

Program EVALPLOT  
(Version 2018-1)

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](mailto:redcullen1@comcast.net)

Web: [redcullen1.net/HOMEPAGE.NEW](http://redcullen1.net/HOMEPAGE.NEW)

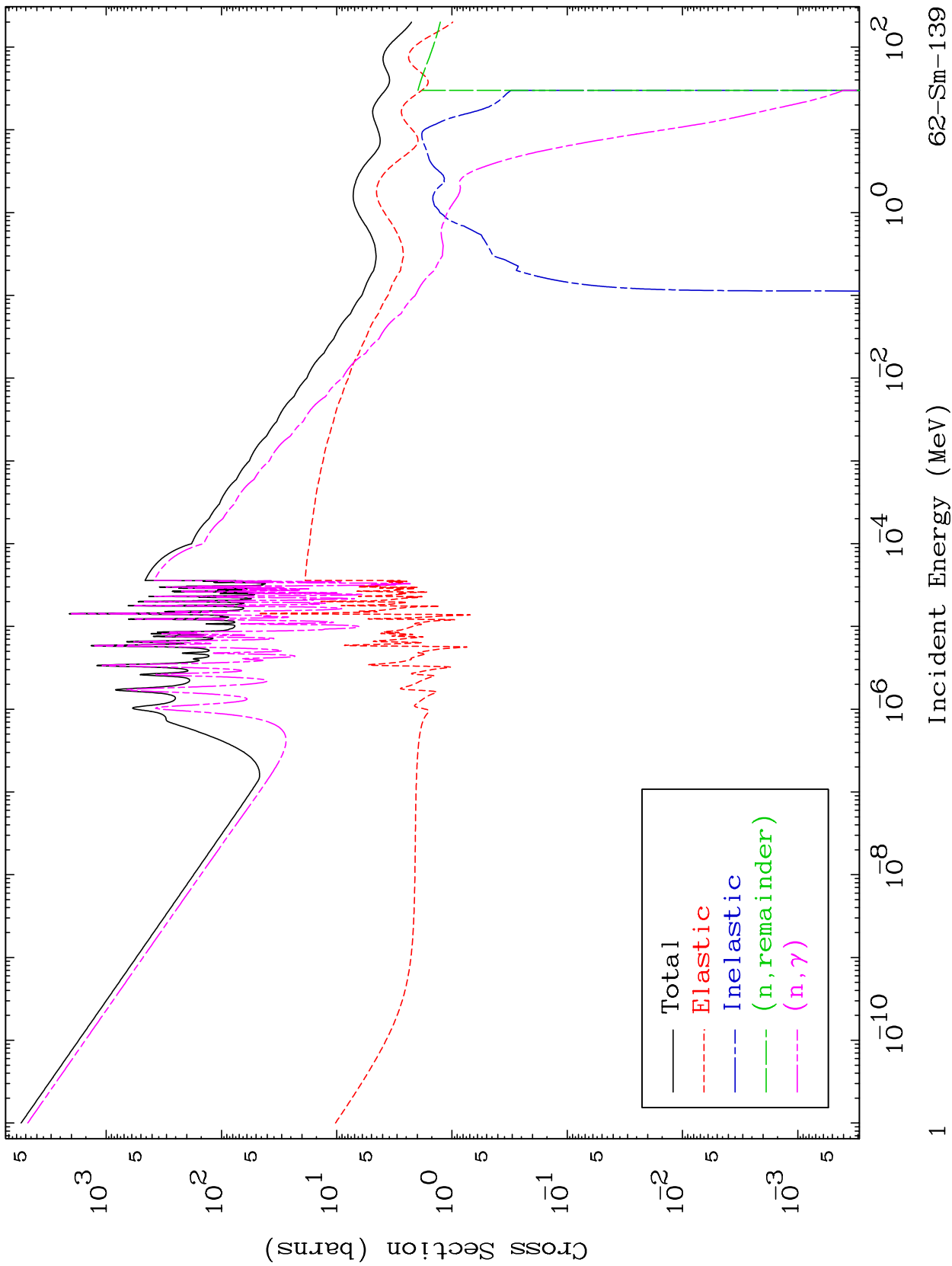
Press Mouse Button to Start

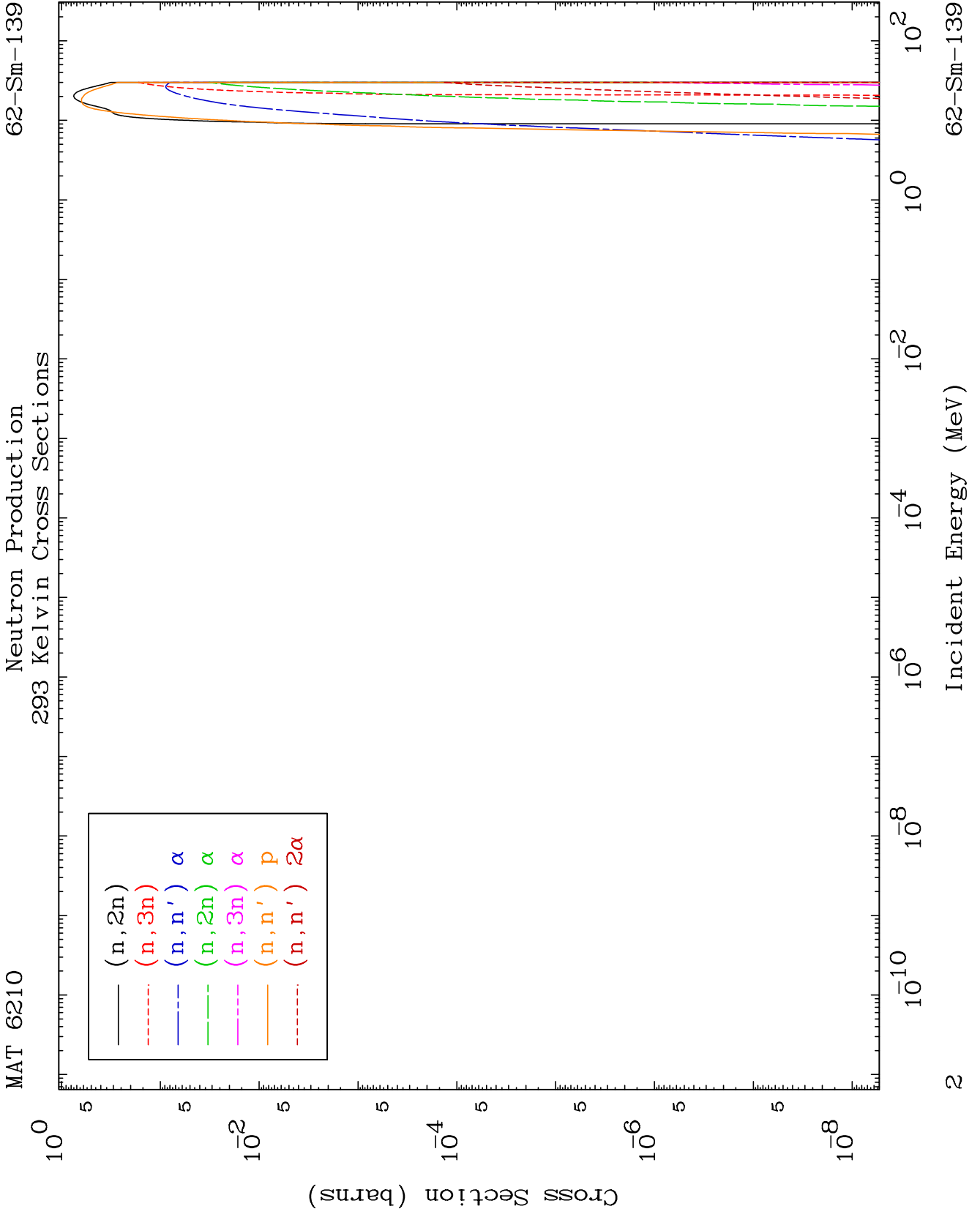
MAT 6210

Major

293 Kelvin Cross Sections

62-Sm-139

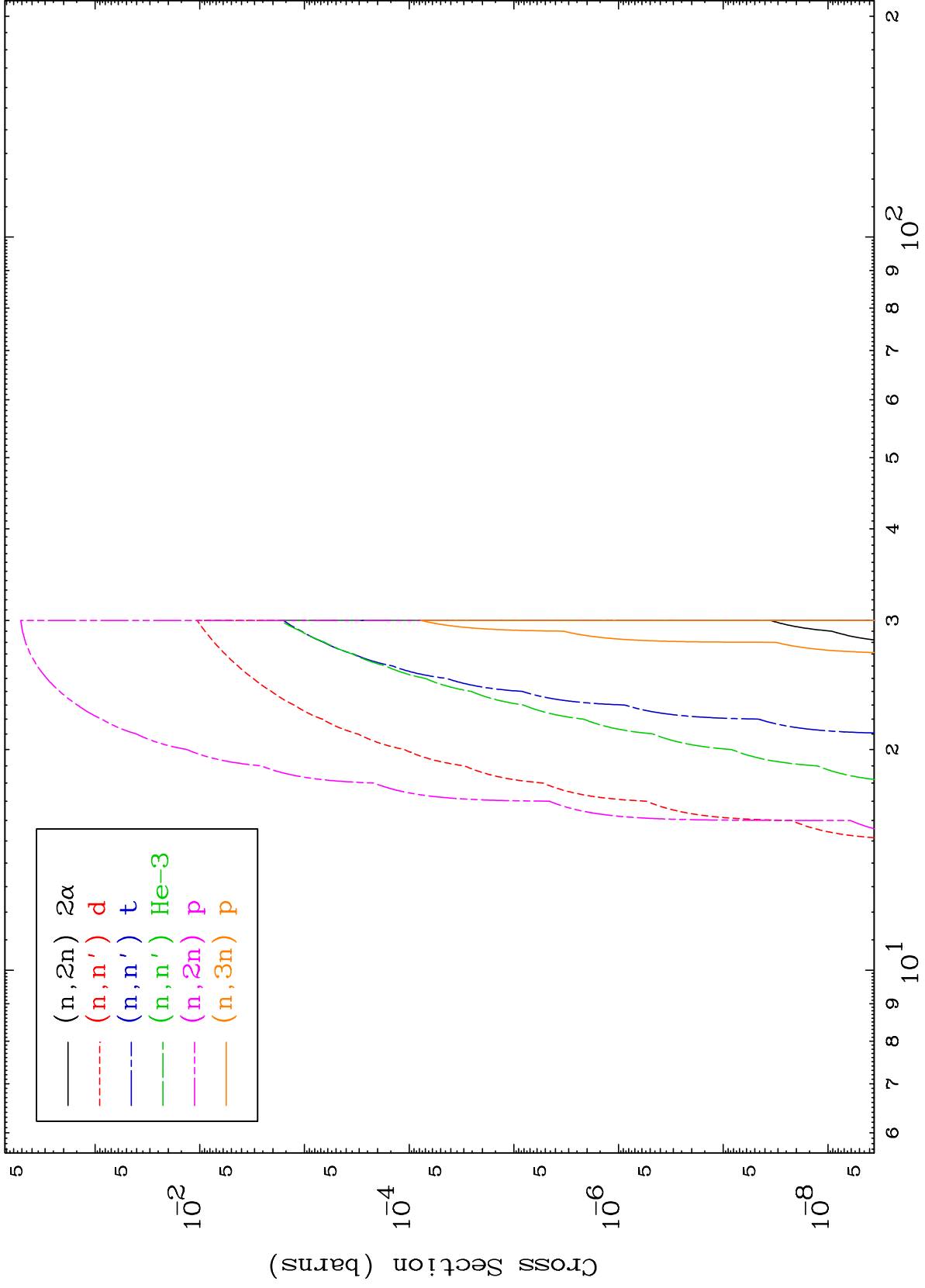




MAT 6210

Neutron Production  
293 Kelvin Cross Sections

62-Sm-139



3

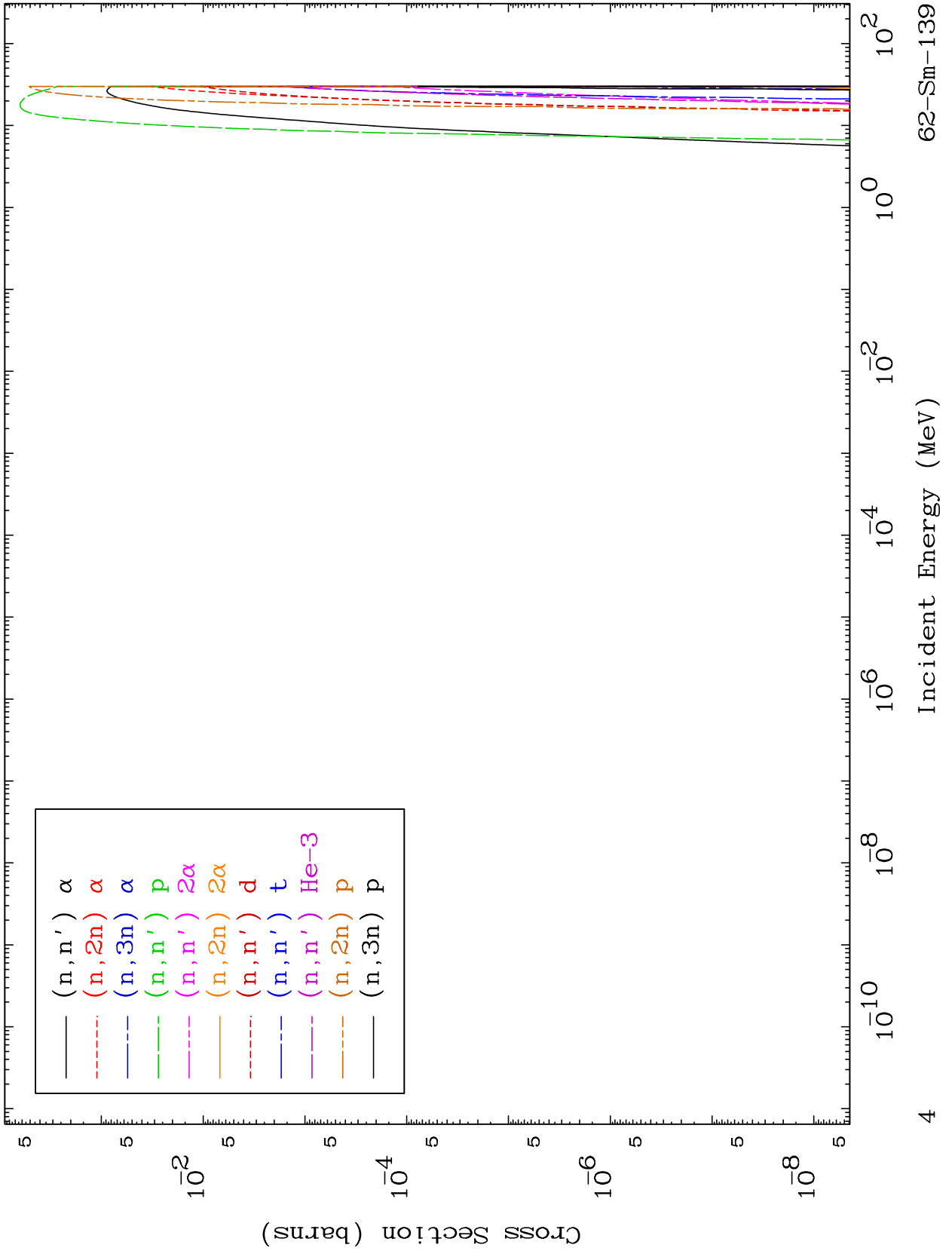
Incident Energy (MeV)

62-Sm-139

MAT 6210

Charged Particle  
293 Kelvin Cross Sections

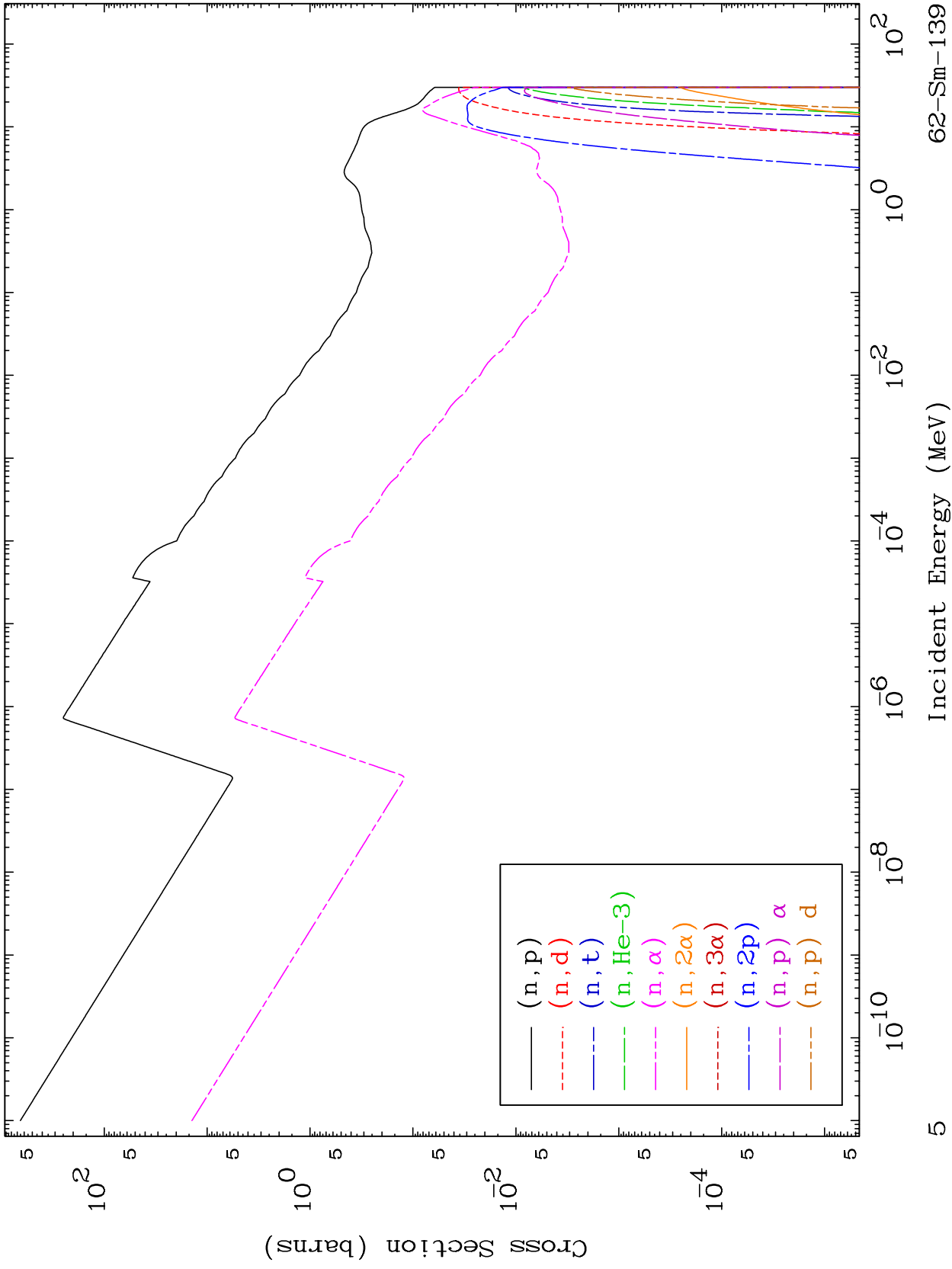
62-Sm-139

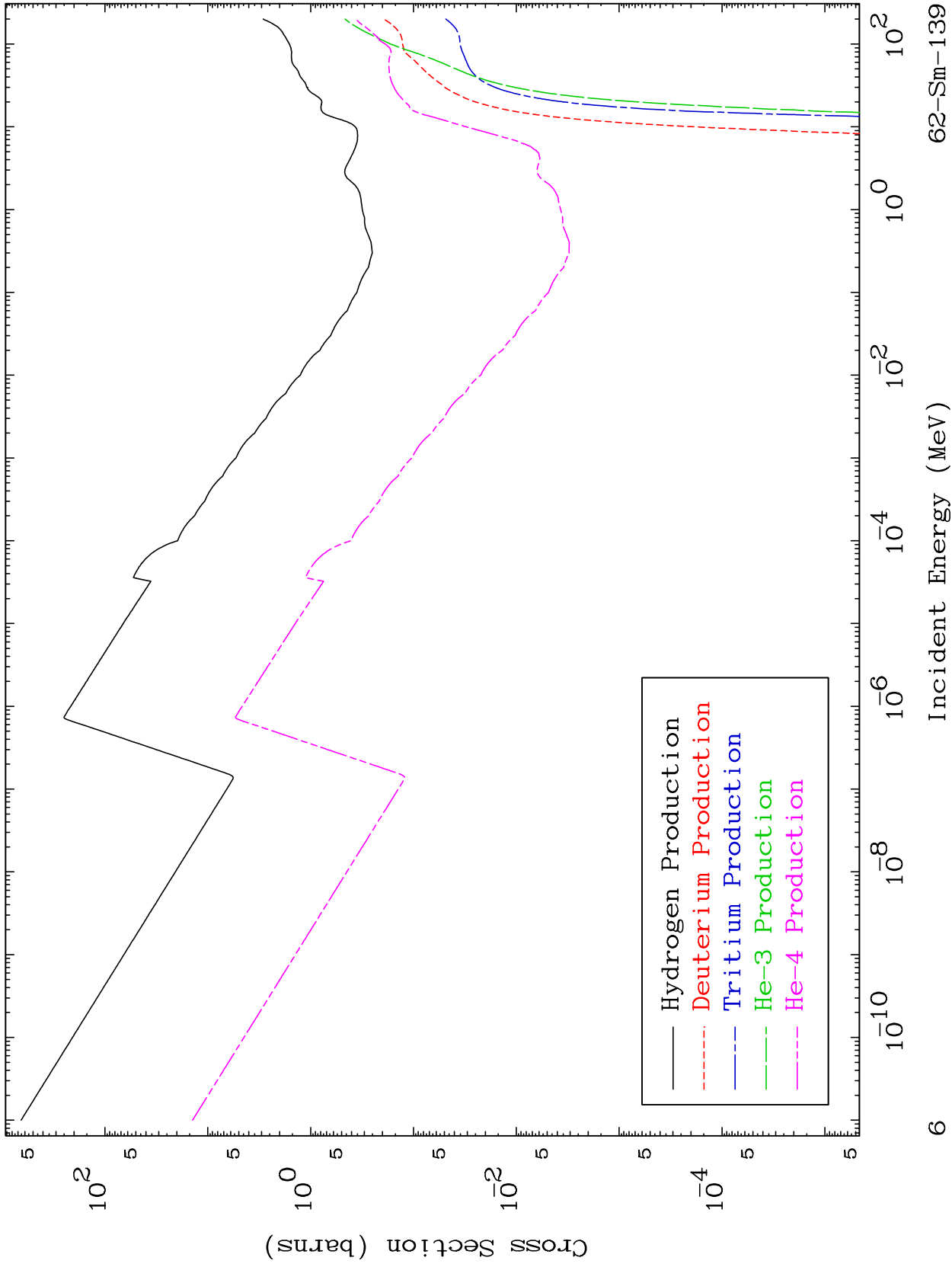


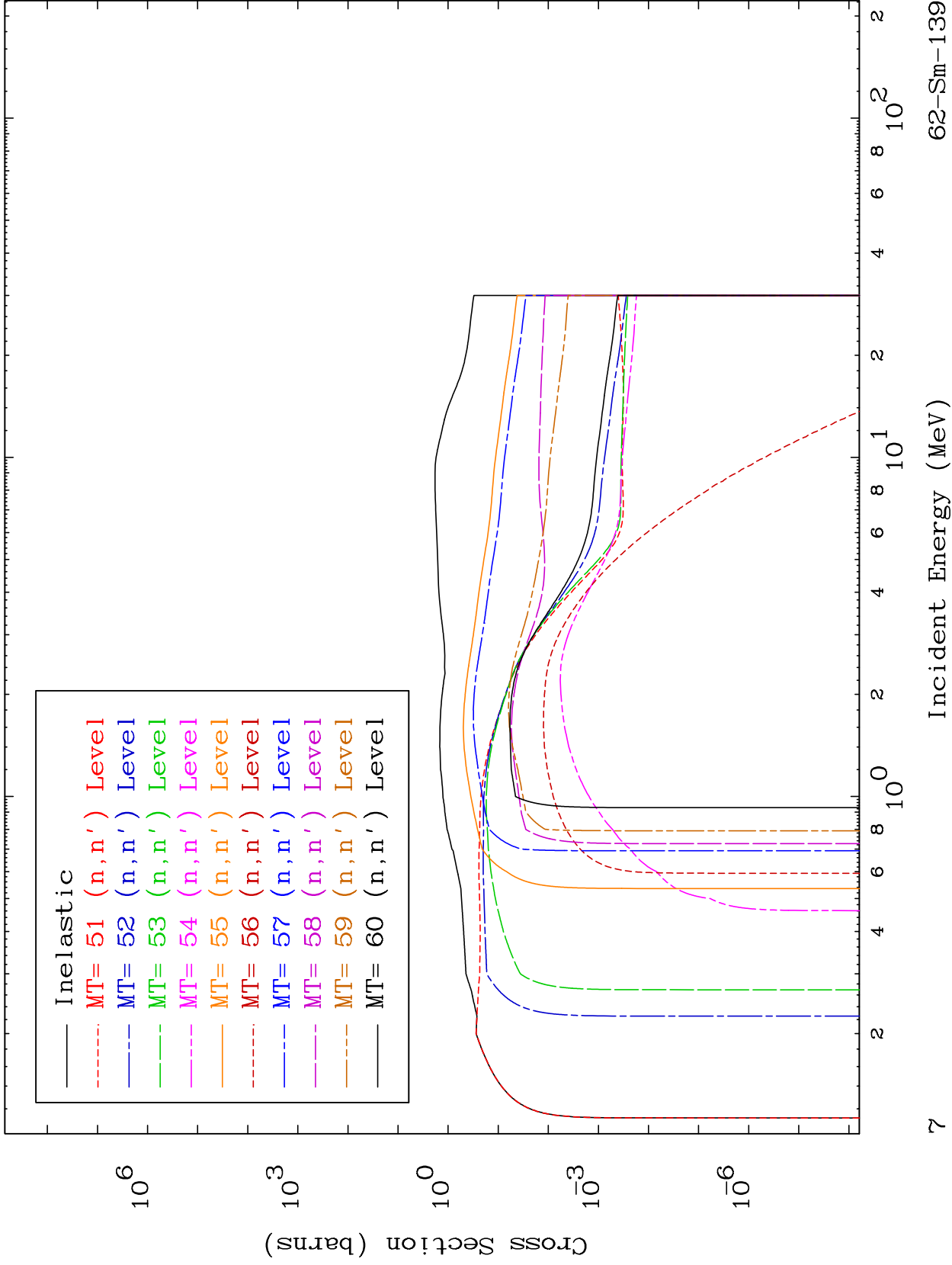
MAT 6210

Charged Particle  
293 Kelvin Cross Sections

62-Sm-139







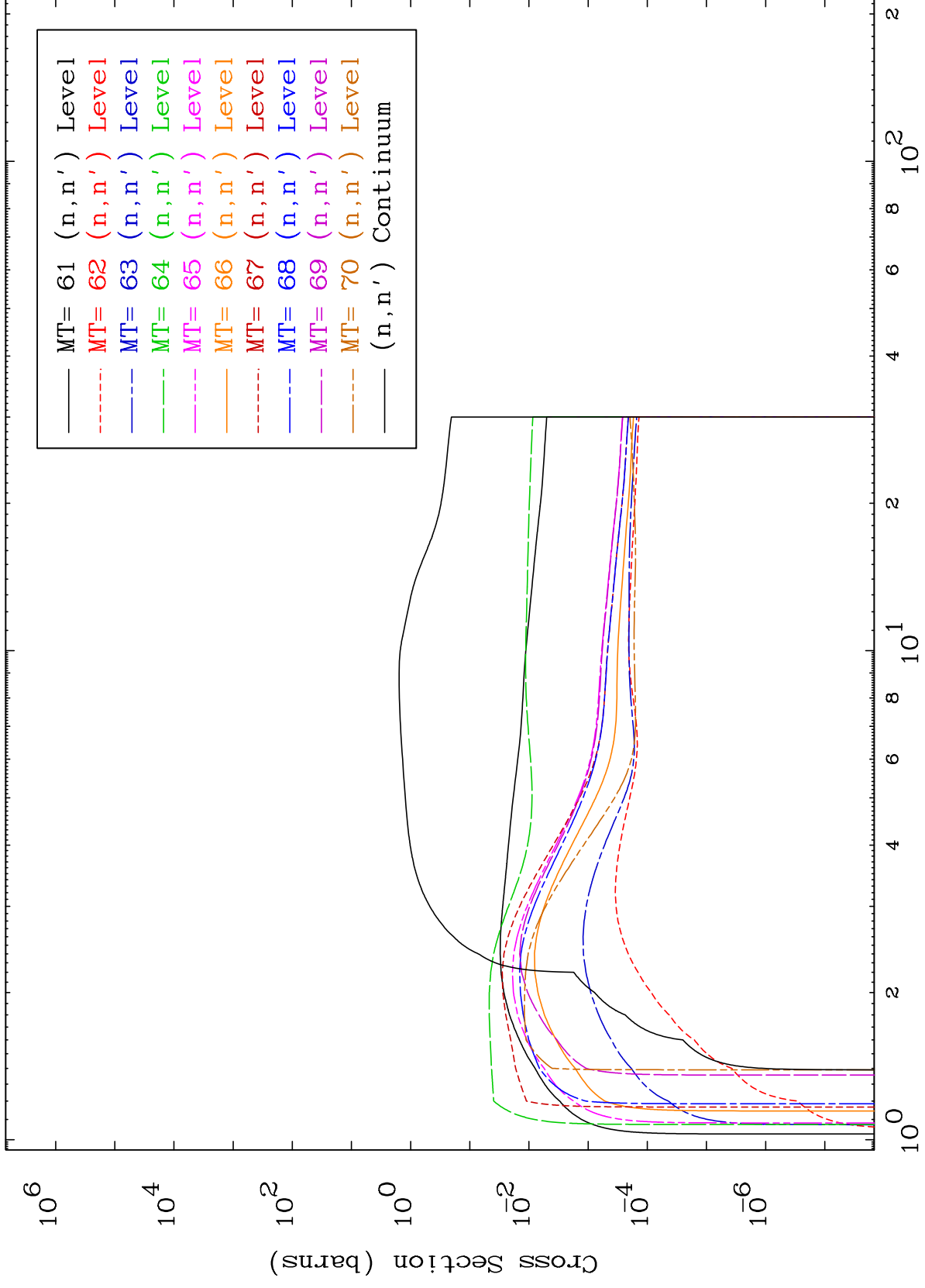


MAT 6210

(n,n') Level

293 Kelvin Cross Sections

62-Sm-139



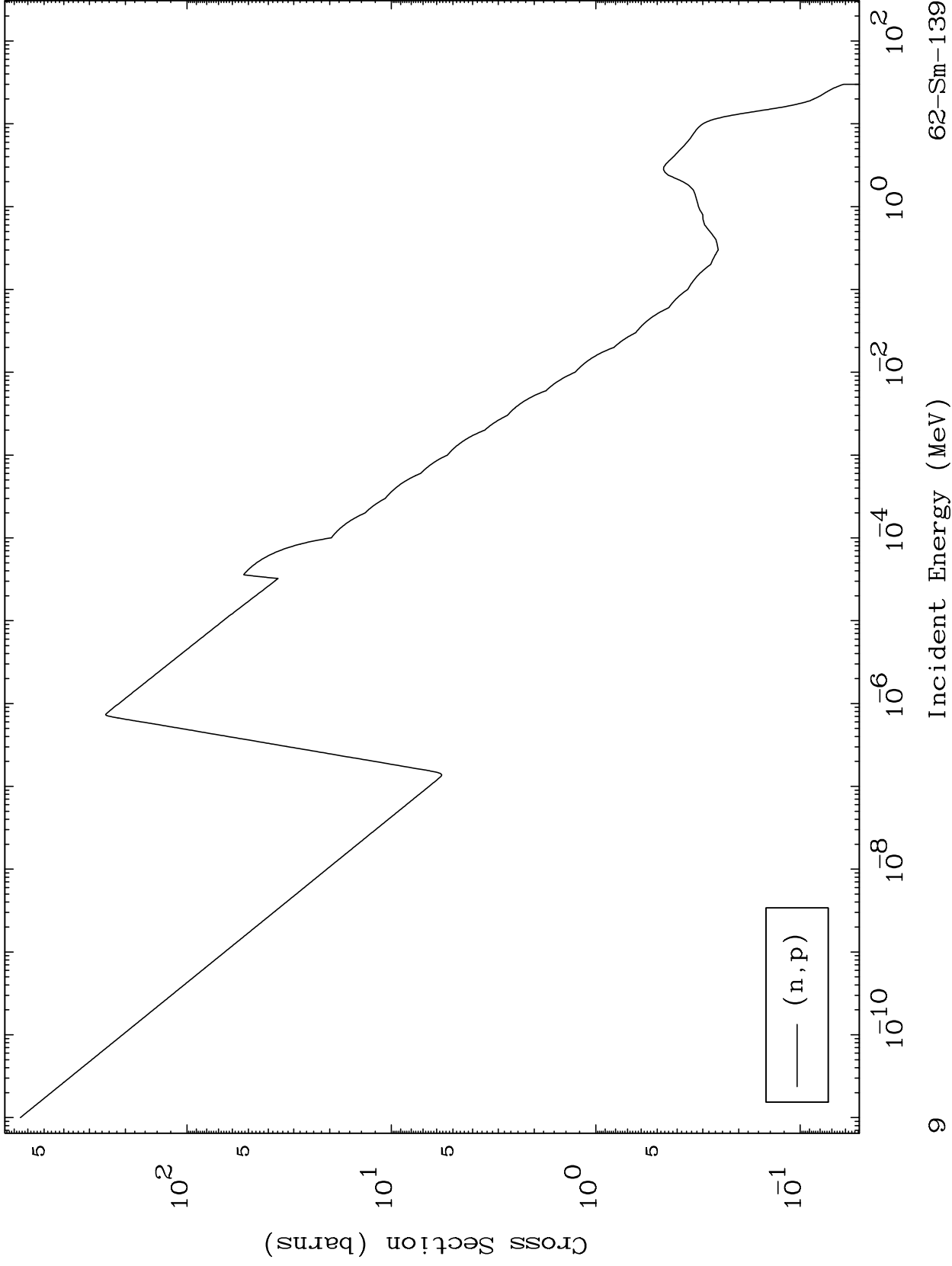
Incident Energy (MeV)

62-Sm-139

MAT 6210

(n,p) Levels  
293 Kelvin Cross Sections

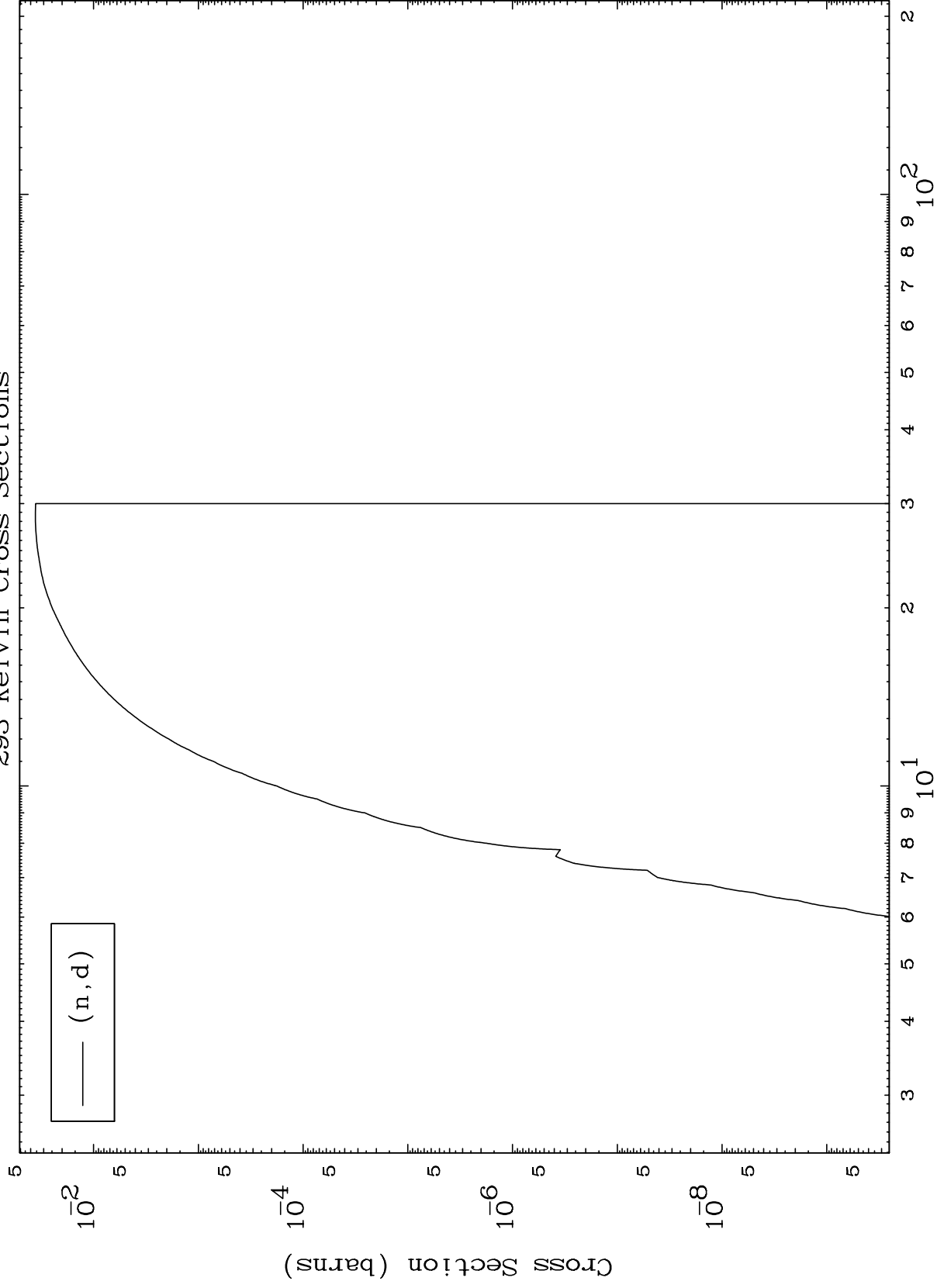
62-Sm-139



MAT 6210

(n,d) Levels  
293 Kelvin Cross Sections

62-Sm-139



10

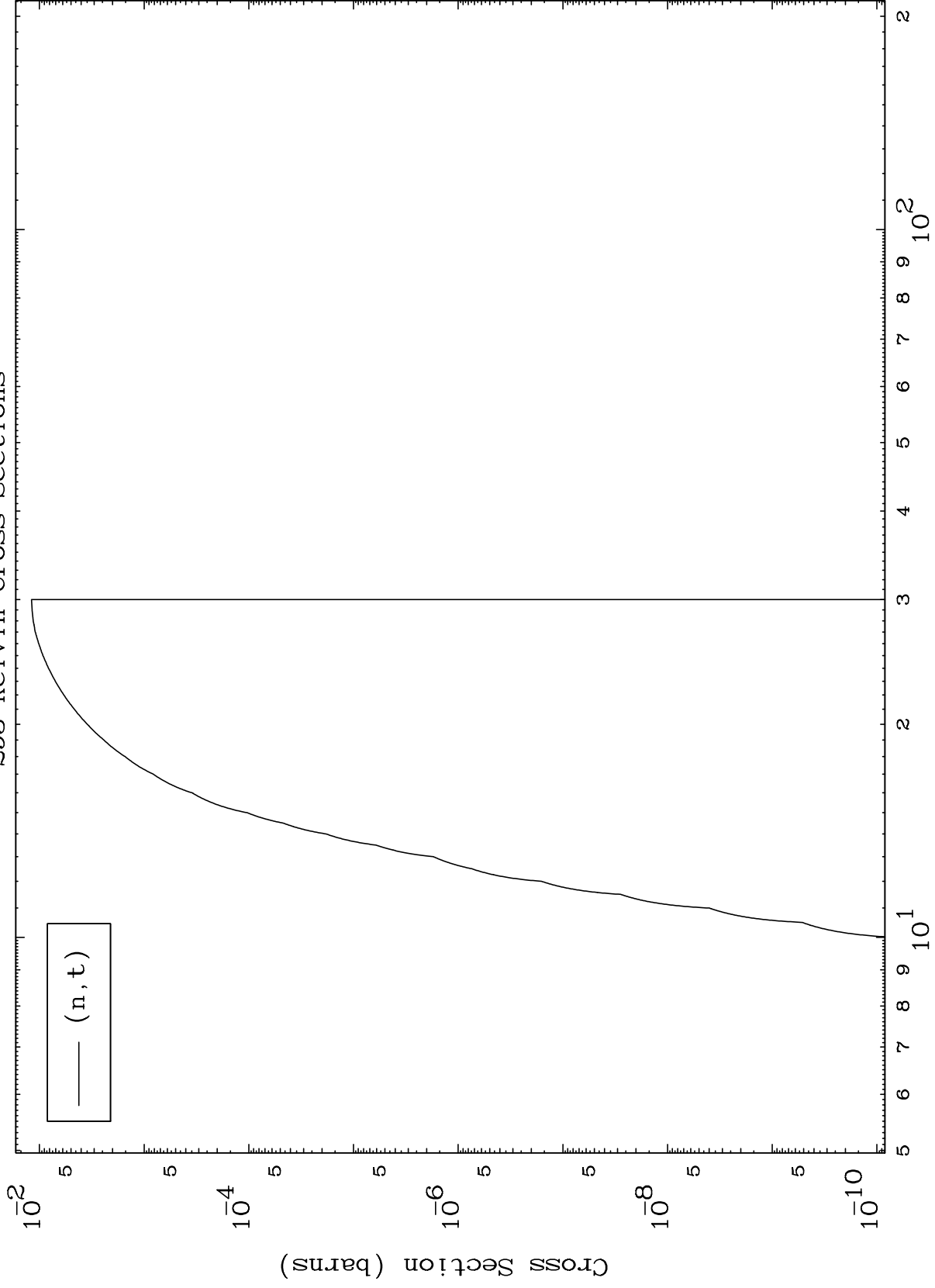
Incident Energy (MeV)

62-Sm-139

MAT 6210

(n,t) Levels  
293 Kelvin Cross Sections

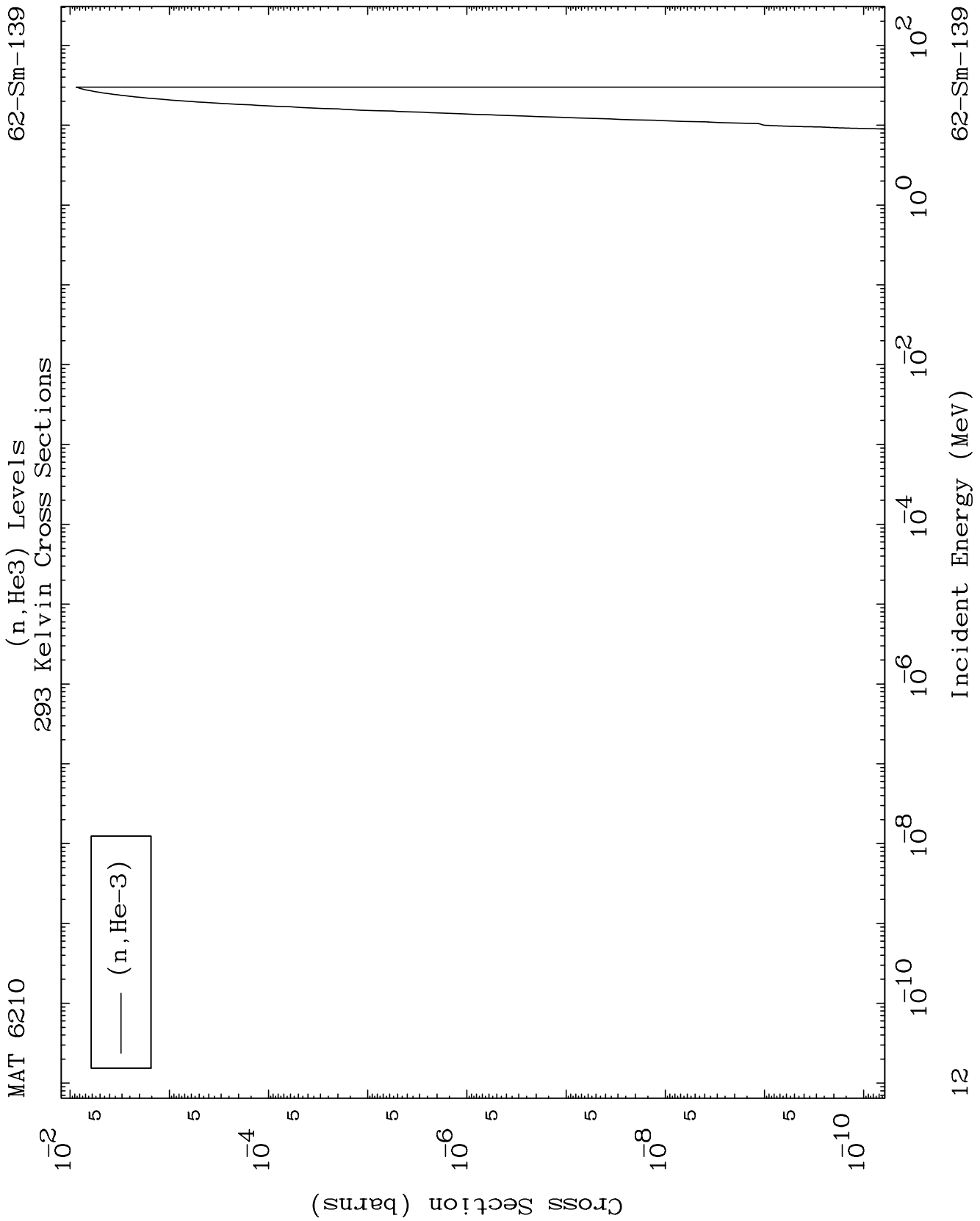
62-Sm-139



11

Incident Energy (MeV)

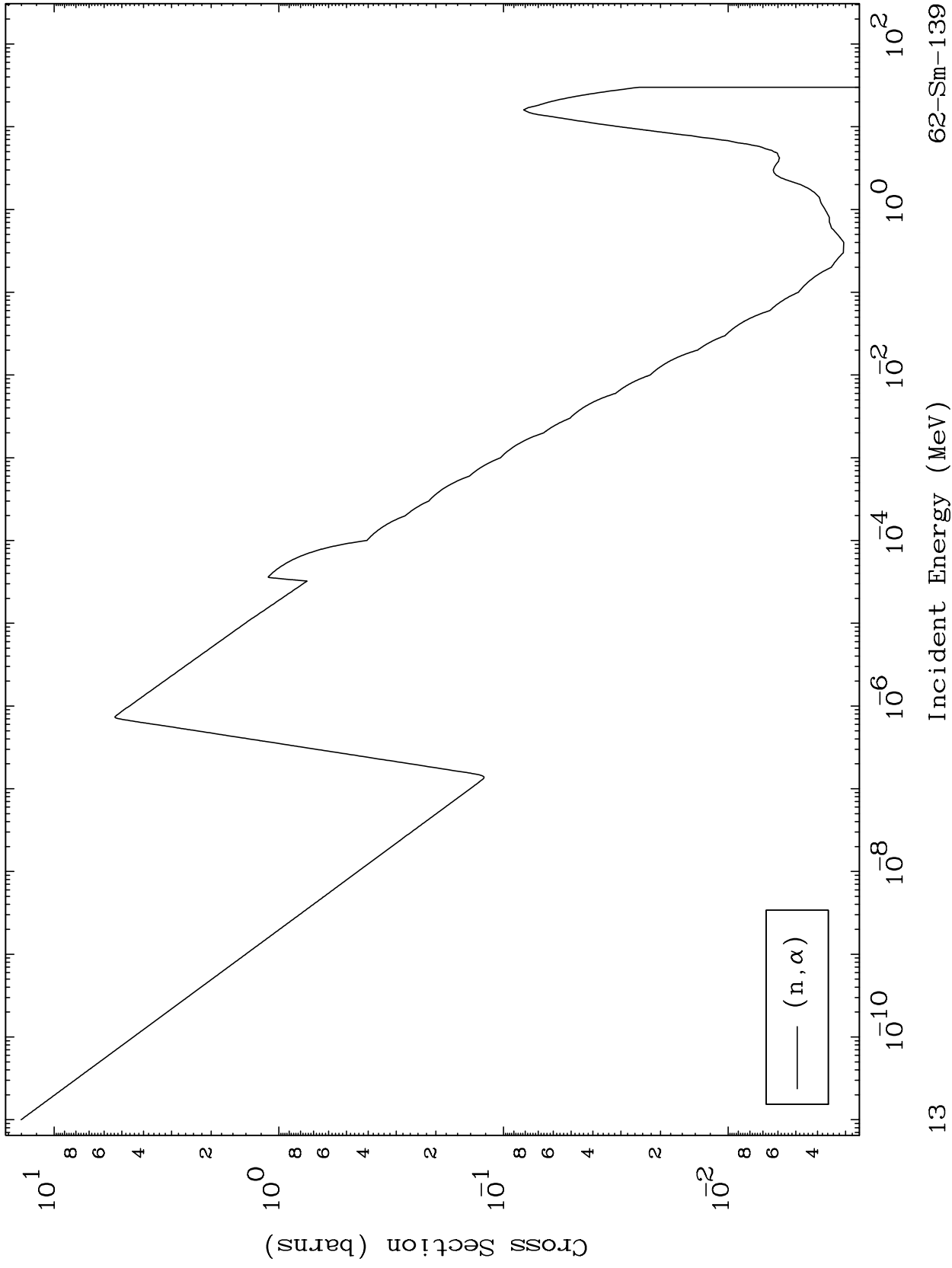
62-Sm-139

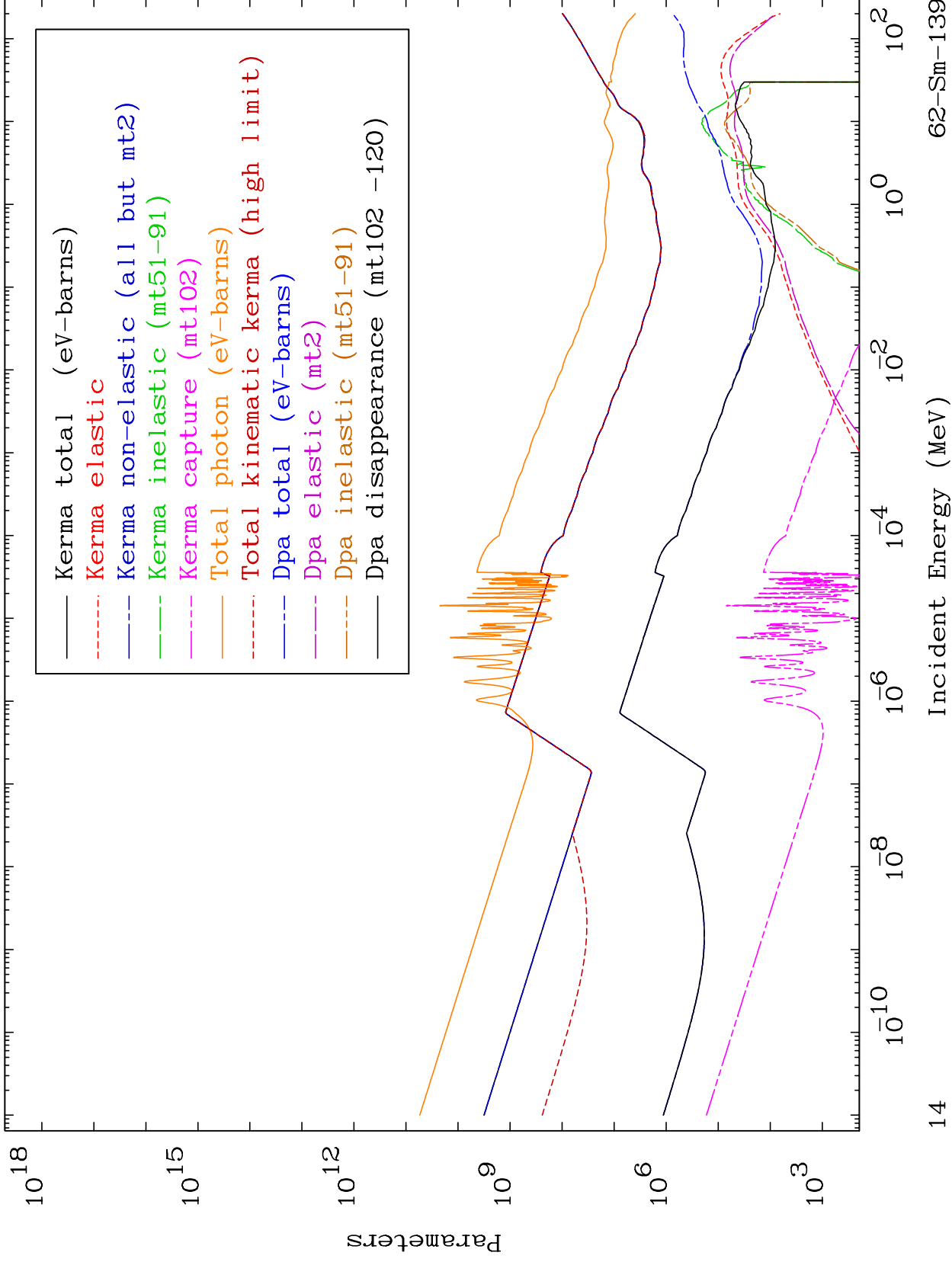


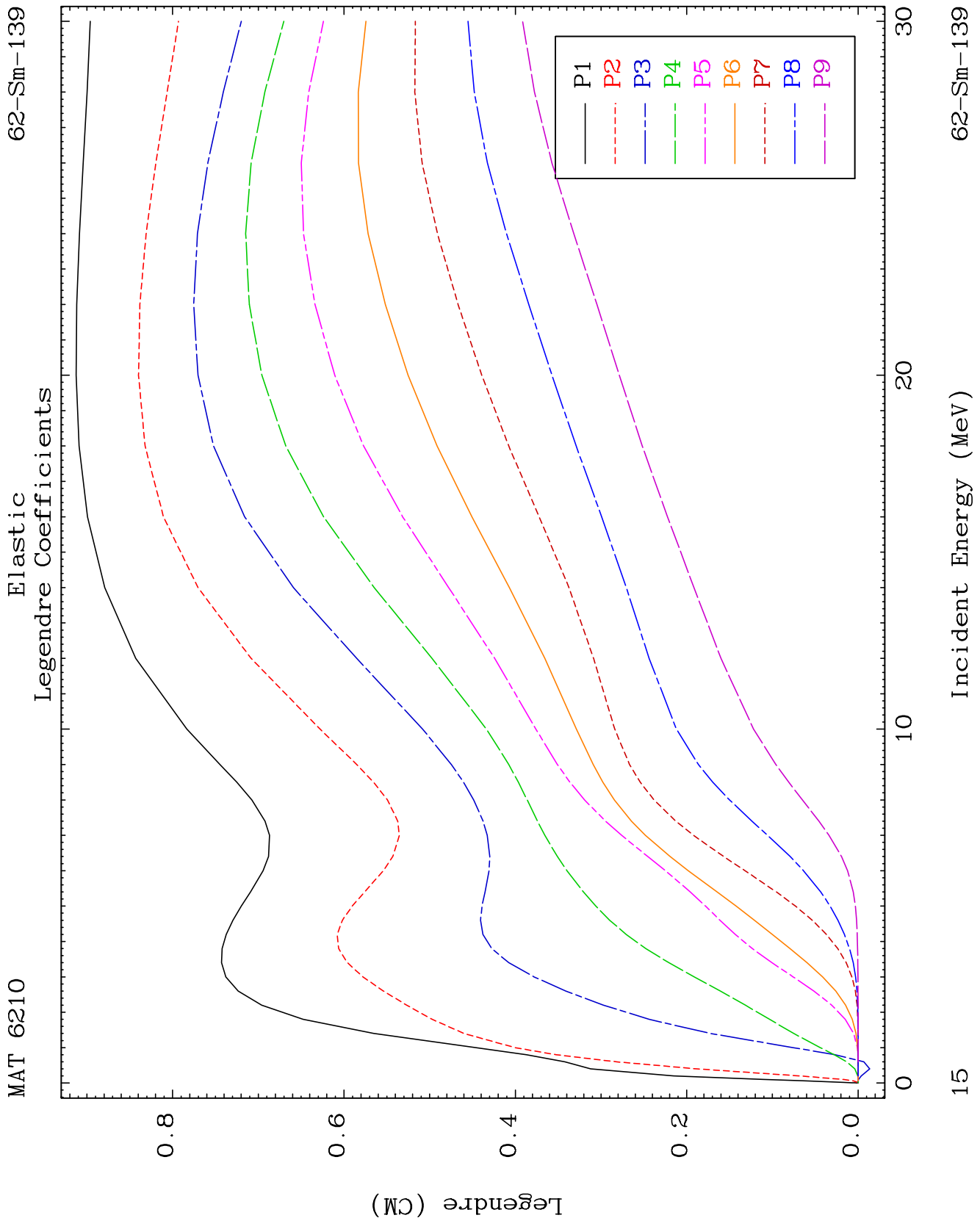
MAT 6210

(n,α) Levels  
293 Kelvin Cross Sections

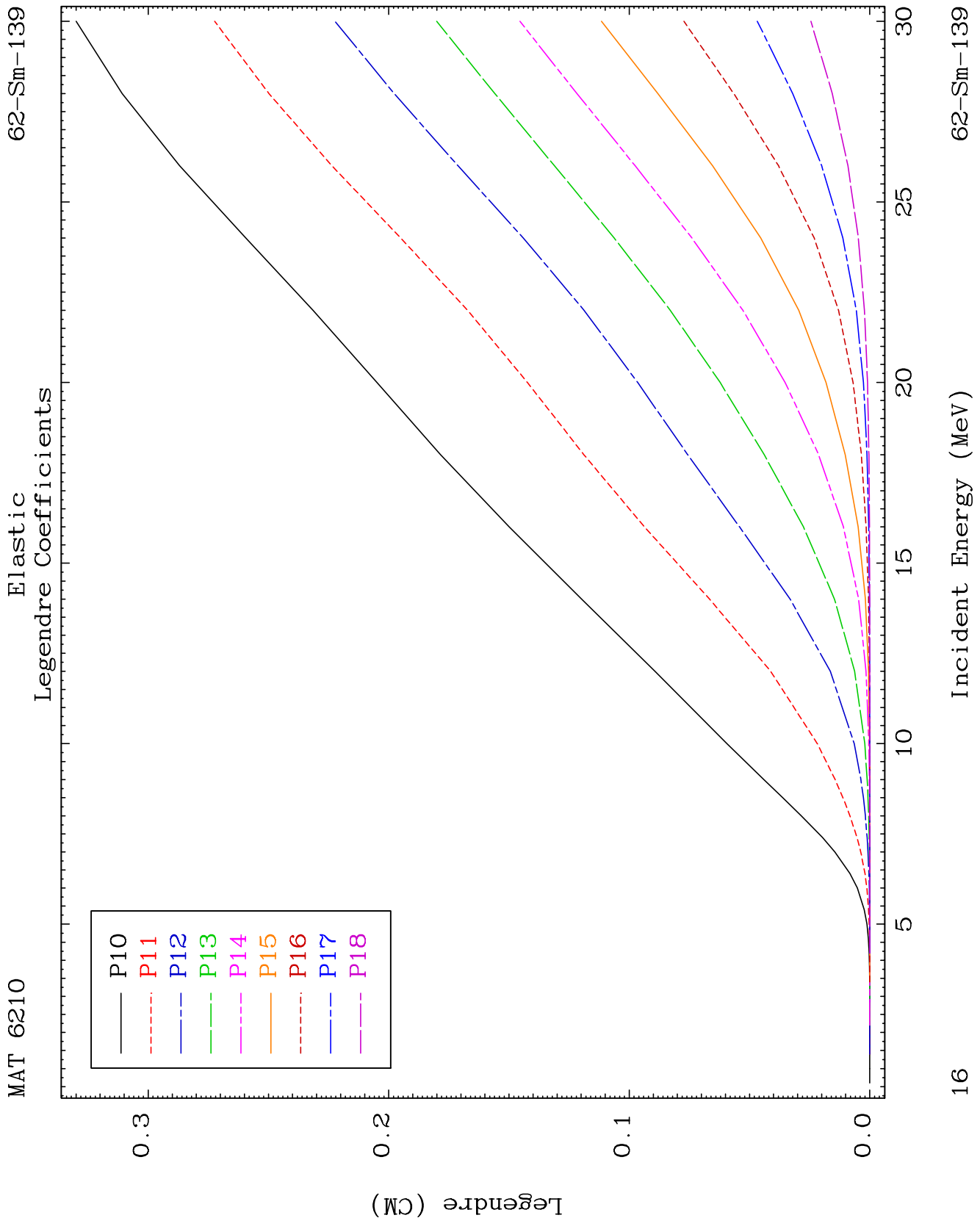
62-Sm-139

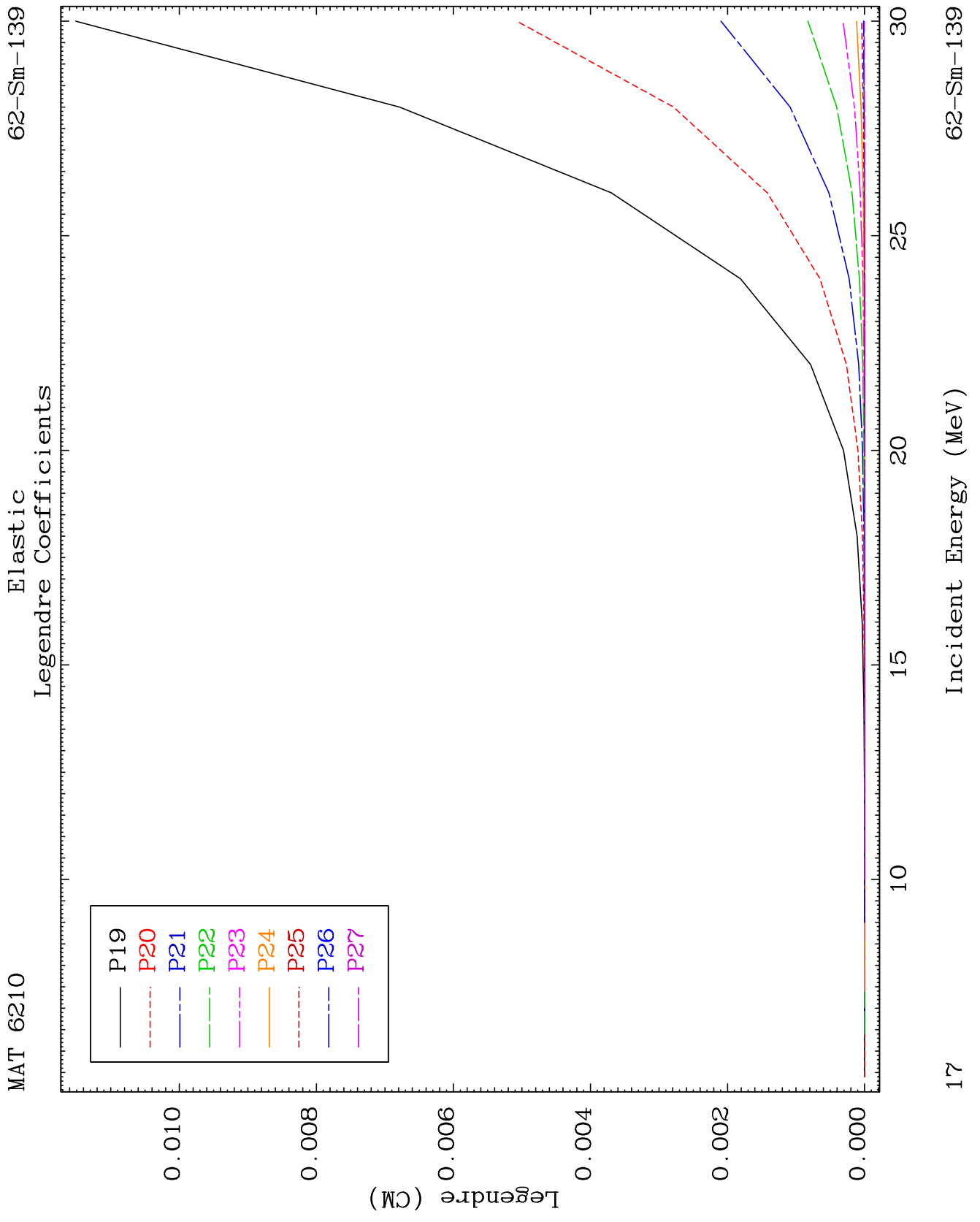










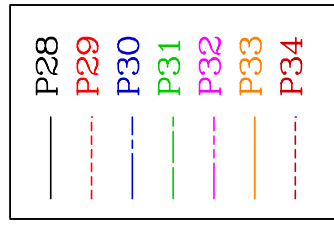


MAT 6210

MAT 6210

Elastic Legendre Coefficients

62-Sm-139



$\times 10^{-6}$

1.2

1.0

0.8

0.6

0.4

0.2

0.0

Legendre (CM)

15

20

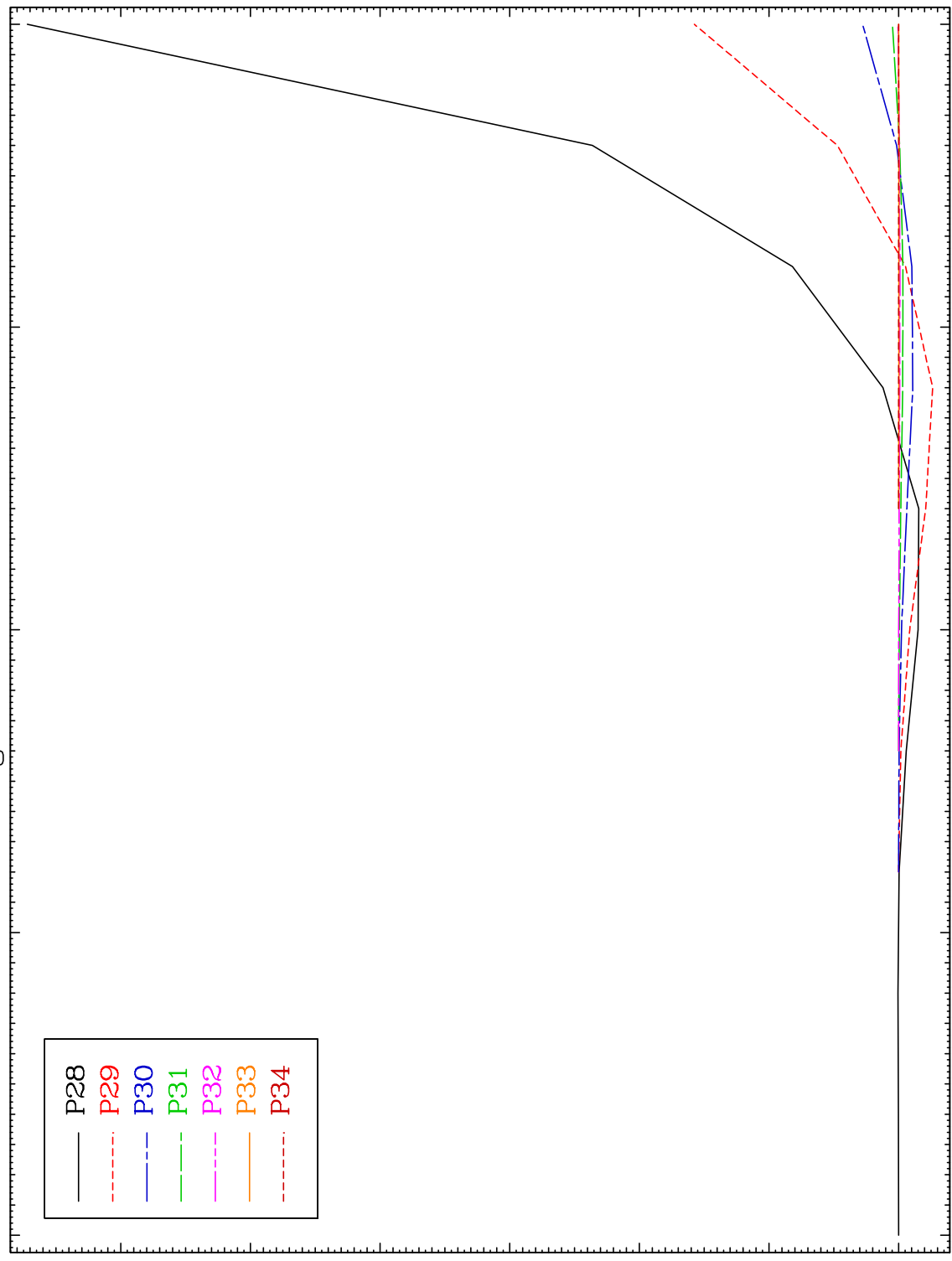
25

30

18

Incident Energy (MeV)

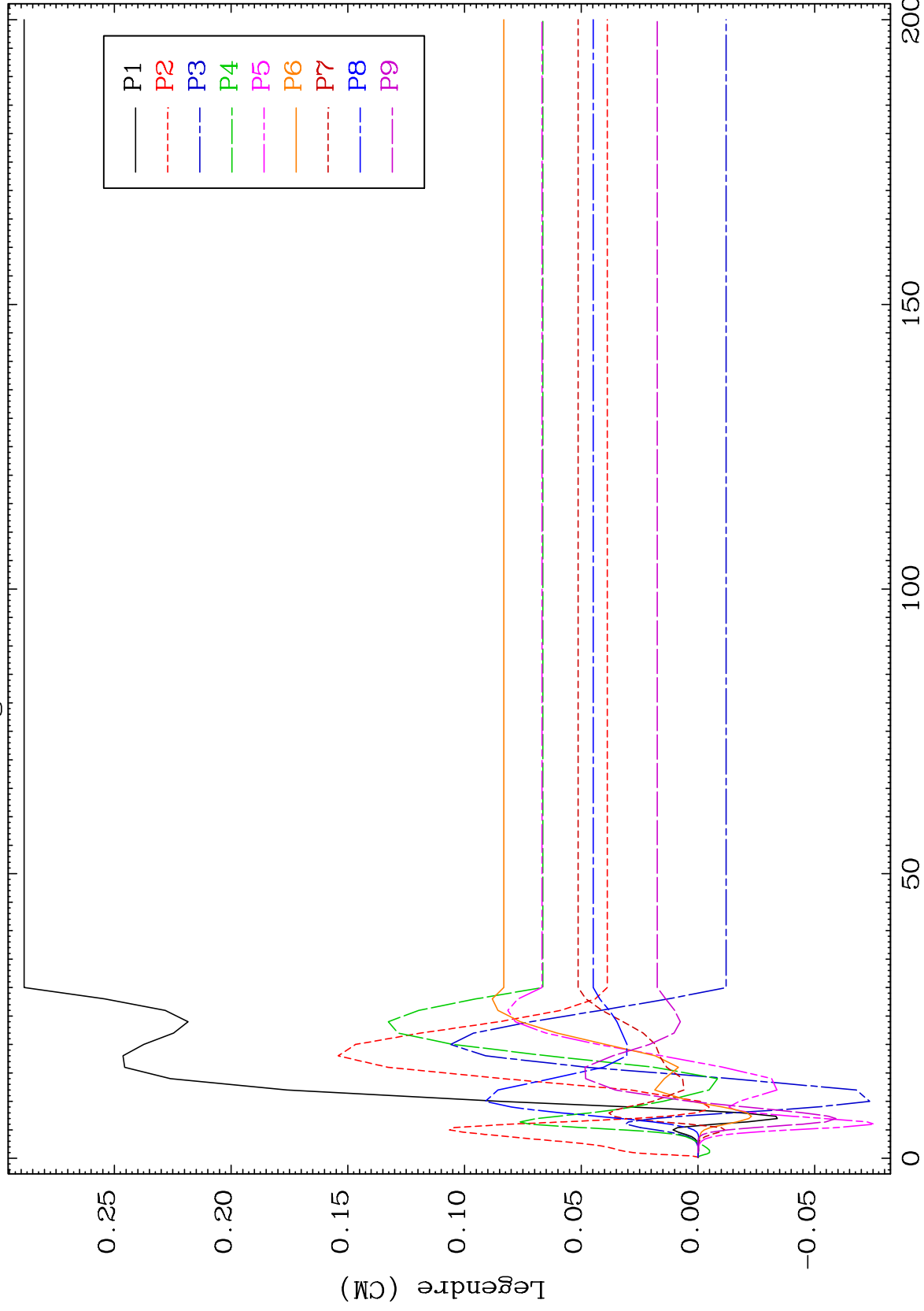
62-Sm-139



MAT 6210

MT= 51 (n,n') Level  
Legendre Coefficients

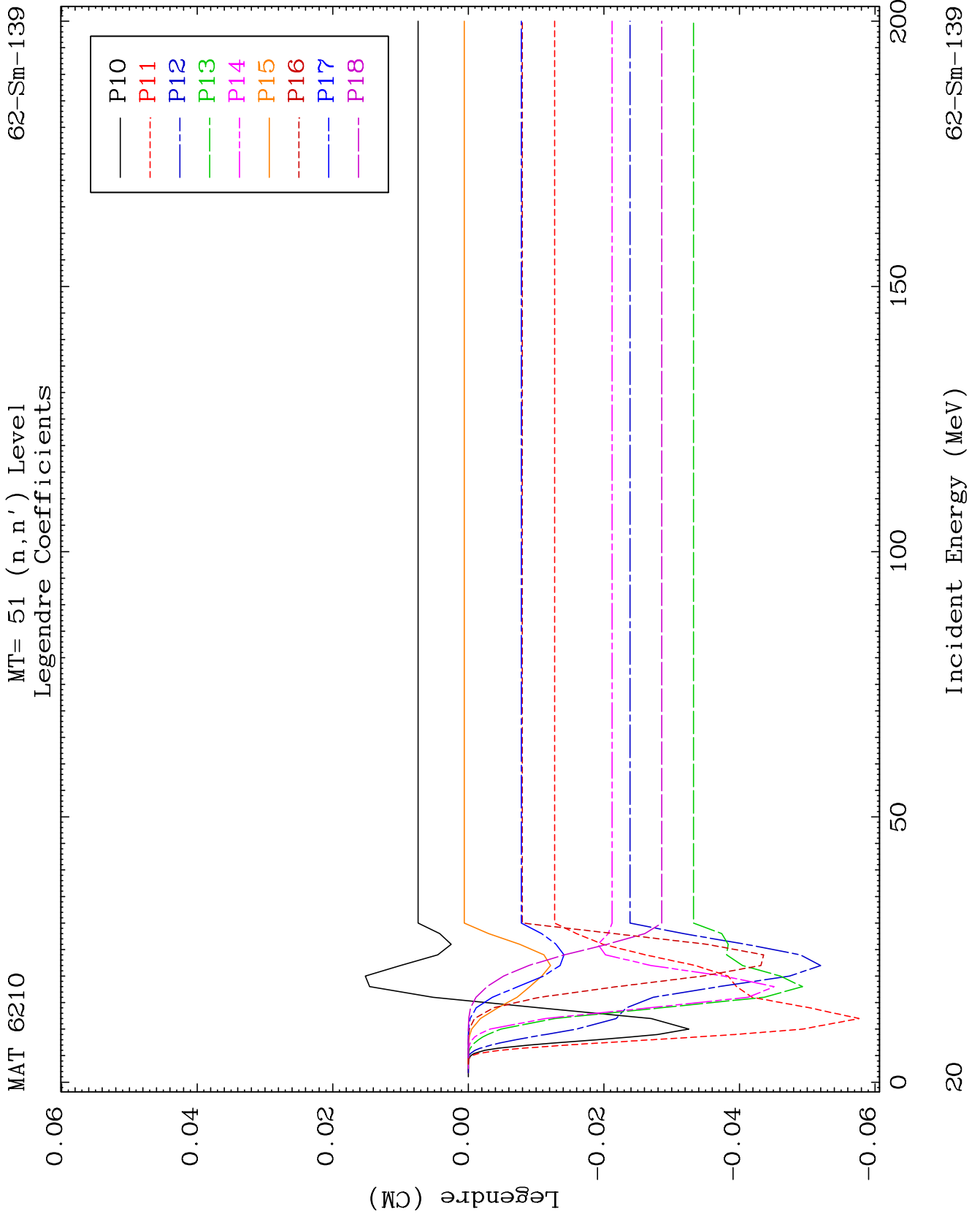
62-Sm-139

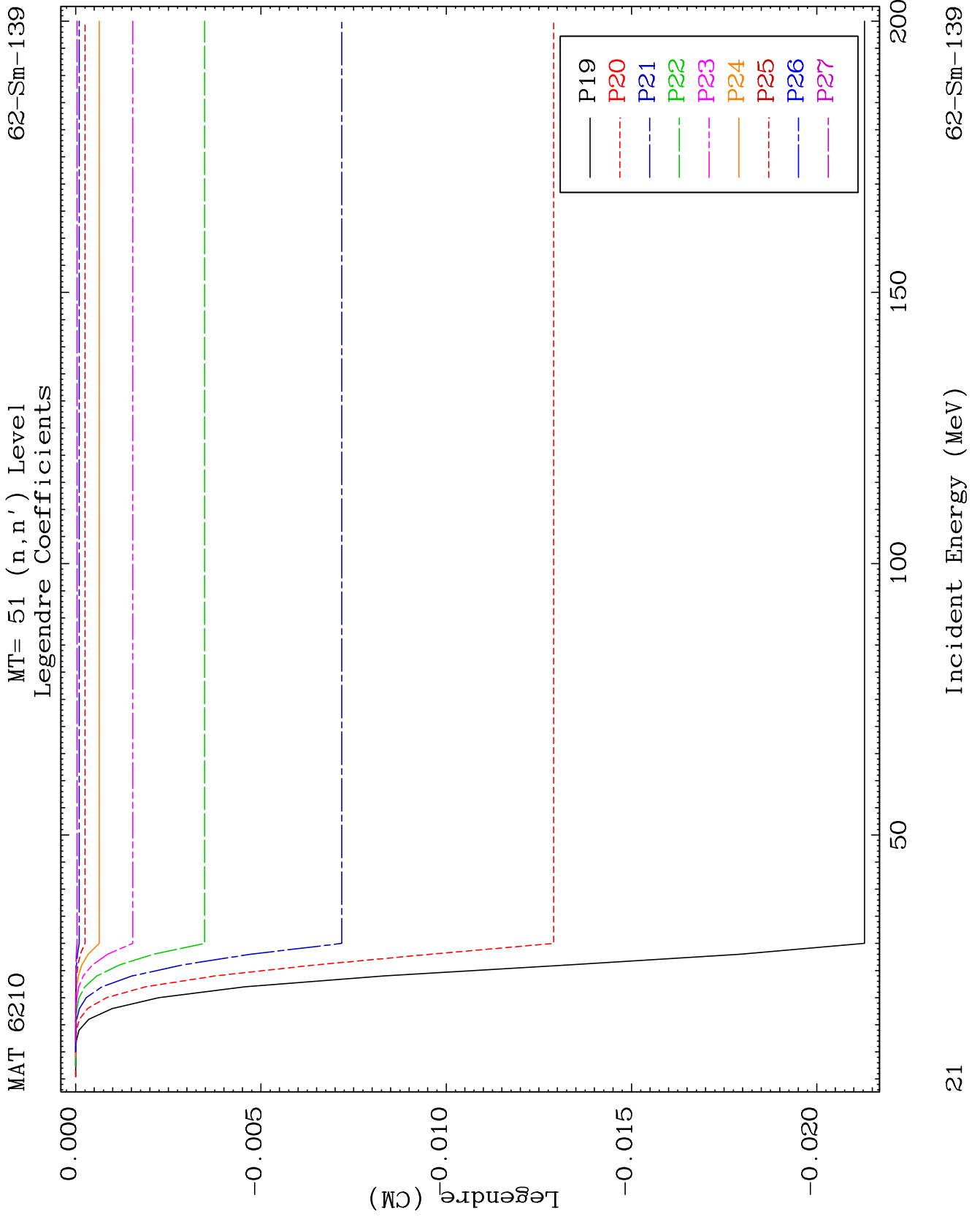


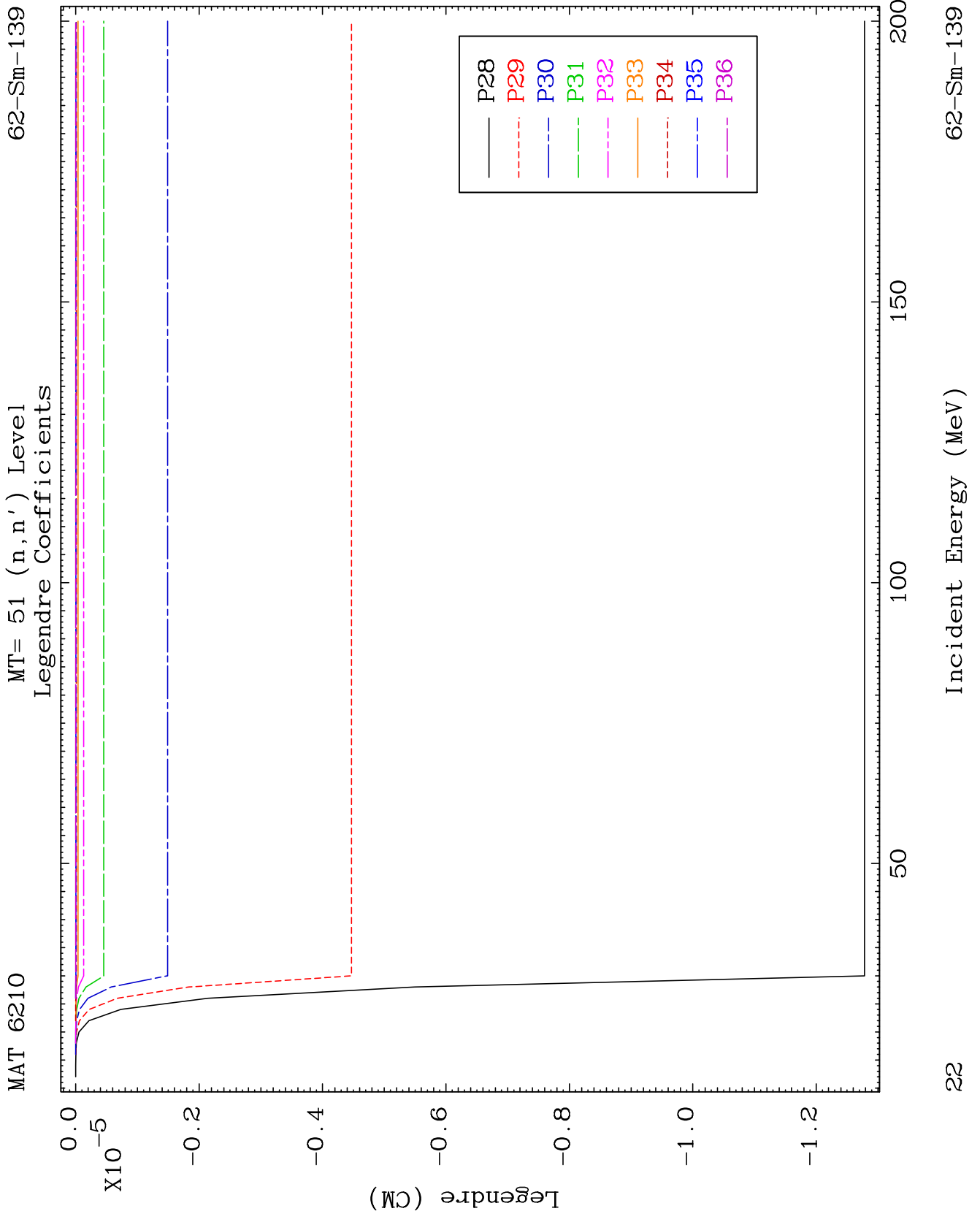
19

Incident Energy (MeV)

62-Sm-139



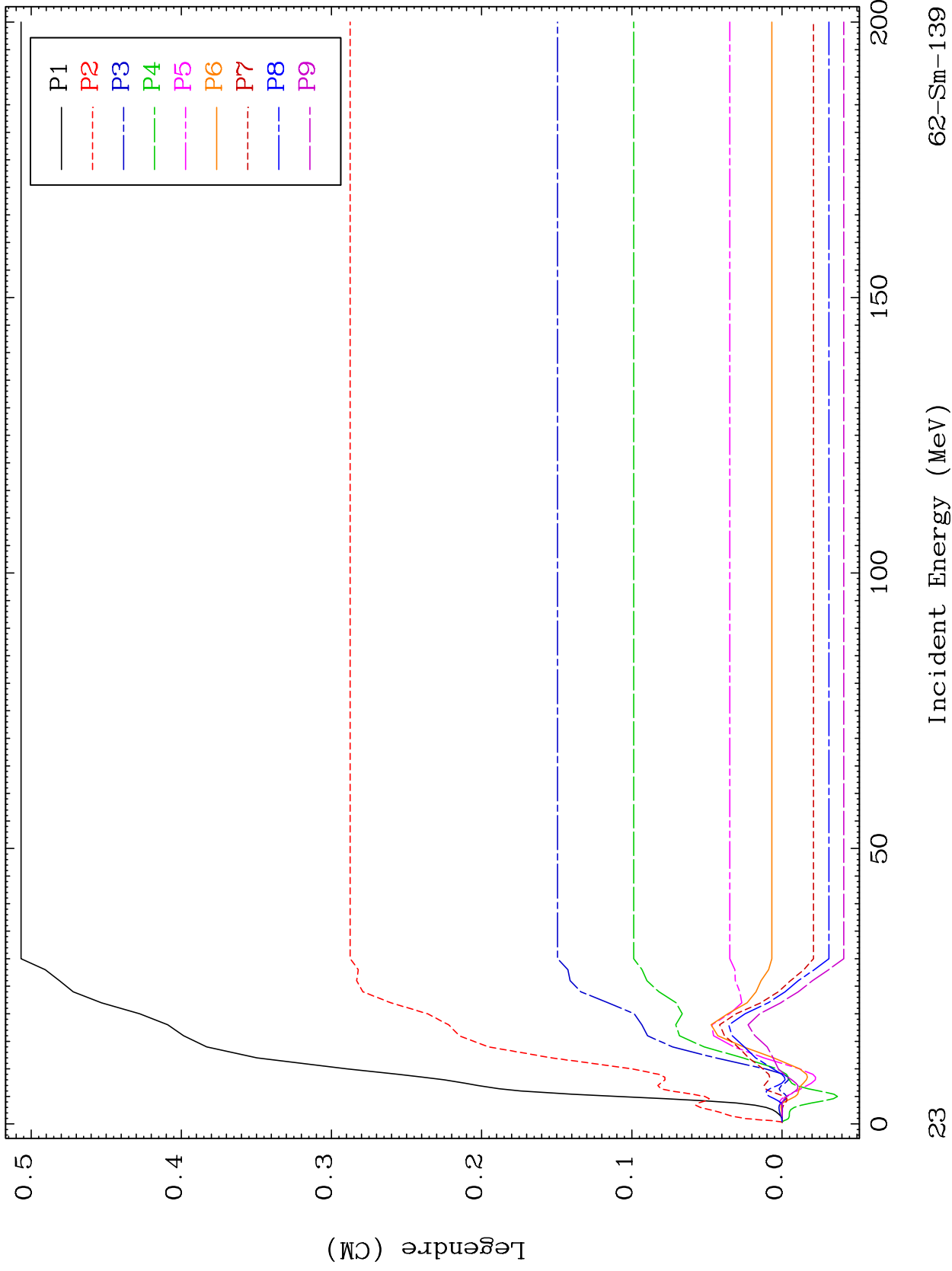




MAT 6210

MT= 52 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

Incident Energy (MeV)

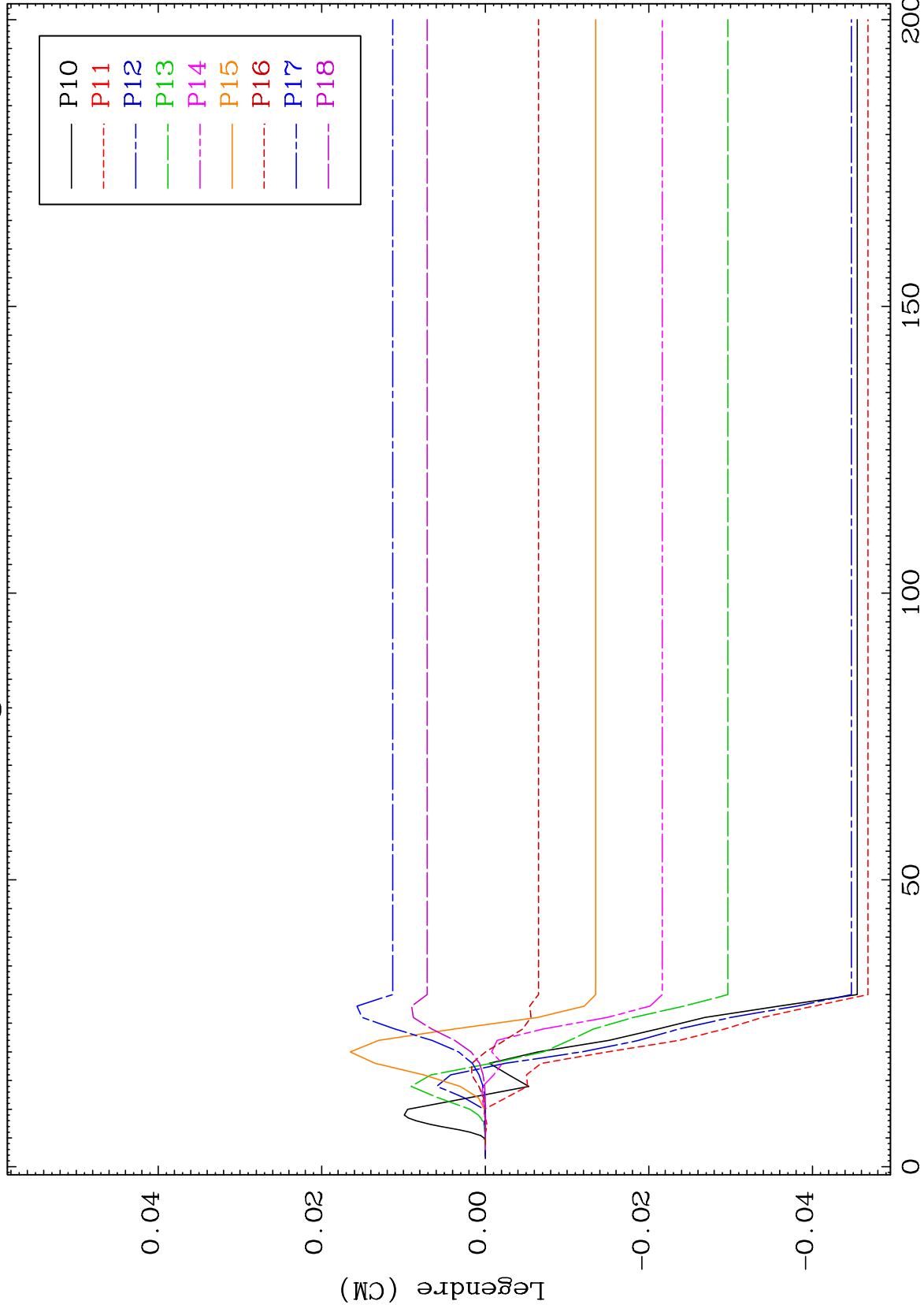
23



MAT 6210

MT= 52 (n,n') Level  
Legendre Coefficients

62-Sm-139



24

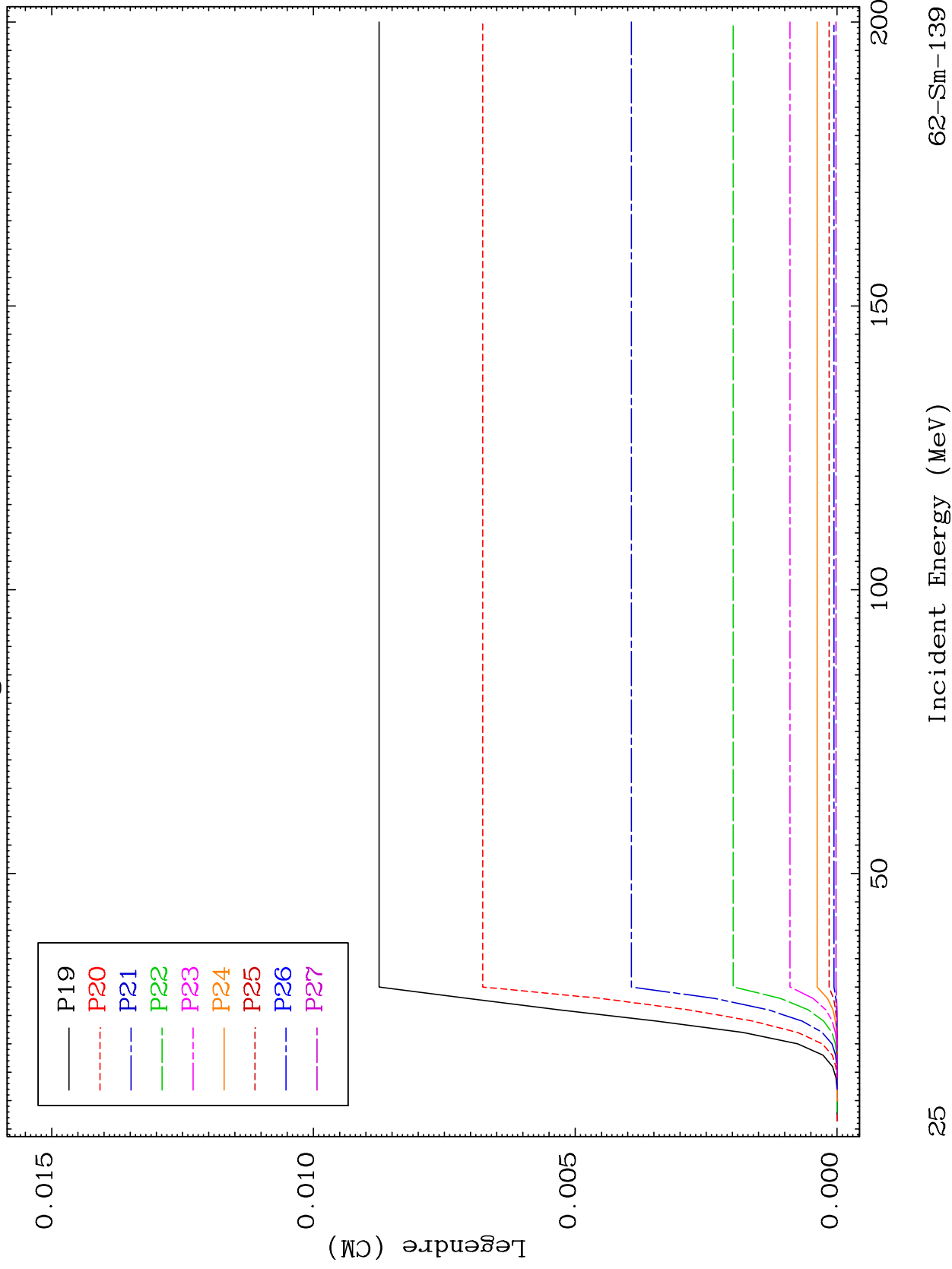
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 52 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

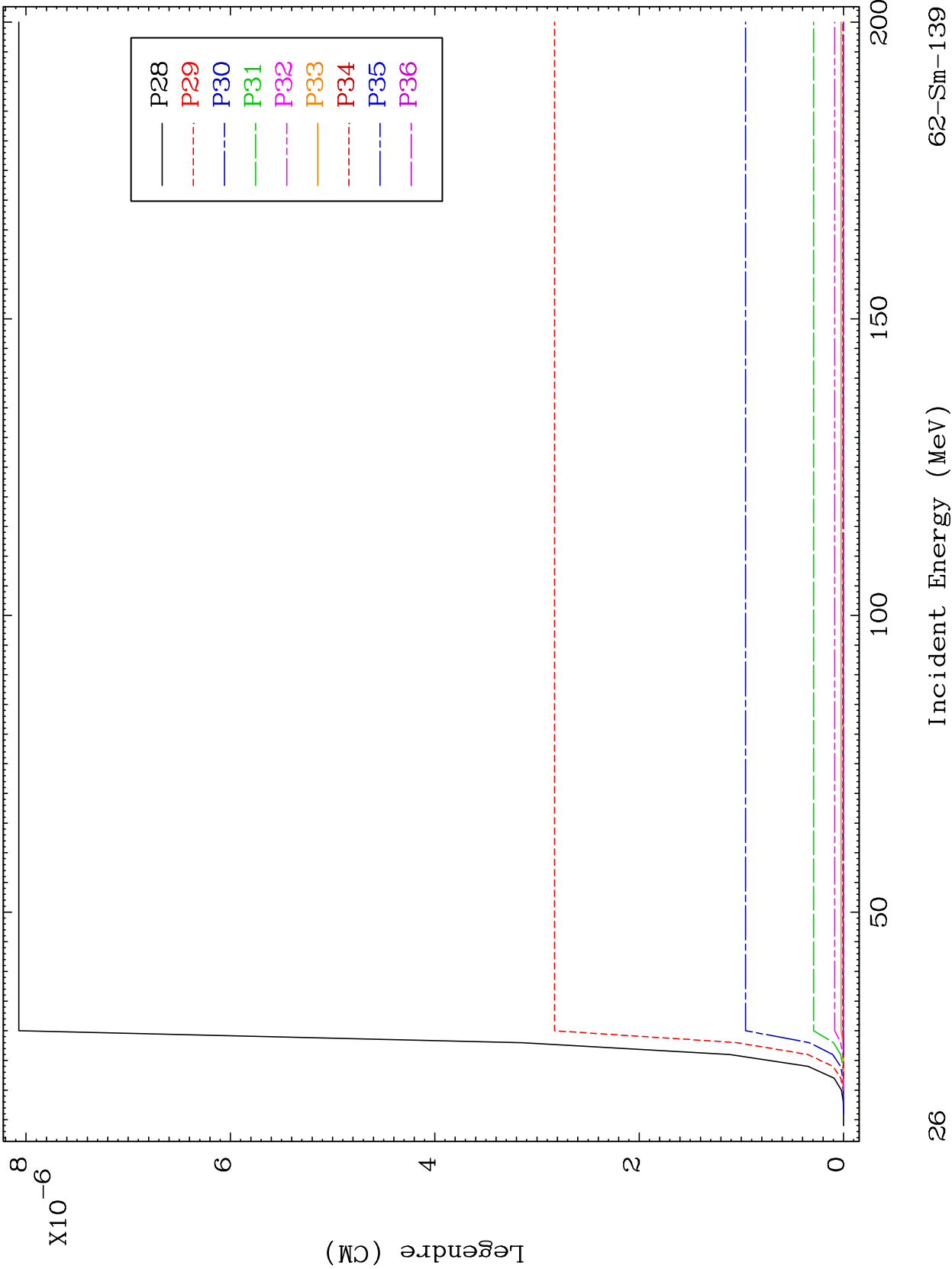
Incident Energy (MeV)

25

MAT 6210

MT= 52 (n,n') Level  
Legendre Coefficients

62-Sm-139



26

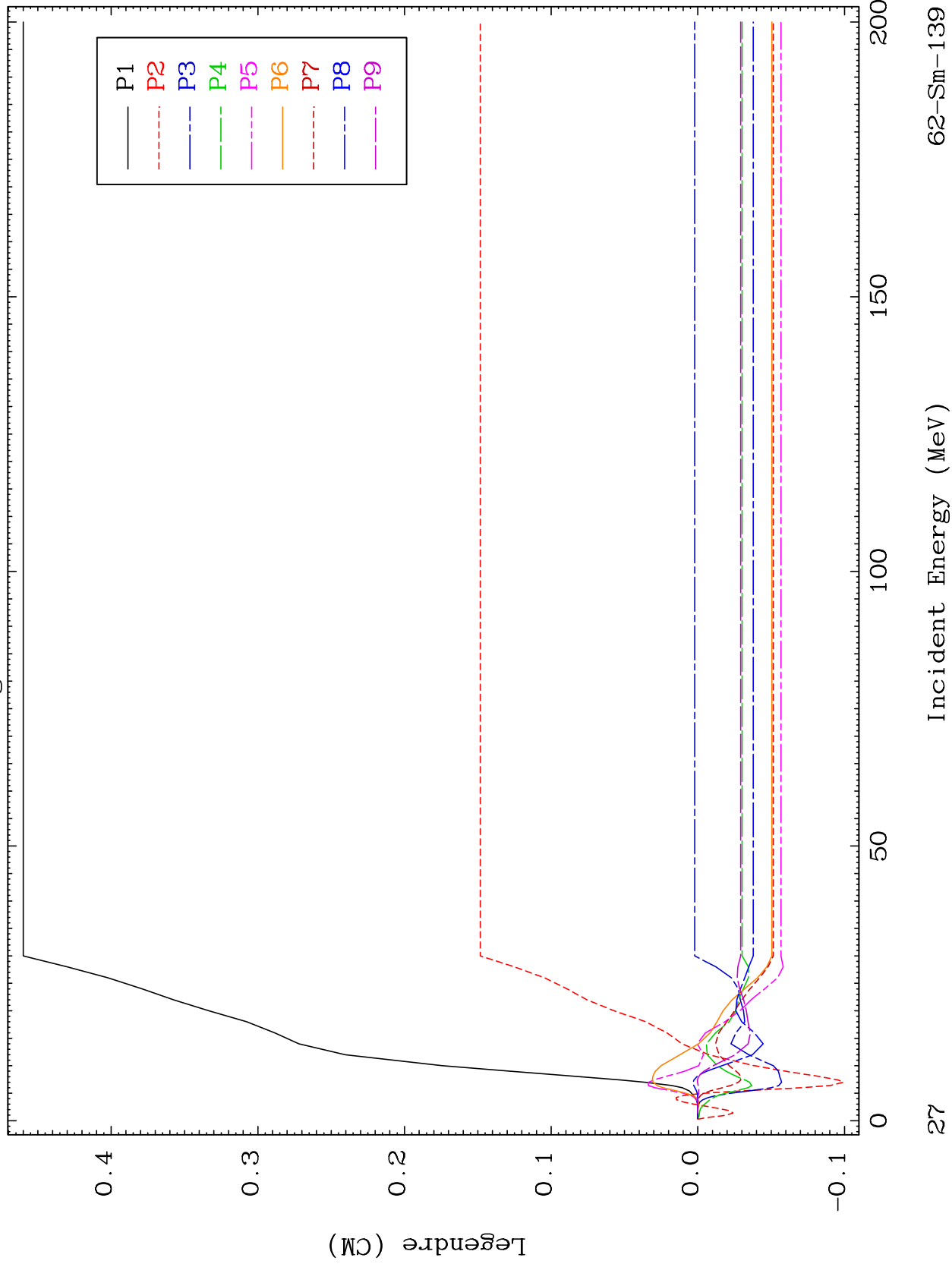
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 53 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

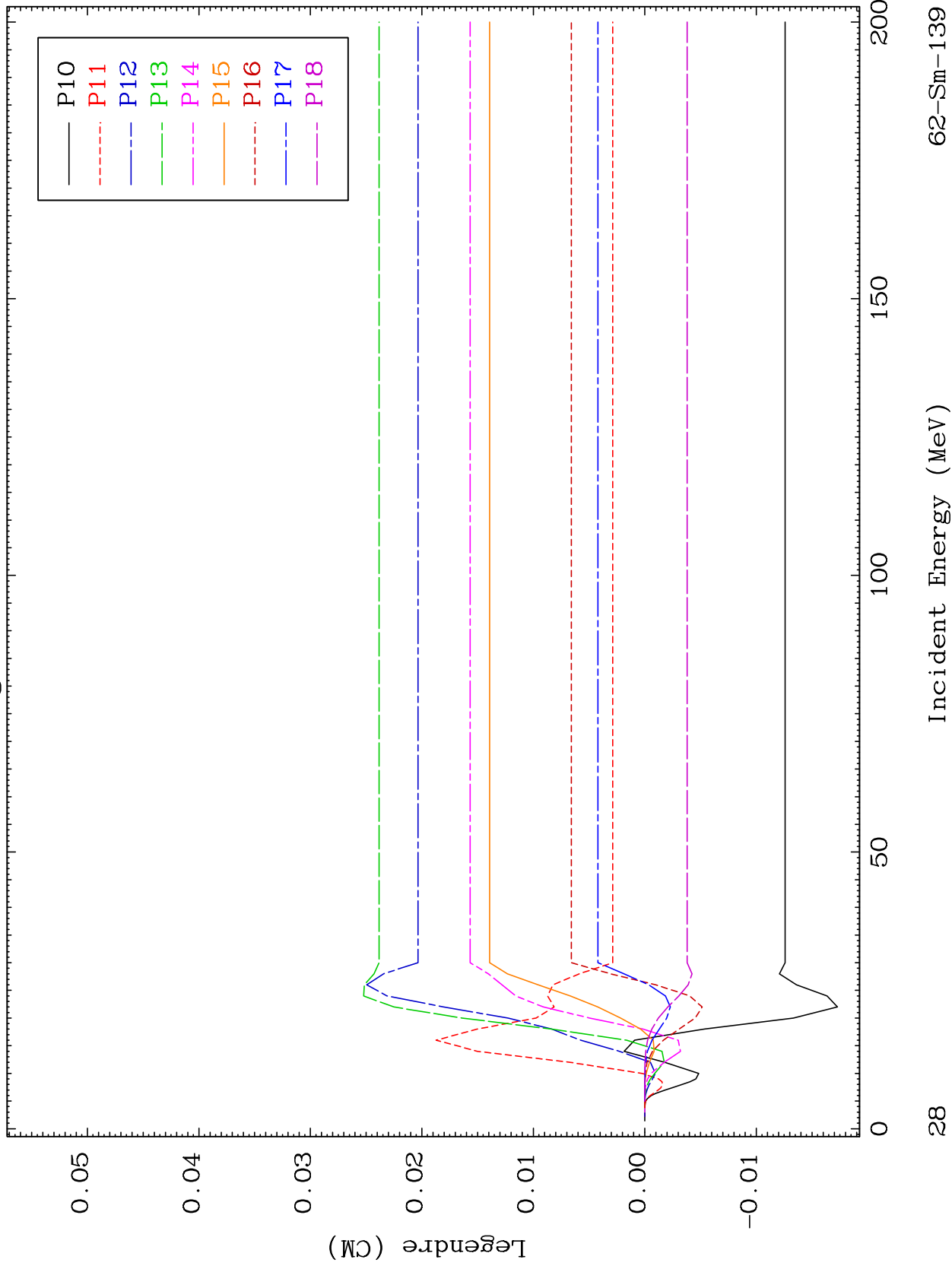
Incident Energy (MeV)

27

MAT 6210

MT= 53 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

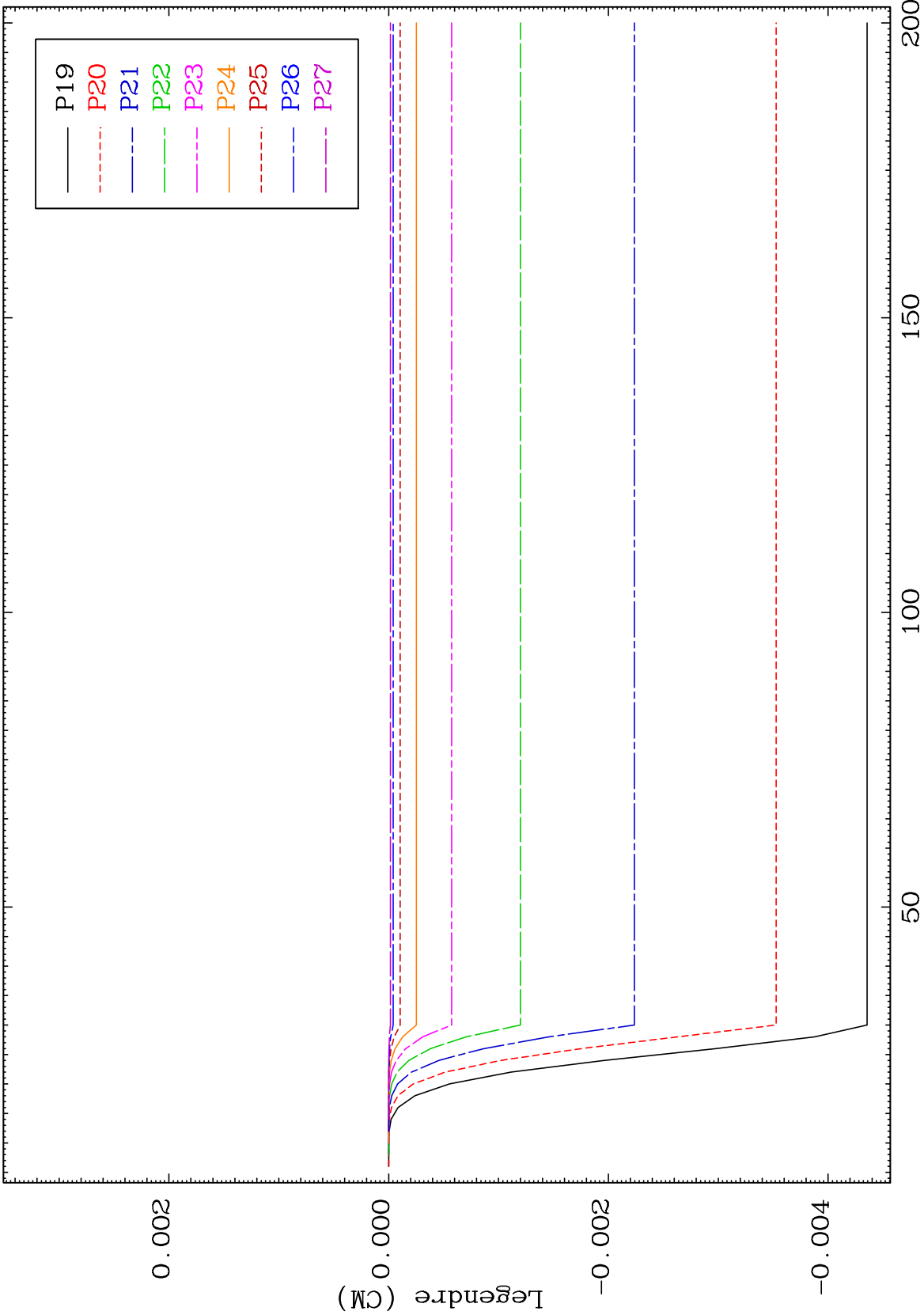
Incident Energy (MeV)

28

MAT 6210

MT= 53 (n,n') Level  
Legendre Coefficients

62-Sm-139

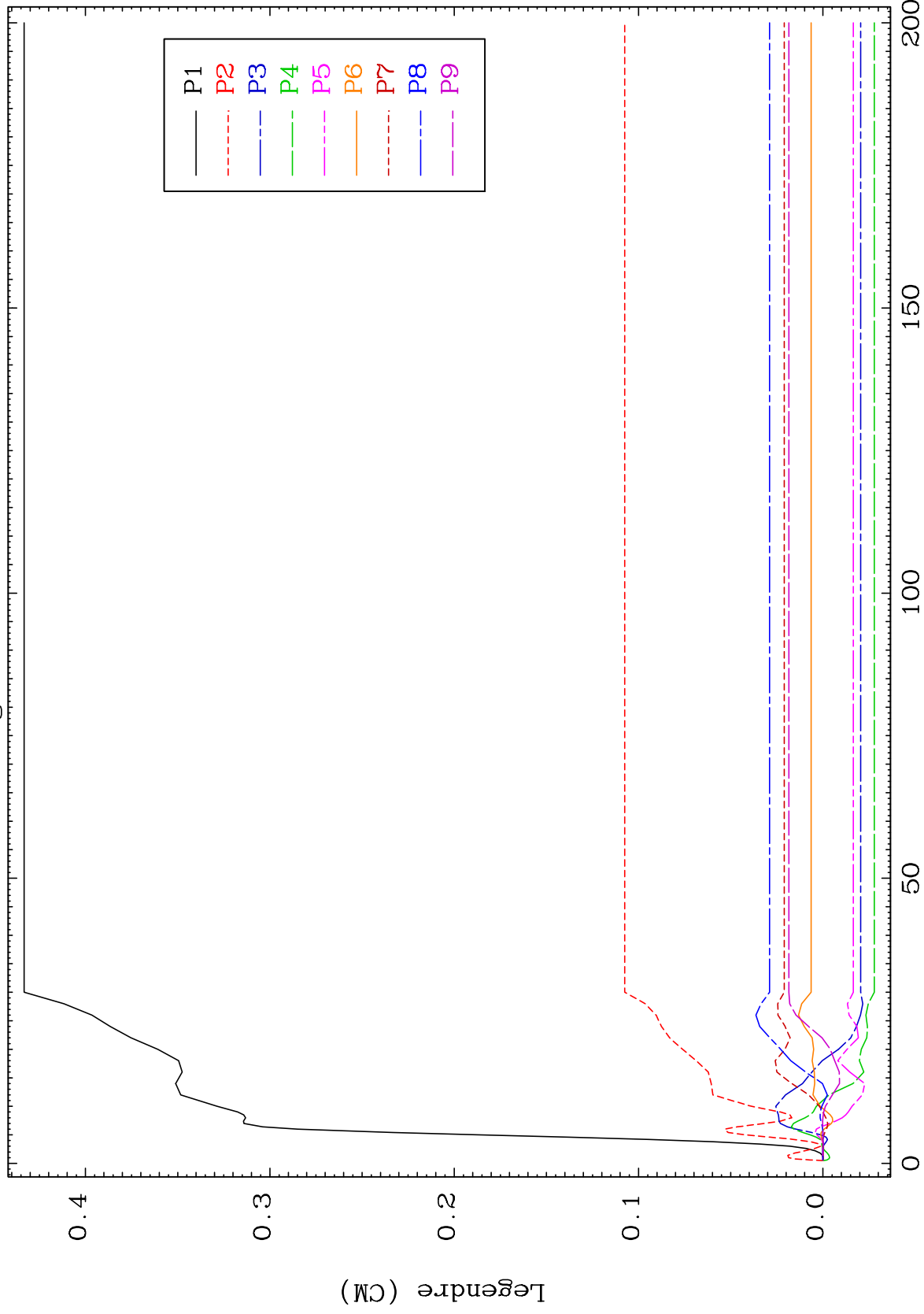




MAT 6210

MT= 54 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

Incident Energy (MeV)

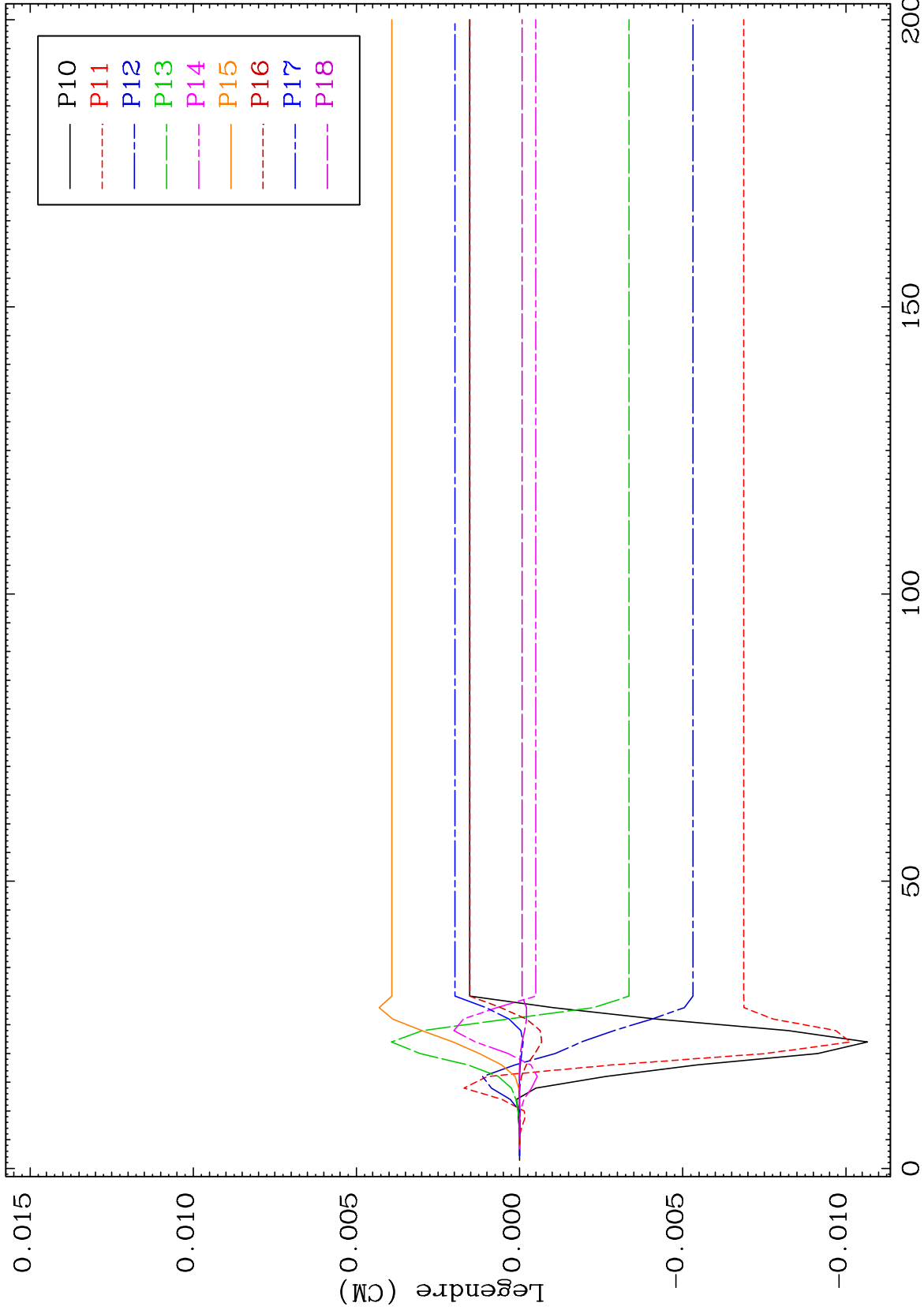
31



MAT 6210

MT= 54 (n,n') Level  
Legendre Coefficients

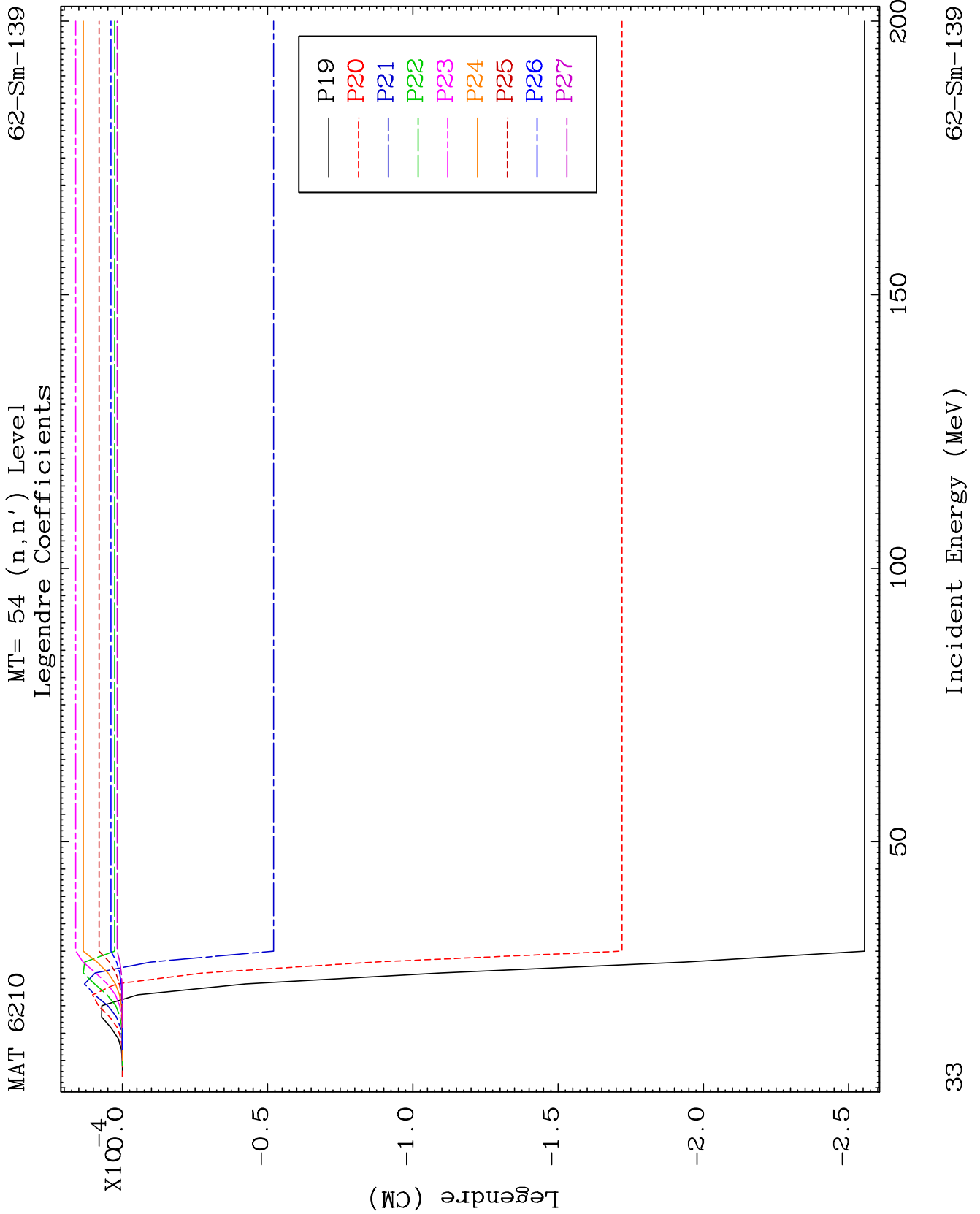
62-Sm-139



32

Incident Energy (MeV)

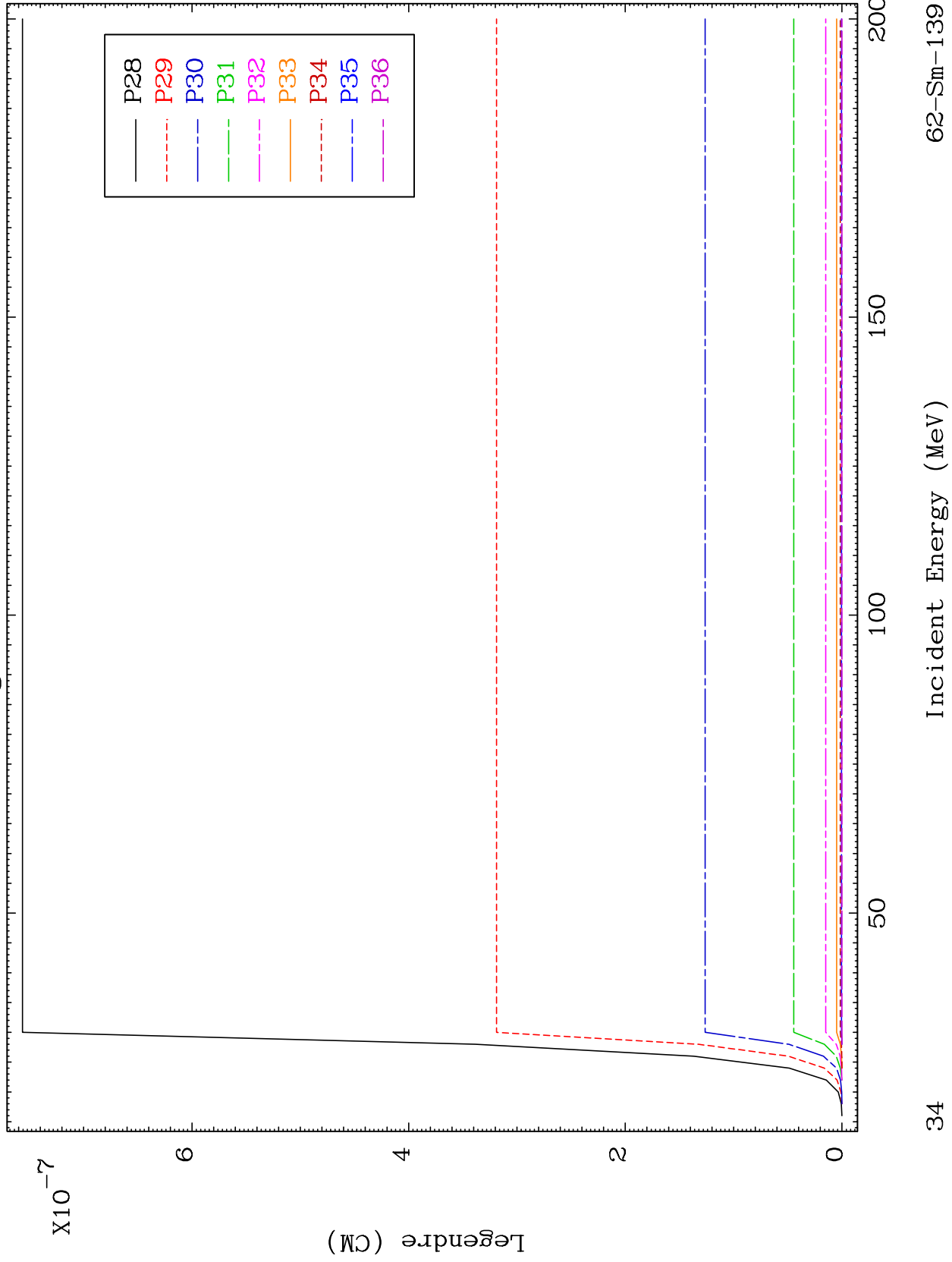
62-Sm-139



MAT 6210

MT= 54 (n,n') Level  
Legendre Coefficients

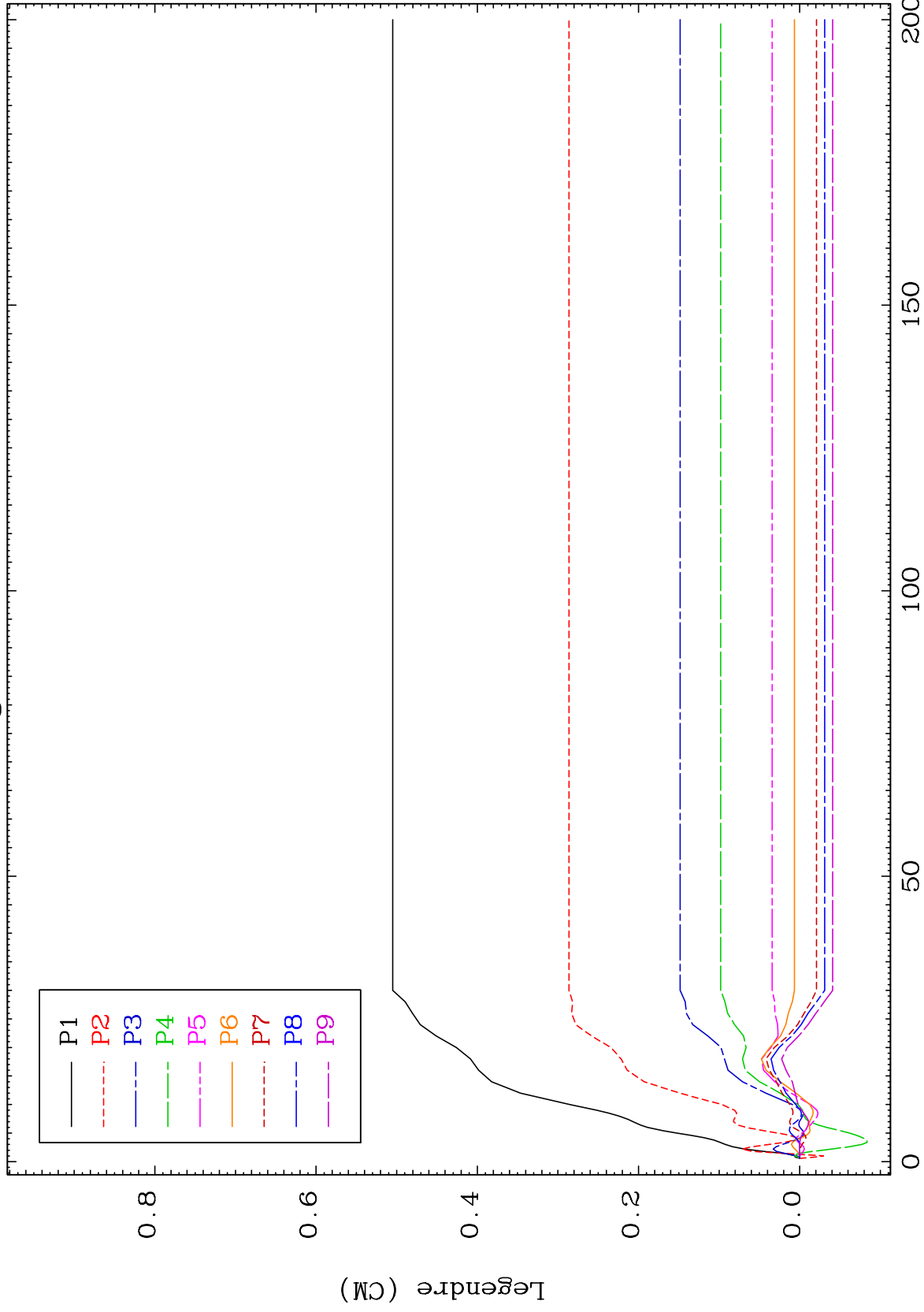
62-Sm-139



MAT 6210

MT= 55 (n,n') Level  
Legendre Coefficients

62-Sm-139



Incident Energy (MeV)

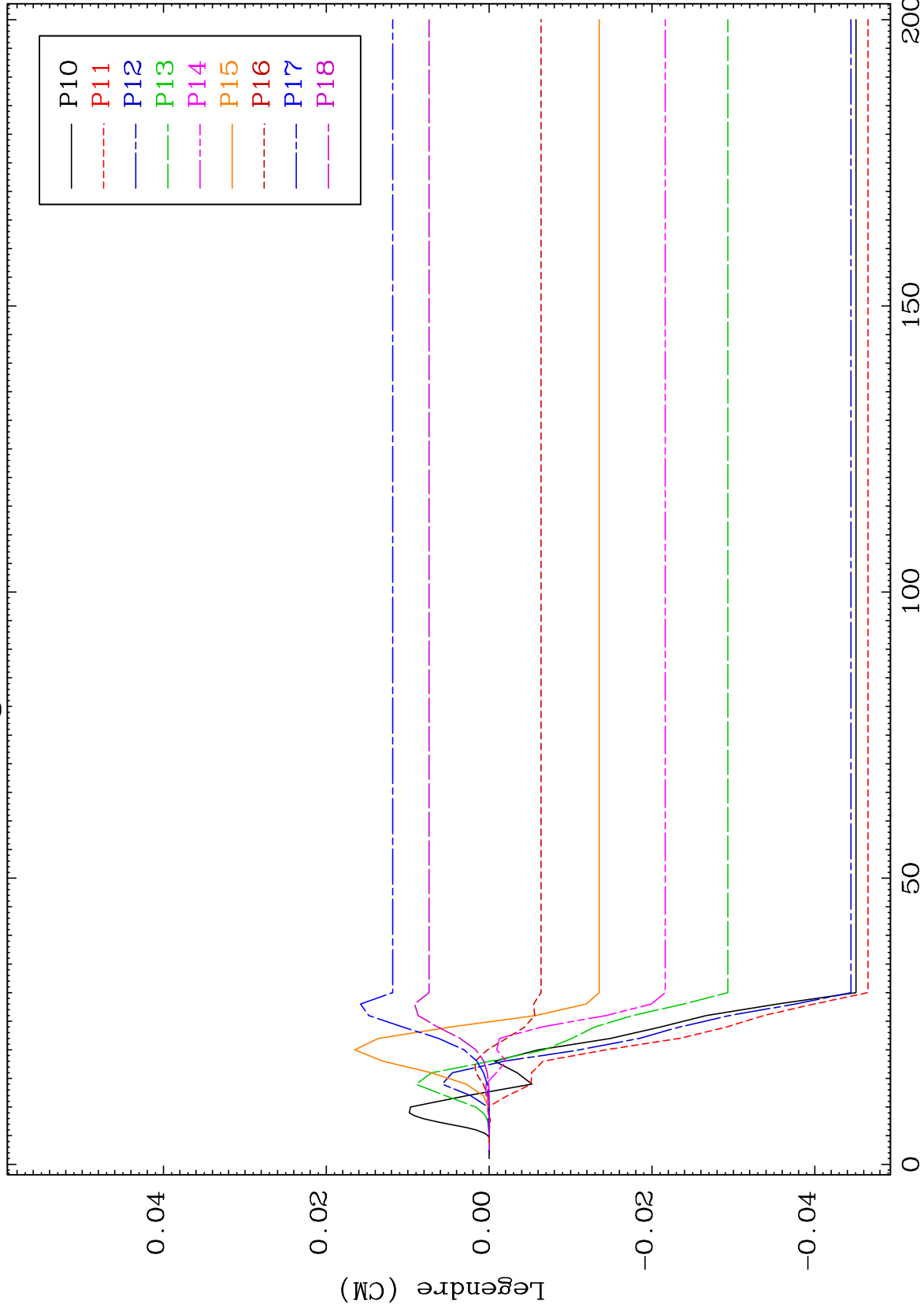
62-Sm-139

35

MAT 6210

MT= 55 (n,n') Level  
Legendre Coefficients

62-Sm-139



36

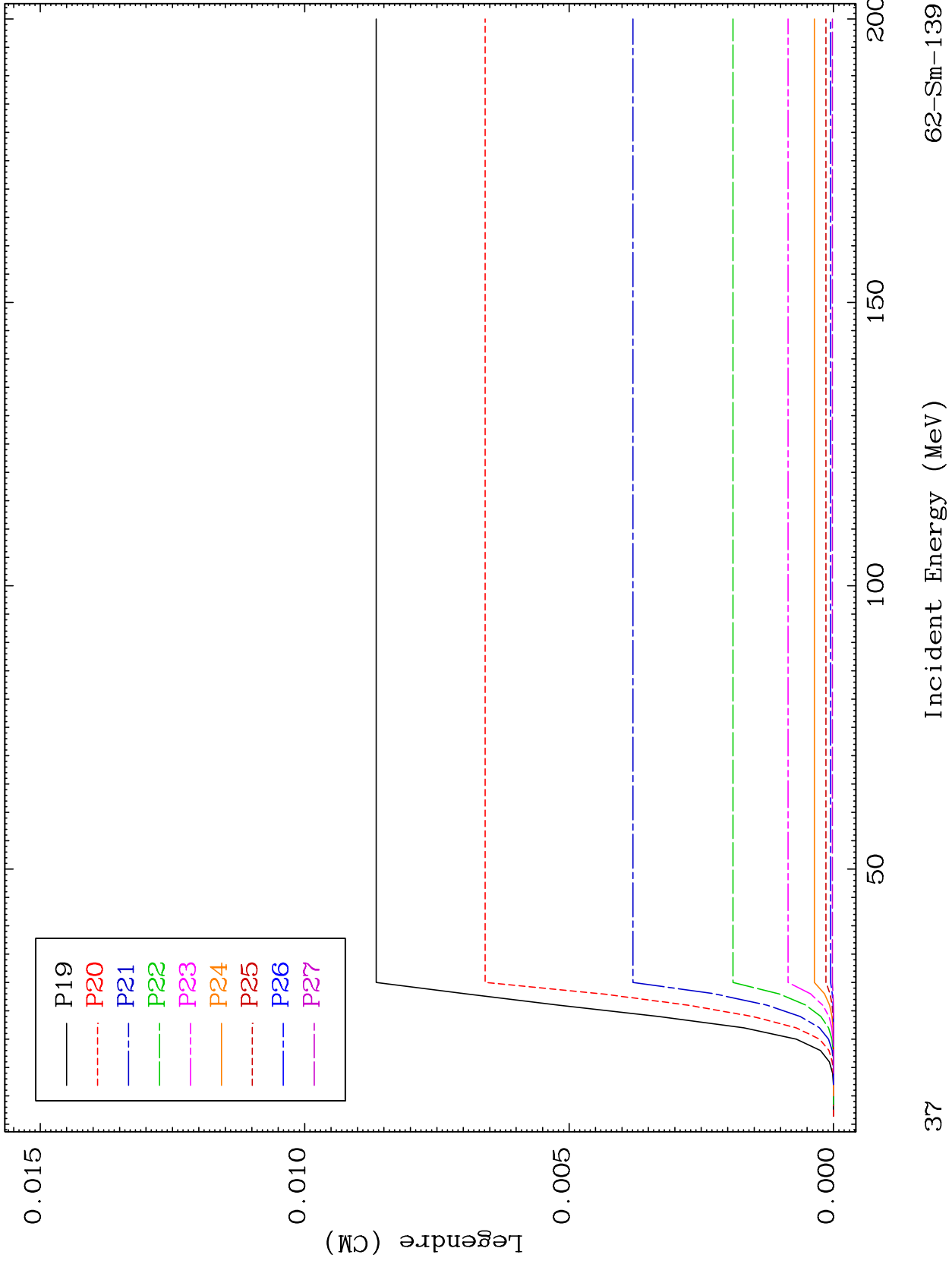
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 55 (n,n') Level  
Legendre Coefficients

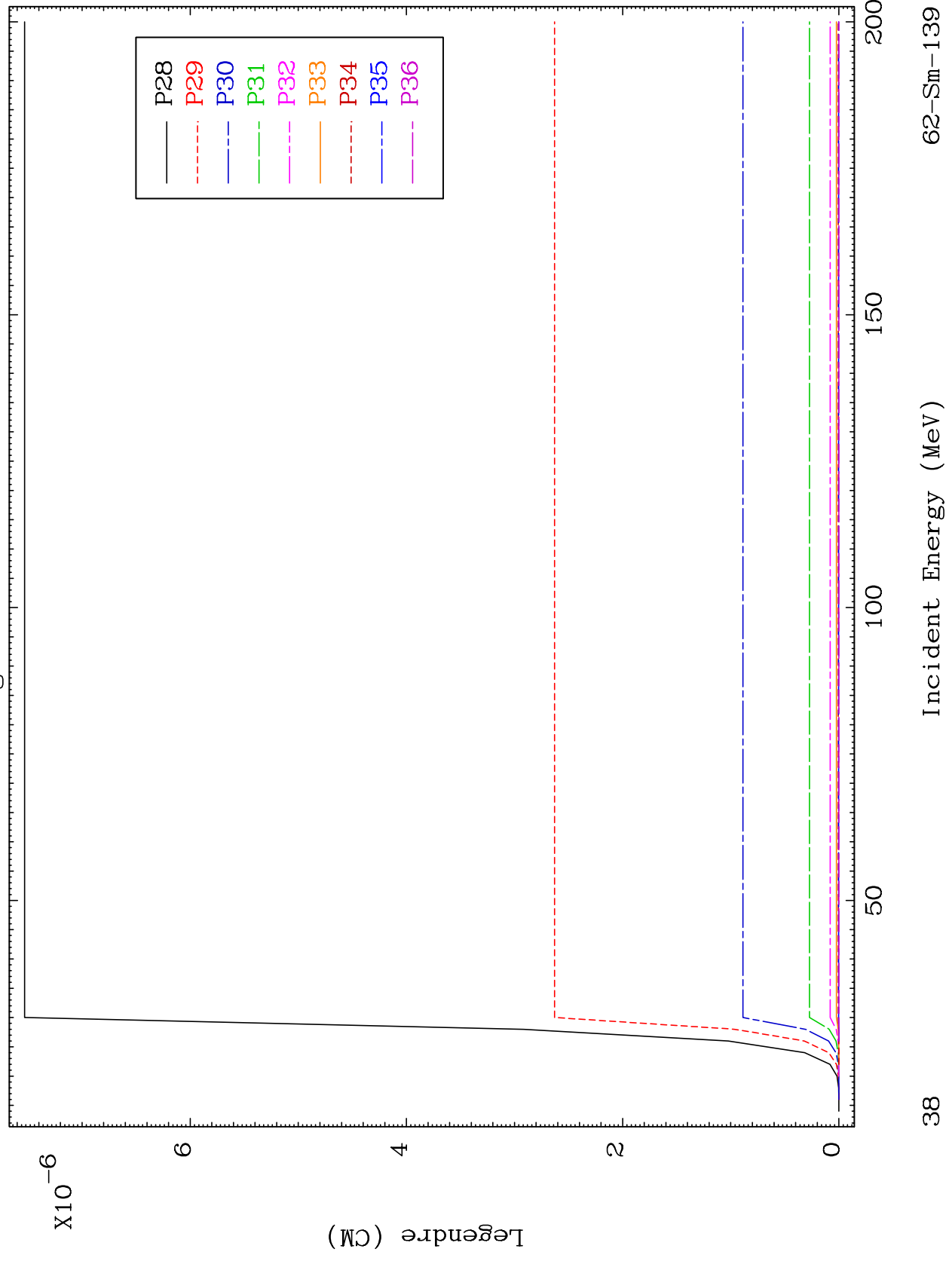
62-Sm-139



MAT 6210

MT= 55 (n,n') Level  
Legendre Coefficients

62-Sm-139



38

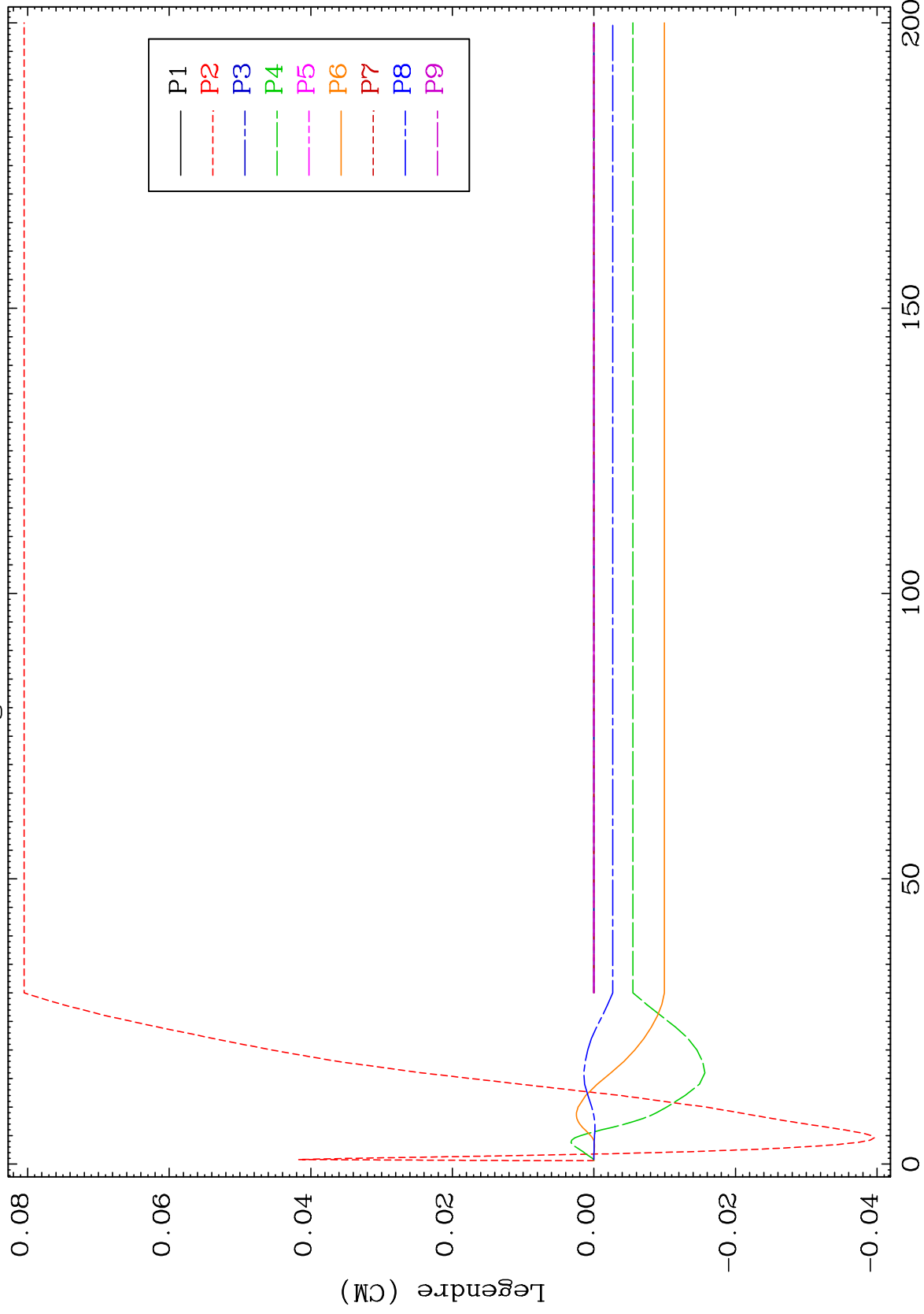
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 56 (n,n') Level  
Legendre Coefficients

62-Sm-139



39

Incident Energy (MeV)

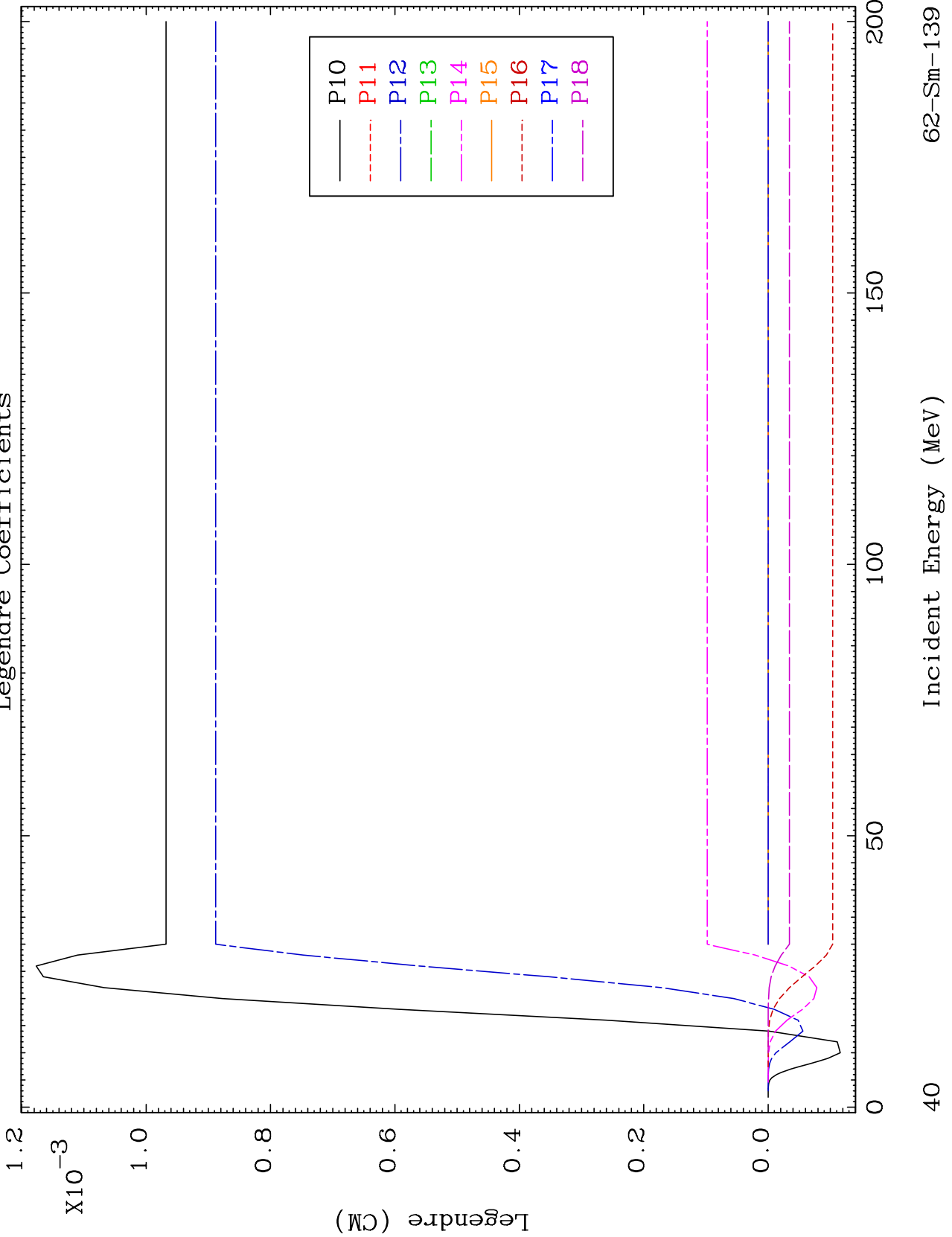
62-Sm-139

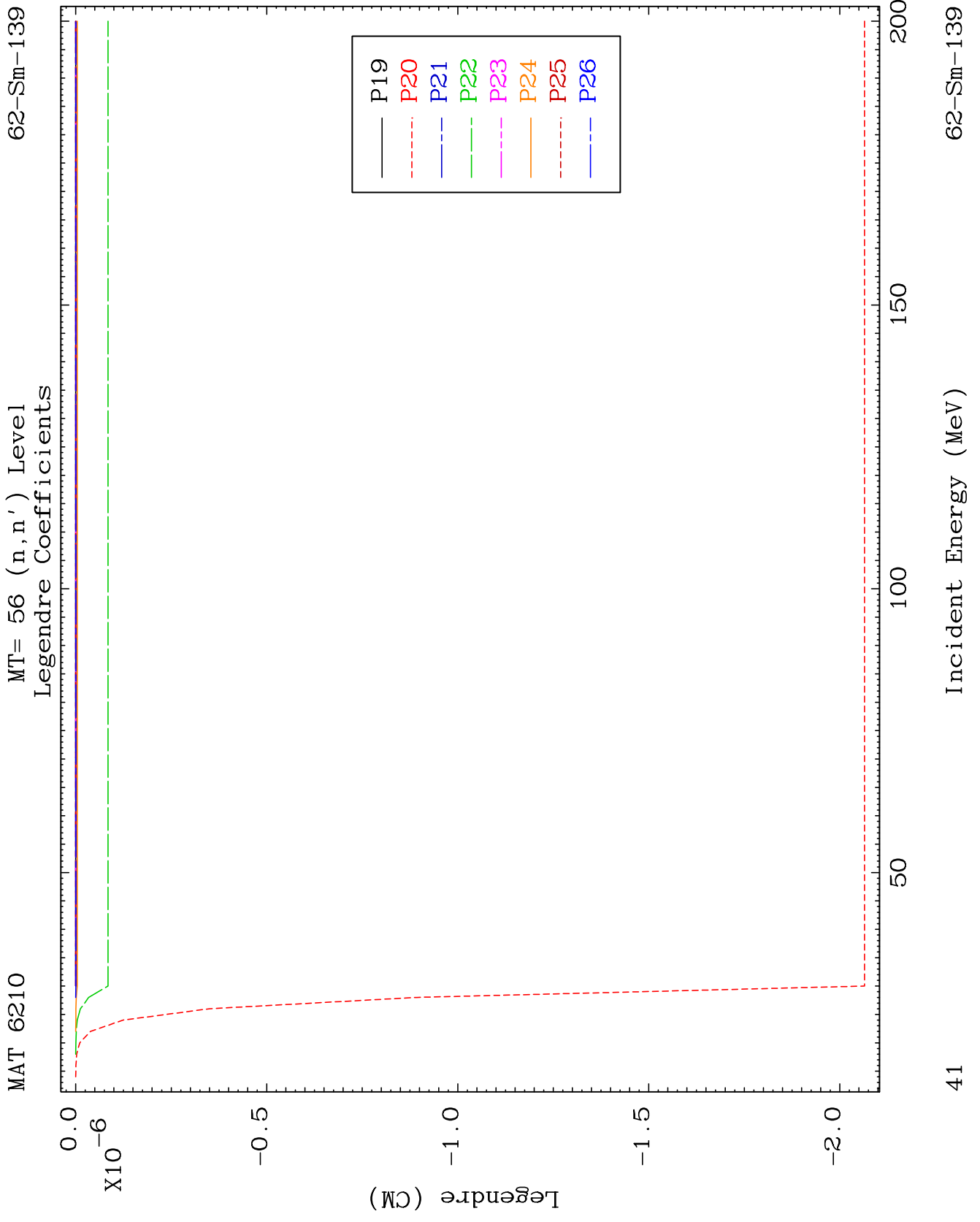


MAT 6210

MT= 56 (n,n') Level  
Legendre Coefficients

62-Sm-139

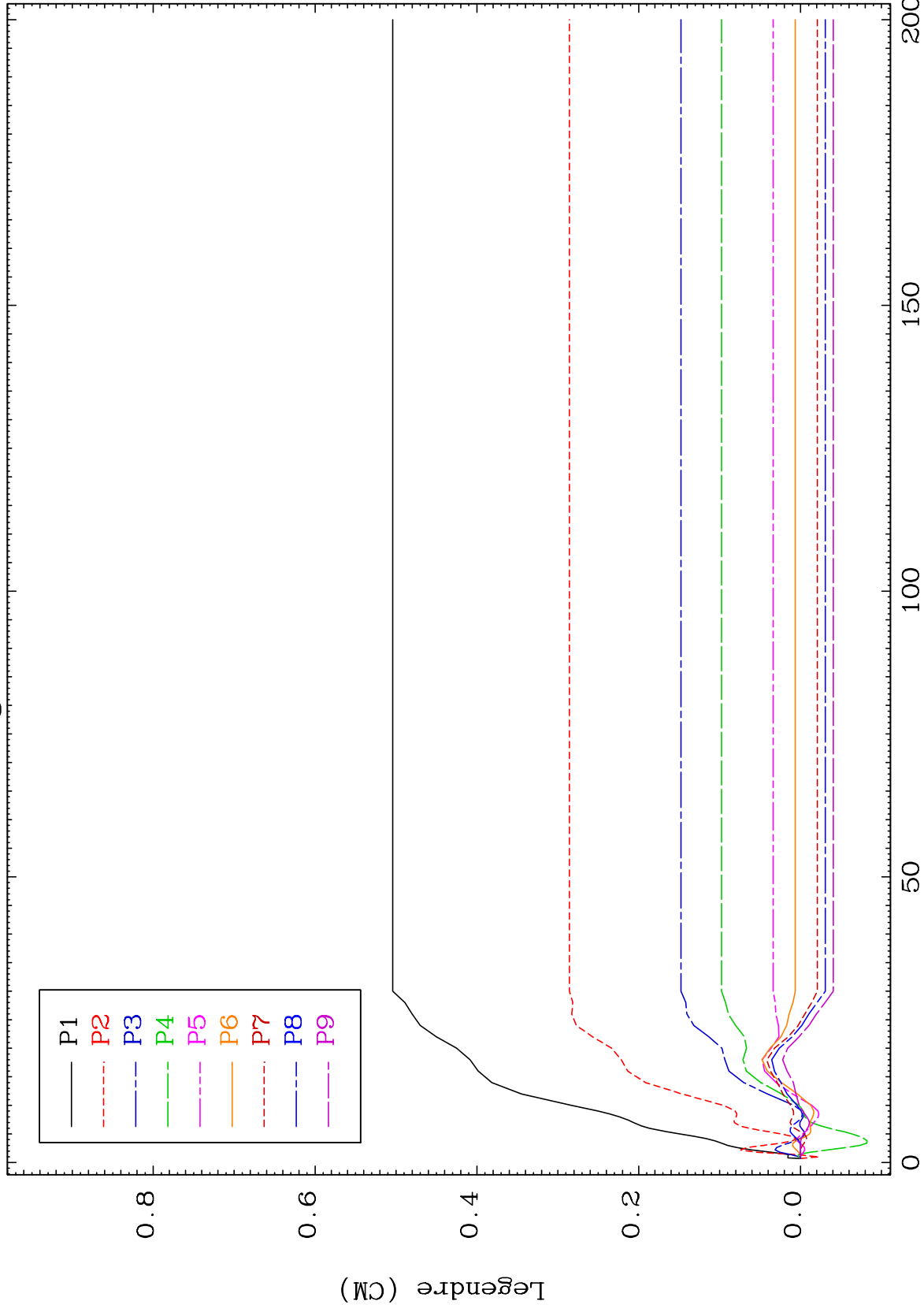




MAT 6210

MT= 57 (n,n') Level  
Legendre Coefficients

62-Sm-139



42

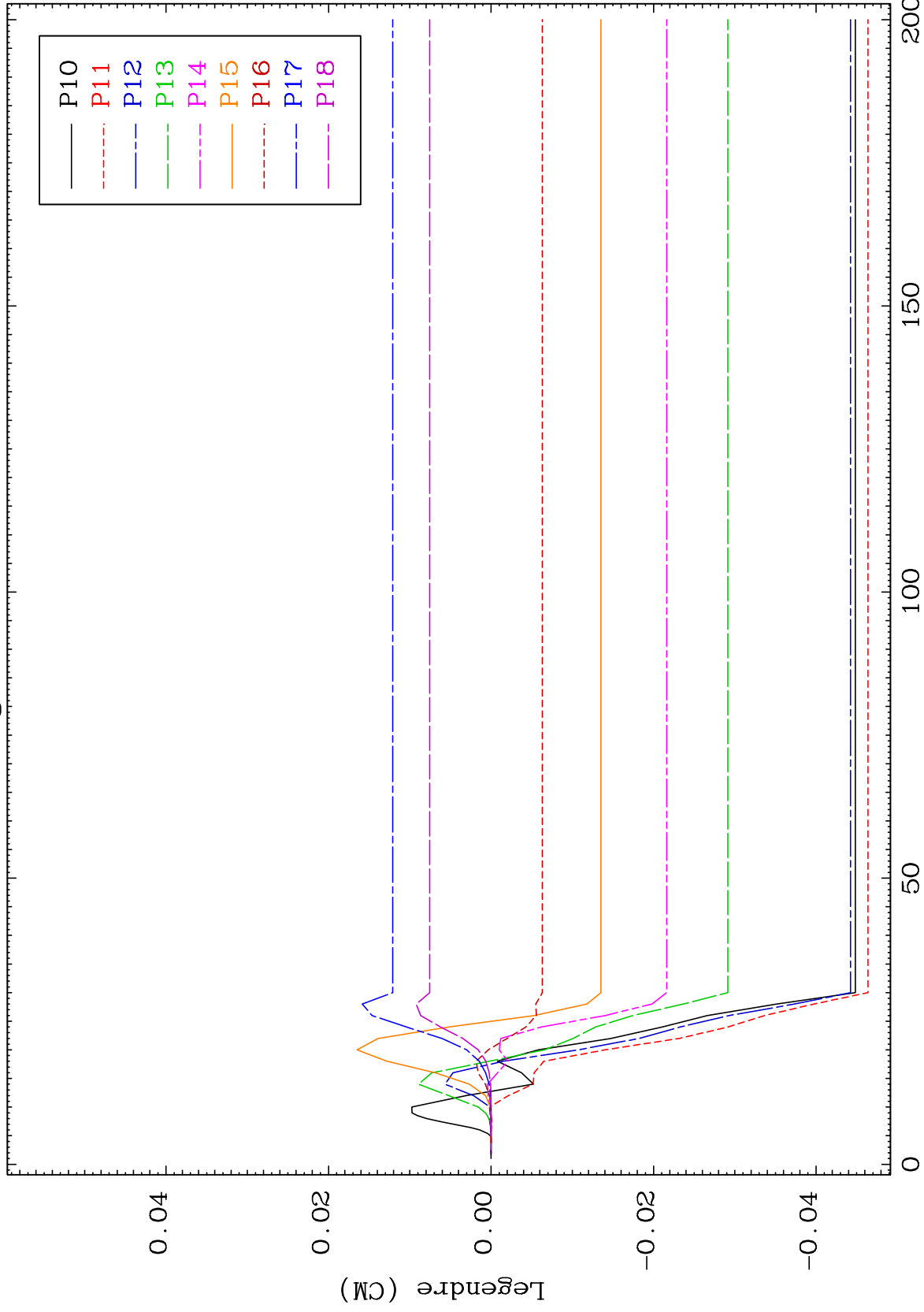
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 57 (n,n') Level  
Legendre Coefficients

62-Sm-139



43

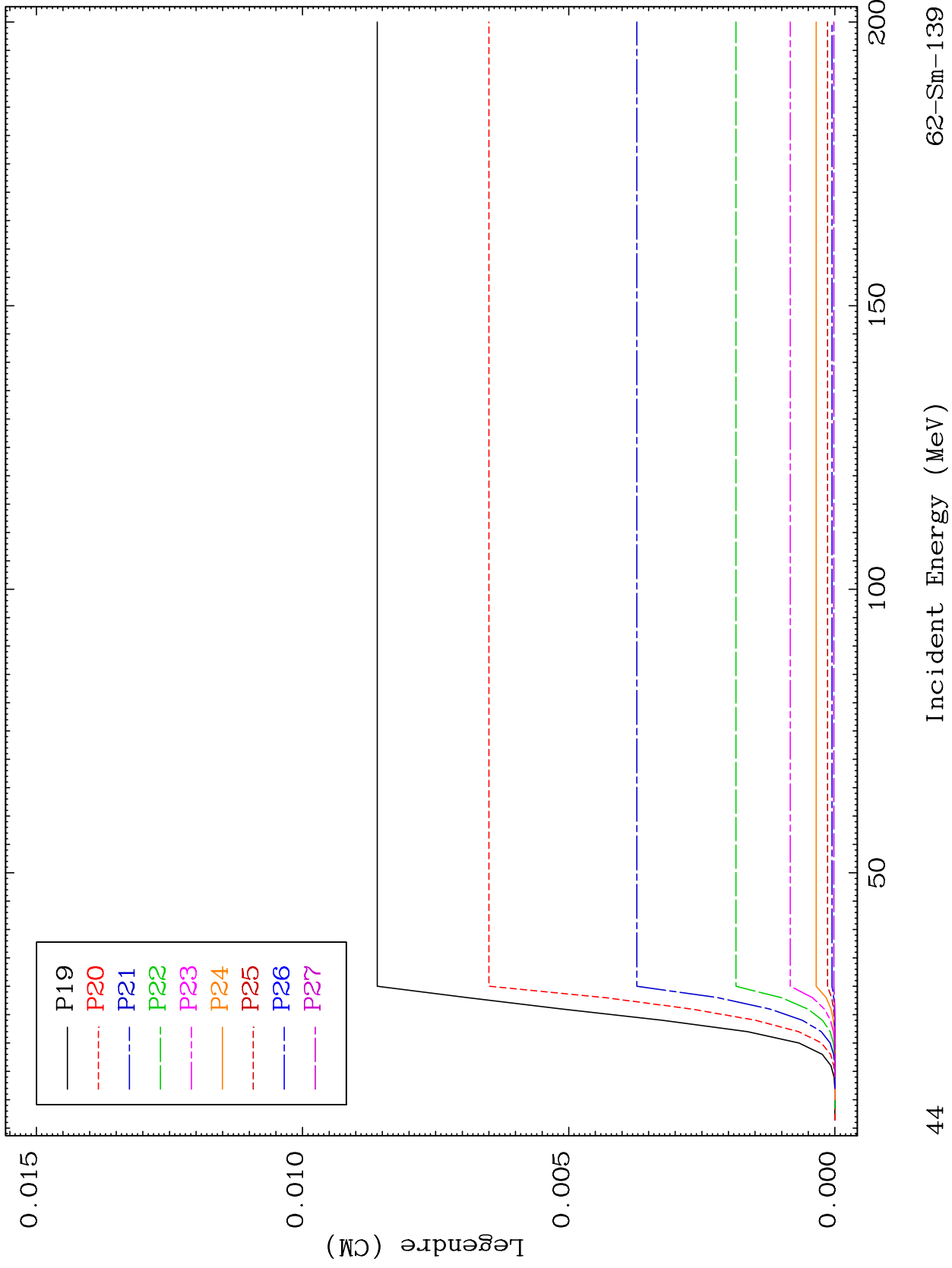
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 57 (n,n') Level  
Legendre Coefficients

62-Sm-139



44

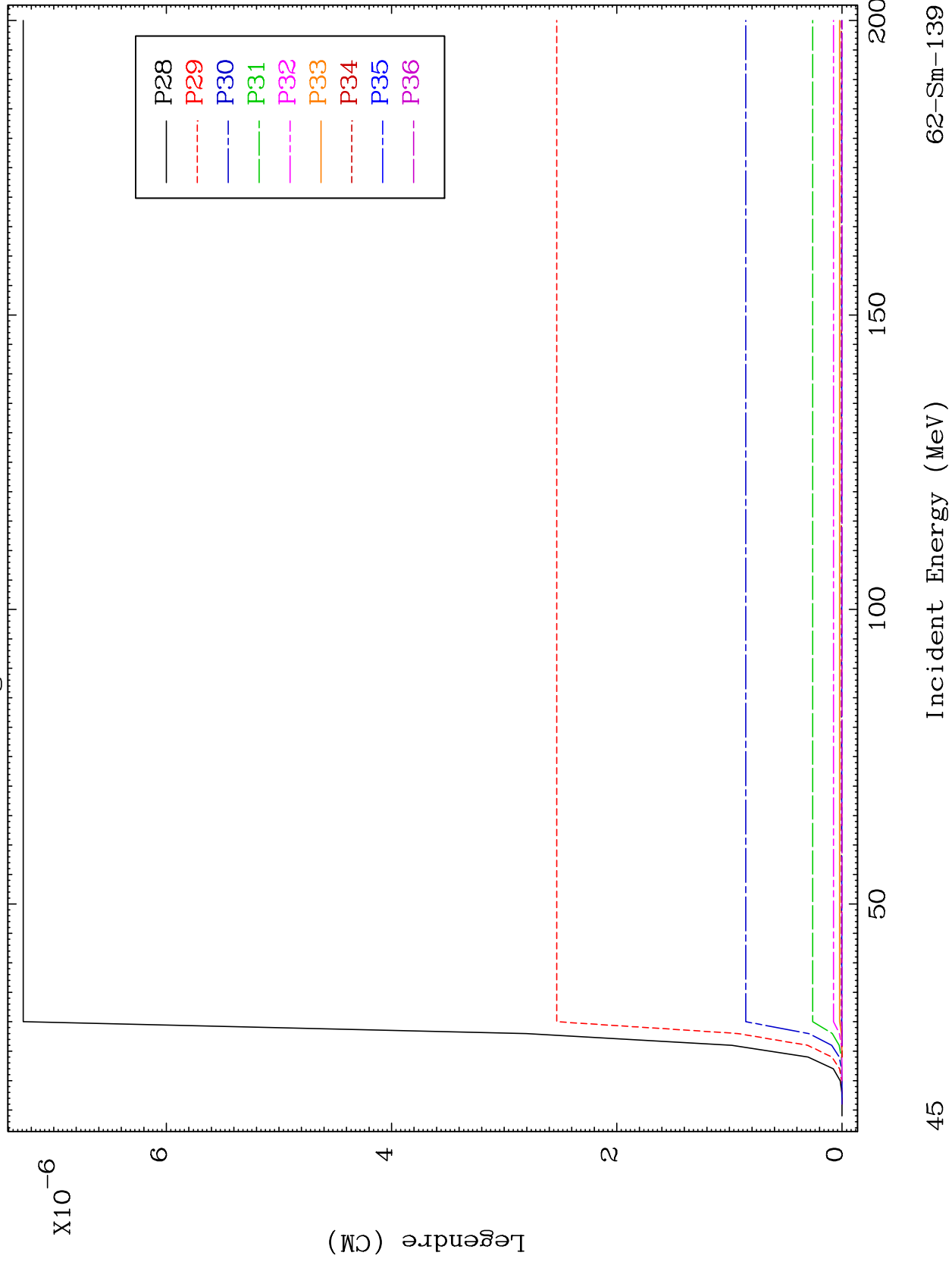
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 57 (n,n') Level  
Legendre Coefficients

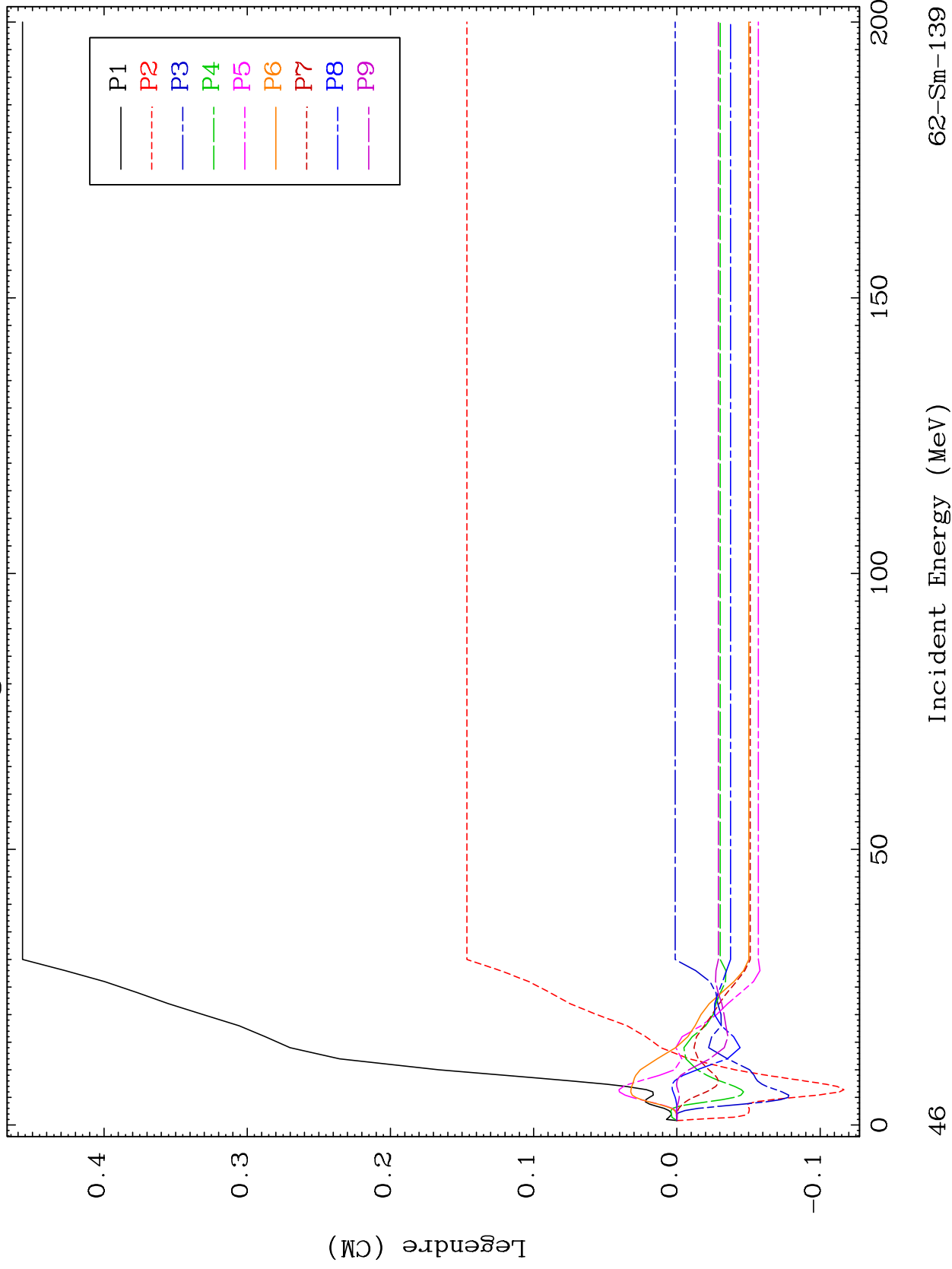
62-Sm-139



MAT 6210

MT= 58 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

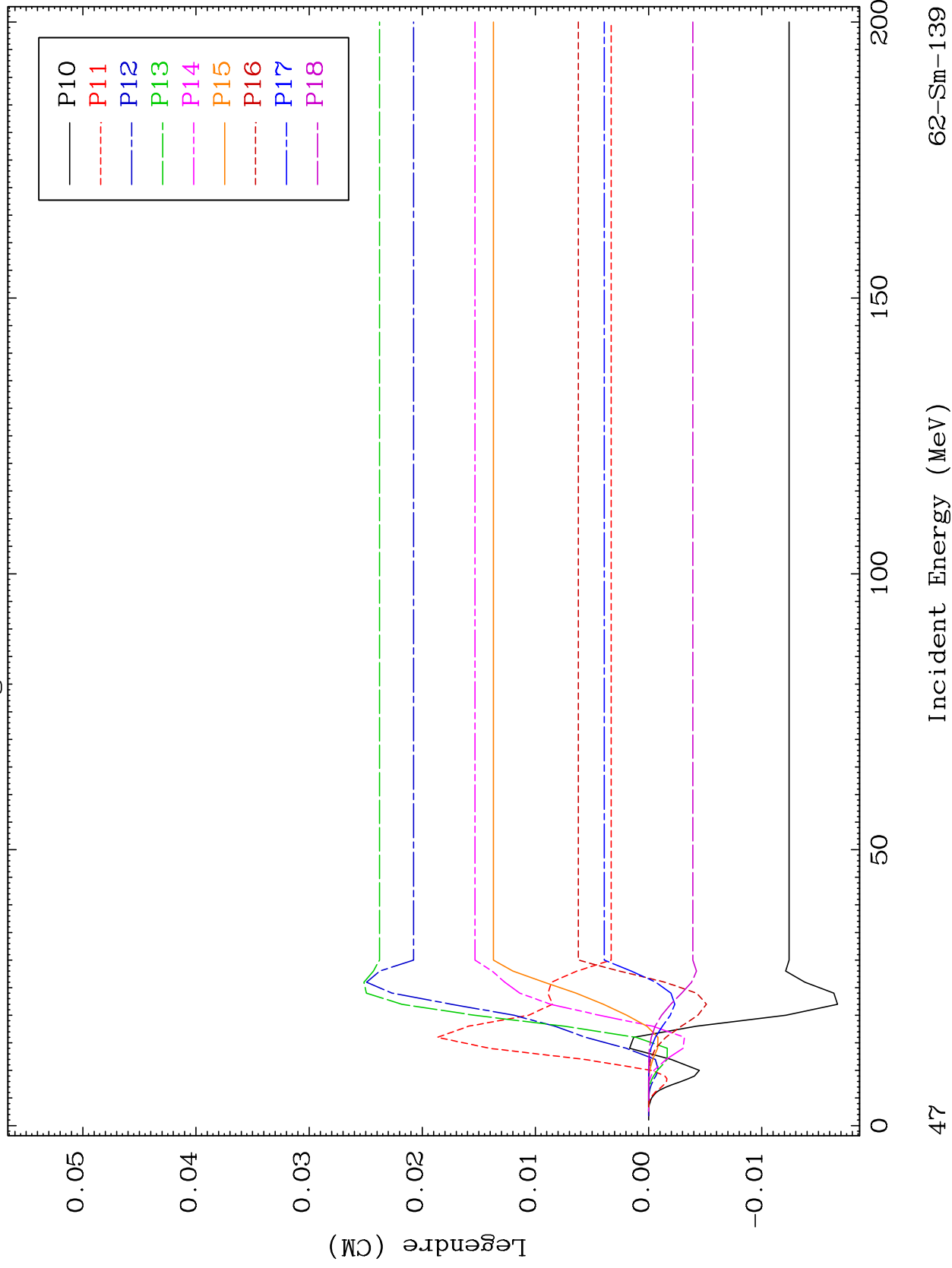
Incident Energy (MeV)

46

MAT 6210

MT= 58 (n,n') Level  
Legendre Coefficients

62-Sm-139



47

Incident Energy (MeV)

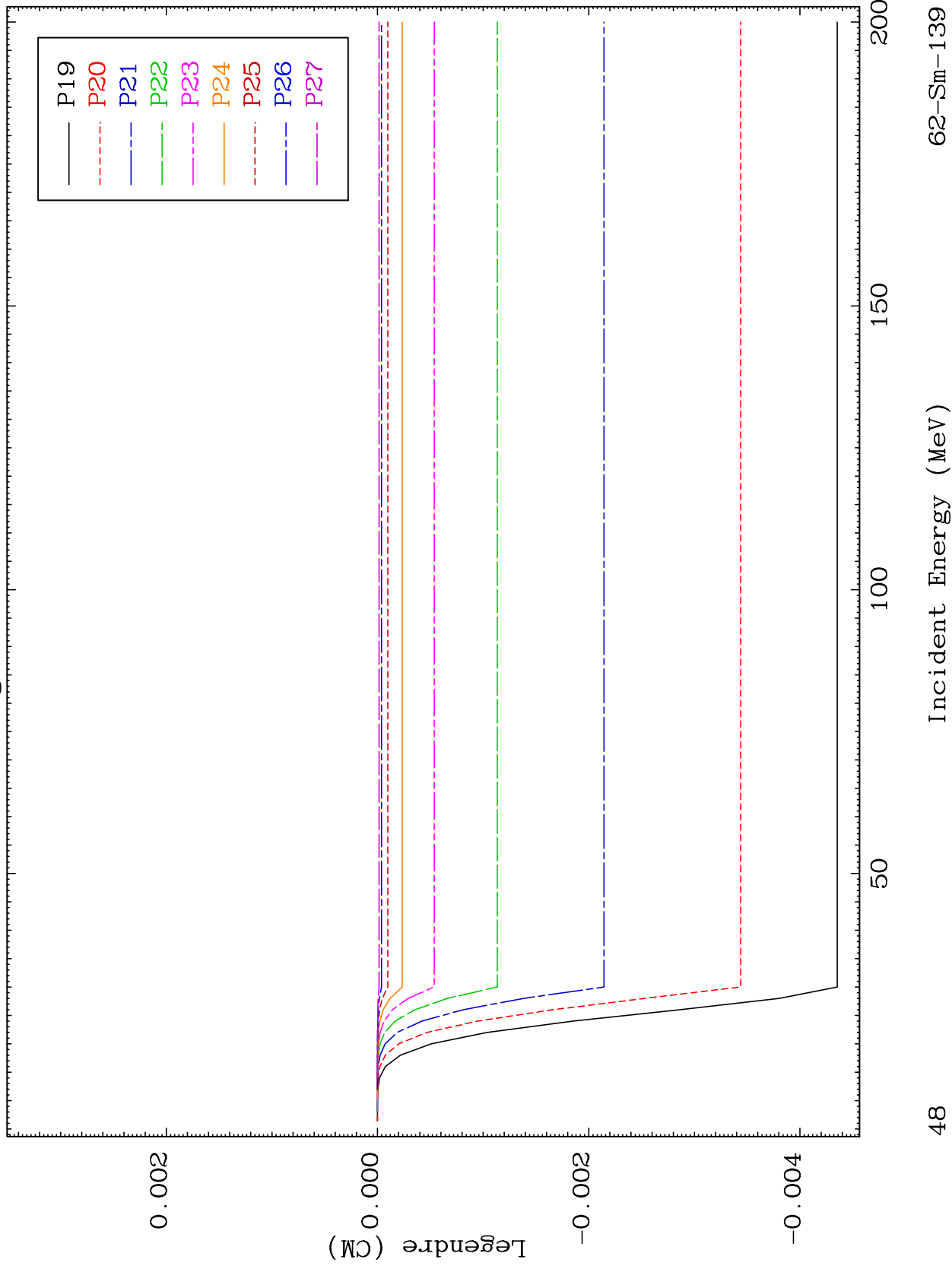
62-Sm-139



MAT 6210

MT= 58 (n,n') Level  
Legendre Coefficients

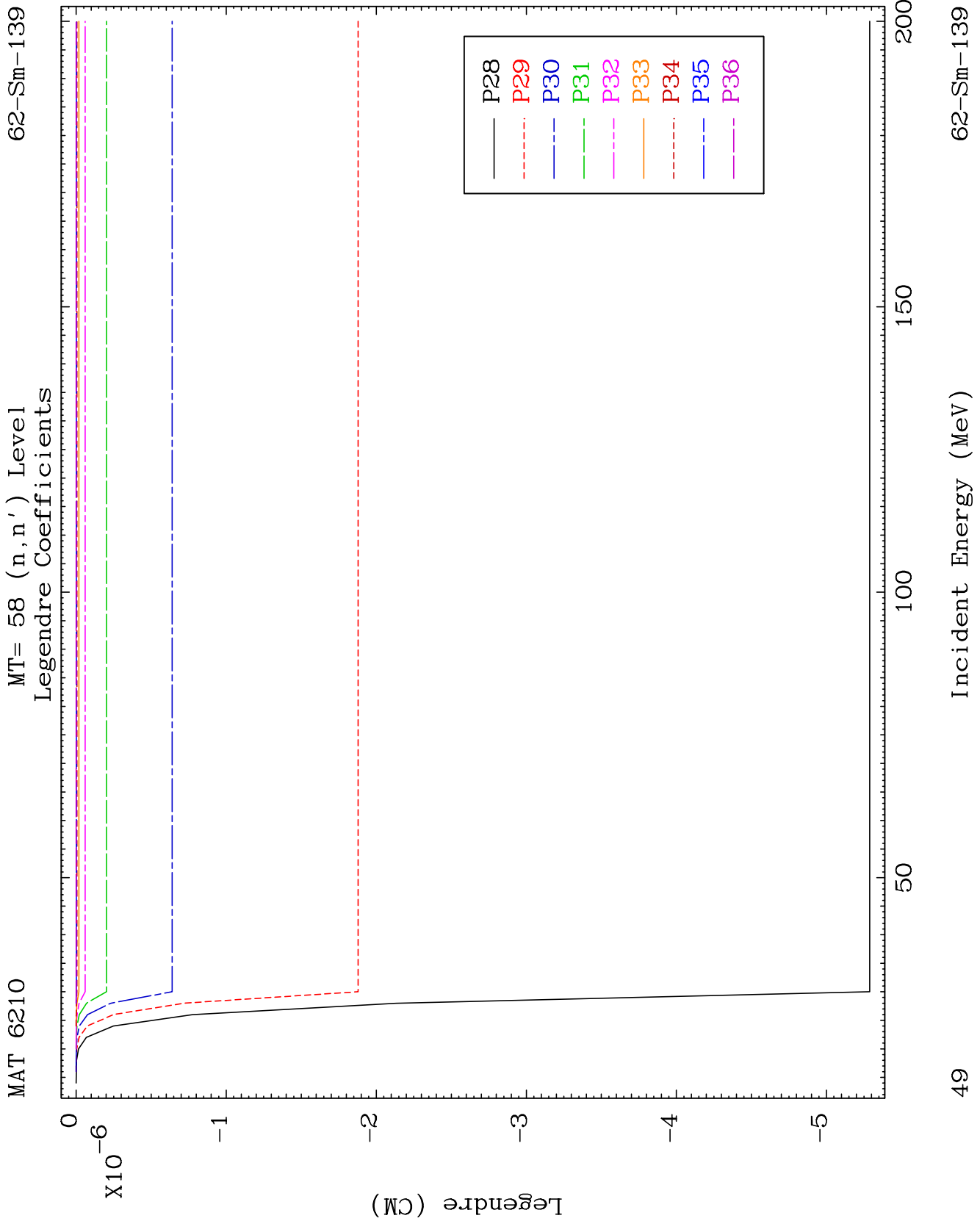
62-Sm-139



48

Incident Energy (MeV)

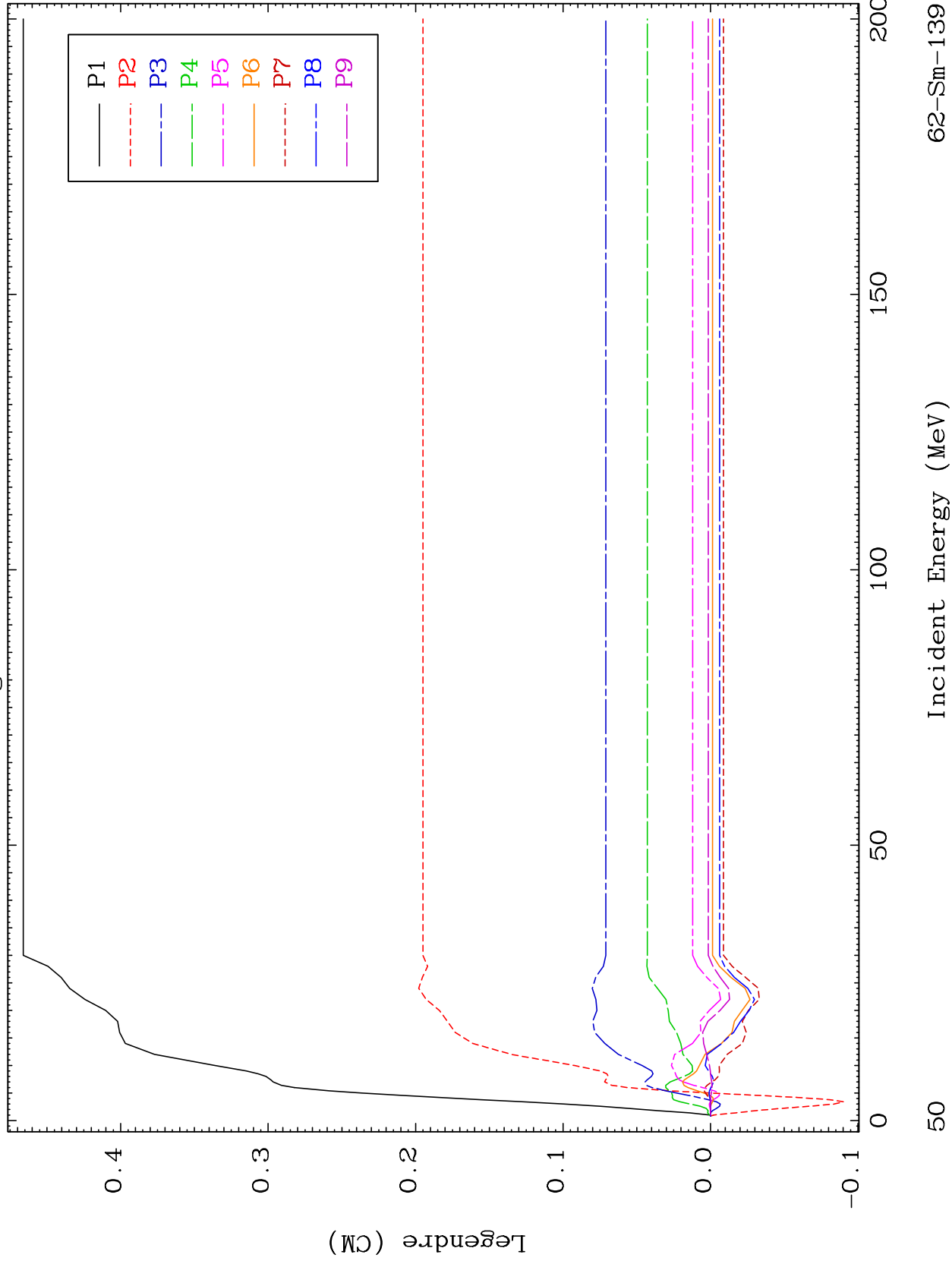
62-Sm-139



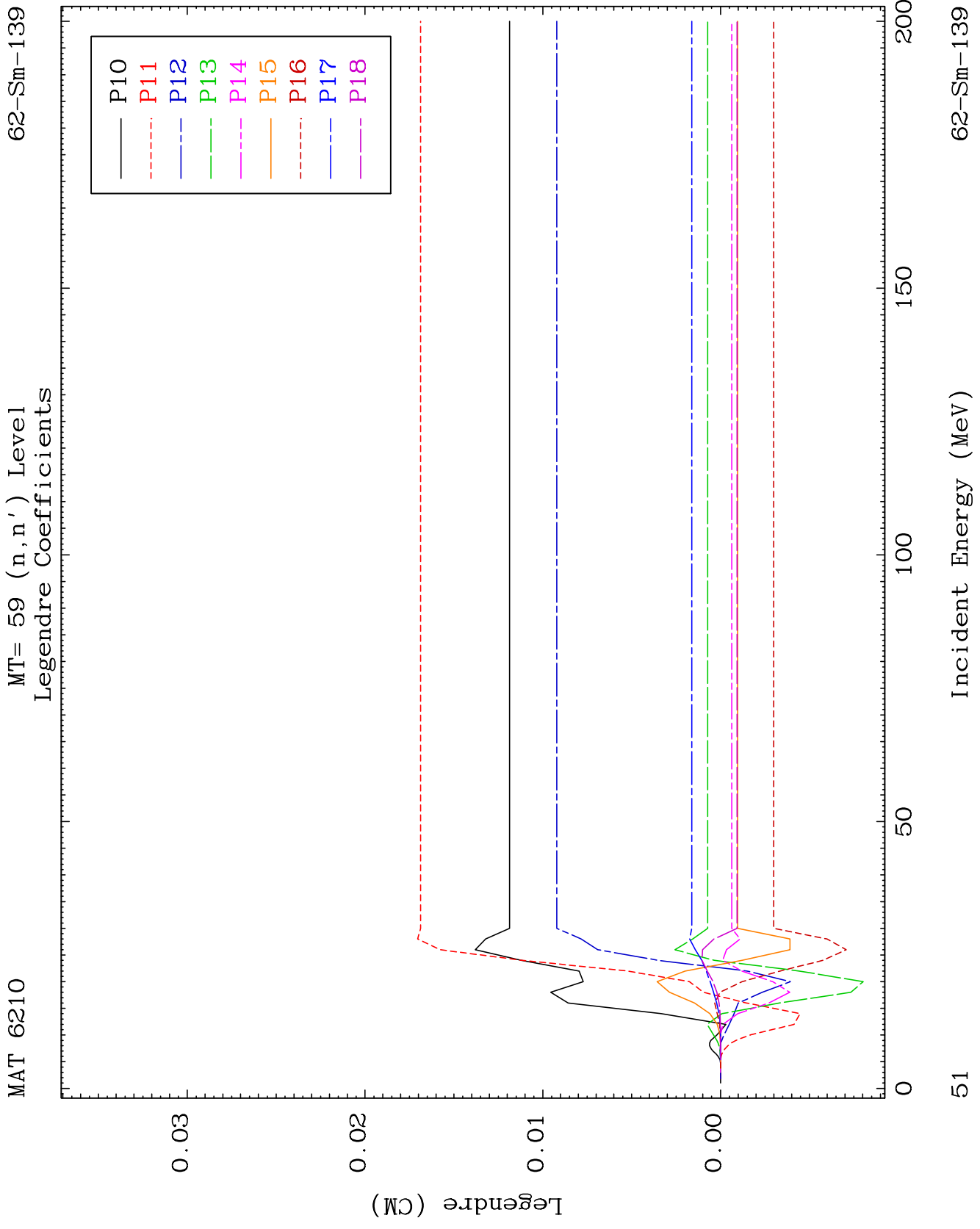
MAT 6210

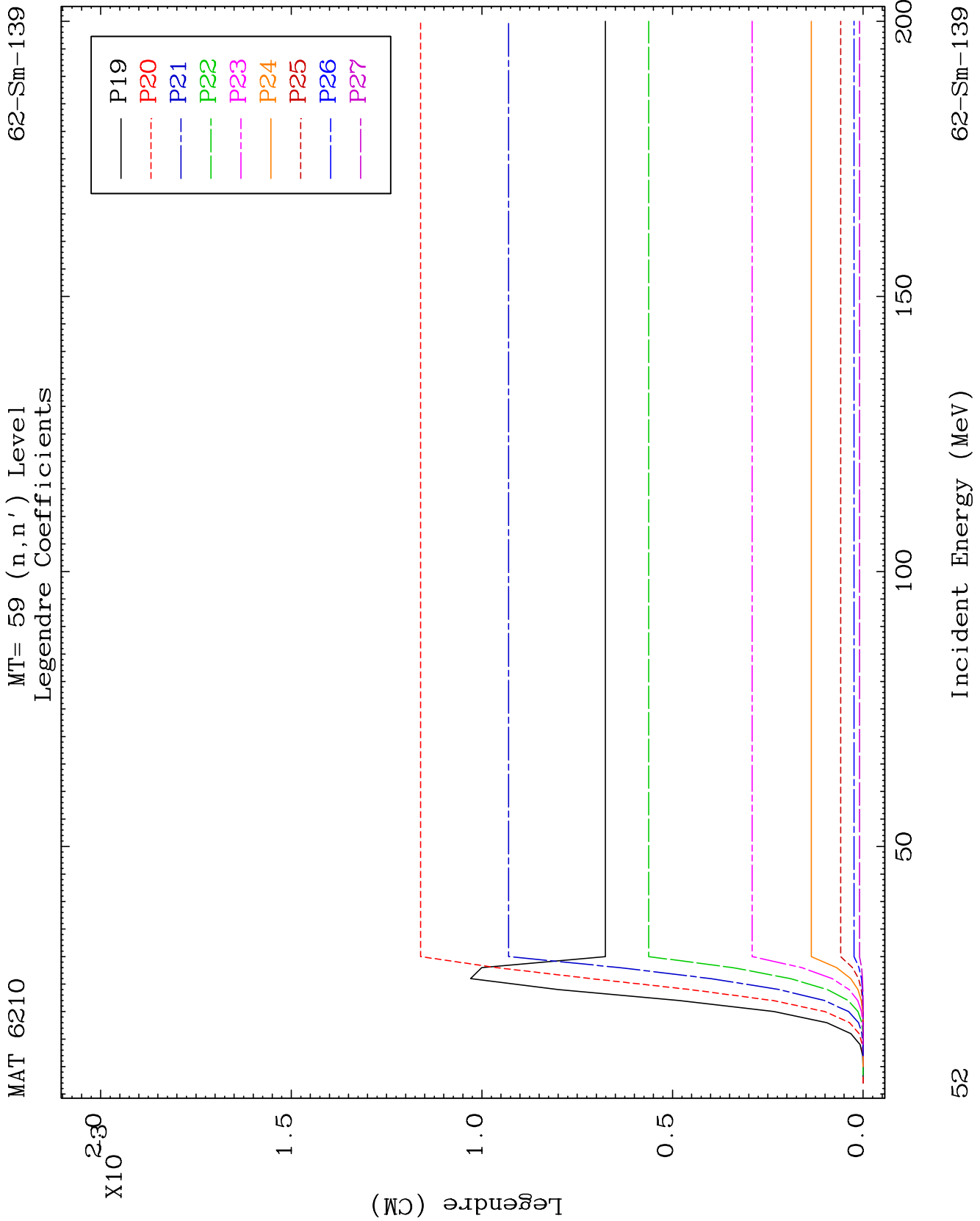
MT= 59 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

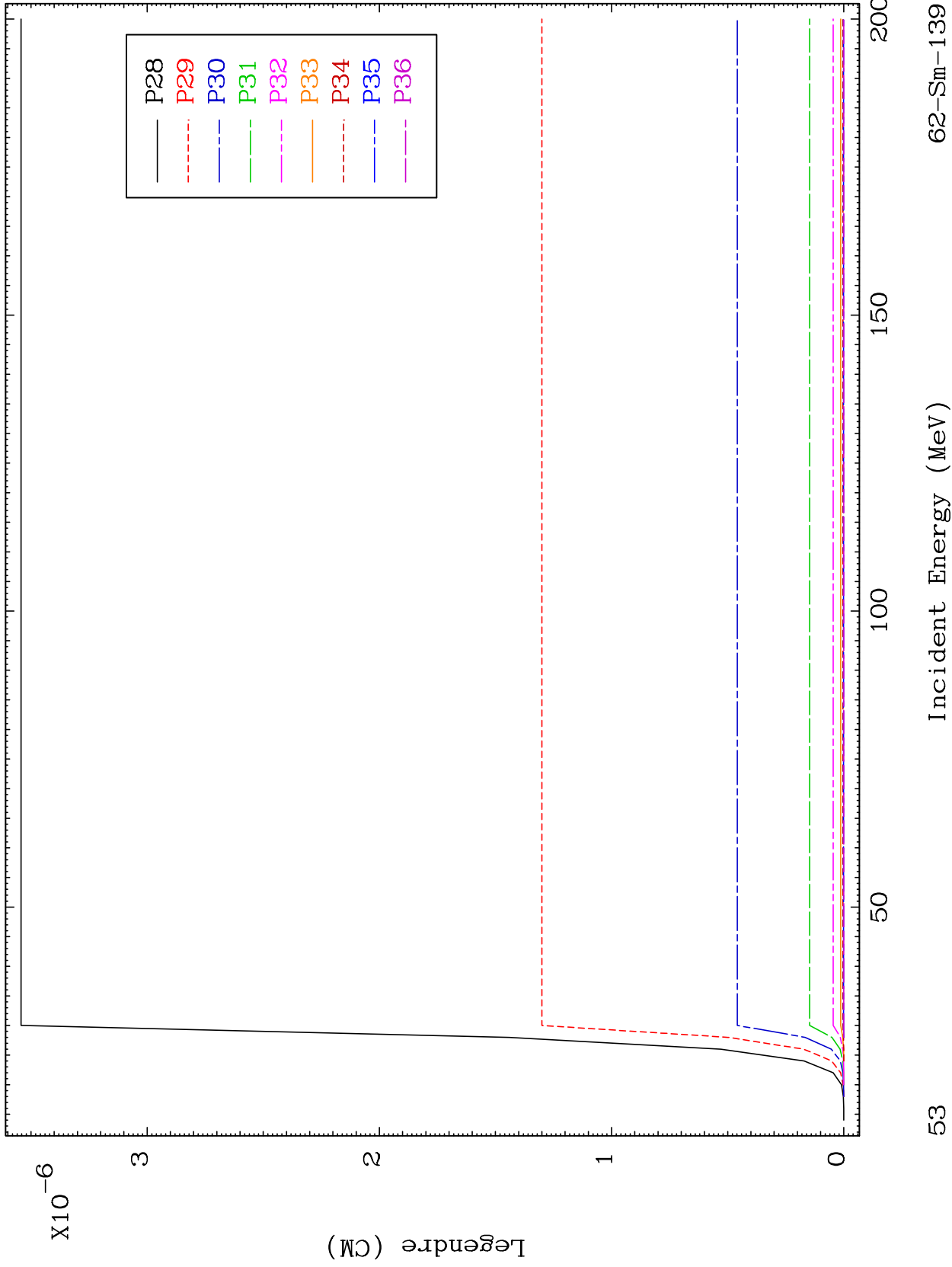




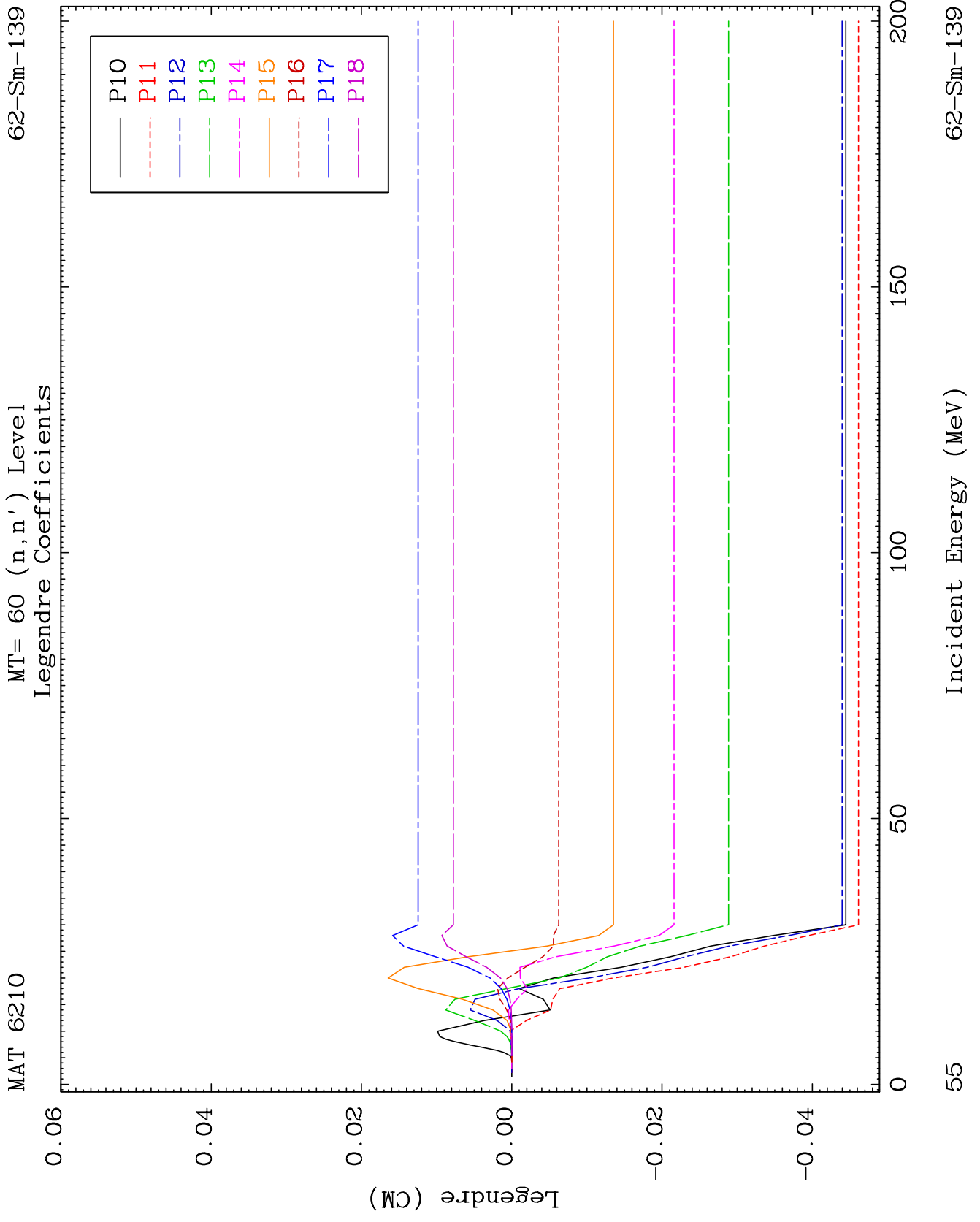
MAT 6210

MT= 59 (n,n') Level  
Legendre Coefficients

62-Sm-139





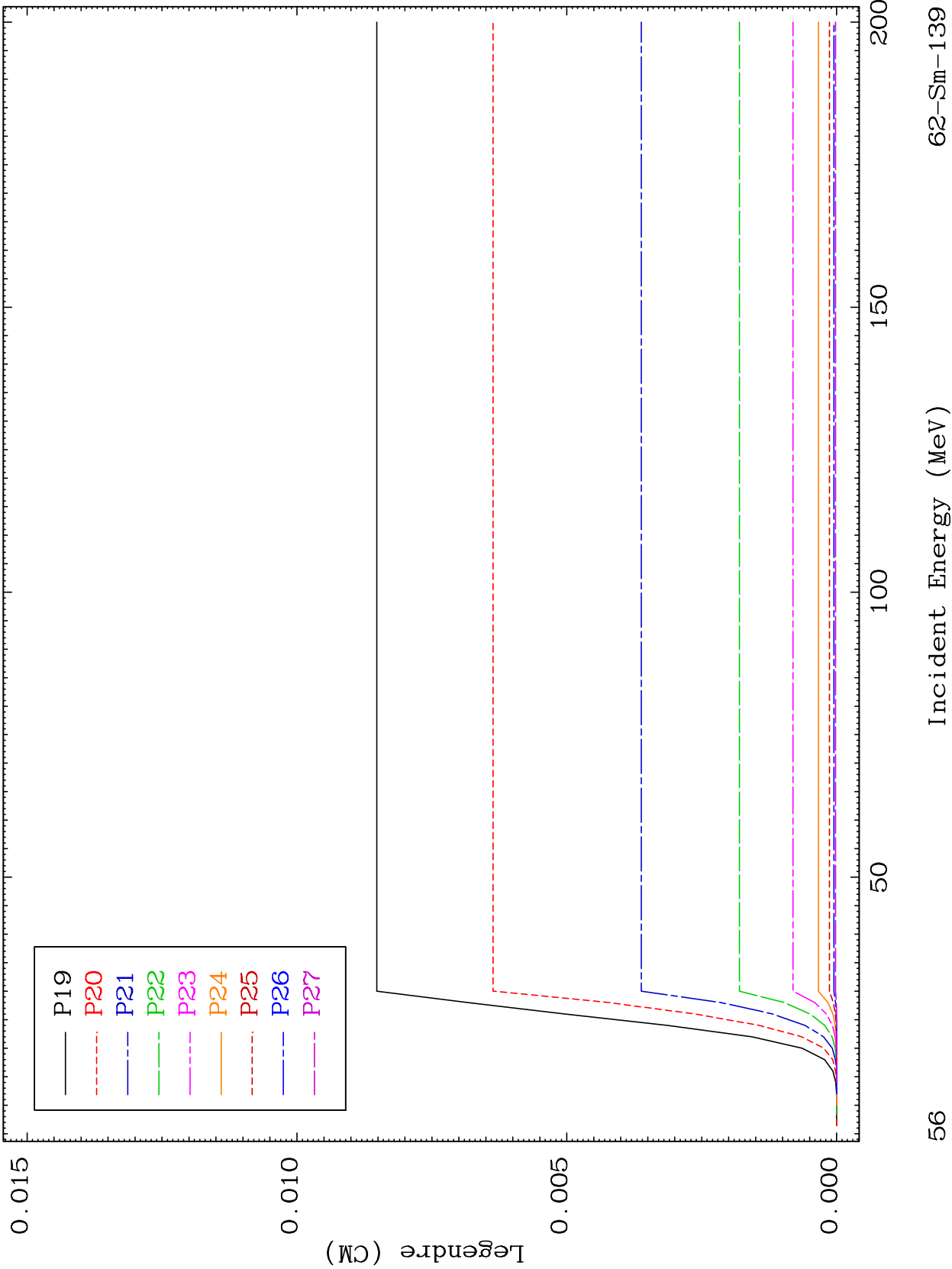




MAT 6210

MT= 60 (n,n') Level  
Legendre Coefficients

62-Sm-139



56

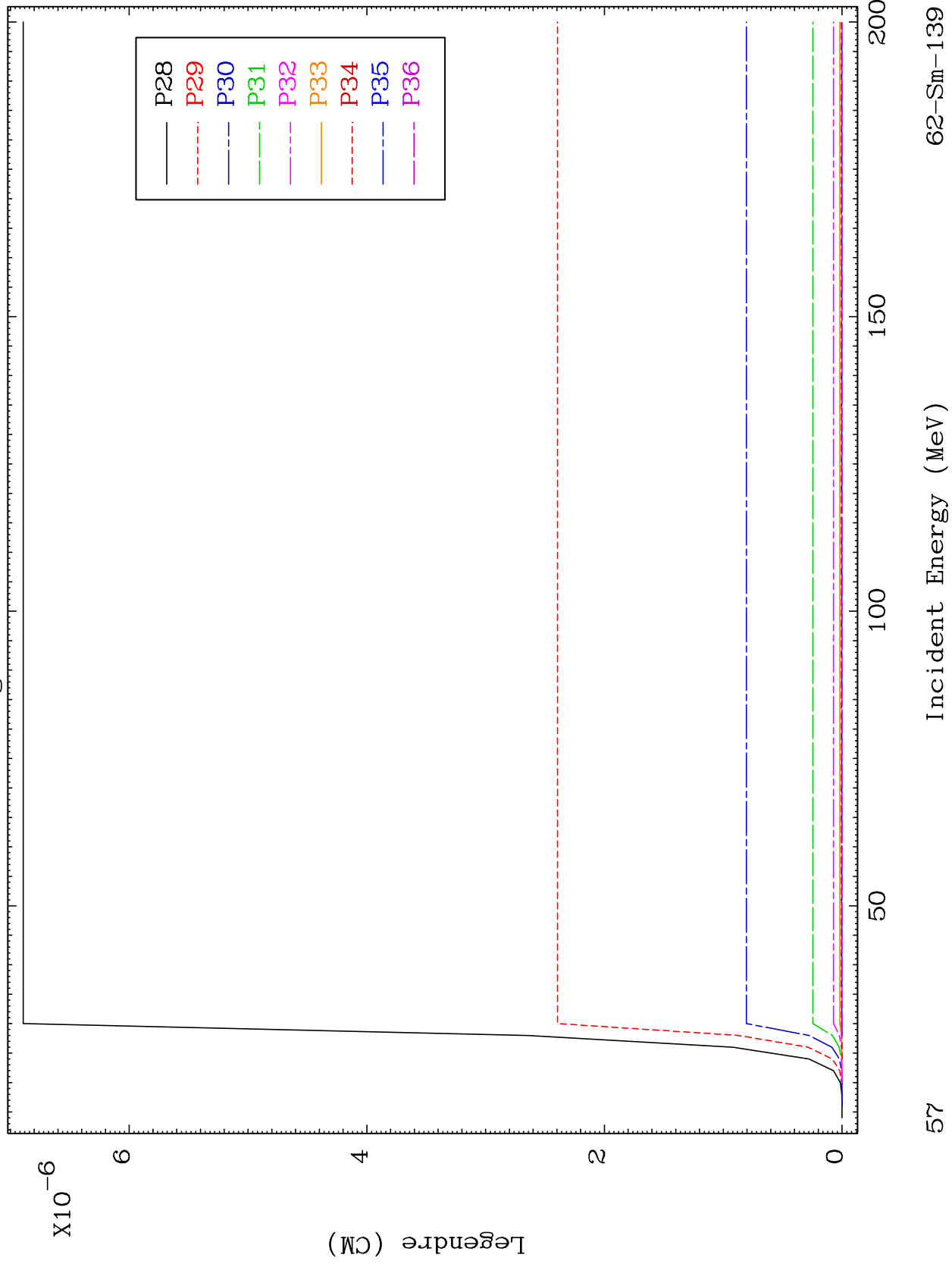
Incident Energy (MeV)

62-Sm-139

MAT 6210

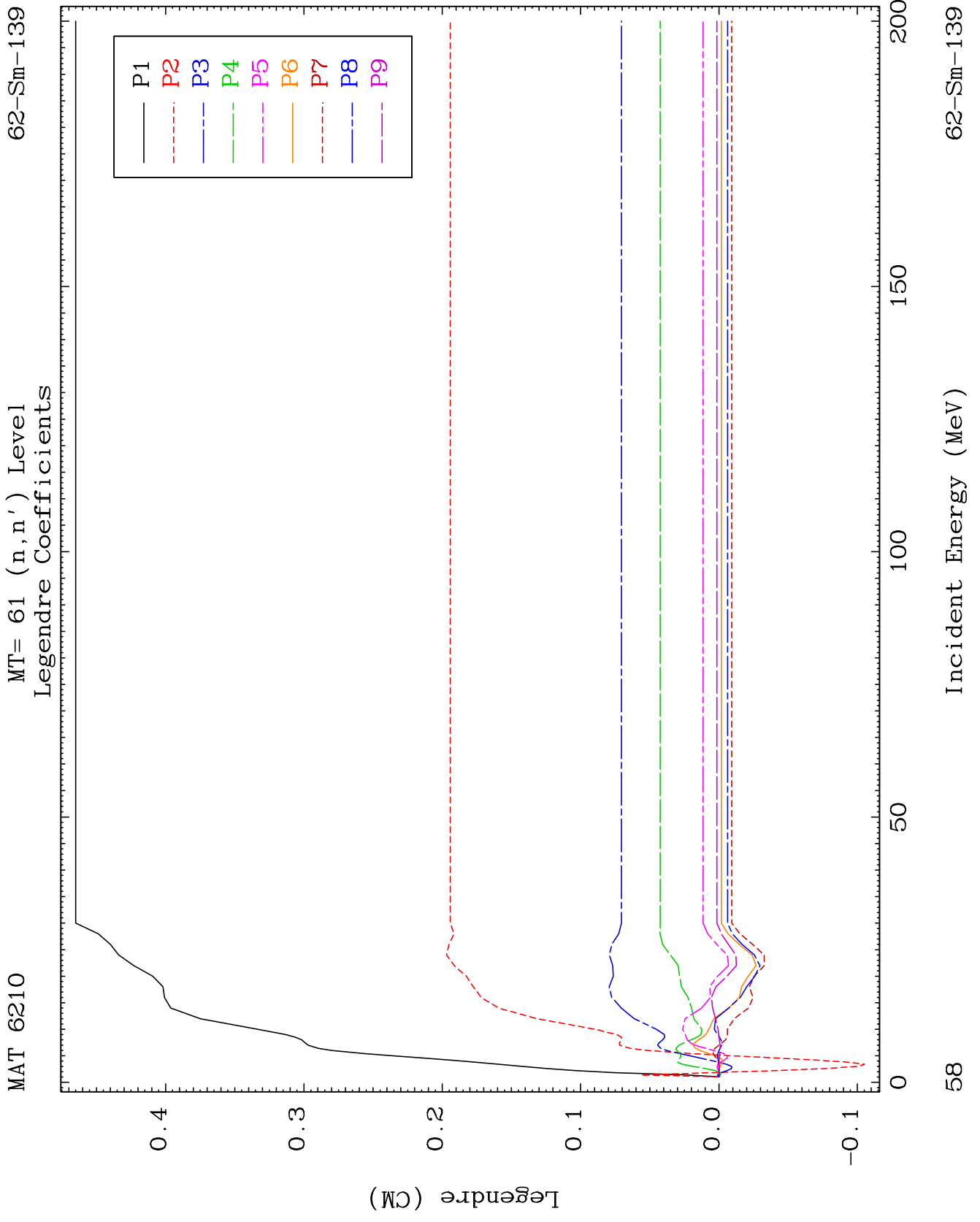
MT= 60 (n,n') Level  
Legendre Coefficients

62-Sm-139



57

62-Sm-139

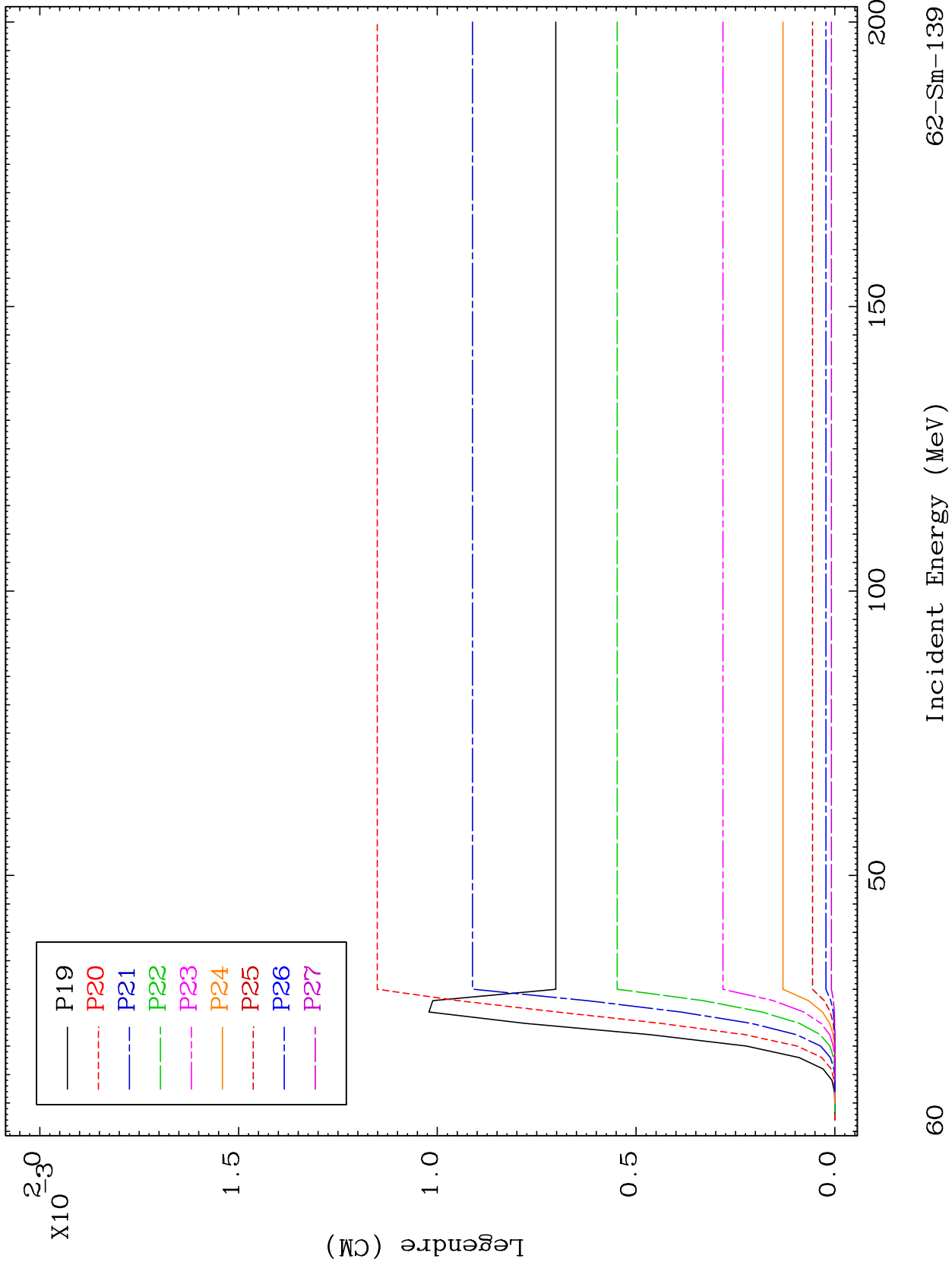




MAT 6210

MT= 61 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

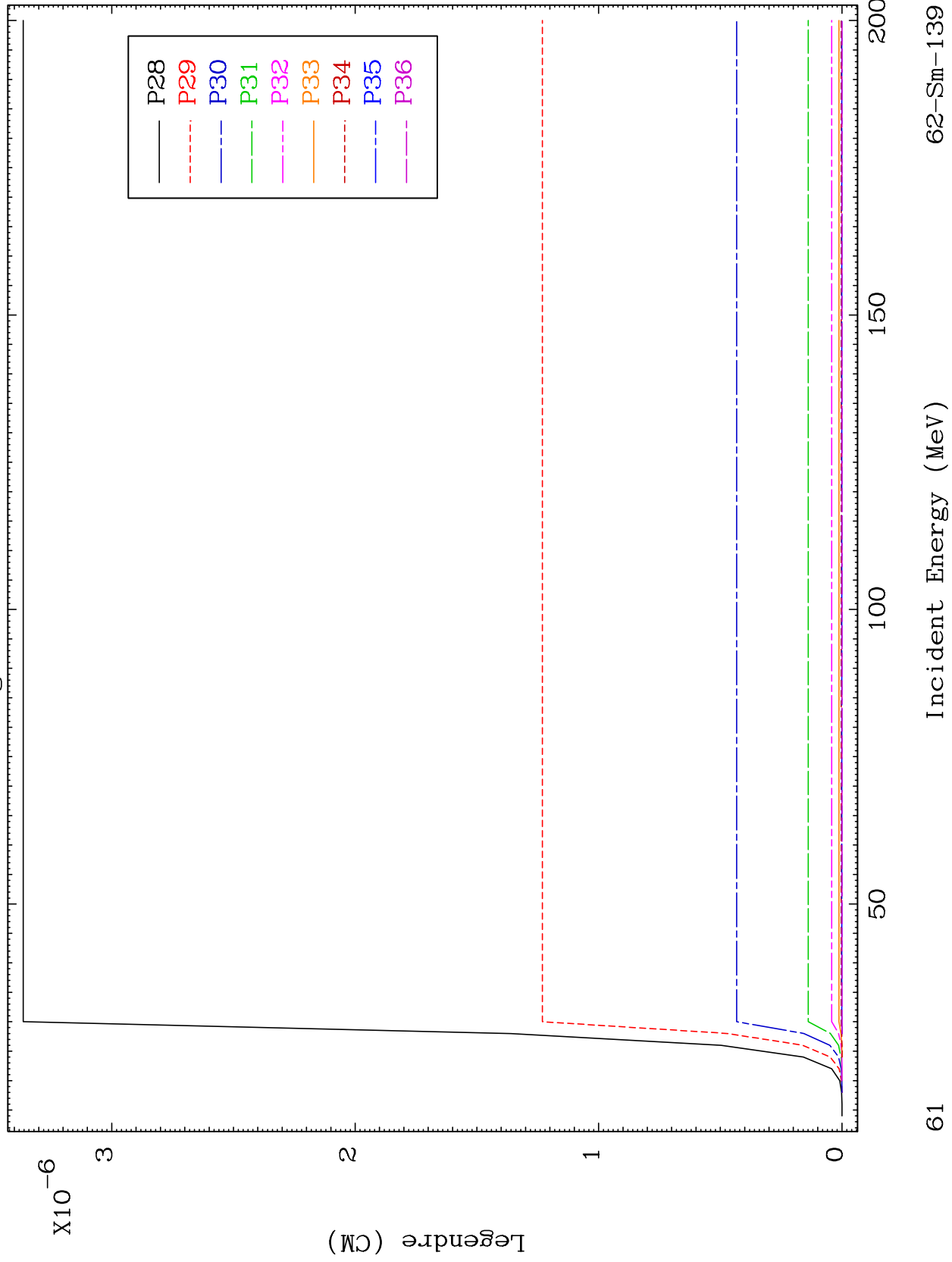
Incident Energy (MeV)

60

MAT 6210

MT= 61 (n,n') Level  
Legendre Coefficients

62-Sm-139



61

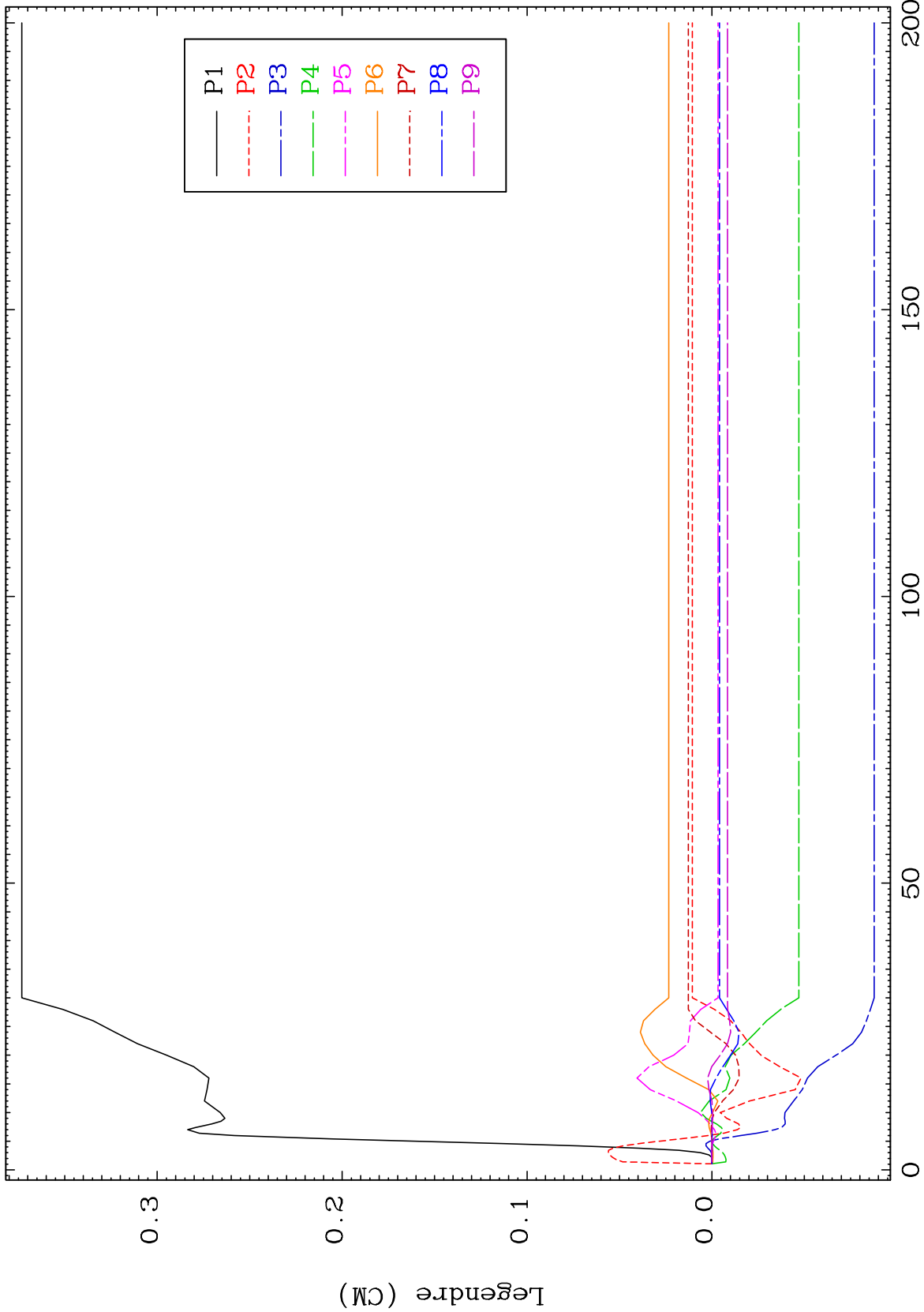
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 62 (n,n') Level  
Legendre Coefficients

62-Sm-139



62

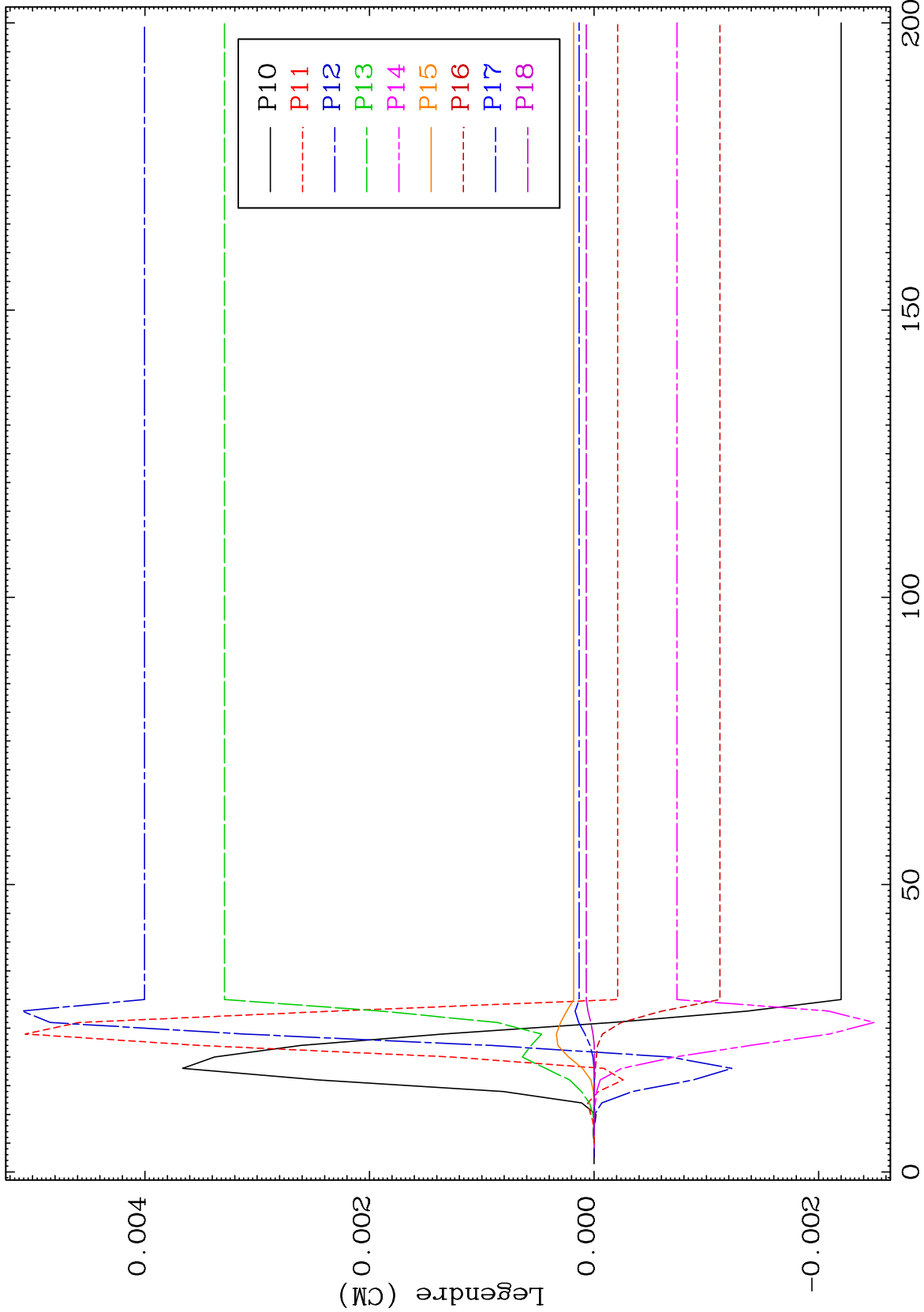
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 62 (n,n') Level  
Legendre Coefficients

62-Sm-139



63

Incident Energy (MeV)

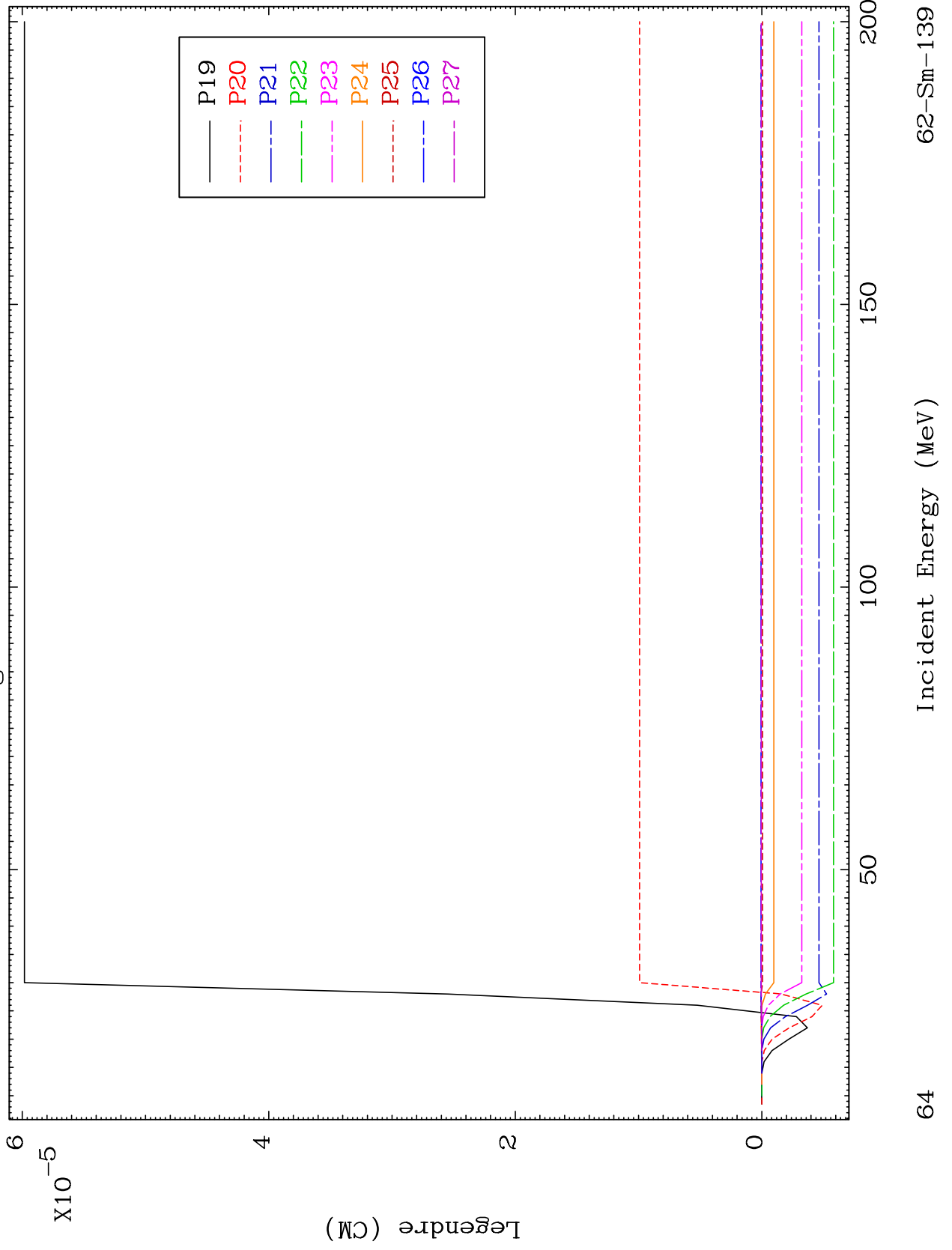
62-Sm-139



MAT 6210

MT= 62 (n,n') Level  
Legendre Coefficients

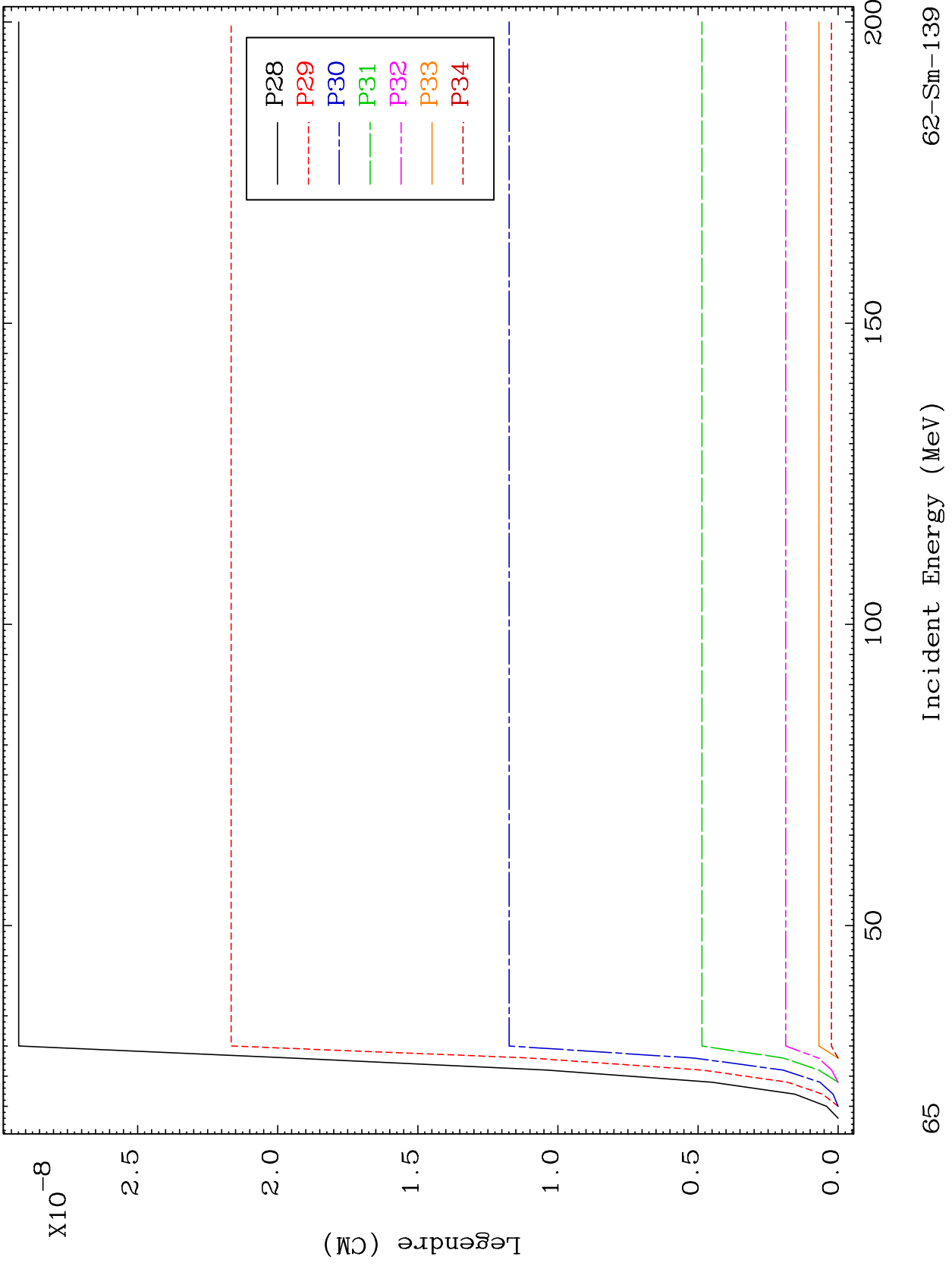
62-Sm-139



MAT 6210

MT= 62 (n,n') Level  
Legendre Coefficients

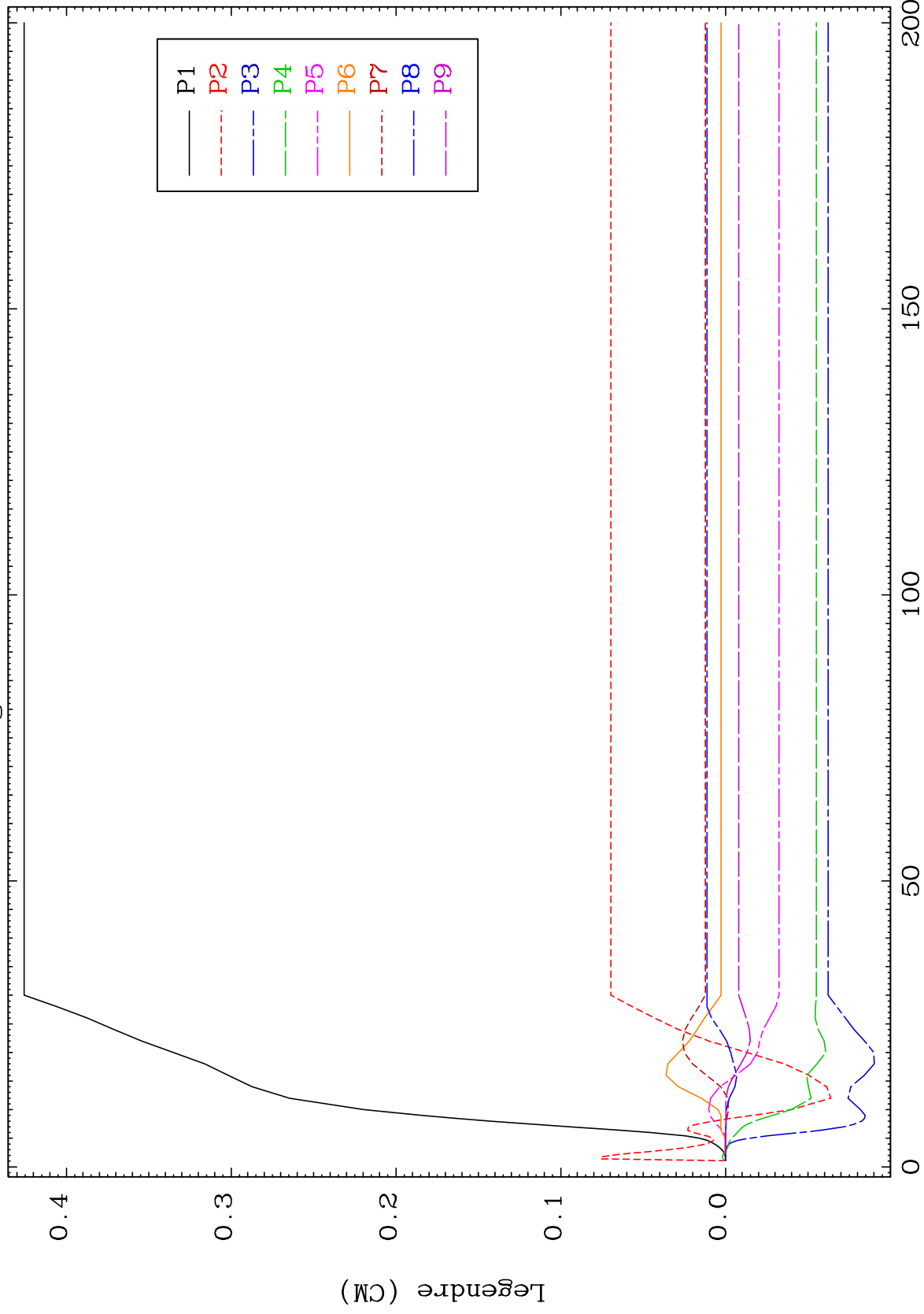
62-Sm-139



MAT 6210

MT= 63 (n,n') Level  
Legendre Coefficients

62-Sm-139



66

Incident Energy (MeV)

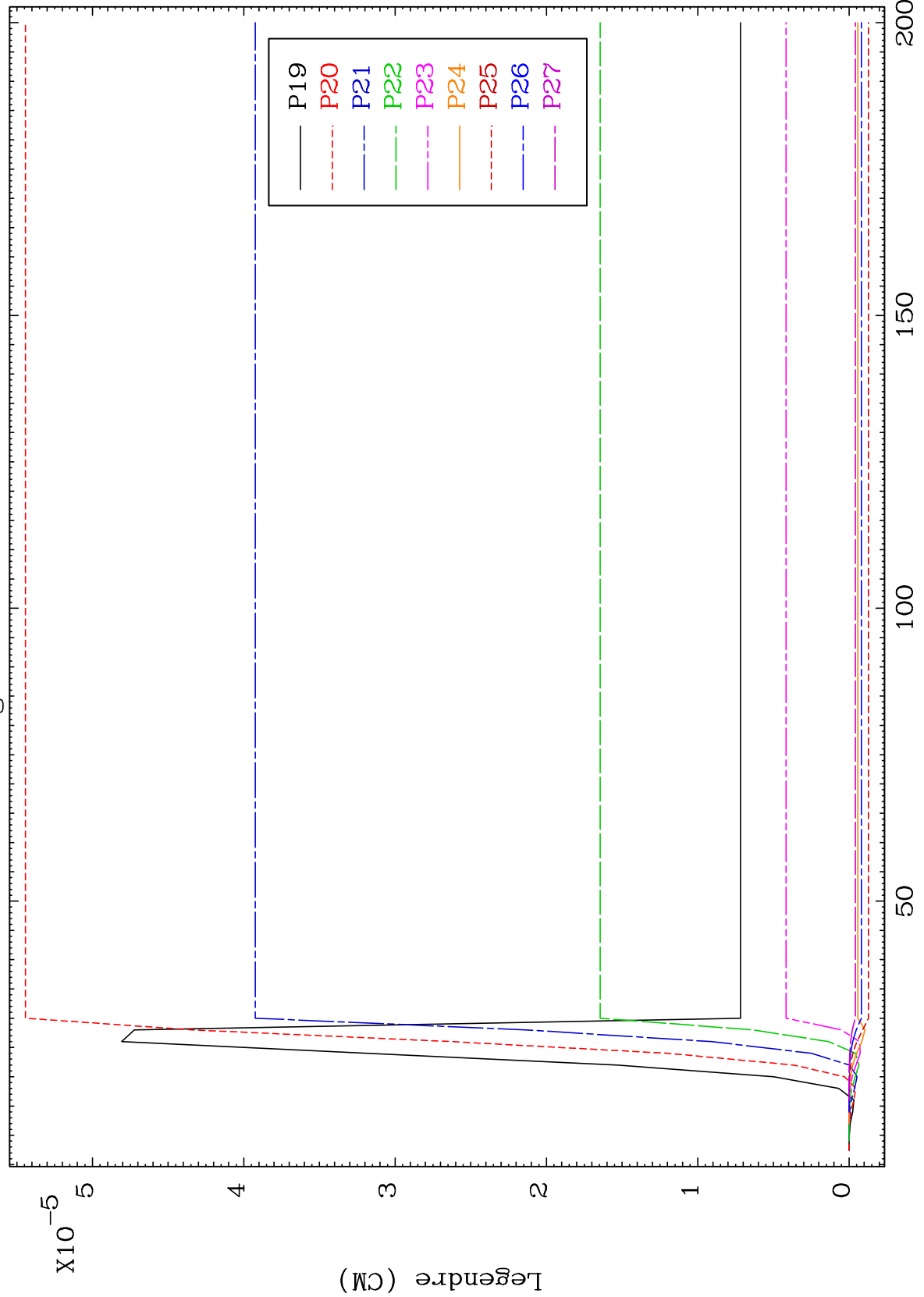
62-Sm-139



MAT 6210

MT= 63 (n,n') Level  
Legendre Coefficients

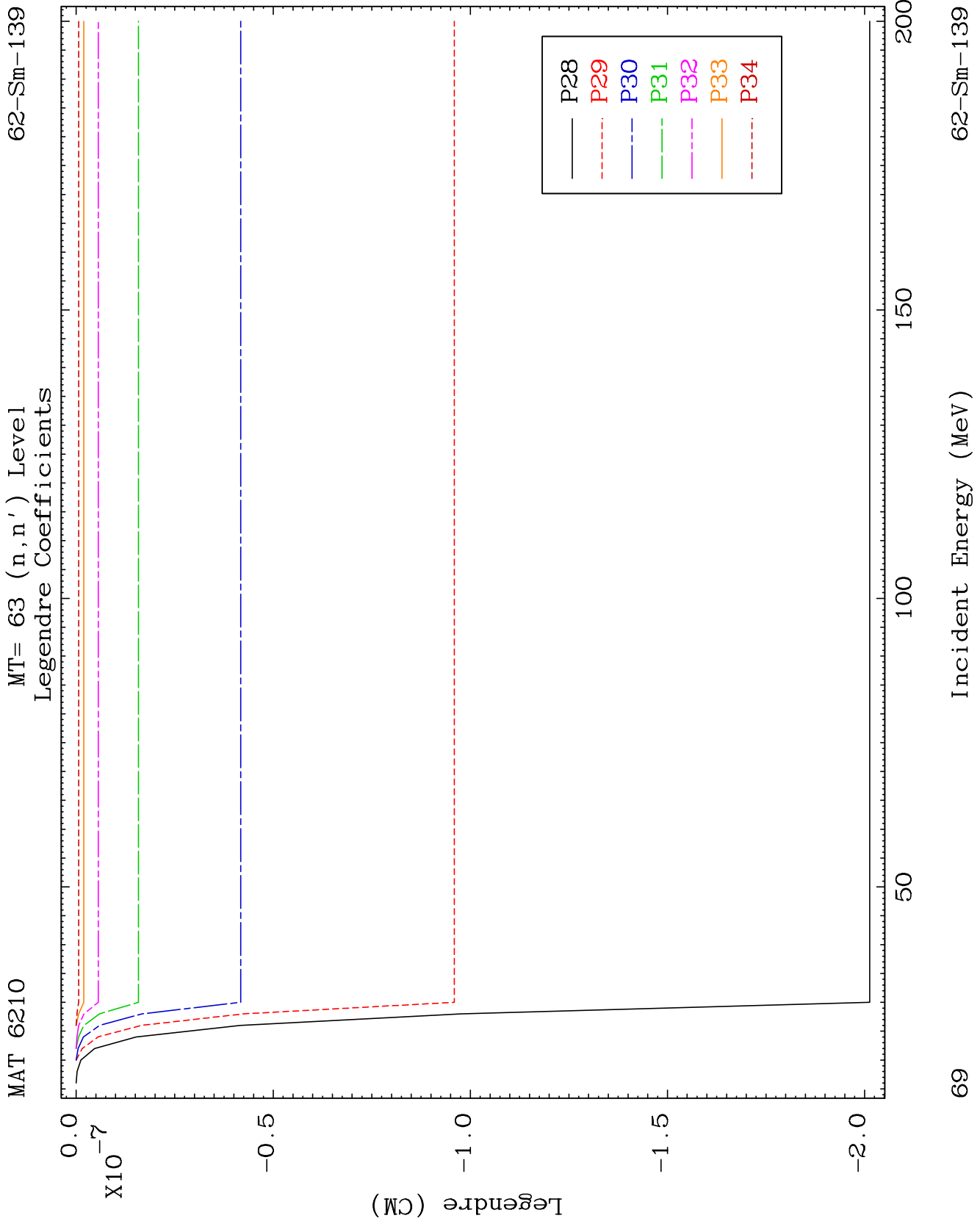
62-Sm-139



62-Sm-139

Incident Energy (MeV)

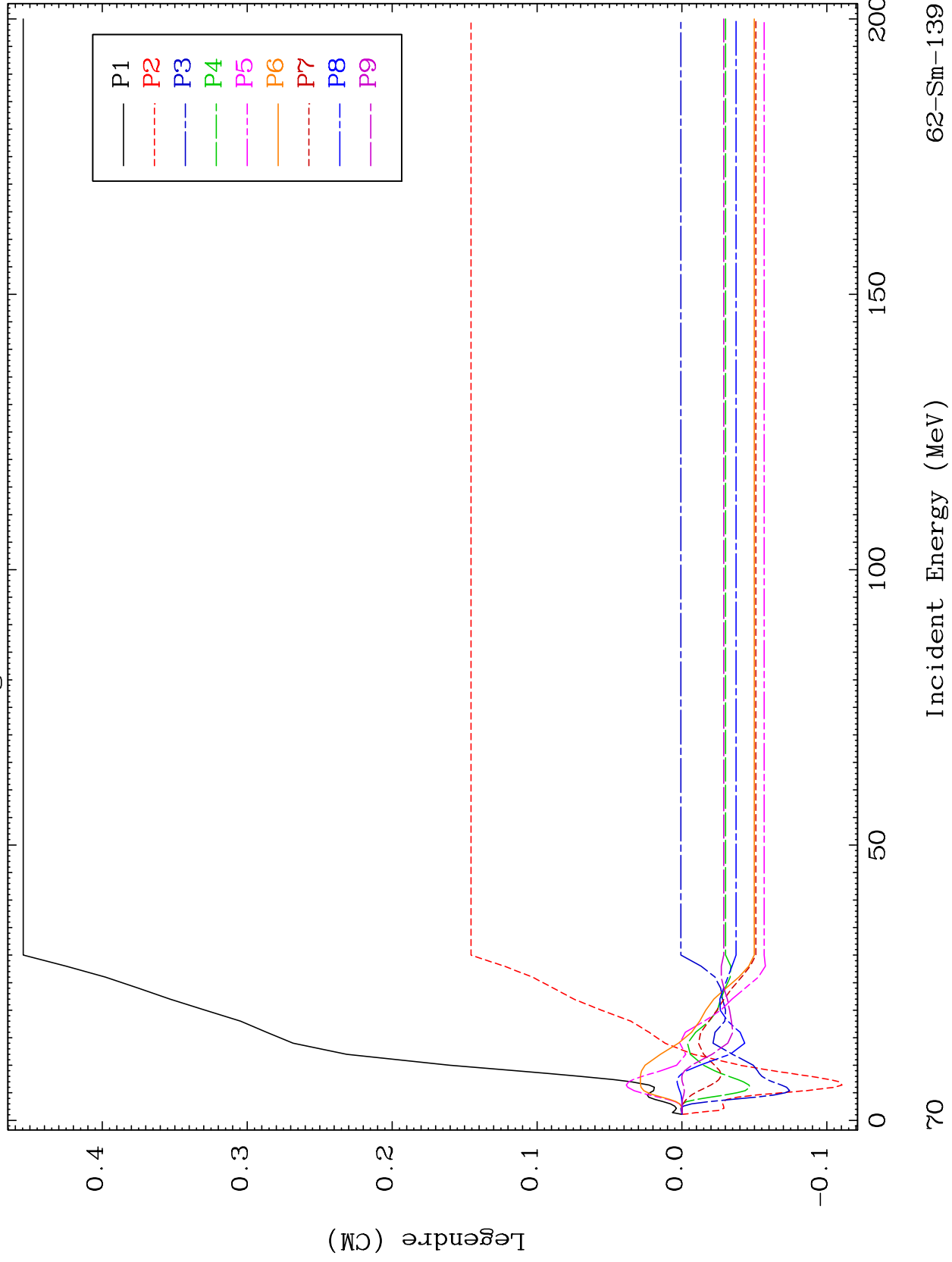
68



MAT 6210

MT= 64 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

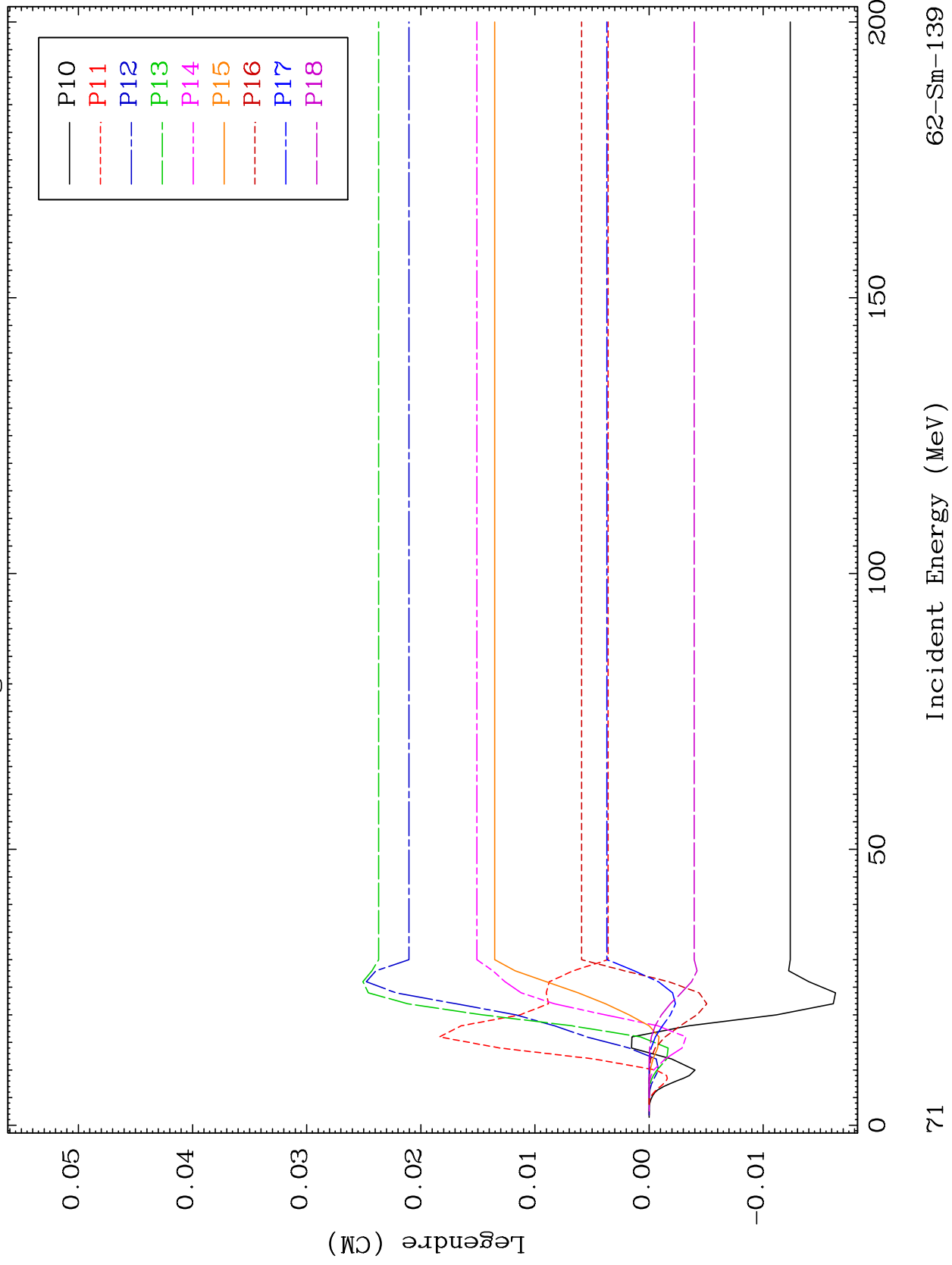
Incident Energy (MeV)

70

MAT 6210

MT= 64 (n,n') Level  
Legendre Coefficients

62-Sm-139



71

Incident Energy (MeV)

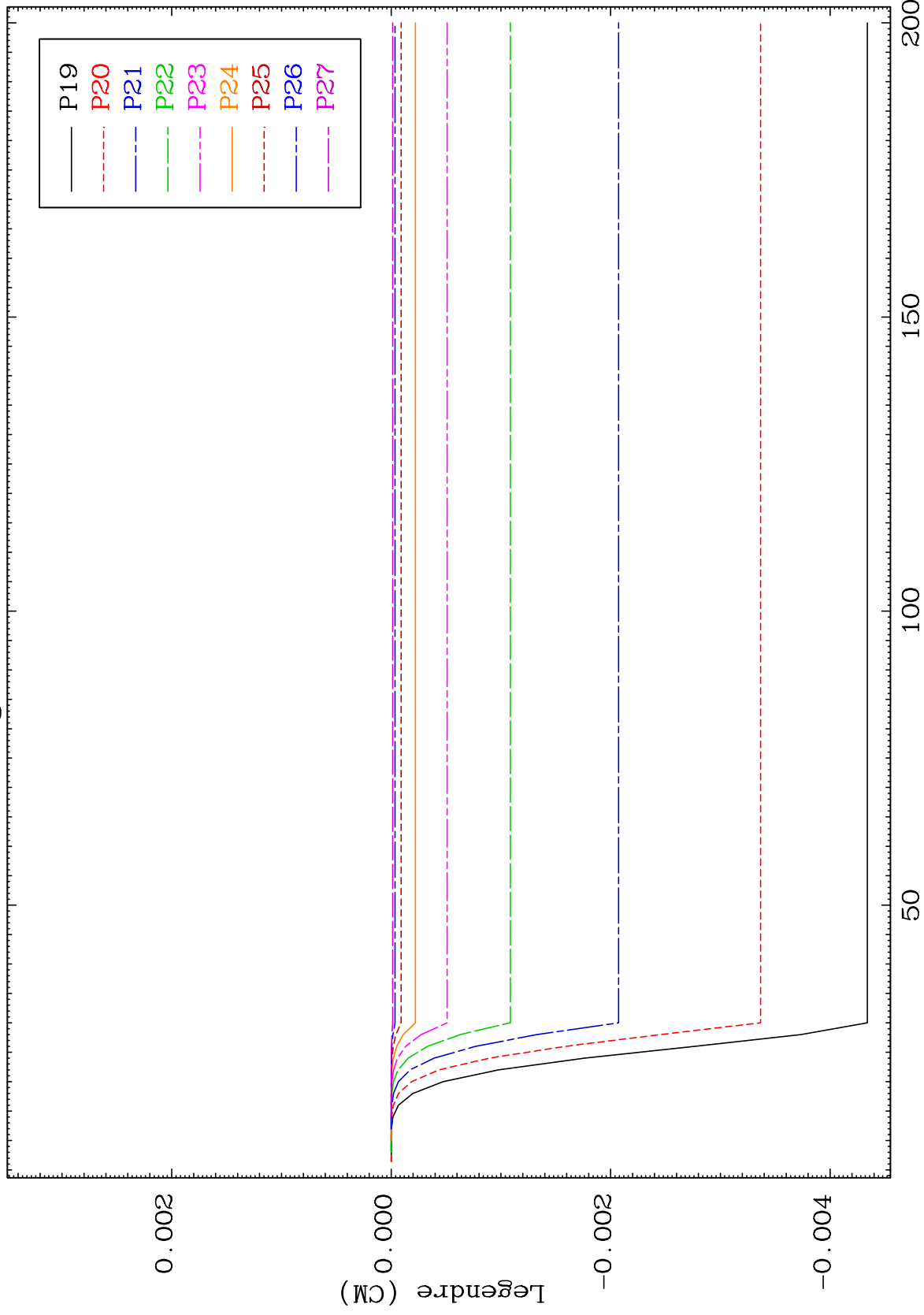
62-Sm-139



MAT 6210

MT= 64 (n,n') Level  
Legendre Coefficients

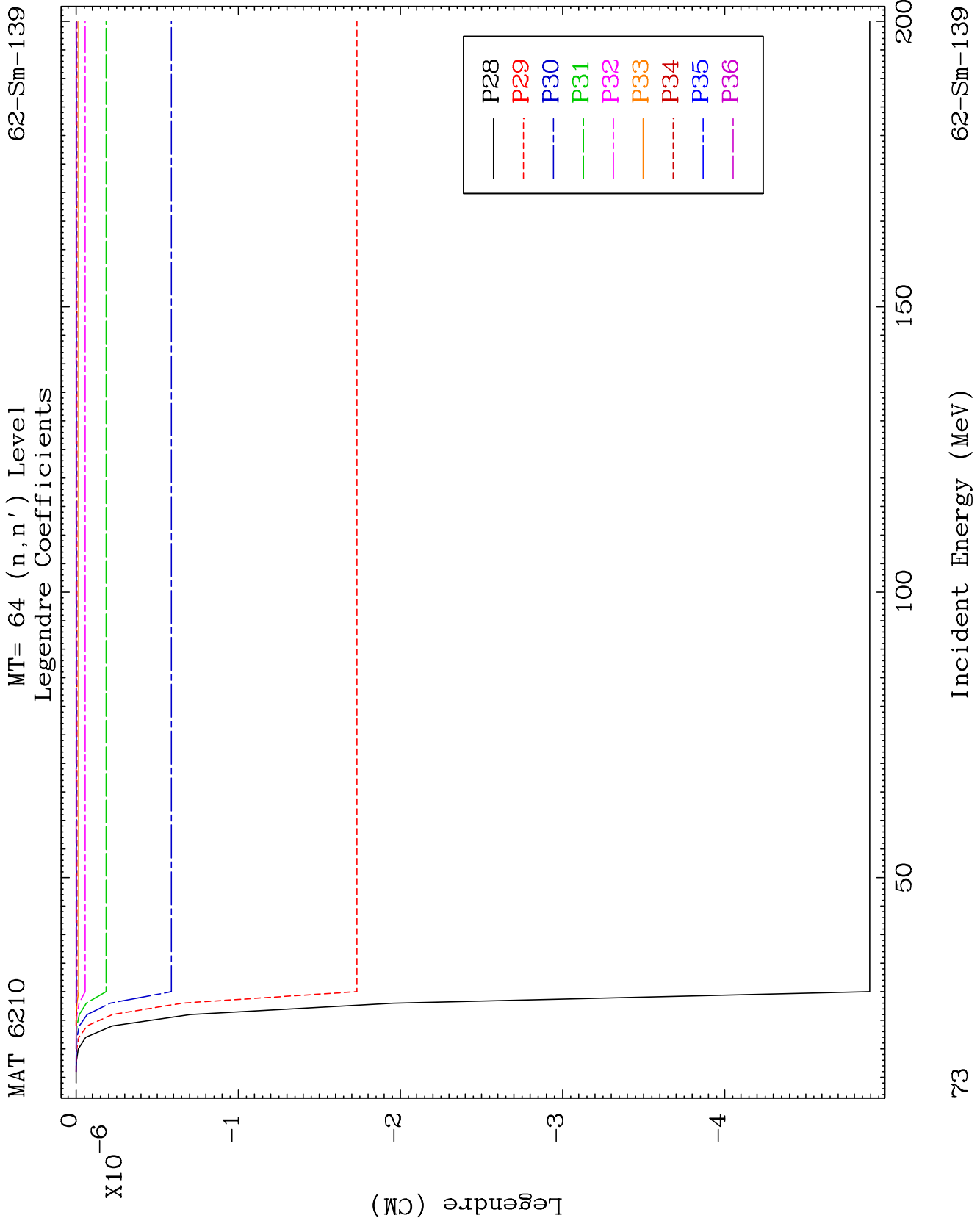
62-Sm-139



72

Incident Energy (MeV)

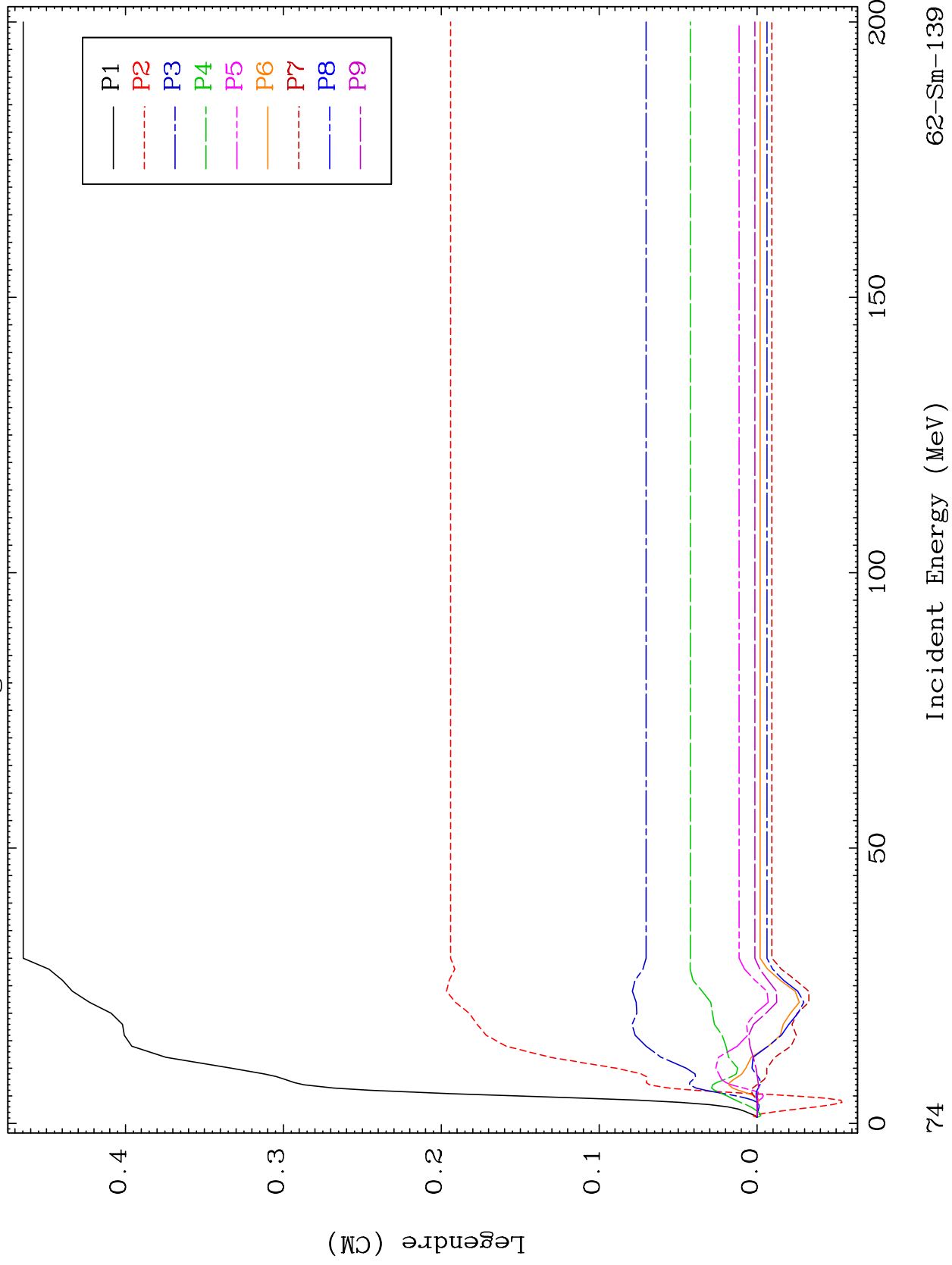
62-Sm-139



MAT 6210

MT= 65 (n,n') Level  
Legendre Coefficients

62-Sm-139



74

Incident Energy (MeV)

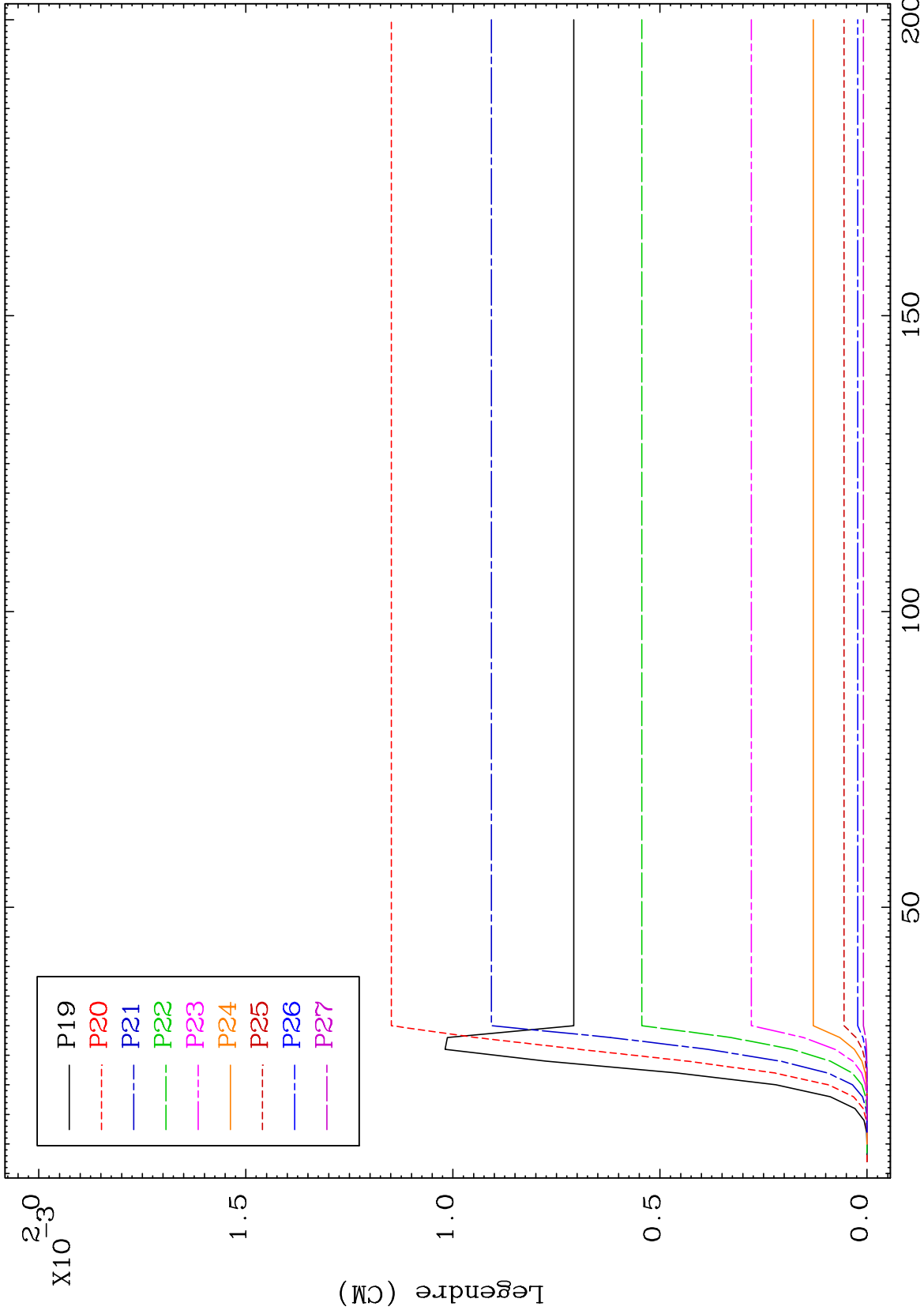
62-Sm-139



MAT 6210

MT= 65 (n,n') Level  
Legendre Coefficients

62-Sm-139



76

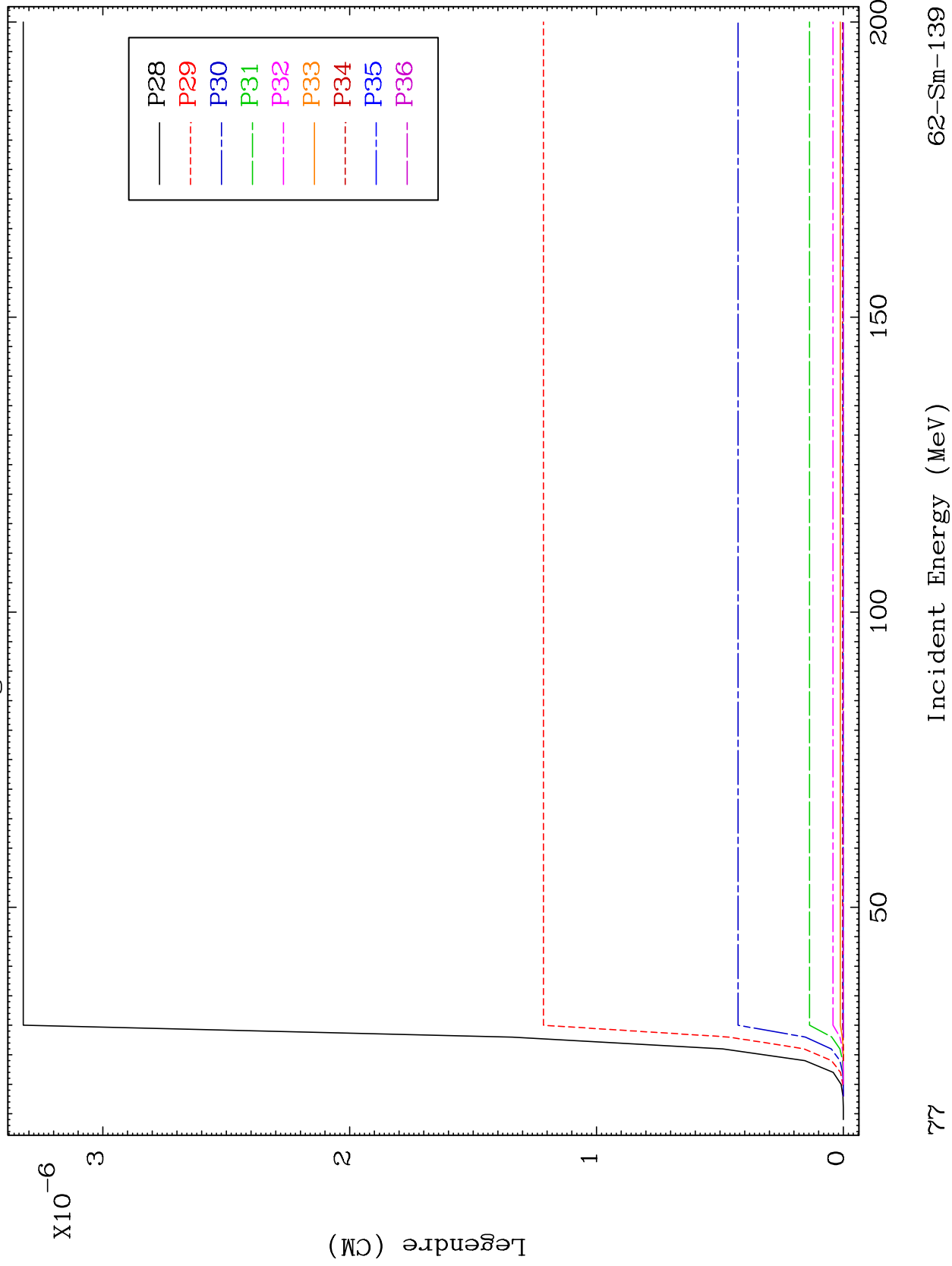
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 65 (n,n') Level  
Legendre Coefficients

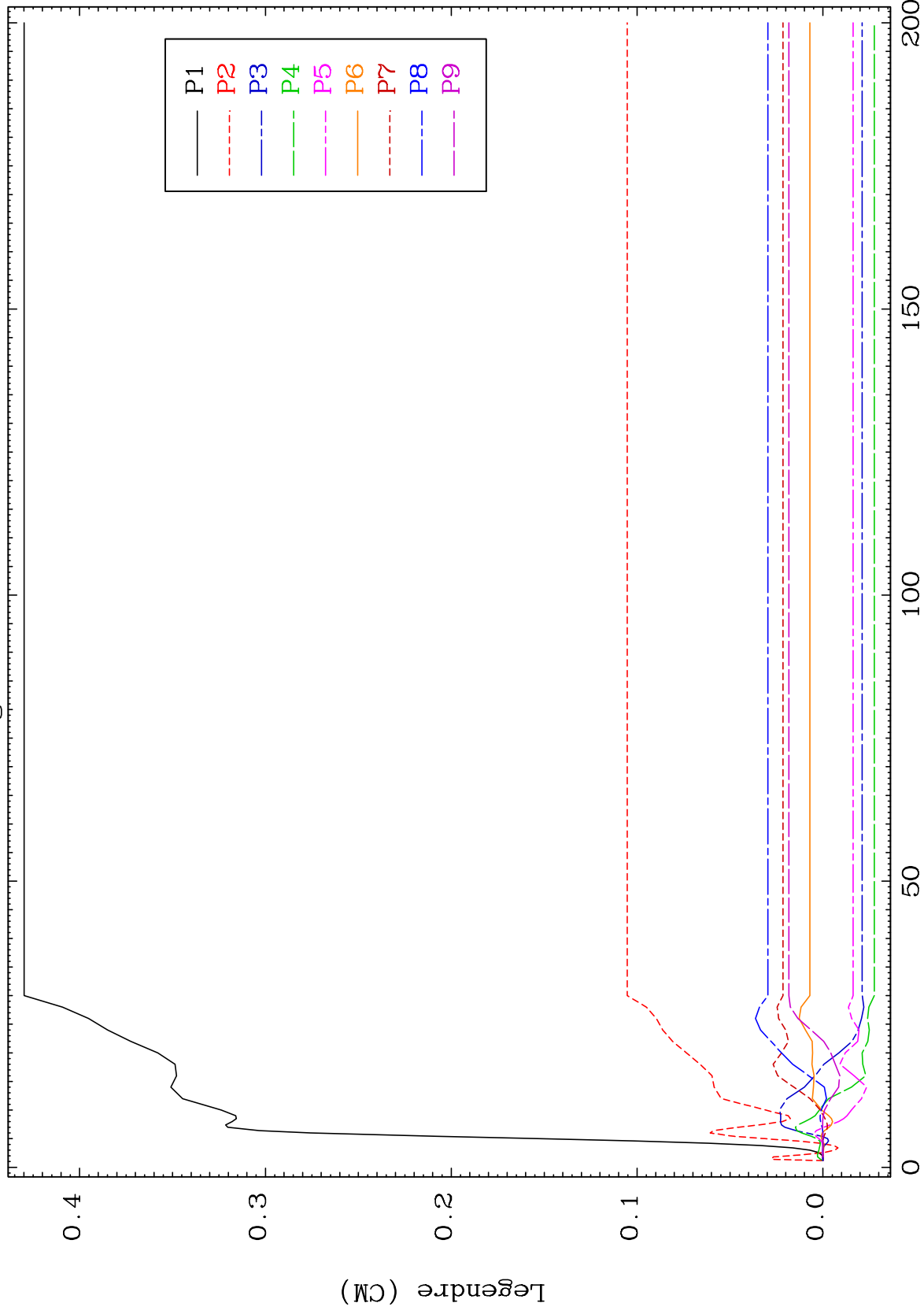
62-Sm-139



MAT 6210

MT= 66 (n,n') Level  
Legendre Coefficients

62-Sm-139



78

Incident Energy (MeV)

62-Sm-139



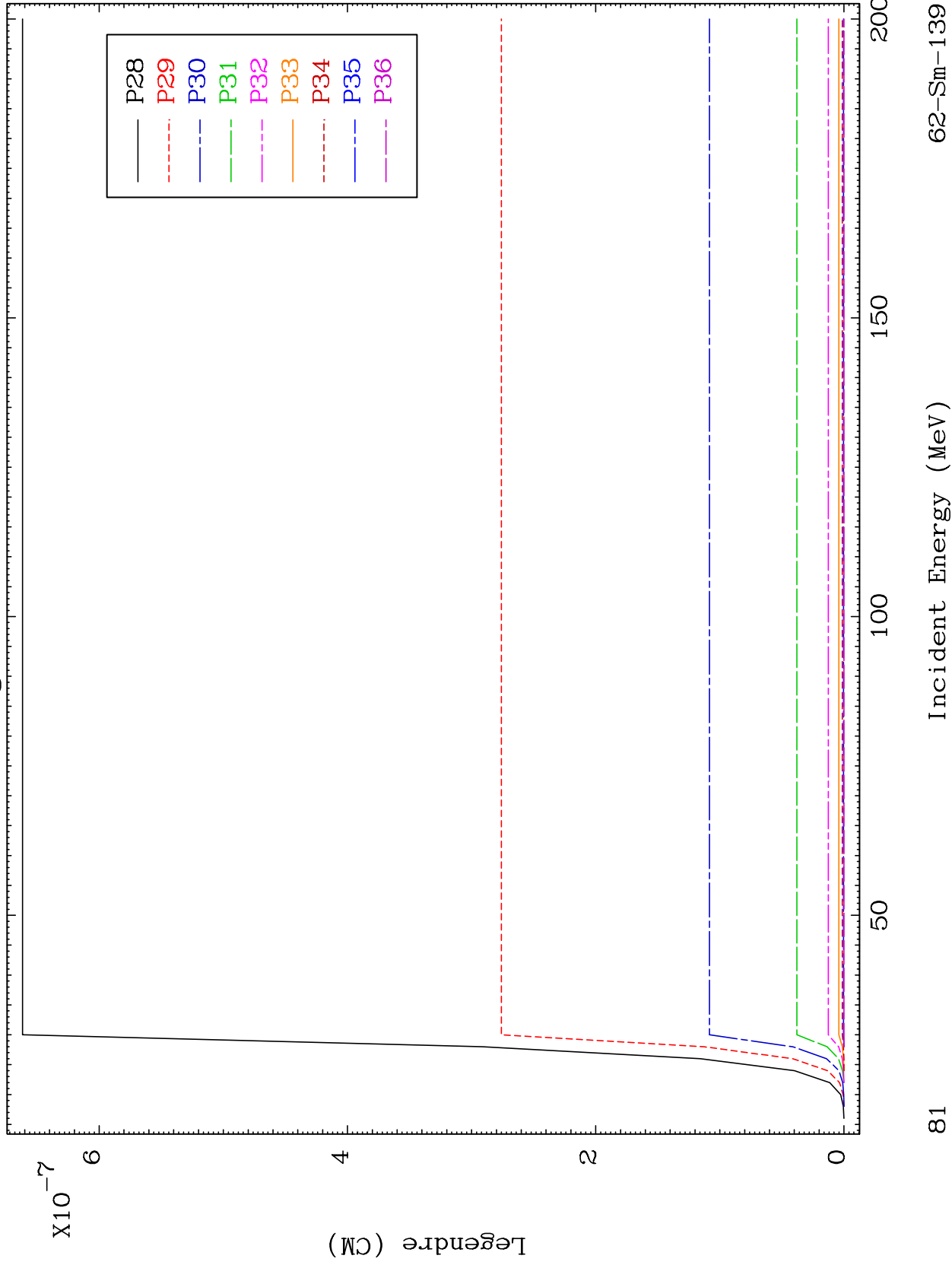




MAT 6210

MT= 66 (n,n') Level  
Legendre Coefficients

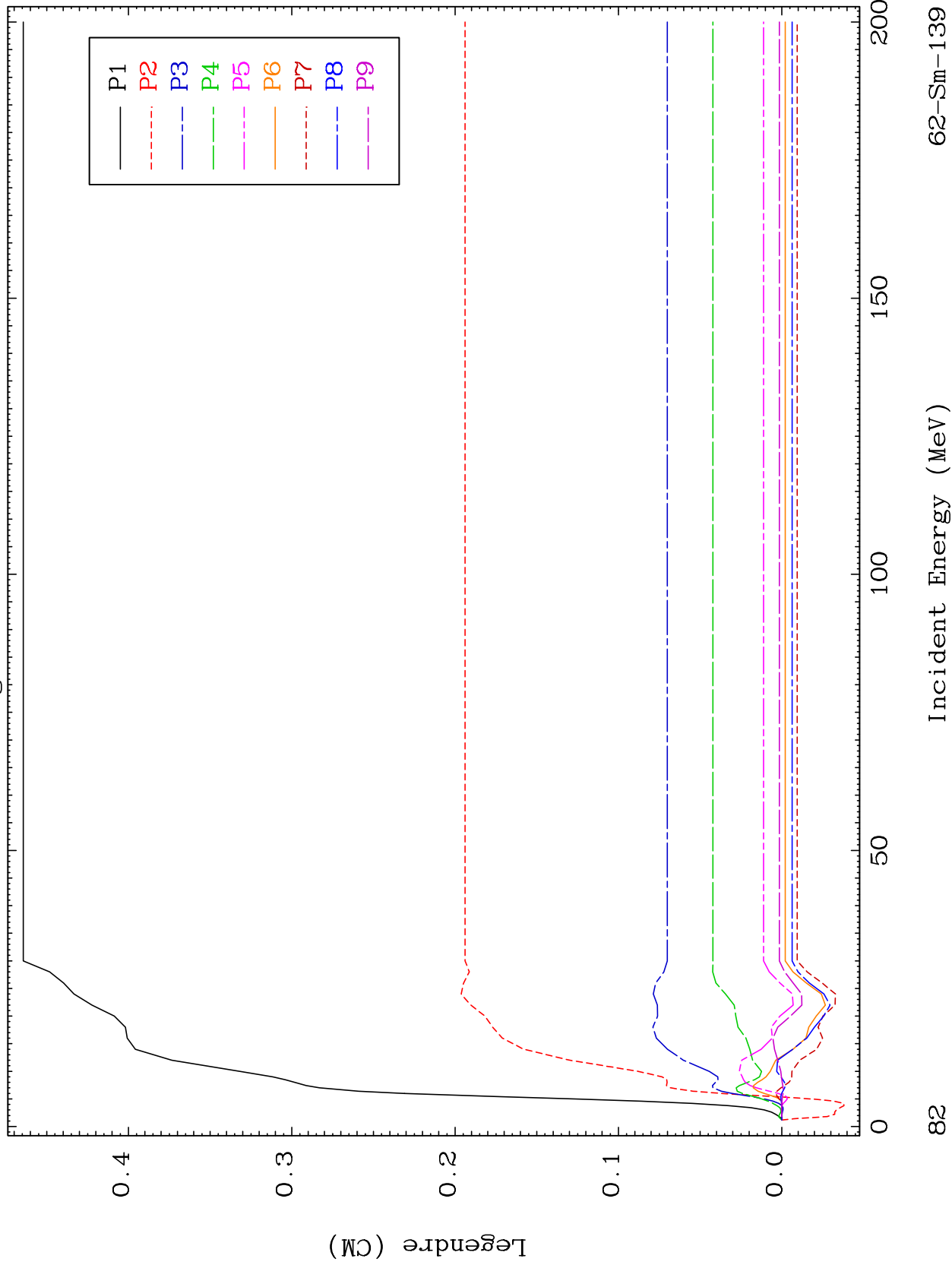
62-Sm-139



MAT 6210

MT= 67 (n,n') Level  
Legendre Coefficients

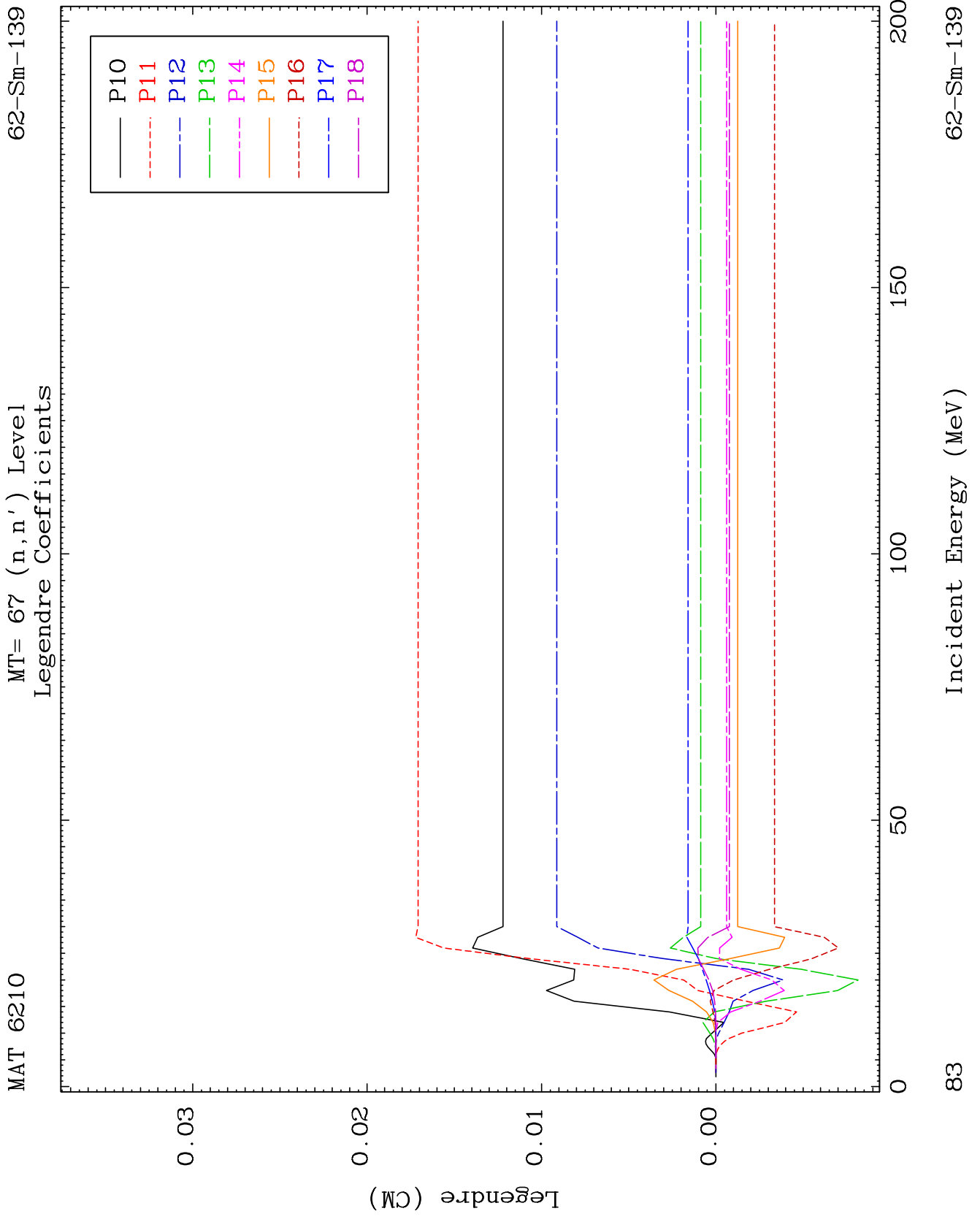
62-Sm-139

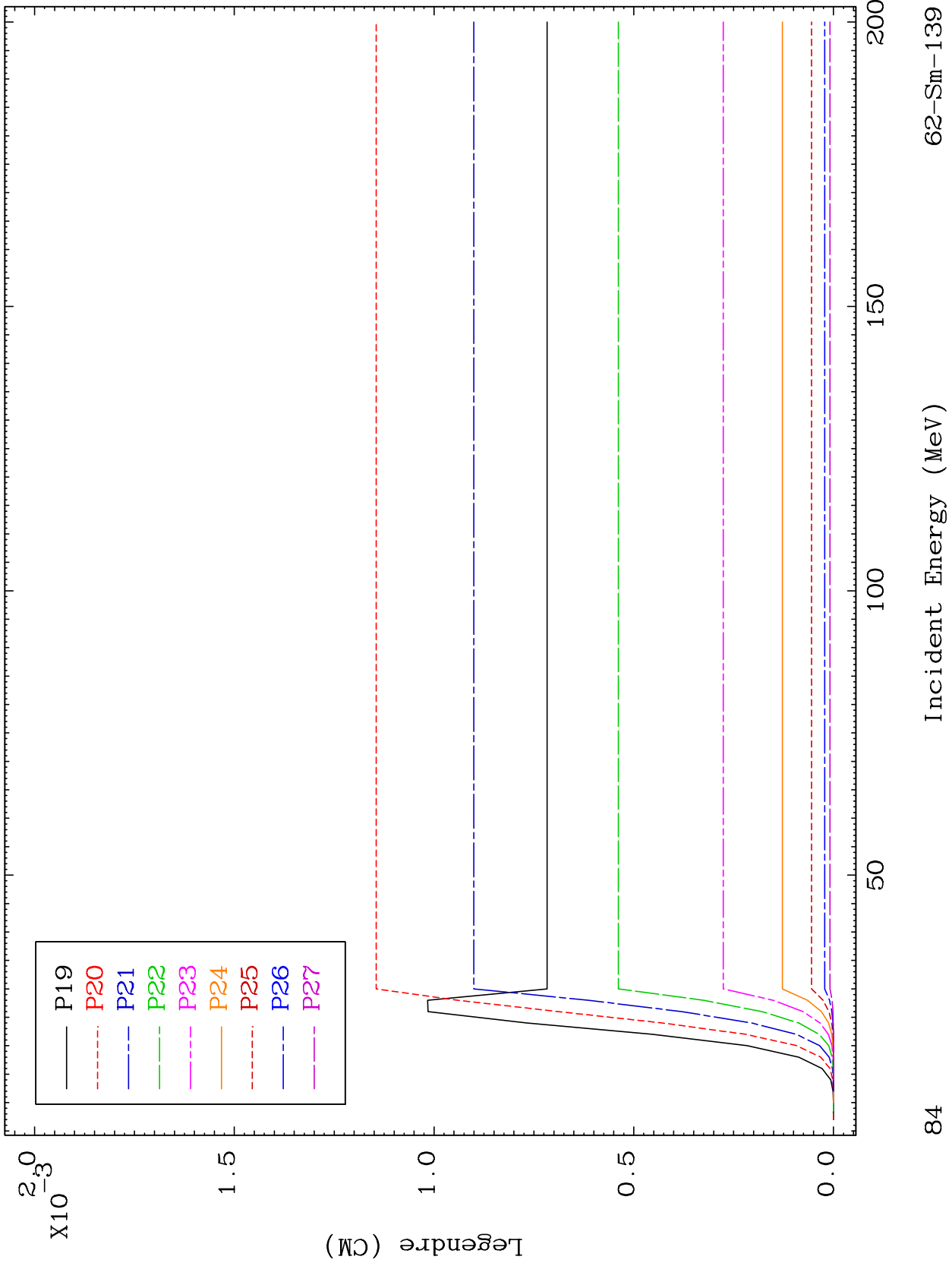


62-Sm-139

Incident Energy (MeV)

82

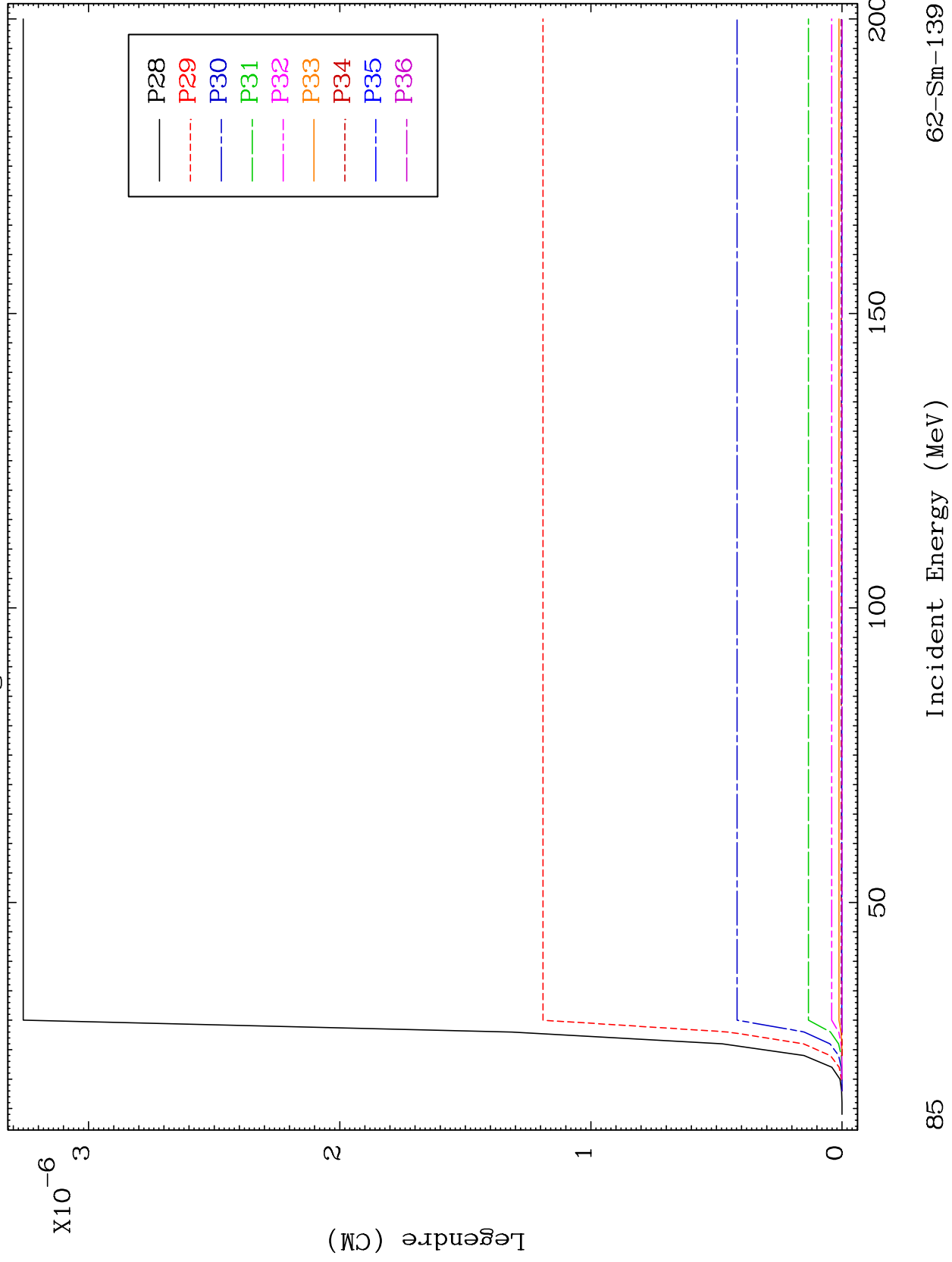




MAT 6210

MT= 67 (n,n') Level  
Legendre Coefficients

62-Sm-139



85

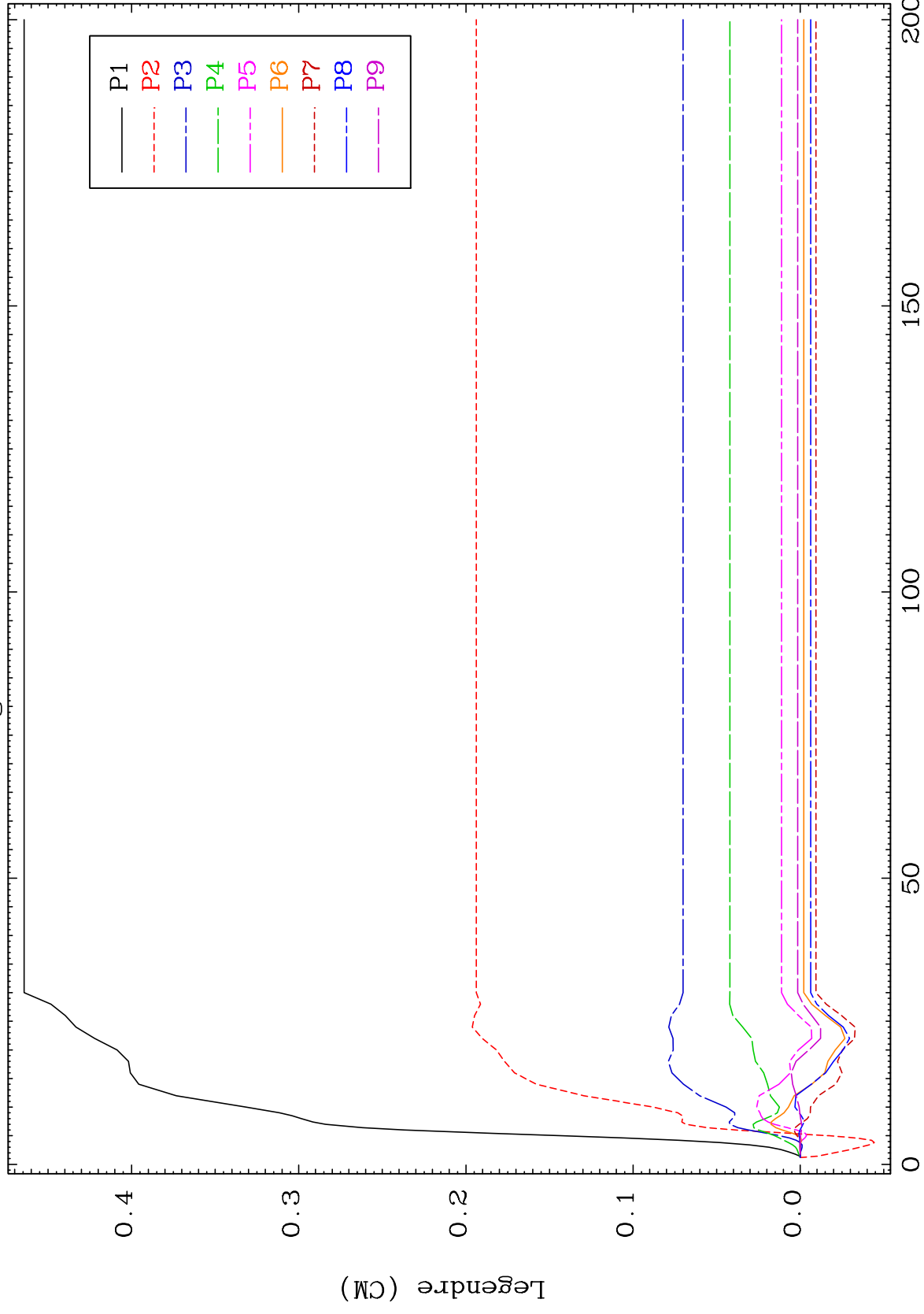
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 68 (n,n') Level  
Legendre Coefficients

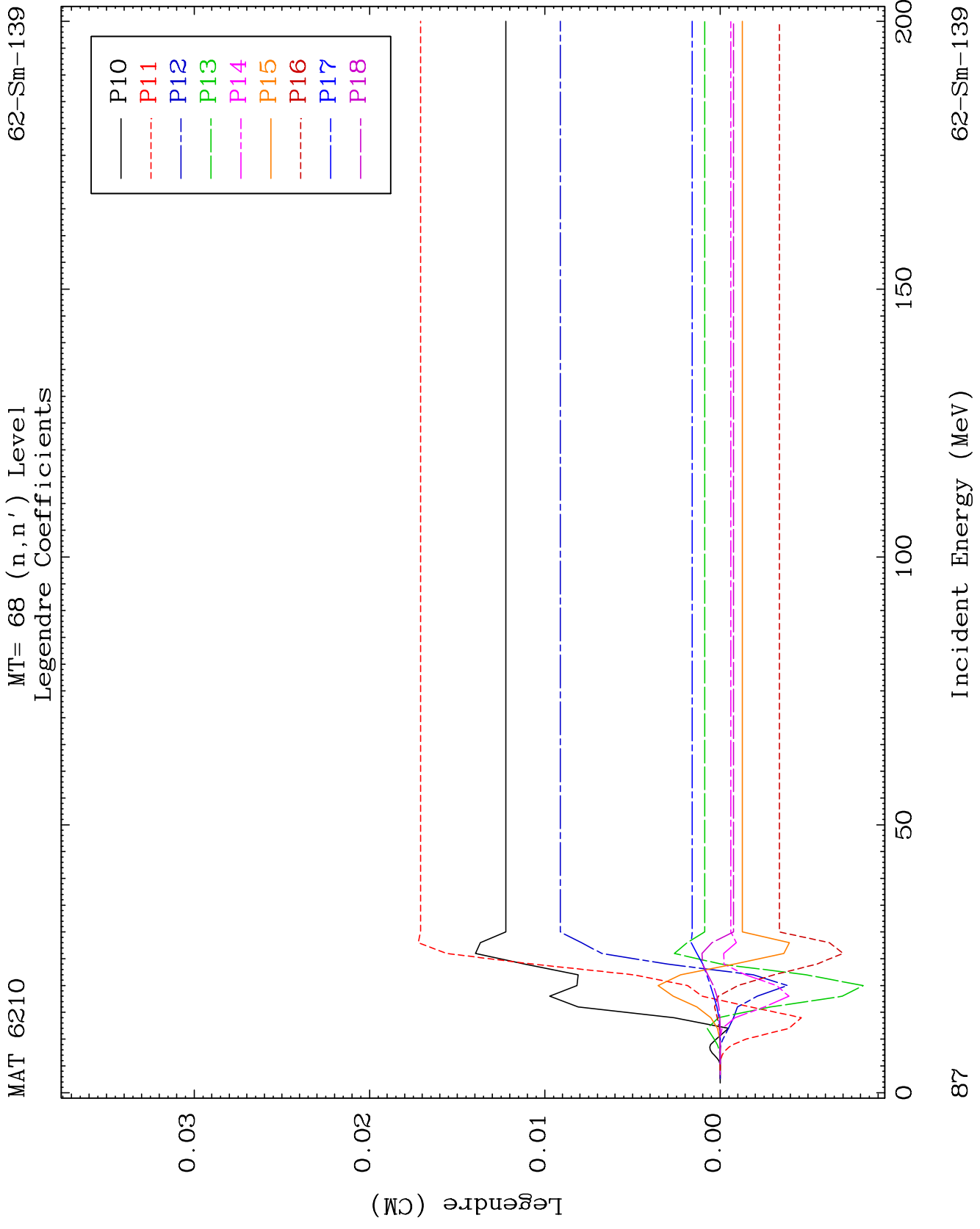
62-Sm-139



86

Incident Energy (MeV)

62-Sm-139

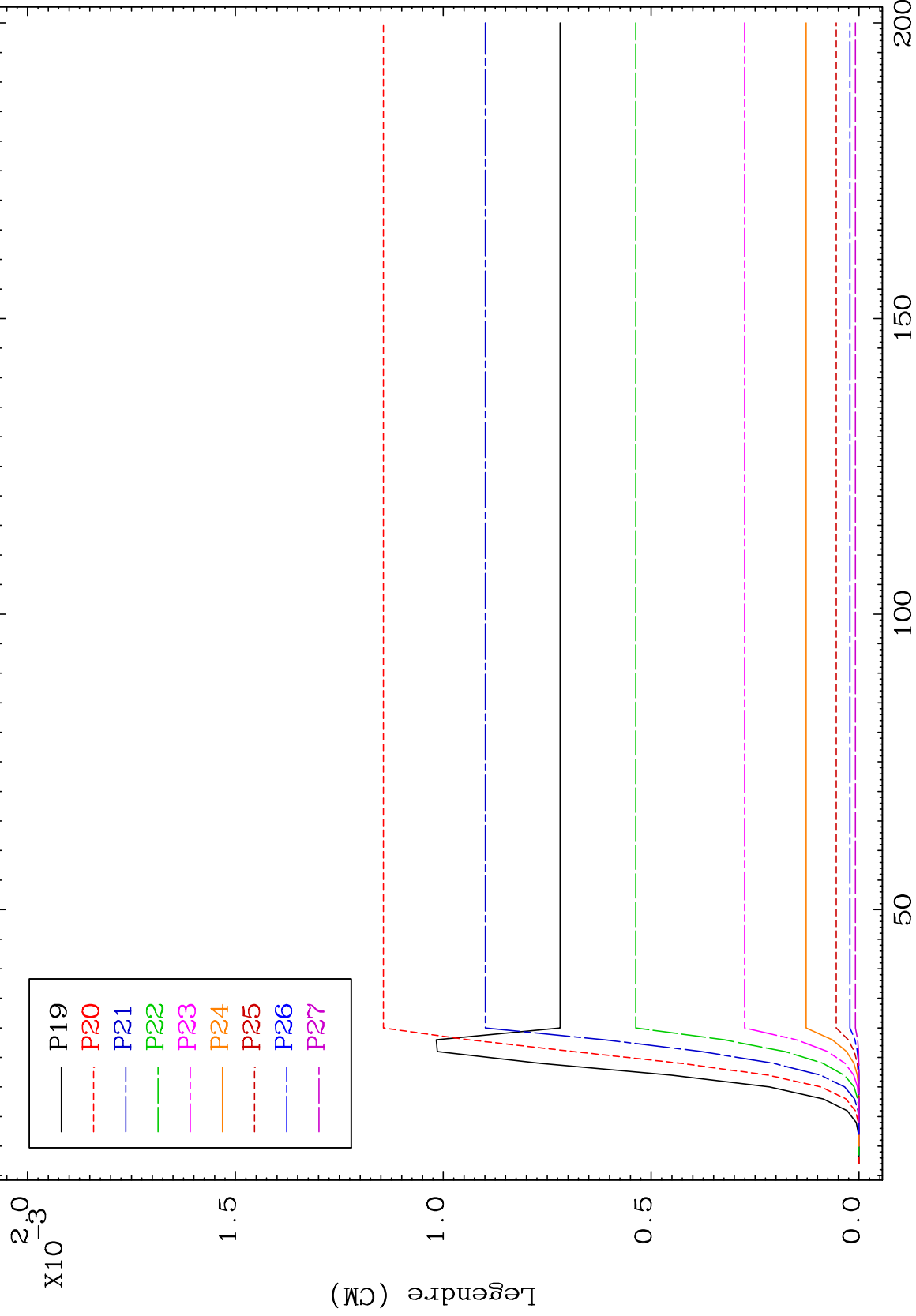




MAT 6210

MT= 68 (n,n') Level  
Legendre Coefficients

62-Sm-139



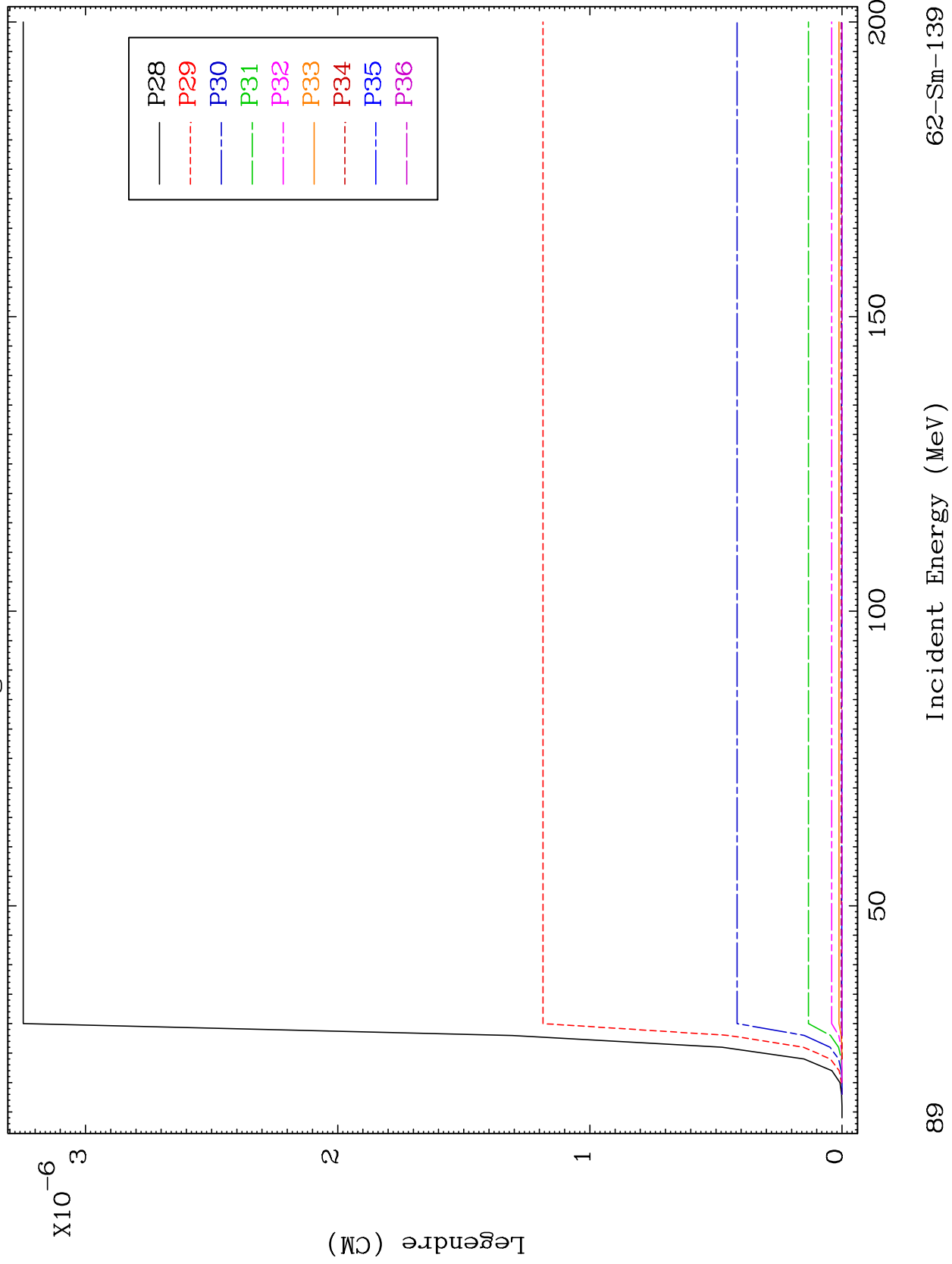
88

62-Sm-139

MAT 6210

MT= 68 (n,n') Level  
Legendre Coefficients

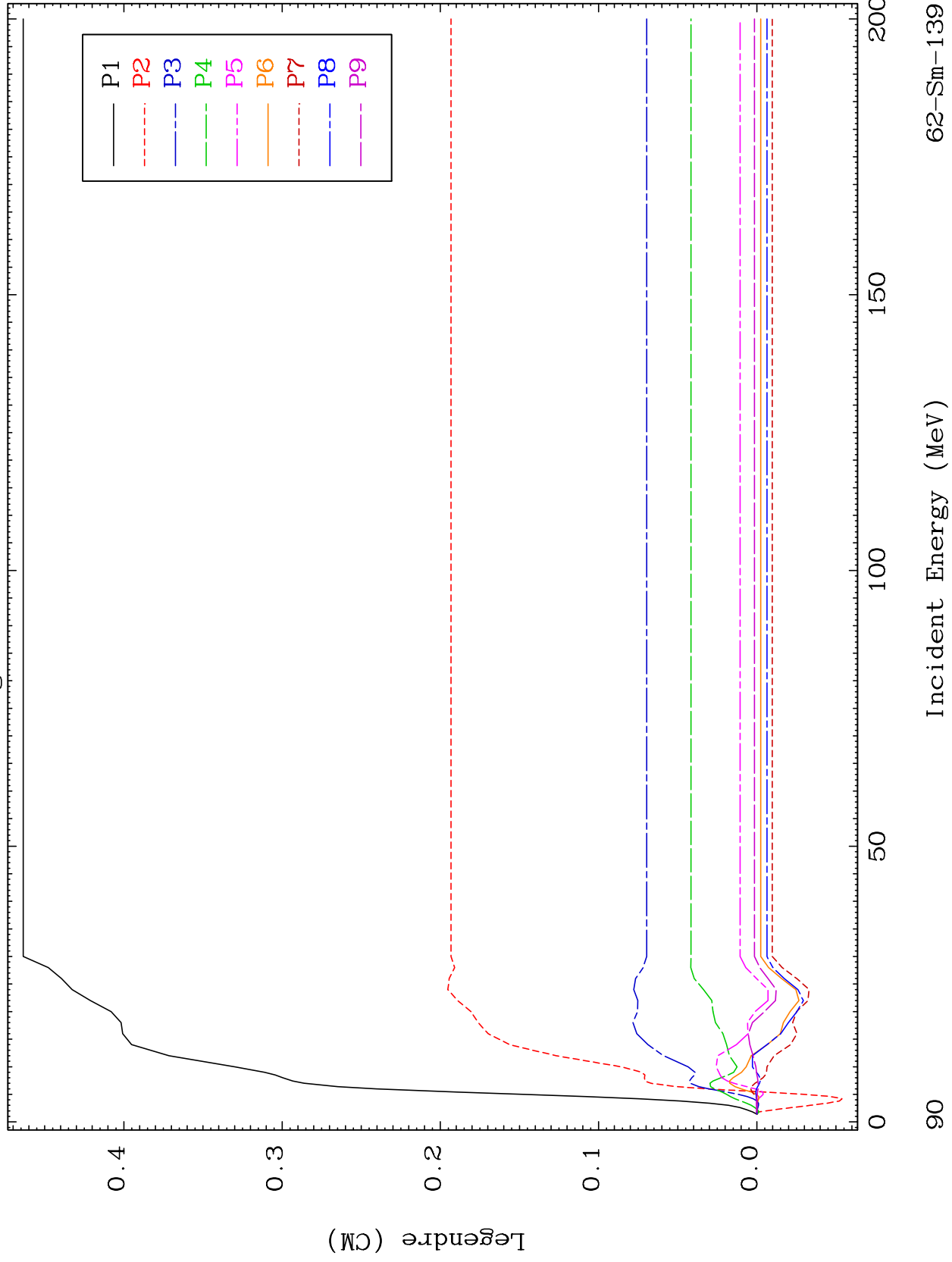
62-Sm-139



MAT 6210

MT= 69 (n,n') Level  
Legendre Coefficients

62-Sm-139



62-Sm-139

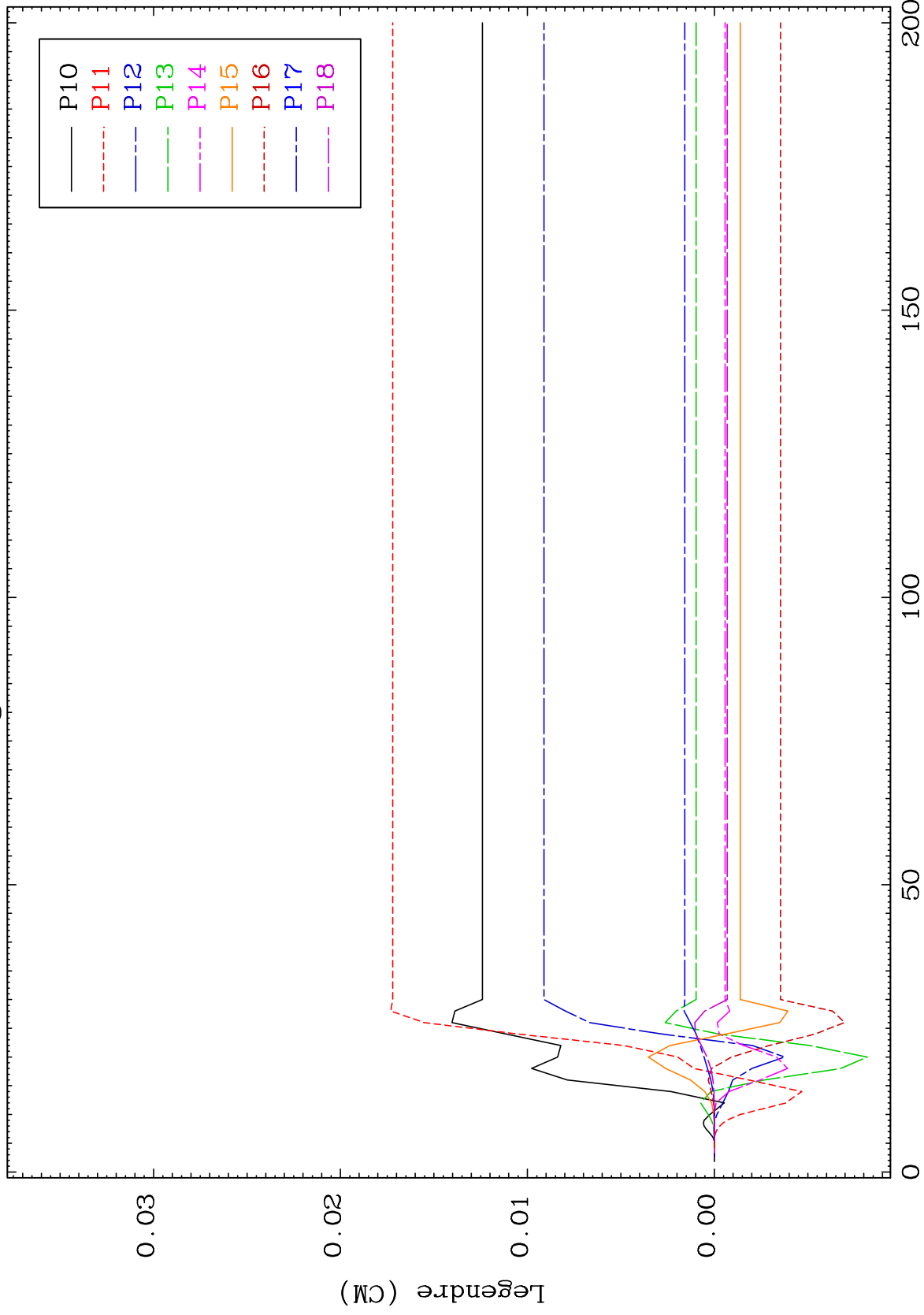
Incident Energy (MeV)

90

MAT 6210

MT= 69 (n,n') Level  
Legendre Coefficients

62-Sm-139



91

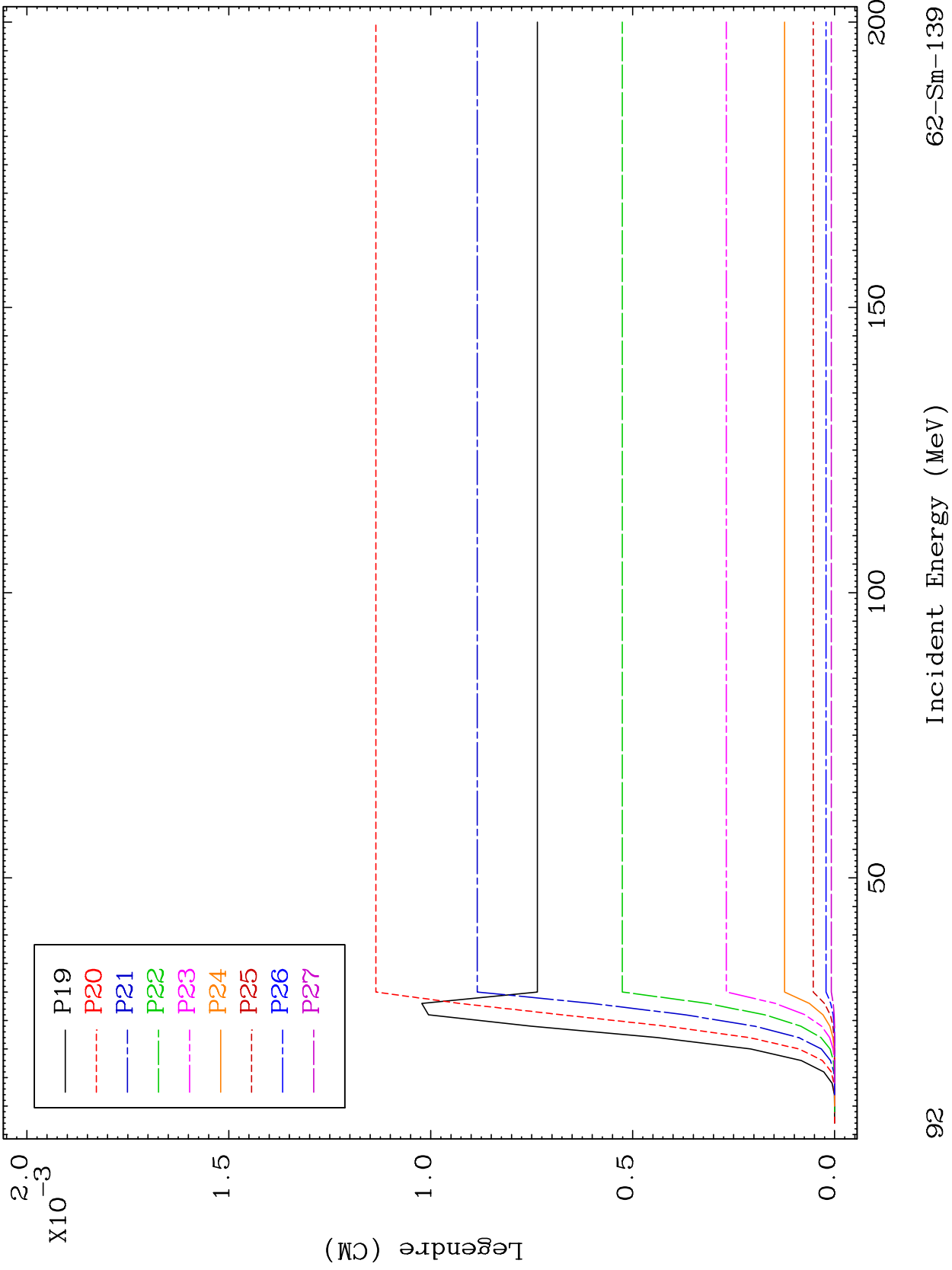
Incident Energy (MeV)

62-Sm-139

MAT 6210

MT= 69 (n,n') Level  
Legendre Coefficients

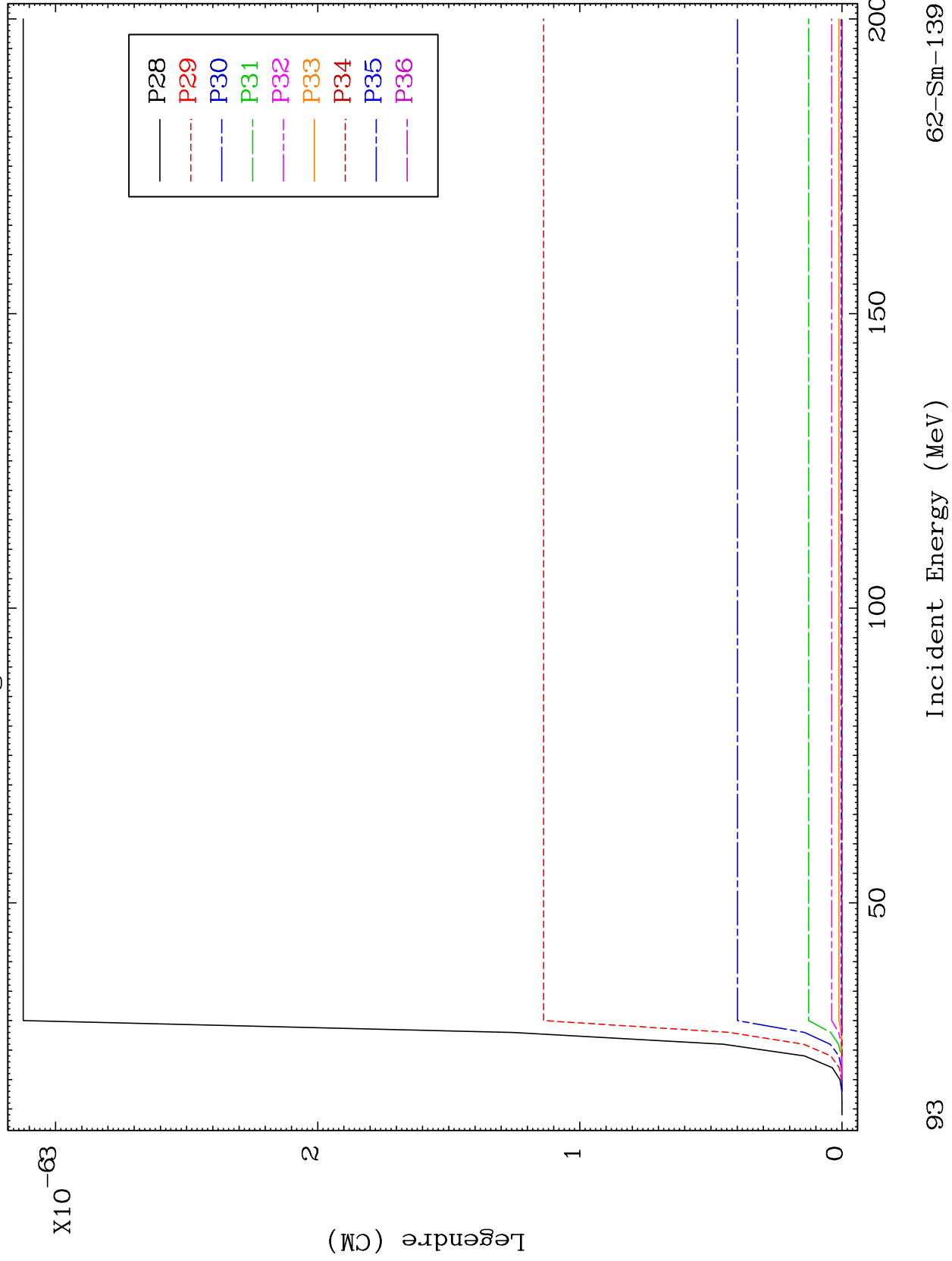
62-Sm-139



MAT 6210

MT= 69 (n,n') Level  
Legendre Coefficients

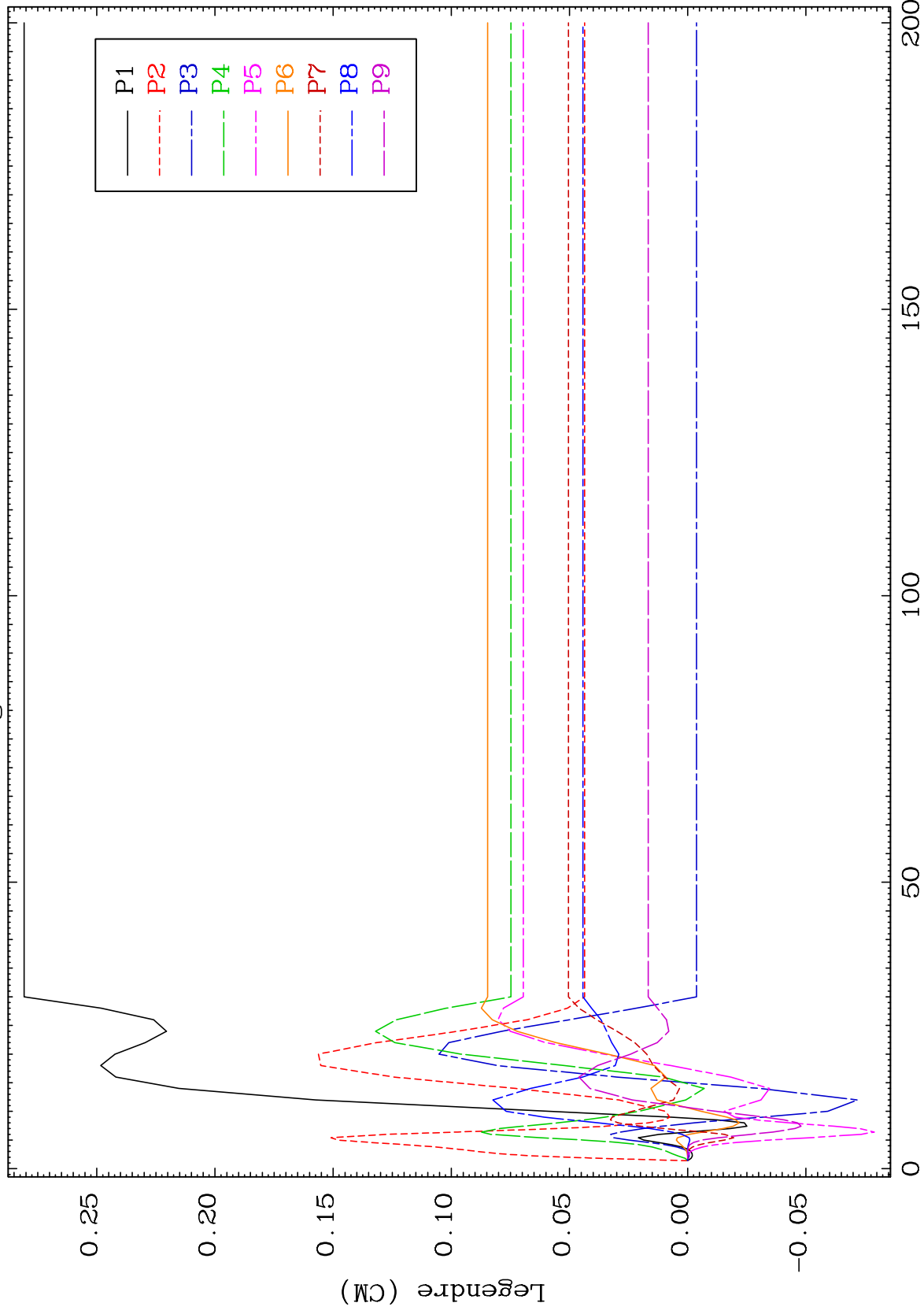
62-Sm-139



MAT 6210

MT= 70 (n,n') Level  
Legendre Coefficients

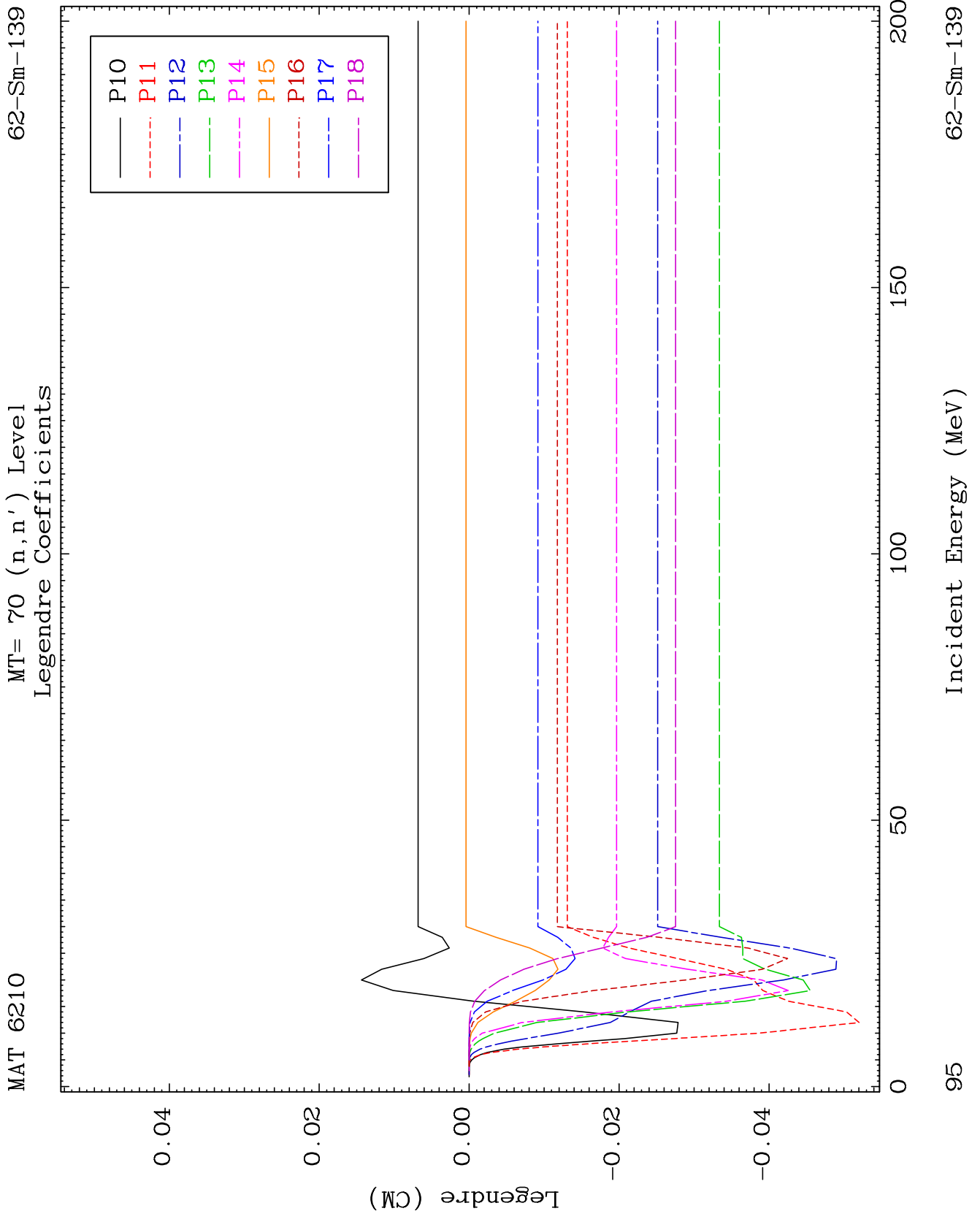
62-Sm-139



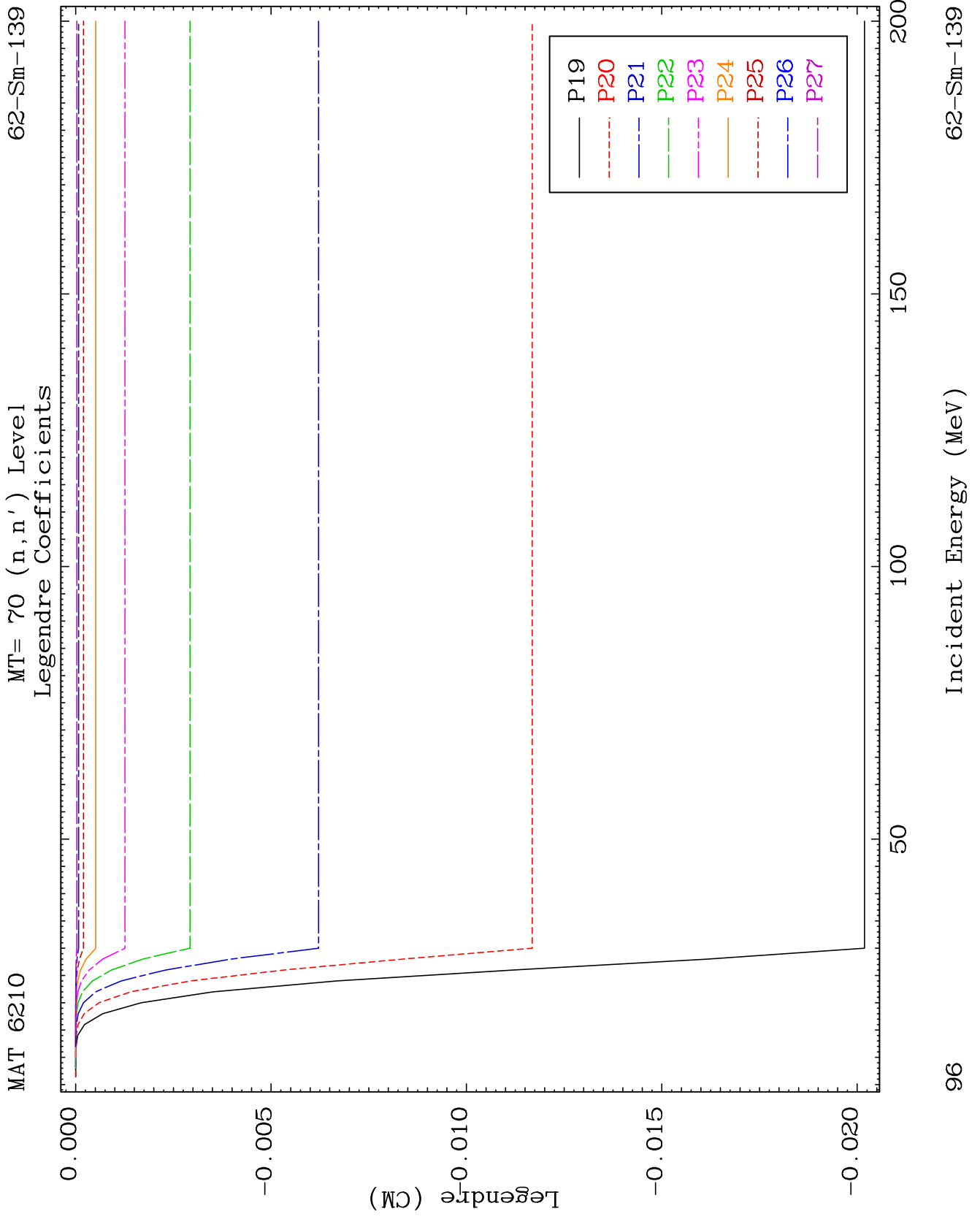
94

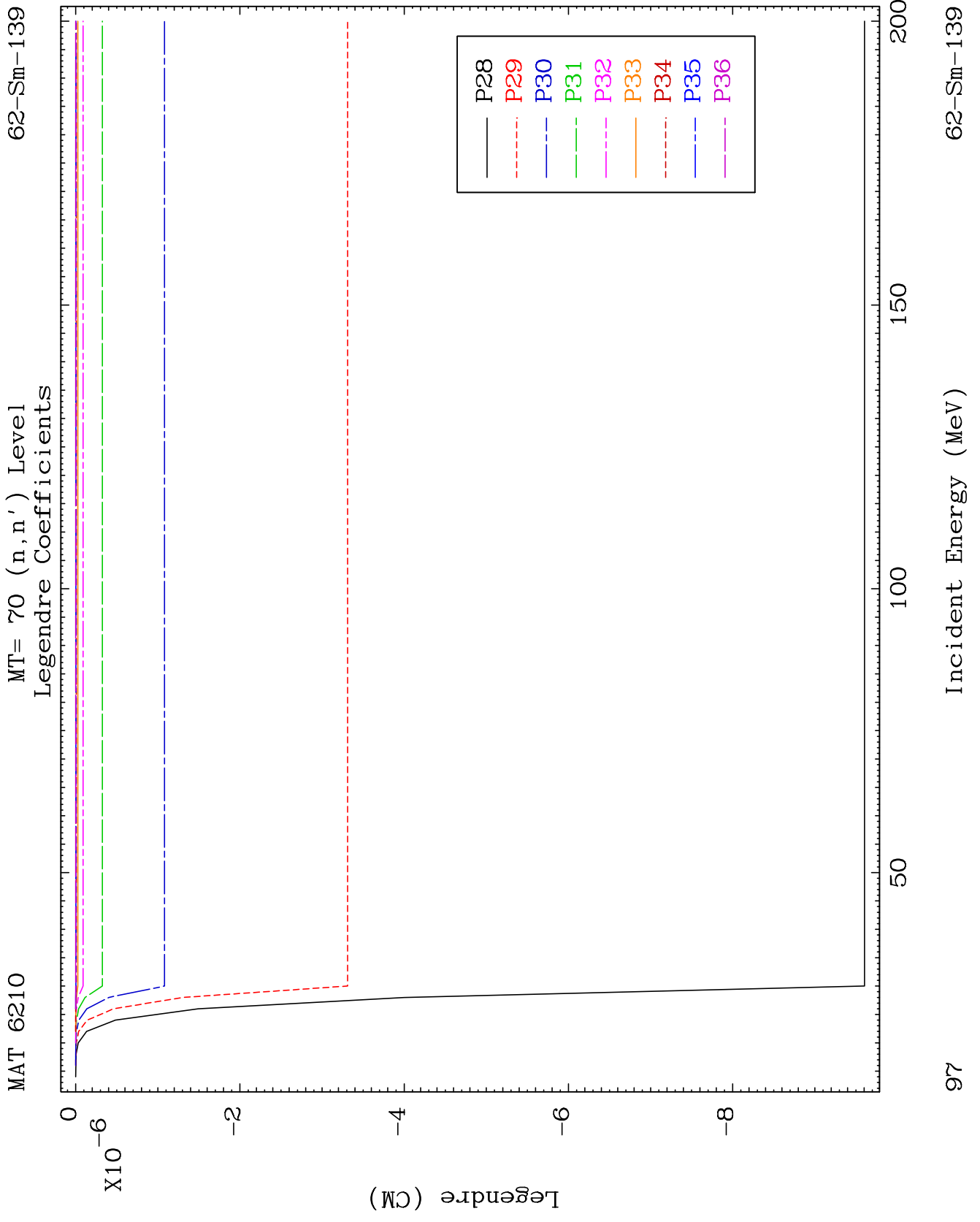
Incident Energy (MeV)

62-Sm-139





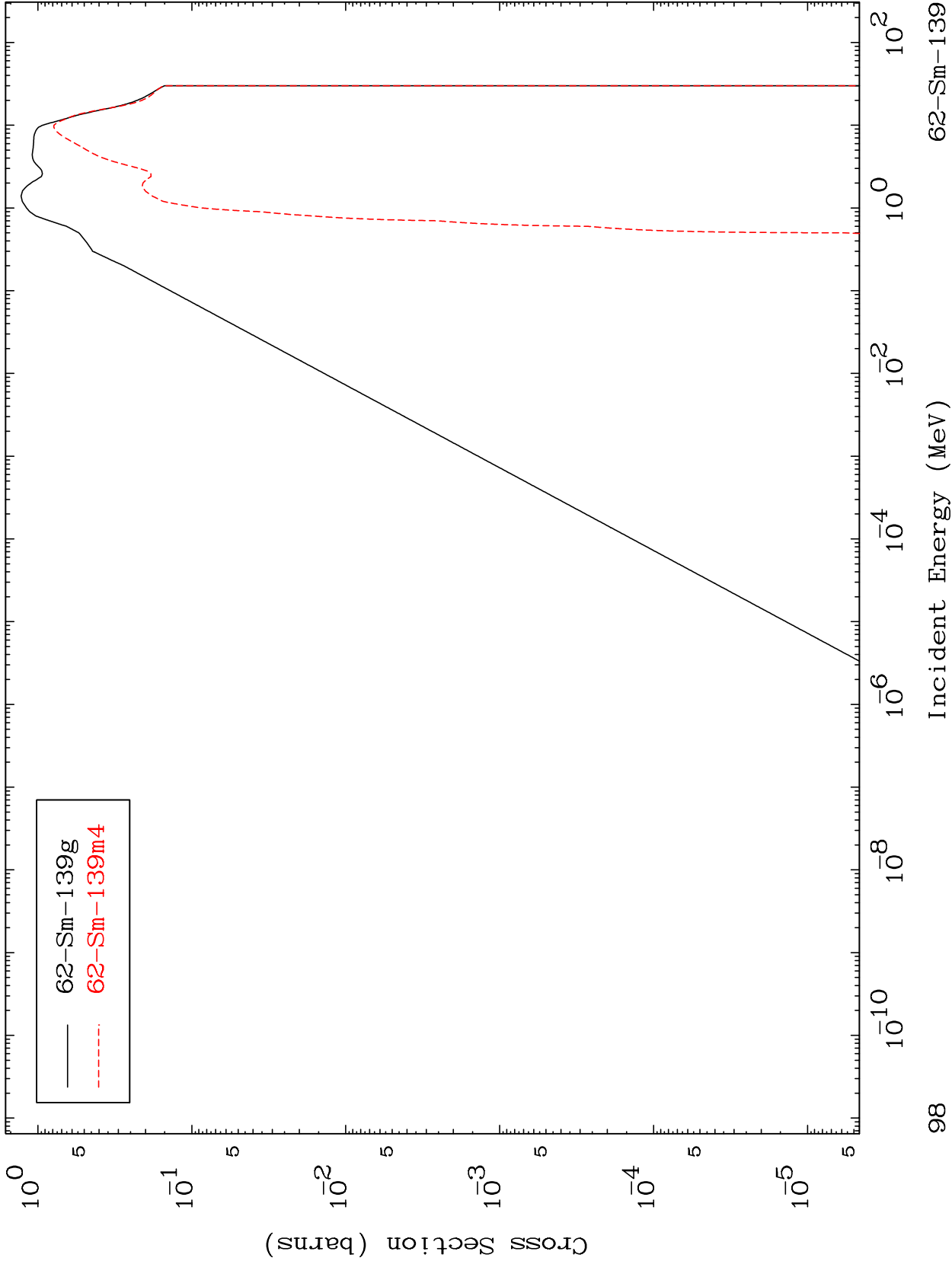




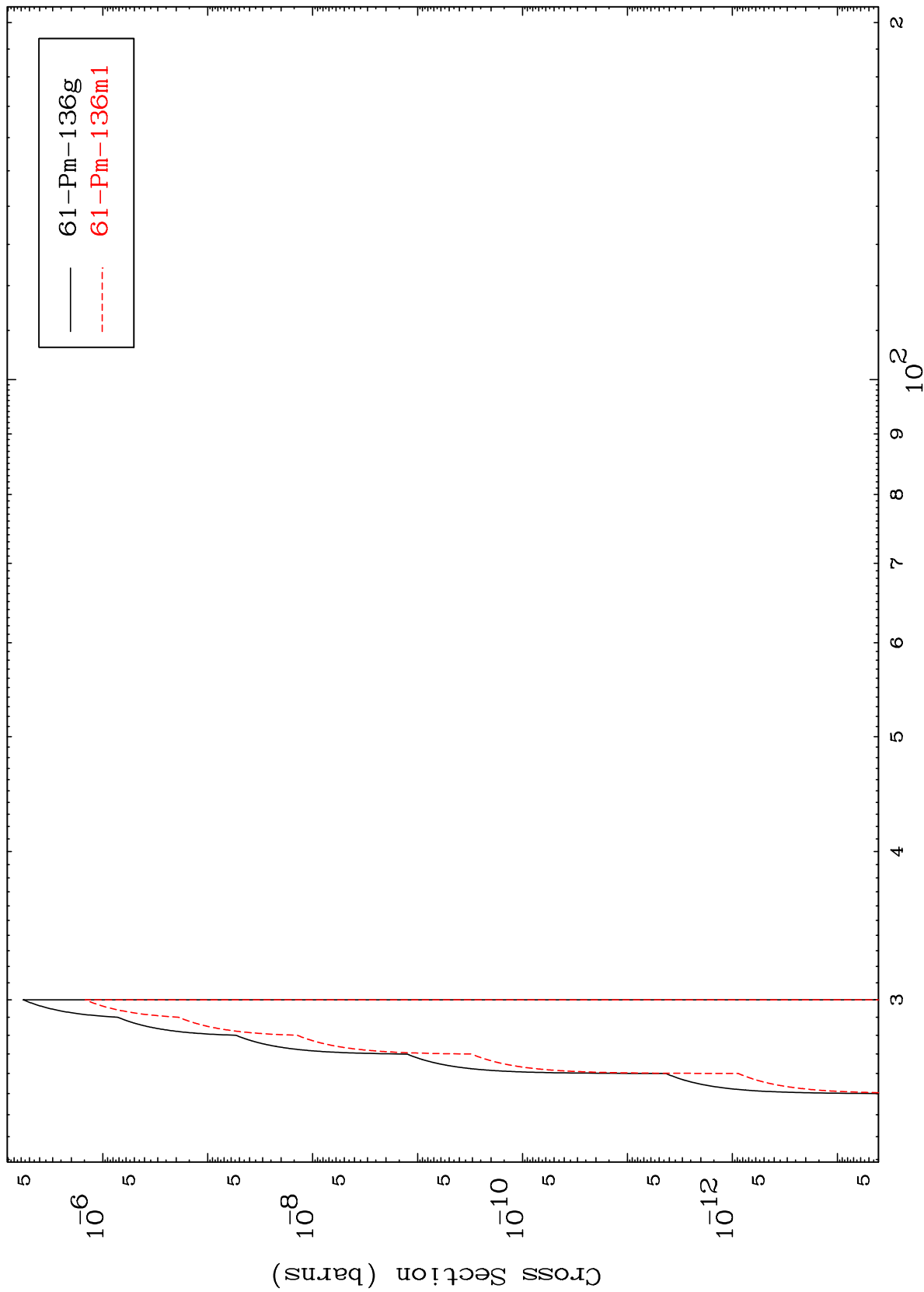
MAT 6210

Inelastic  
Radionuclide Production Cross Section

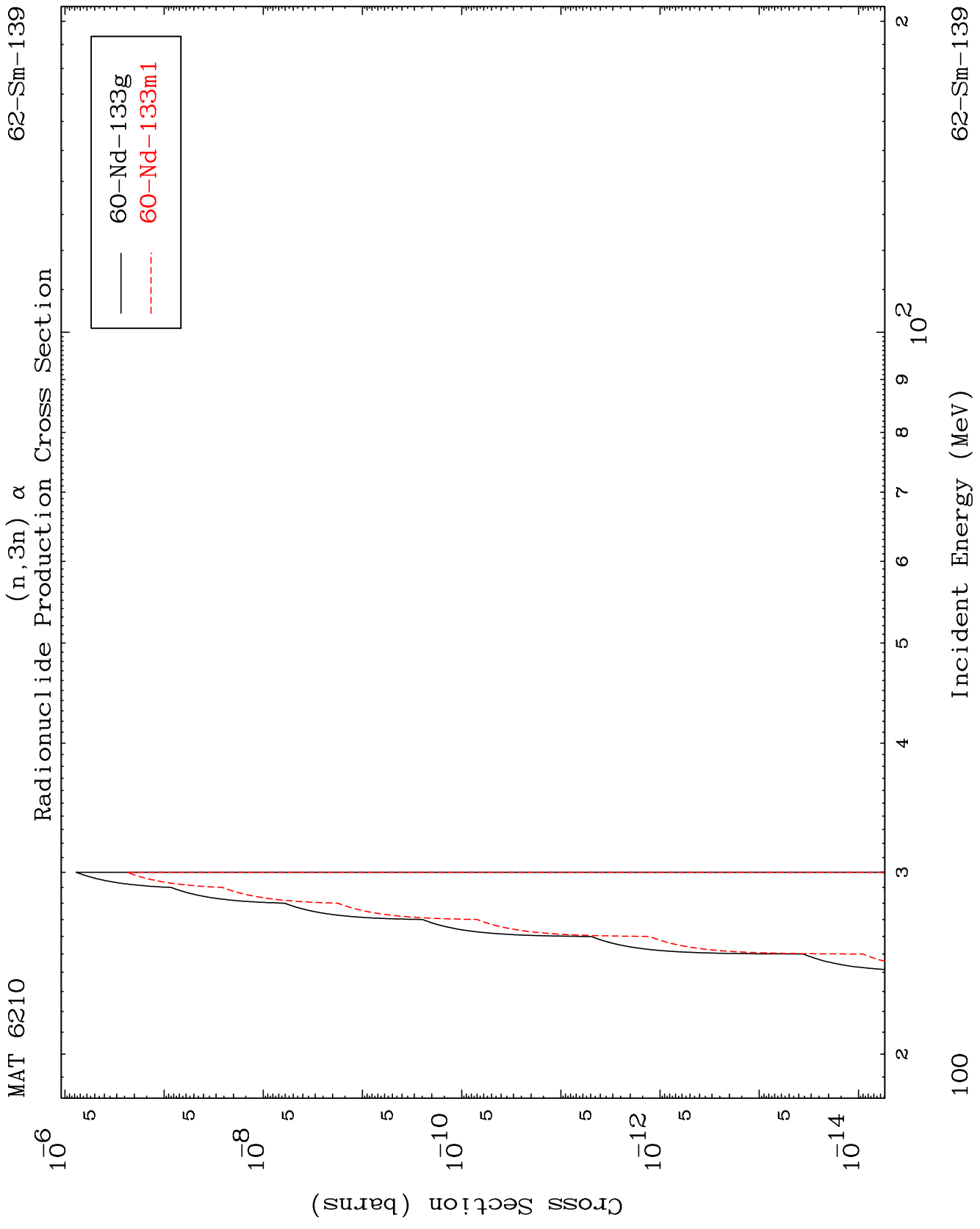
62-Sm-139



Radionuclide Production Cross Section



61-Pm-136g  
61-Pm-136m1

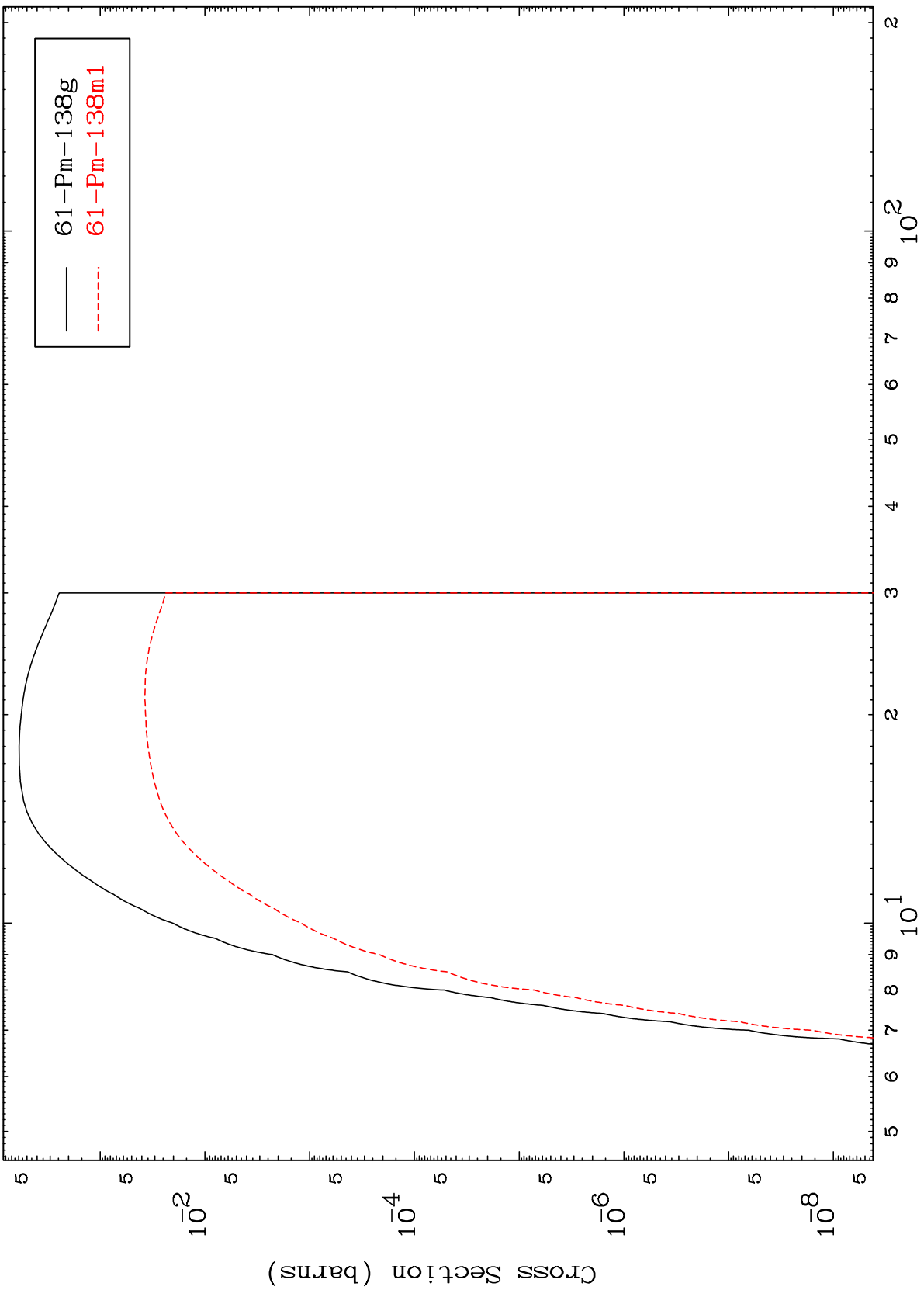


MAT 6210

(n,n') p

62-Sm-139

Radionuclide Production Cross Section



101

Incident Energy (MeV)

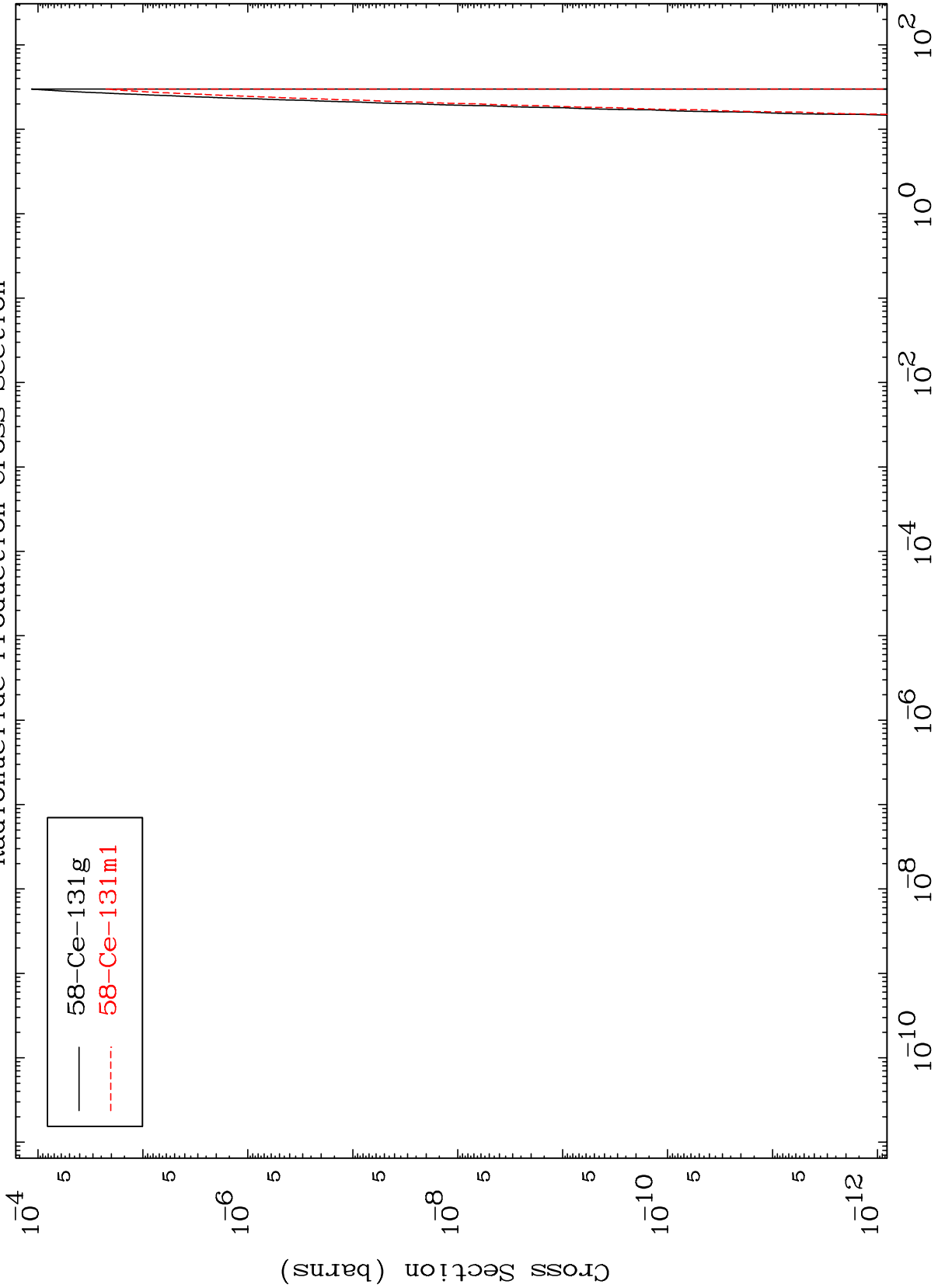
62-Sm-139

MAT 6210

(n,n') 2 $\alpha$

62-Sm-139

Radionuclide Production Cross Section



102

Incident Energy (MeV)

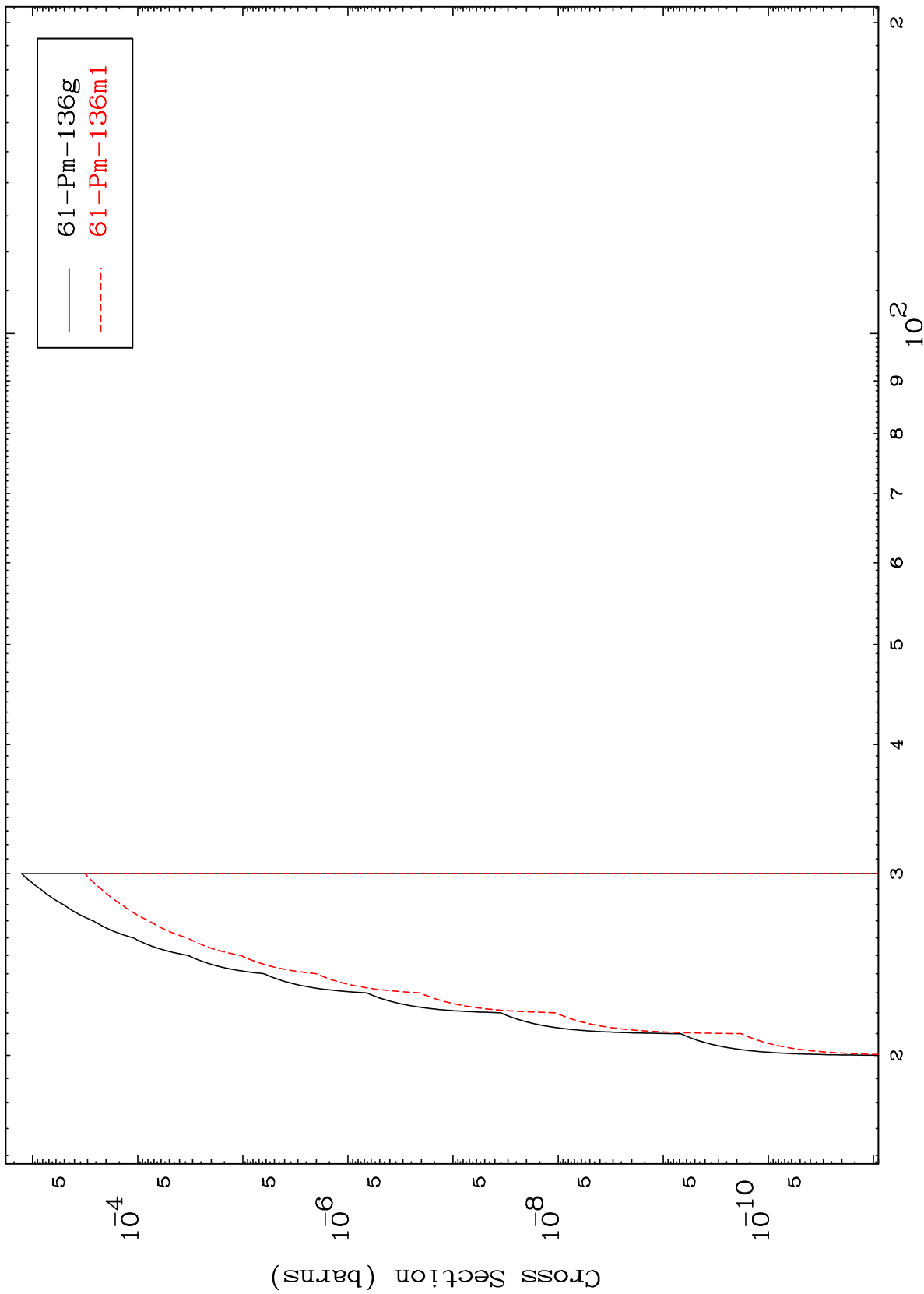
62-Sm-139

MAT 6210

(n,n') t

62-Sm-139

Radionuclide Production Cross Section



103

Incident Energy (MeV)

62-Sm-139

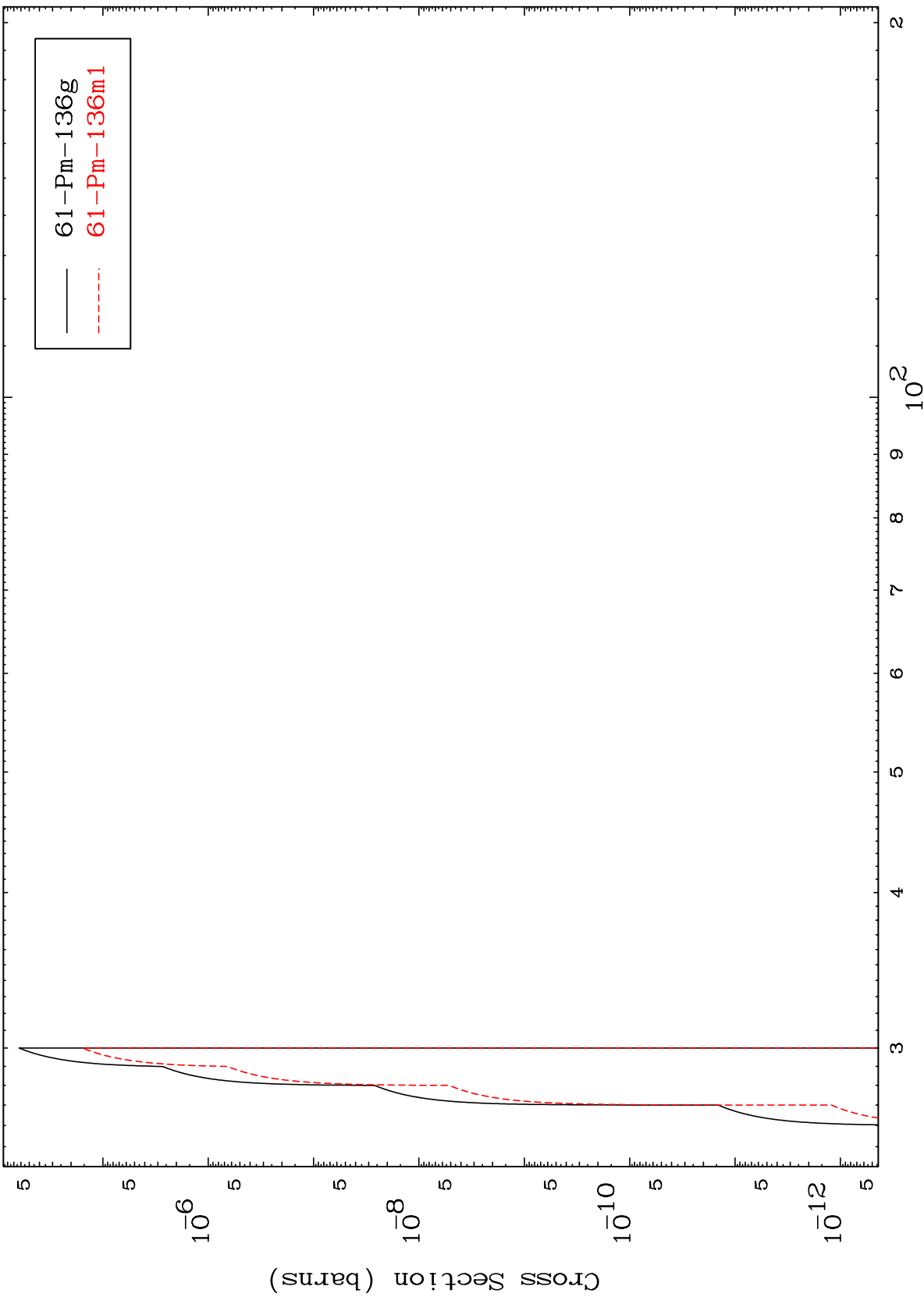


MAT 6210

(n,3n) p

62-Sm-139

Radionuclide Production Cross Section



104

Incident Energy (MeV)

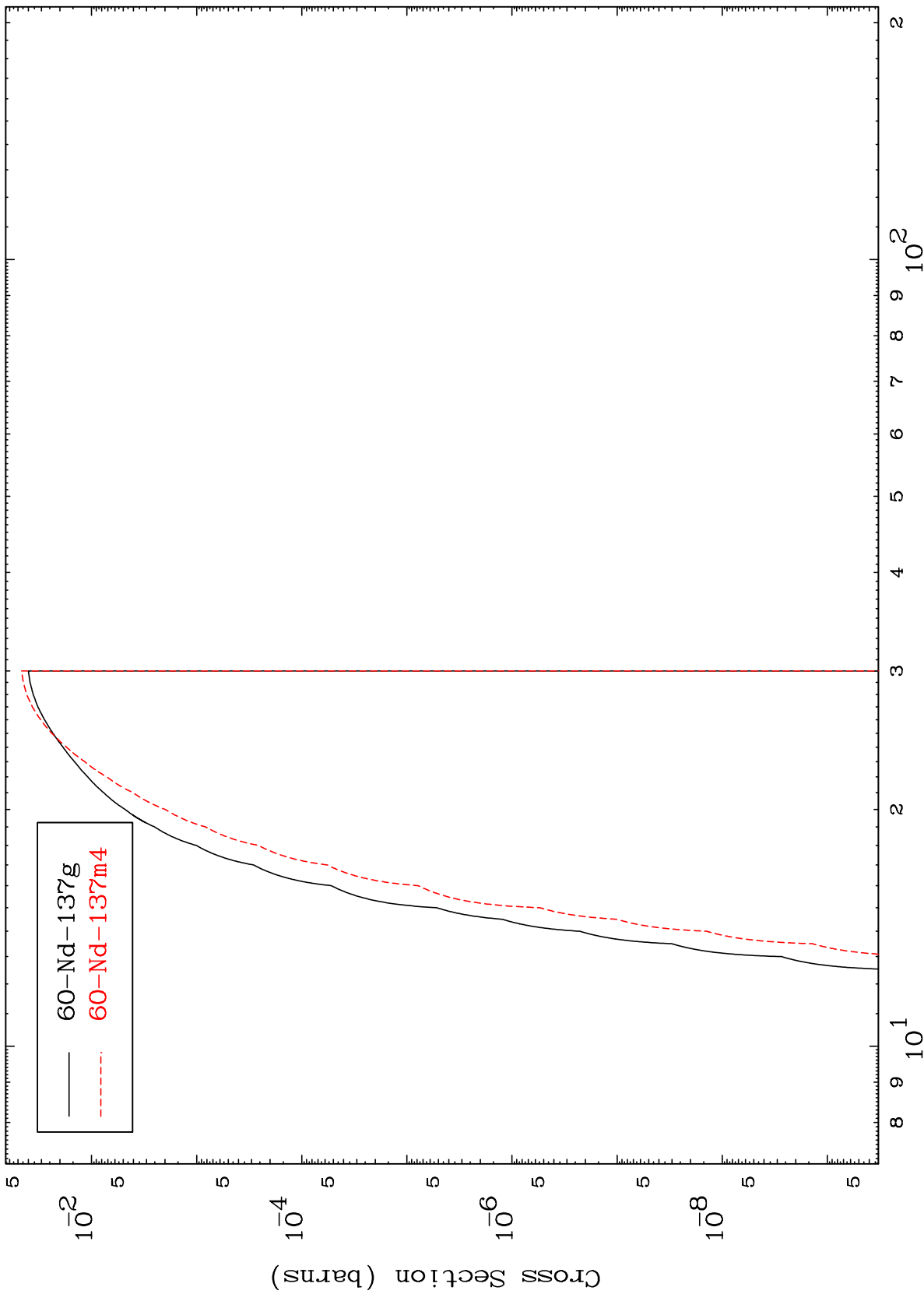
62-Sm-139

MAT 6210

(n,2n) p

62-Sm-139

Radionuclide Production Cross Section



105

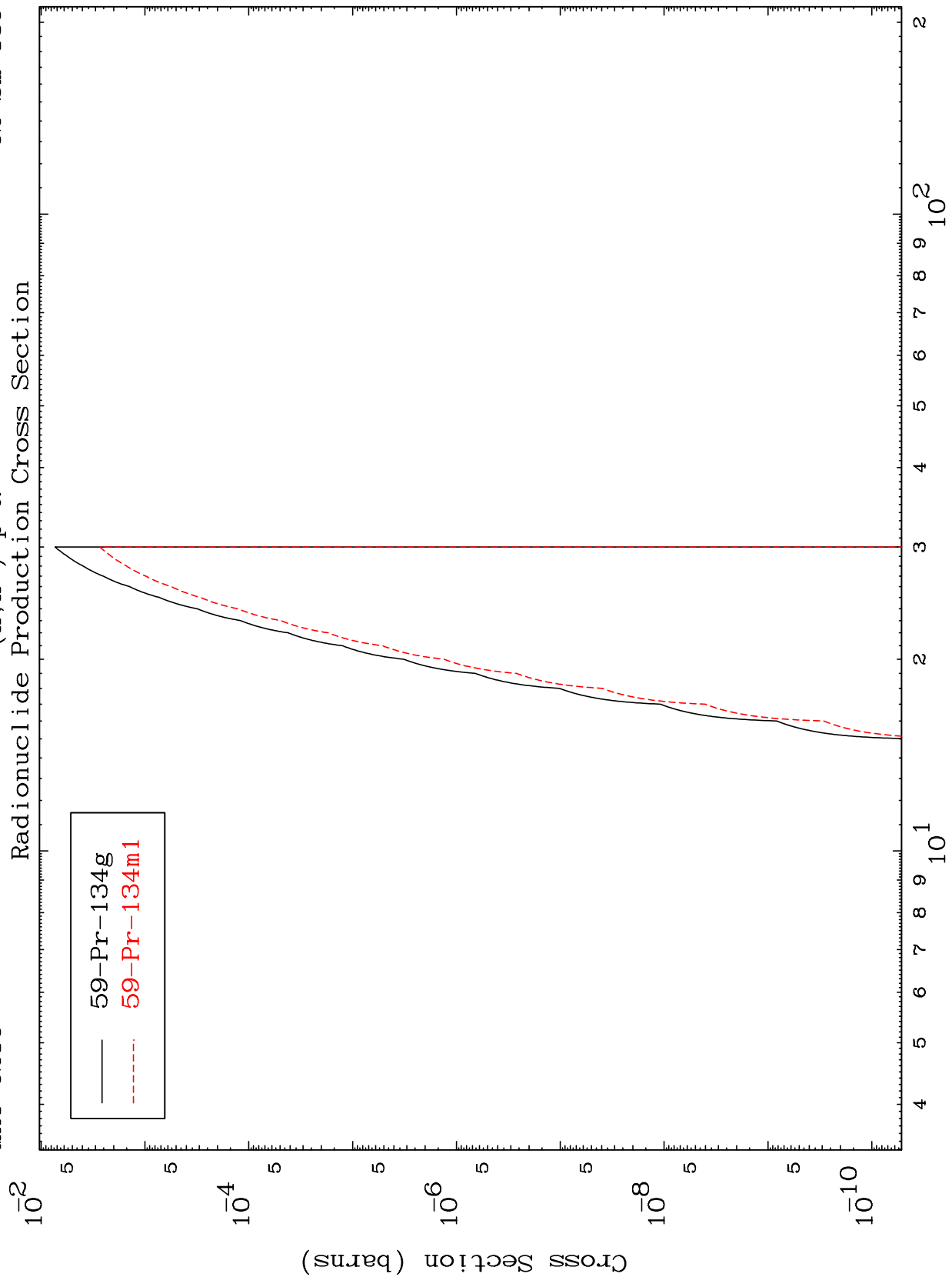
Incident Energy (MeV)

62-Sm-139

MAT 6210

(n,n') p  $\alpha$

62-Sm-139



106

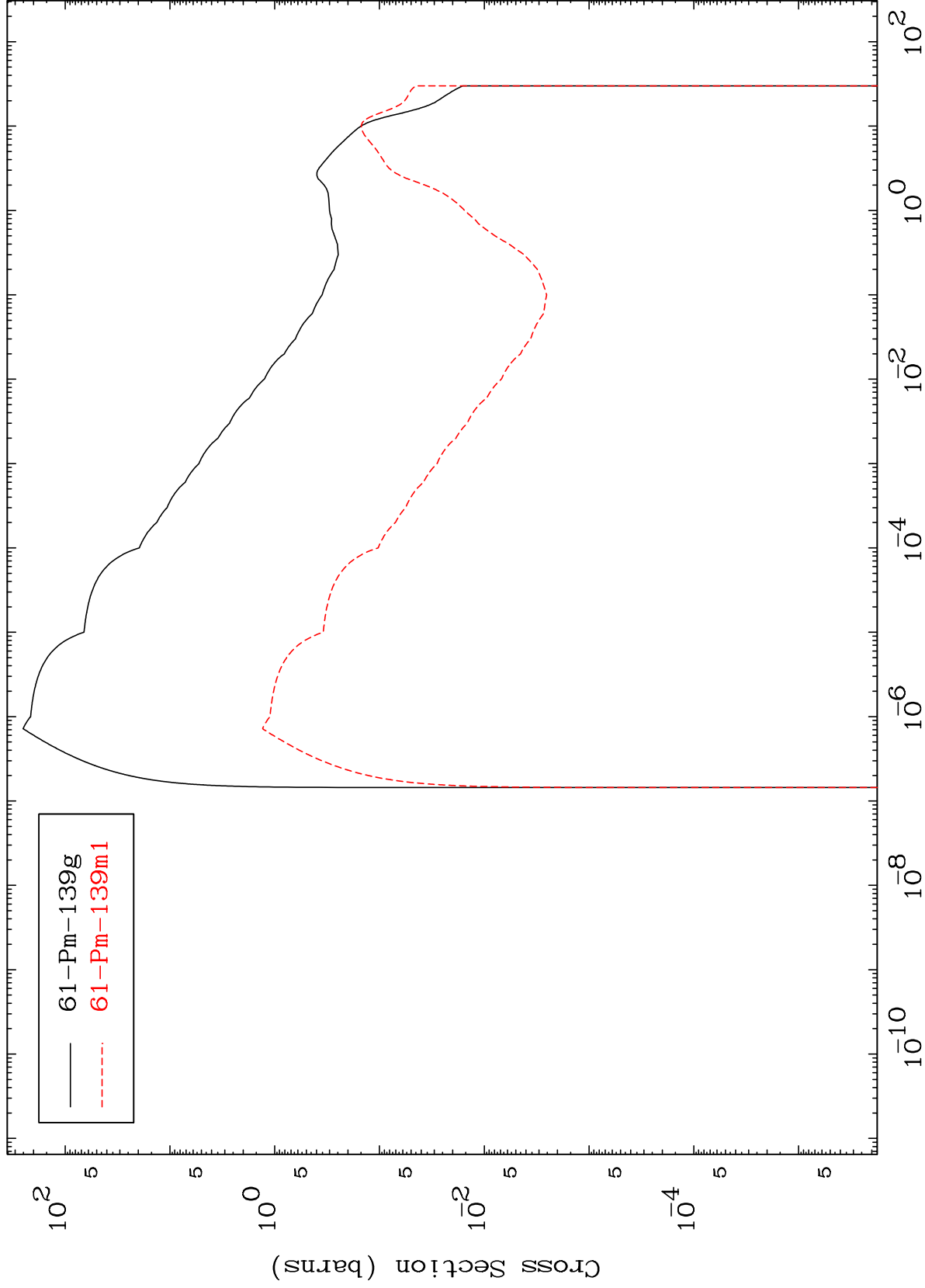
Incident Energy (MeV)

62-Sm-139

MAT 6210

62-Sm-139

(n,p)  
Radionuclide Production Cross Section



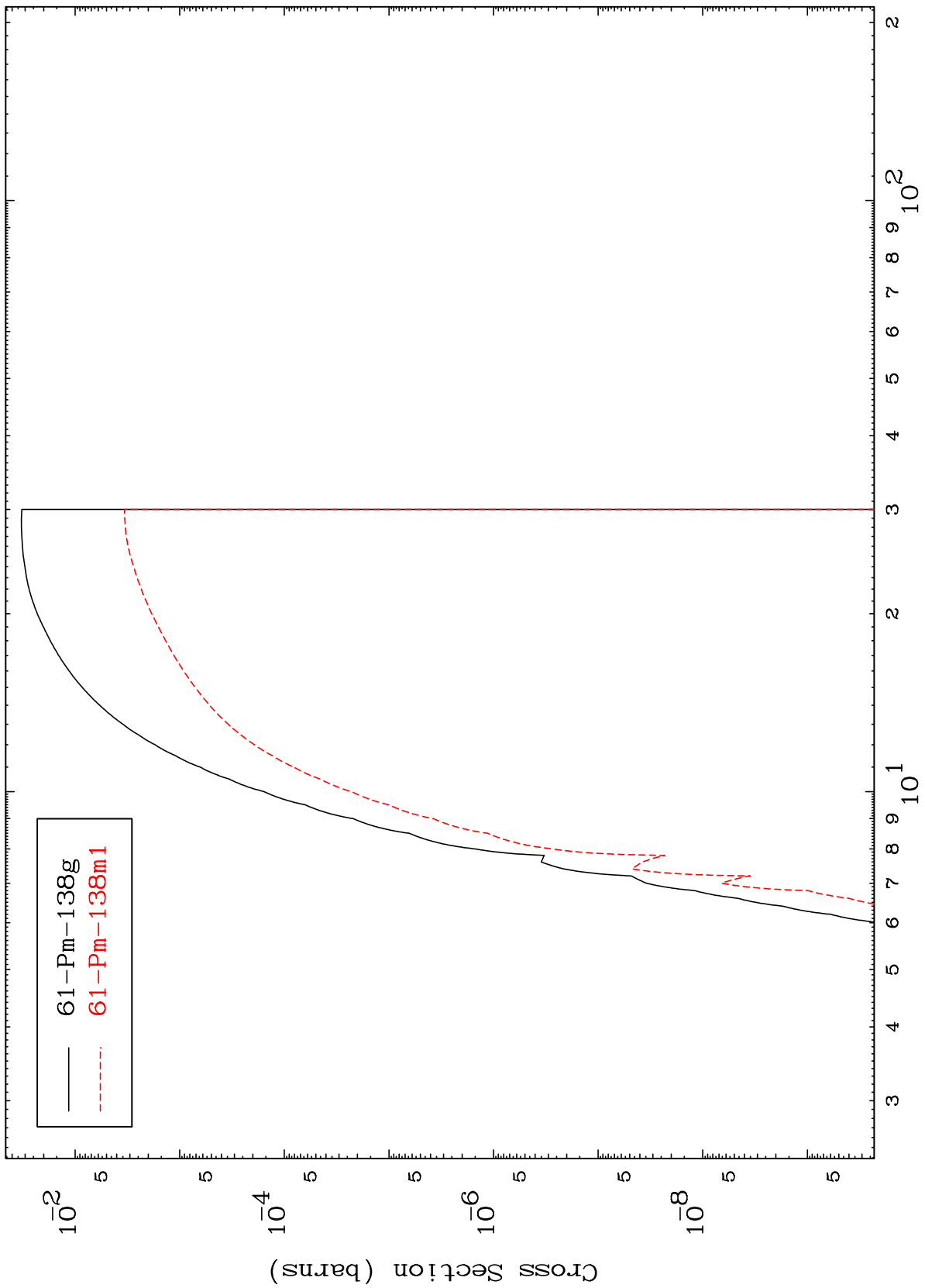
107

62-Sm-139

MAT 6210

62-Sm-139

(n,d)  
Radionuclide Production Cross Section



108

Incident Energy (MeV)

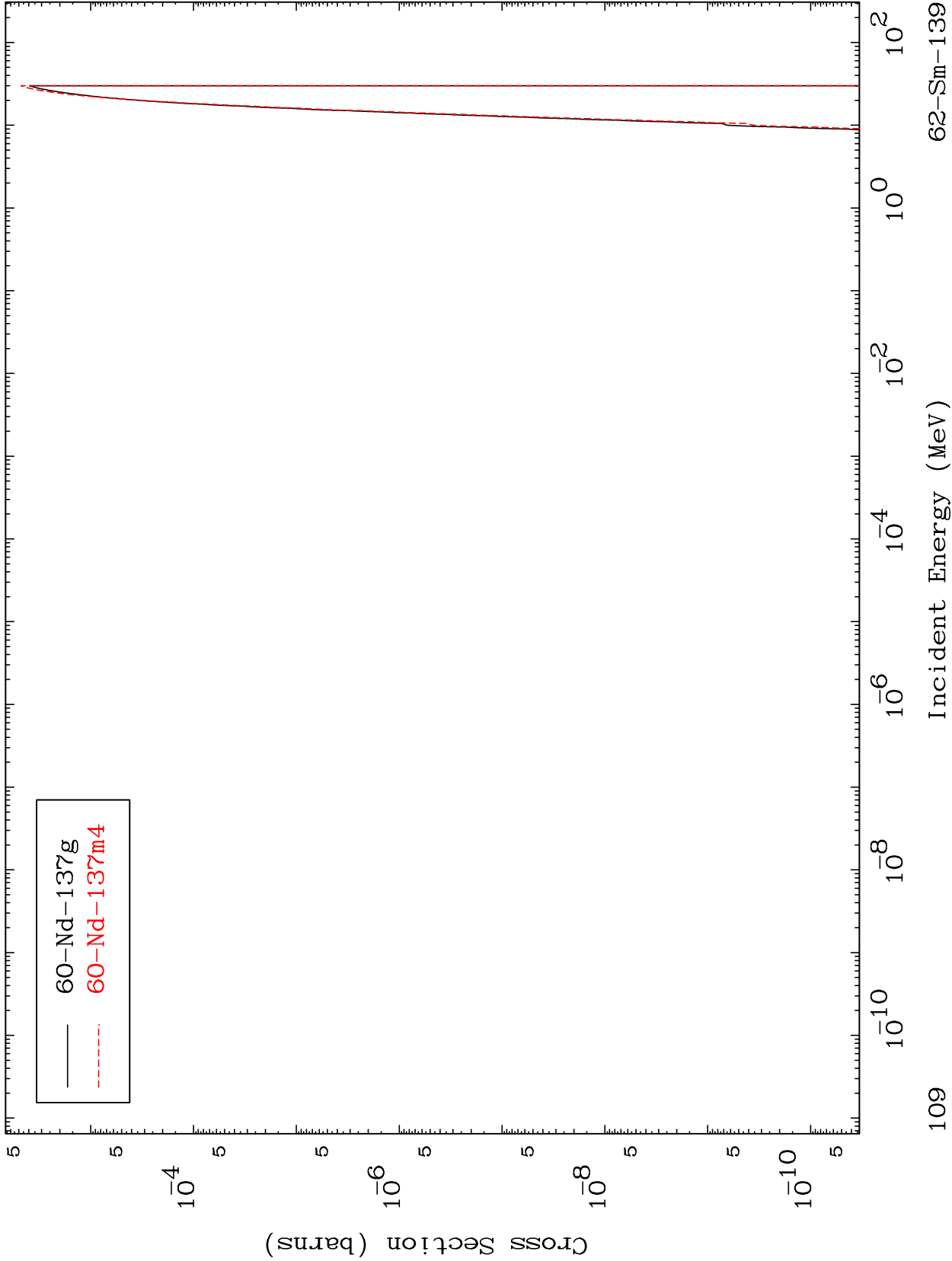
62-Sm-139

MAT 6210

(n,He-3)

62-Sm-139

Radionuclide Production Cross Section



109

Incident Energy (MeV)

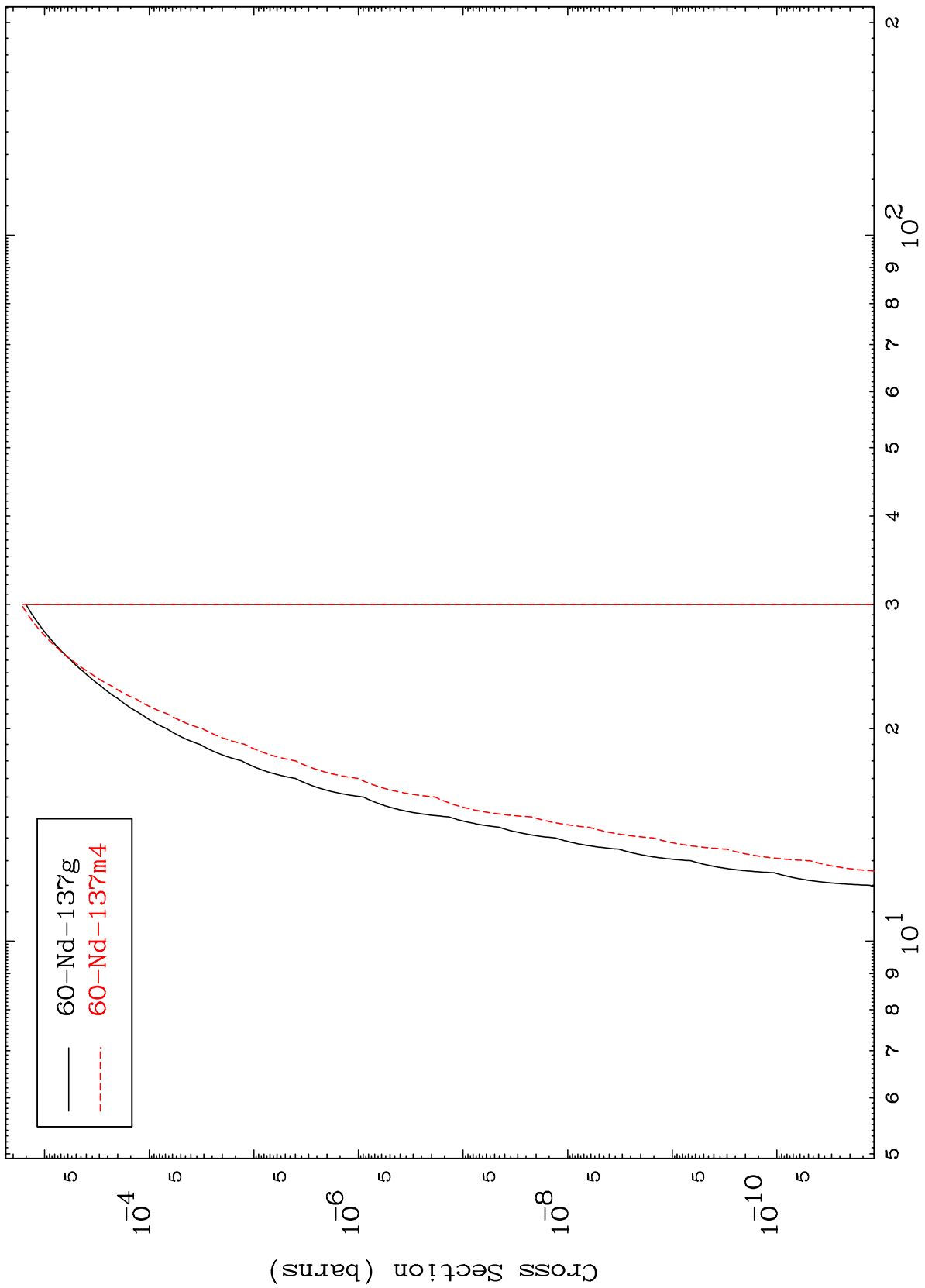
62-Sm-139

MAT 6210

(n,p) d

62-Sm-139

Radionuclide Production Cross Section



60-Nd-137g  
60-Nd-137m4

110

Incident Energy (MeV)

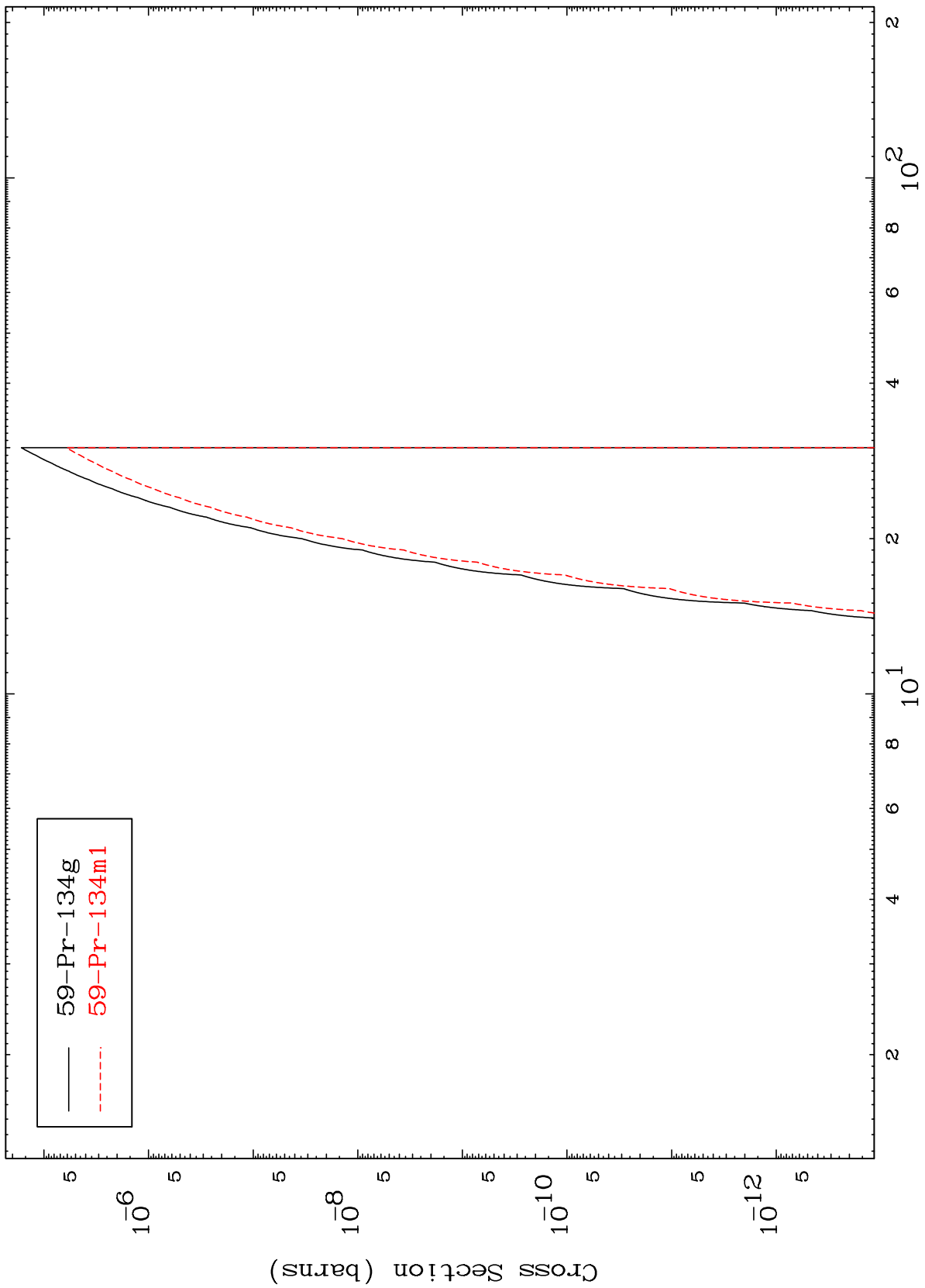
62-Sm-139

MAT 6210

(n,d)  $\alpha$

62-Sm-139

Radionuclide Production Cross Section



111

Incident Energy (MeV)

62-Sm-139