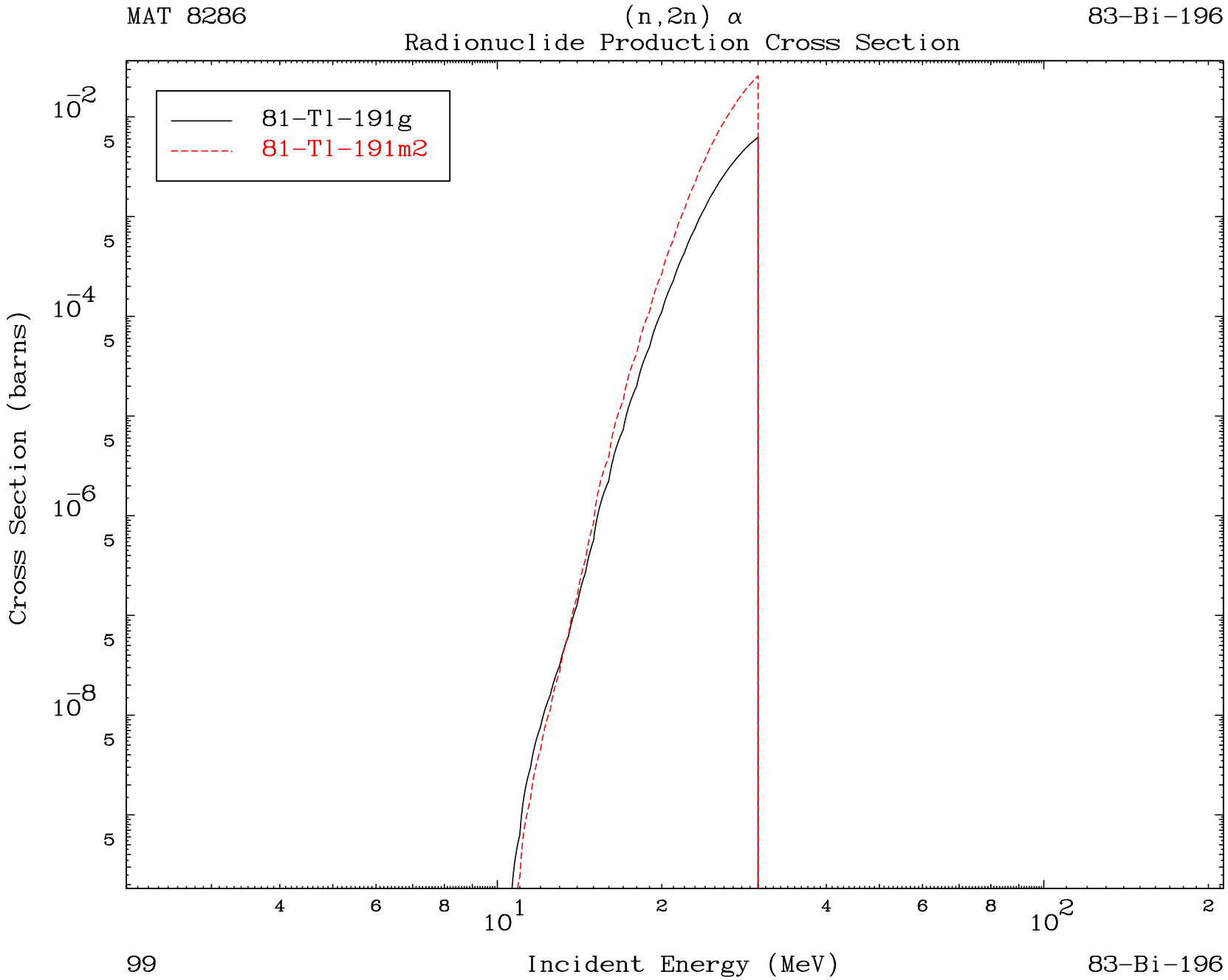

MAT 8286
(n,2n) d
83-Bi-196
Radionuclide Production Cross Section
82-Pb-193g
82-Pb-193m1
Cross Section (barns)
Incident Energy (MeV)
94
83-Bi-196

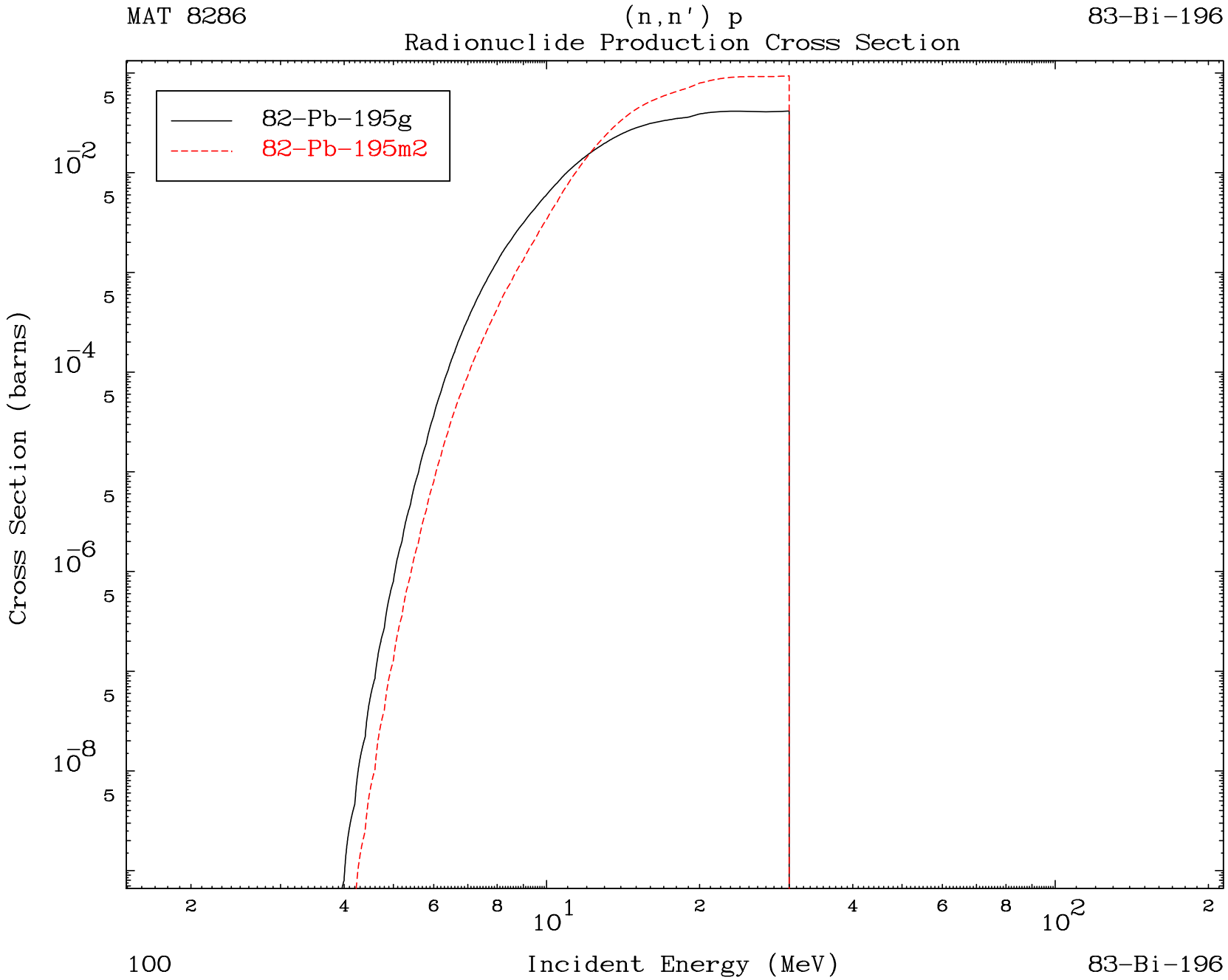

MAT 8286
(n,2n)
83-Bi-196
Radionuclide Production Cross Section
83-Bi-195g
83-Bi-195m1
Cross Section (barns)
Incident Energy (MeV)
95
83-Bi-196

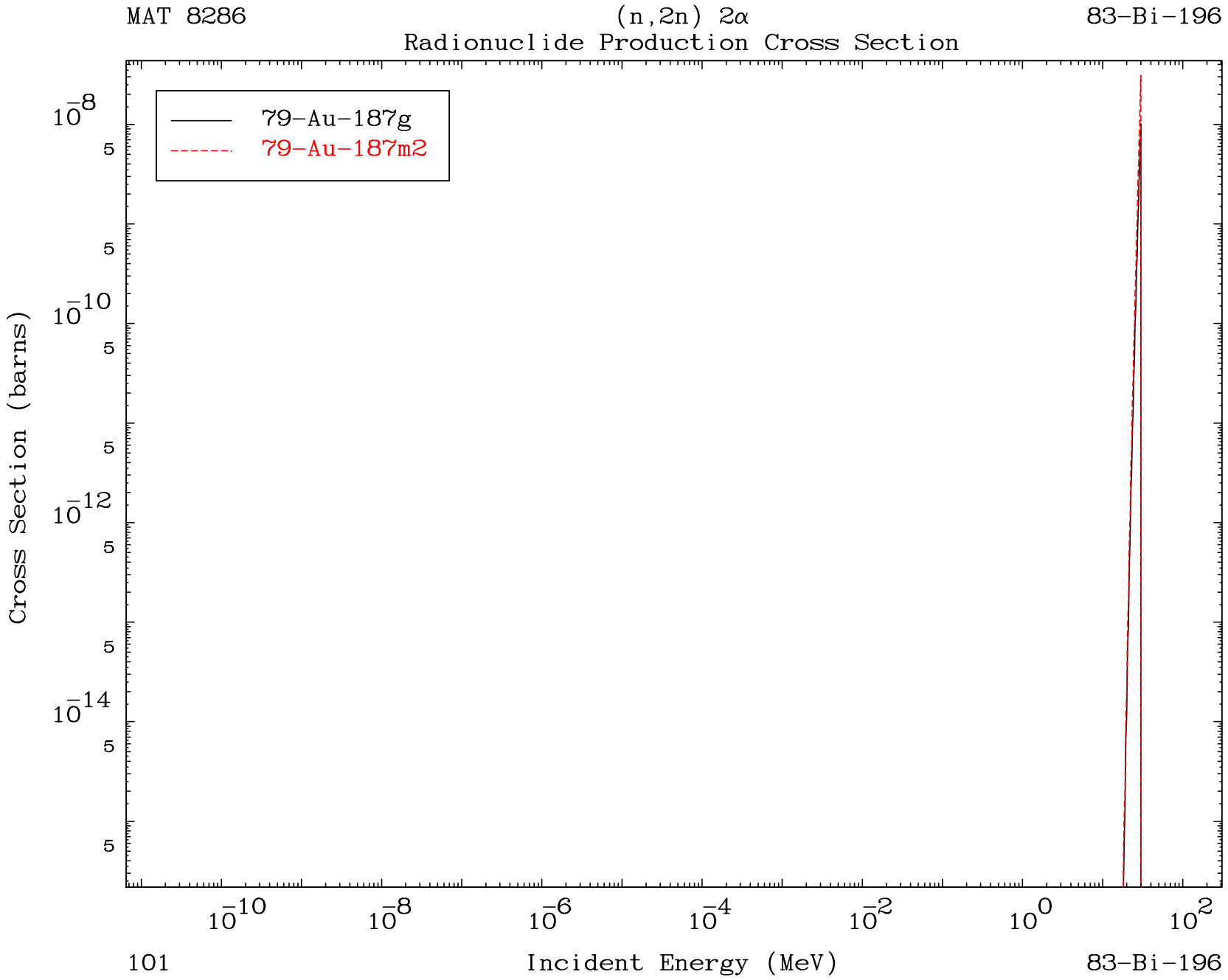

MAT 8286
(n,3n)
83-Bi-196
Radionuclide Production Cross Section
83-Bi-194g
83-Bi-194m2
83-Bi-194m3
Cross Section (barns)
Incident Energy (MeV)
96
83-Bi-196

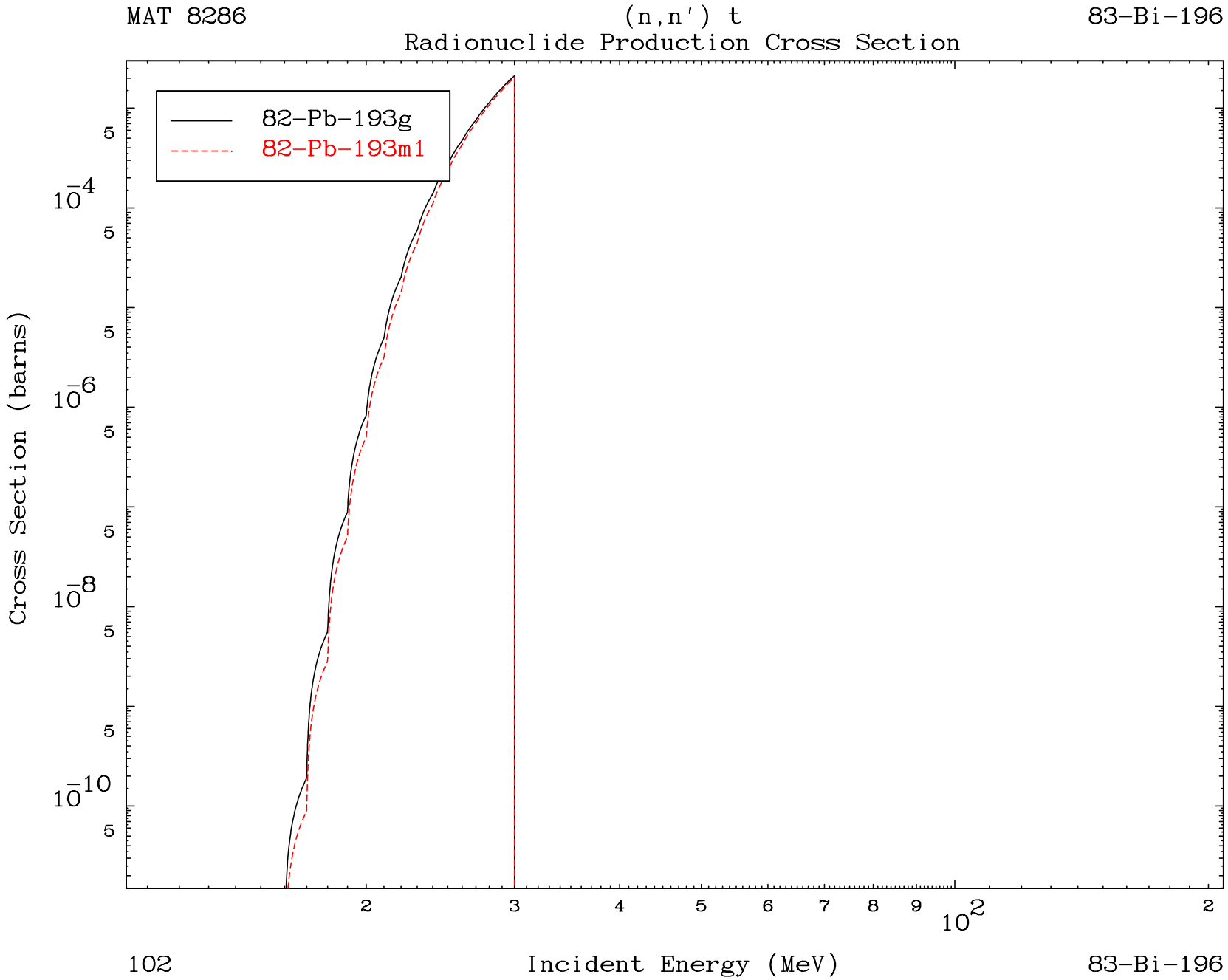

MAT 8286
Fission
83-Bi-196
Radionuclide Production Cross Section
0-??-Nat
Cross Section (barns)
10-2
5
10-4
5
10-6
5
10-8
5
5
10-10
10-8
10-6
10-4
10-2
100
102
97
Incident Energy (MeV)
83-Bi-196

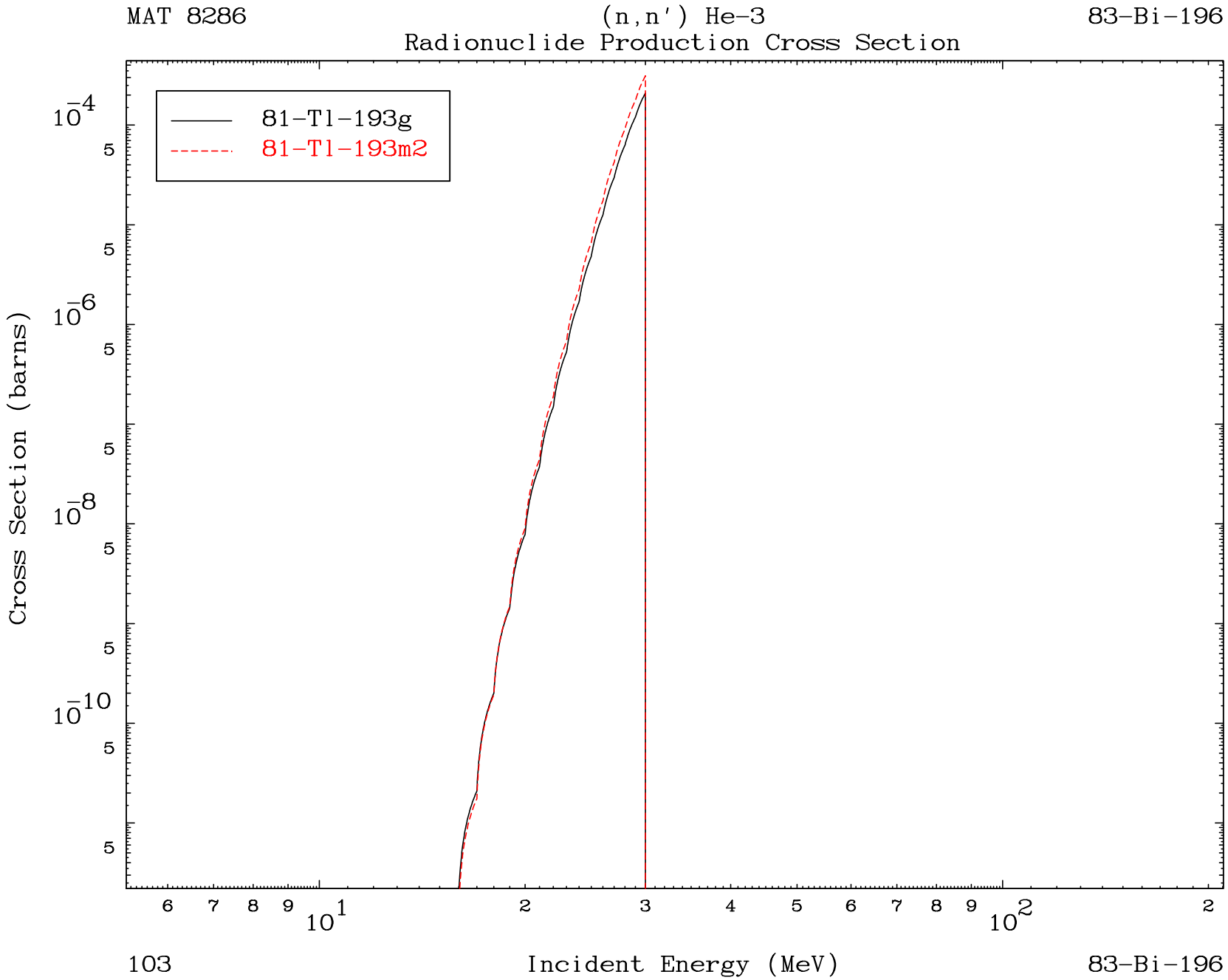

MAT 8286
(n,n') α
83-Bi-196
Radionuclide Production Cross Section
81-Tl-192g
81-Tl-192m1
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
10^-10
10^0
10^2
Incident Energy (MeV)
98
83-Bi-196

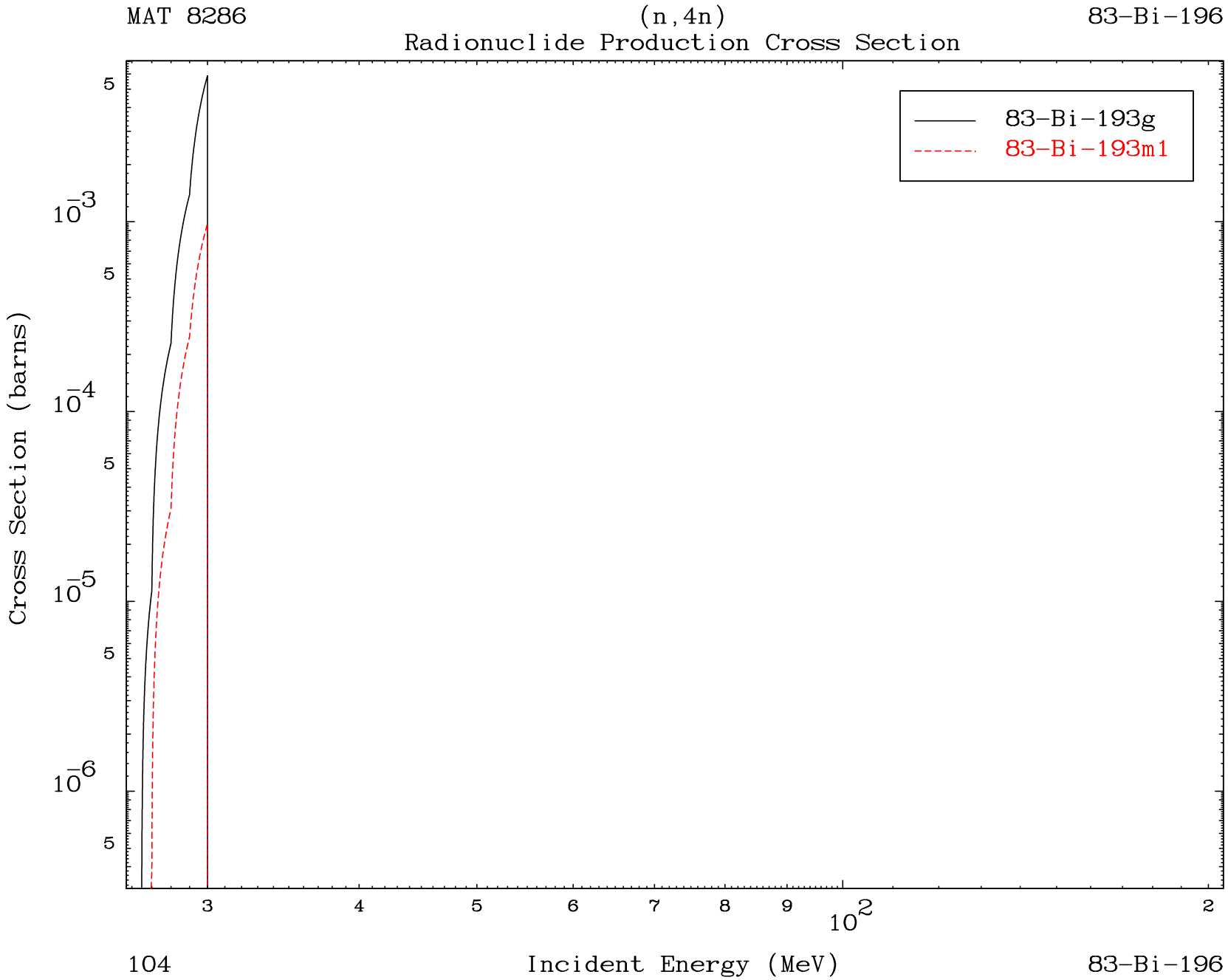

MAT 8286
(n,2n) α
83-Bi-196
Radionuclide Production Cross Section
81-Tl-191g
81-Tl-191m2
Cross Section (barns)
10-2
10-4
10-6
10-8
5
4
6
8
10 1
2
4
6
8
10 2
2
99
Incident Energy (MeV)
83-Bi-196

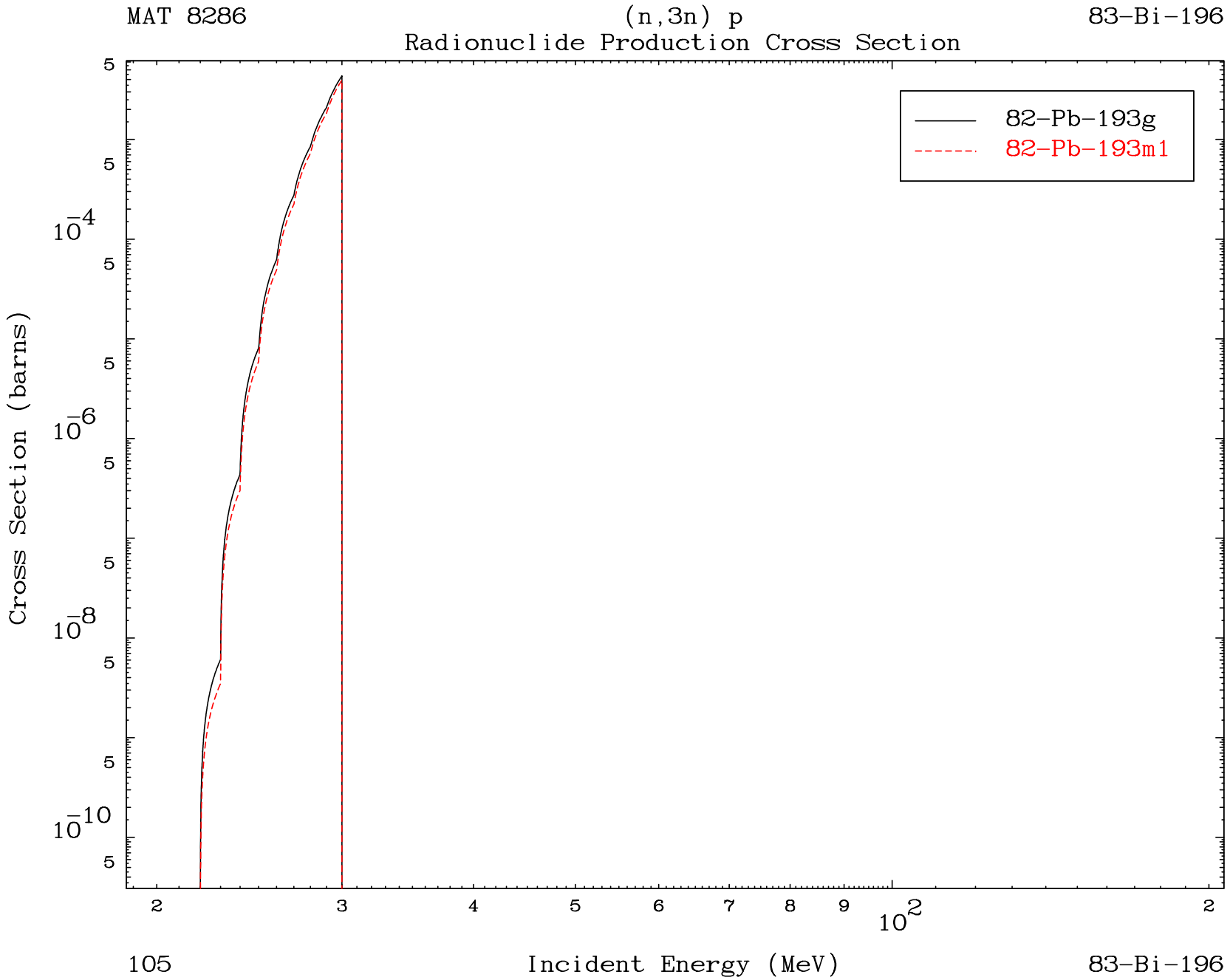

MAT 8286
(n,n') p
83-Bi-196
Radionuclide Production Cross Section
82-Pb-195g
82-Pb-195m2
Cross Section (barns)
Incident Energy (MeV)
100
83-Bi-196

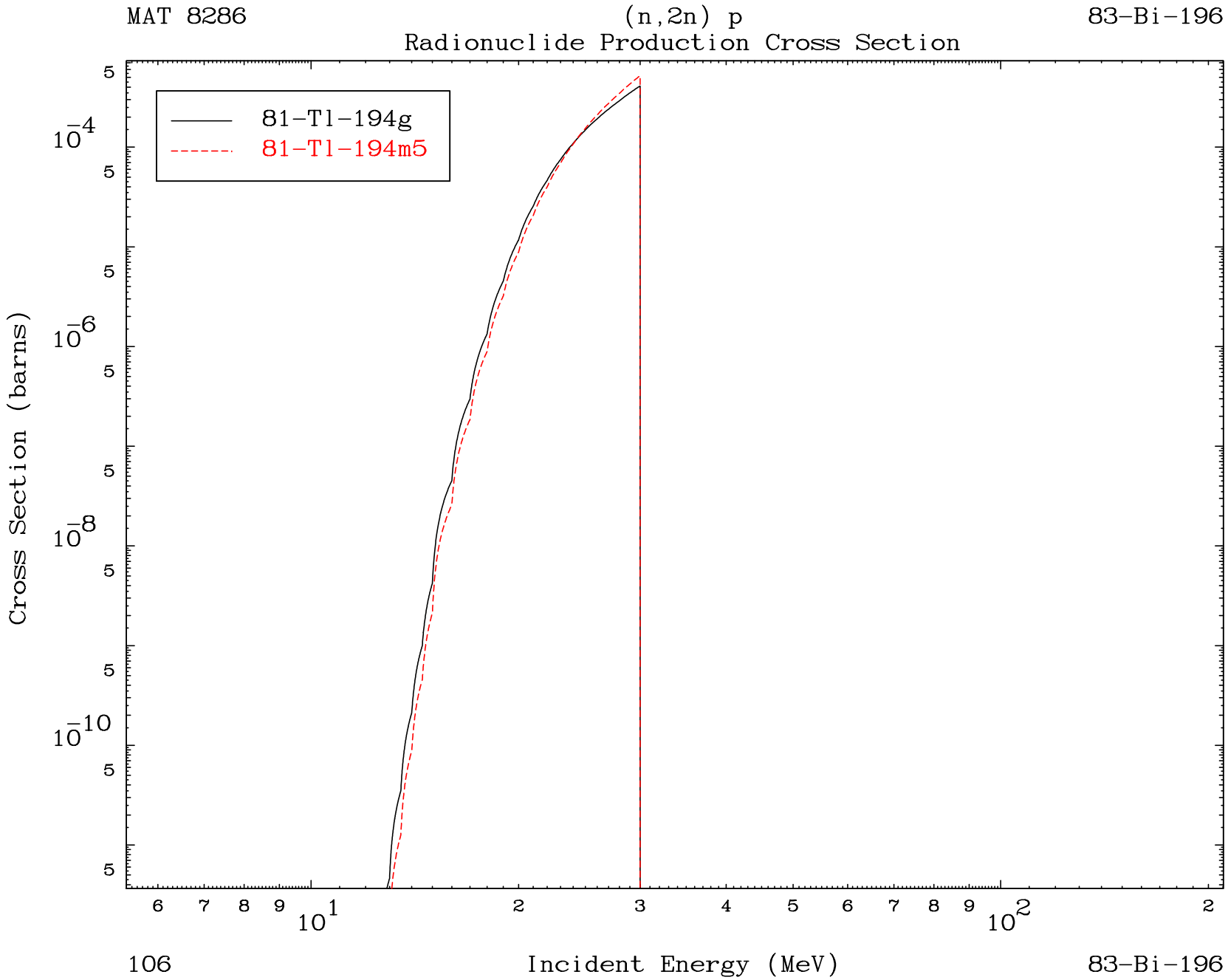

MAT 8286
(n,2n) 2α
83-Bi-196
Radionuclide Production Cross Section
79-Au-187g
79-Au-187m2
Cross Section (barns)
Incident Energy (MeV)
101
83-Bi-196

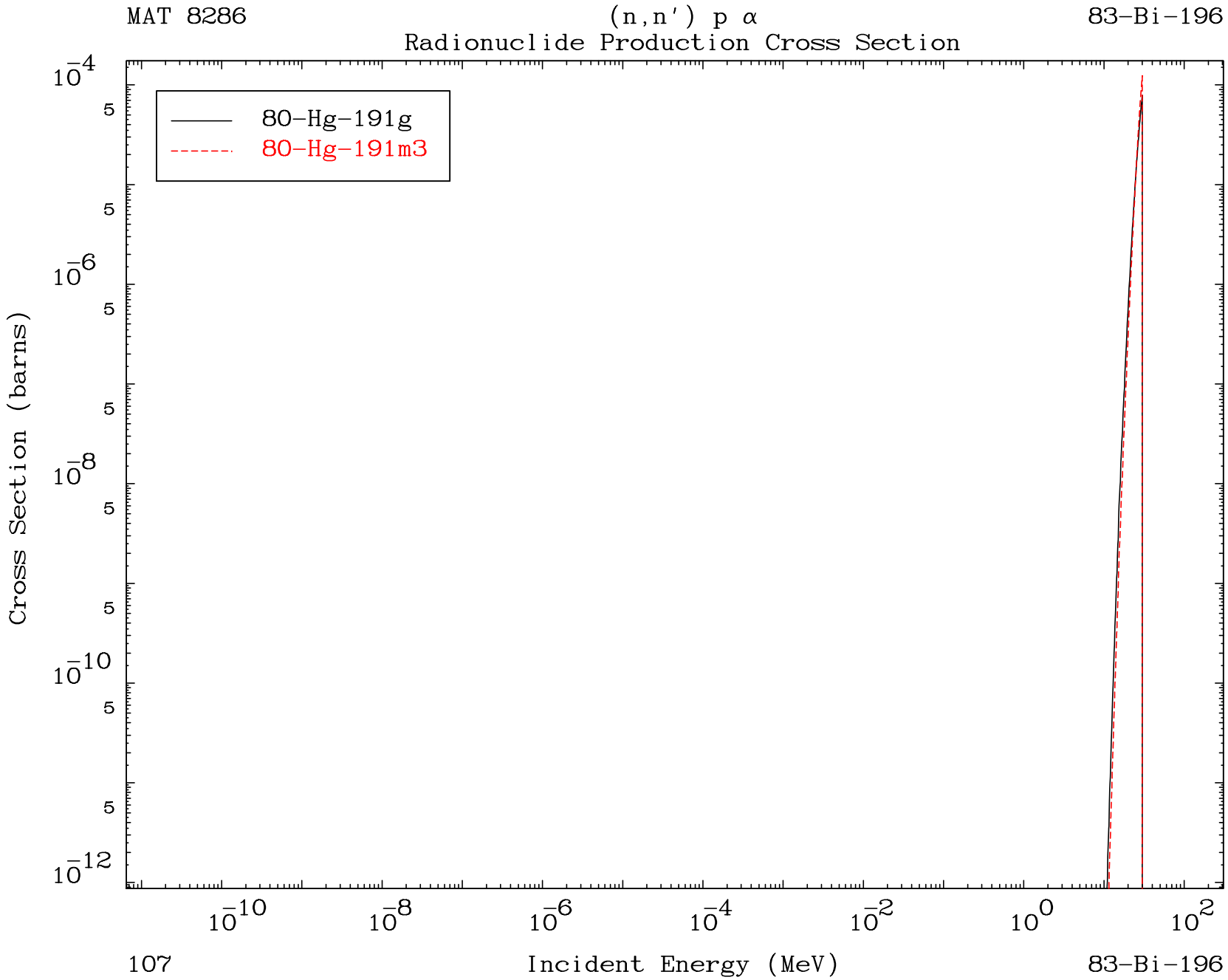

MAT 8286
(n,n') t
83-Bi-196
Radionuclide Production Cross Section
82-Pb-193g
82-Pb-193m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
2
3
4
5
6
7
8
9
10^2
2
102
Incident Energy (MeV)
83-Bi-196

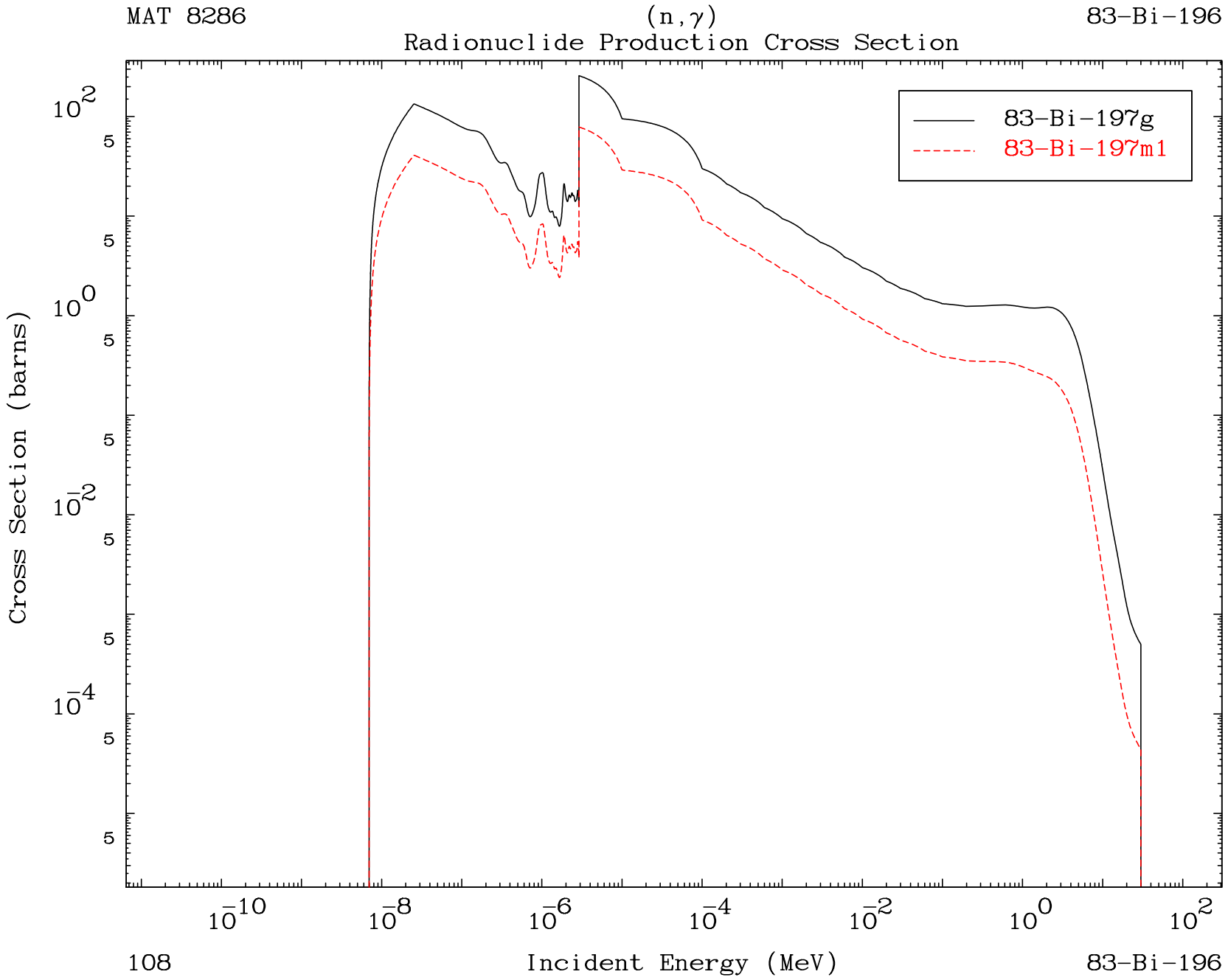

MAT 8286
(n,n') He-3
83-Bi-196
Radionuclide Production Cross Section
81-Tl-193g
81-Tl-193m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
6 7 8 9
10^1
2 3 4 5 6 7 8 9
10^2
2
103
Incident Energy (MeV)
83-Bi-196

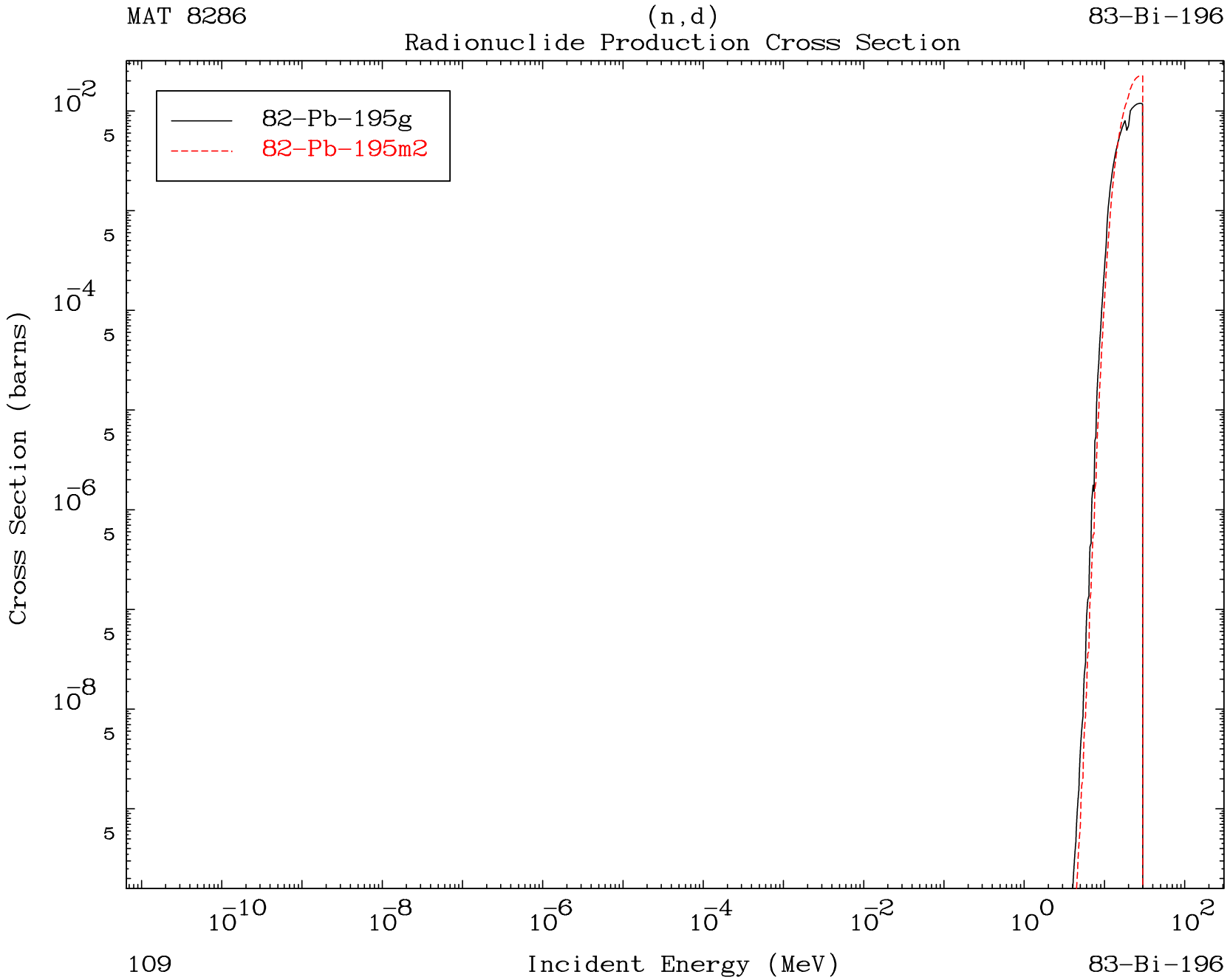

MAT 8286
(n,4n)
83-Bi-196
Radionuclide Production Cross Section
83-Bi-193g
83-Bi-193m1
Cross Section (barns)
10-3
10-4
10-5
10-6
5
3
4
5
6
7
8
9
10 2
2
104
Incident Energy (MeV)
83-Bi-196

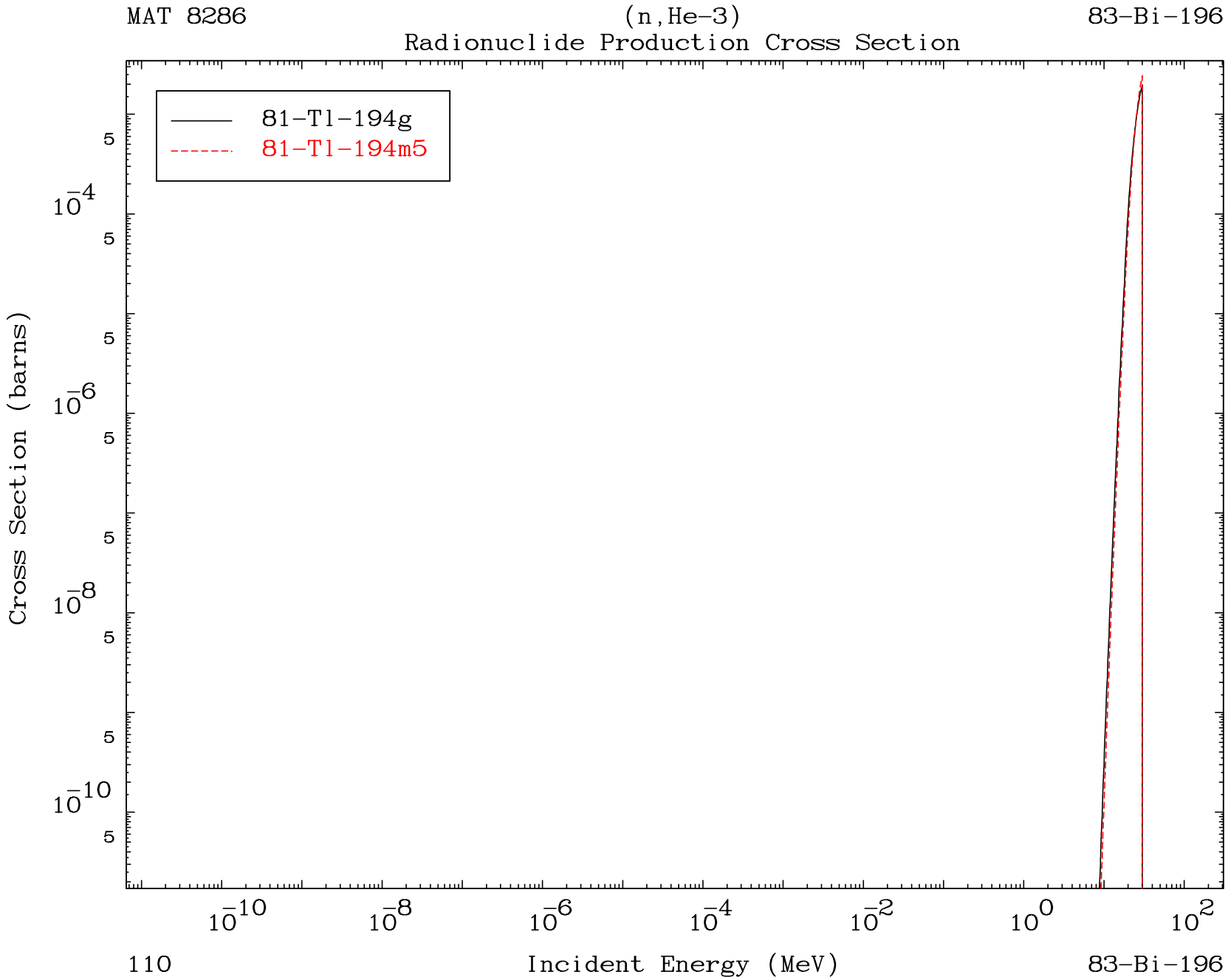

MAT 8286
(n,3n) p
83-Bi-196
Radionuclide Production Cross Section
82-Pb-193g
82-Pb-193m1
Cross Section (barns)
10-4
10-6
10-8
10-10
5
2
3
4
5
6
7
8
9
102
2
105
Incident Energy (MeV)
83-Bi-196

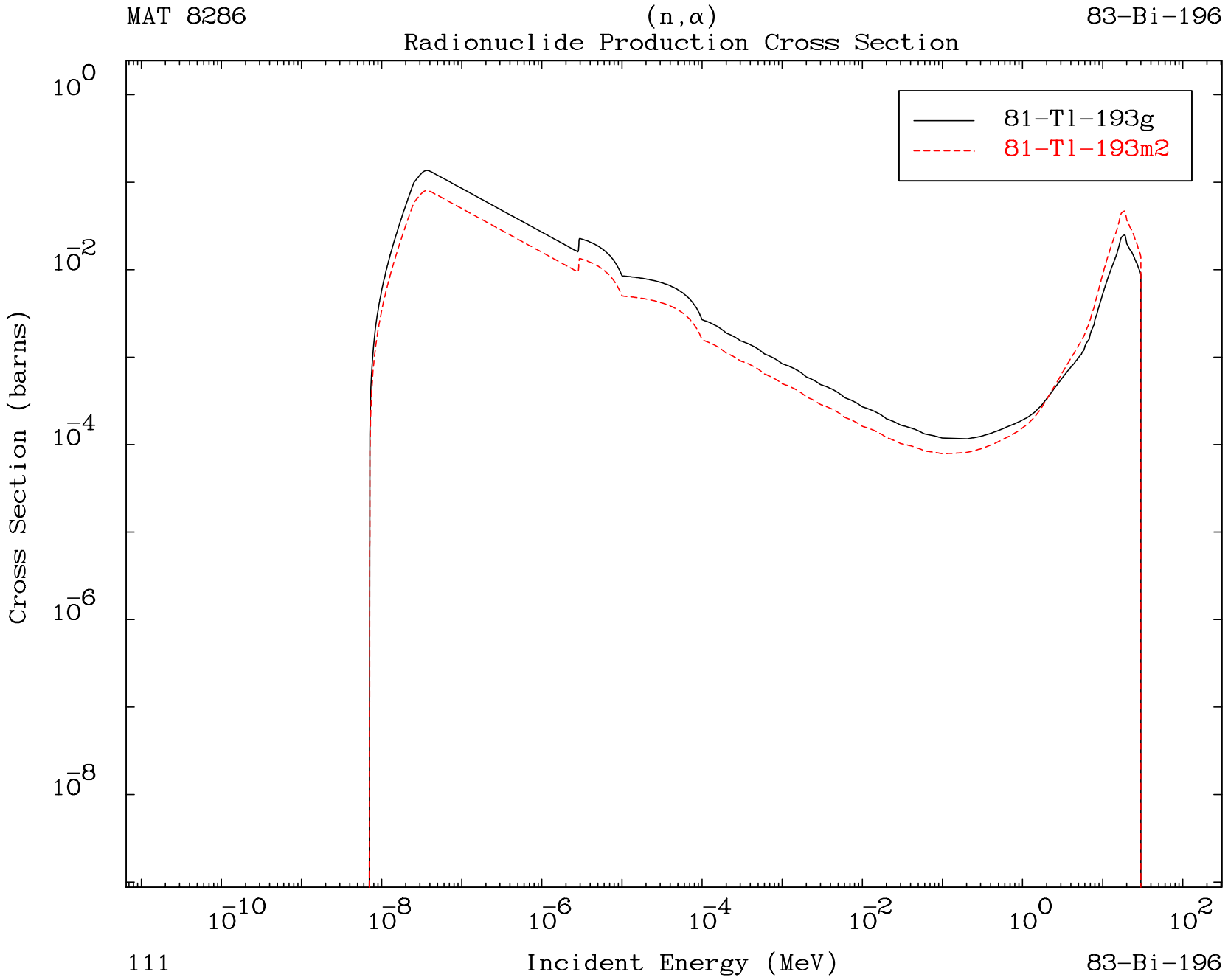

MAT 8286
(n,2n) p
83-Bi-196
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
Incident Energy (MeV)
106
83-Bi-196

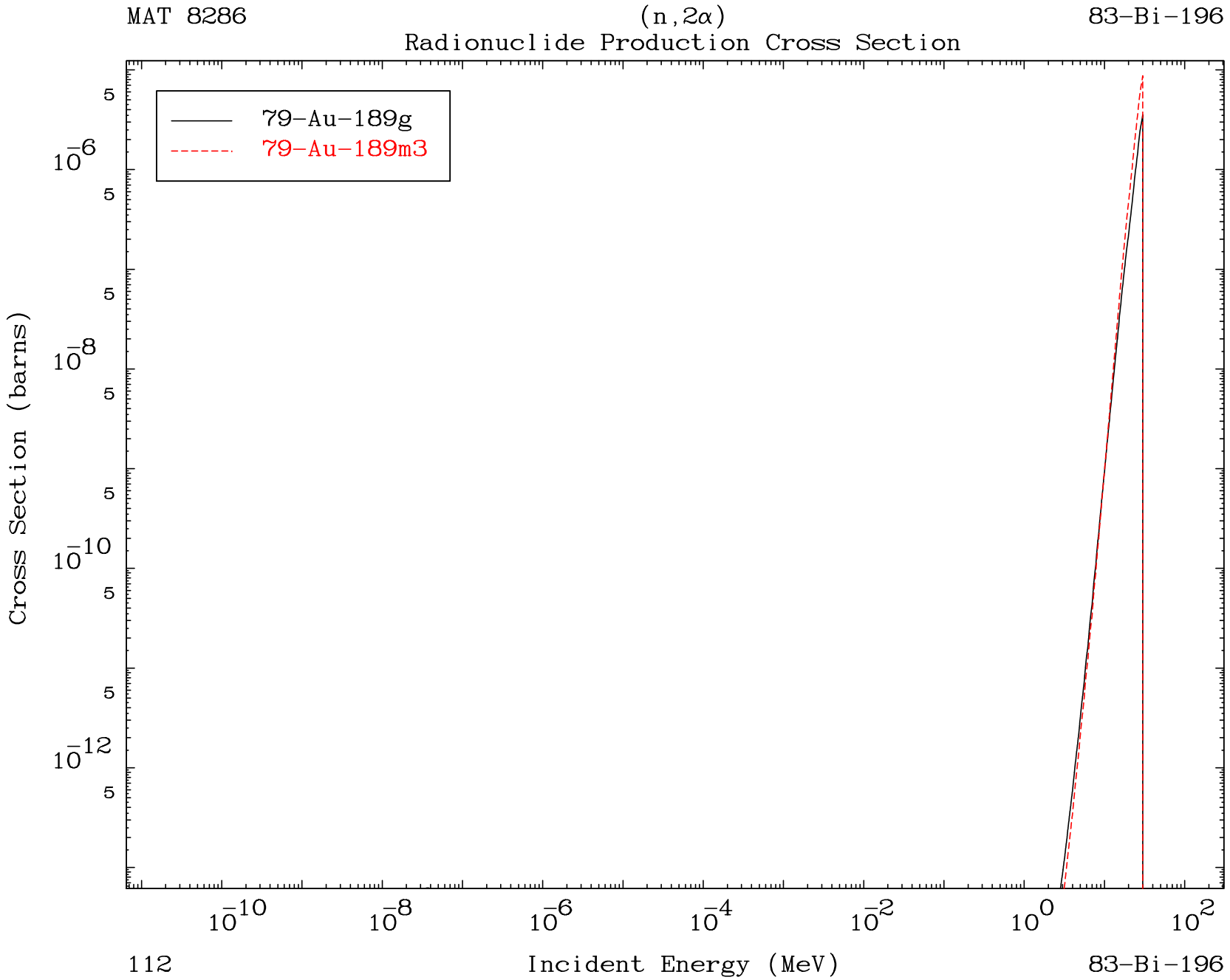

MAT 8286
(n,n') p α
83-Bi-196
Radionuclide Production Cross Section
80-Hg-191g
80-Hg-191m3
Cross Section (barns)
Incident Energy (MeV)
107
83-Bi-196

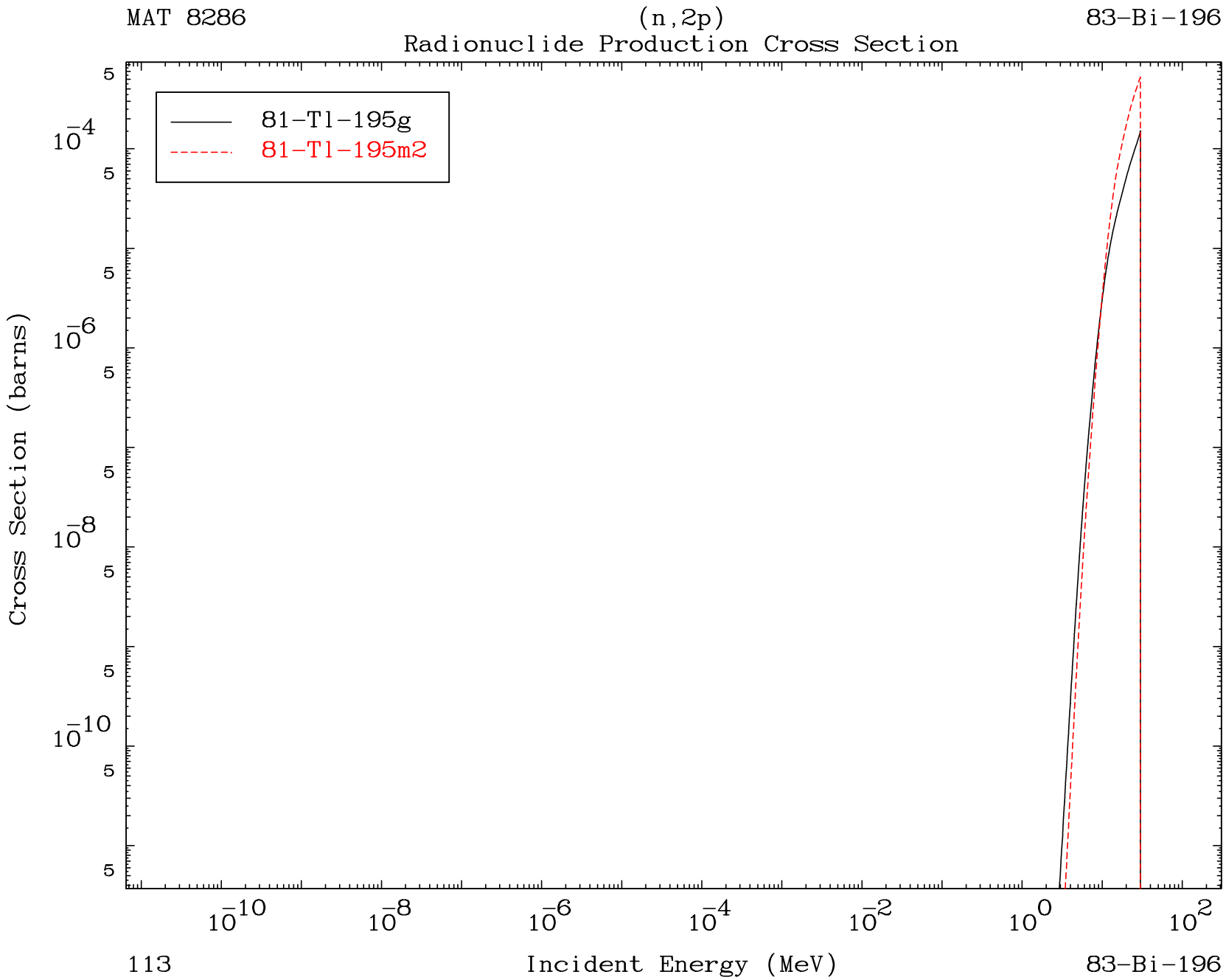

MAT 8286
(n,γ)
83-Bi-196
Radionuclide Production Cross Section
83-Bi-197g
83-Bi-197m1
Cross Section (barns)
Incident Energy (MeV)
108
83-Bi-196

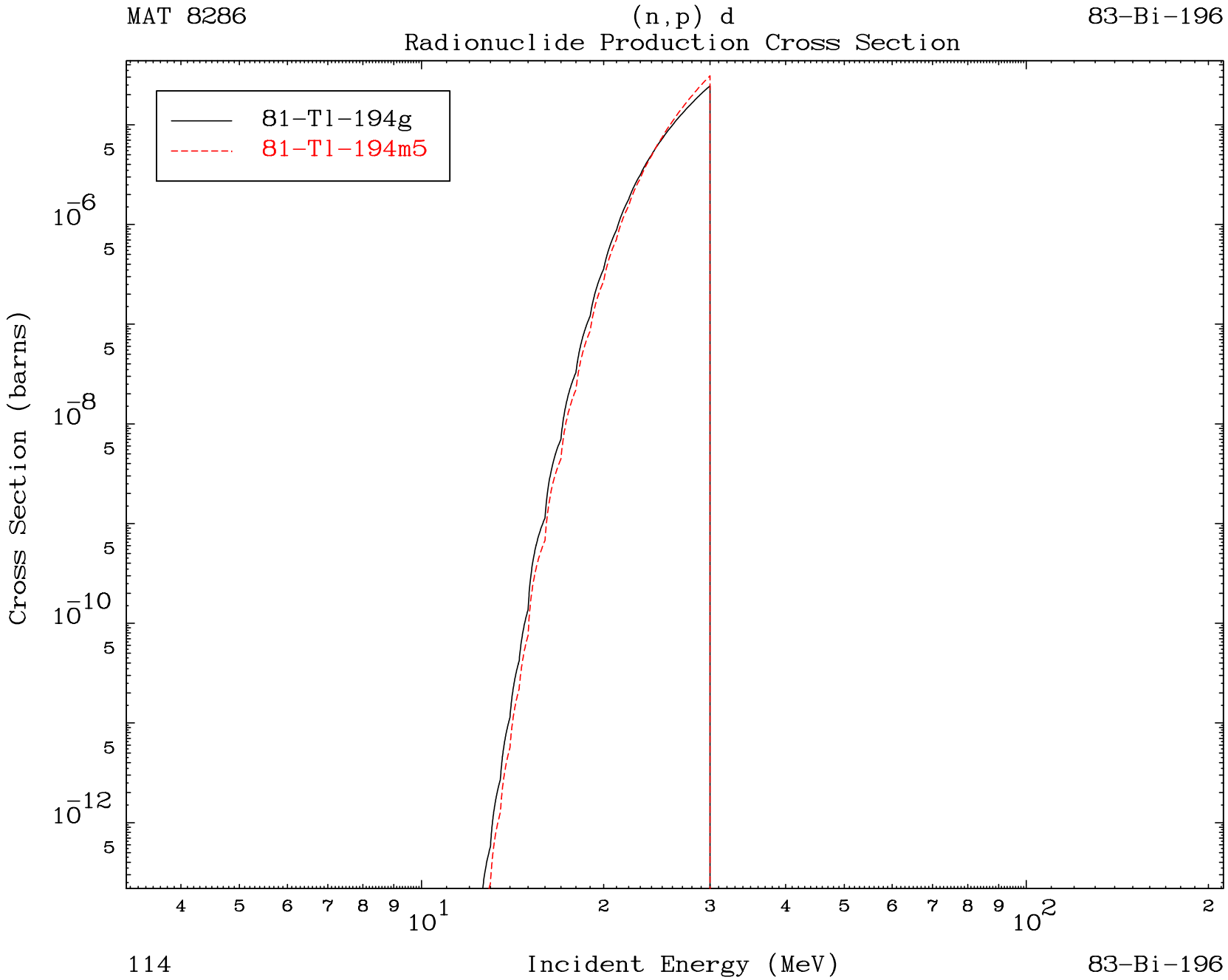

MAT 8286
(n,d)
83-Bi-196
Radionuclide Production Cross Section
82-Pb-195g
82-Pb-195m2
Cross Section (barns)
Incident Energy (MeV)
109
83-Bi-196

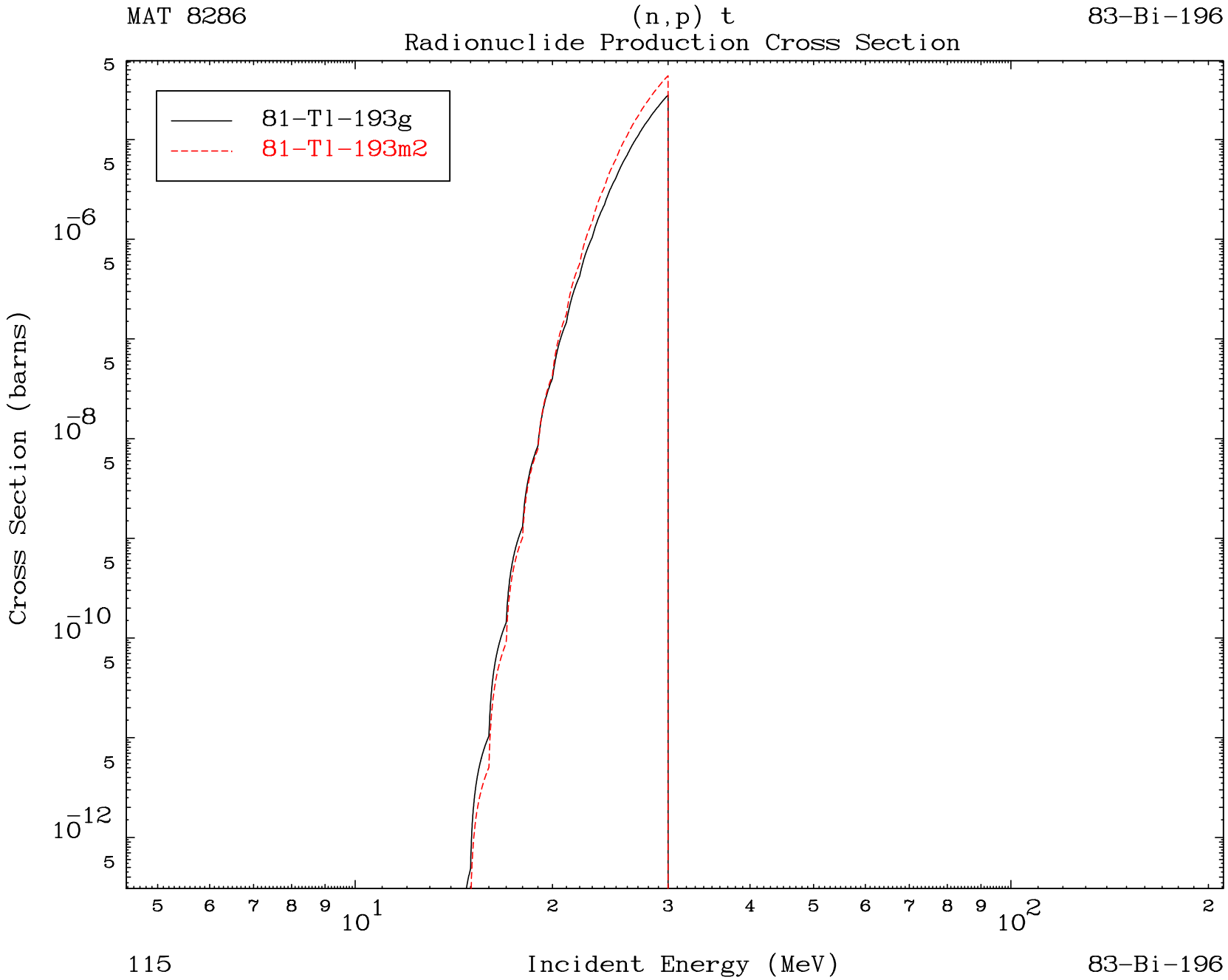

MAT 8286
(n,He-3)
83-Bi-196
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
Incident Energy (MeV)
110
83-Bi-196

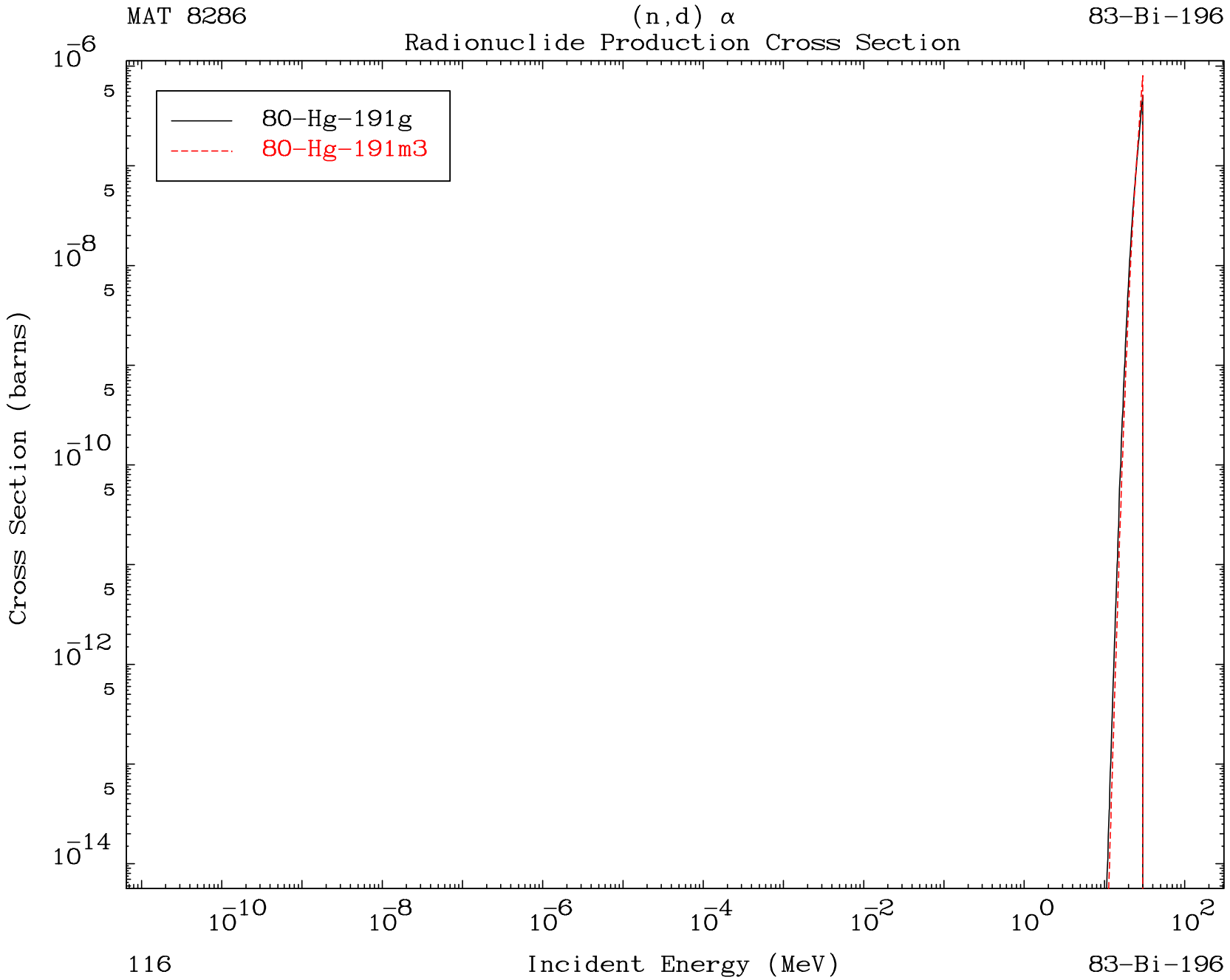

MAT 8286
(n,α)
83-Bi-196
Radionuclide Production Cross Section
81-Tl-193g
81-Tl-193m2
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
10^-8
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
111
Incident Energy (MeV)
83-Bi-196


MAT 8286
(n,2α)
83-Bi-196
Radionuclide Production Cross Section
79-Au-189g
79-Au-189m3
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
112
Incident Energy (MeV)
83-Bi-196


MAT 8286
(n,2p)
83-Bi-196
Radionuclide Production Cross Section
81-Tl-195g
81-Tl-195m2
Cross Section (barns)
Incident Energy (MeV)
113
83-Bi-196


MAT 8286
(n,p) d
83-Bi-196
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
4 5 6 7 8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
Incident Energy (MeV)
114
83-Bi-196


MAT 8286
(n,p) t
83-Bi-196
Radionuclide Production Cross Section
81-Tl-193g
81-Tl-193m2
Cross Section (barns)
Incident Energy (MeV)
115
83-Bi-196


MAT 8286
(n,d) α
83-Bi-196
Radionuclide Production Cross Section
80-Hg-191g
80-Hg-191m3
Cross Section (barns)
Incident Energy (MeV)
116
83-Bi-196