

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

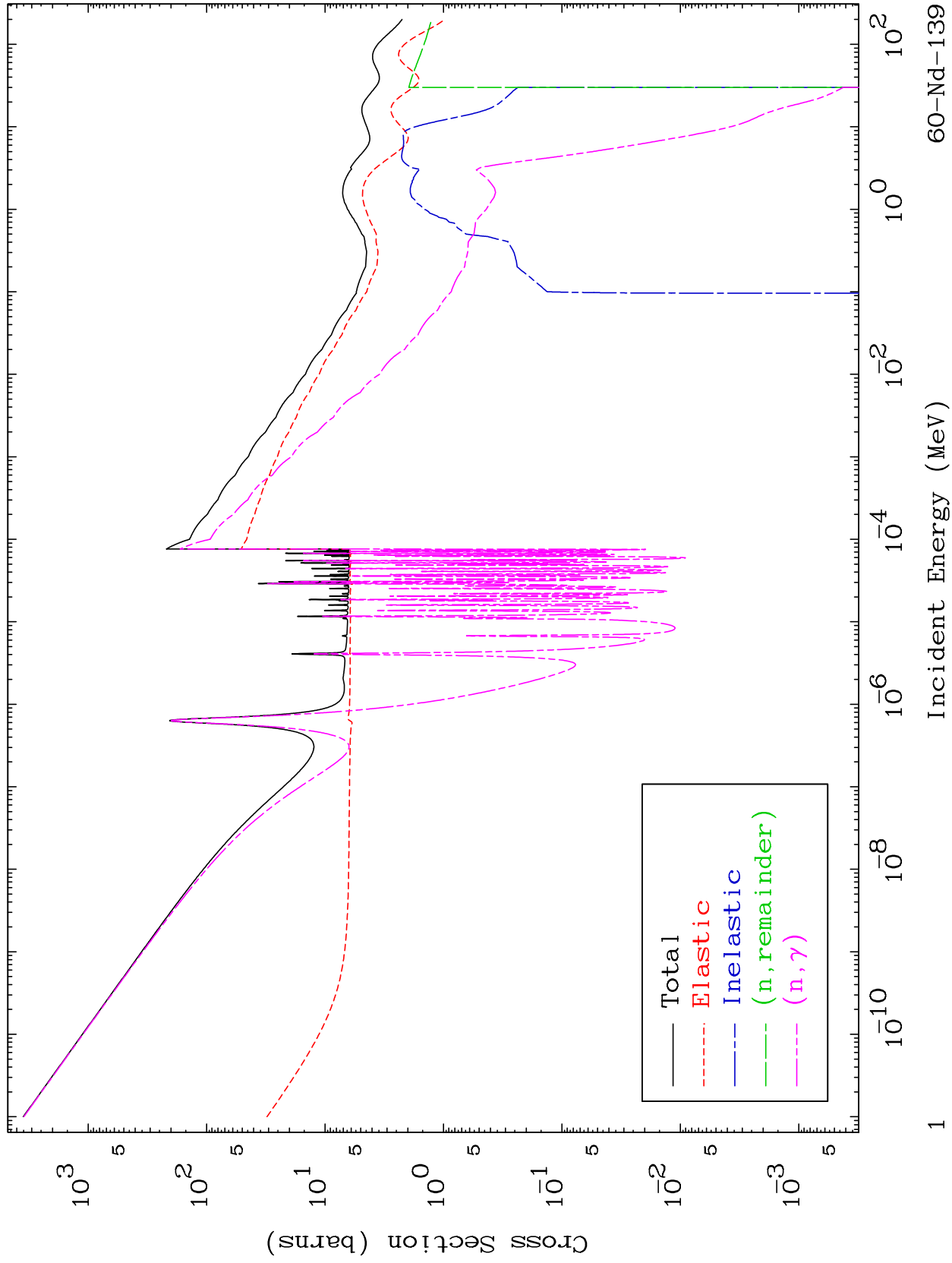
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

Press Mouse Button to Start

MAT 6016

Major
293 Kelvin Cross Sections

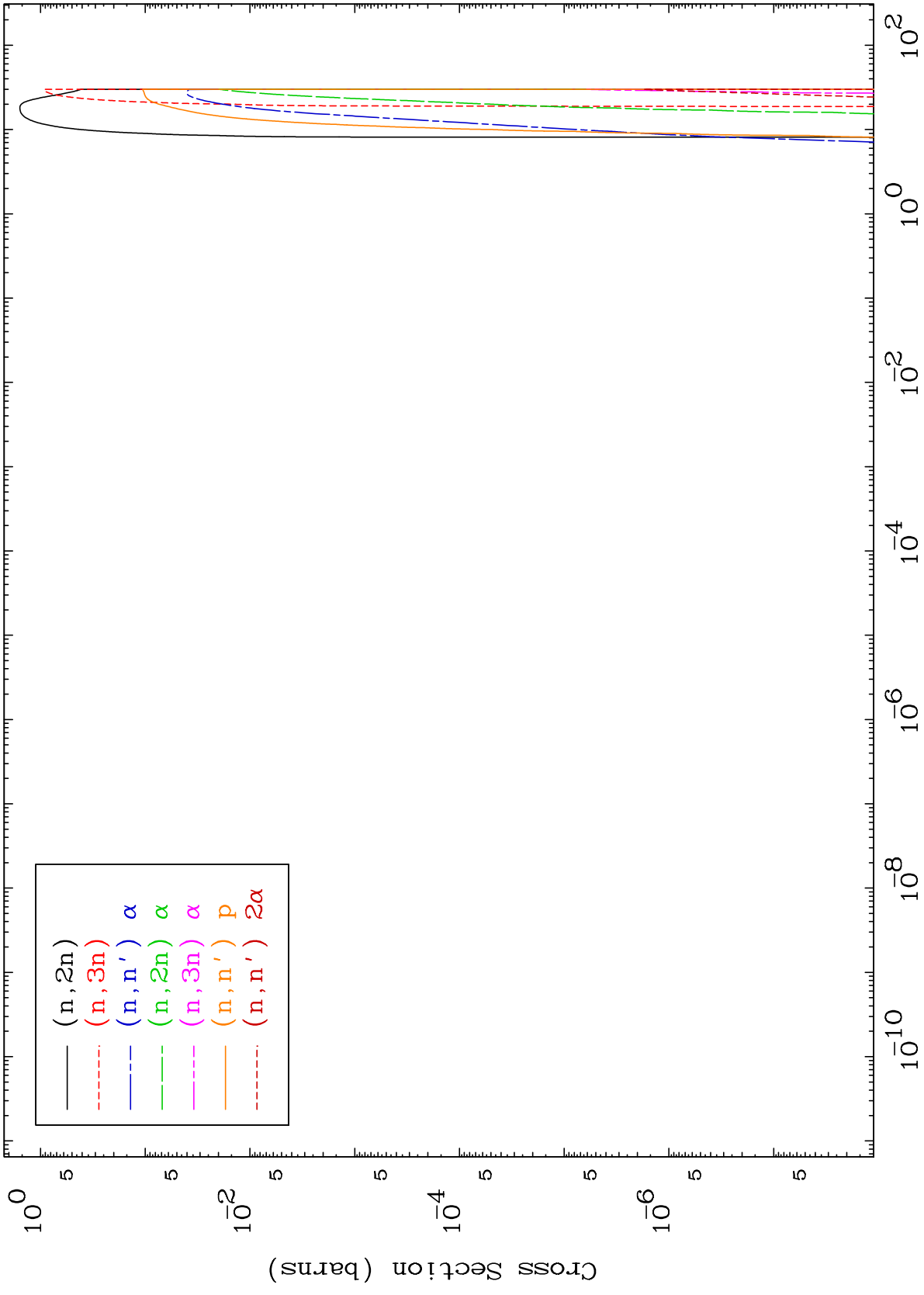
60-Nd-139



MAT 6016

Neutron Production
293 Kelvin Cross Sections

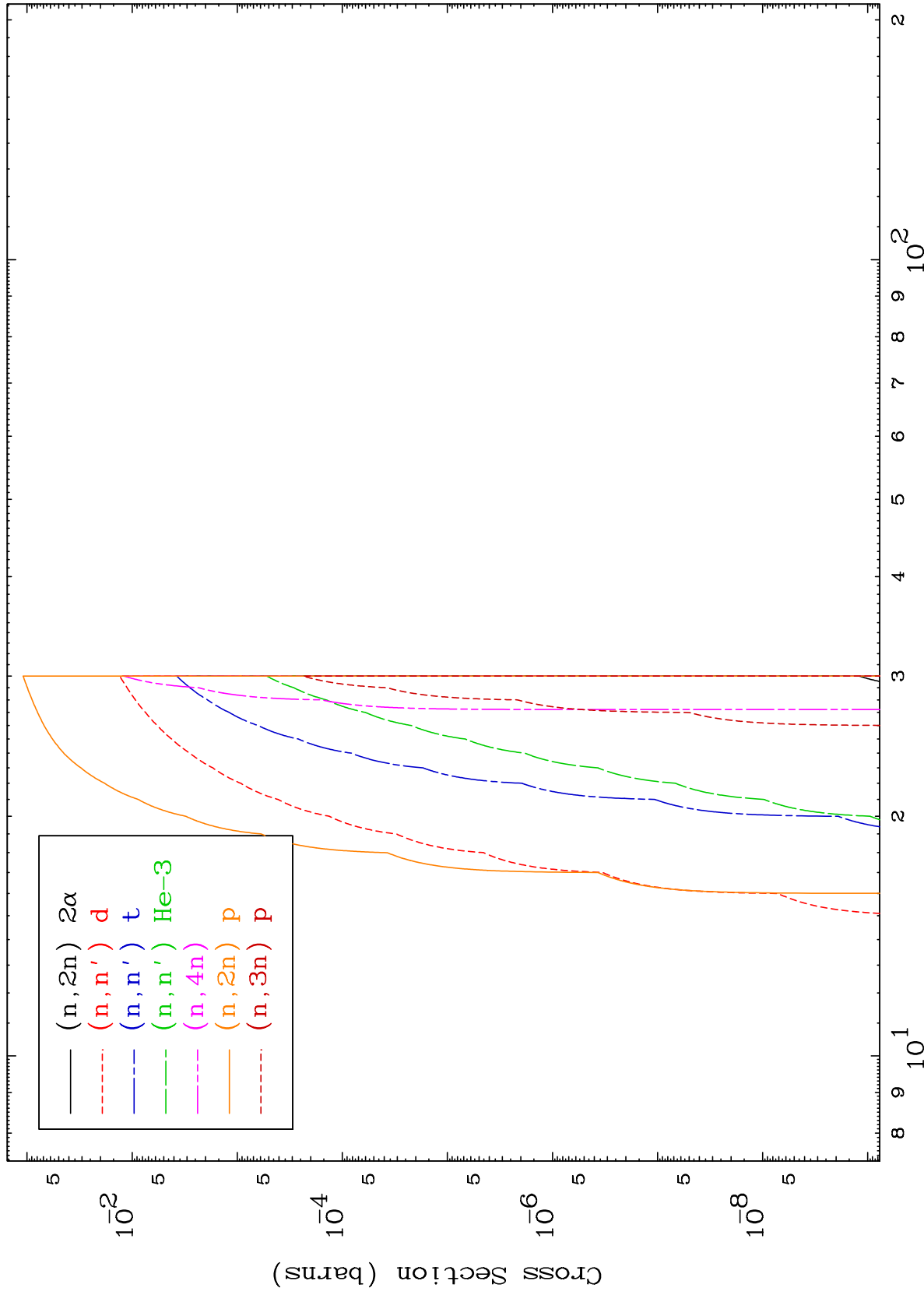
60-Nd-139



MAT 6016

Neutron Production 293 Kelvin Cross Sections

60-Nd-139



3

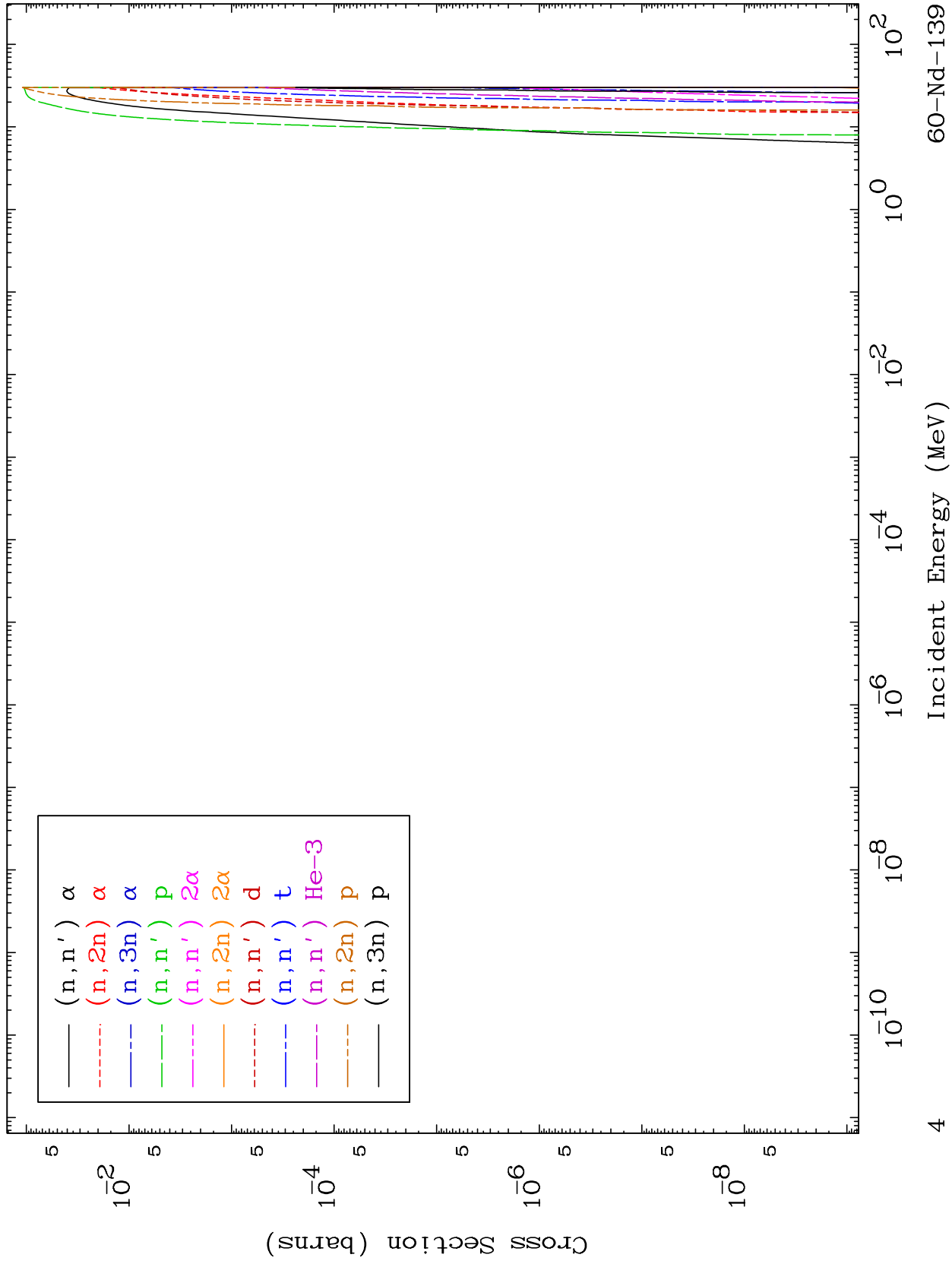
Incident Energy (MeV)

60-Nd-139

MAT 6016

Charged Particle
293 Kelvin Cross Sections

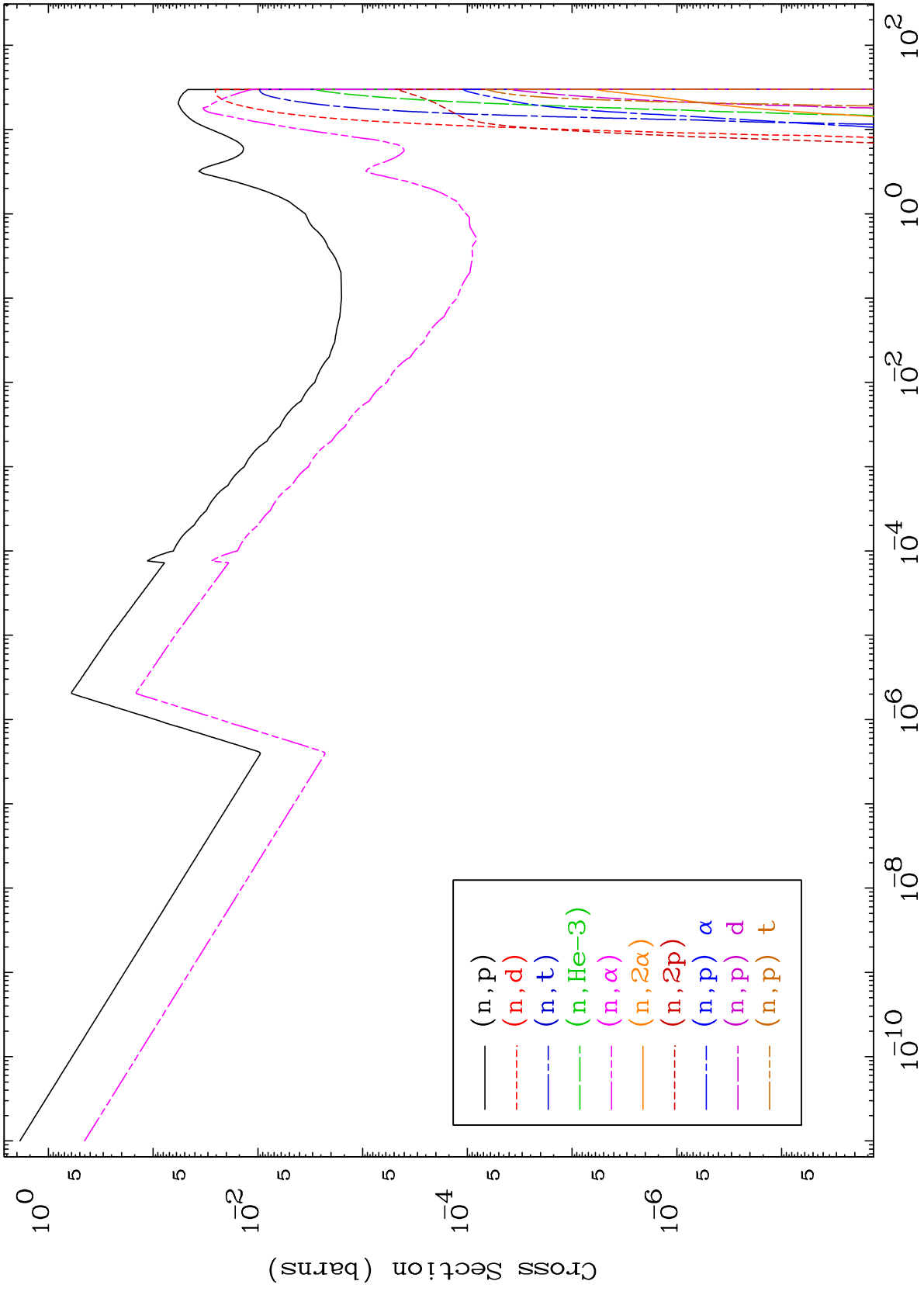
60-Nd-139



MAT 6016

Charged Particle
293 Kelvin Cross Sections

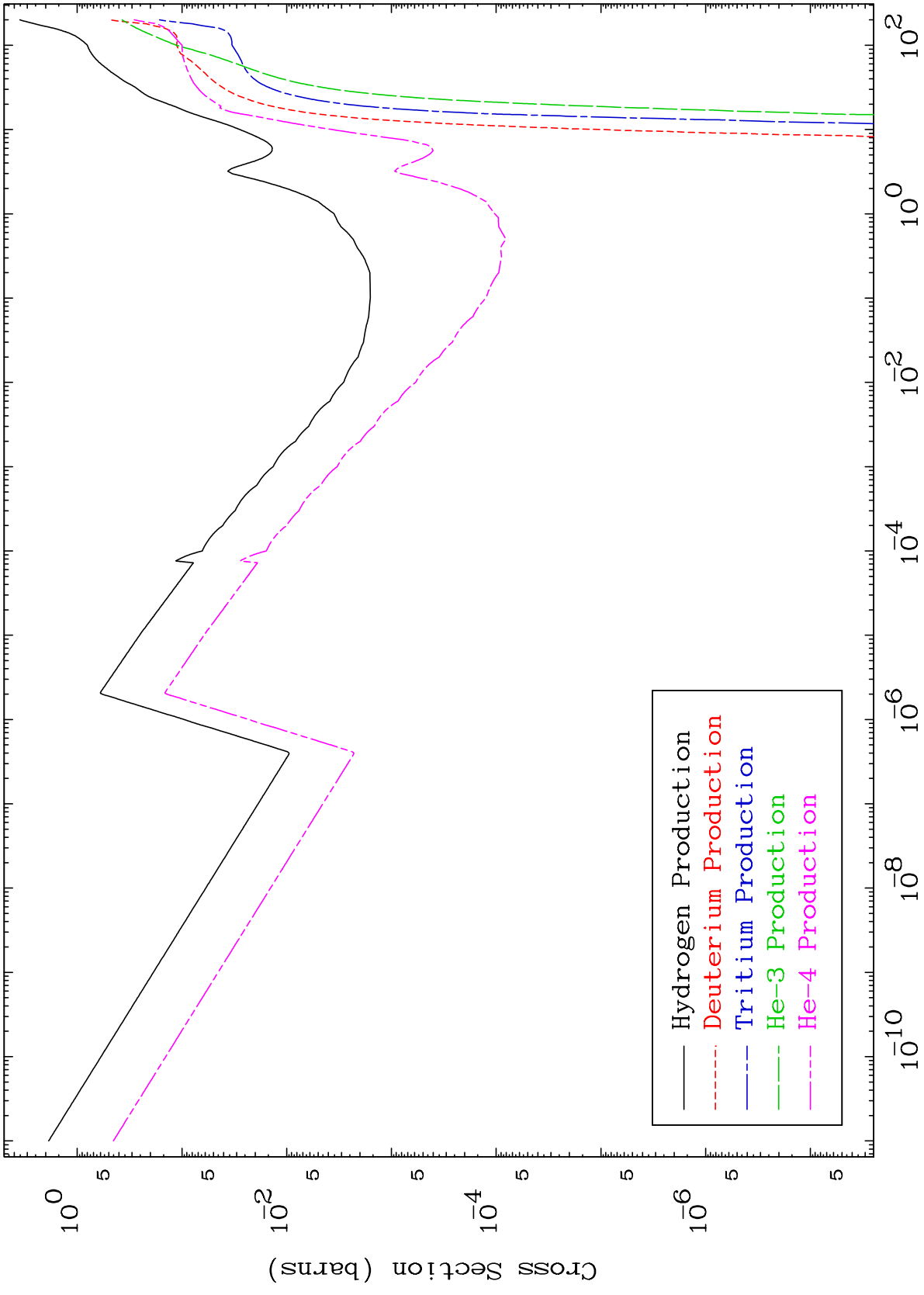
60-Nd-139



MAT 6016

Particle Production
293 Kelvin Cross Sections

60-Nd-139

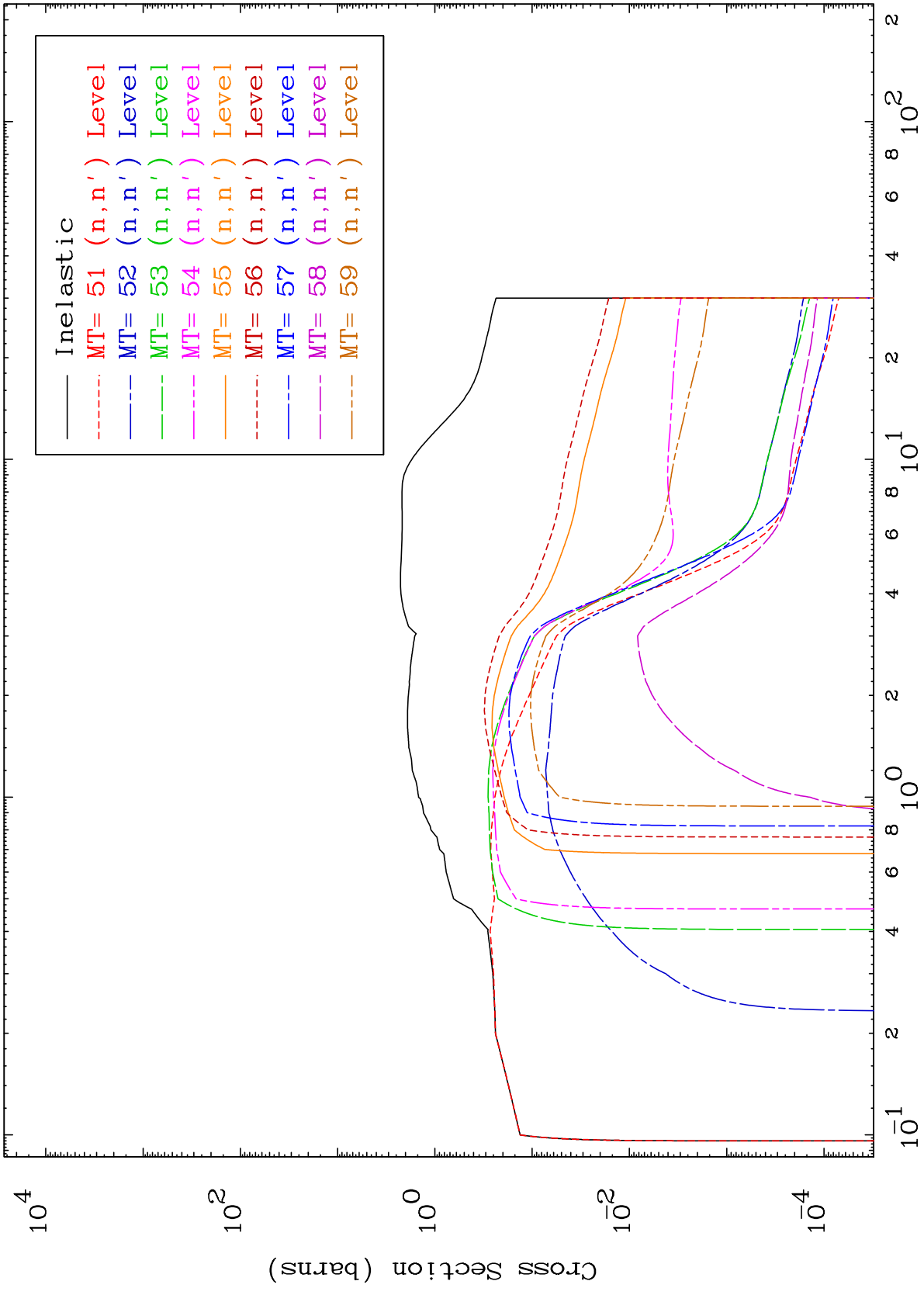


MAT 6016

(n,n') Level

60-Nd-139

293 Kelvin Cross Sections



7

Incident Energy (MeV)

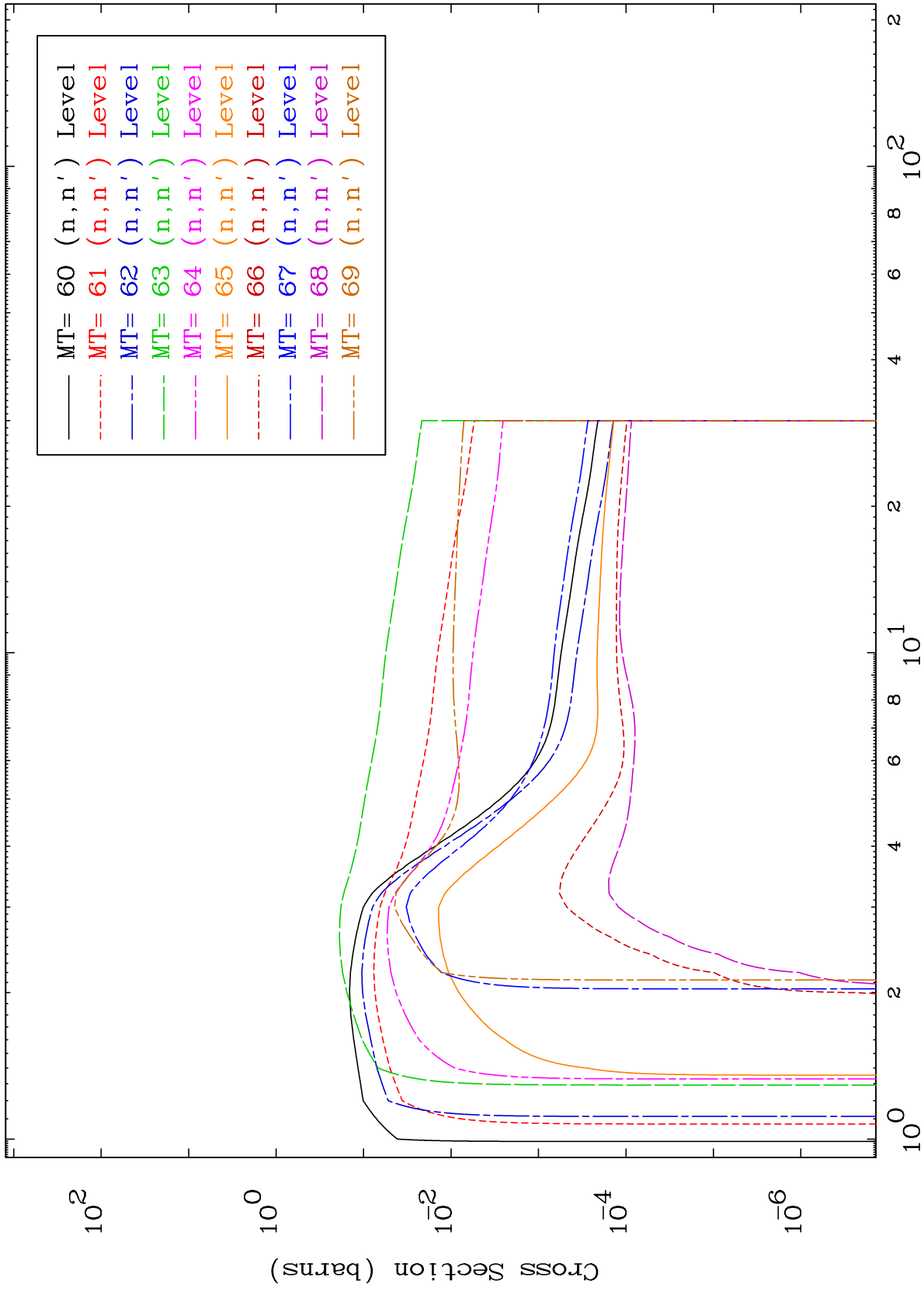
60-Nd-139

MAT 6016

(n,n') Level

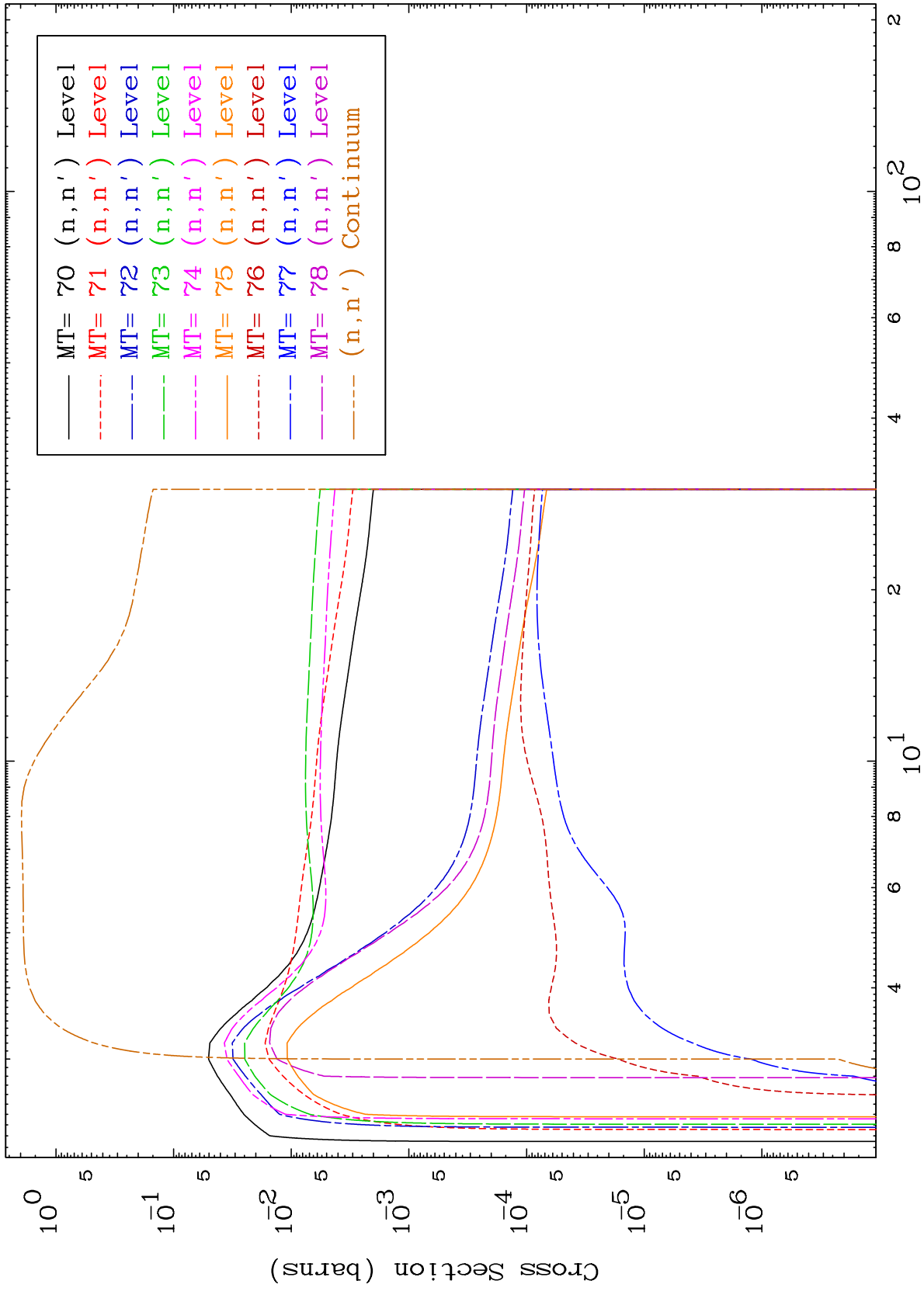
60-Nd-139

293 Kelvin Cross Sections



Incident Energy (MeV)

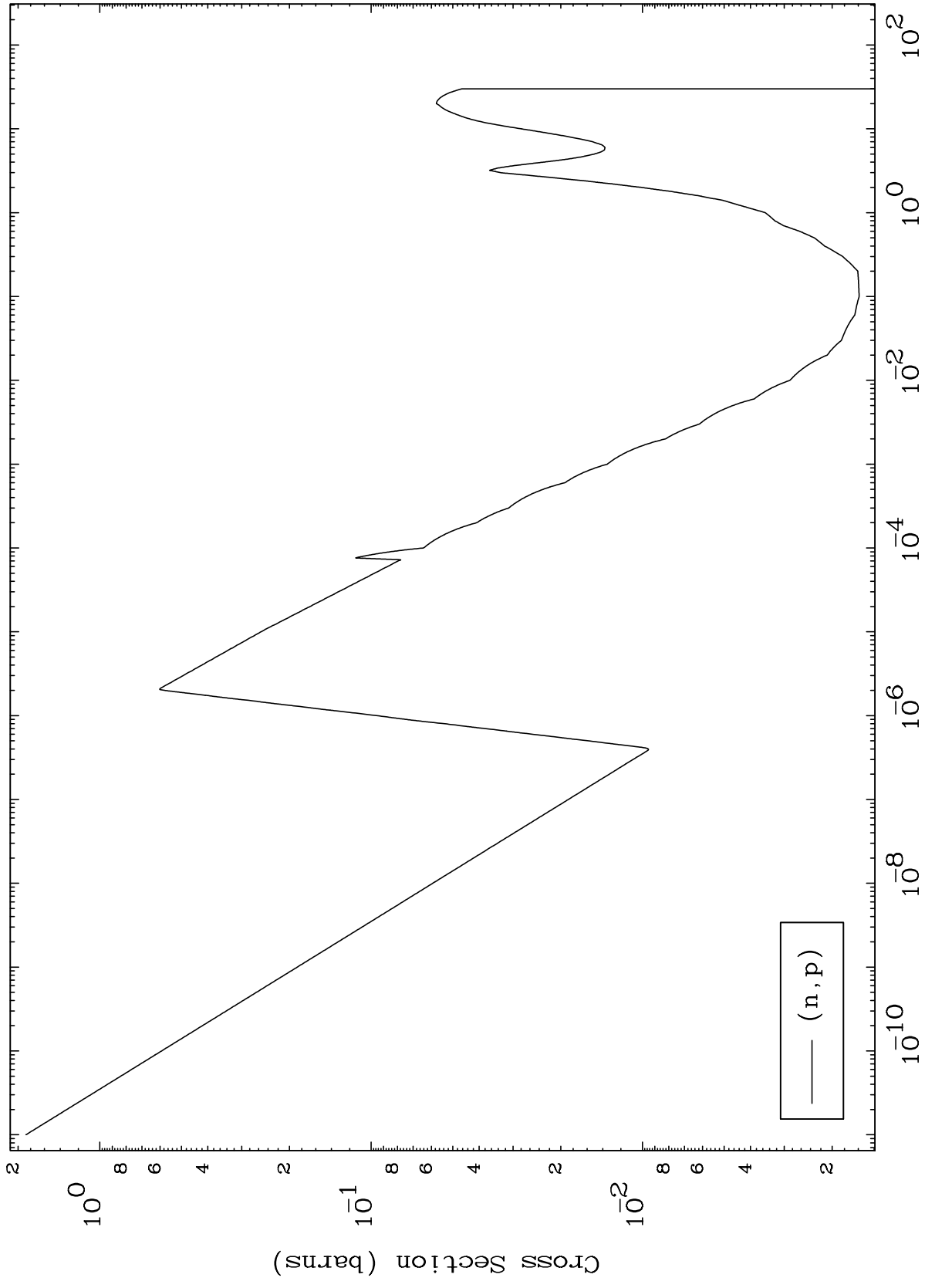
60-Nd-139



MAT 6016

(n,p) Levels
293 Kelvin Cross Sections

60-Nd-139



(n, p)

10

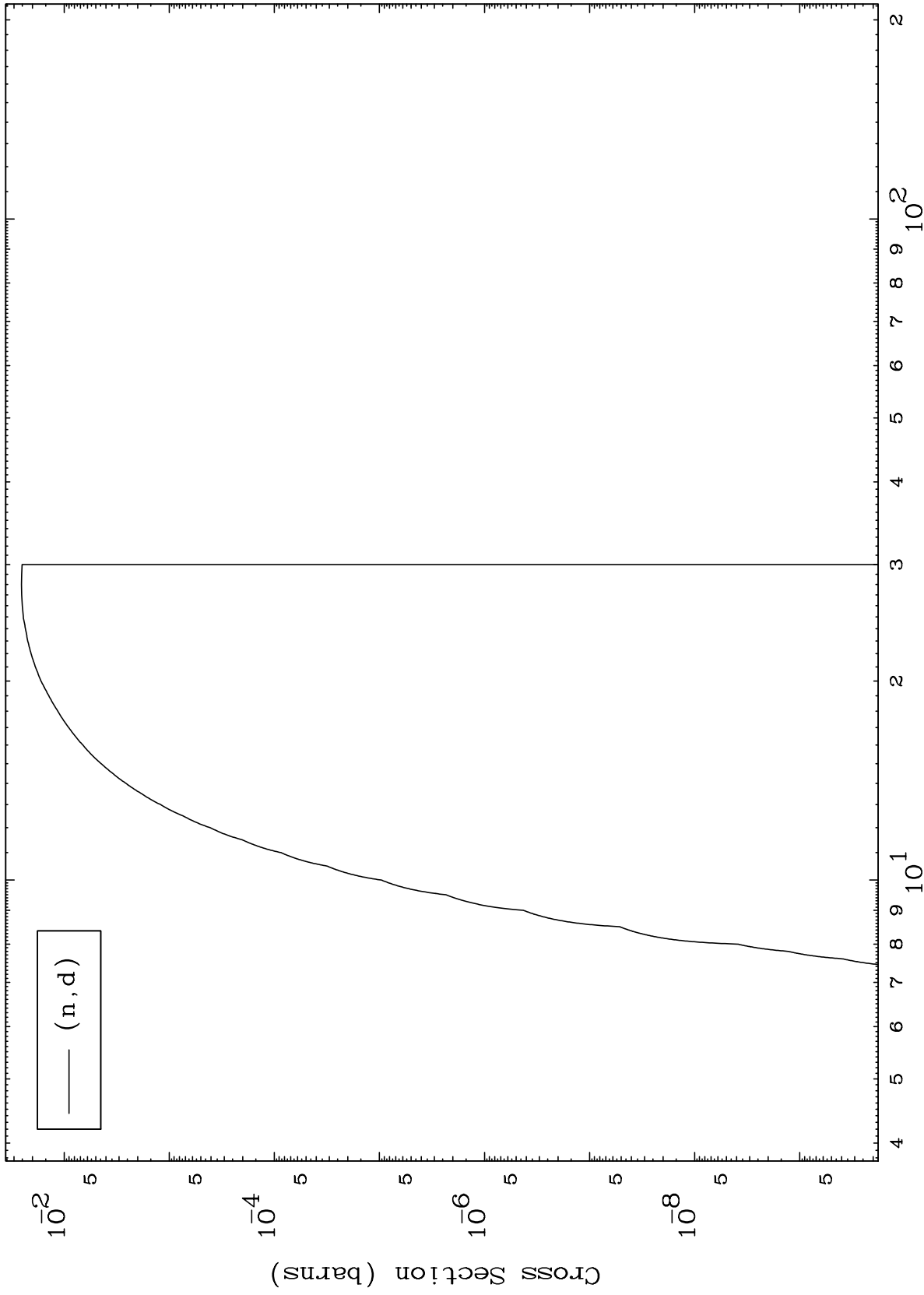
Incident Energy (MeV)

60-Nd-139

MAT 6016

(n,d) Levels
293 Kelvin Cross Sections

60-Nd-139



11

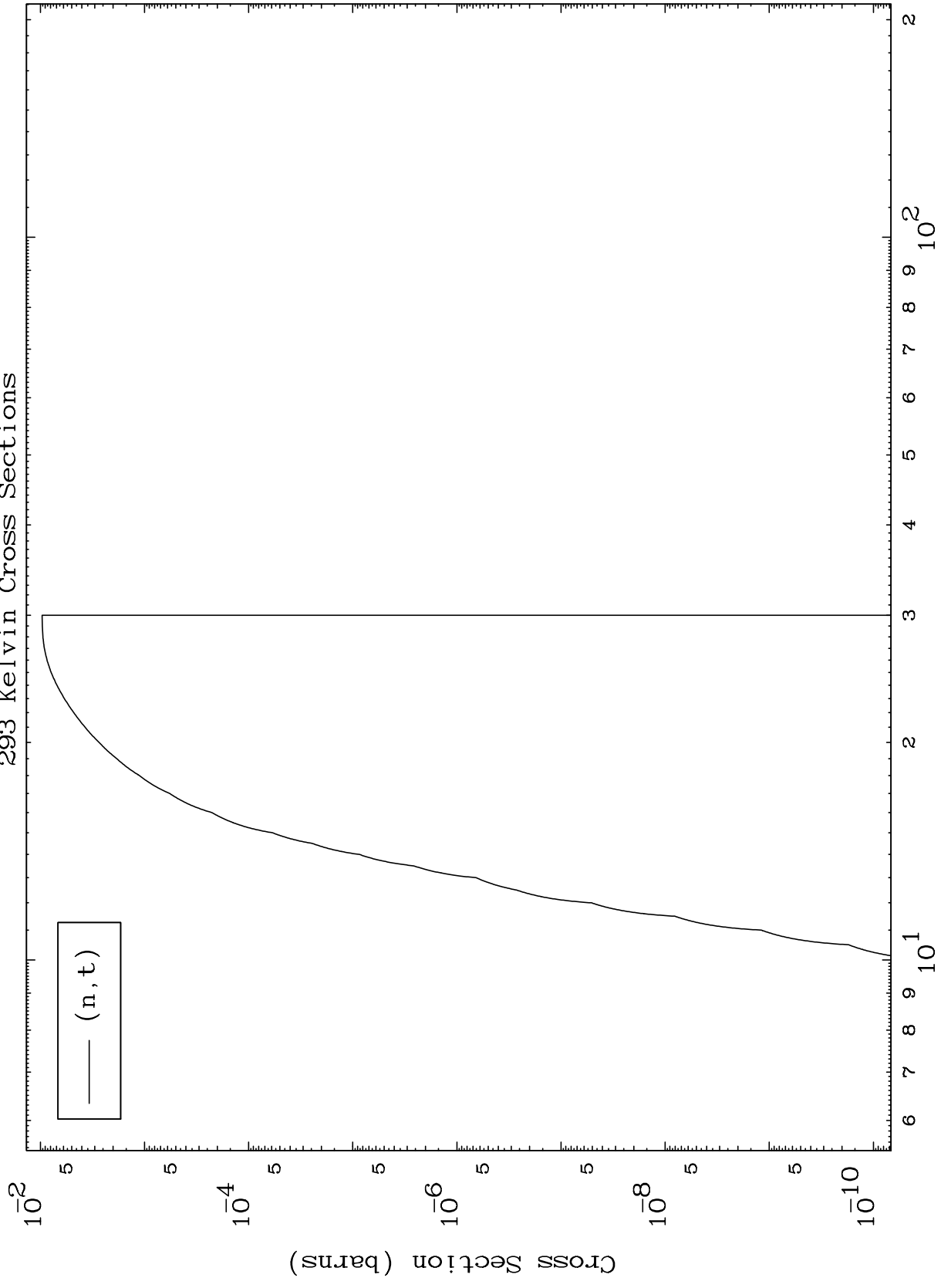
Incident Energy (MeV)

60-Nd-139

MAT 6016

(n,t) Levels
293 Kelvin Cross Sections

60-Nd-139



12

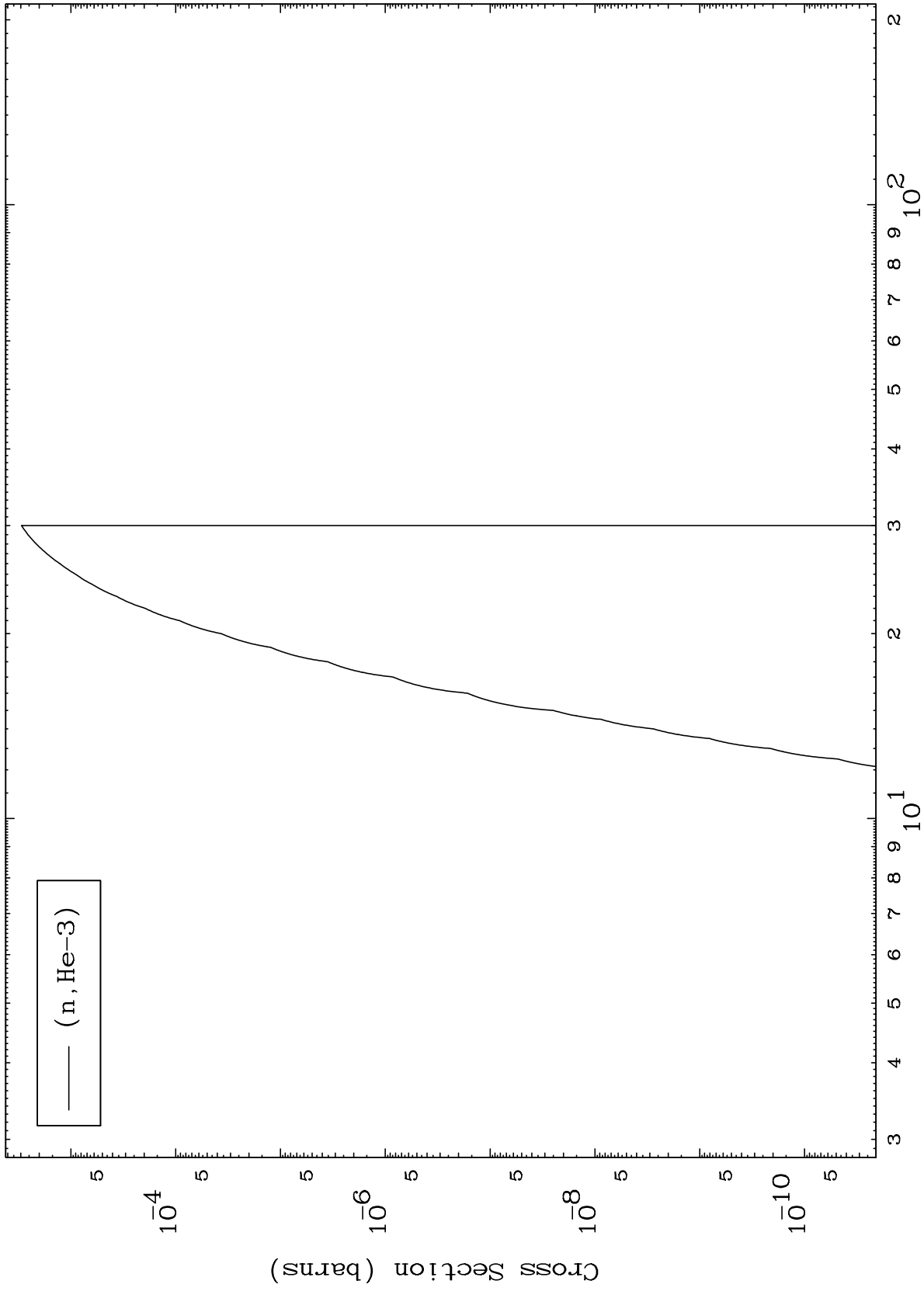
Incident Energy (MeV)

60-Nd-139

MAT 6016

(n,He3) Levels
293 Kelvin Cross Sections

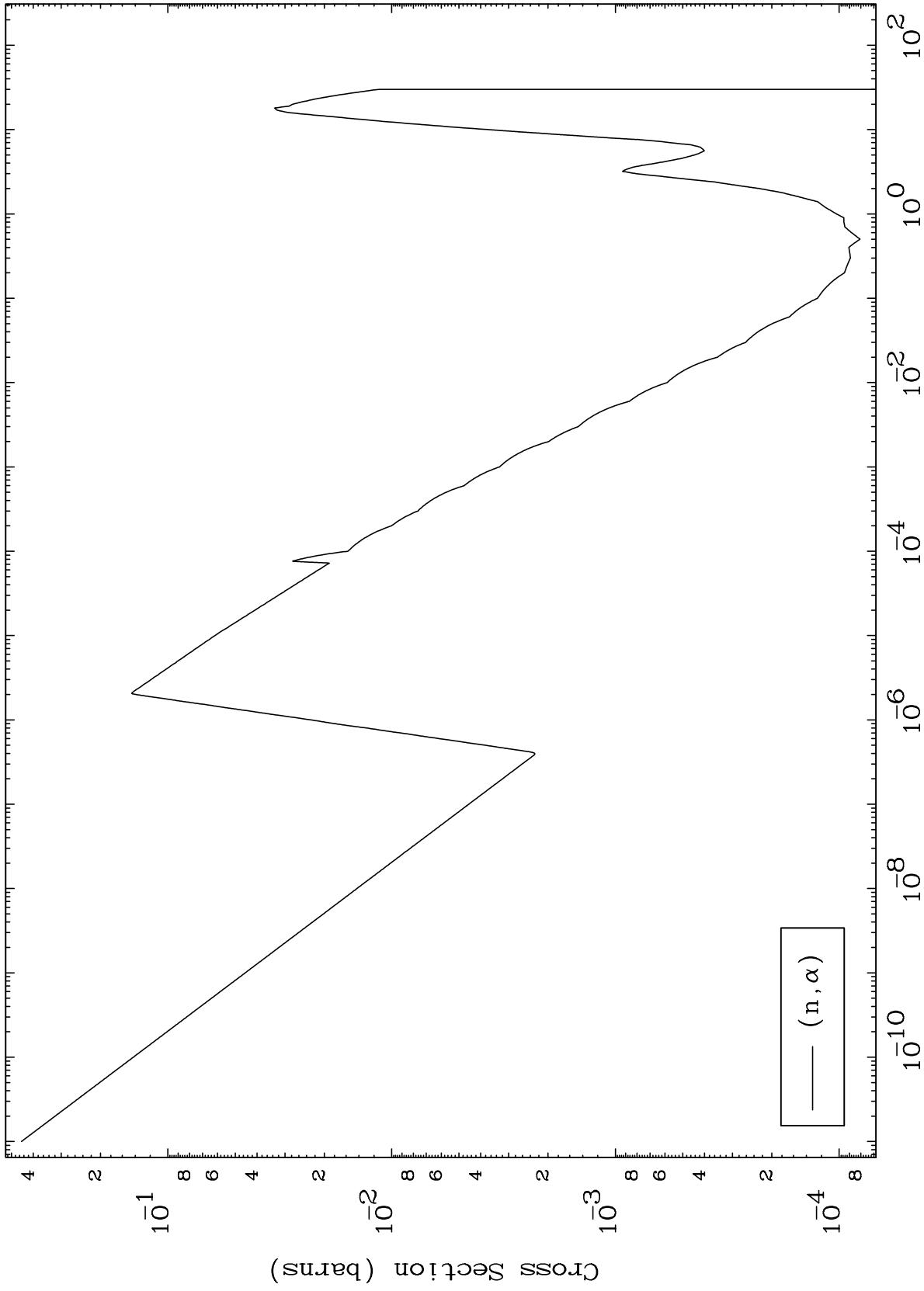
60-Nd-139



MAT 6016

(n,α) Levels
293 Kelvin Cross Sections

60-Nd-139



14

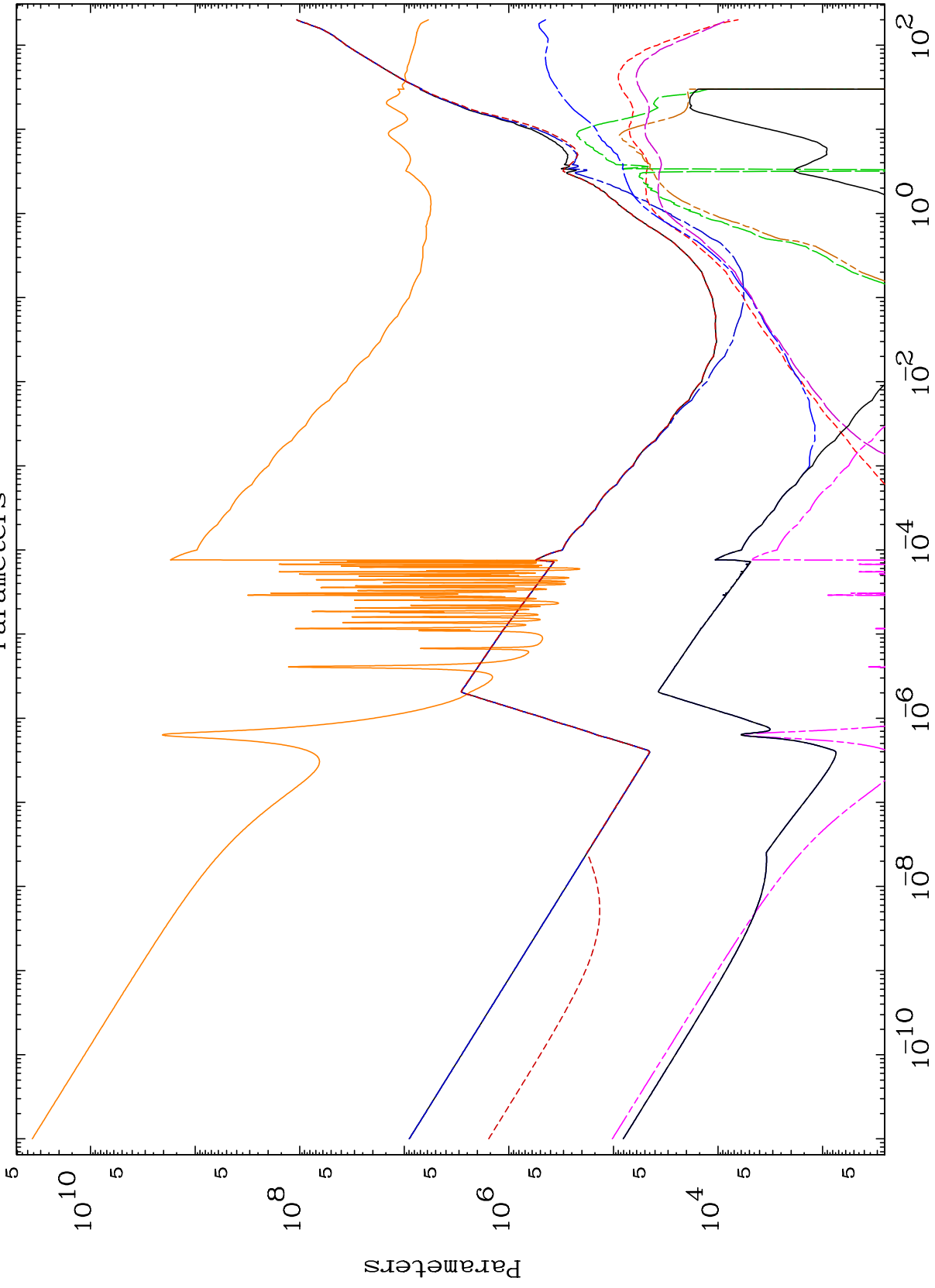
Incident Energy (MeV)

60-Nd-139

MAT 6016

Energy Release
Parameters

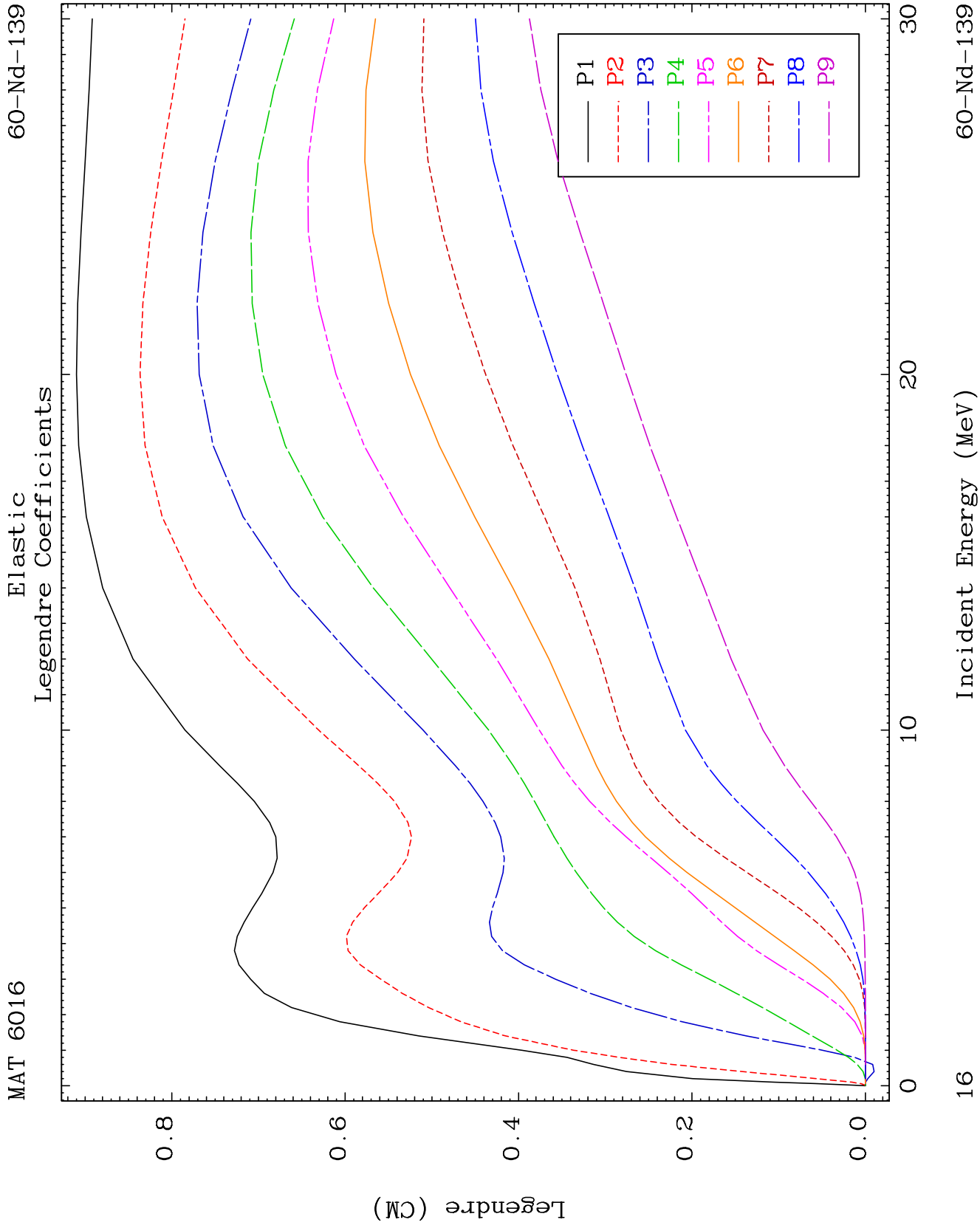
60-Nd-139

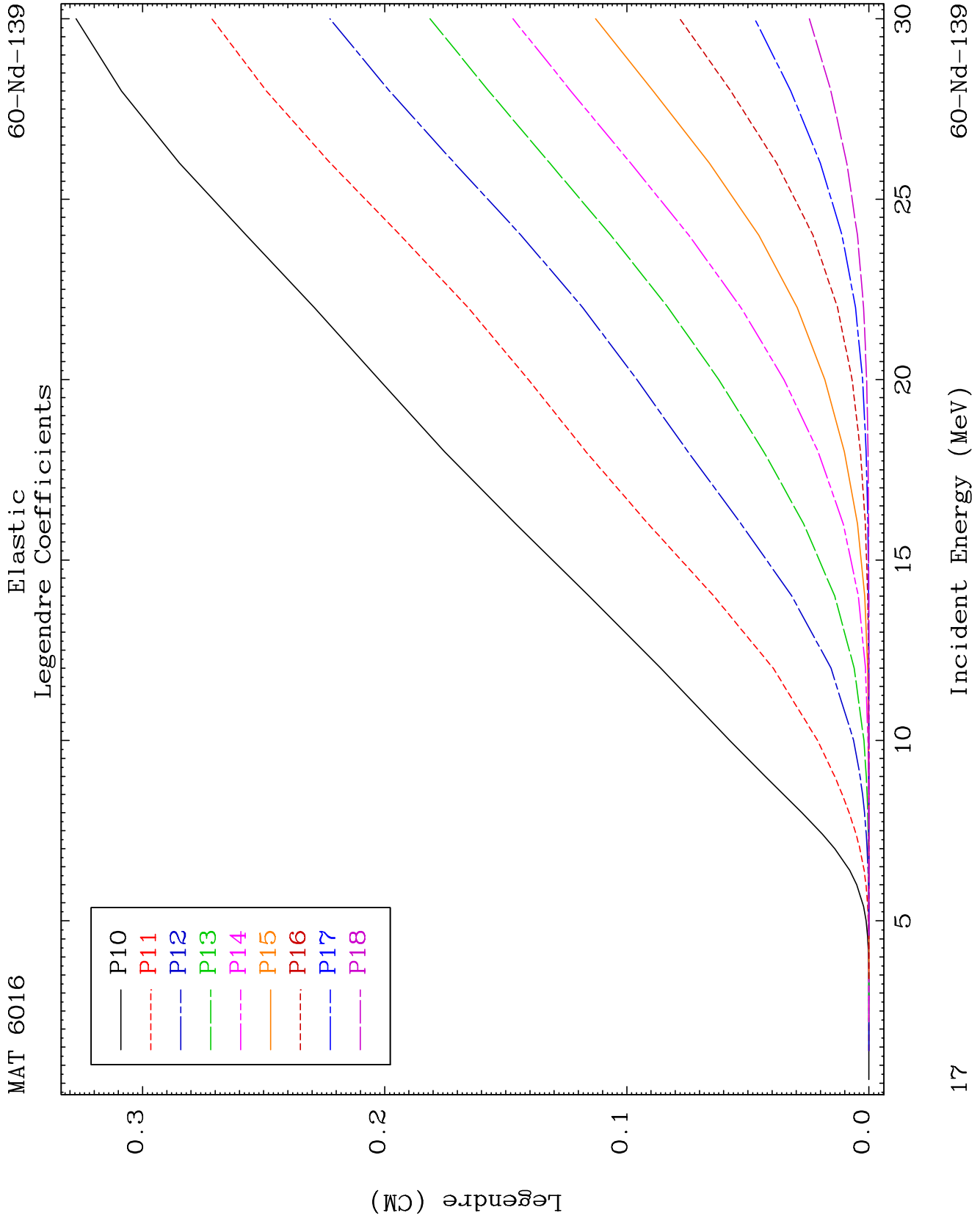


15

Incident Energy (MeV)

60-Nd-139

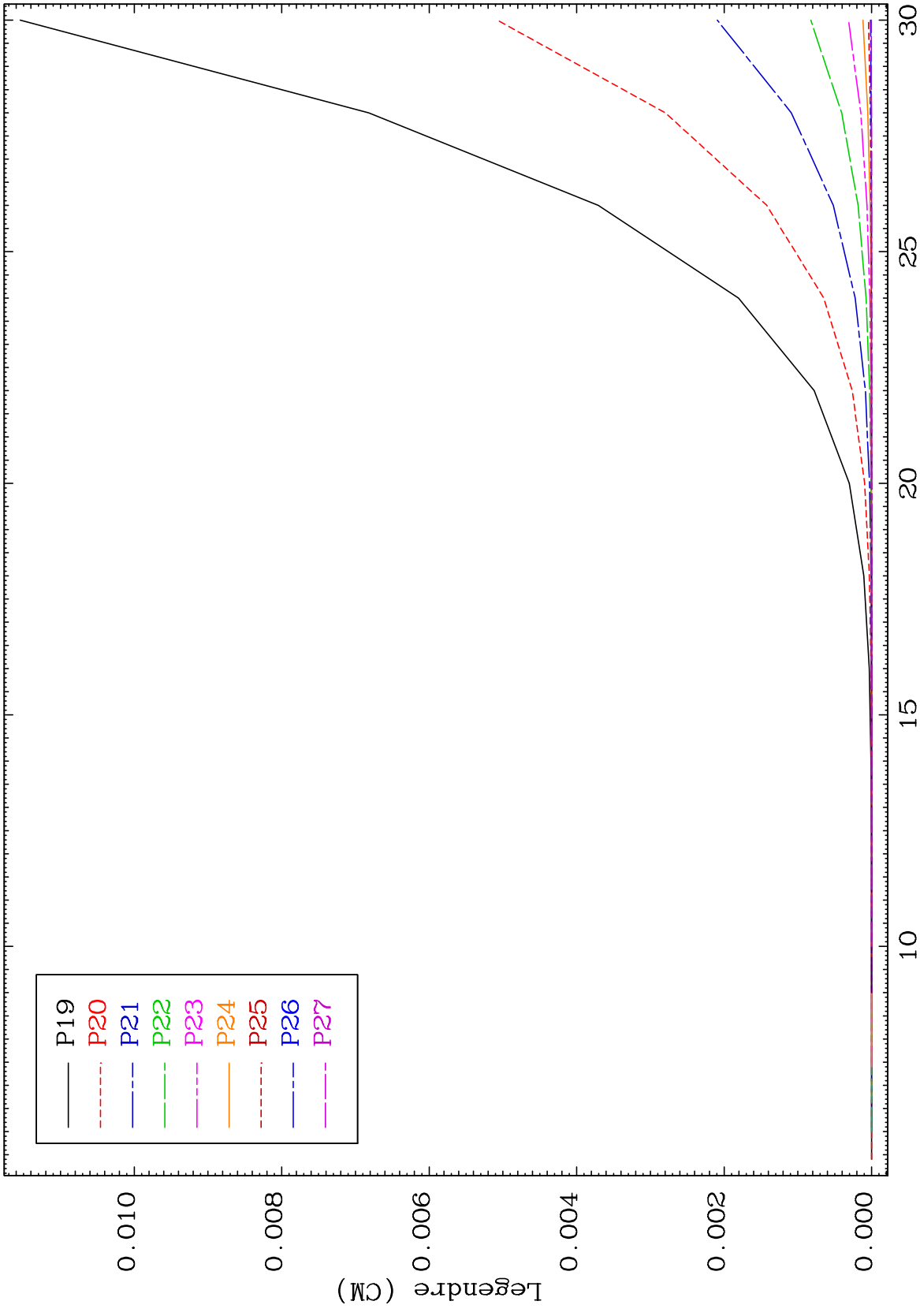




MAT 6016

Elastic Legendre Coefficients

60-Nd-139



18

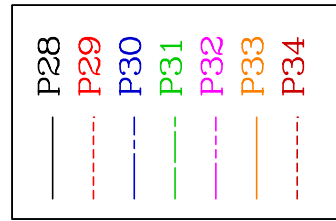
Incident Energy (MeV)

60-Nd-139

MAT 6016

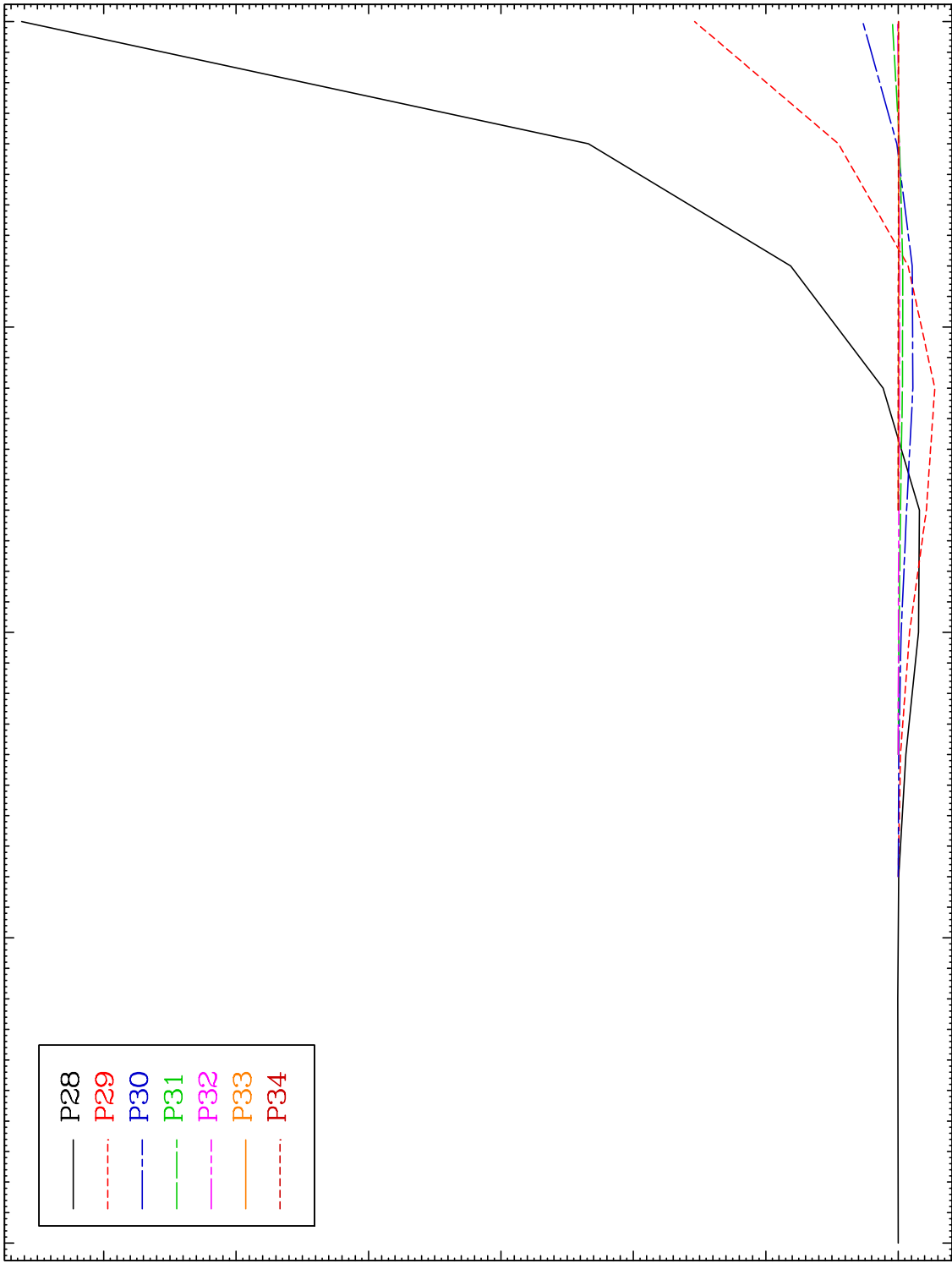
Elastic Legendre Coefficients

60-Nd-139



$\times 10^{-6}$
1.2
1.0
0.8
0.6
0.4
0.2
0.0

Legendre (CM)

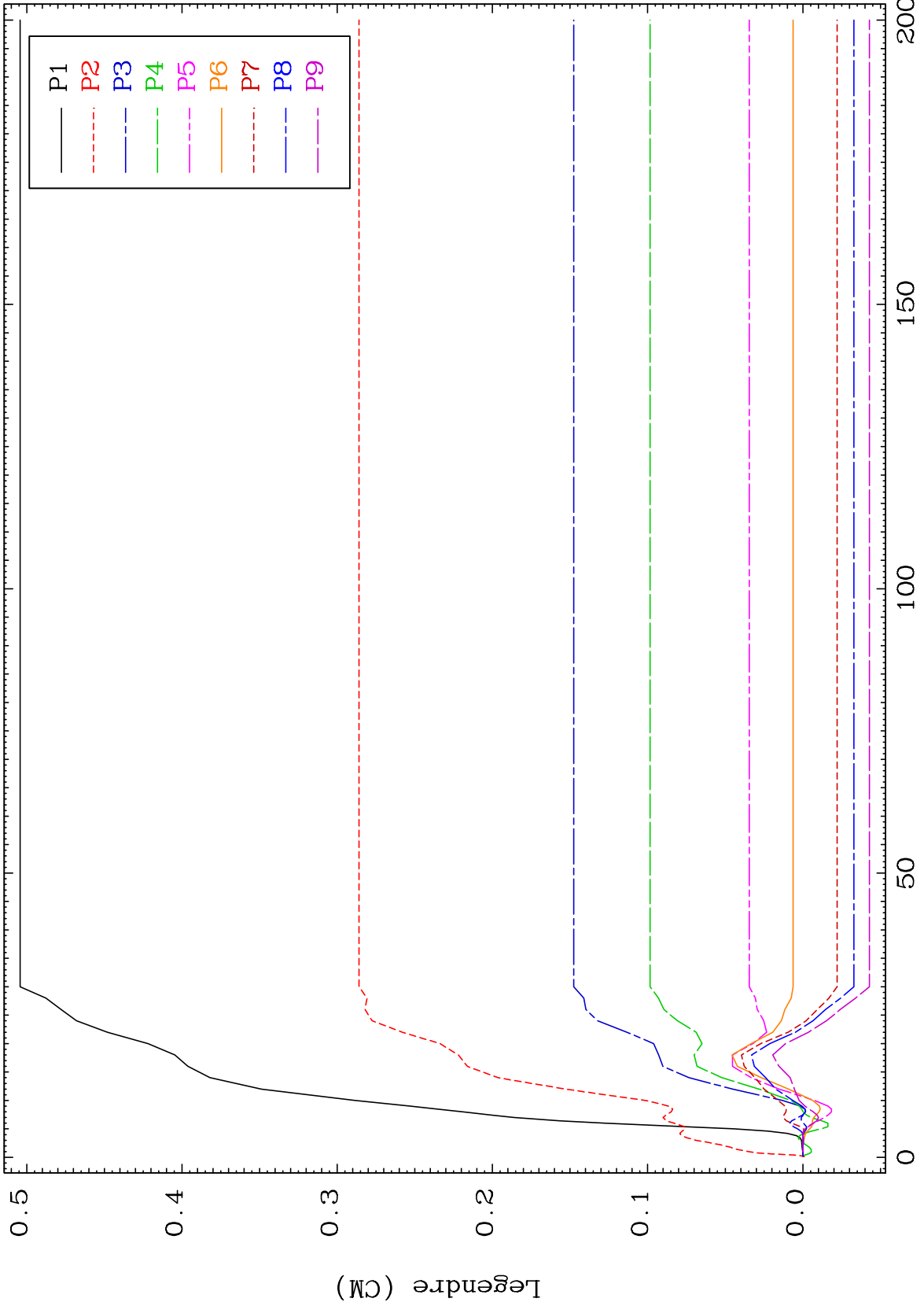


19

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 51 (n,n') Level Legendre Coefficients 60-Nd-139

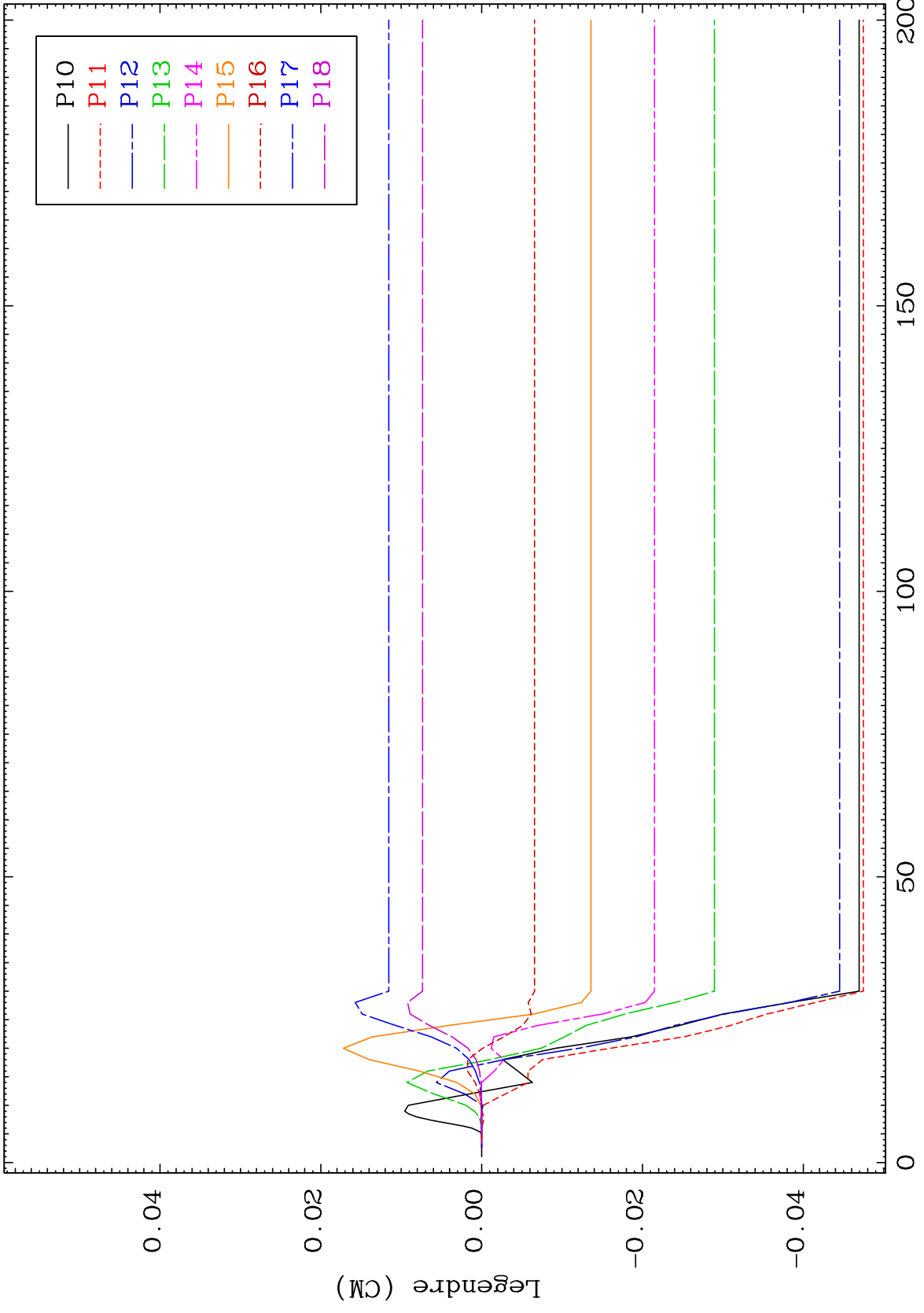


Legendre (CM) Incident Energy (MeV) 60-Nd-139

MAT 6016

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

60-Nd-139



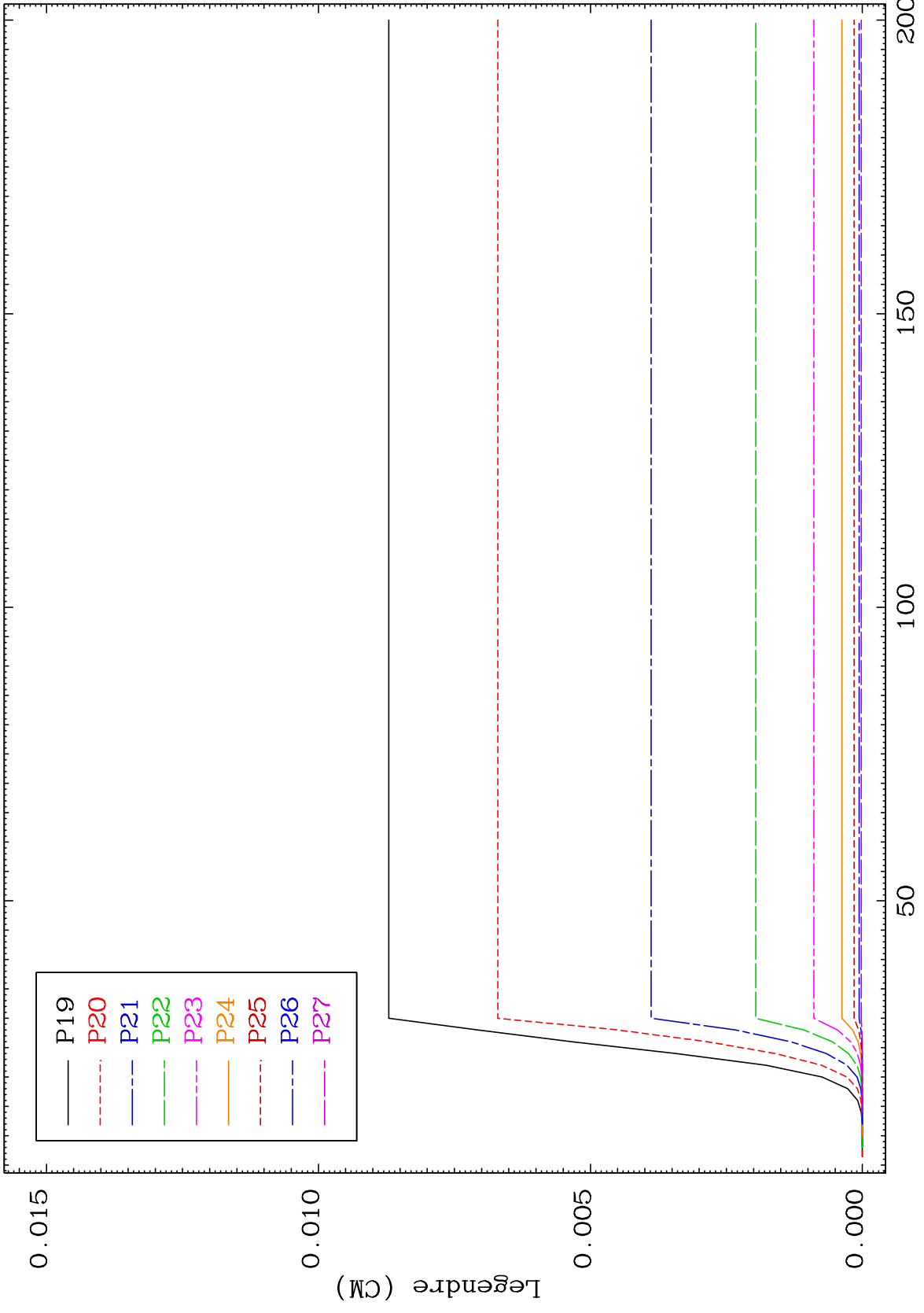
21

60-Nd-139

MAT 6016

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

60-Nd-139



22

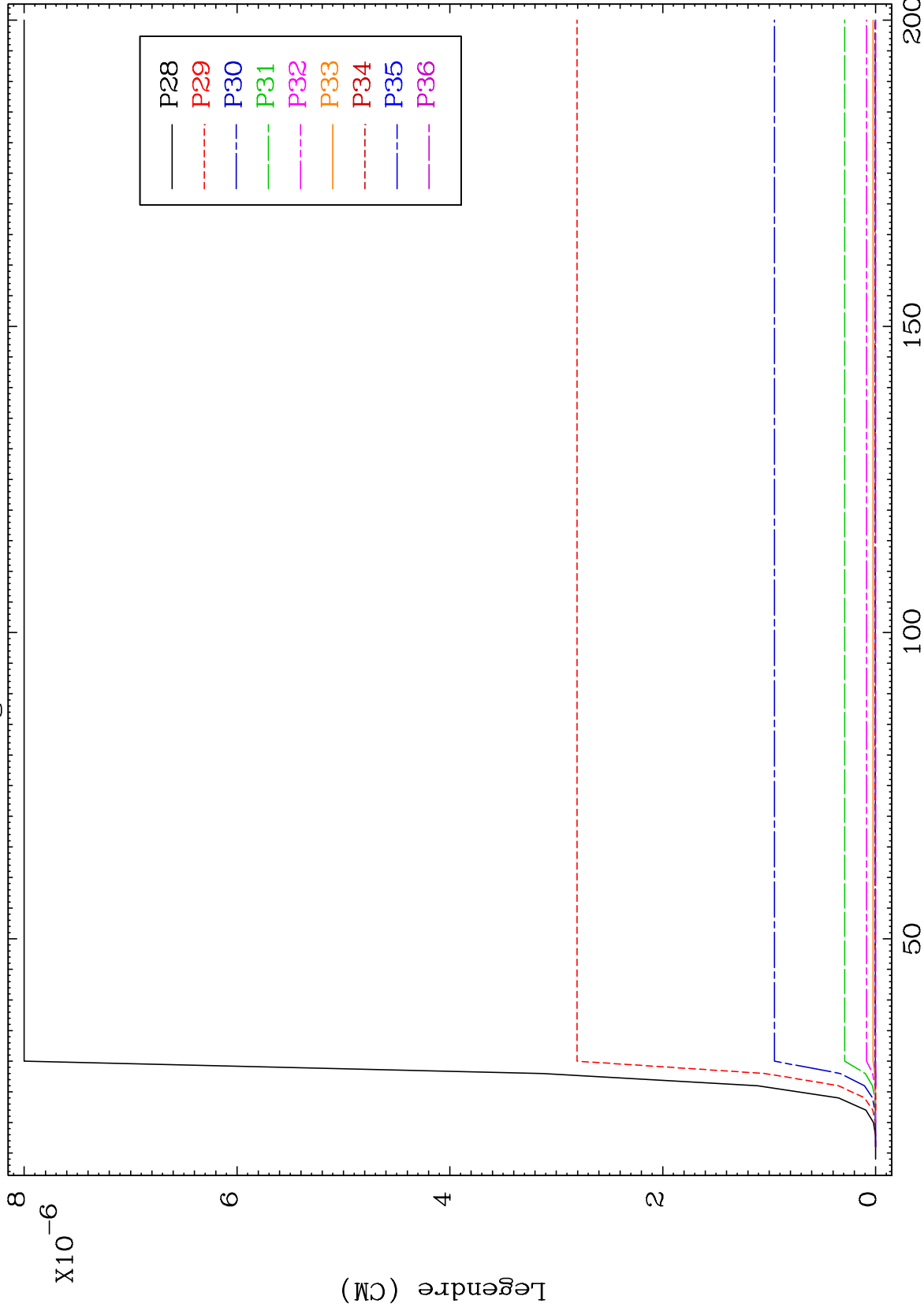
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

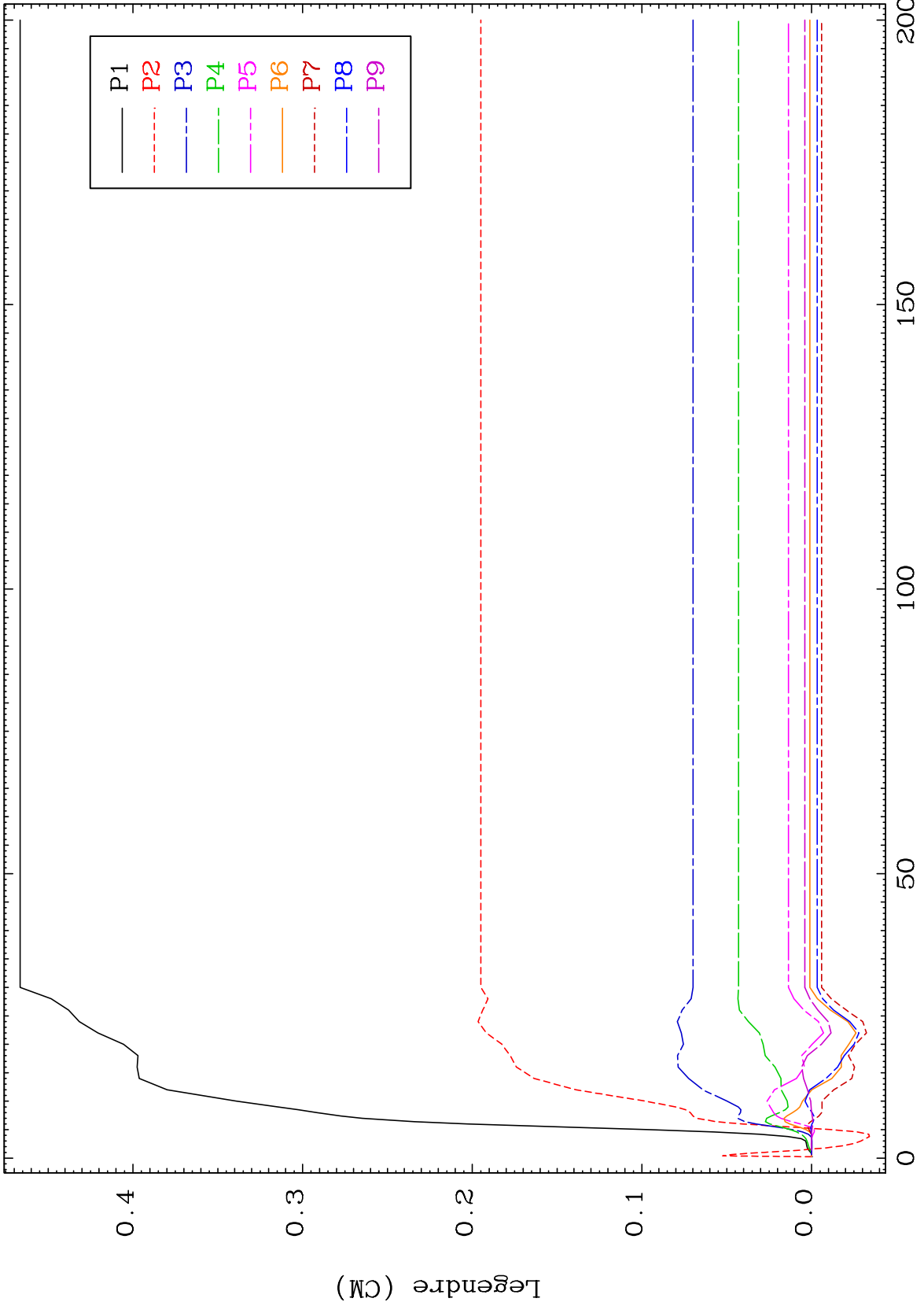
60-Nd-139



23

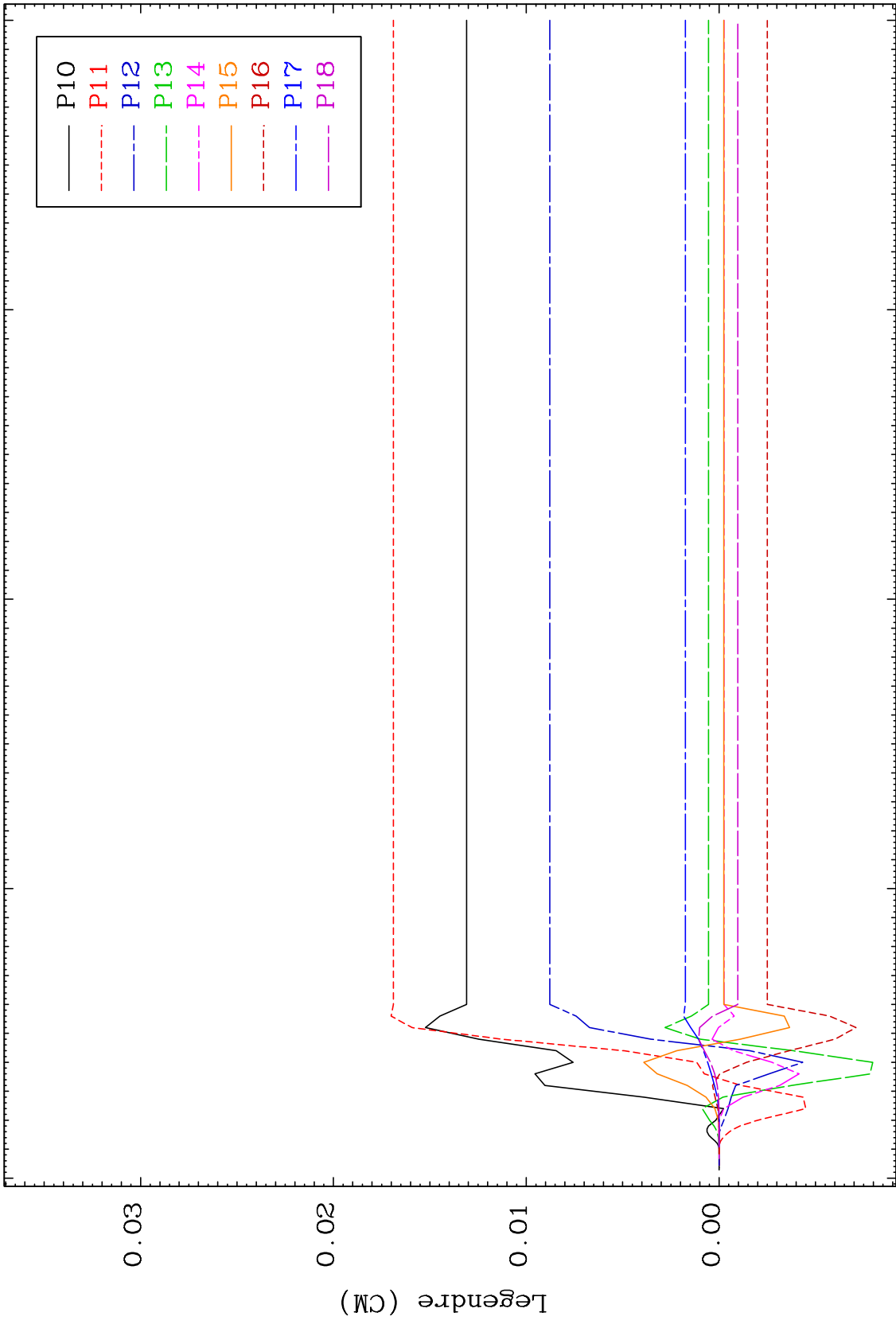
60-Nd-139

MAT 6016 MT= 52 (n,n') Level Legendre Coefficients 60-Nd-139



24 60-Nd-139

MAT 6016 MT= 52 (n,n') Level Legendre Coefficients 60-Nd-139

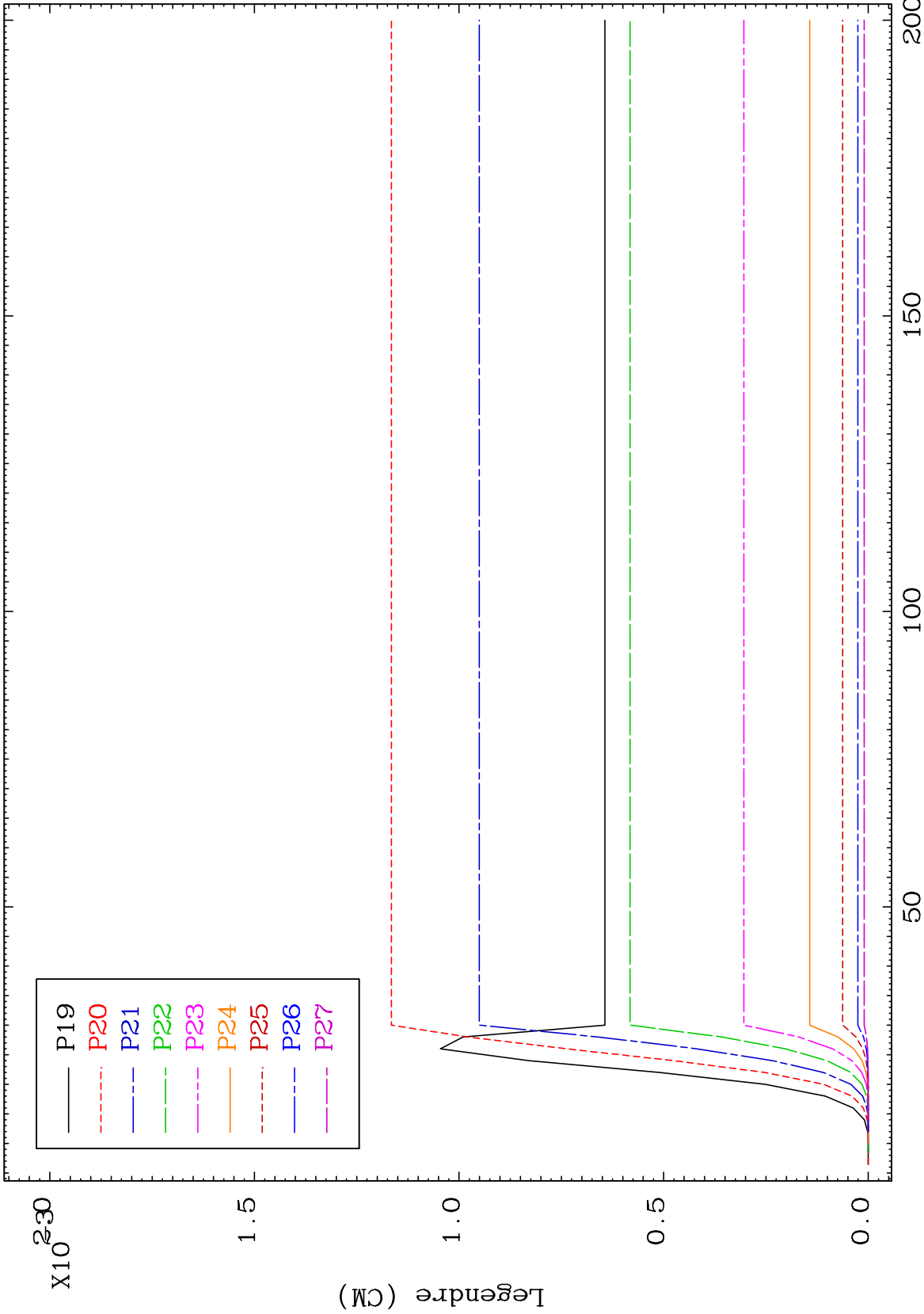


60-Nd-139

MAT 6016

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

60-Nd-139



26

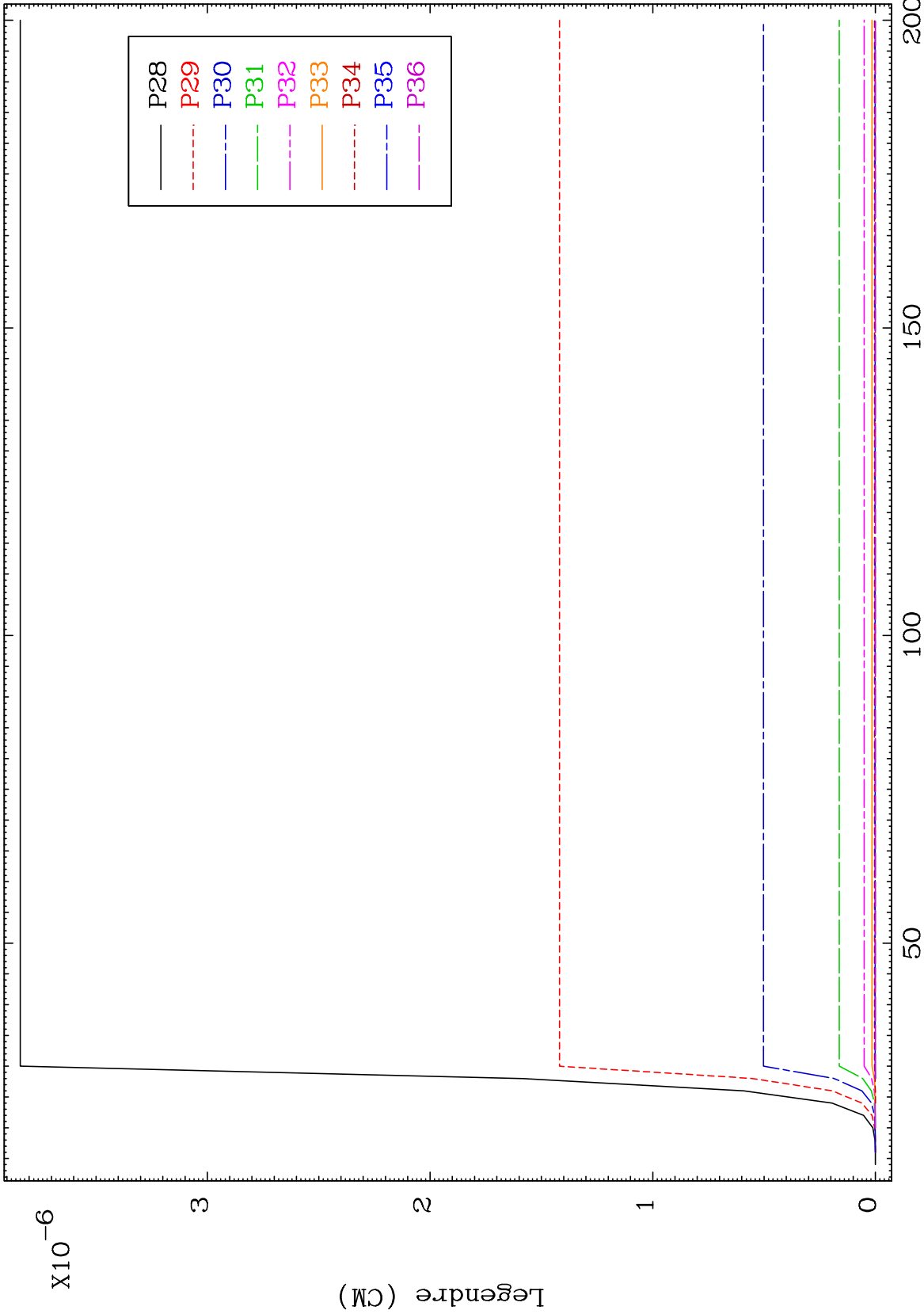
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

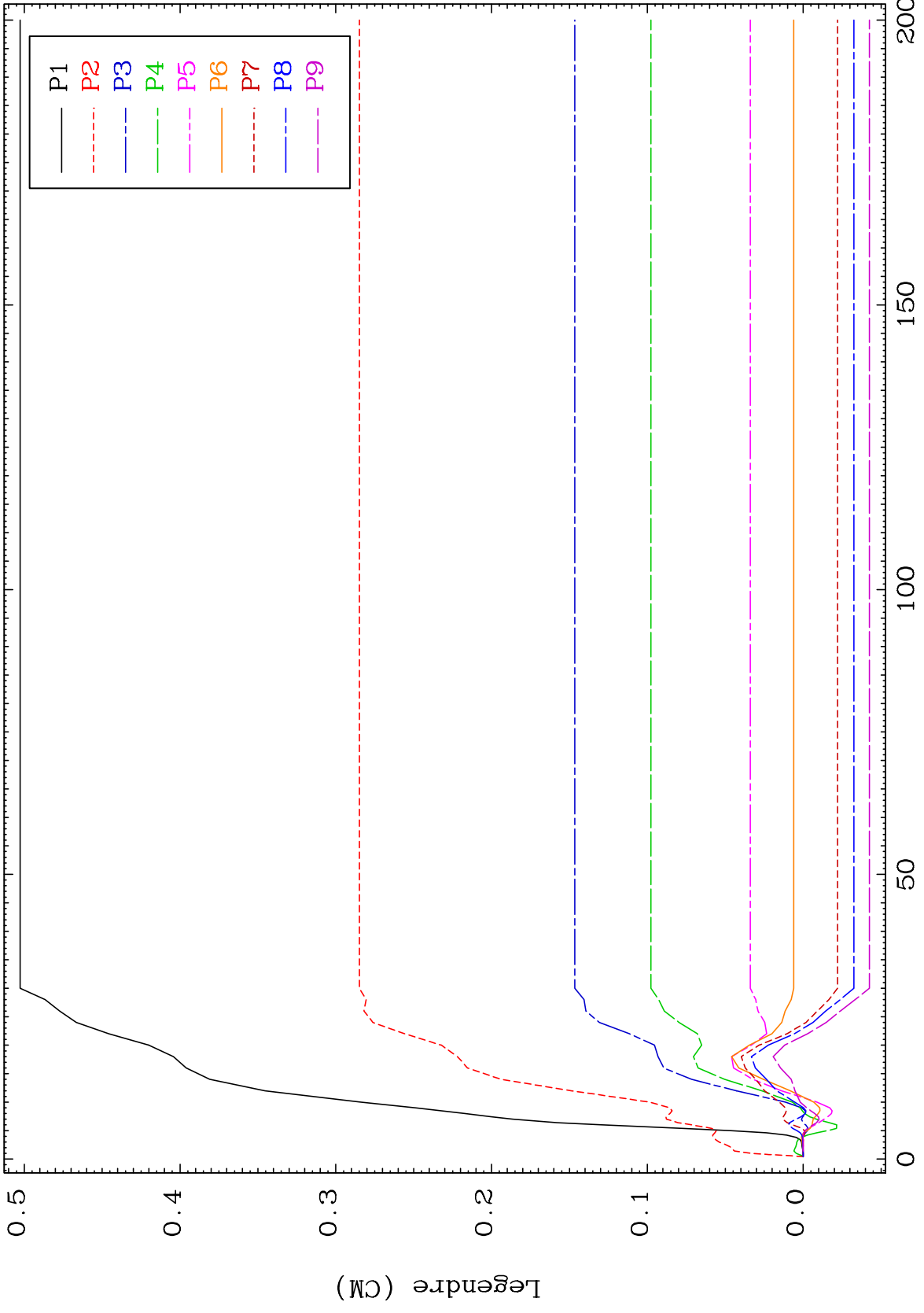


27

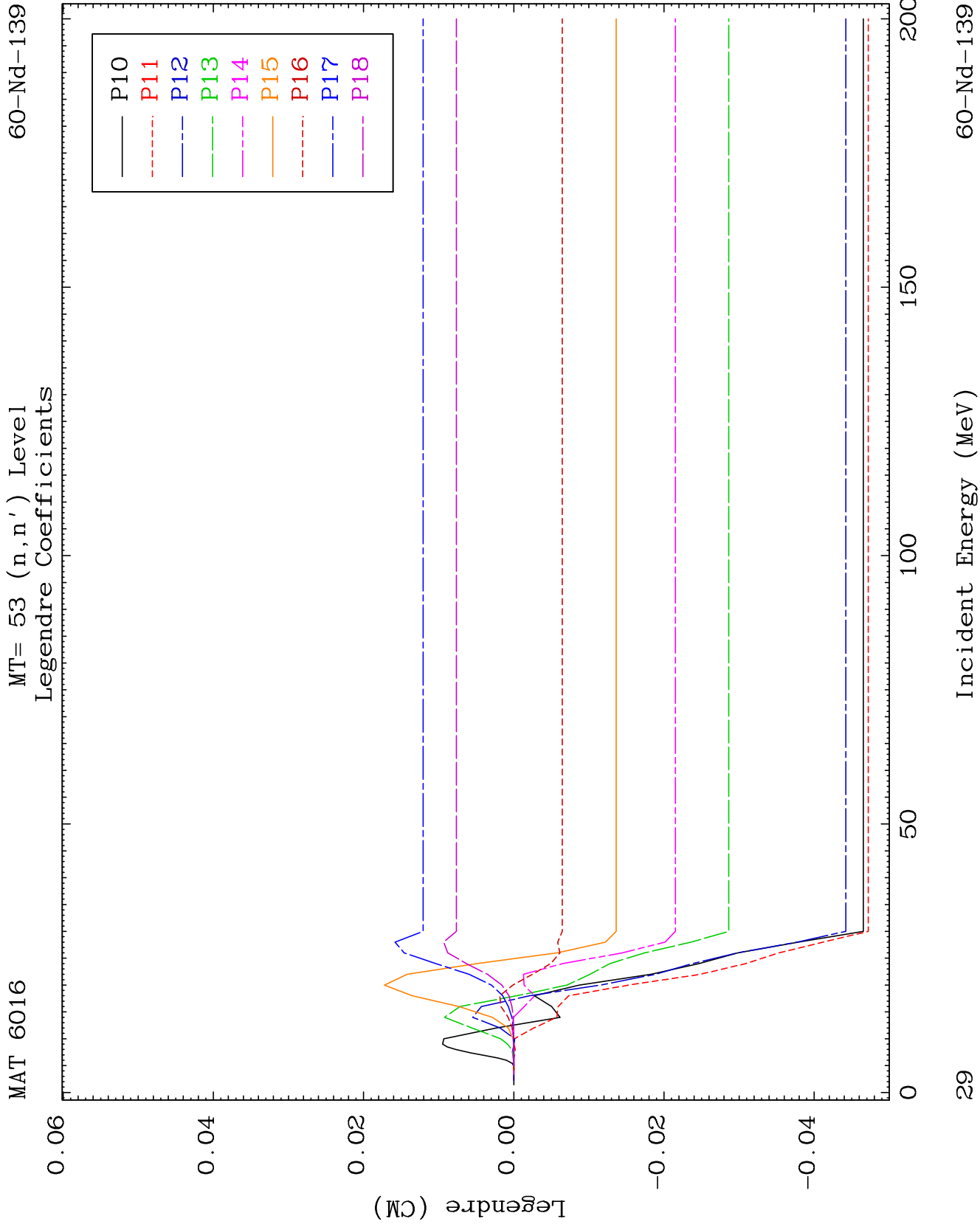
60-Nd-139

60-Nd-139

MAT 6016 MT= 53 (n,n') Level Legendre Coefficients 60-Nd-139



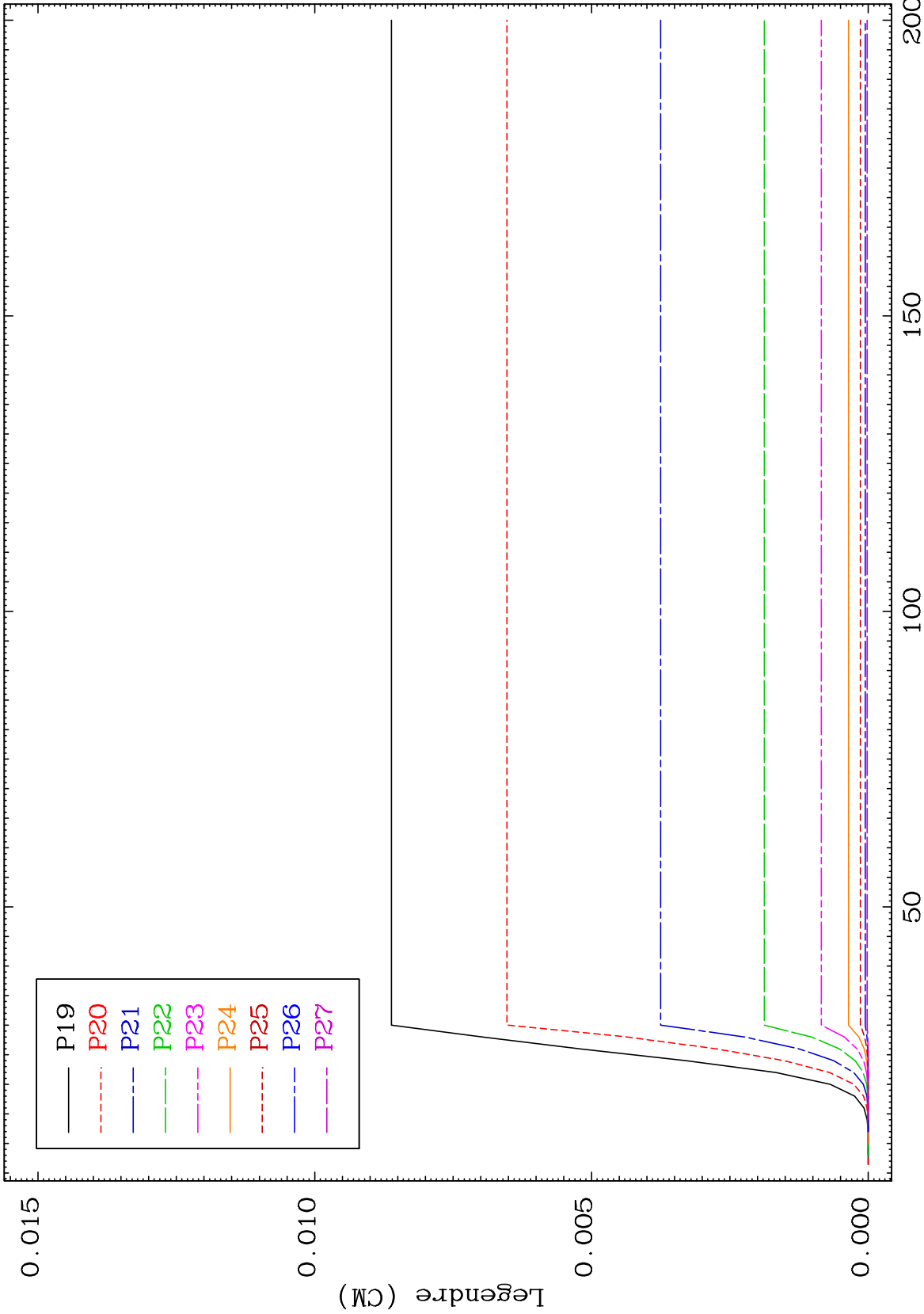
28 60-Nd-139



MAT 6016

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

60-Nd-139



30

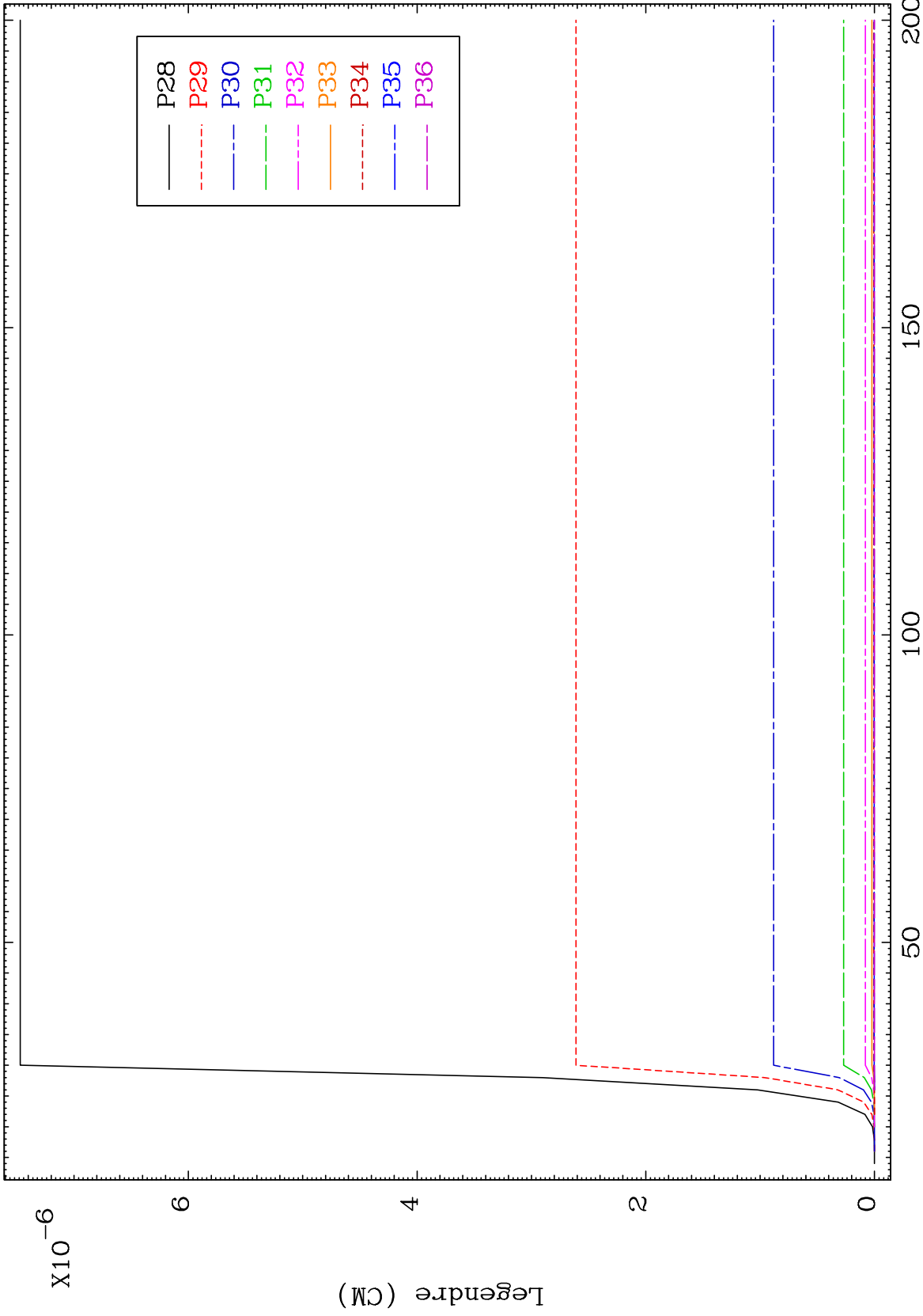
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



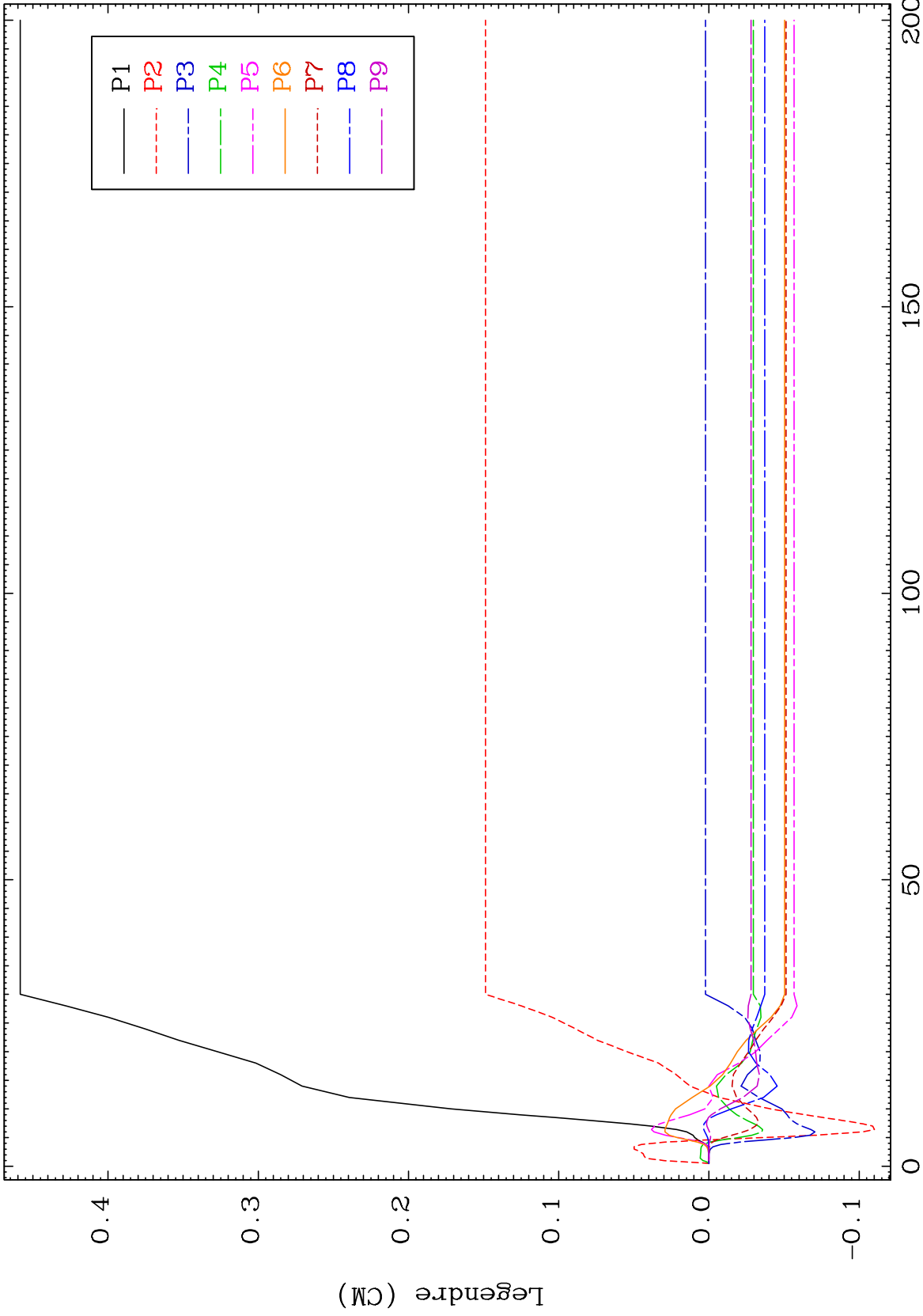
31

60-Nd-139

MAT 6016

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

60-Nd-139



32

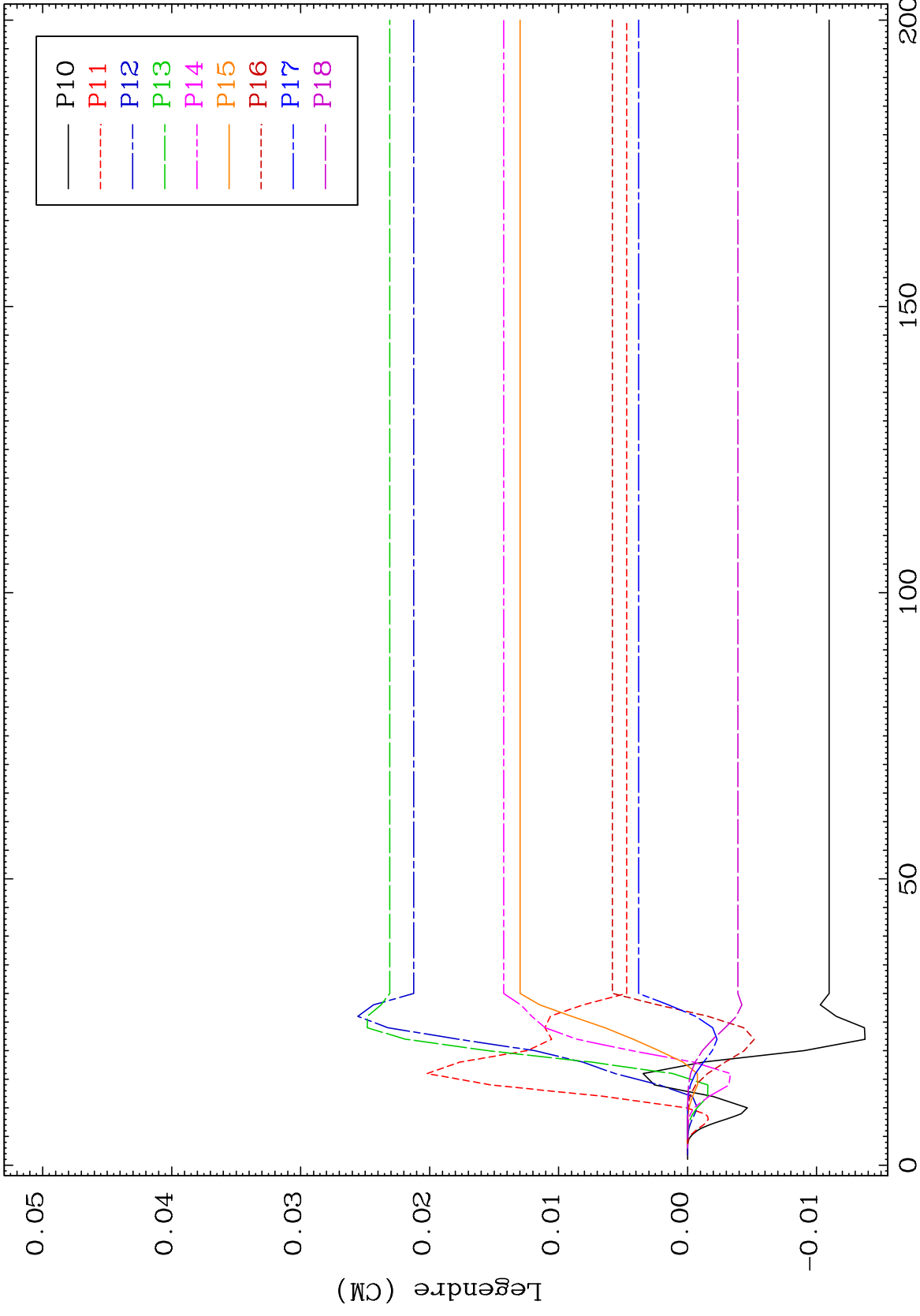
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



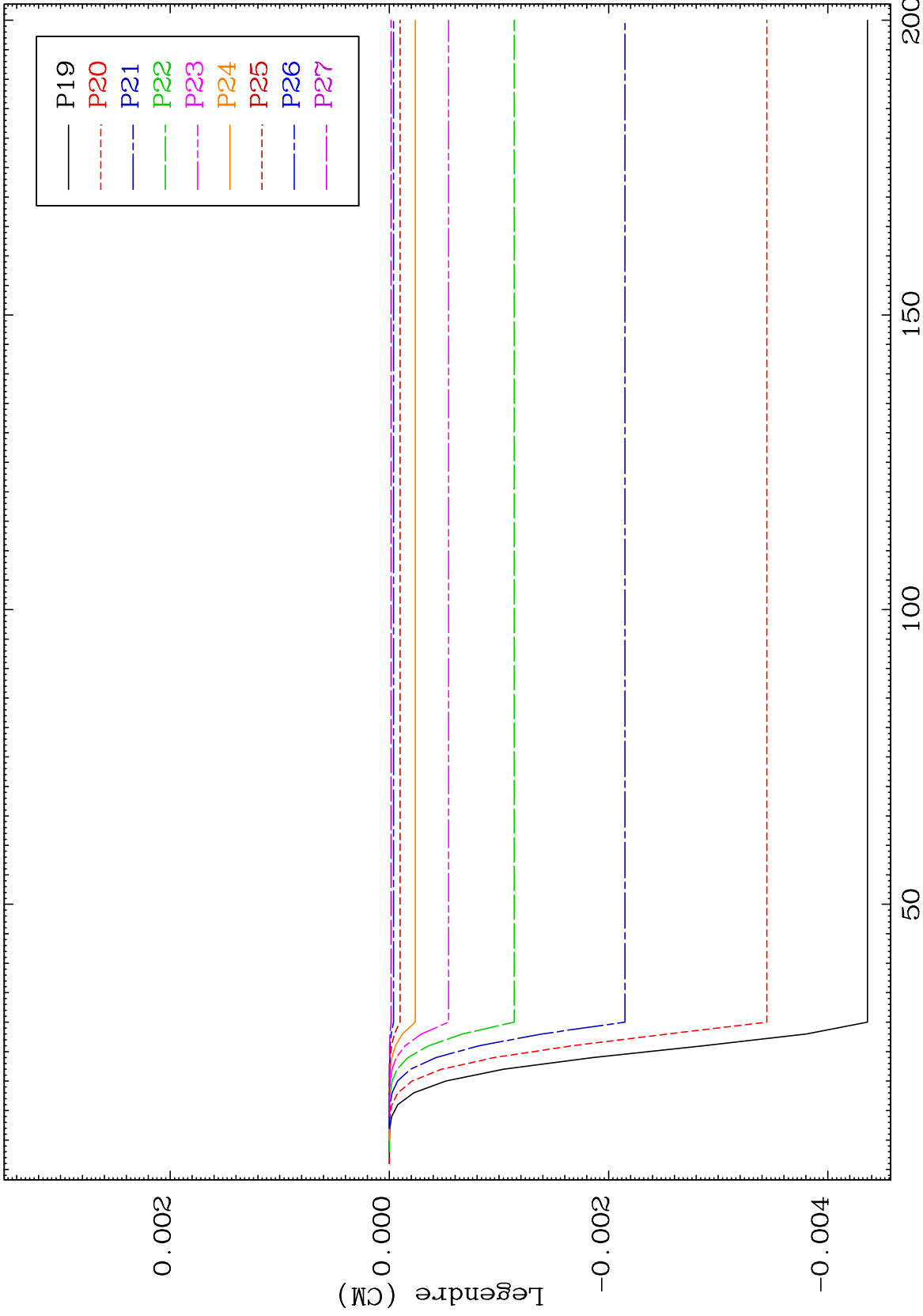
33

60-Nd-139

MAT 6016

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

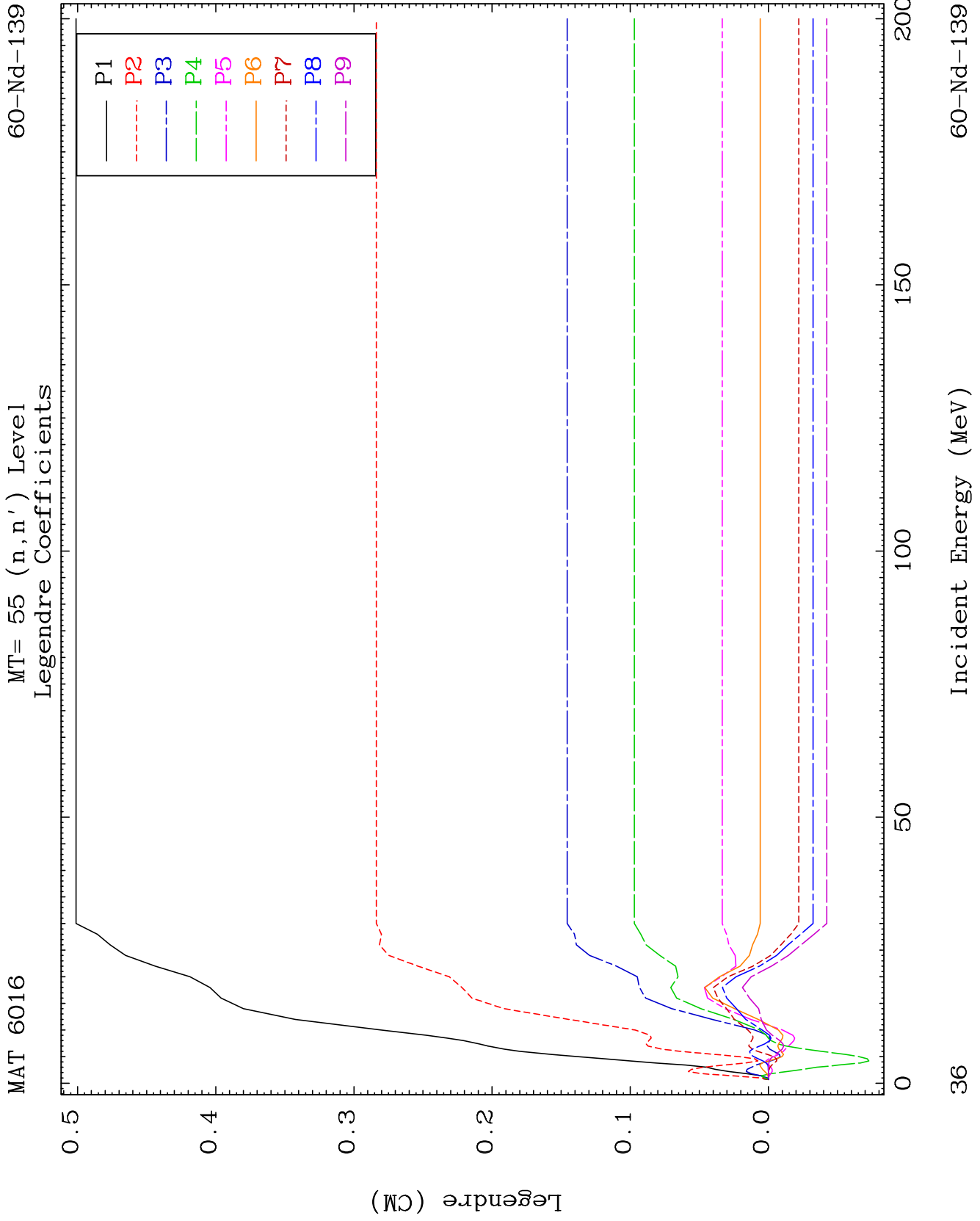
60-Nd-139

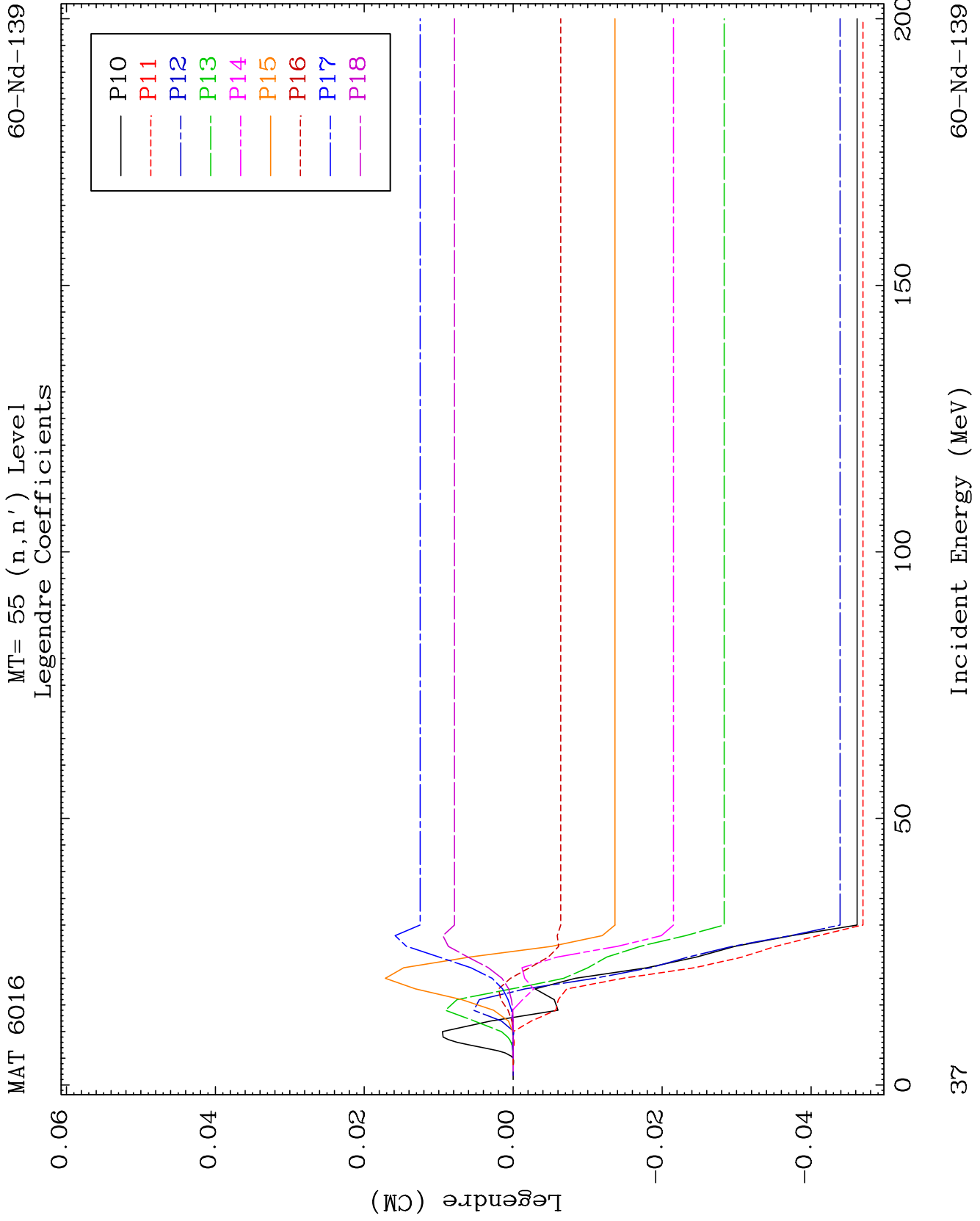


34

Incident Energy (MeV)

60-Nd-139

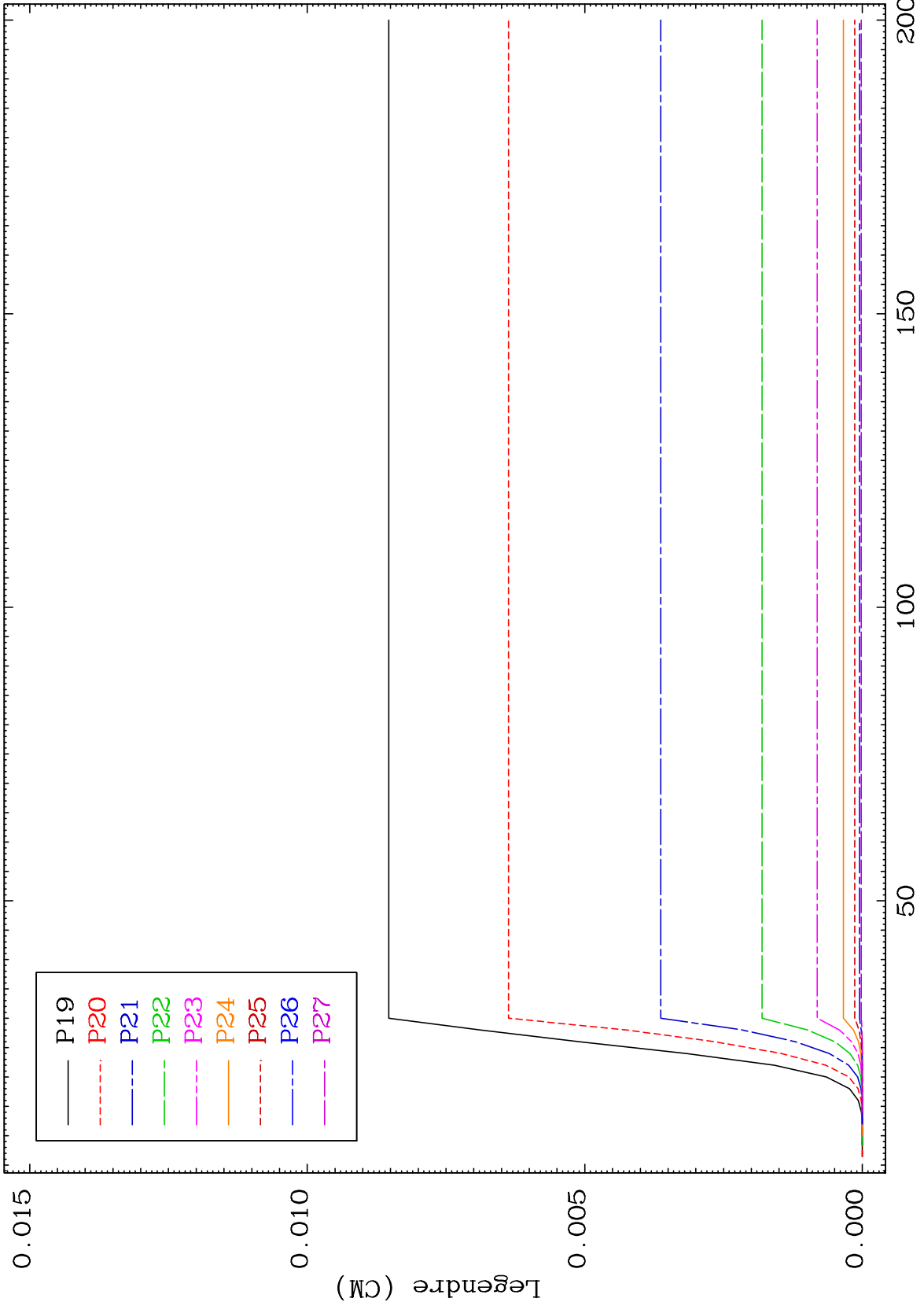




MAT 6016

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

60-Nd-139



38

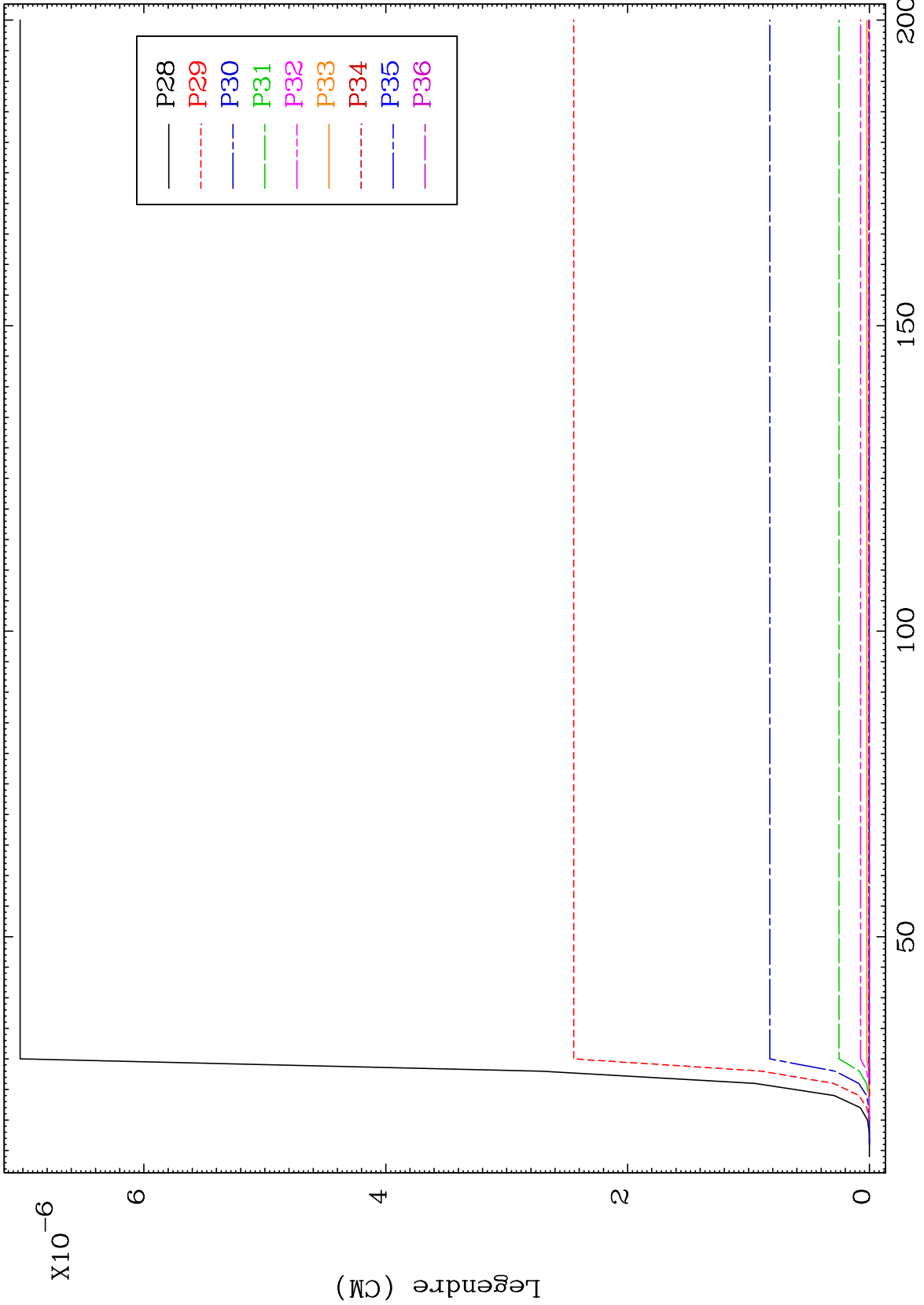
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

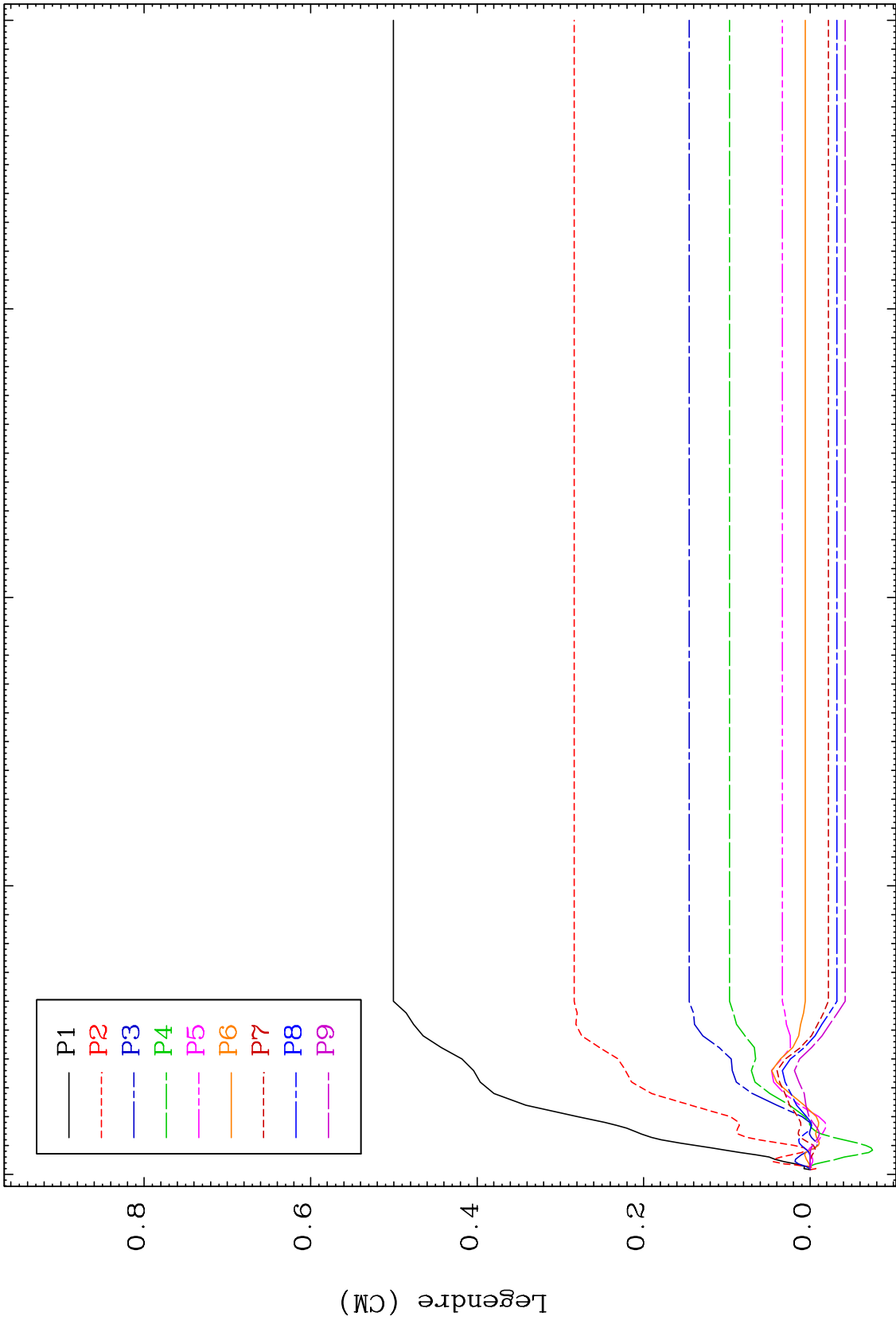


39

Incident Energy (MeV)

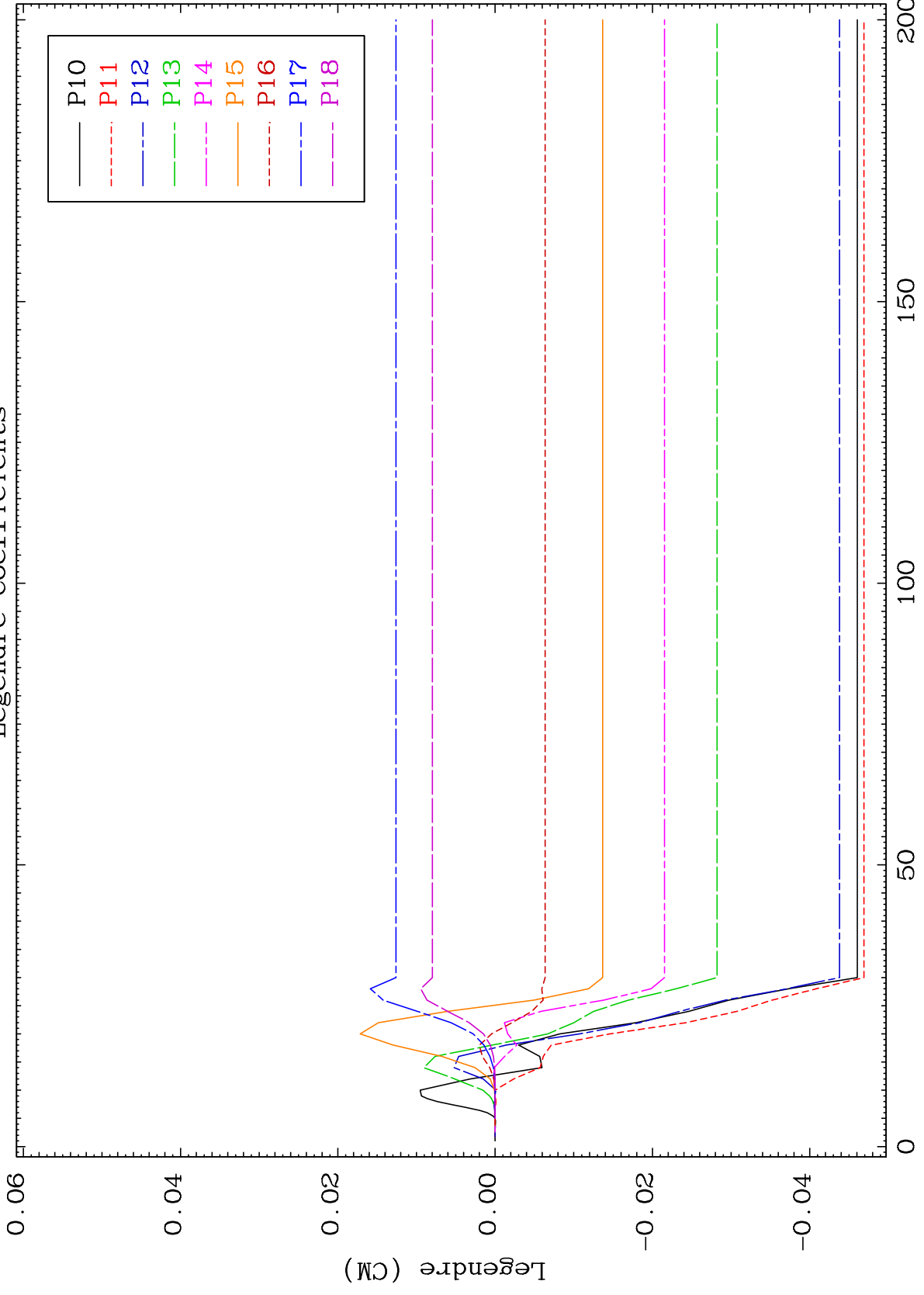
60-Nd-139

MAT 6016 MT= 56 (n,n') Level Legendre Coefficients 60-Nd-139



Legendre (CM) Incident Energy (MeV) 60-Nd-139

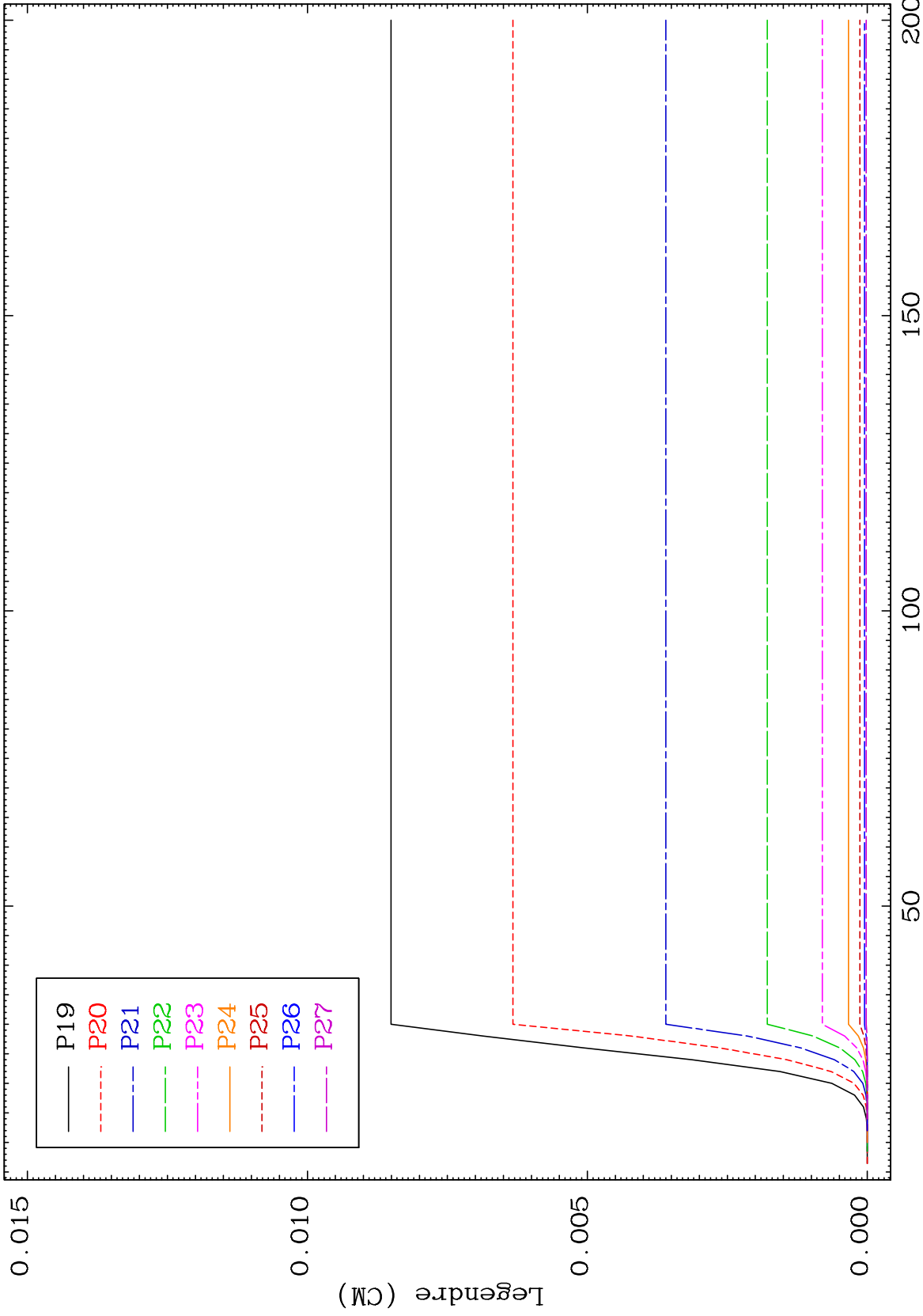
MAT 6016 MT= 56 (n,n') Level Legendre Coefficients 60-Nd-139



MAT 6016

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

60-Nd-139



42

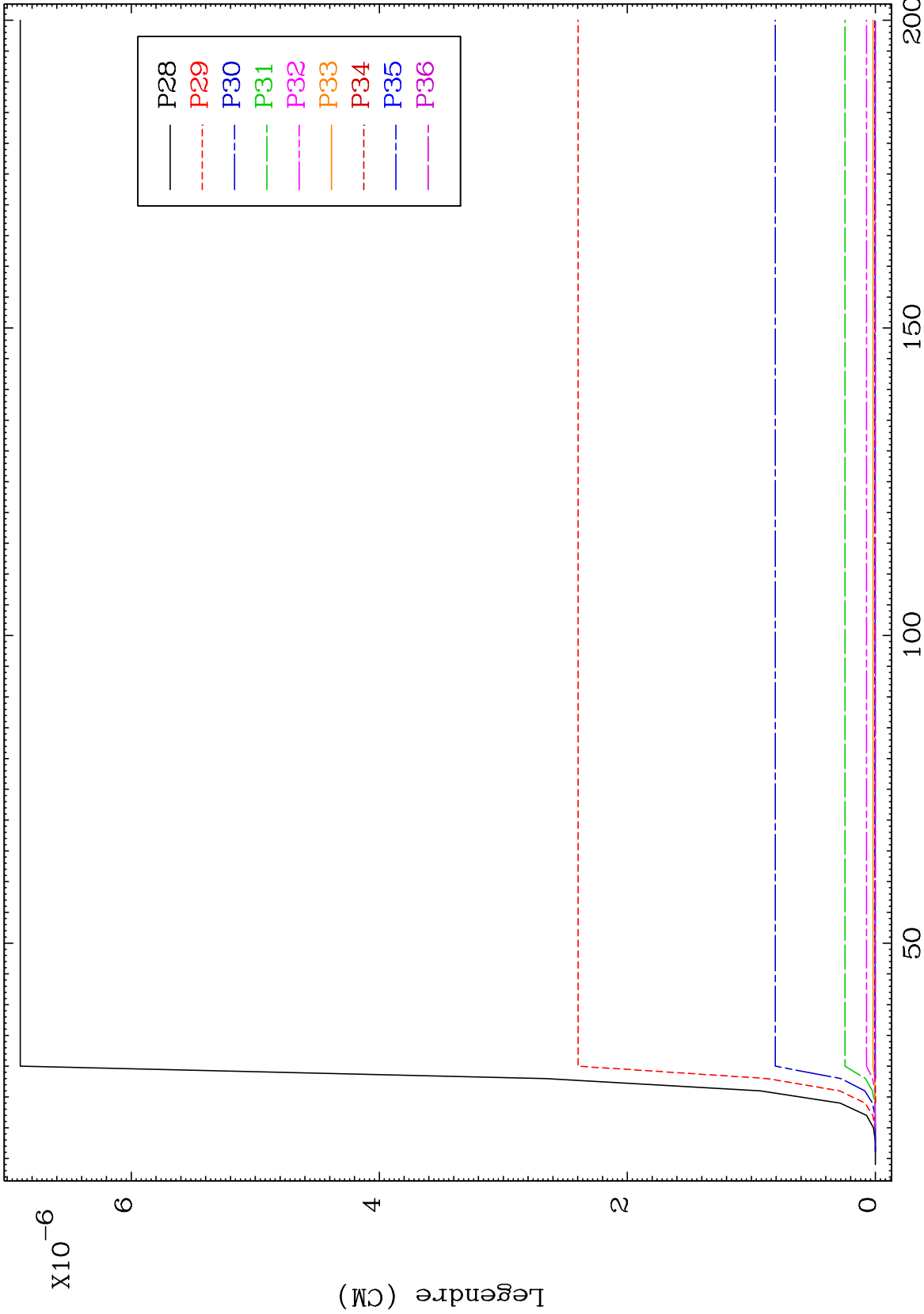
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

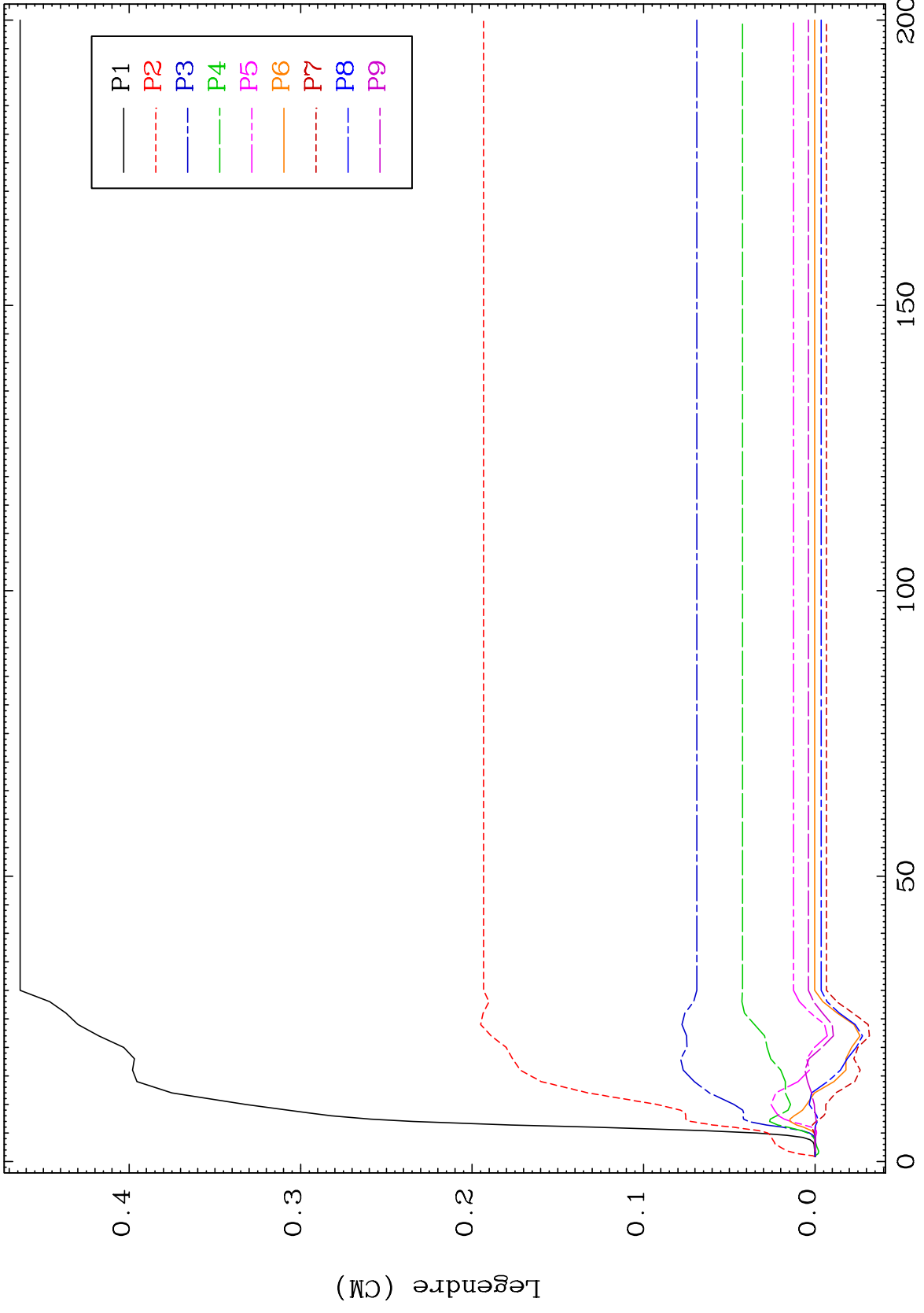


43

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 57 (n,n') Level Legendre Coefficients 60-Nd-139

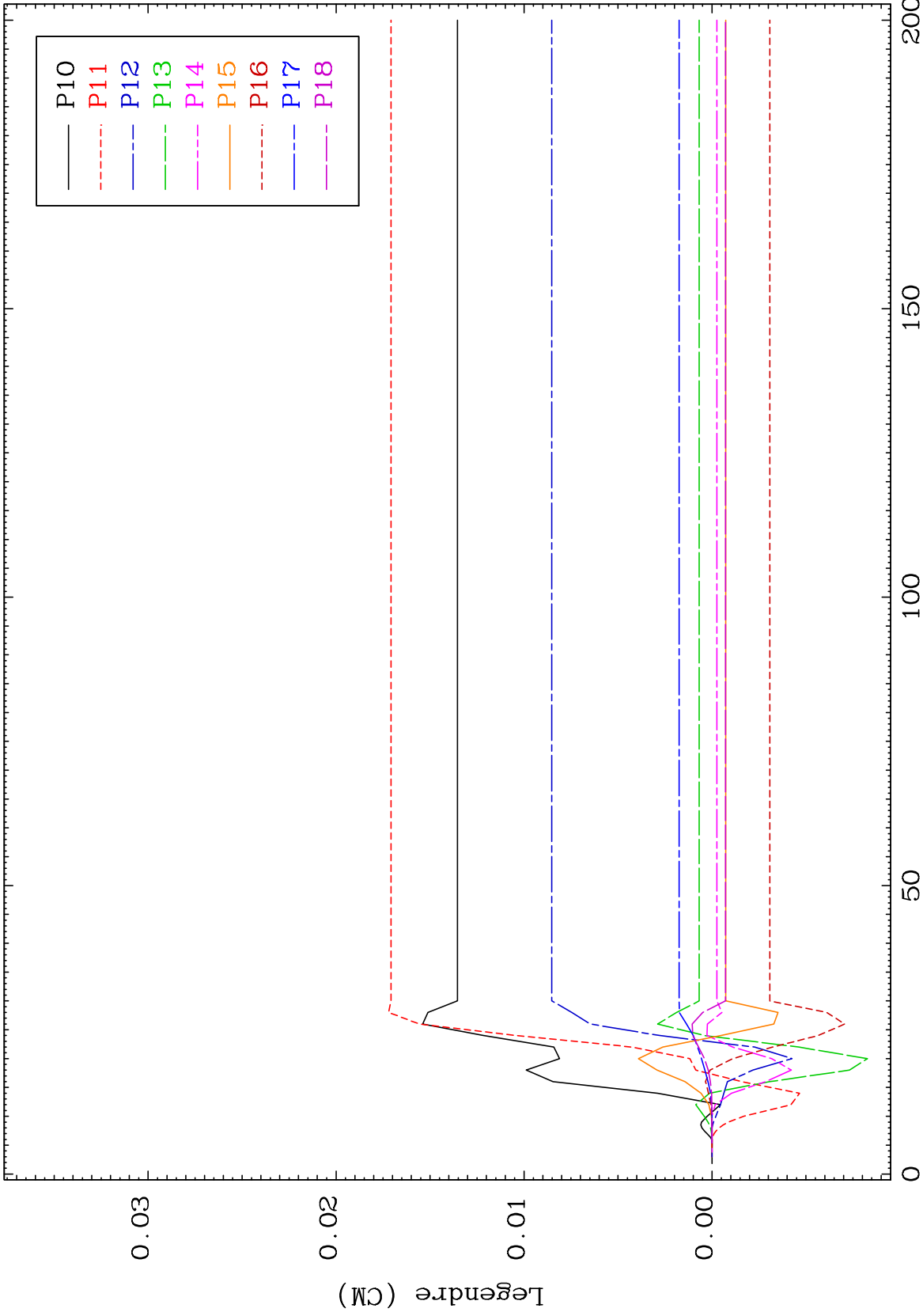


44 60-Nd-139

MAT 6016

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

60-Nd-139



45

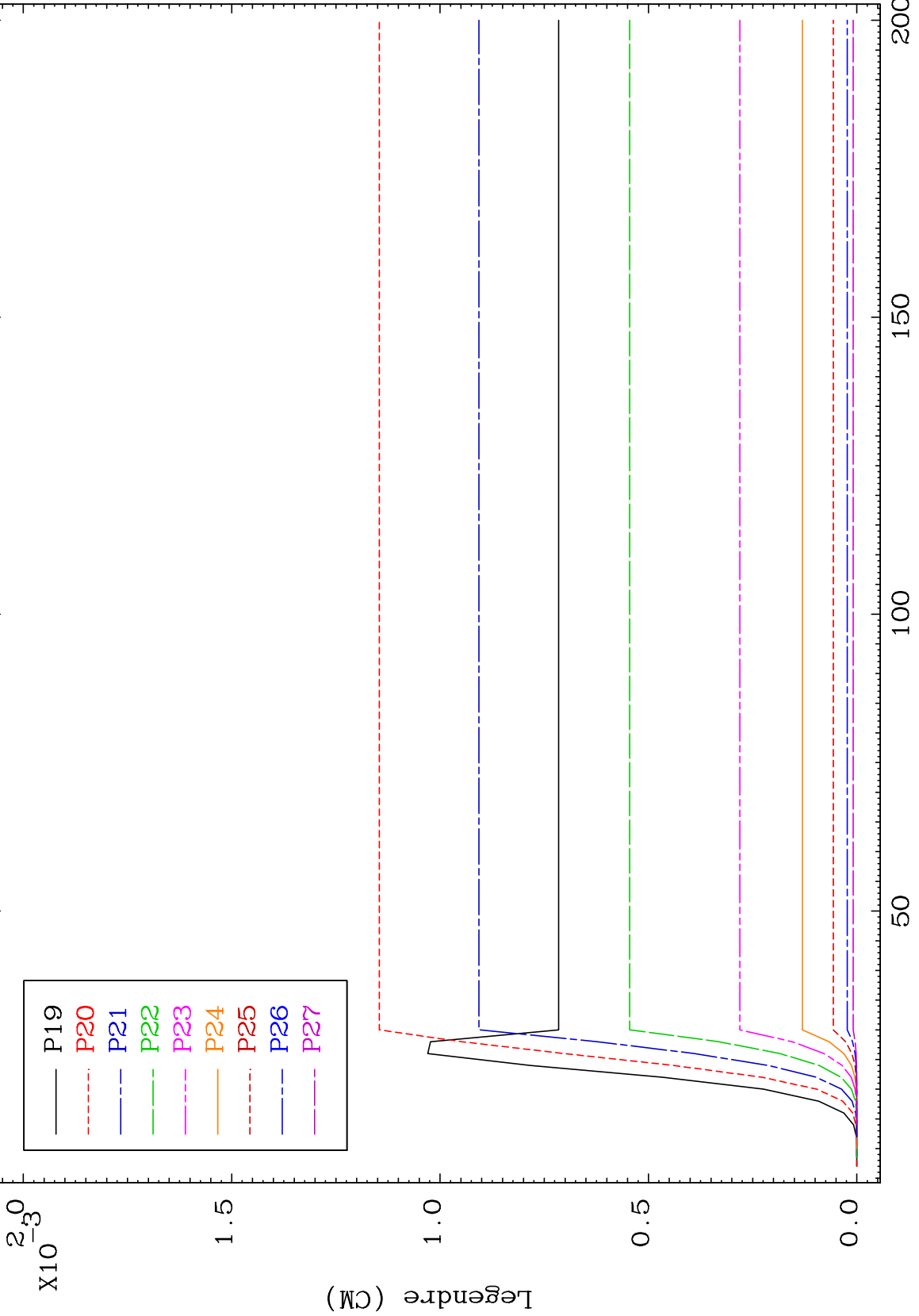
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



46

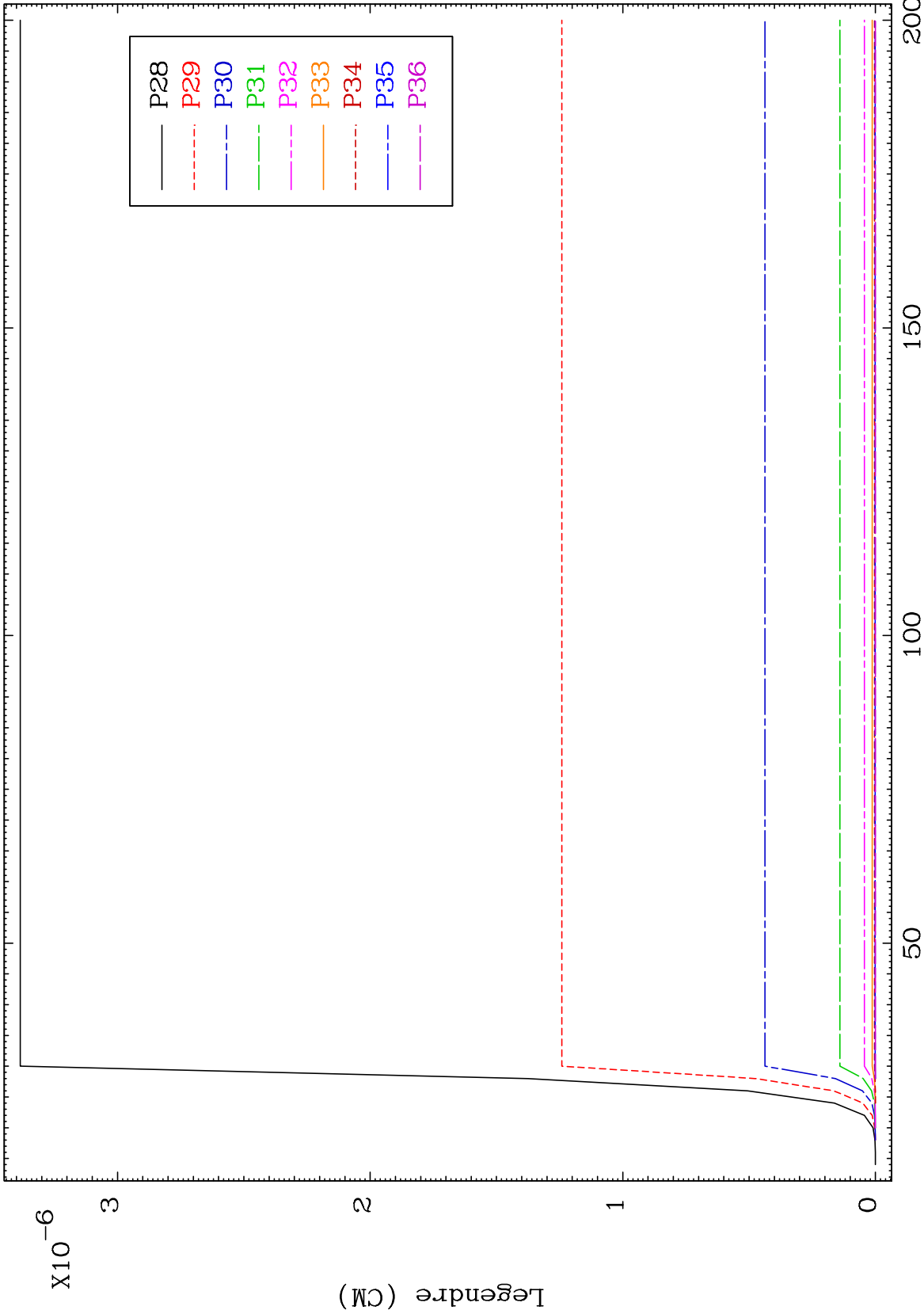
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

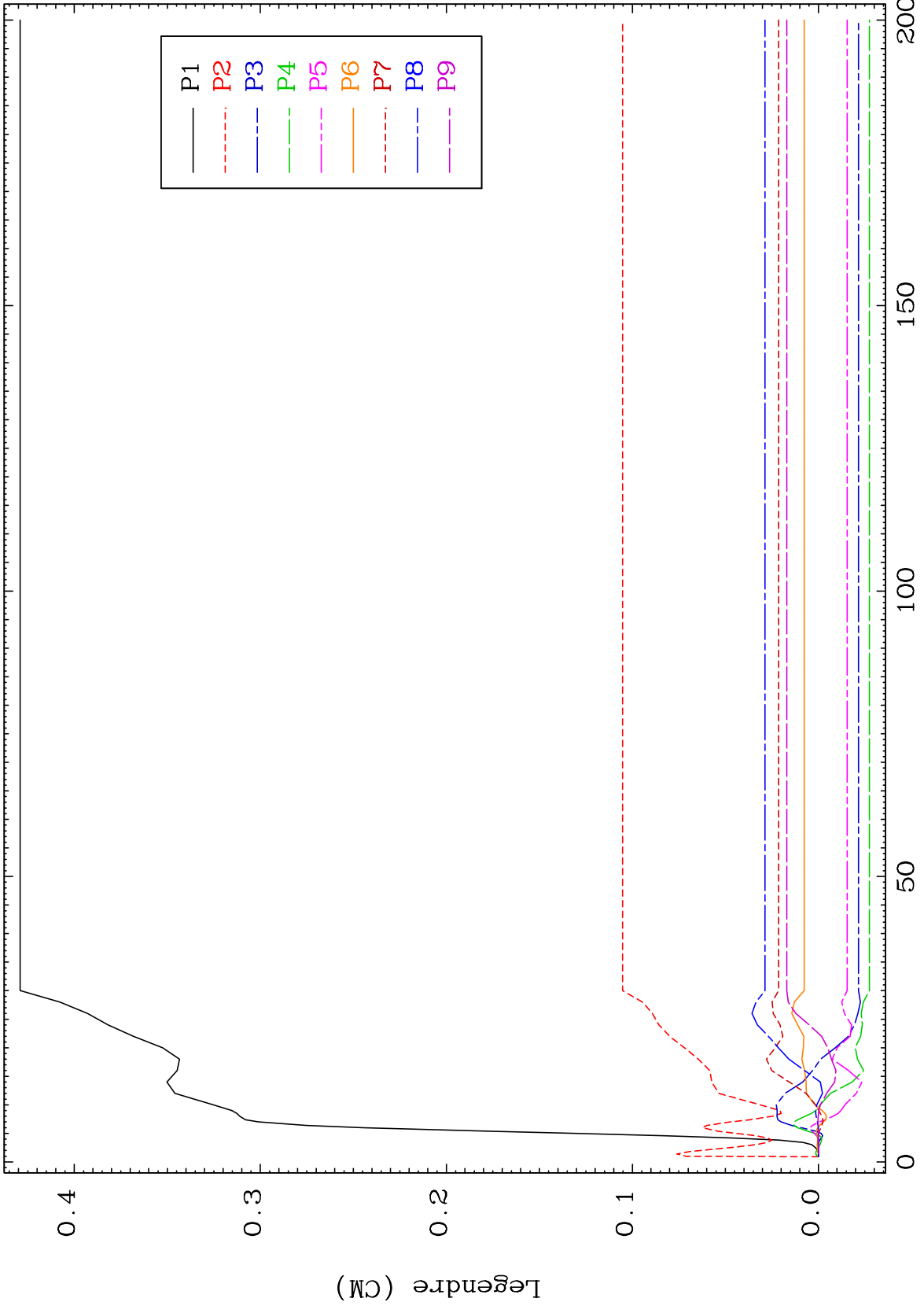


47

Incident Energy (MeV)

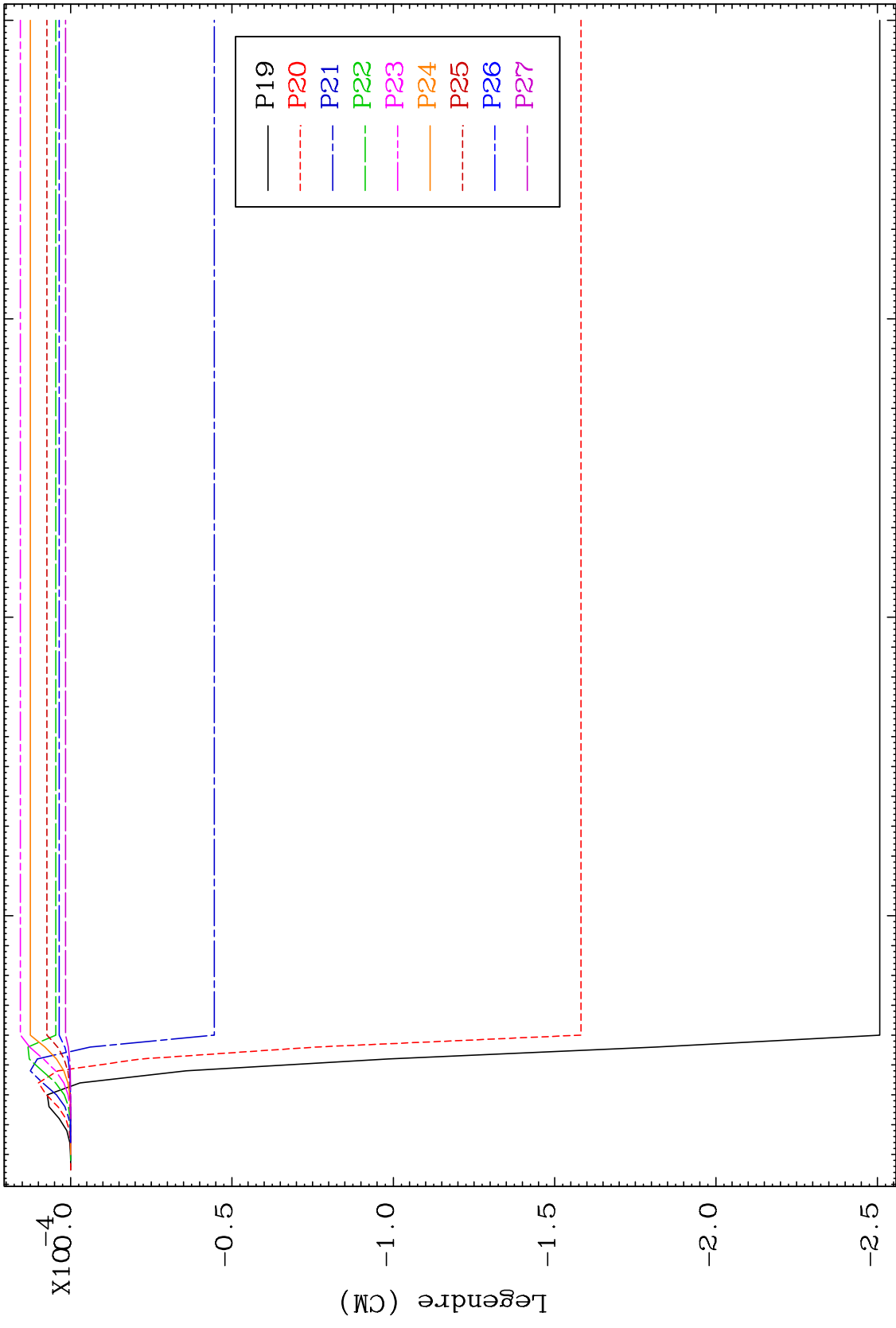
60-Nd-139

MAT 6016 MT= 58 (n,n') Level Legendre Coefficients 60-Nd-139



48 60-Nd-139

MAT 6016 MT= 58 (n,n') Level Legendre Coefficients 60-Nd-139

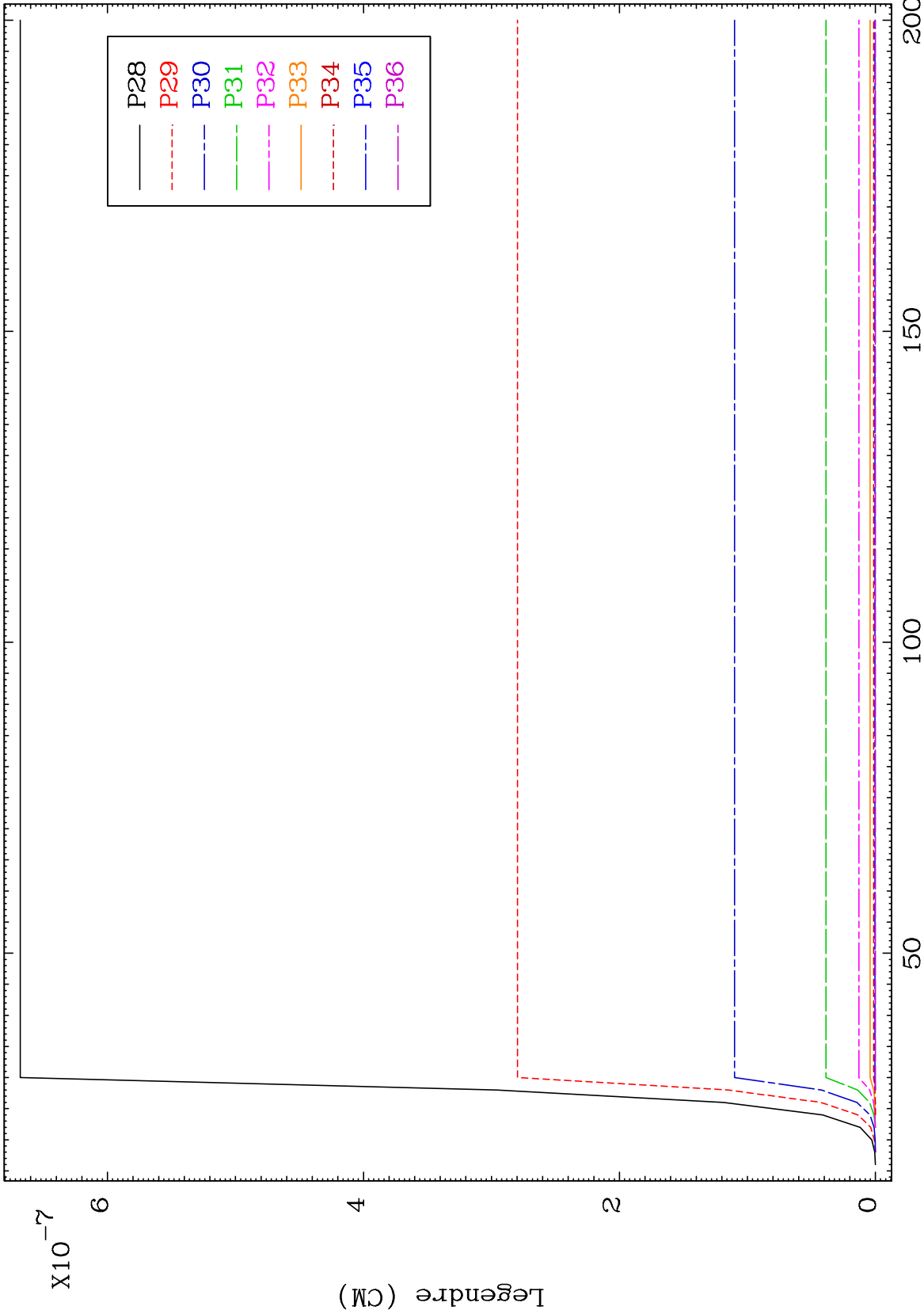


50 Incident Energy (MeV) 200 60-Nd-139

MAT 6016

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

60-Nd-139

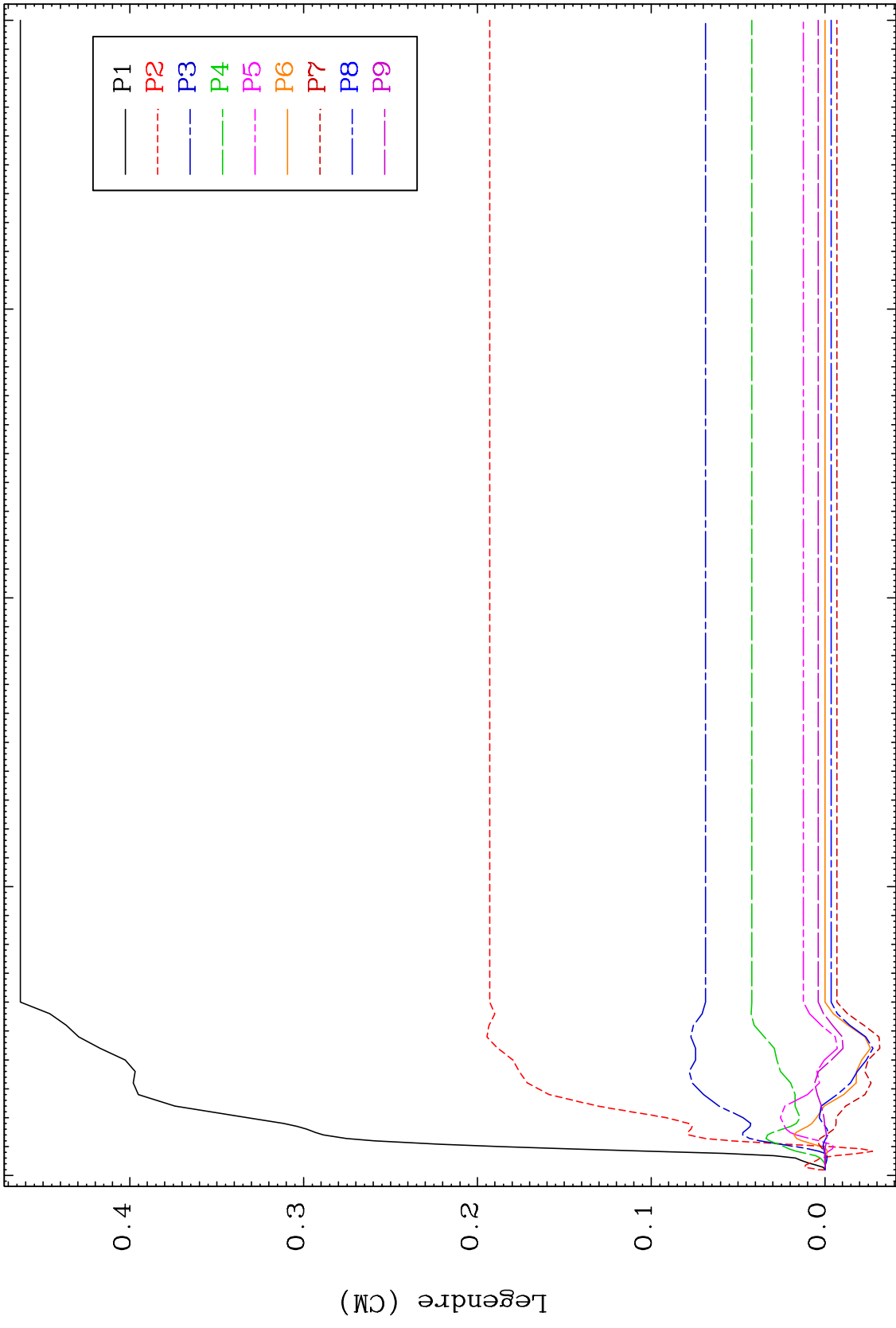


51

Incident Energy (MeV)

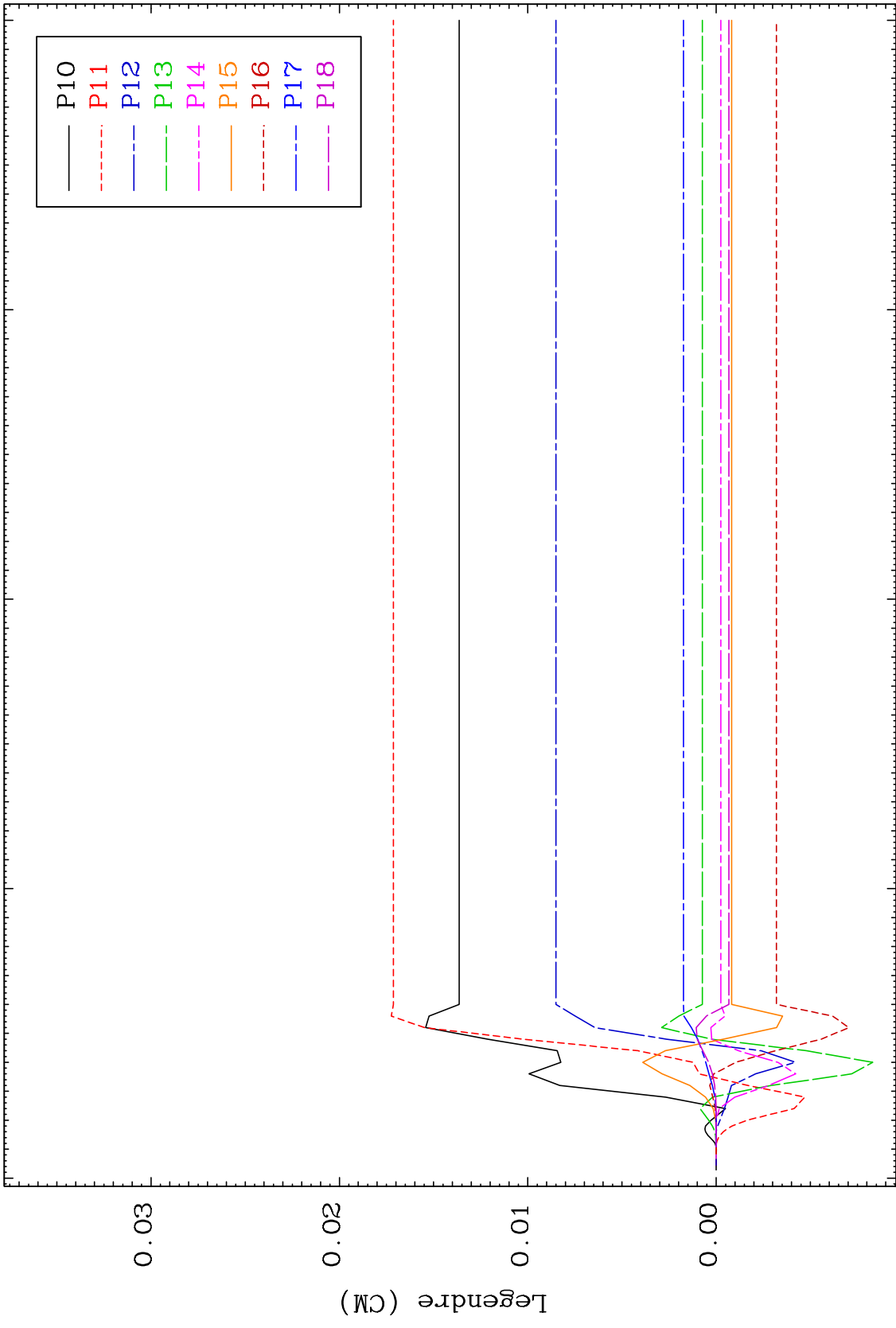
60-Nd-139

MAT 6016 MT= 59 (n,n') Level Legendre Coefficients 60-Nd-139



52 Incident Energy (MeV) 60-Nd-139

MAT 6016 MT= 59 (n,n') Level Legendre Coefficients 60-Nd-139

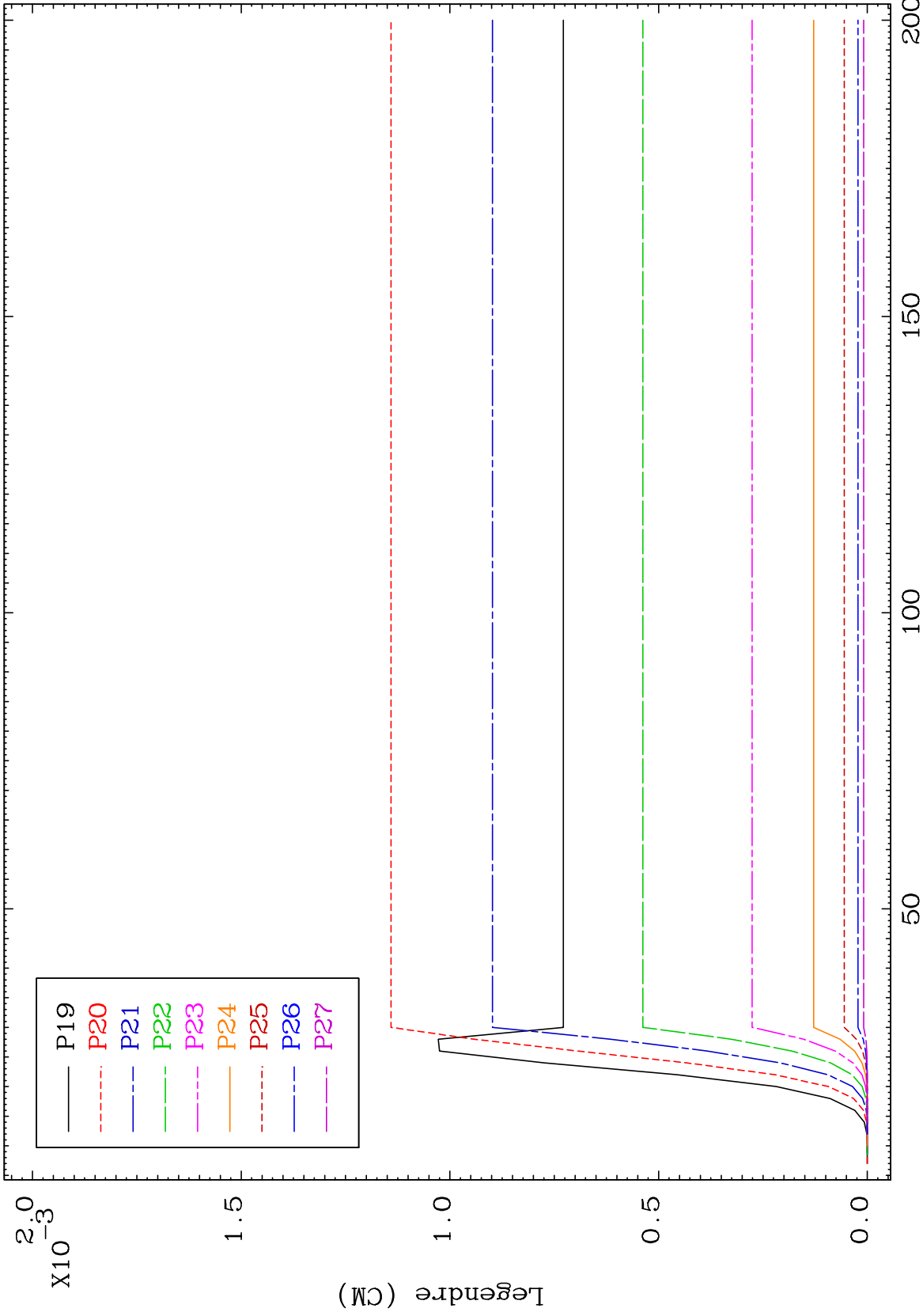


53 60-Nd-139

MAT 6016

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

60-Nd-139



54

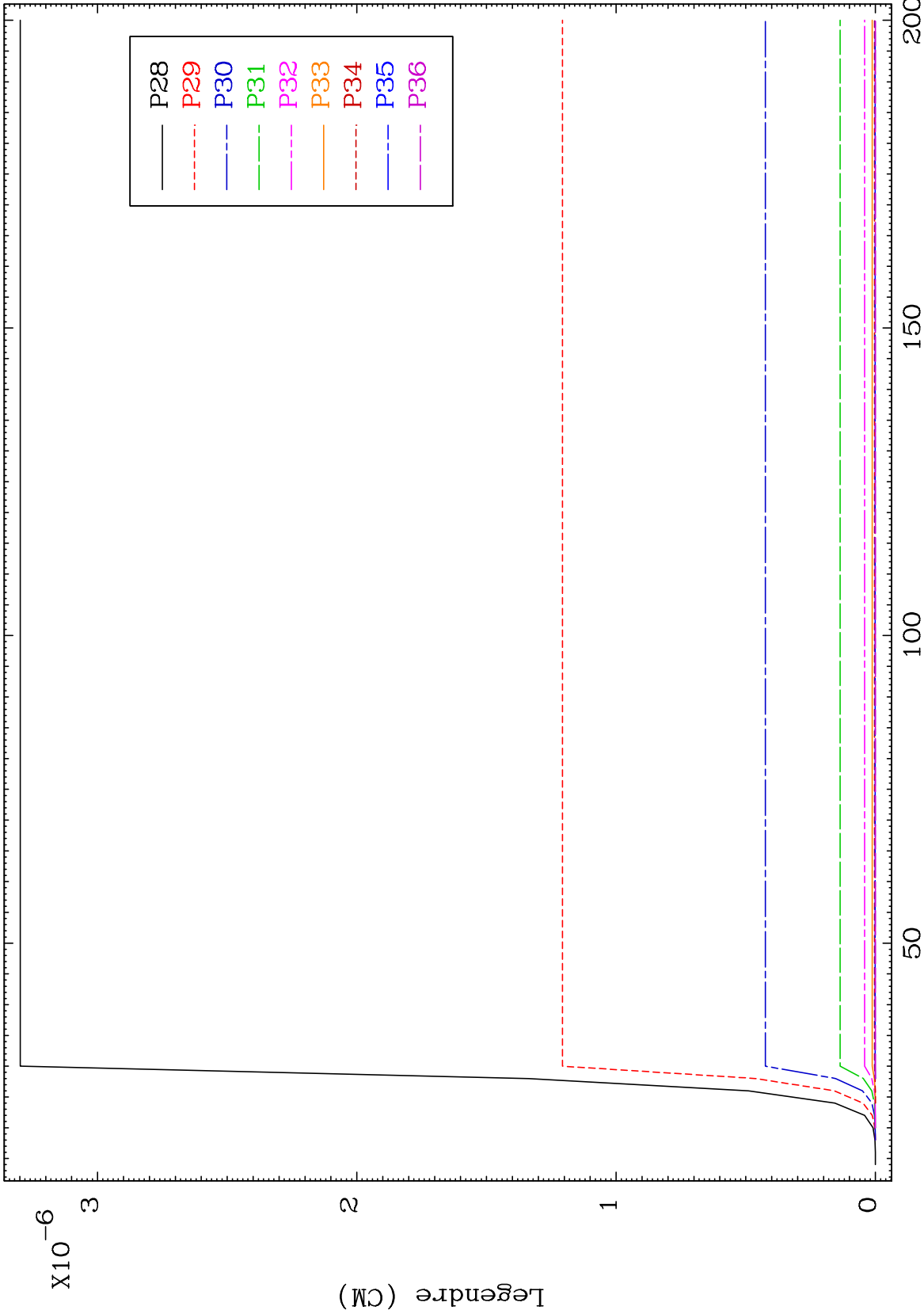
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

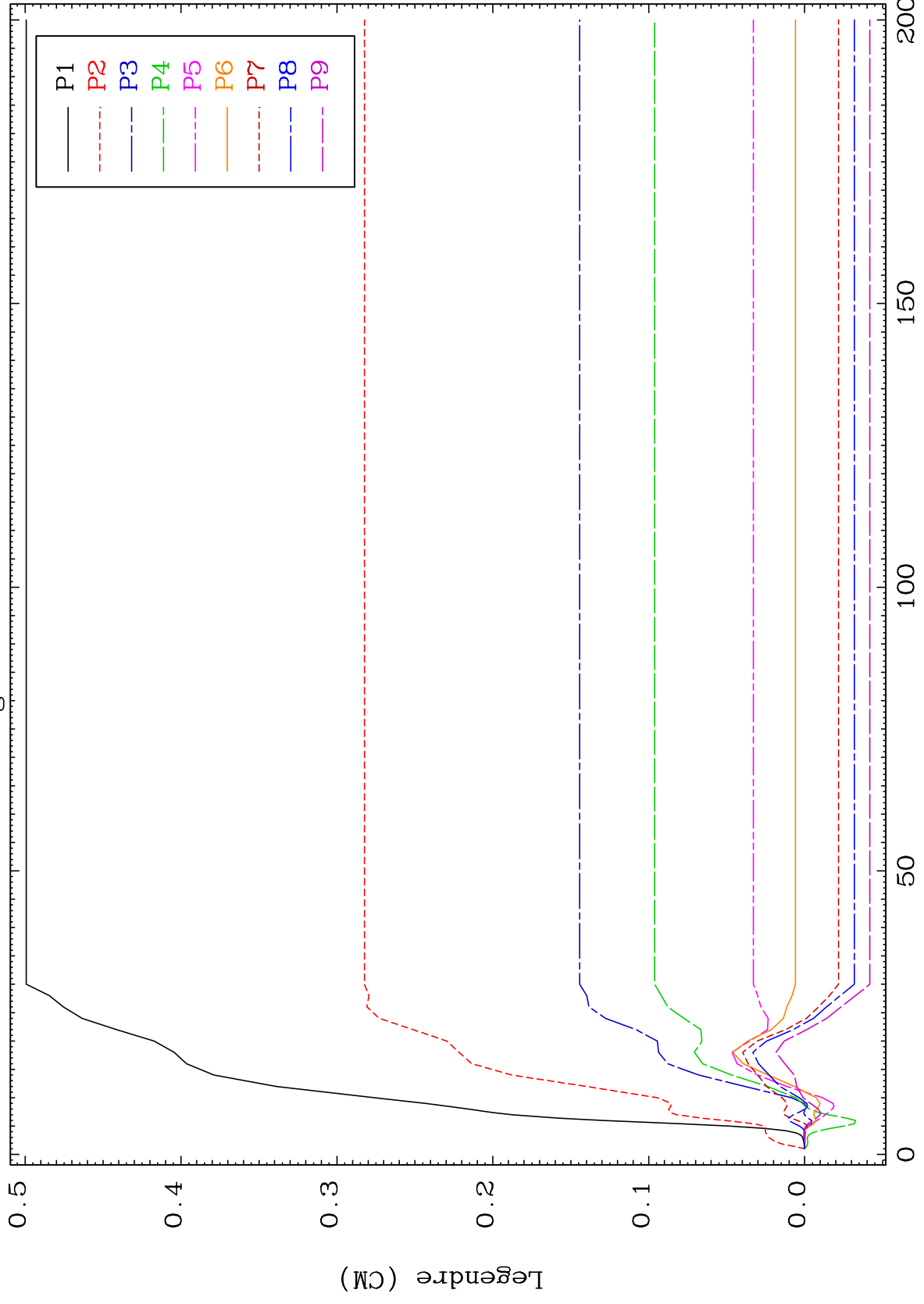


55

Incident Energy (MeV)

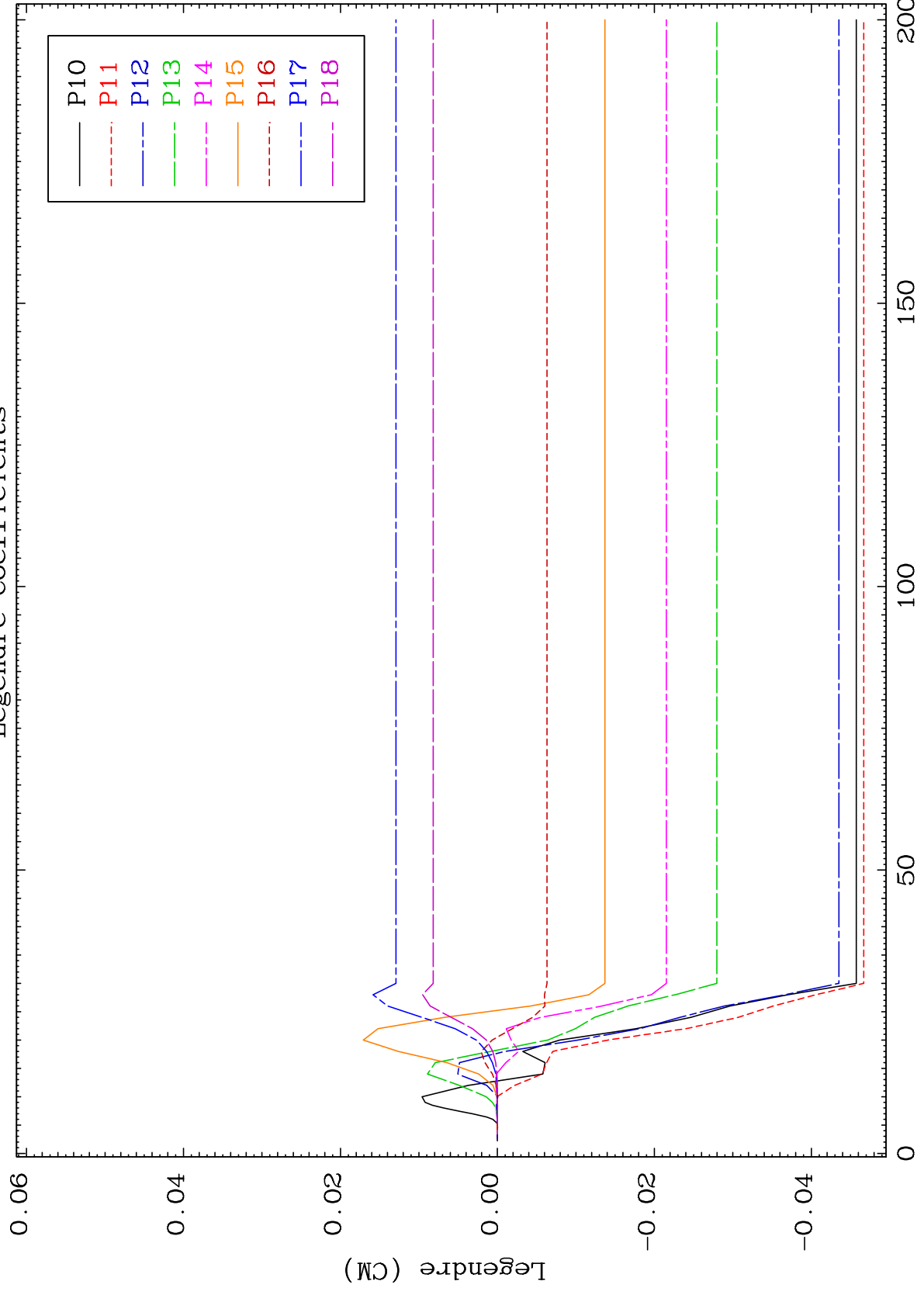
60-Nd-139

MAT 6016 MT= 60 (n,n') Level Legendre Coefficients 60-Nd-139



56 Incident Energy (MeV) 60-Nd-139

MAT 6016 MT= 60 (n,n') Level Legendre Coefficients 60-Nd-139

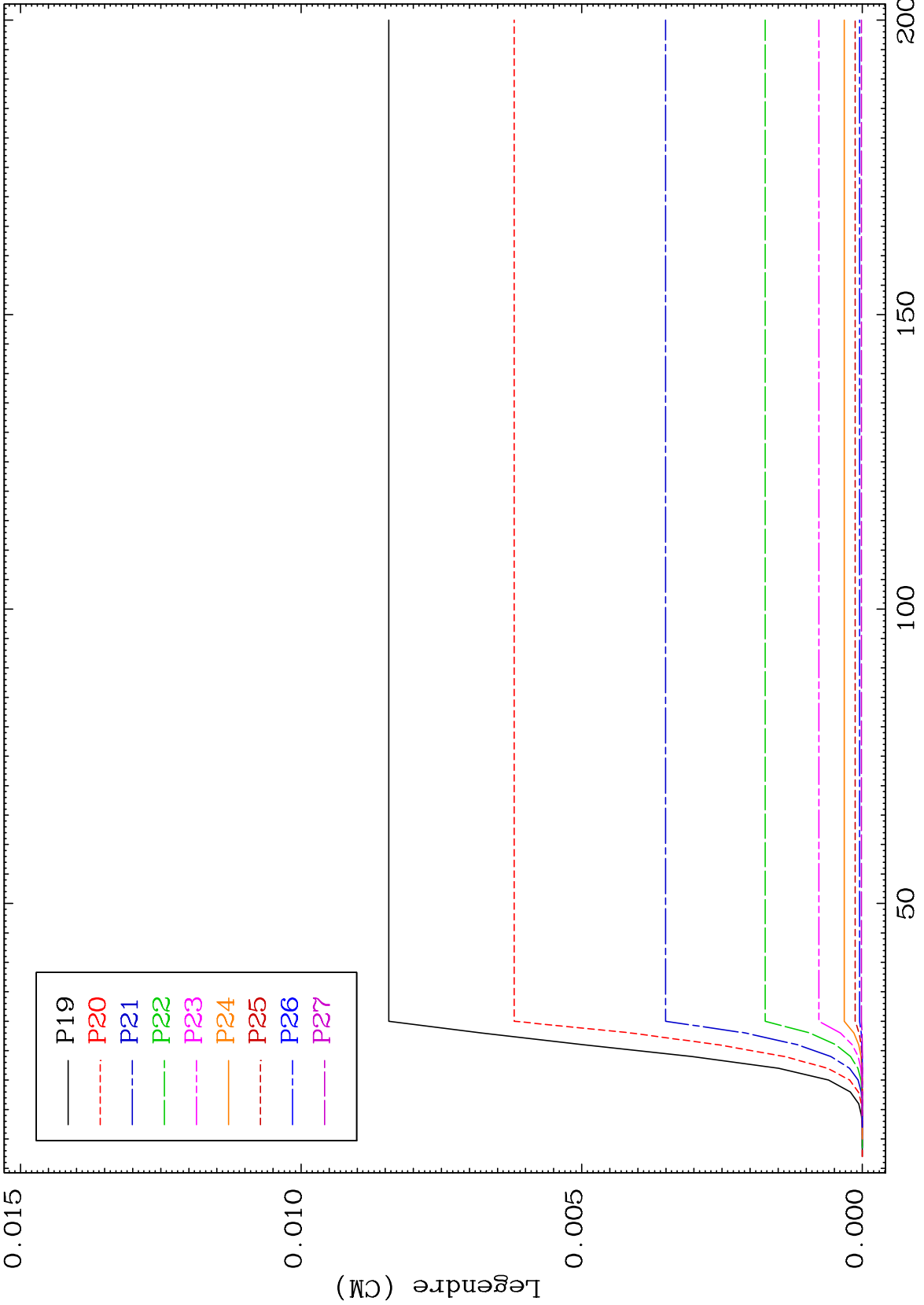


60-Nd-139

Incident Energy (MeV)

57

MAT 6016 MT= 60 (n,n') Level Legendre Coefficients 60-Nd-139



60-Nd-139

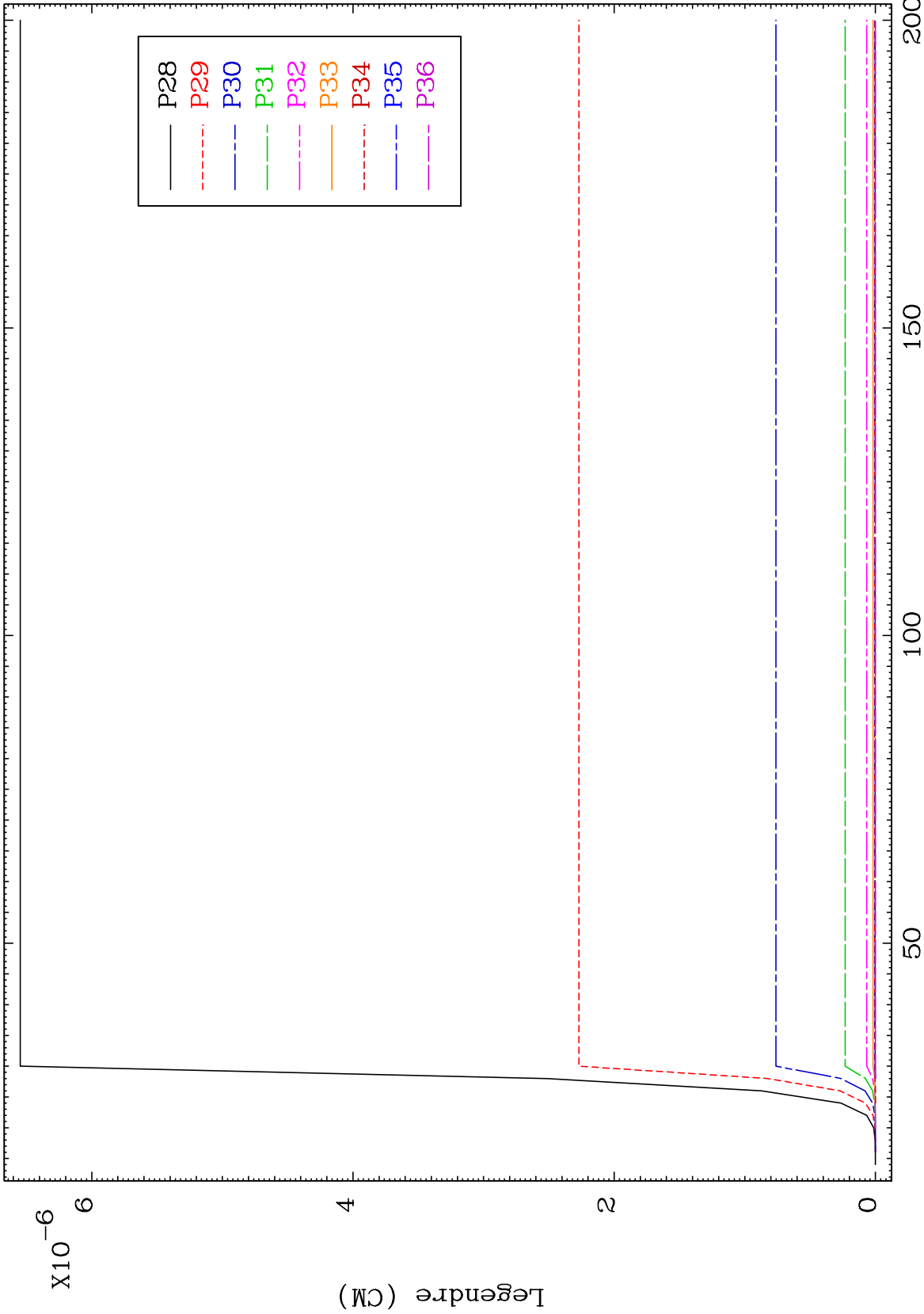
Incident Energy (MeV)

58

MAT 6016

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

60-Nd-139

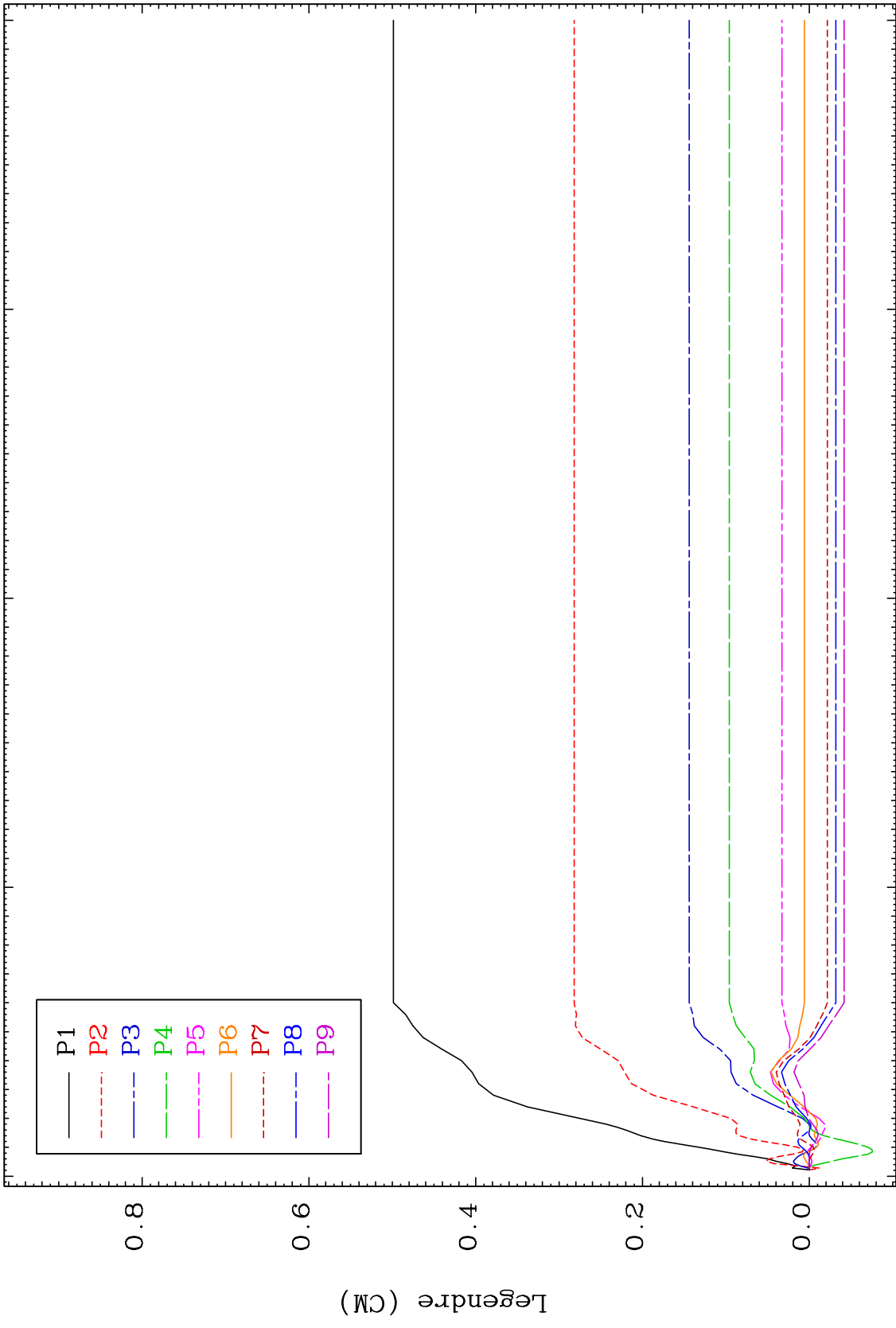


59

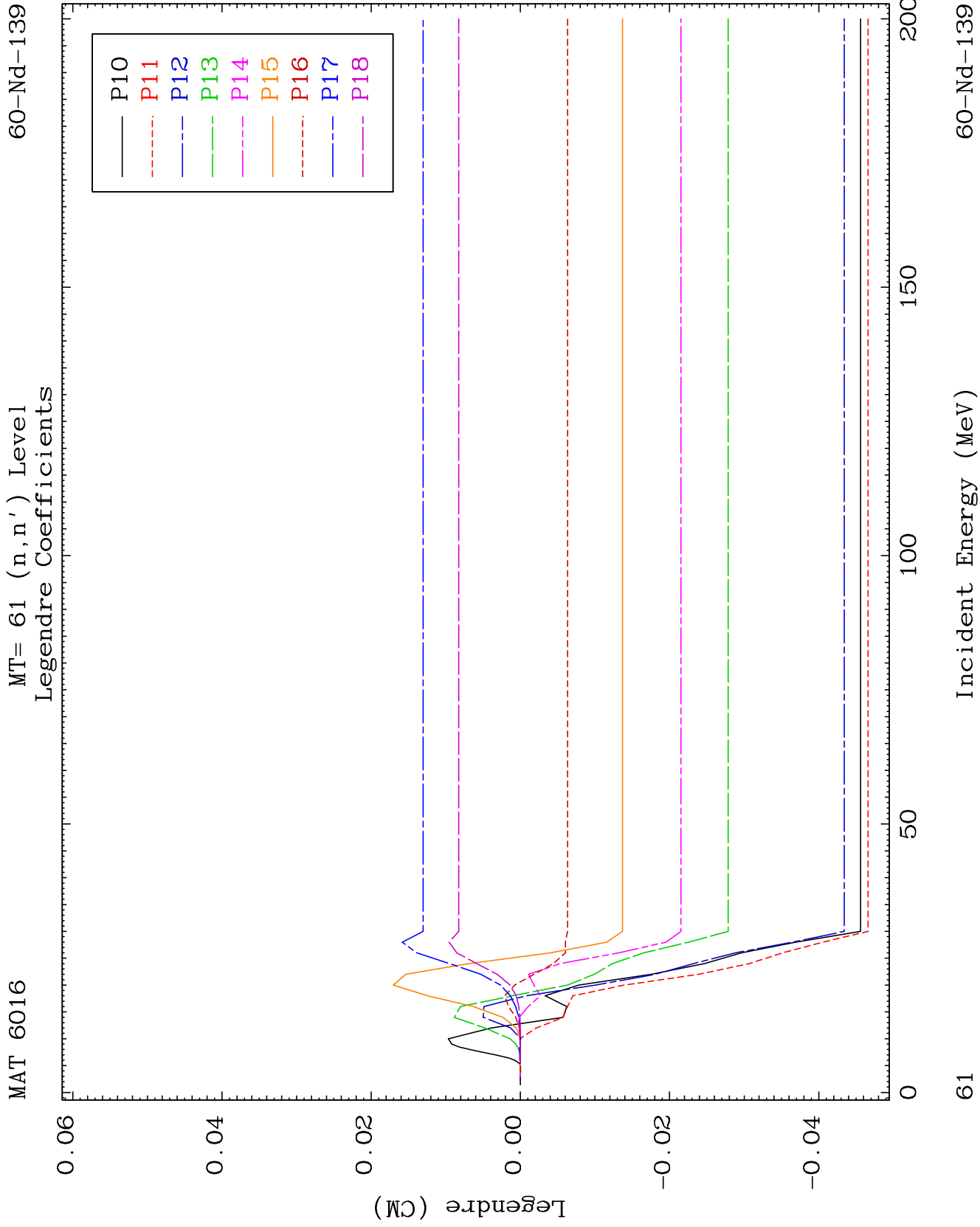
Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 61 (n,n') Level Legendre Coefficients 60-Nd-139



60-Nd-139 Incident Energy (MeV)



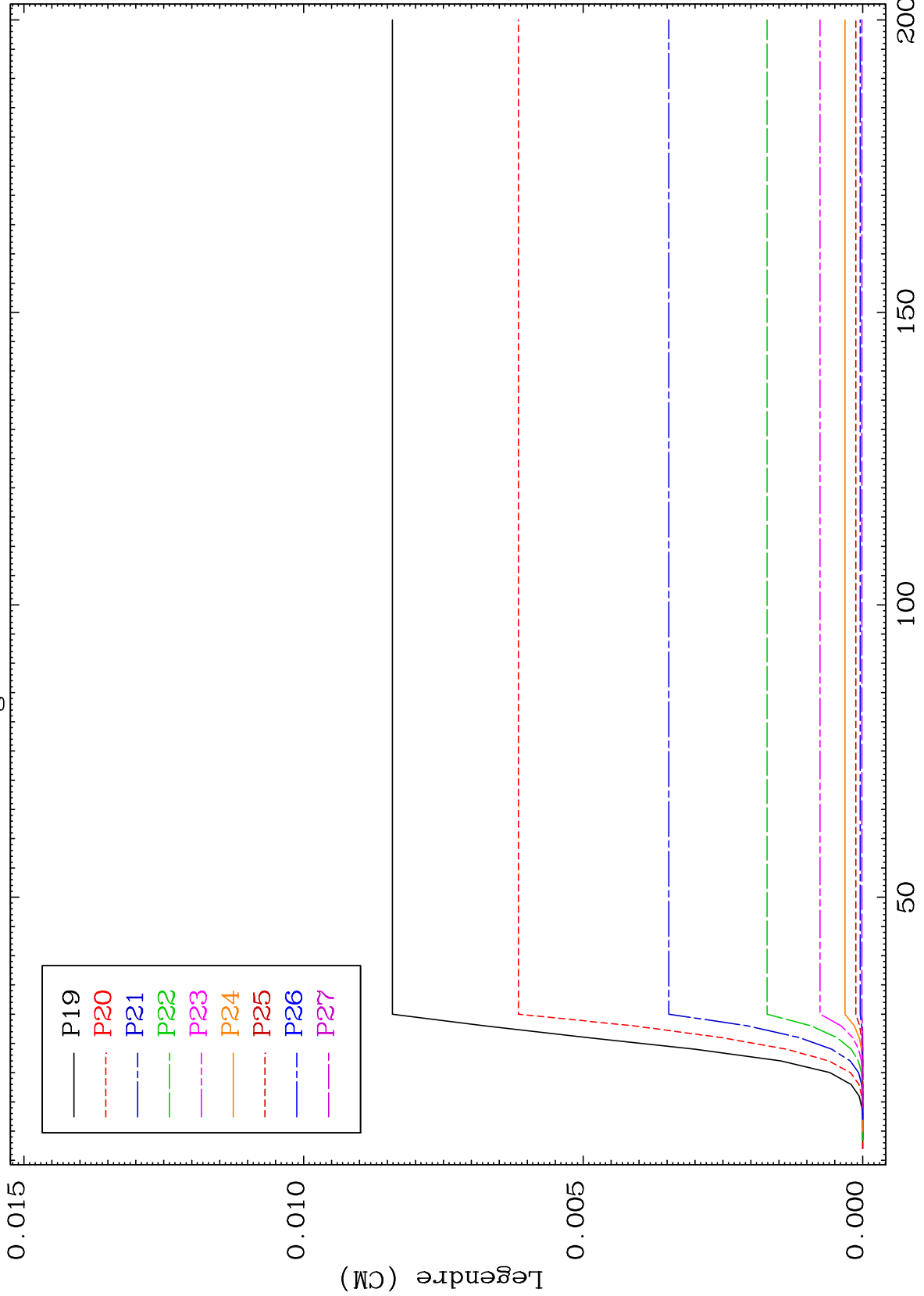
MAT 6016 MT= 61 (n,n') Level Legendre Coefficients

60-Nd-139

60-Nd-139

Incident Energy (MeV)

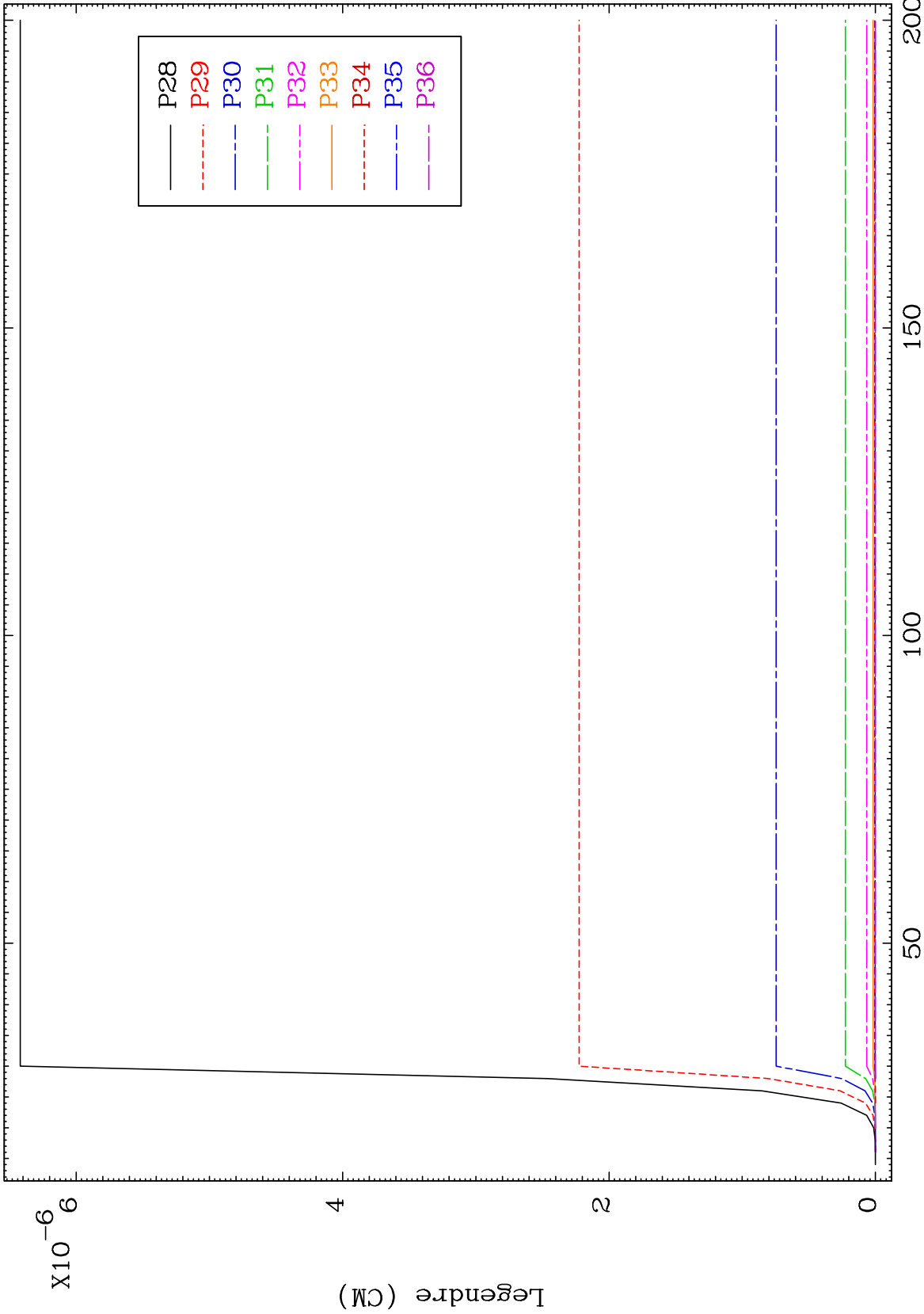
62



MAT 6016

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

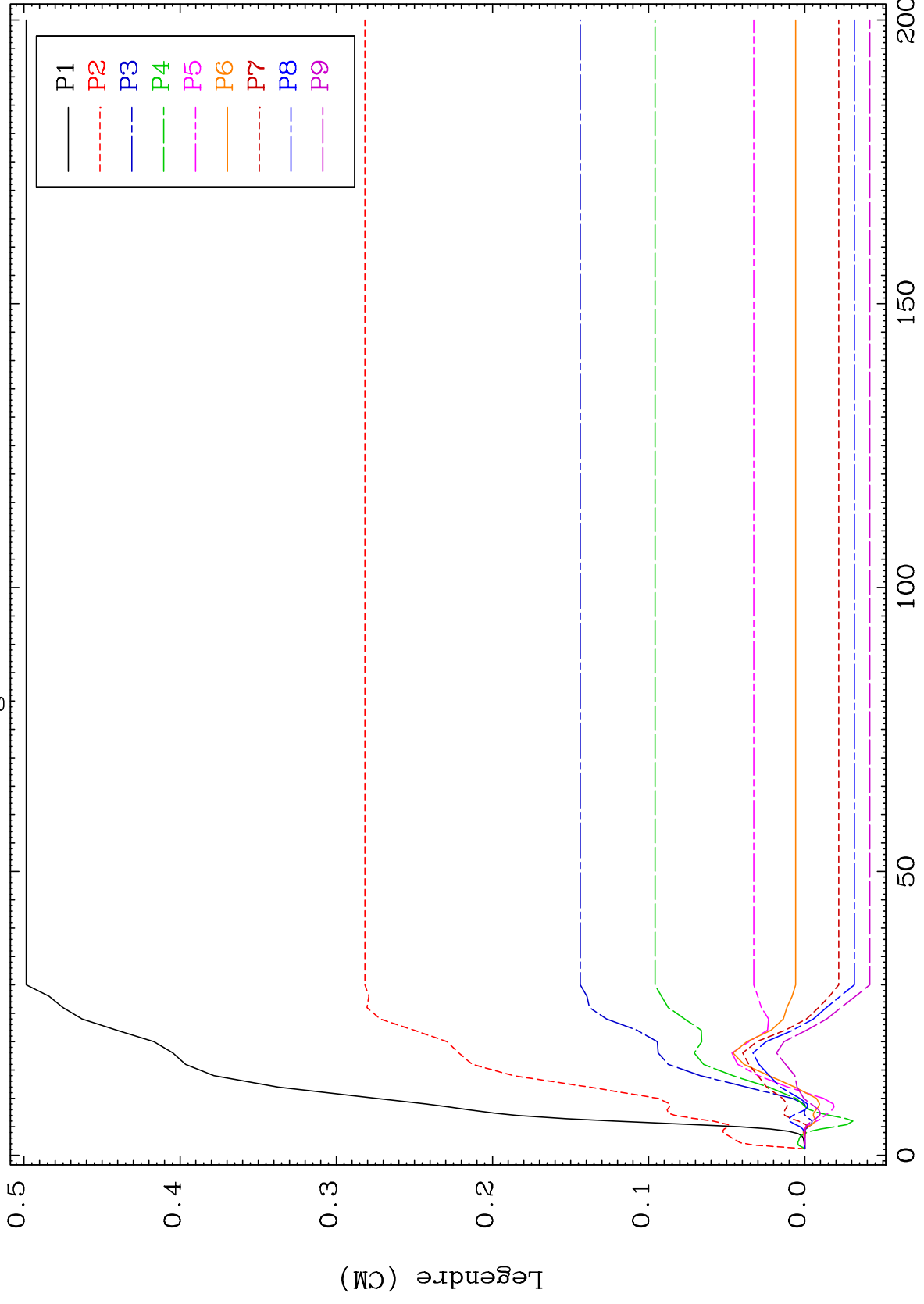
60-Nd-139



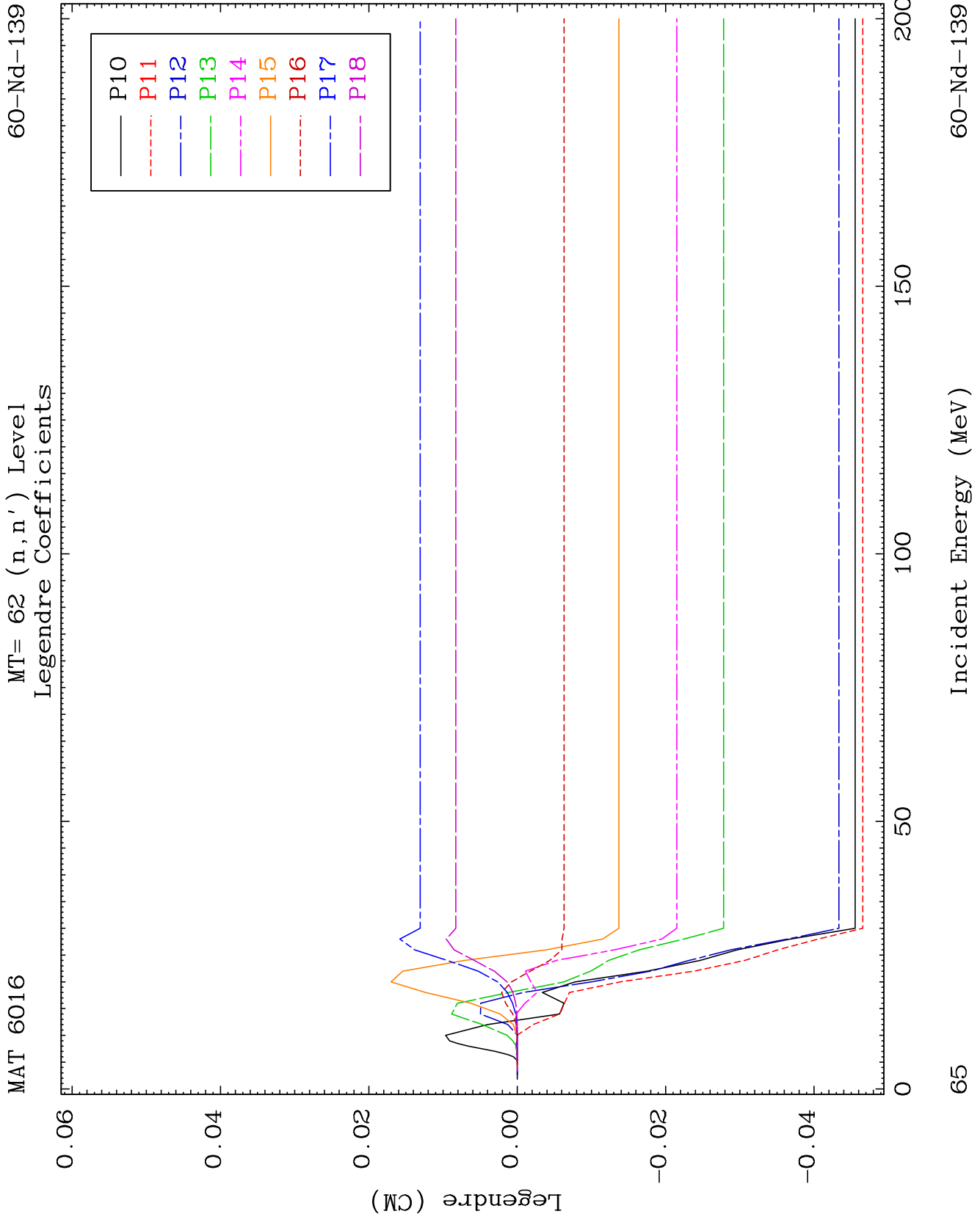
63

60-Nd-139

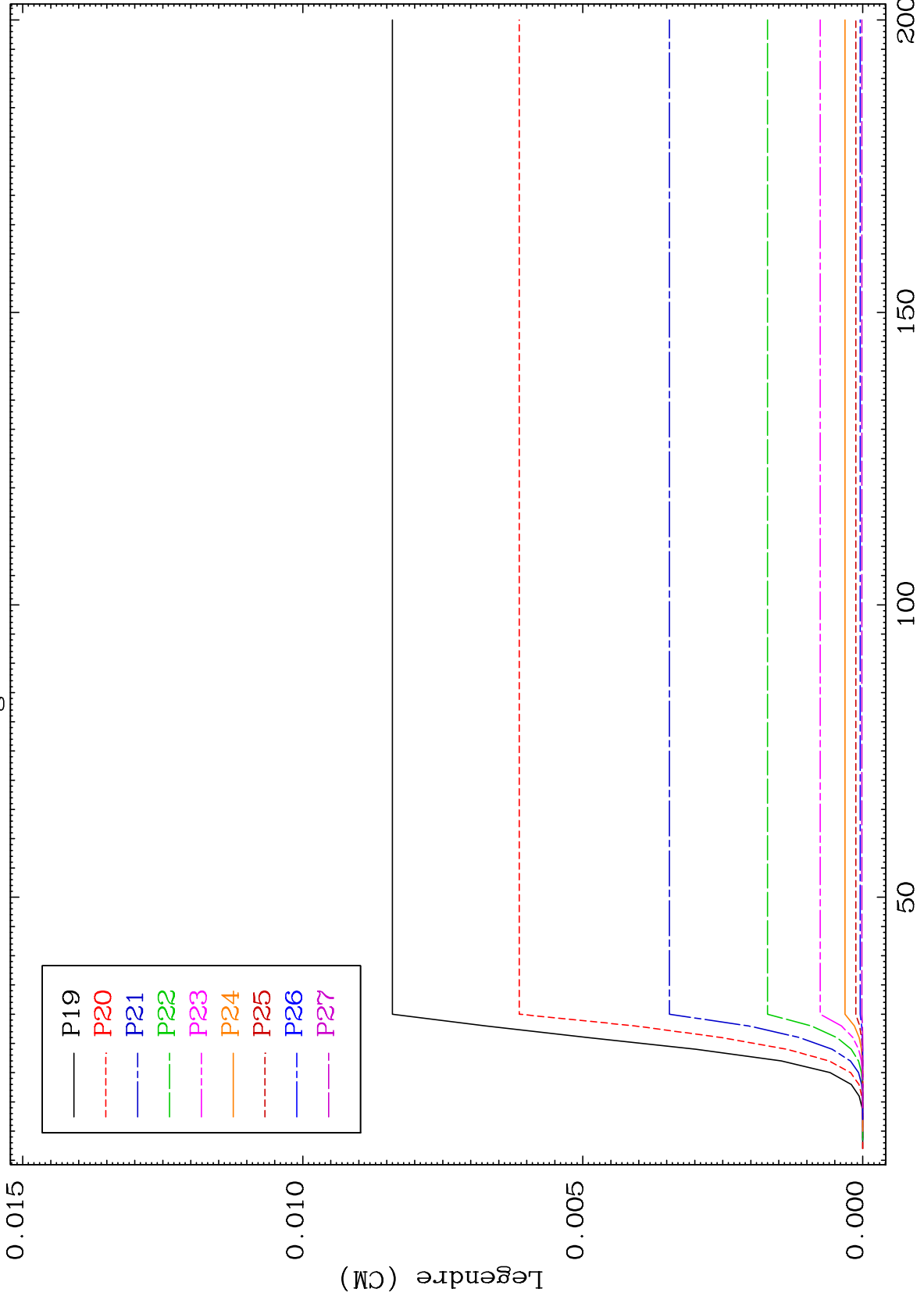
MAT 6016 MT= 62 (n,n') Level Legendre Coefficients 60-Nd-139



64 60-Nd-139



MAT 6016 MT= 62 (n,n') Level Legendre Coefficients 60-Nd-139

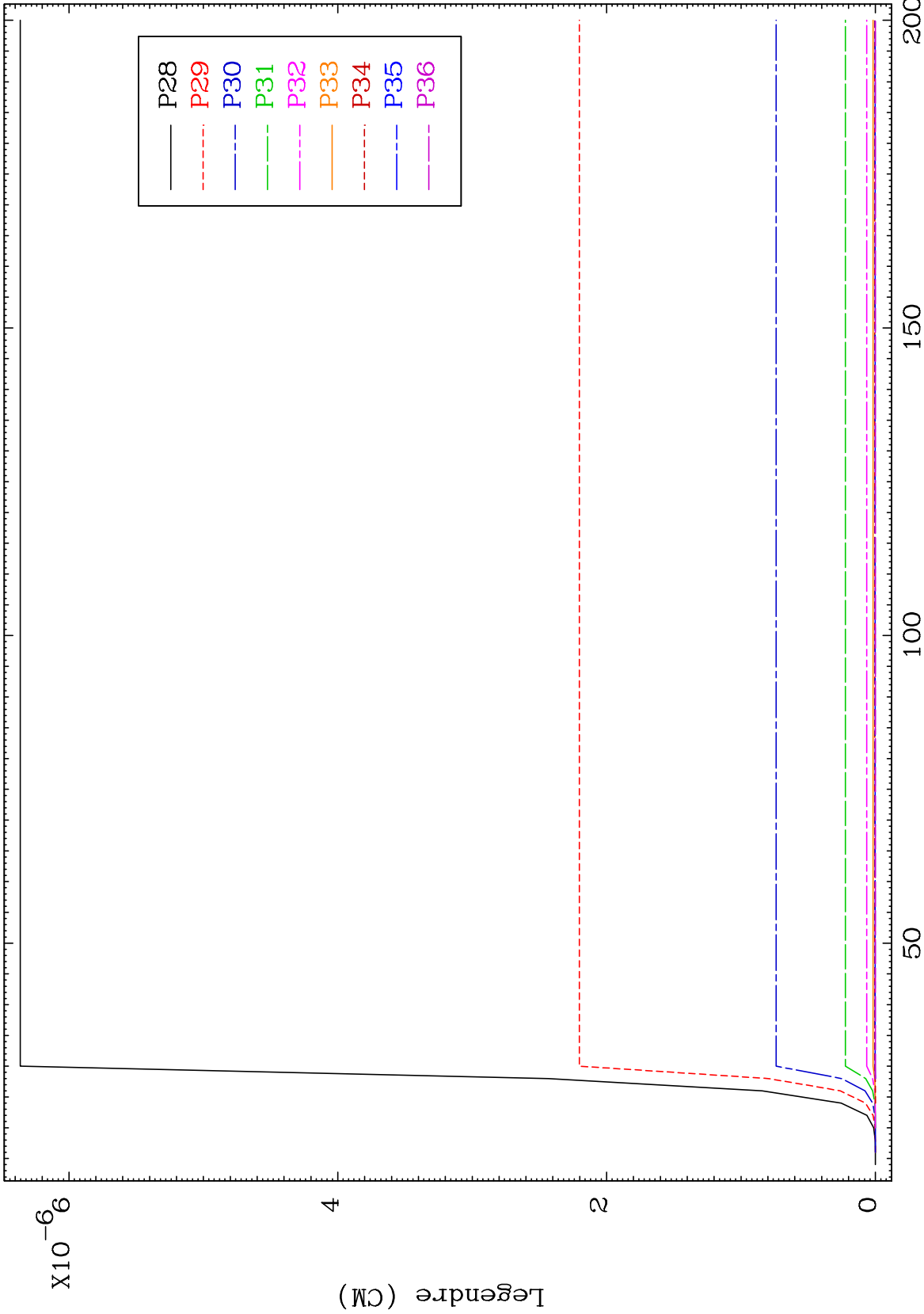


66 60-Nd-139

MAT 6016

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

60-Nd-139



67

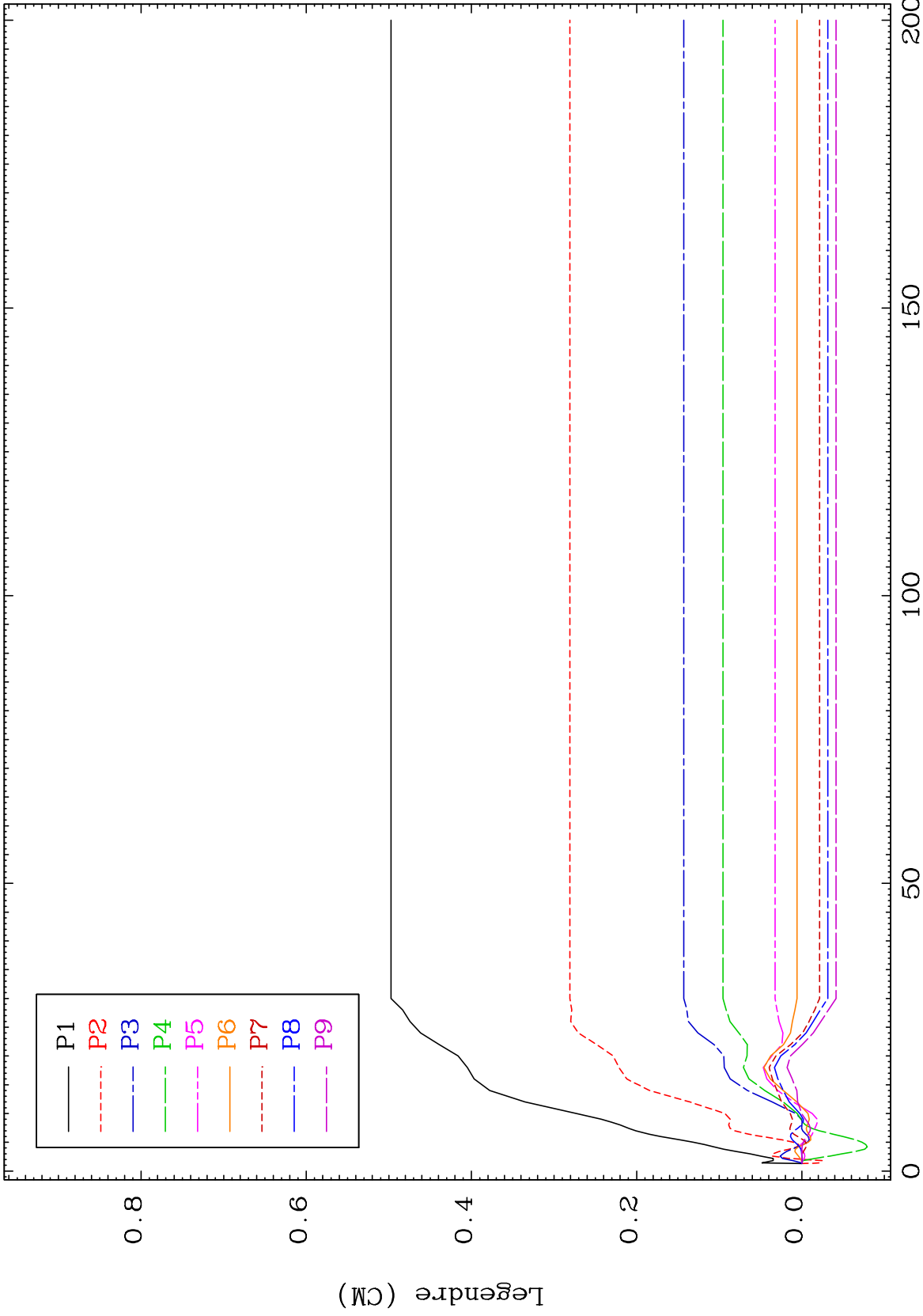
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



68

Incident Energy (MeV)

60-Nd-139

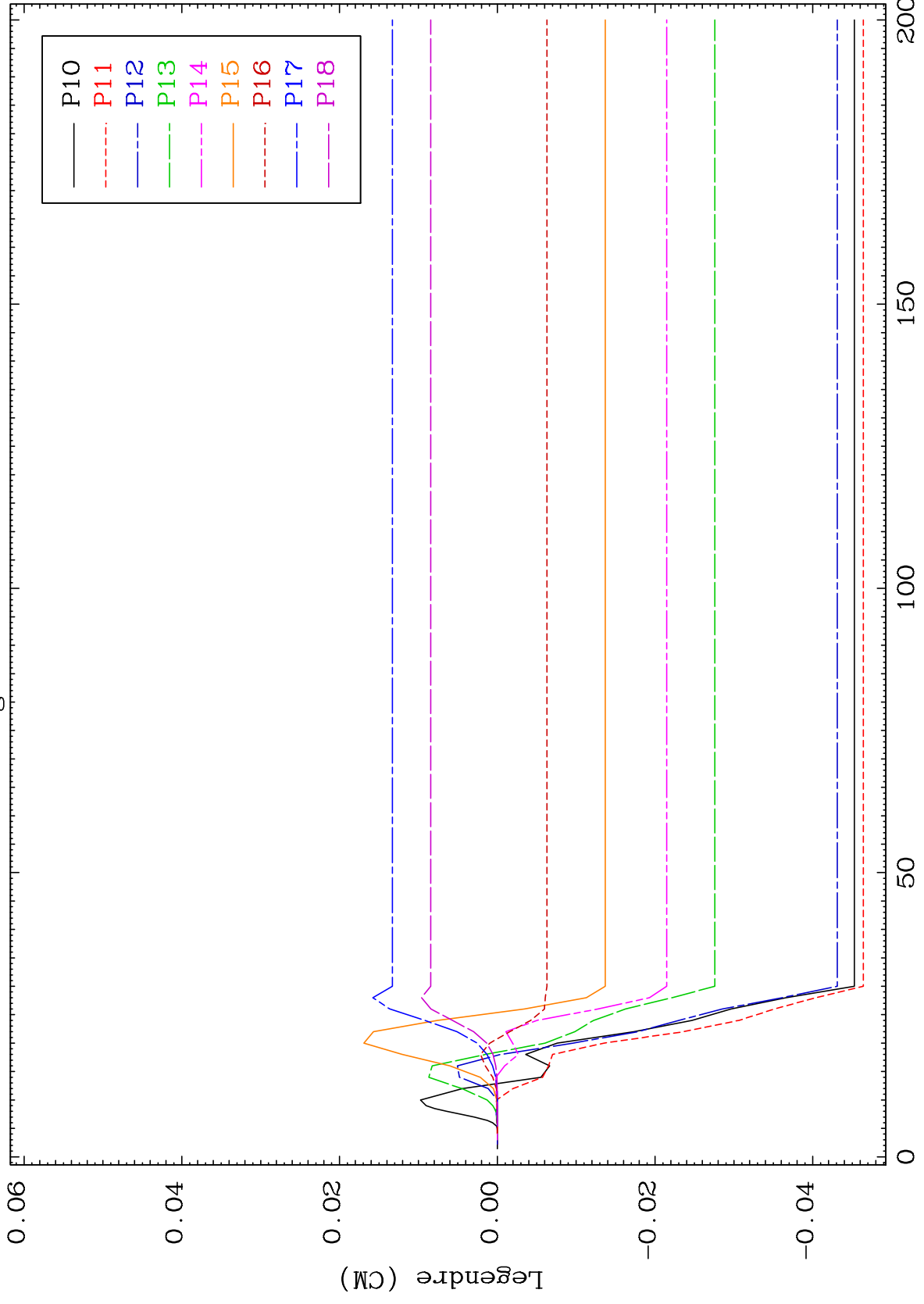
MAT 6016 MT= 63 (n,n') Level Legendre Coefficients

60-Nd-139

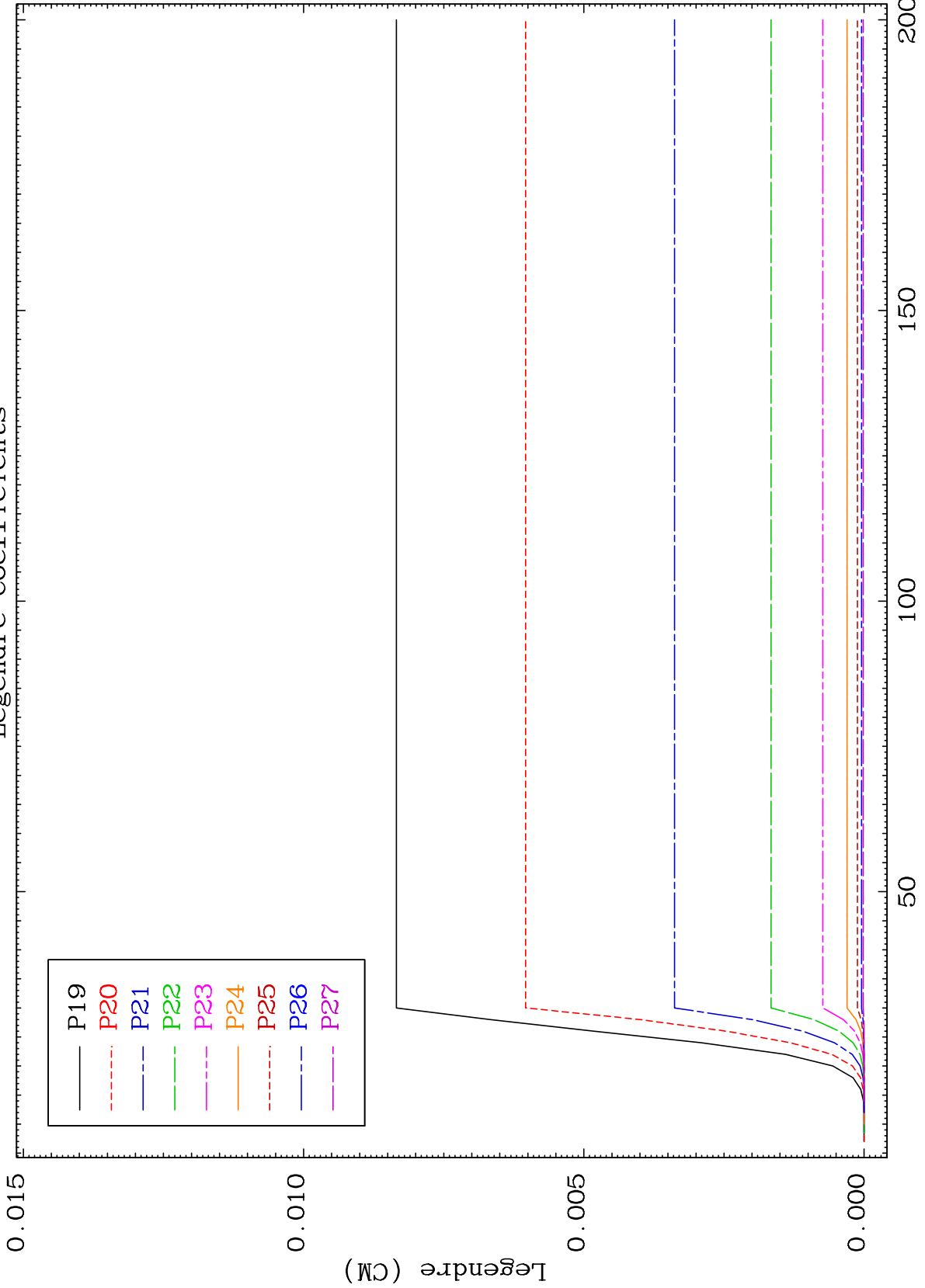
60-Nd-139

Incident Energy (MeV)

69



MAT 6016 MT= 63 (n,n') Level Legendre Coefficients 60-Nd-139

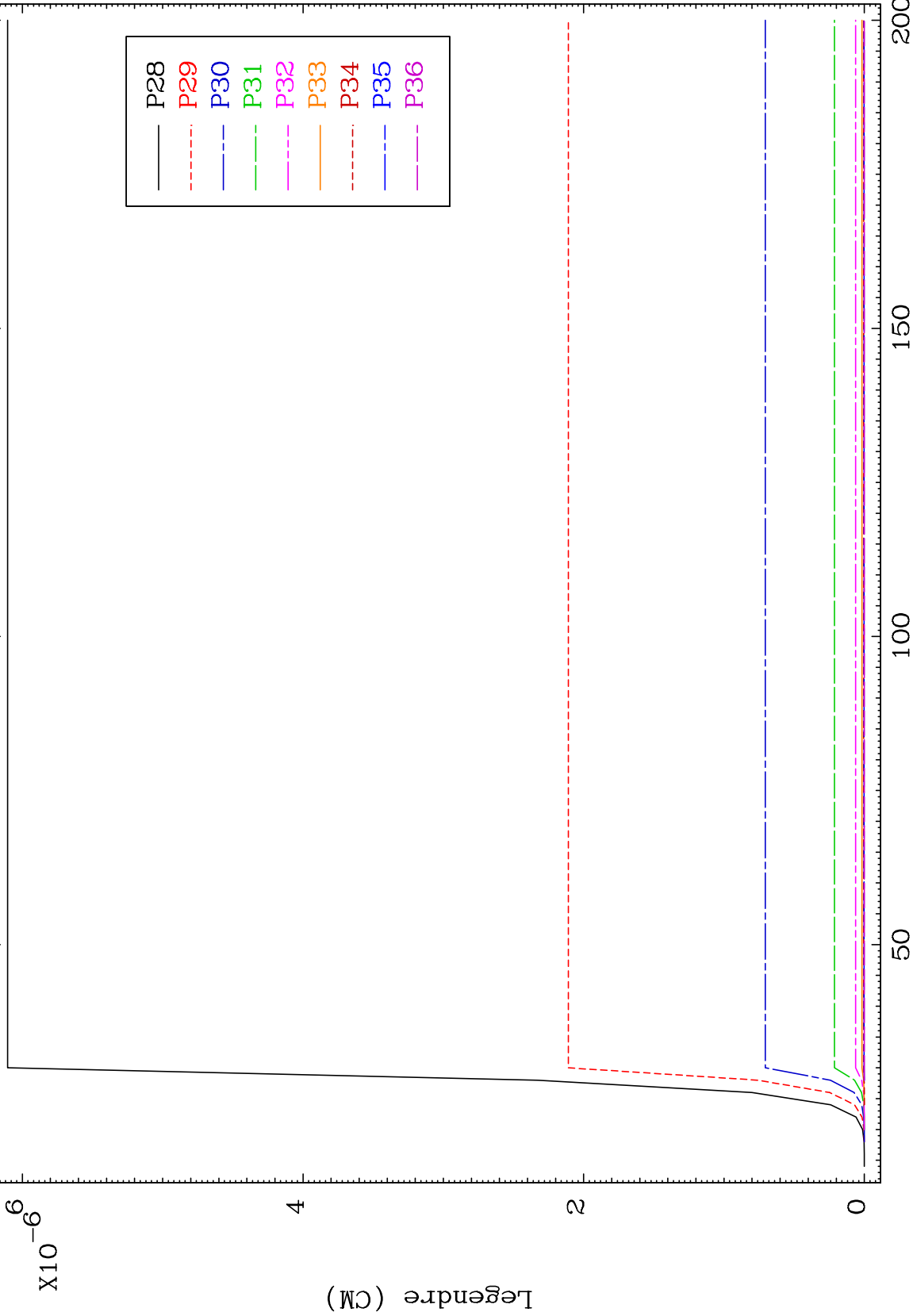


Legendre (CM) Incident Energy (MeV) 60-Nd-139

MAT 6016

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

60-Nd-139

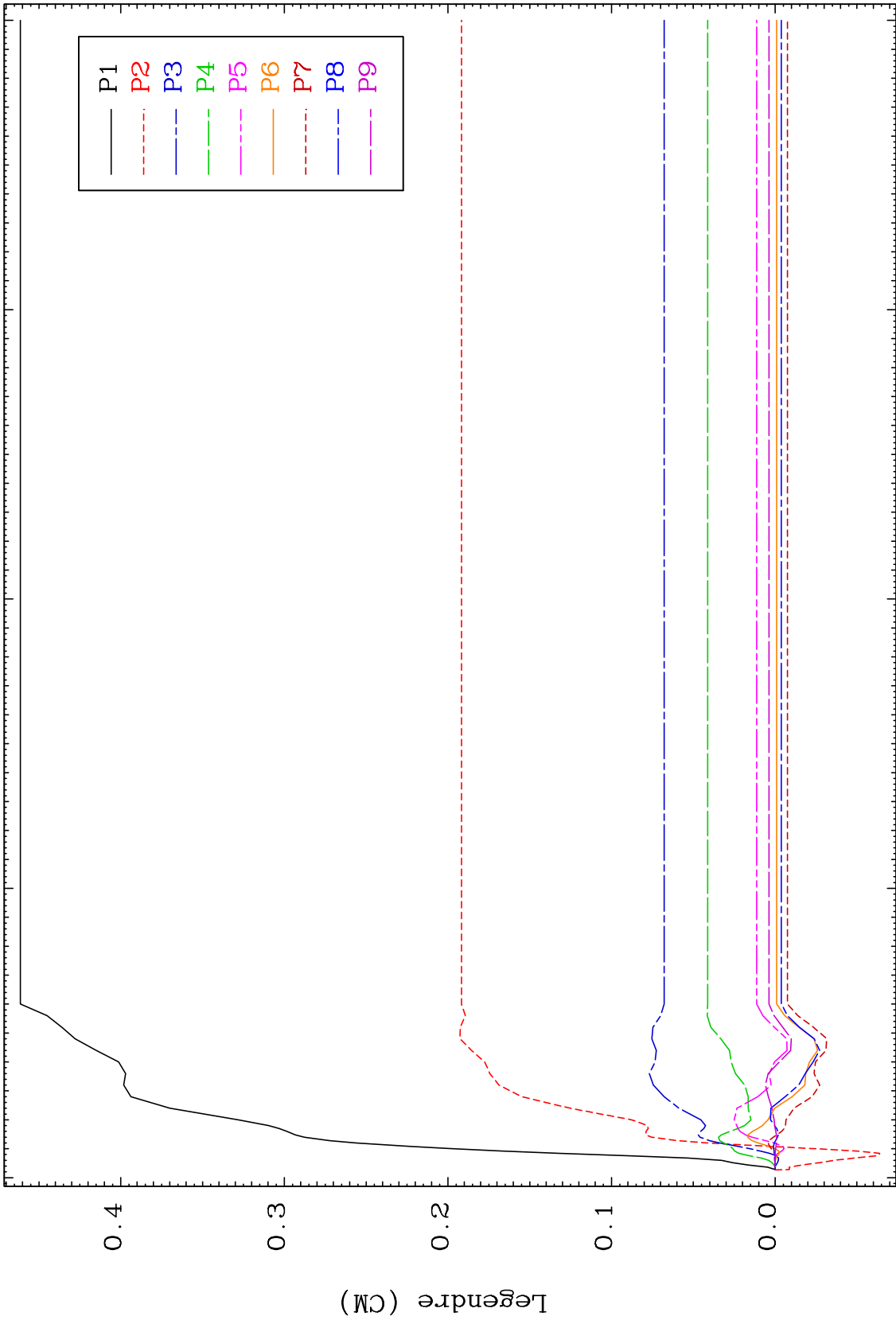


71

Incident Energy (MeV)

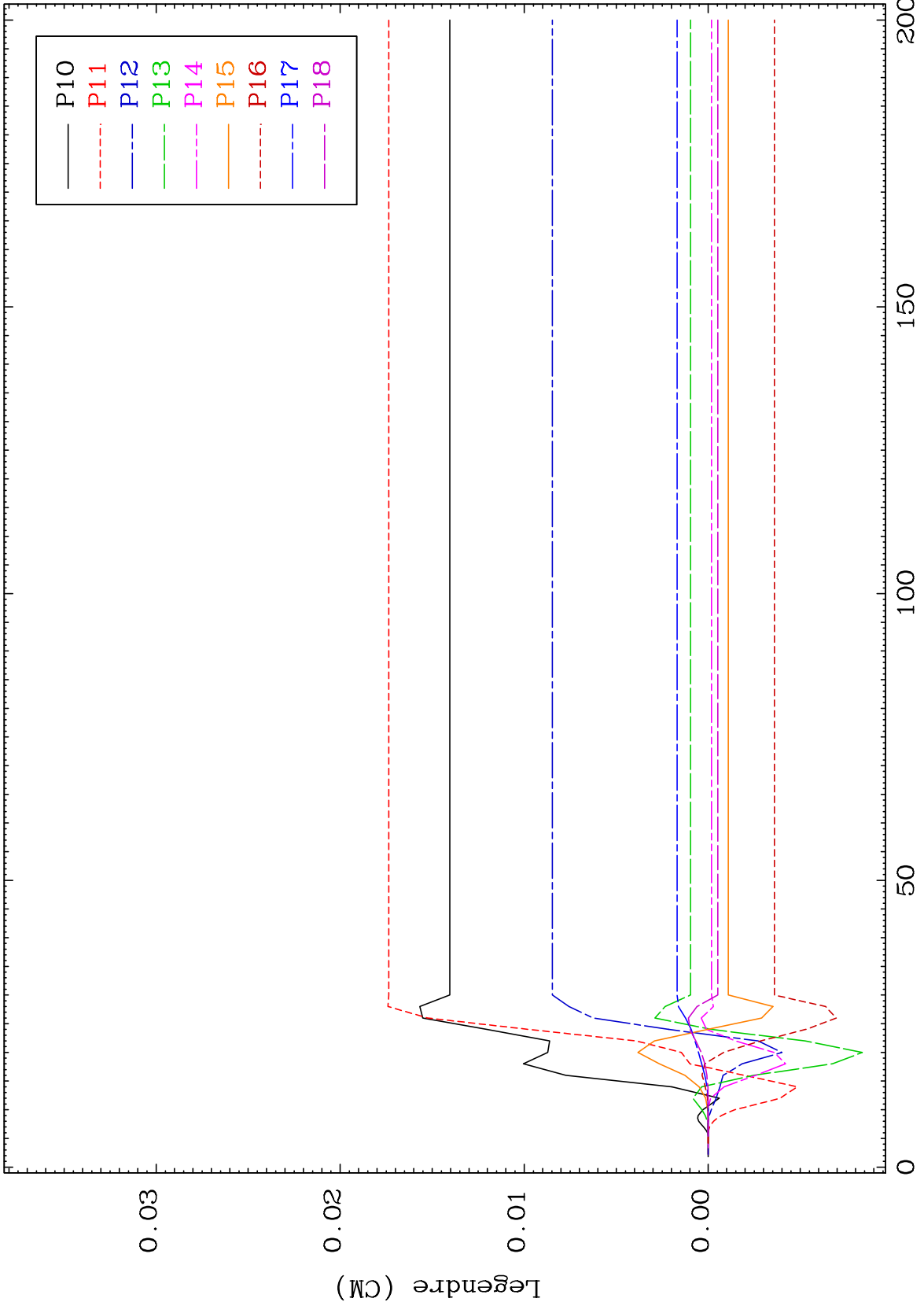
60-Nd-139

MAT 6016 MT= 64 (n,n') Level Legendre Coefficients 60-Nd-139



72 Incident Energy (MeV) 60-Nd-139

MAT 6016 MT= 64 (n,n') Level Legendre Coefficients 60-Nd-139

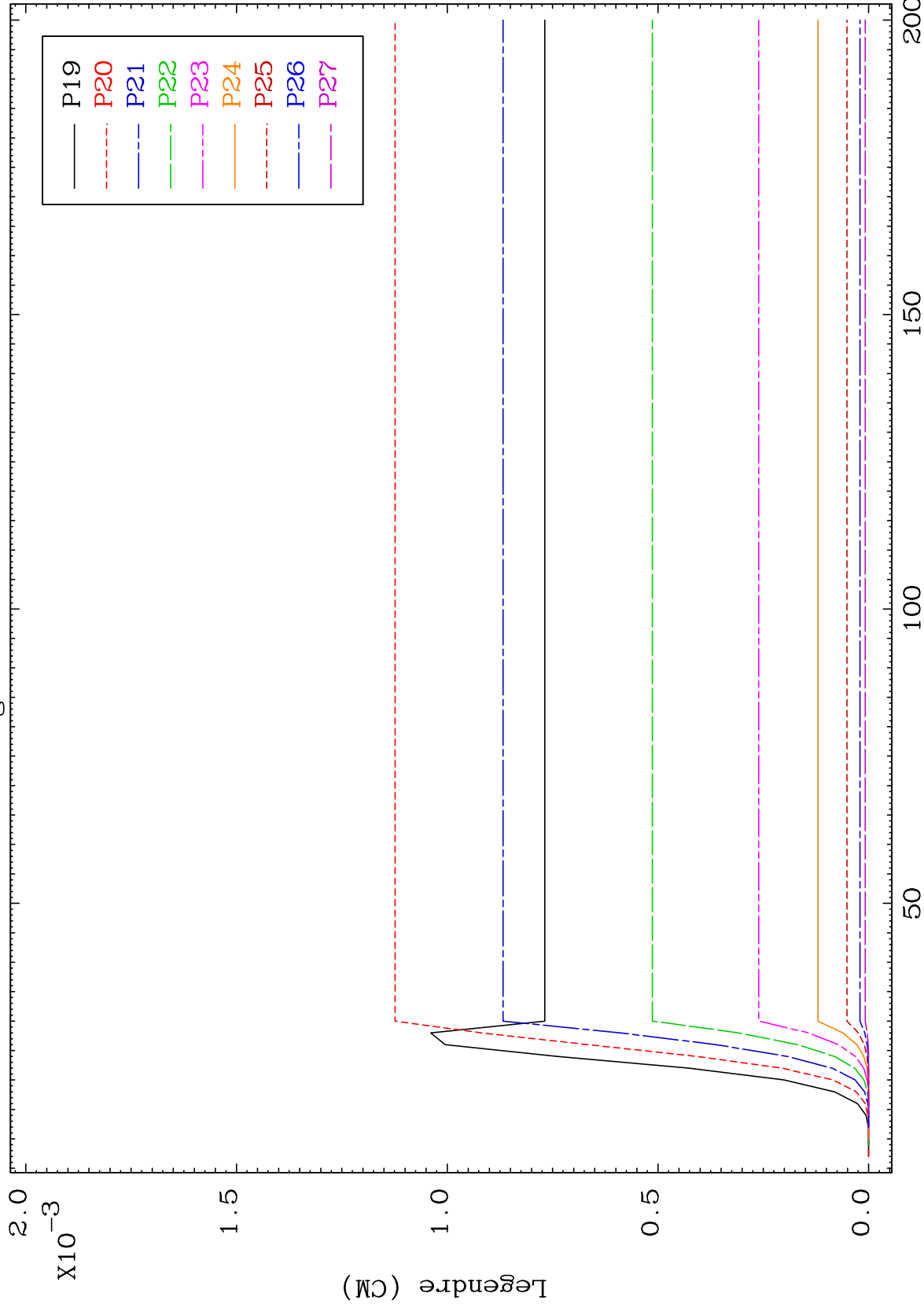


73 60-Nd-139

MAT 6016

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

60-Nd-139



74

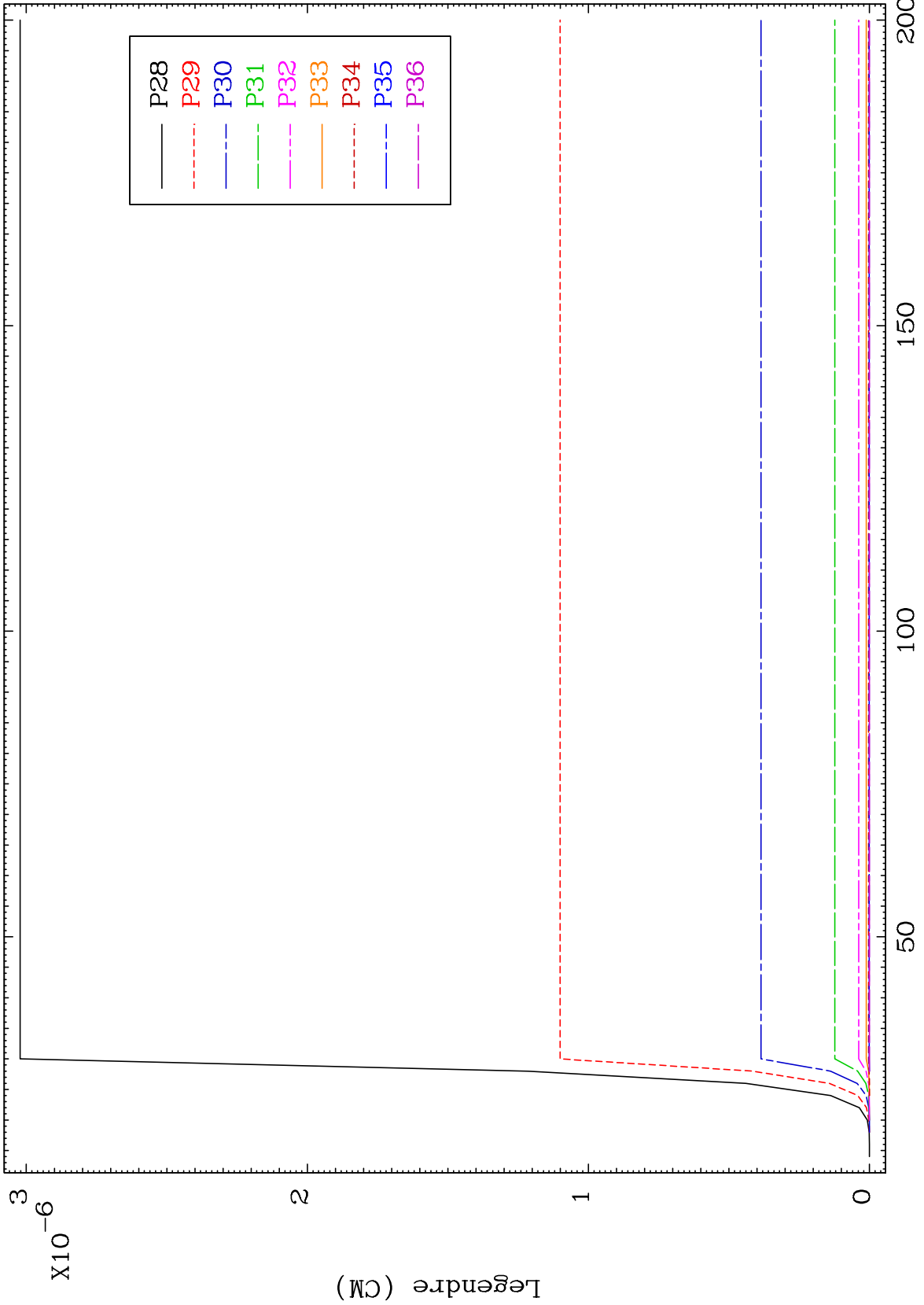
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

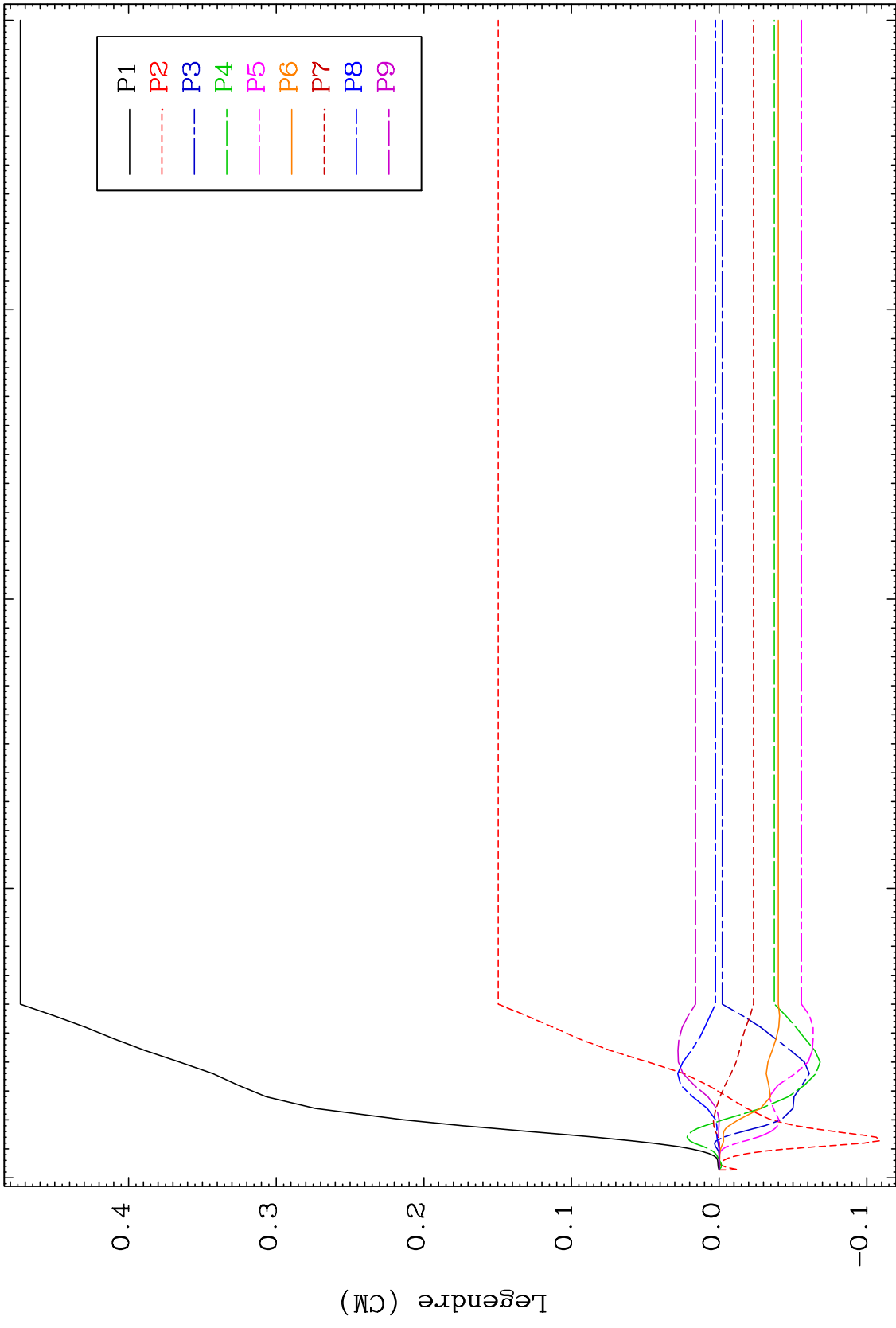


75

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 65 (n,n') Level Legendre Coefficients 60-Nd-139

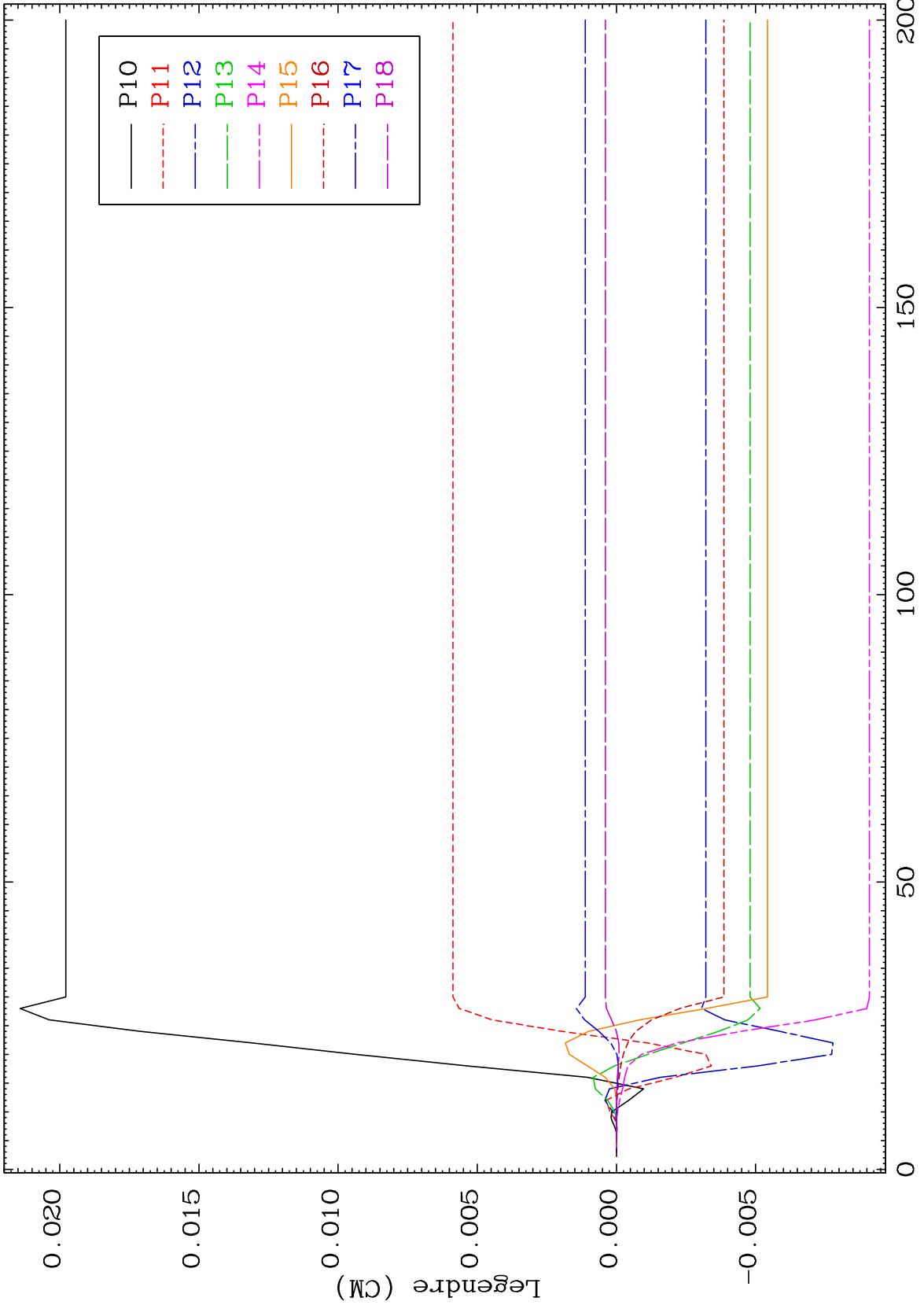


76 Incident Energy (MeV) 60-Nd-139

MAT 6016

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

60-Nd-139



77

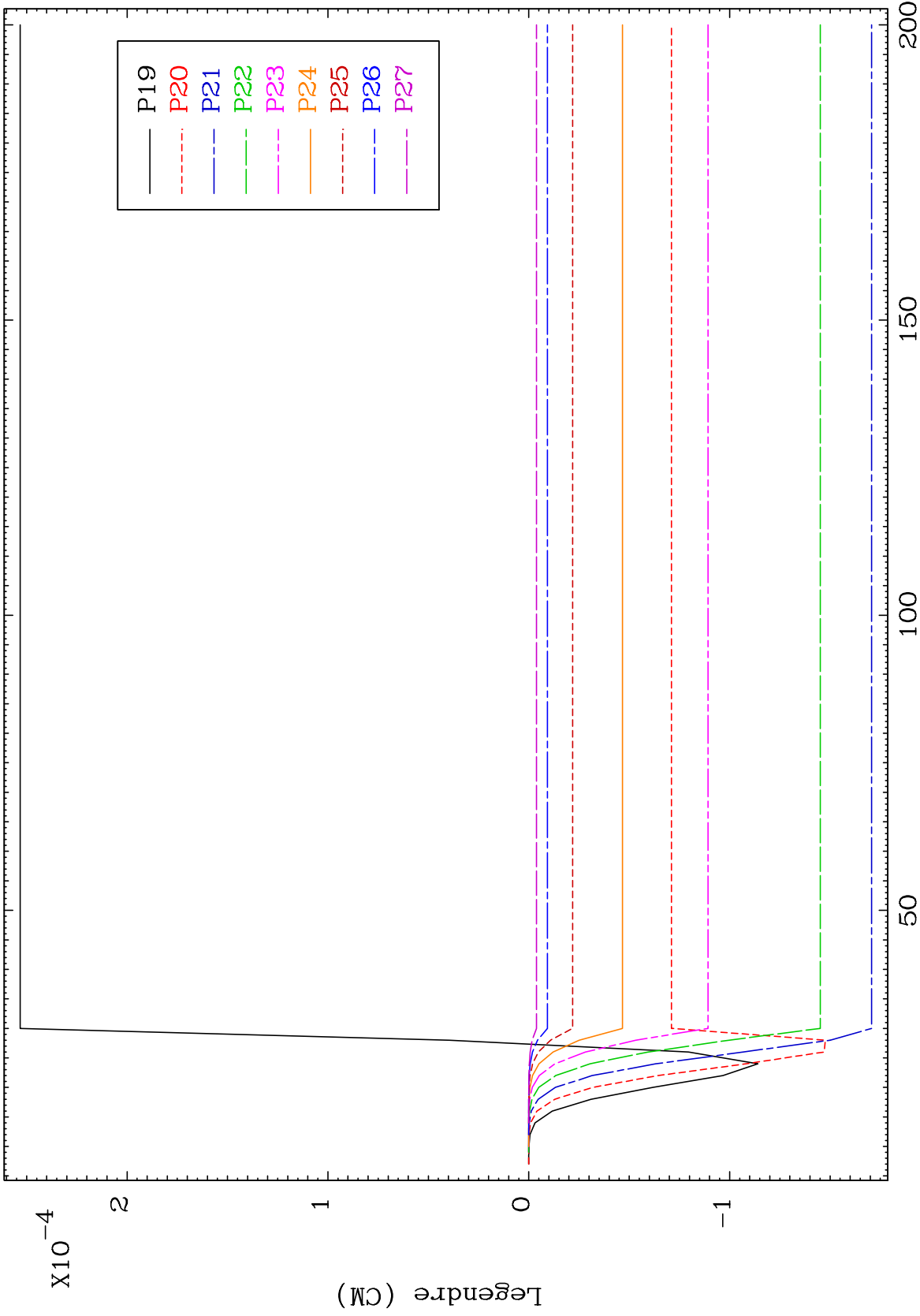
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



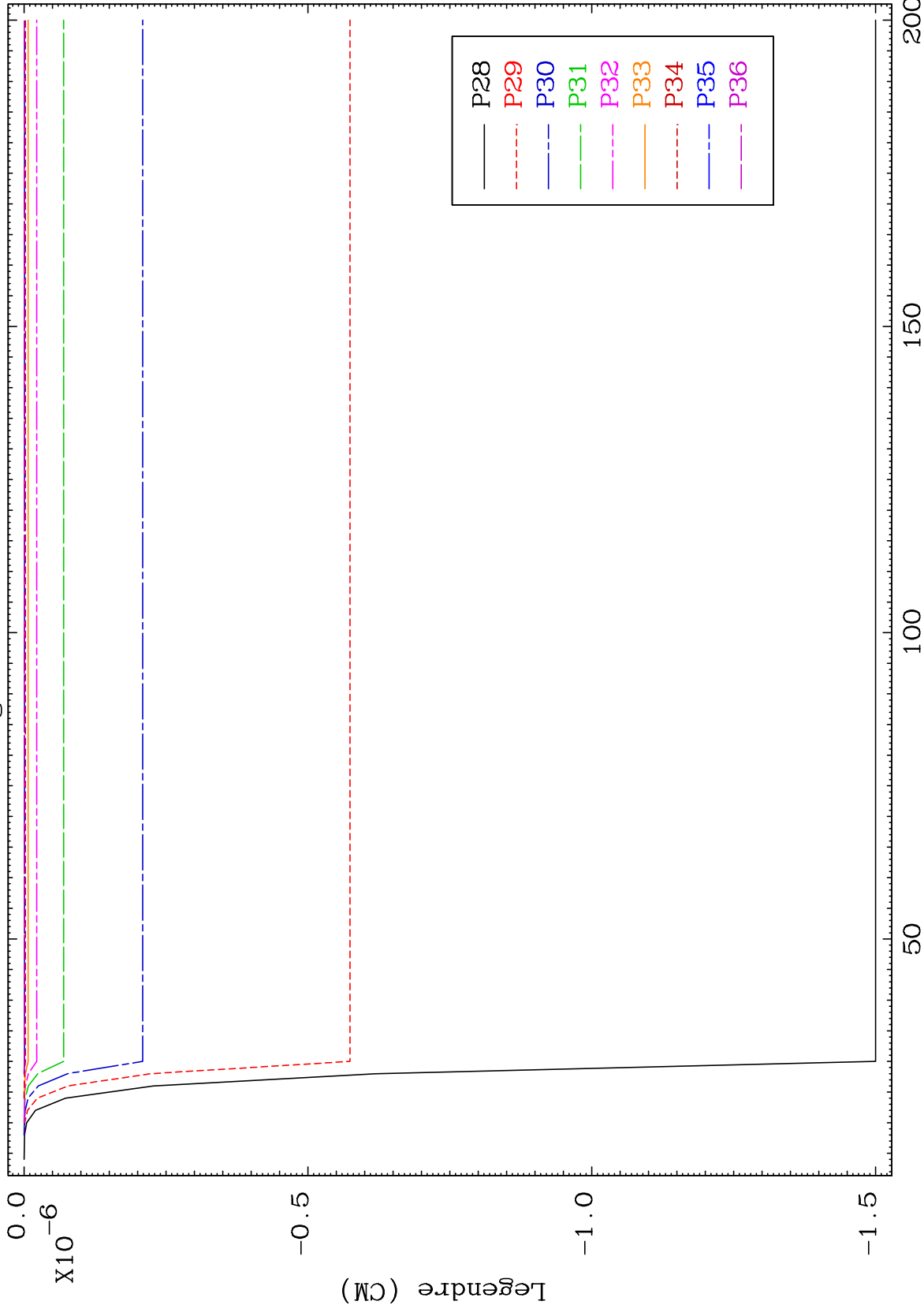
78

60-Nd-139

MAT 6016

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

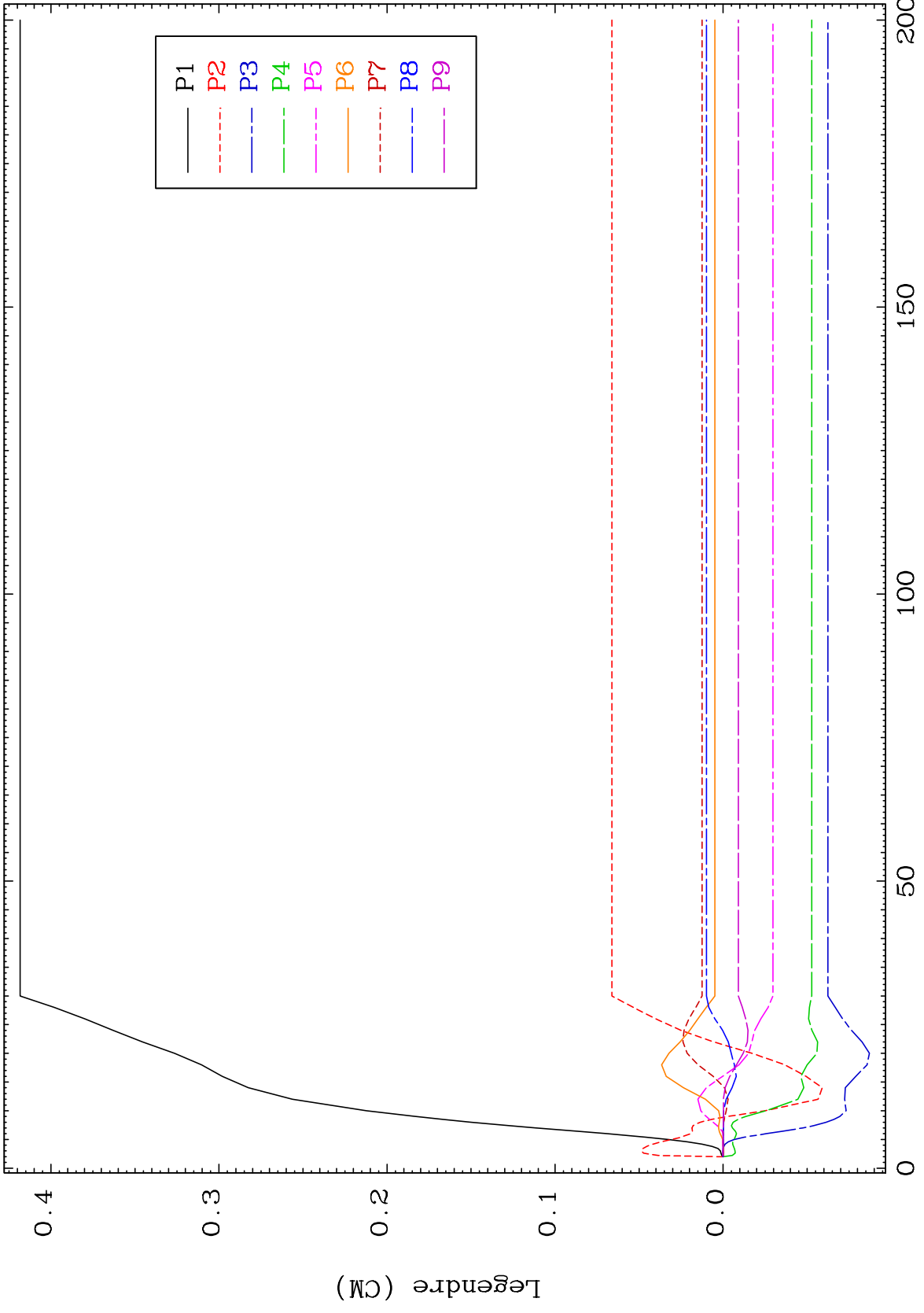
60-Nd-139



79

60-Nd-139

MAT 6016 MT= 66 (n,n') Level Legendre Coefficients 60-Nd-139

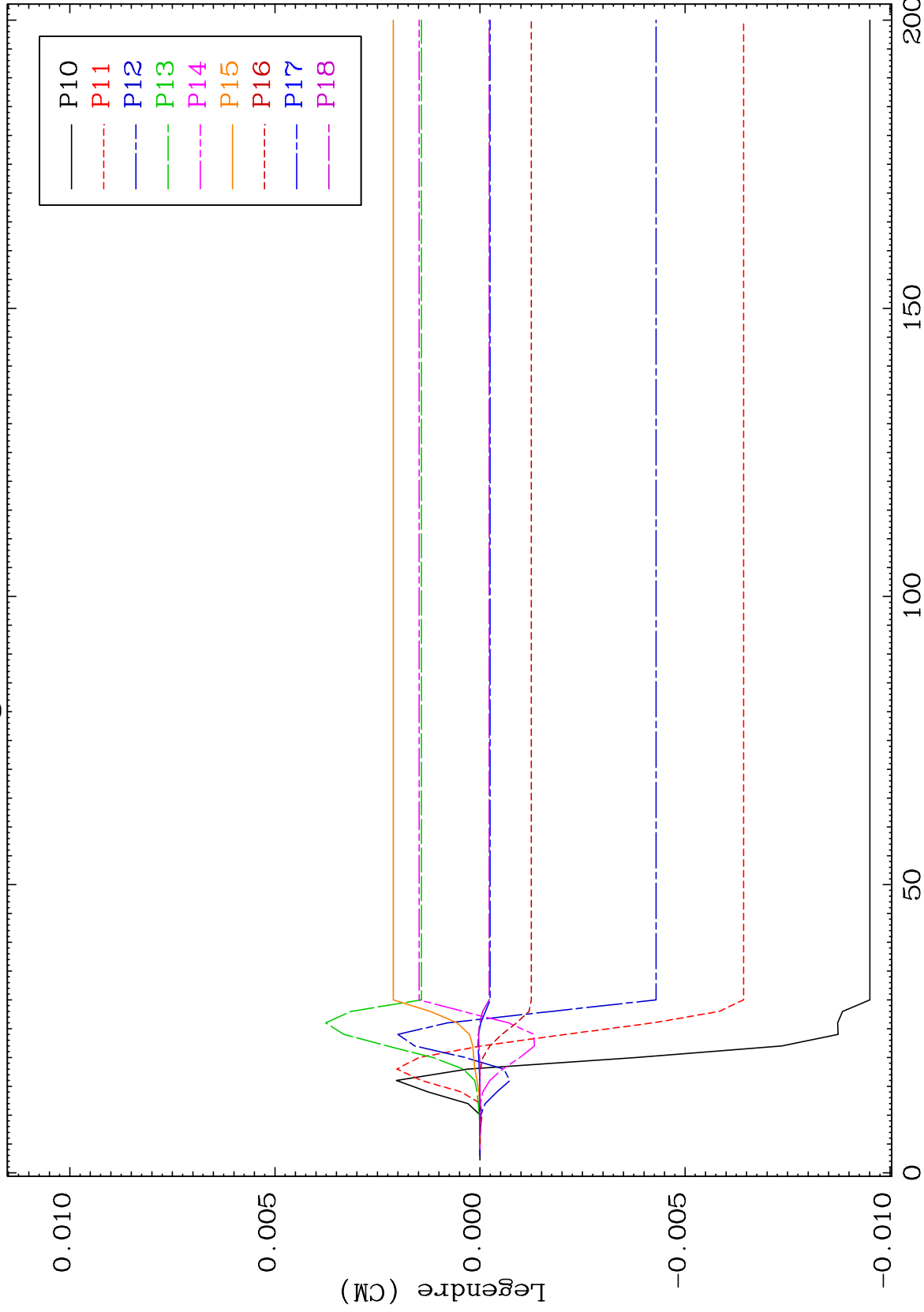


Legendre (CM) Incident Energy (MeV) 60-Nd-139

MAT 6016

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

60-Nd-139



81

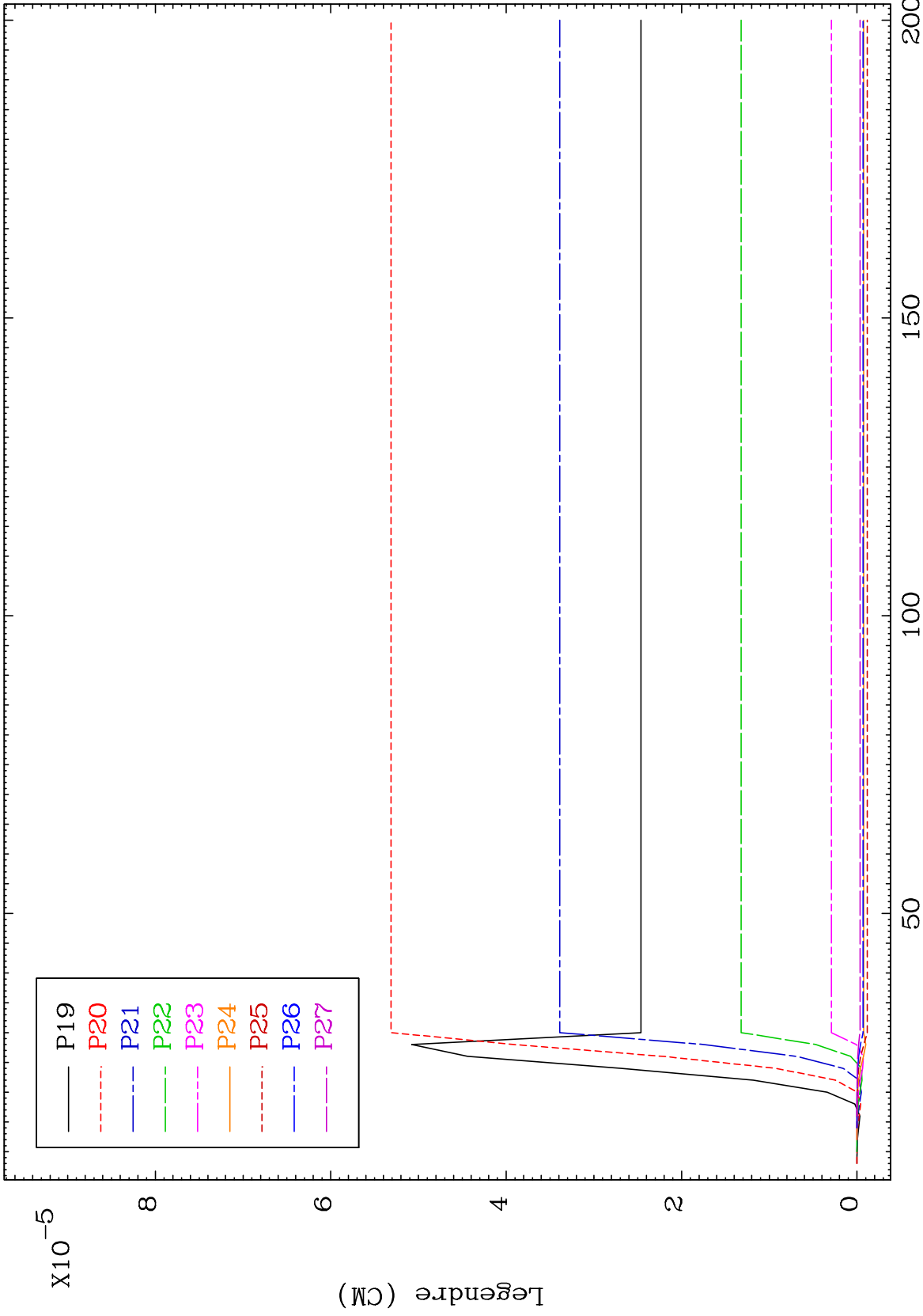
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



82

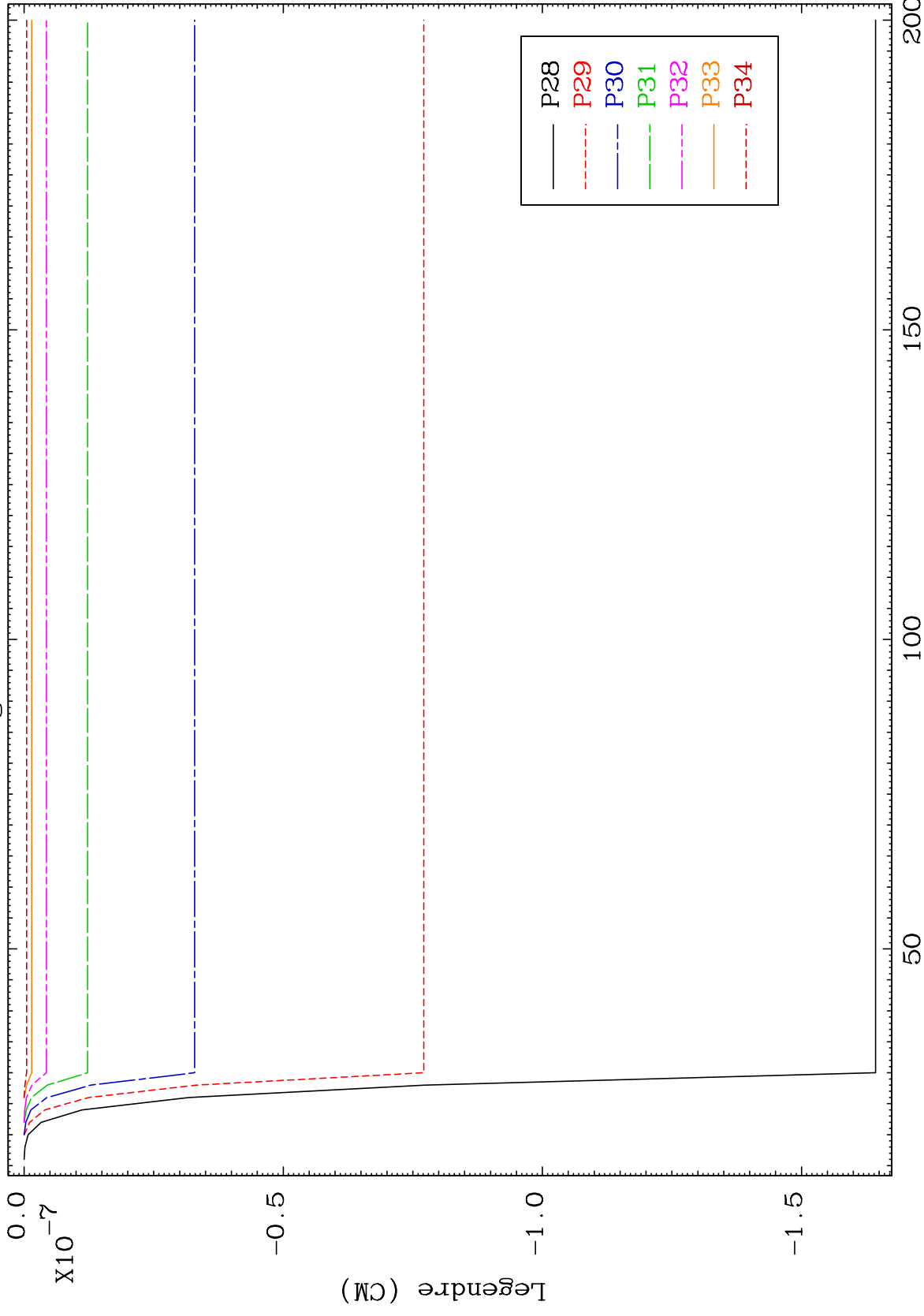
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

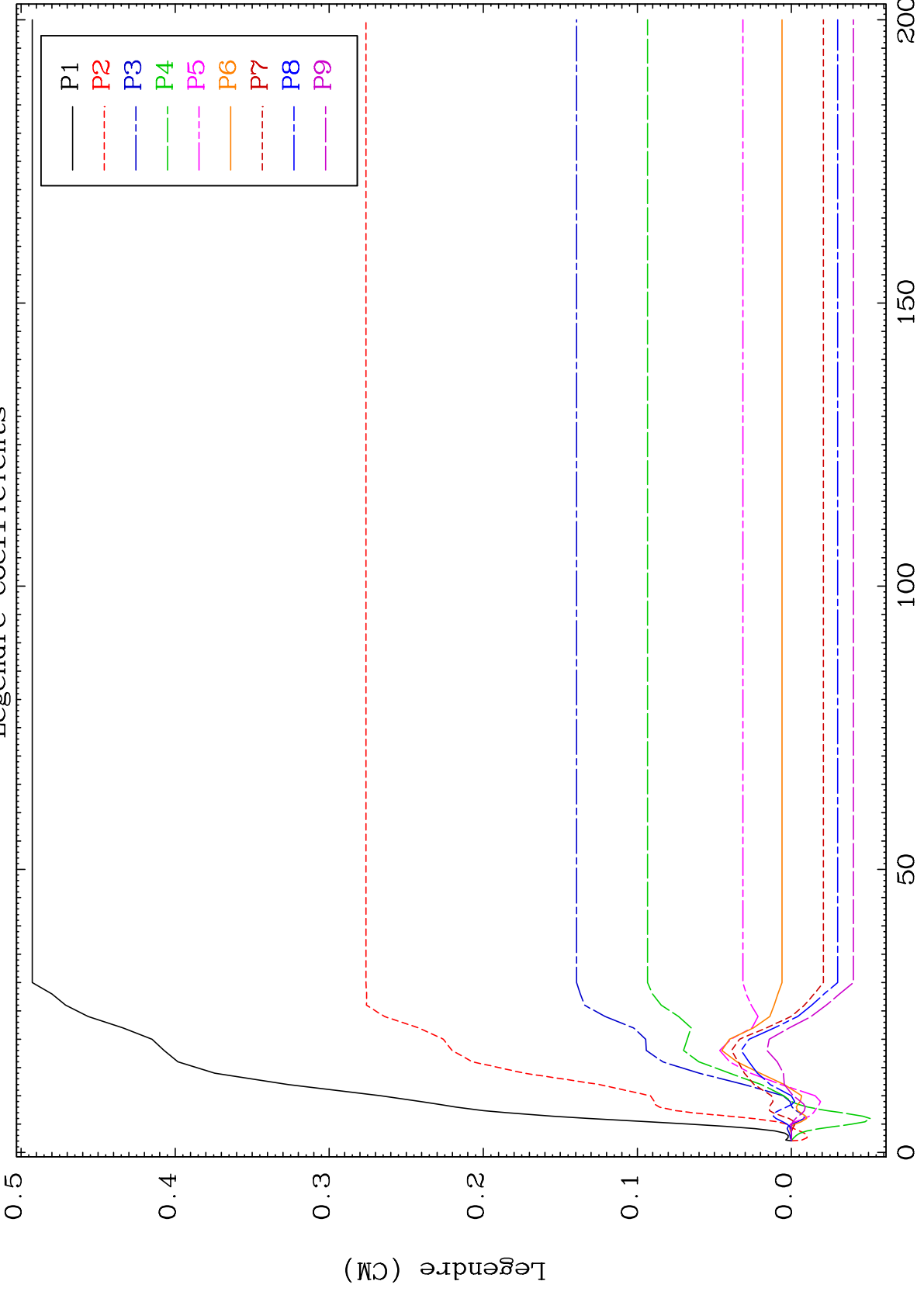
60-Nd-139



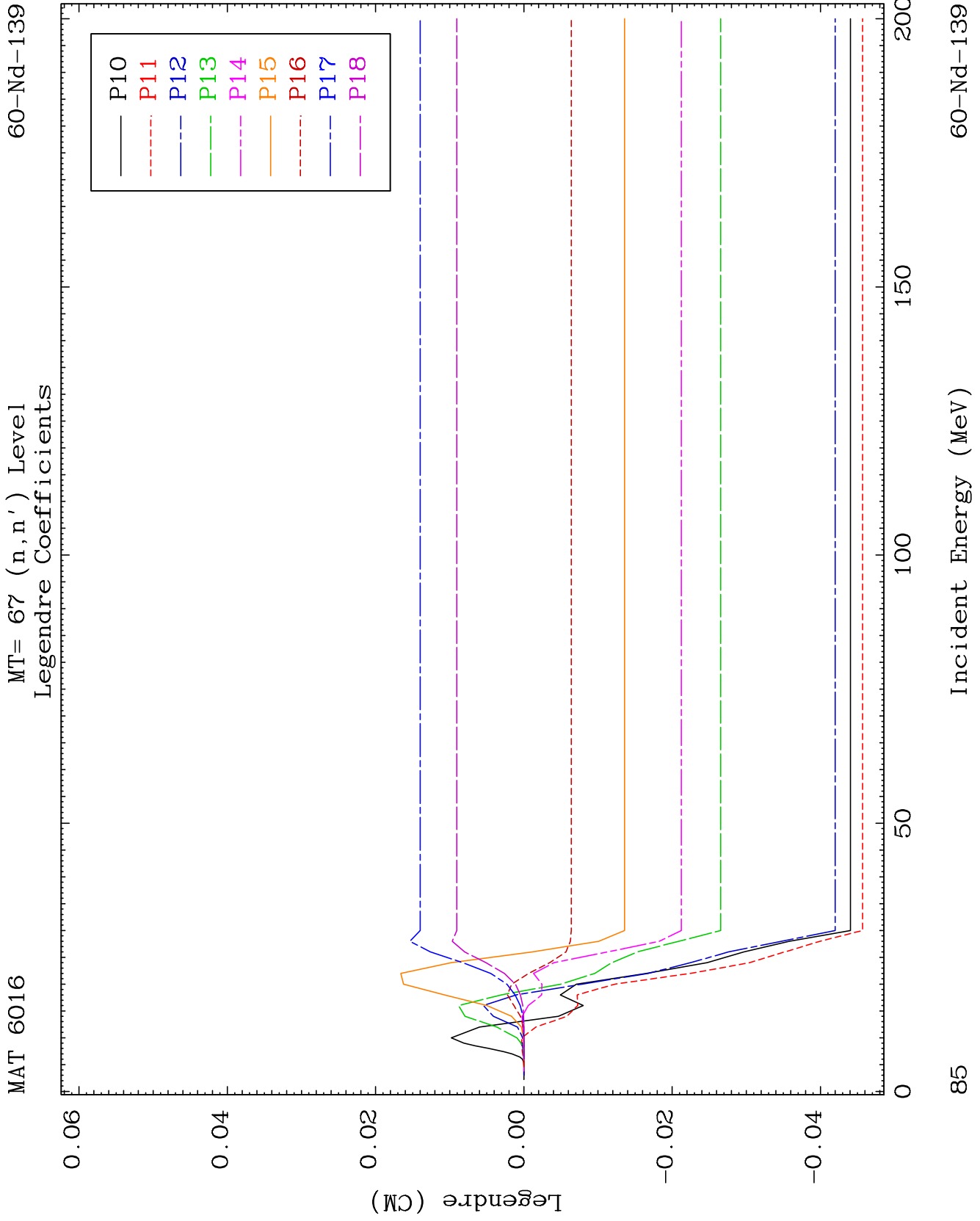
83

60-Nd-139

MAT 6016 MT= 67 (n,n') Level Legendre Coefficients 60-Nd-139



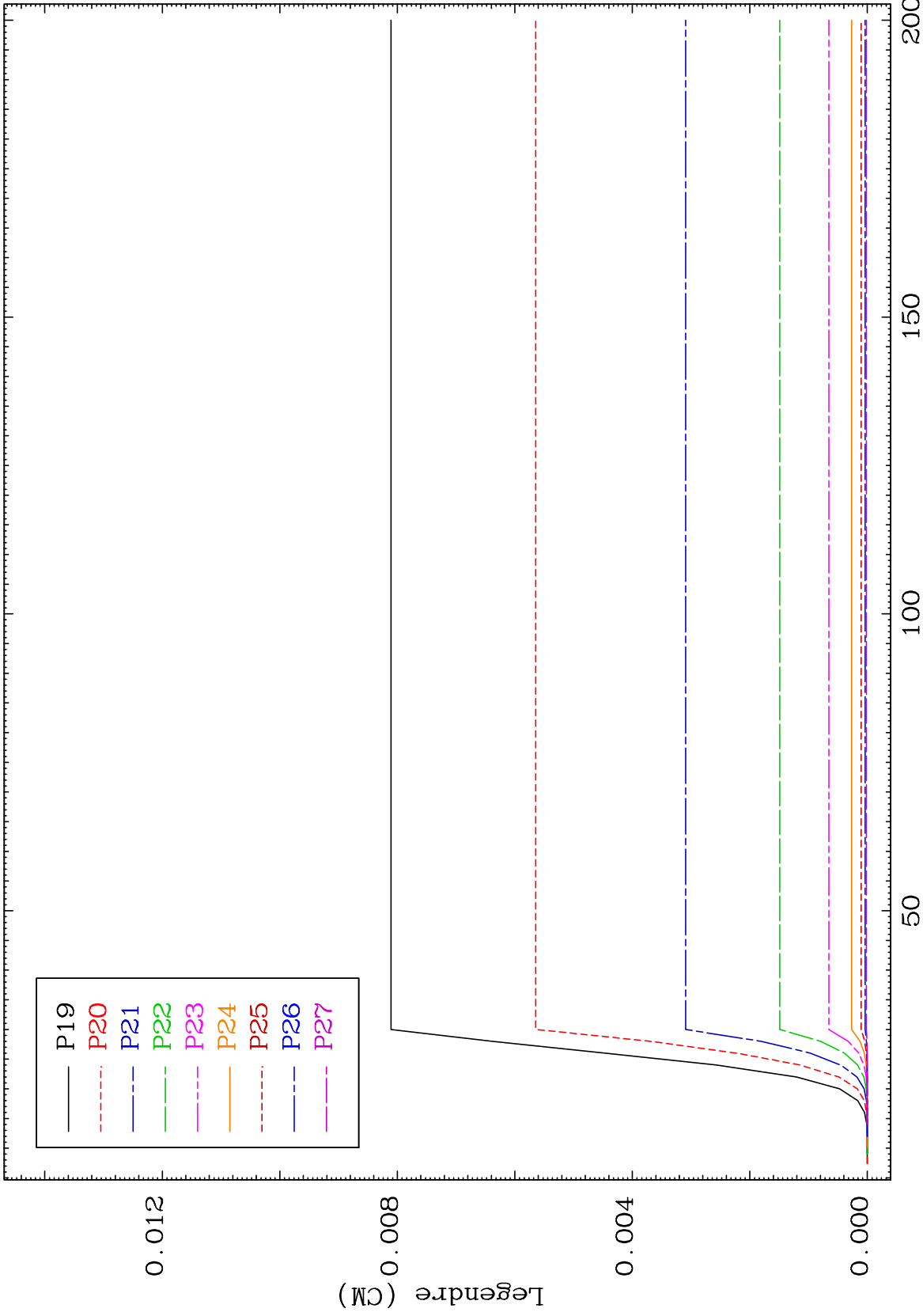
84 60-Nd-139



MAT 6016

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

60-Nd-139



86

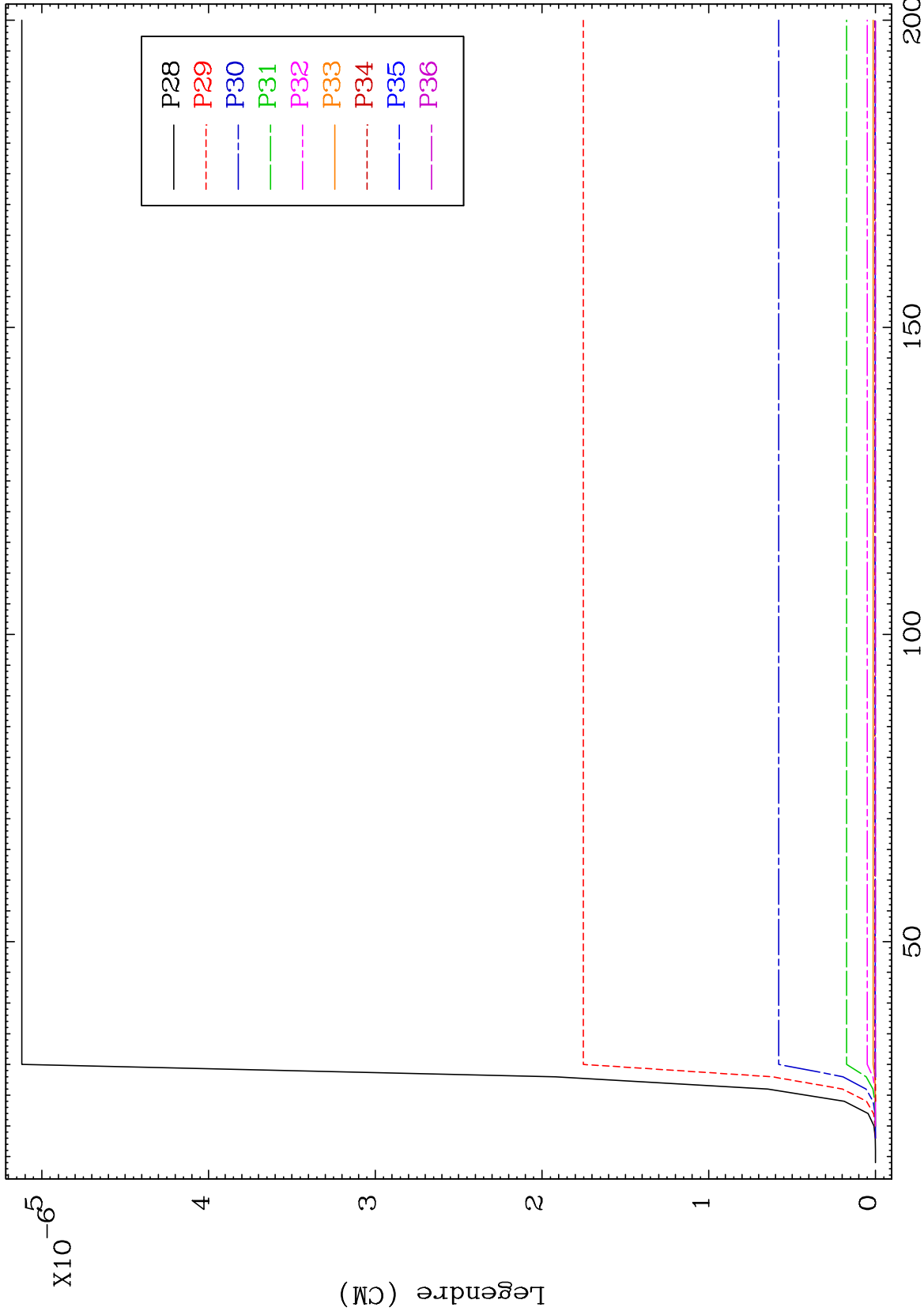
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



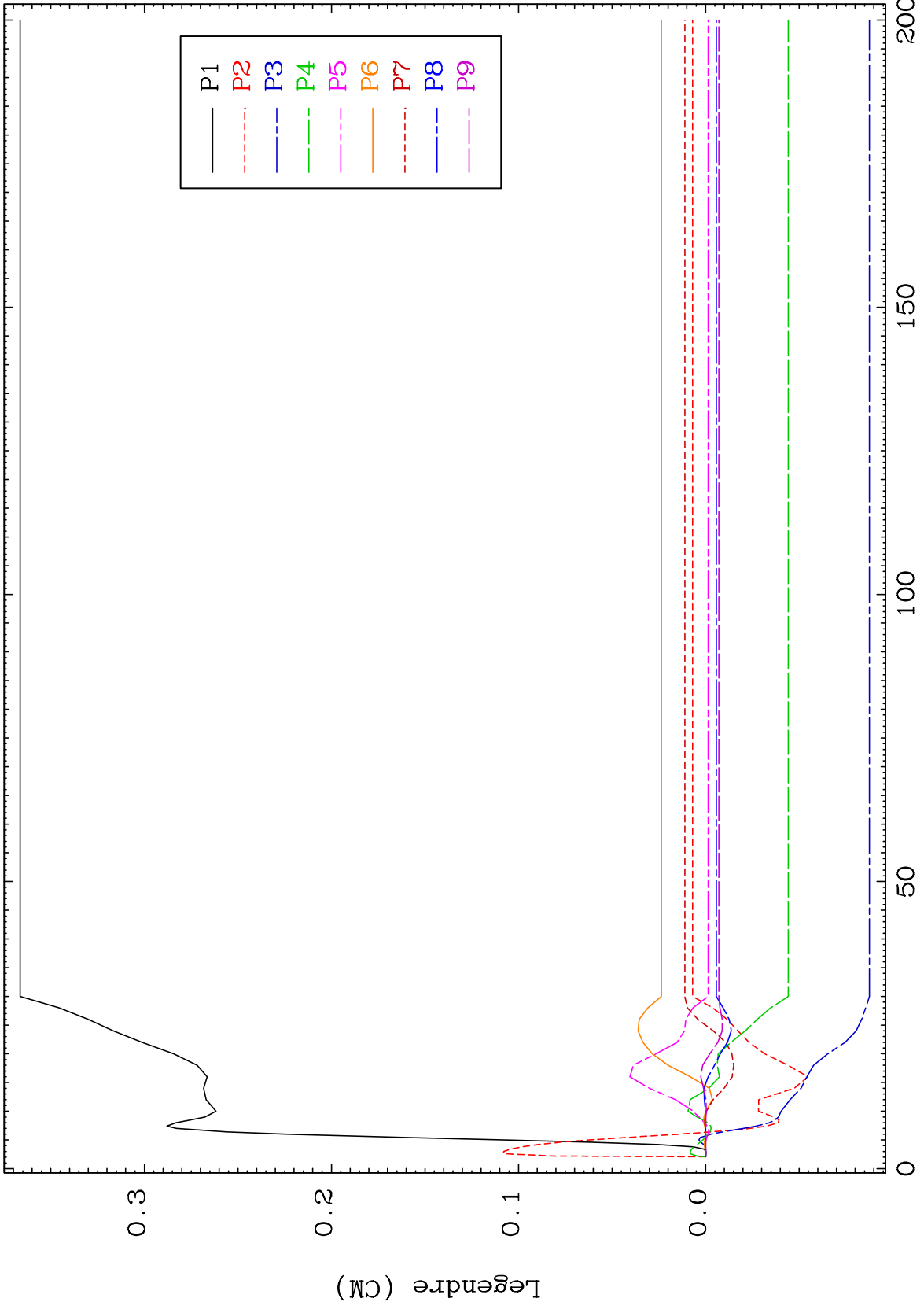
87

60-Nd-139

MAT 6016

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

60-Nd-139



88

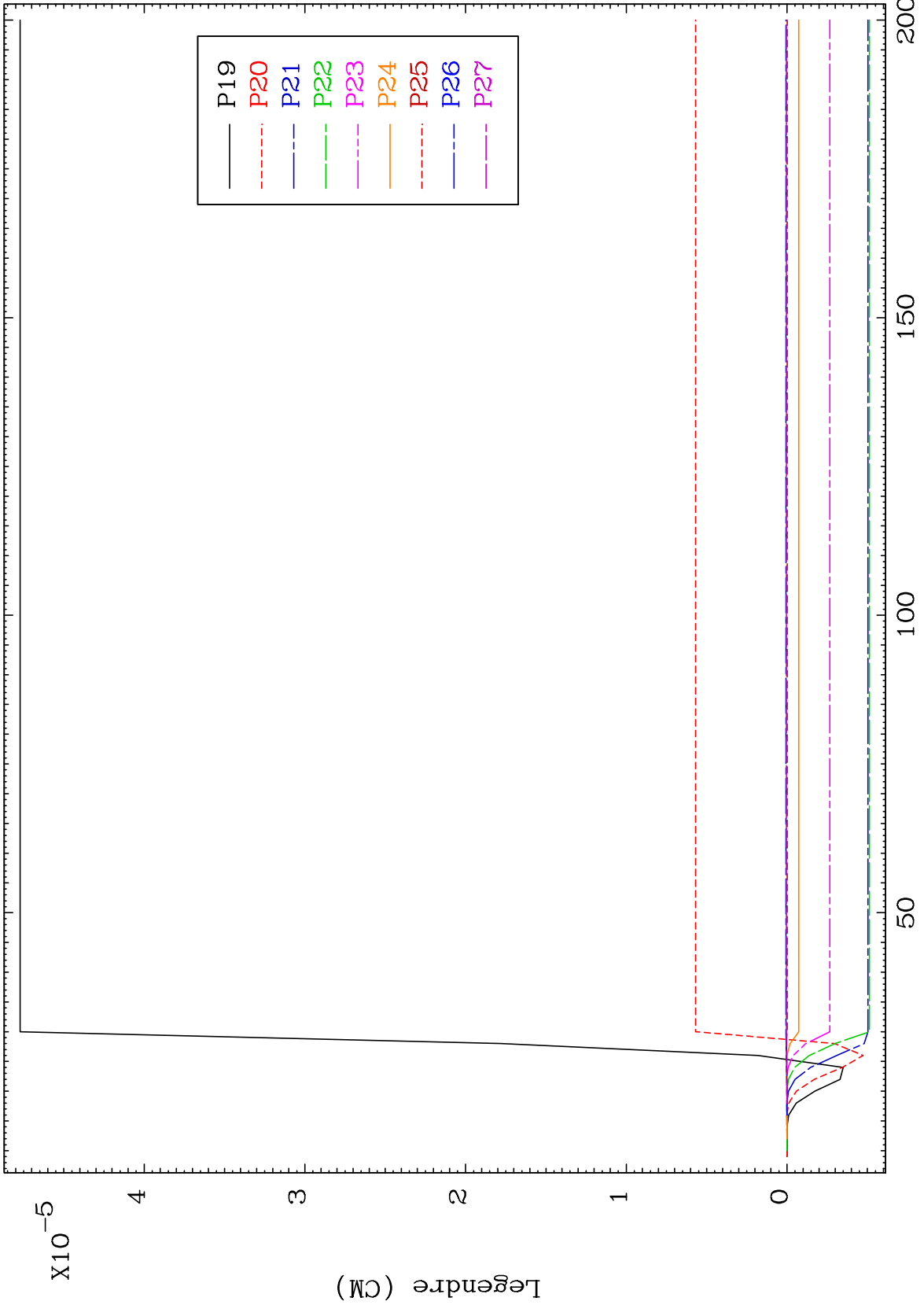
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



90

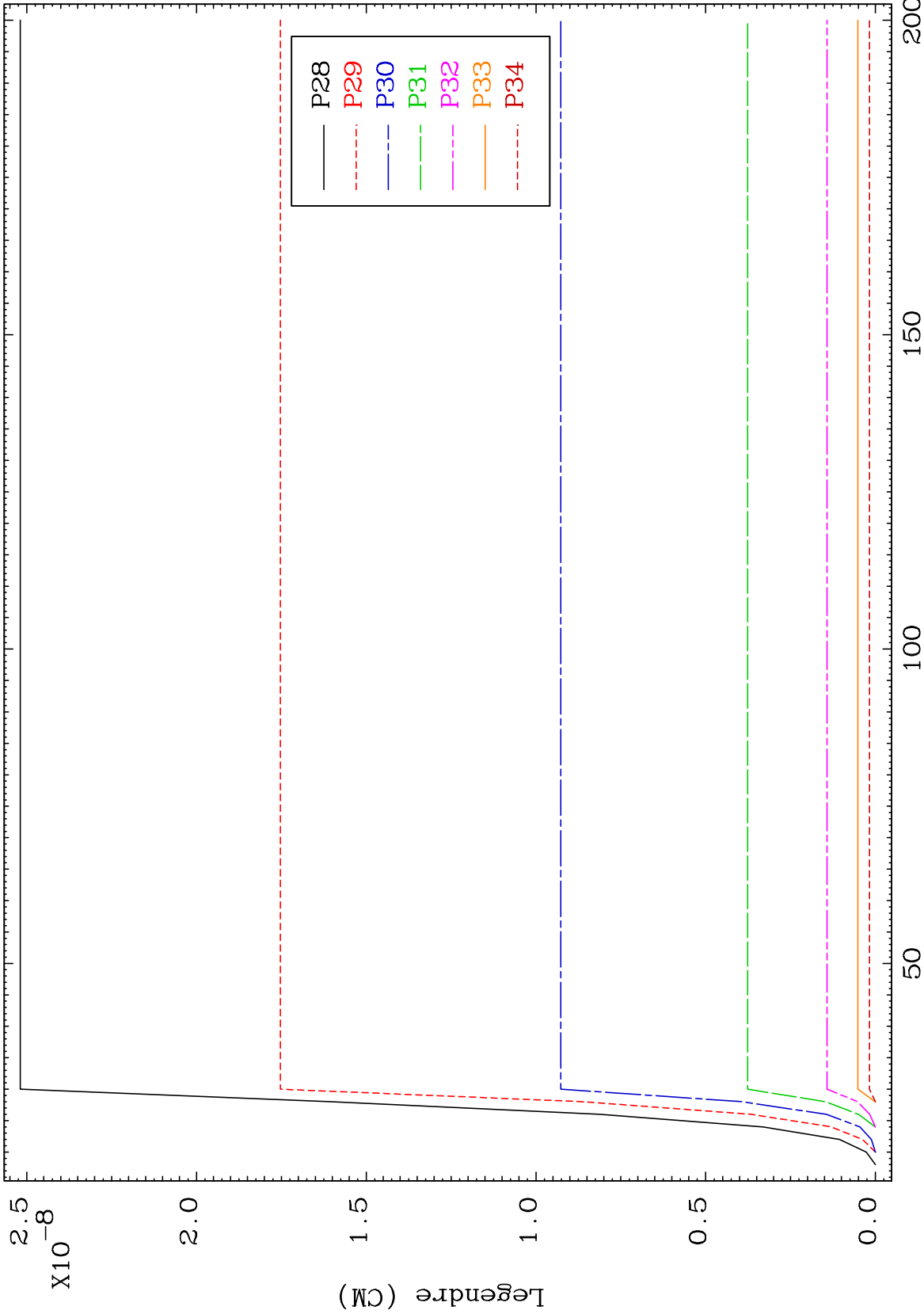
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

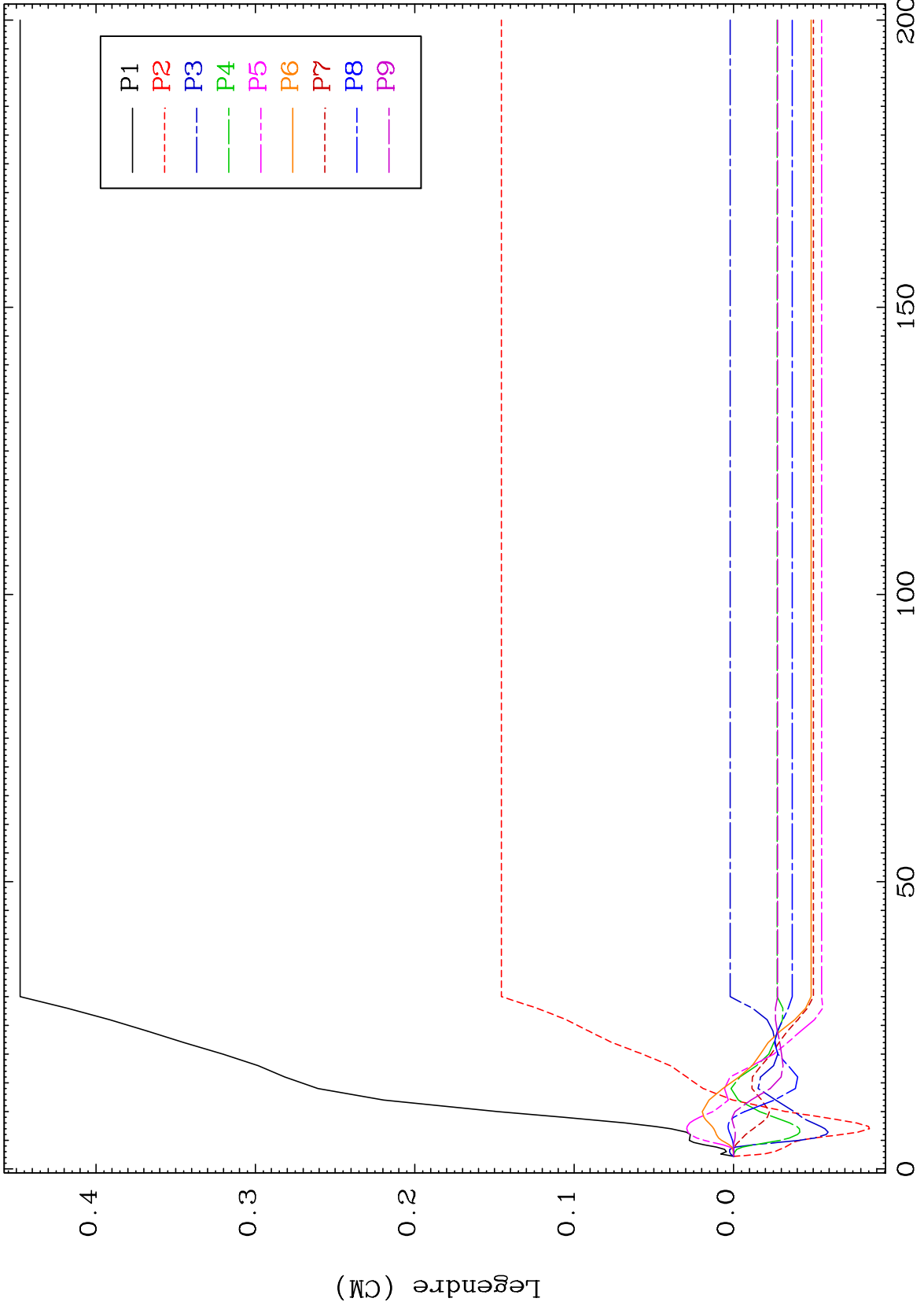


91

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 69 (n,n') Level Legendre Coefficients 60-Nd-139

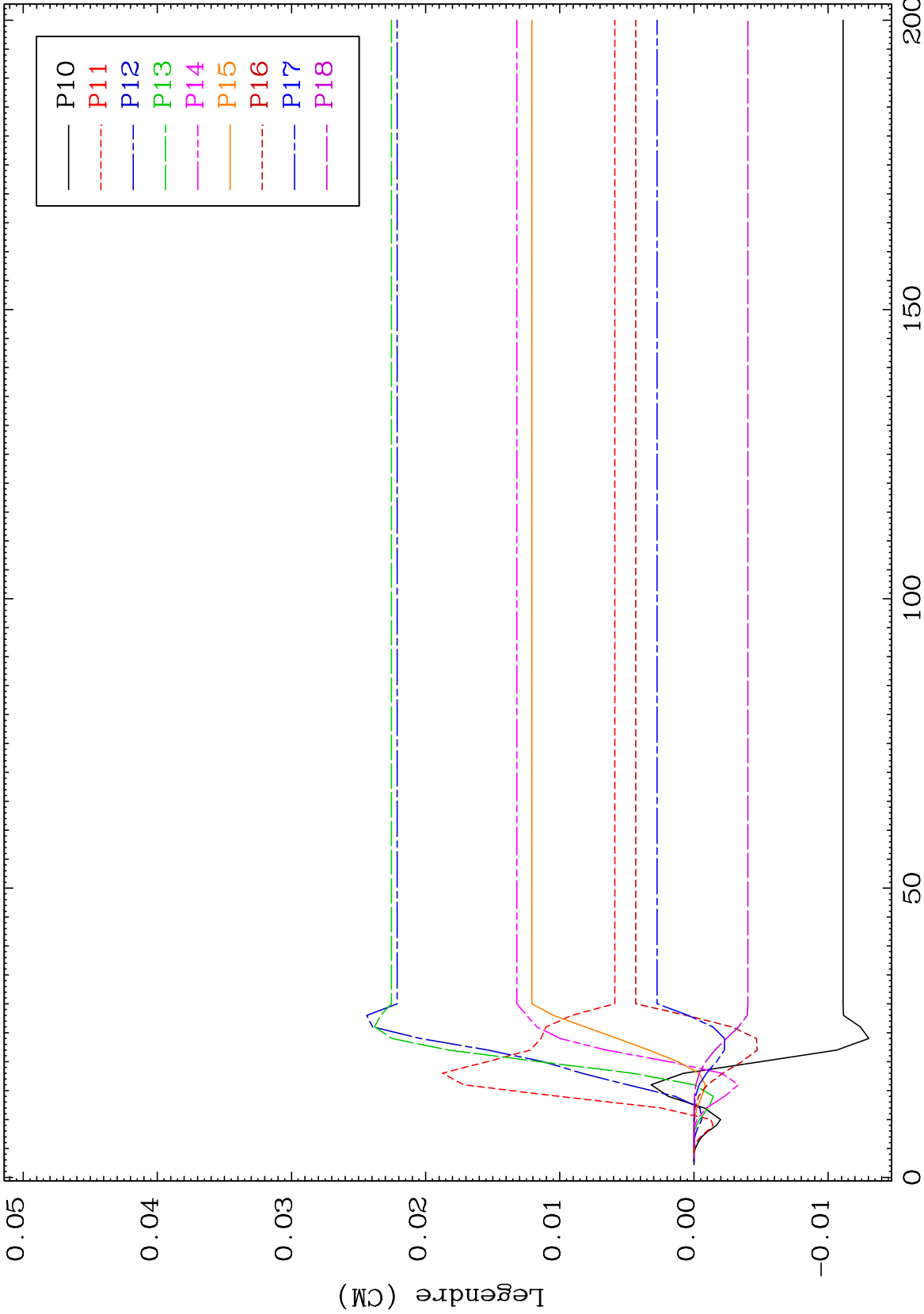


92 60-Nd-139

MAT 6016

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

60-Nd-139



93

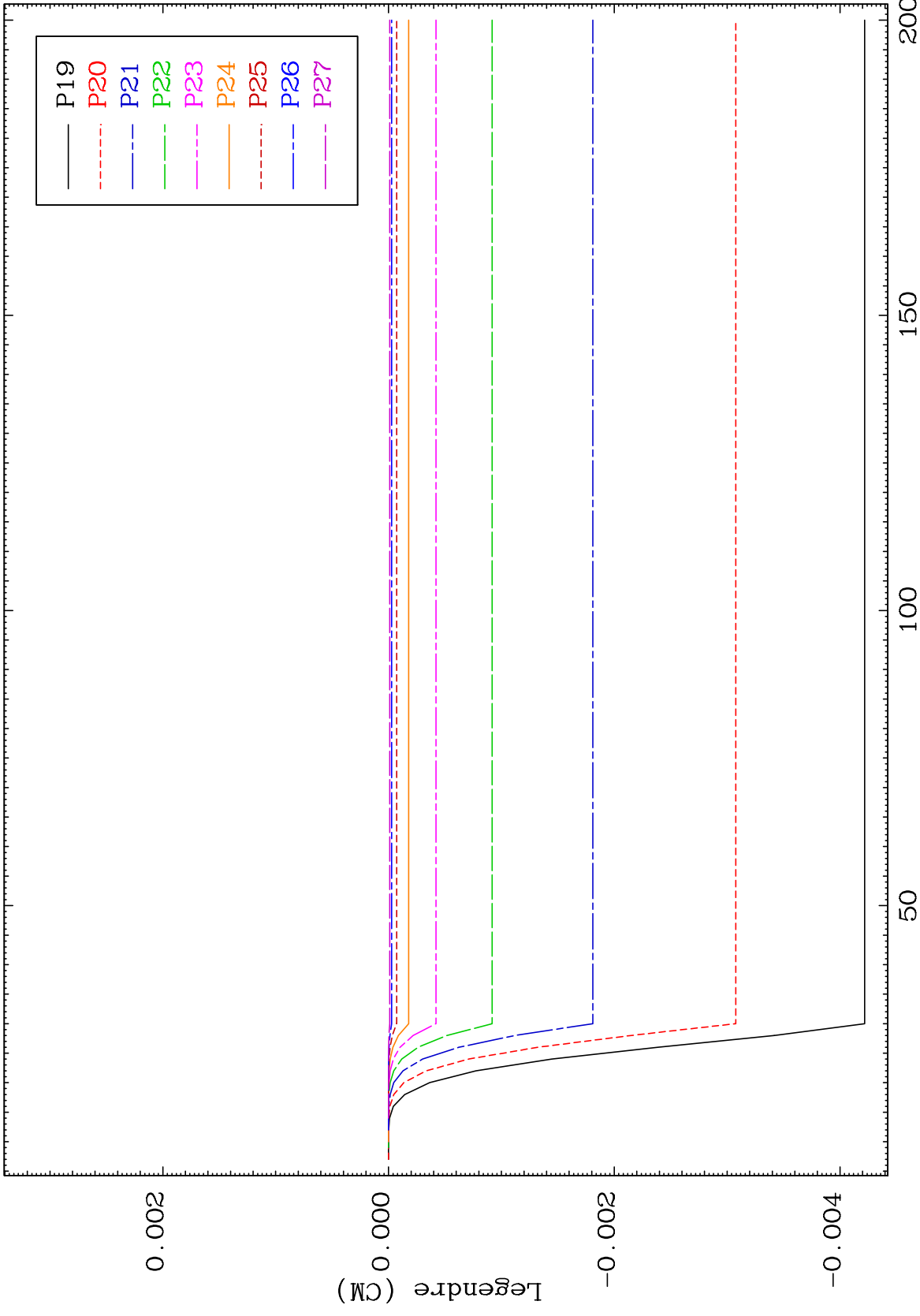
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139



94

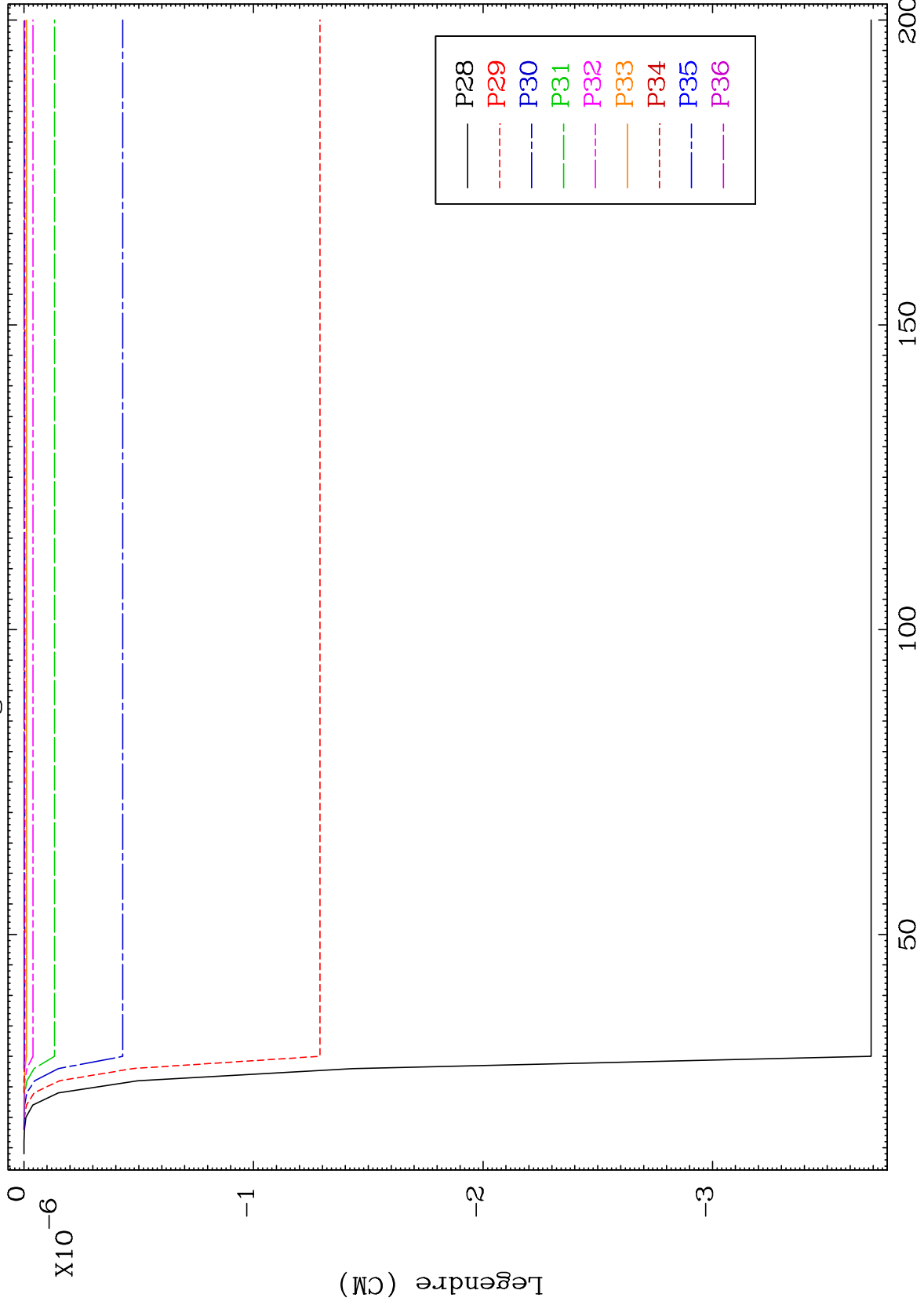
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

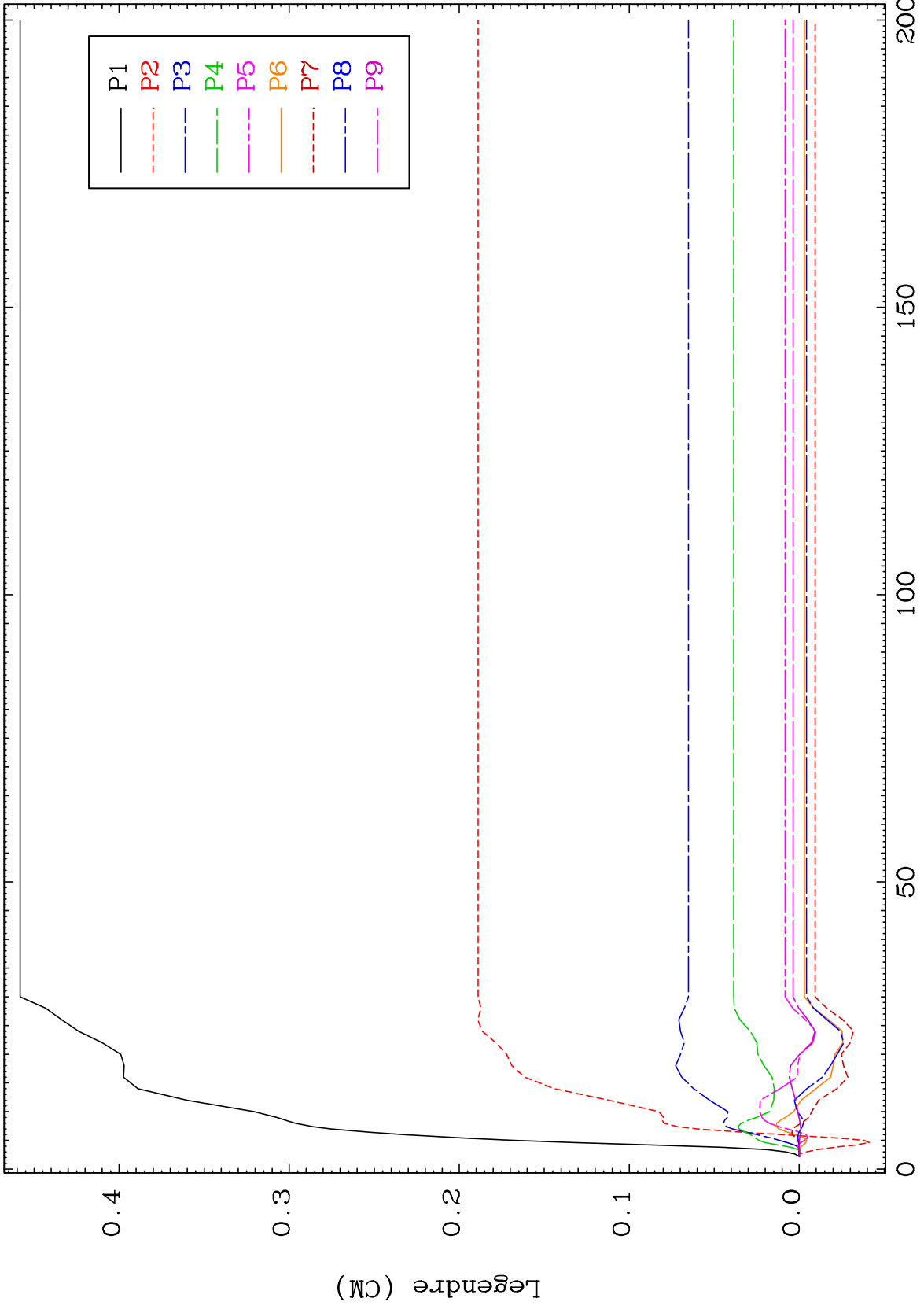
60-Nd-139



95

60-Nd-139

MAT 6016 MT= 70 (n,n') Level Legendre Coefficients 60-Nd-139

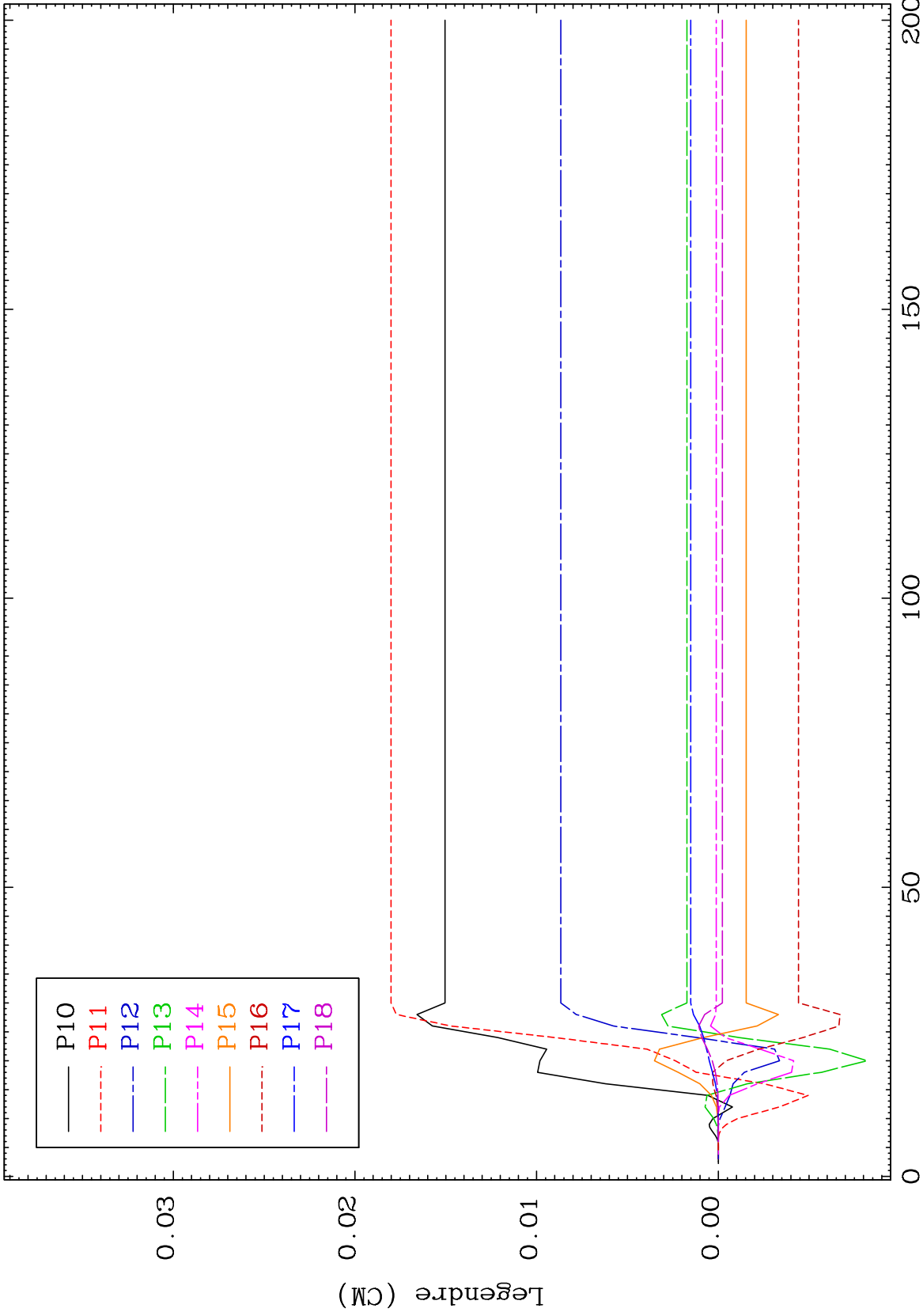


96 60-Nd-139

MAT 6016

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

60-Nd-139



97

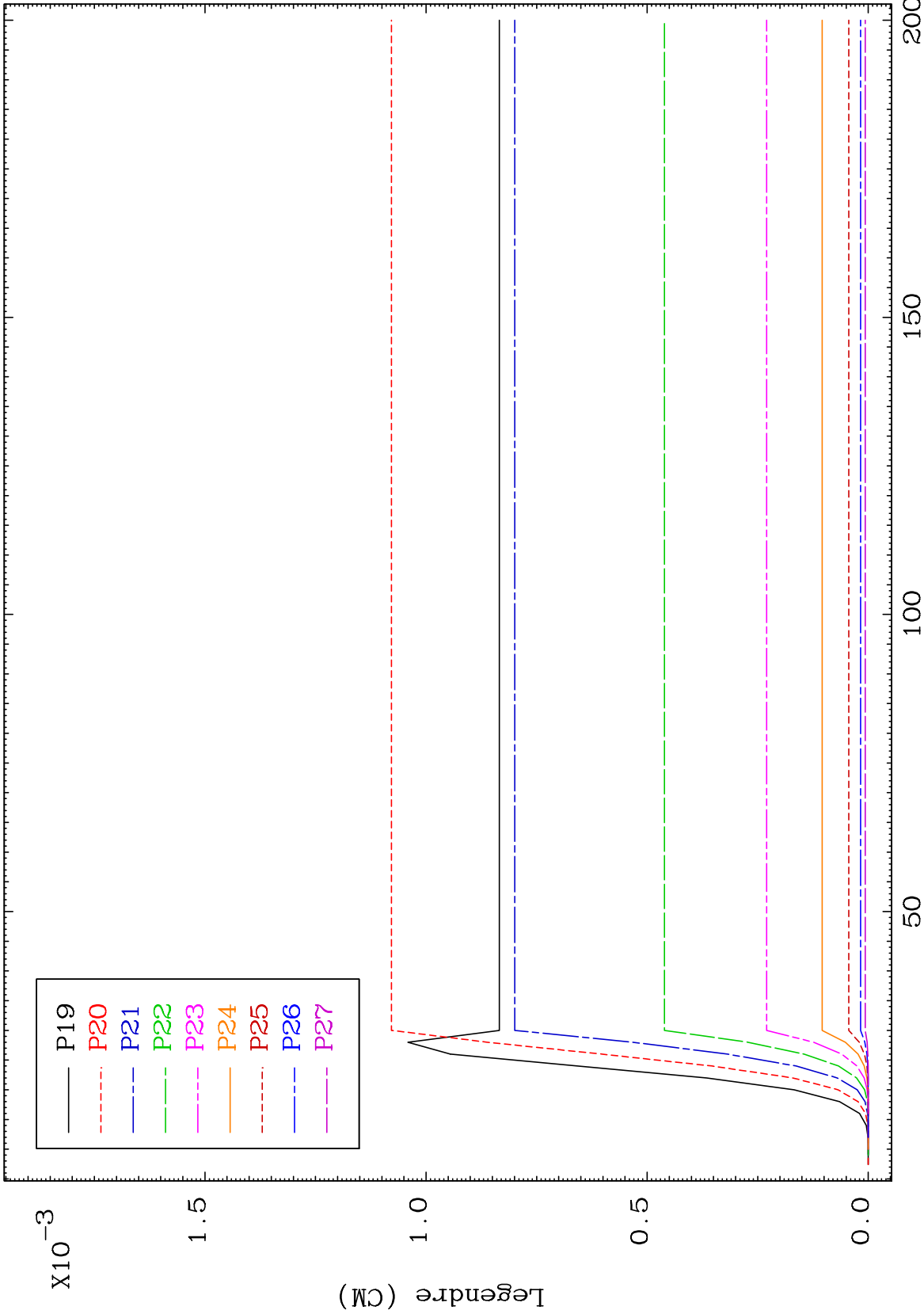
Incident Energy (MeV)

60-Nd-139

MAT 6016

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

60-Nd-139

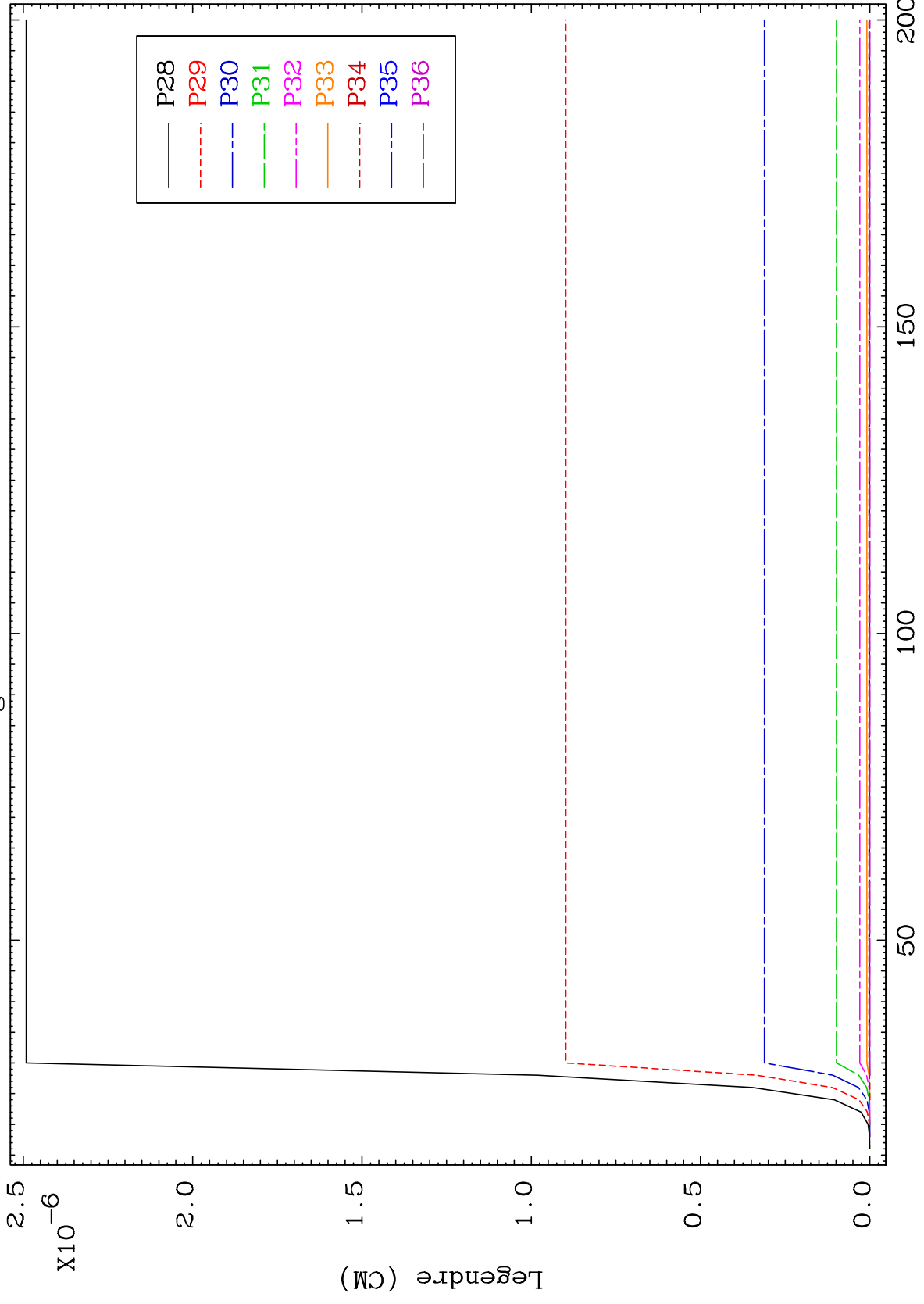


98

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 70 (n,n') Level Legendre Coefficients 60-Nd-139

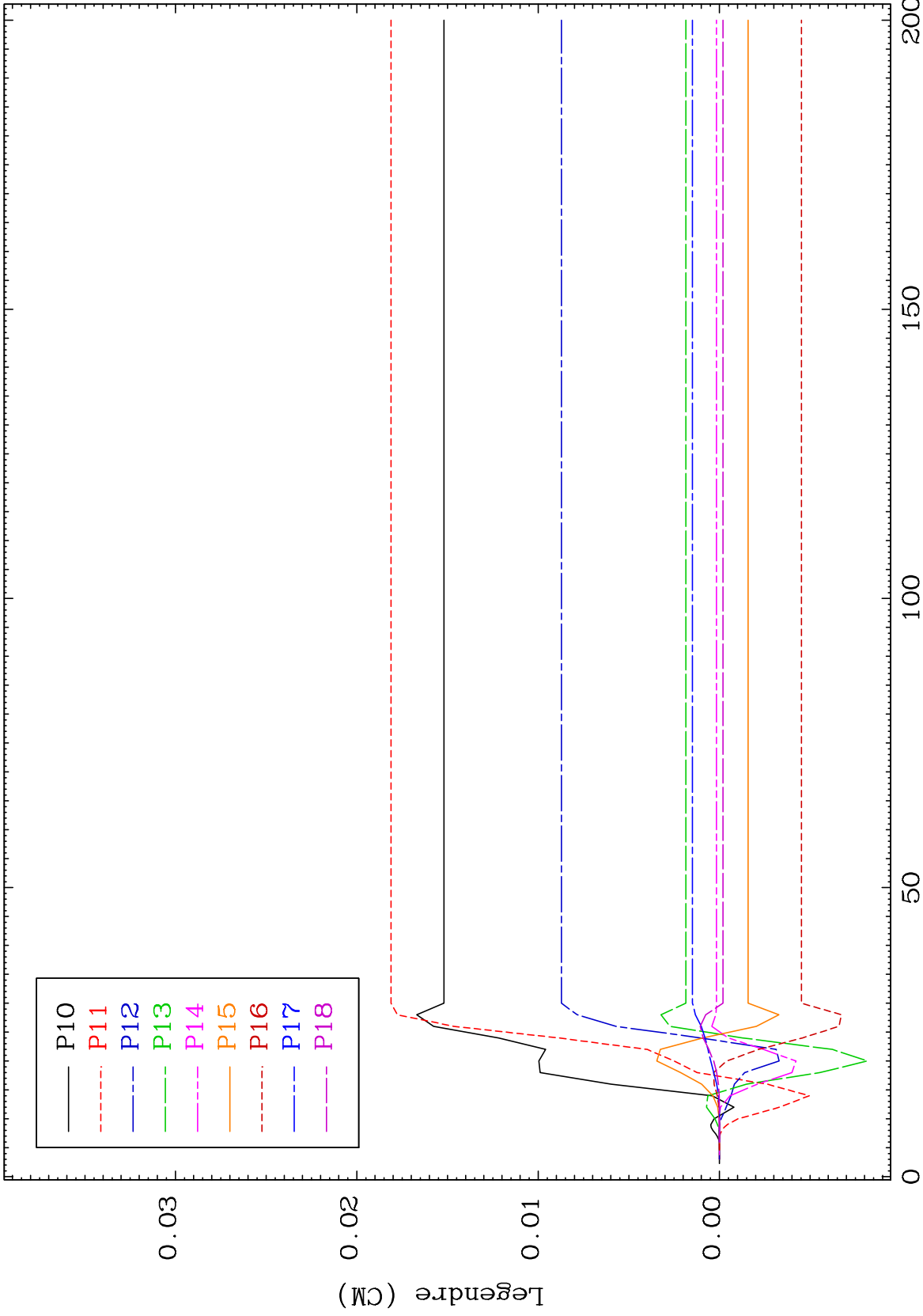


99 Incident Energy (MeV) 60-Nd-139

MAT 6016

MT= 71 (n,n') Level
Legendre Coefficients

60-Nd-139



101

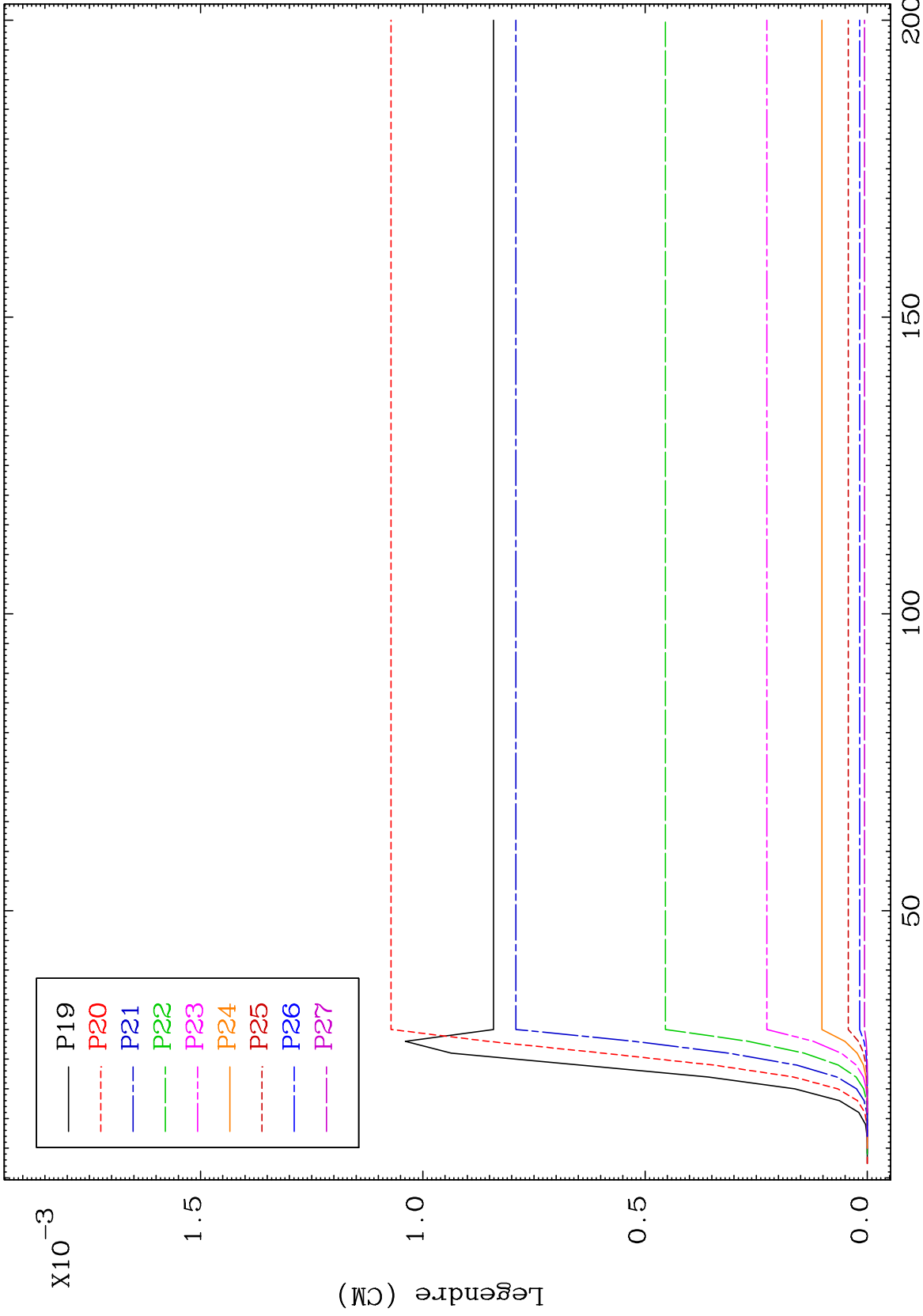
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 71 (n,n') Level
Legendre Coefficients

60-Nd-139

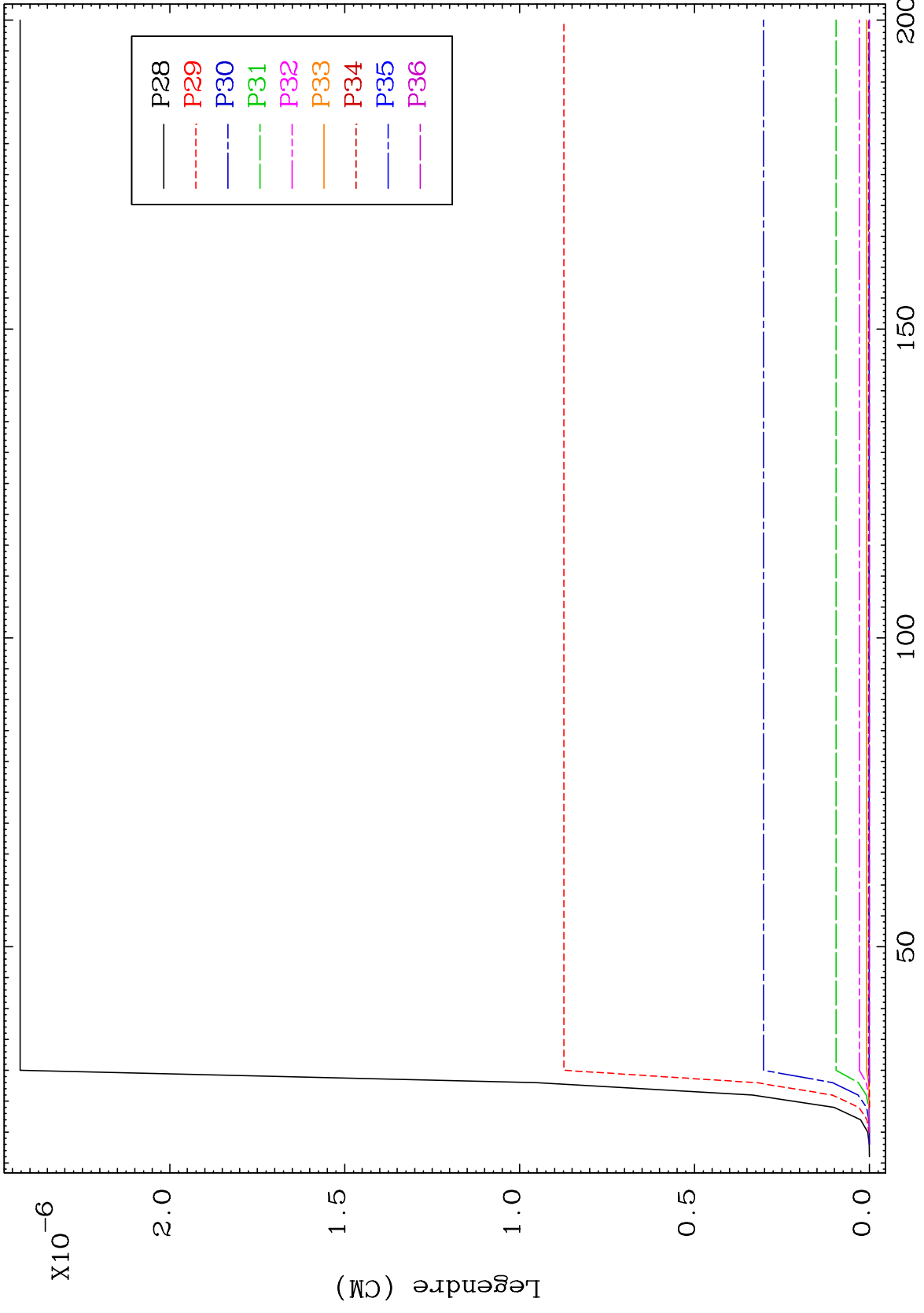


102

Incident Energy (MeV)

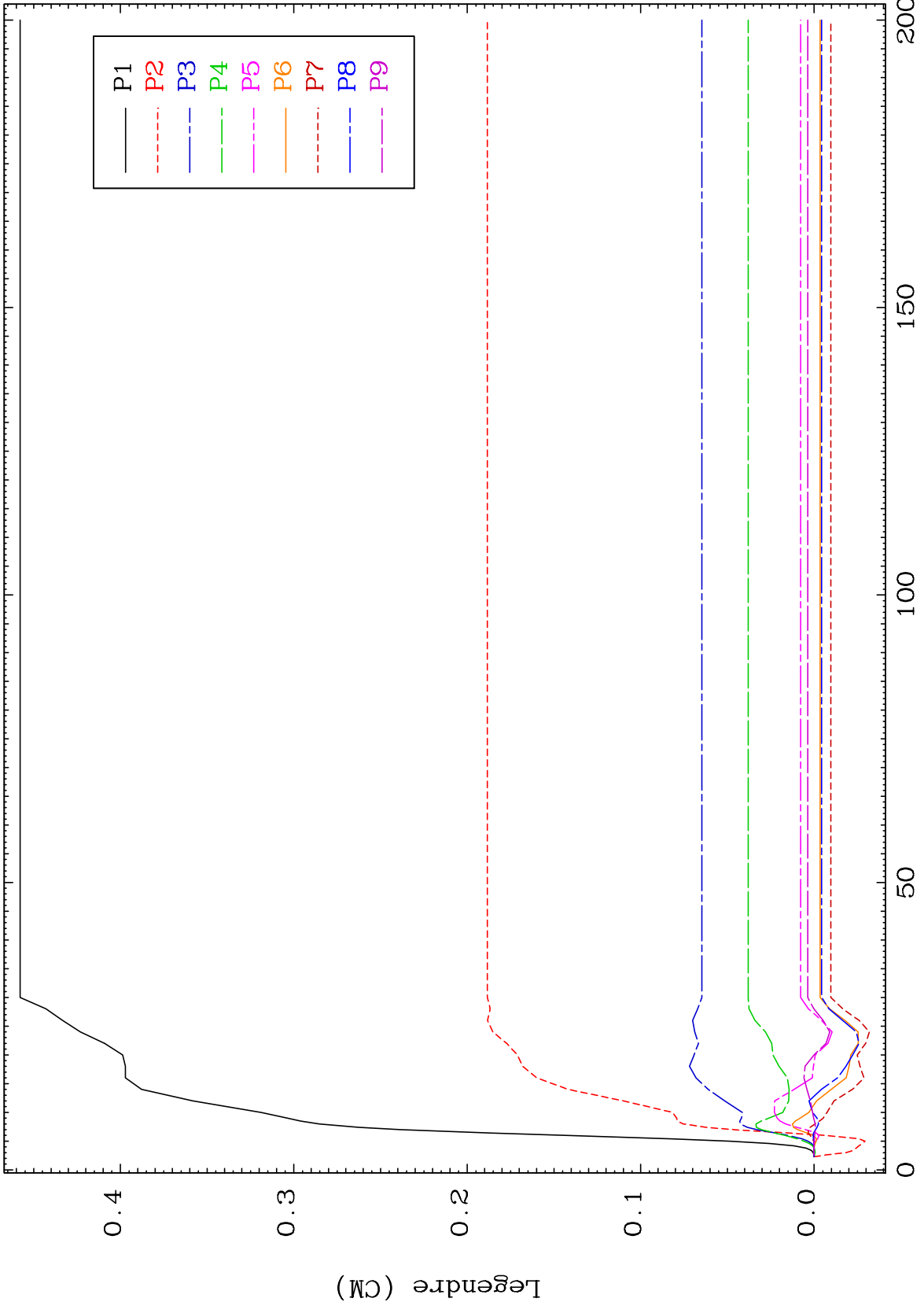
60-Nd-139

MAT 6016 MT= 71 (n,n') Level Legendre Coefficients 60-Nd-139



103 Incident Energy (MeV) 60-Nd-139

MAT 6016 MT= 72 (n,n') Level Legendre Coefficients 60-Nd-139

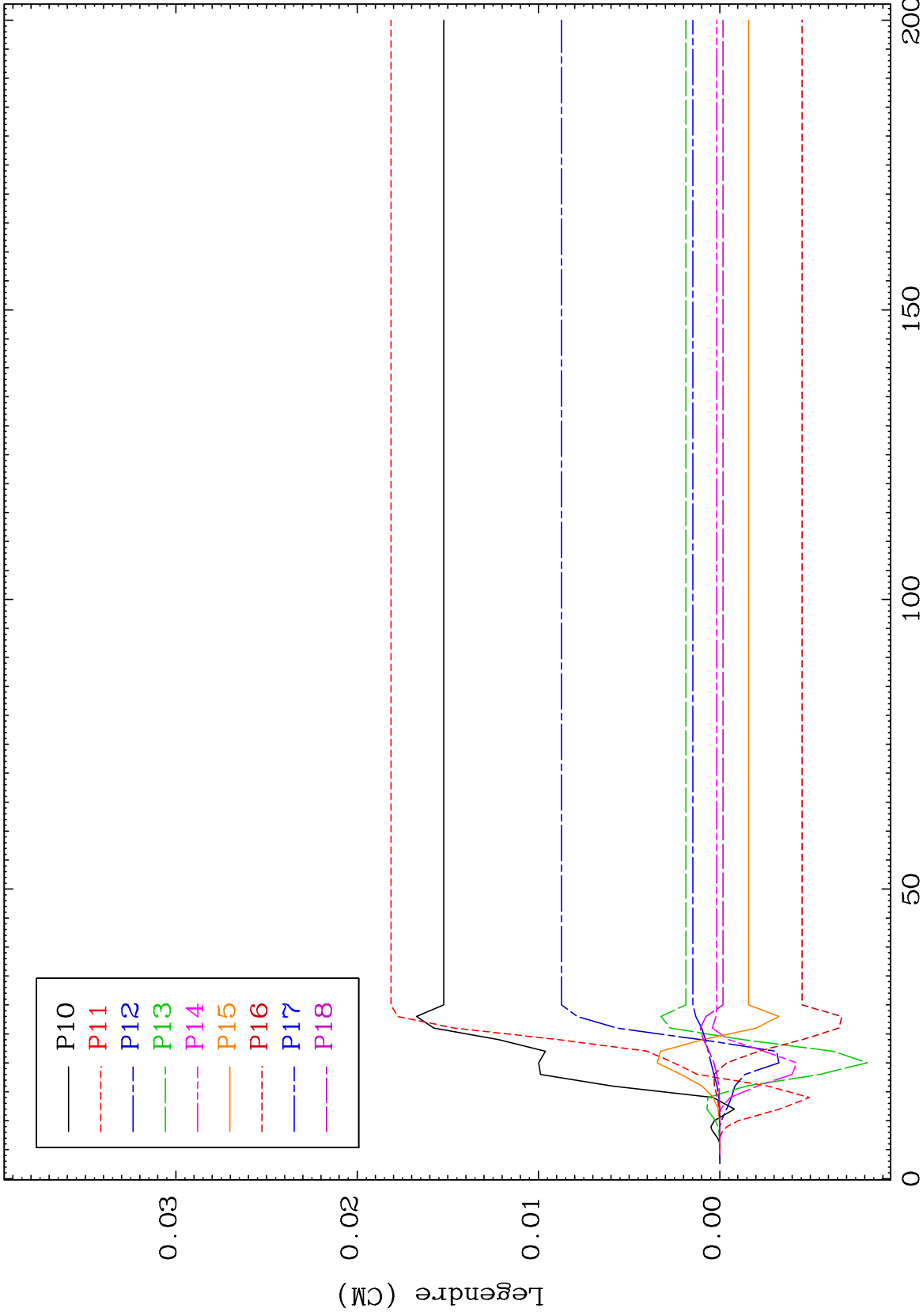


104 60-Nd-139

MAT 6016

MT= 72 (n,n') Level
Legendre Coefficients

60-Nd-139



60-Nd-139

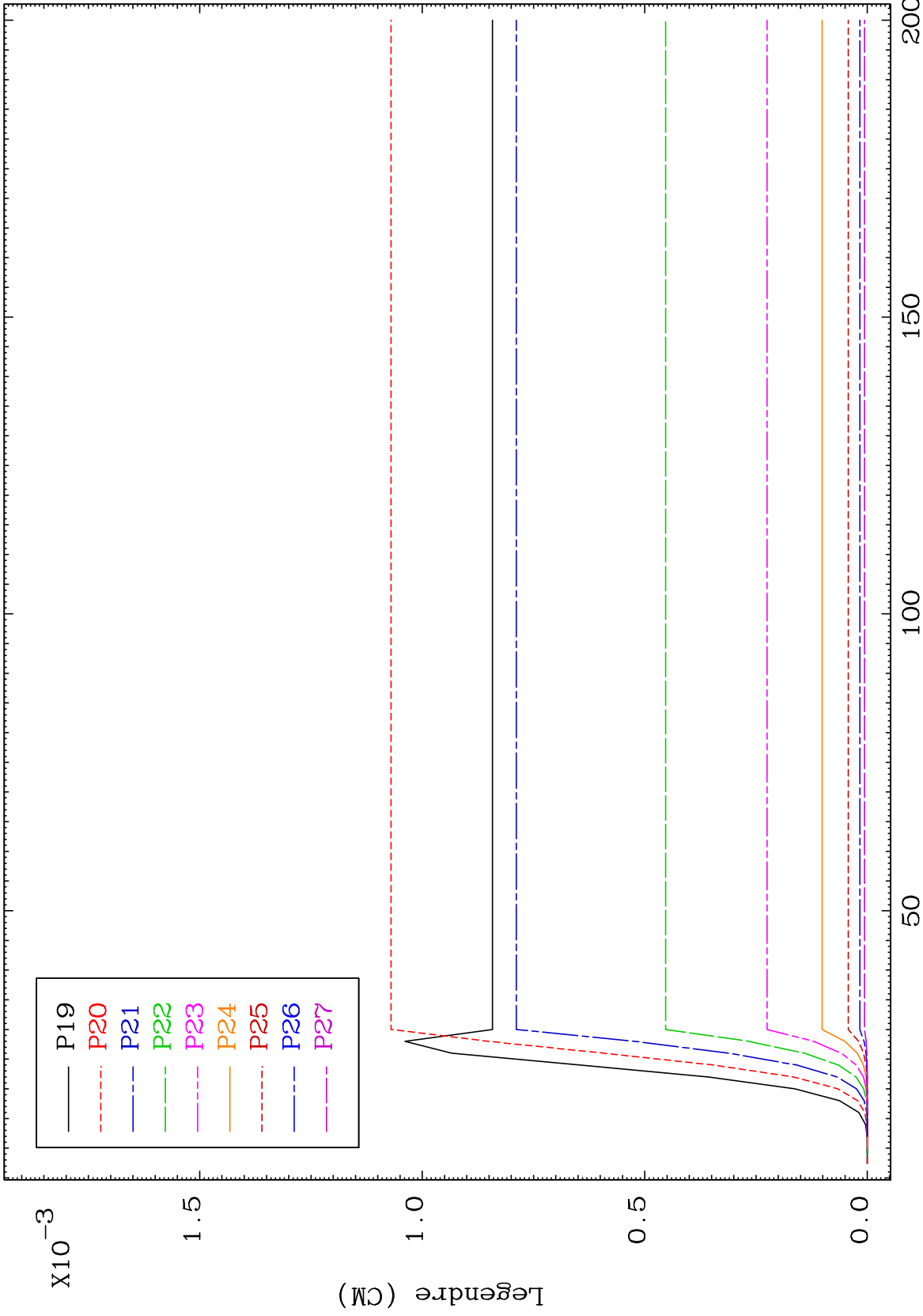
Incident Energy (MeV)

105

MAT 6016

MT= 72 (n,n') Level
Legendre Coefficients

60-Nd-139

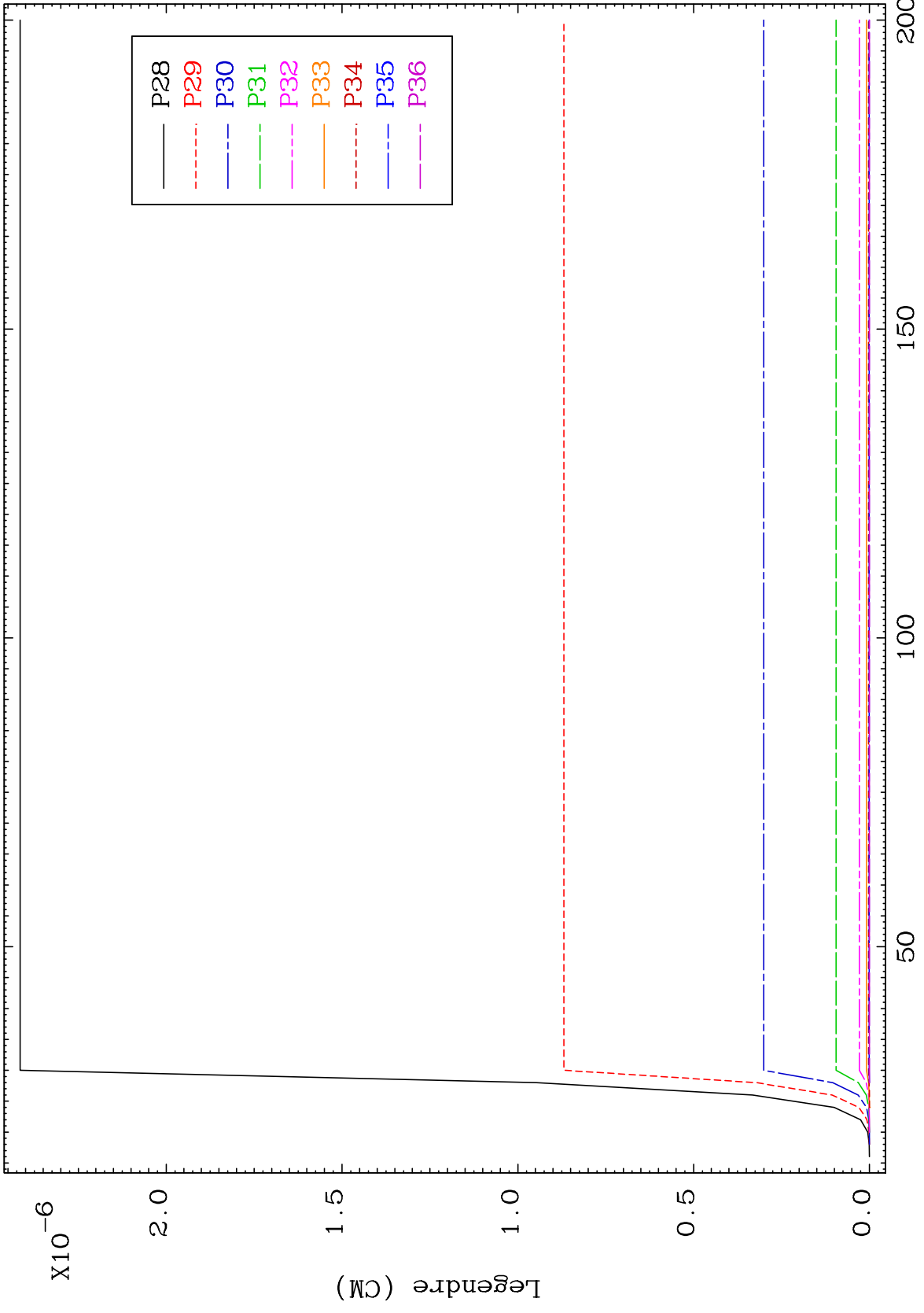


106

Incident Energy (MeV)

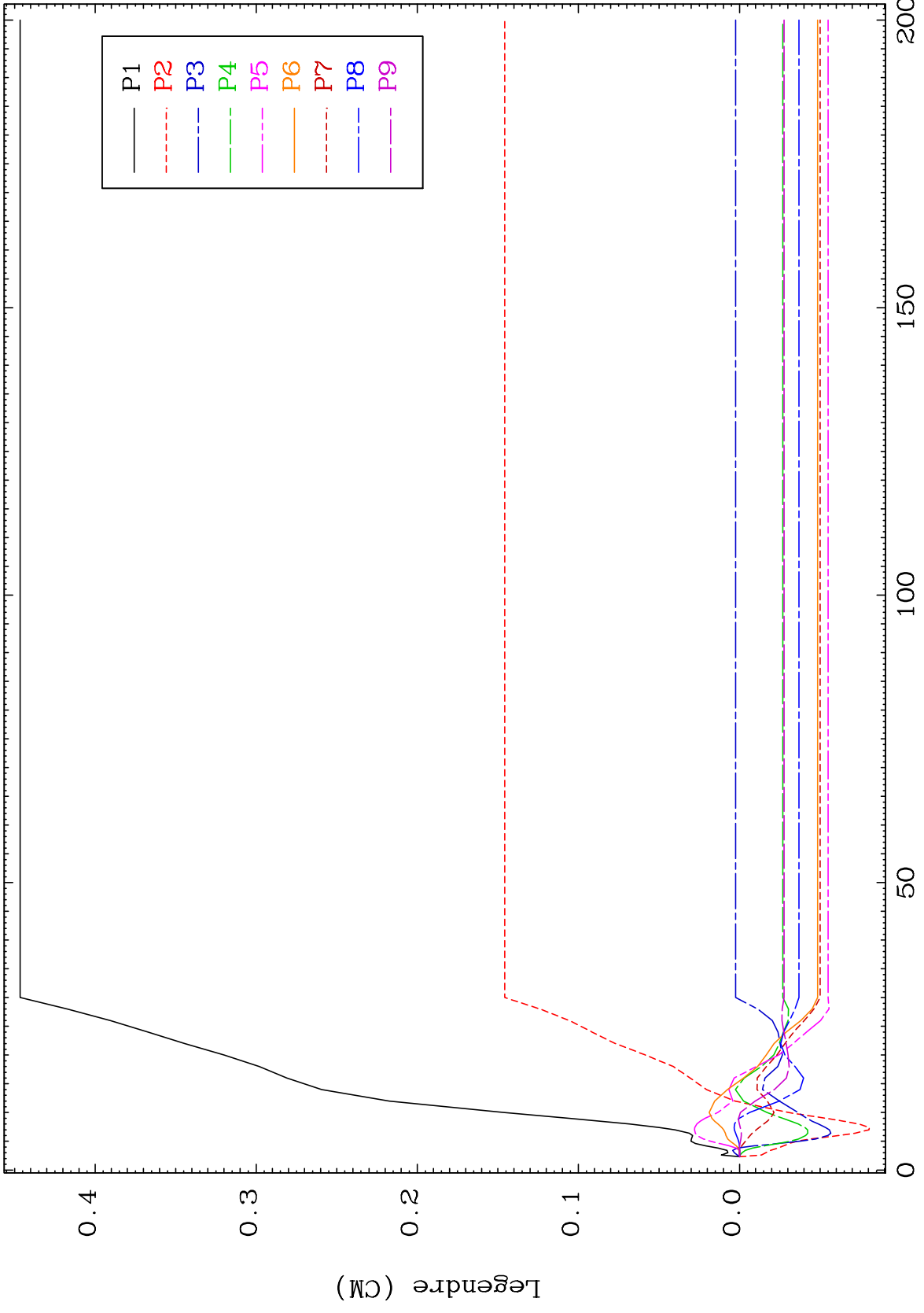
60-Nd-139

MAT 6016 MT= 72 (n,n') Level Legendre Coefficients 60-Nd-139



107 60-Nd-139

MAT 6016 MT= 73 (n,n') Level Legendre Coefficients 60-Nd-139

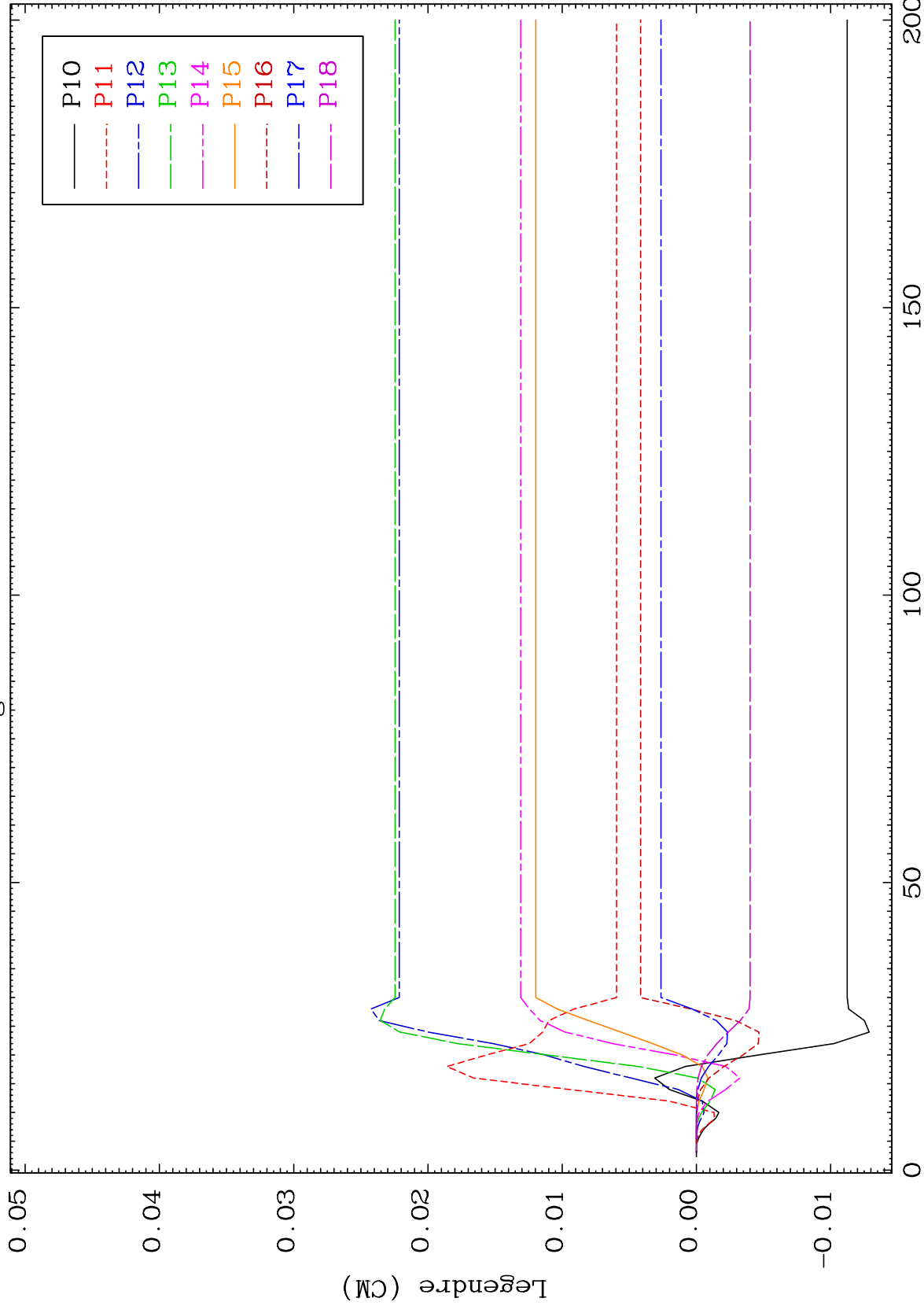


108 60-Nd-139

MAT 6016

MT= 73 (n,n') Level
Legendre Coefficients

60-Nd-139



109

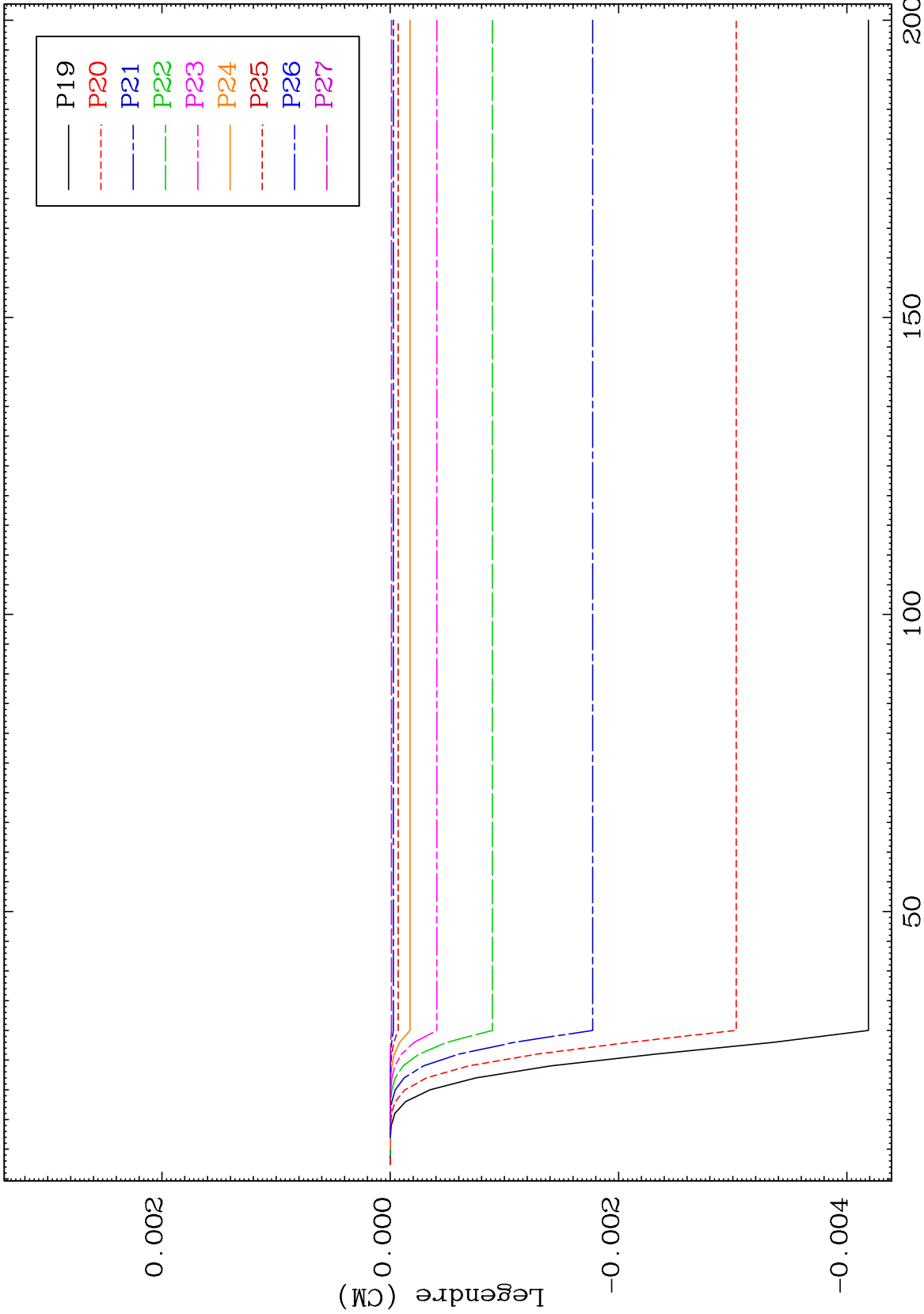
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 73 (n,n') Level
Legendre Coefficients

60-Nd-139



110

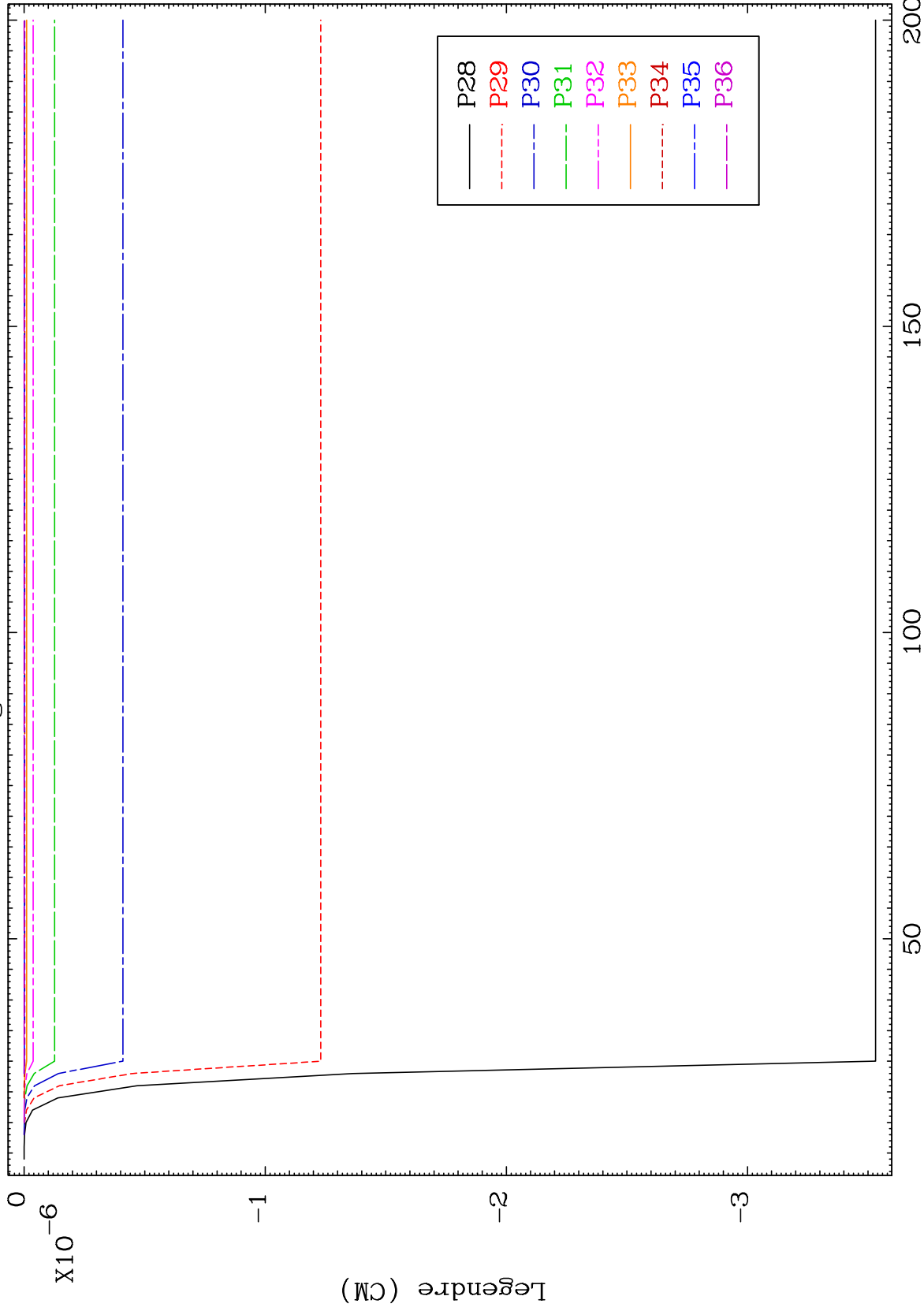
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 73 (n,n') Level
Legendre Coefficients

60-Nd-139



60-Nd-139

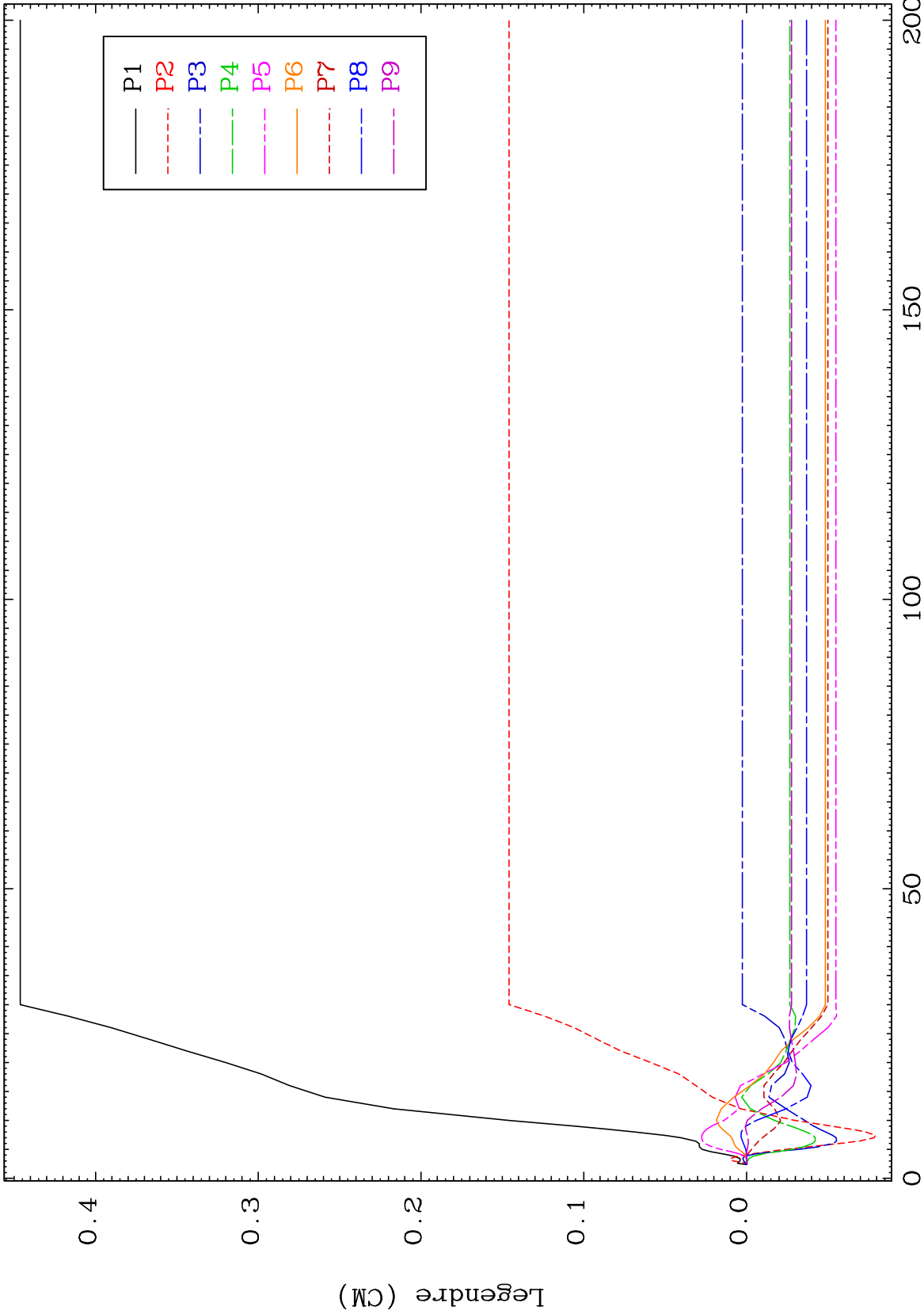
Incident Energy (MeV)

111

MAT 6016

MT= 74 (n,n') Level
Legendre Coefficients

60-Nd-139



112

Incident Energy (MeV)

60-Nd-139

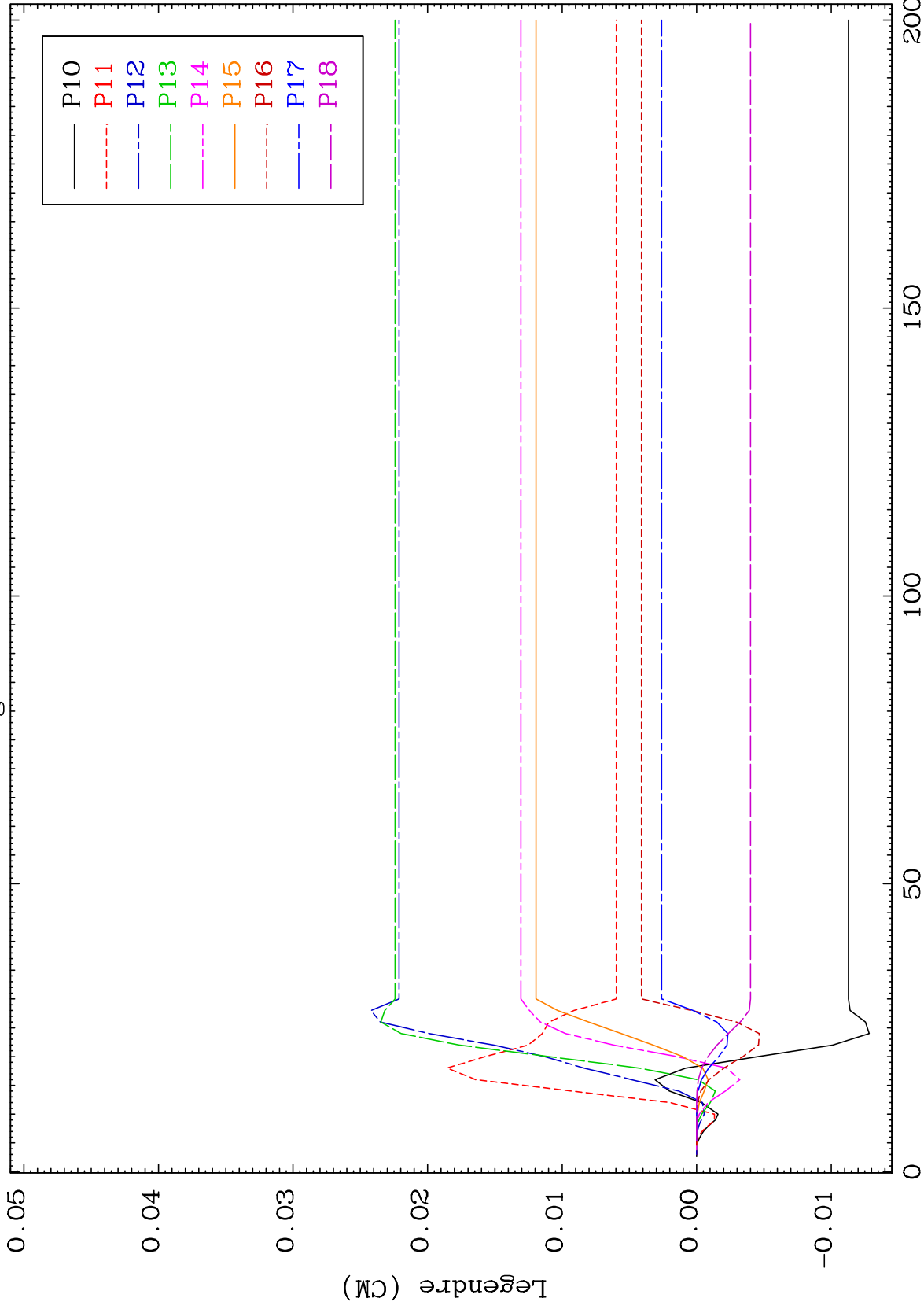
MAT 6016 MT= 74 (n,n') Level Legendre Coefficients

60-Nd-139

60-Nd-139

Incident Energy (MeV)

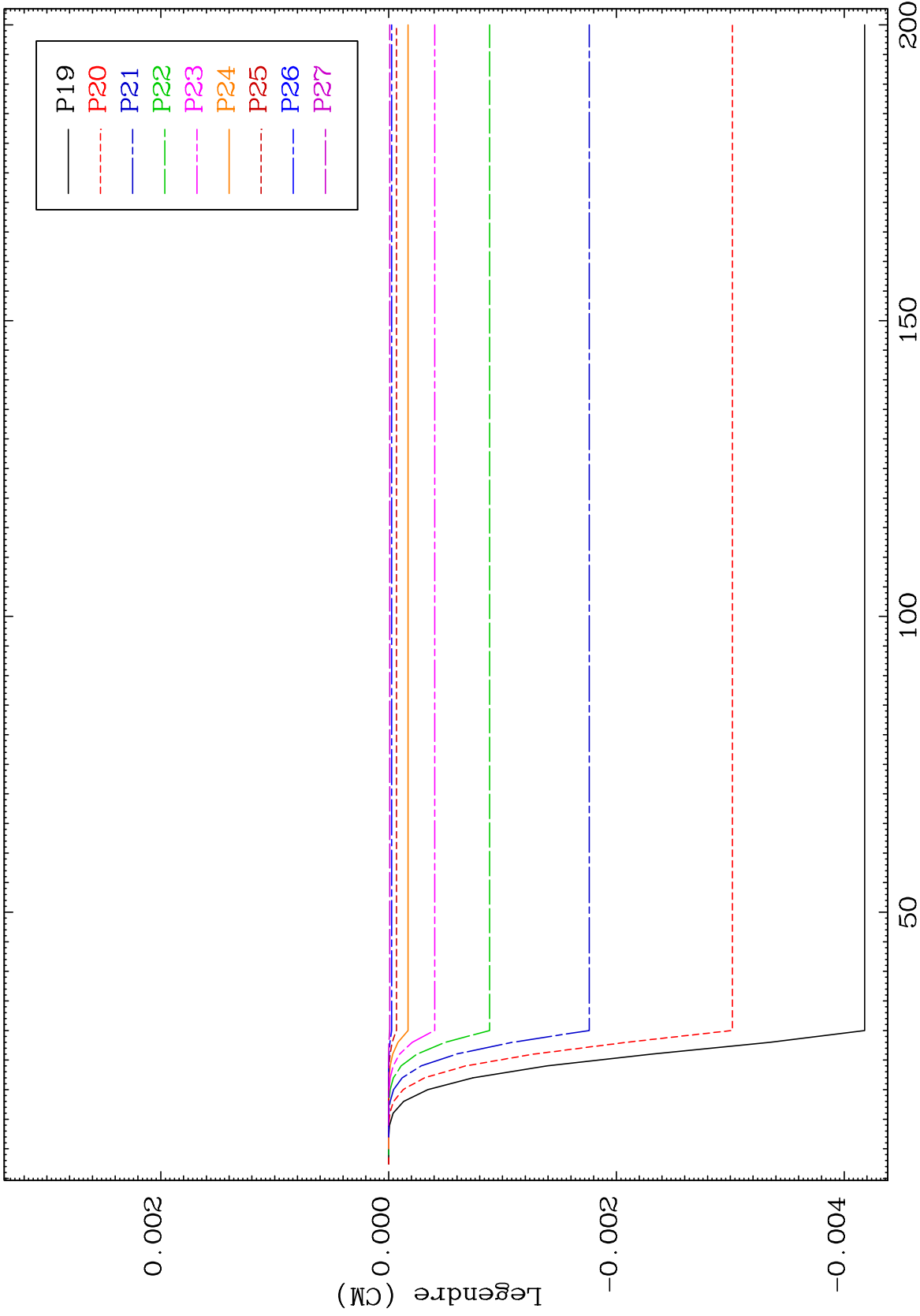
113



MAT 6016

MT= 74 (n,n') Level
Legendre Coefficients

60-Nd-139



114

Incident Energy (MeV)

60-Nd-139

MAT 6016

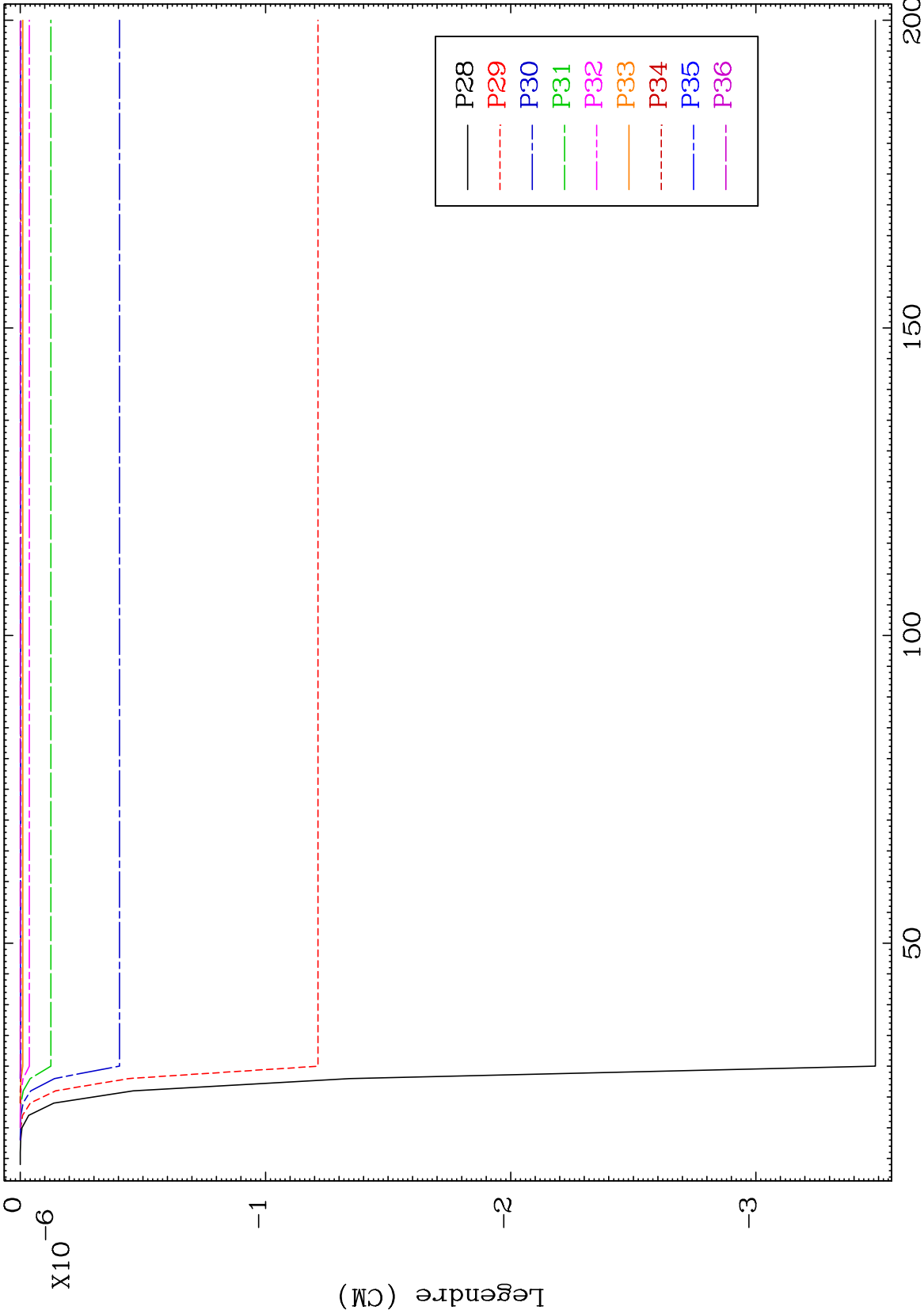
MT= 74 (n,n') Level
Legendre Coefficients

60-Nd-139

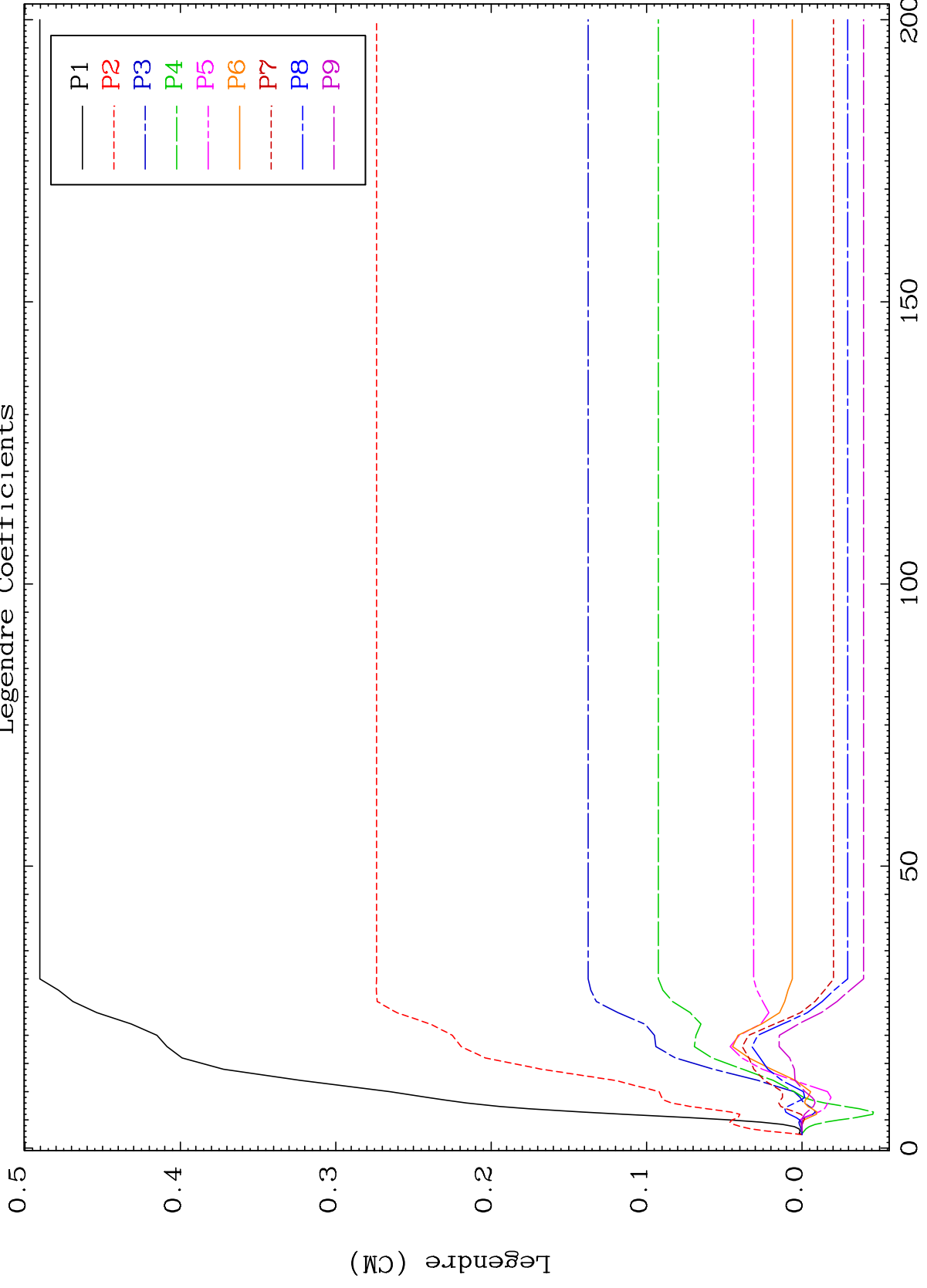
60-Nd-139

Incident Energy (MeV)

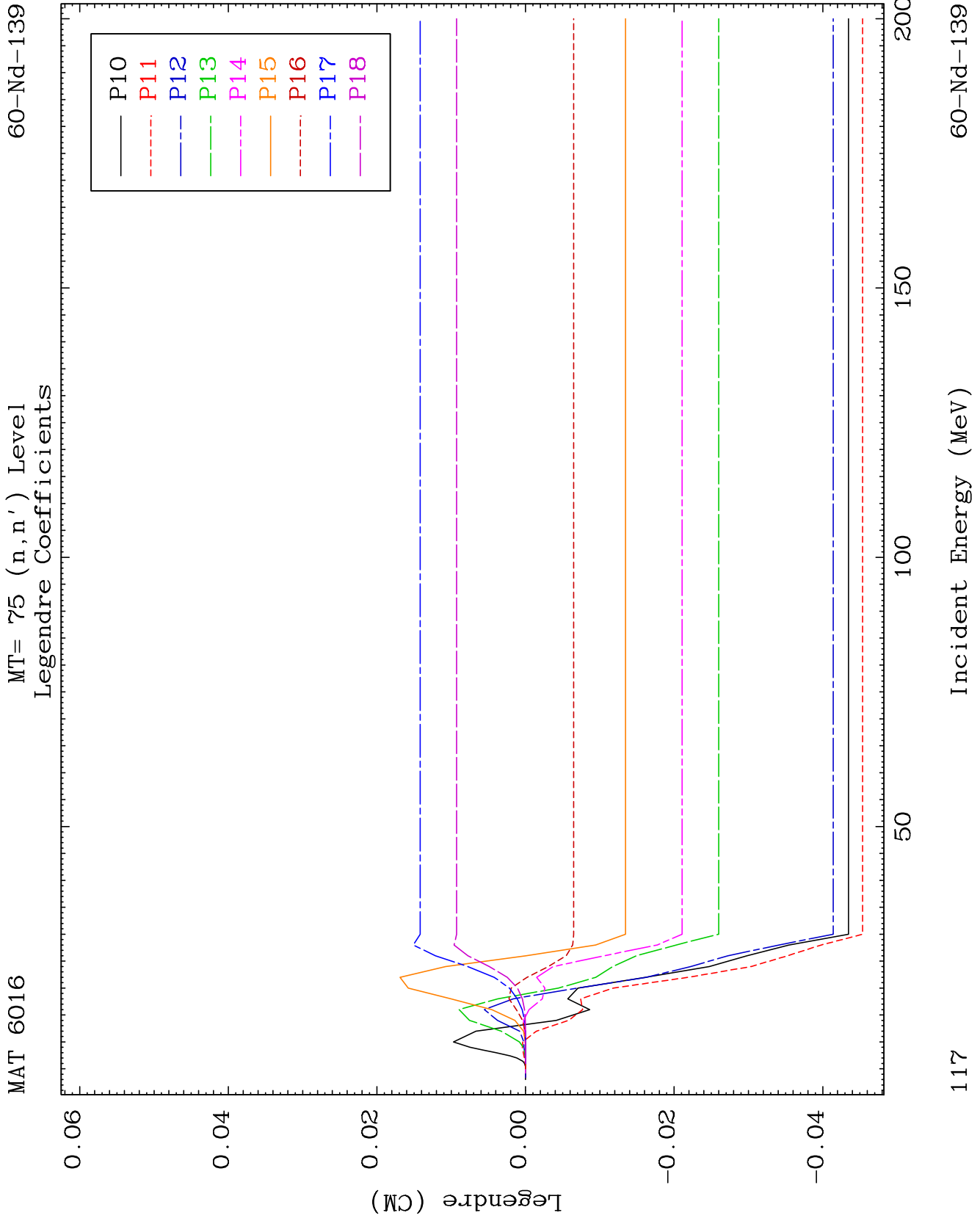
115



MAT 6016 MT= 75 (n,n') Level Legendre Coefficients 60-Nd-139



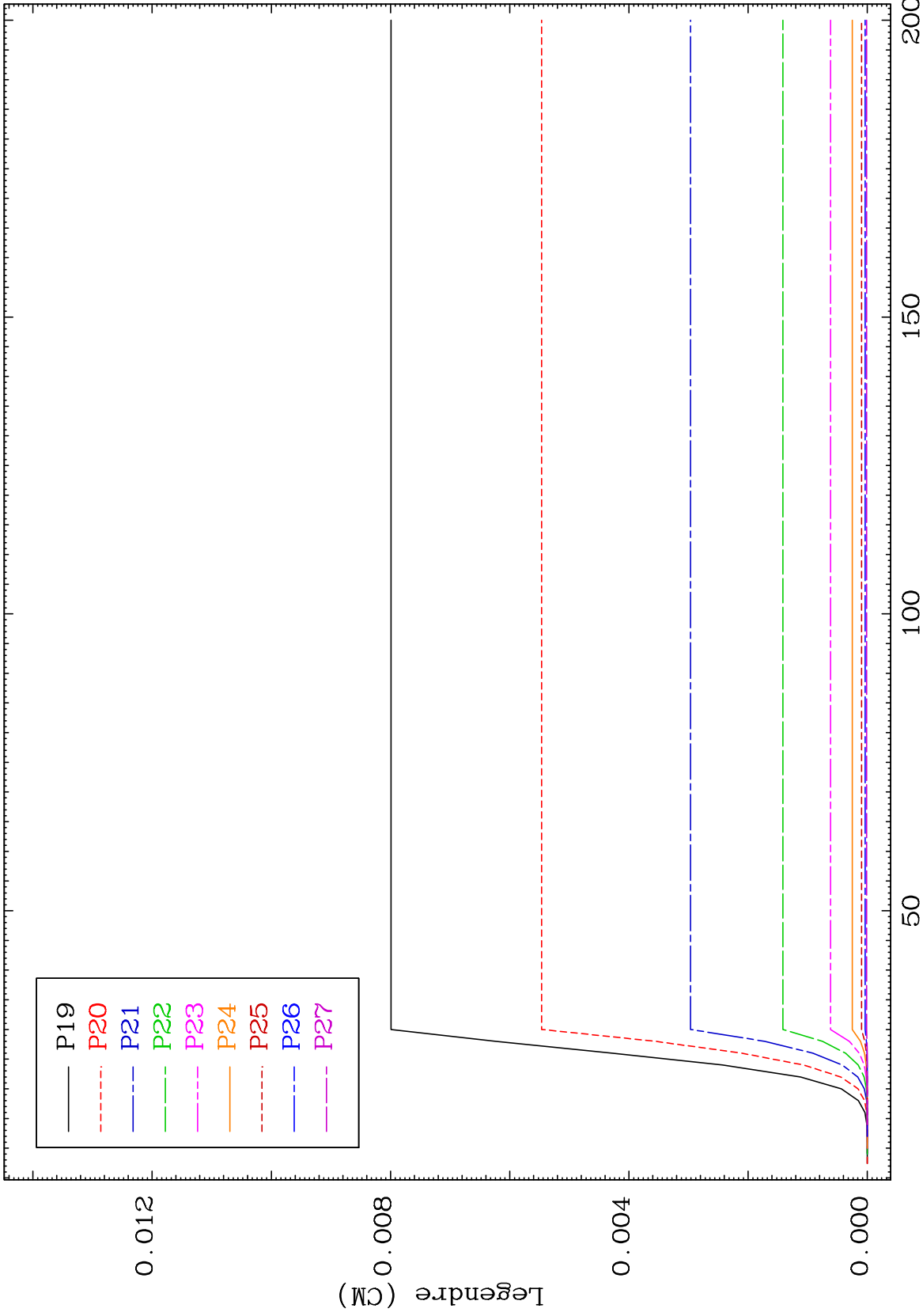
116 60-Nd-139



MAT 6016

MT= 75 (n,n') Level
Legendre Coefficients

60-Nd-139



118

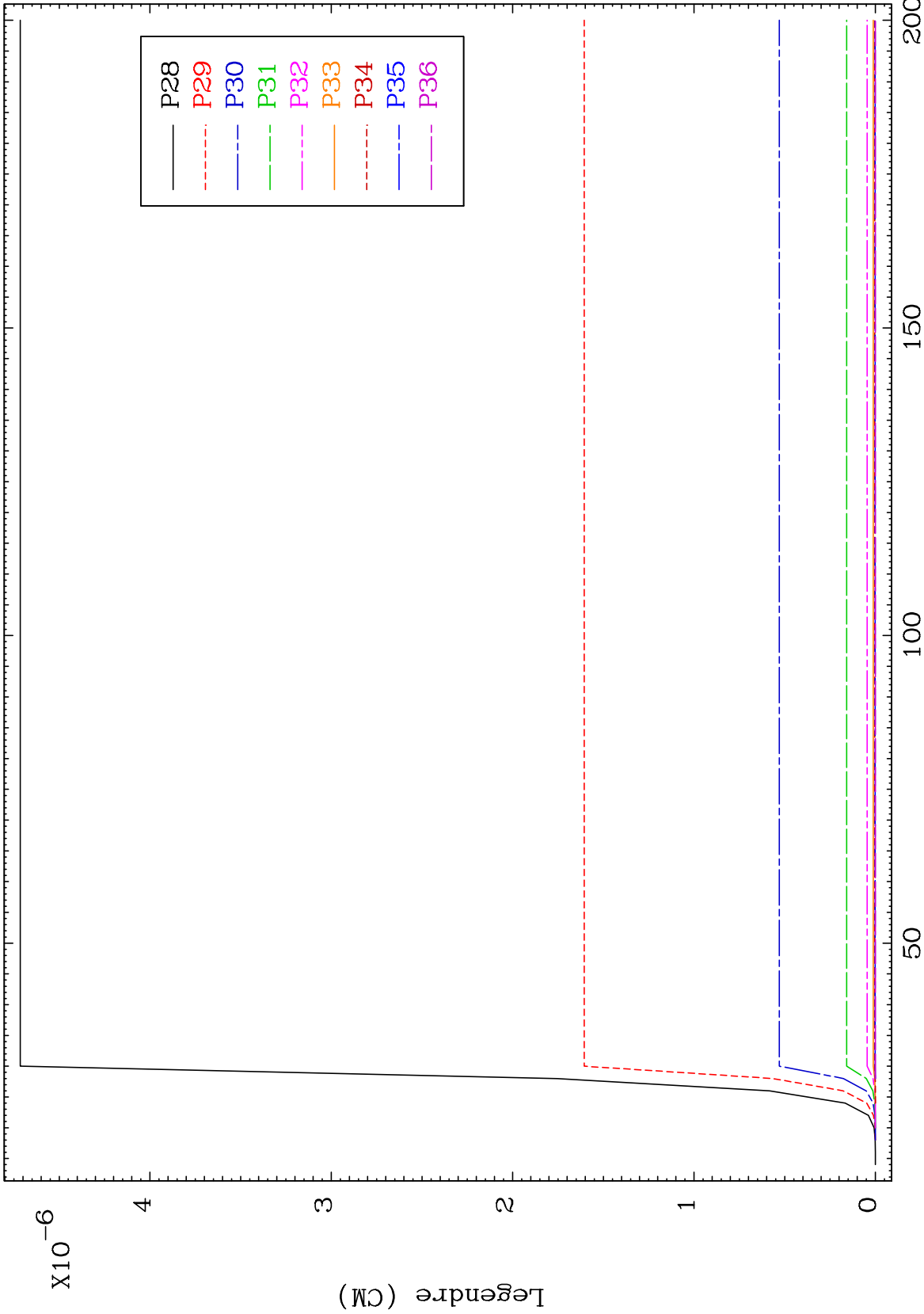
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 75 (n,n') Level
Legendre Coefficients

60-Nd-139



119

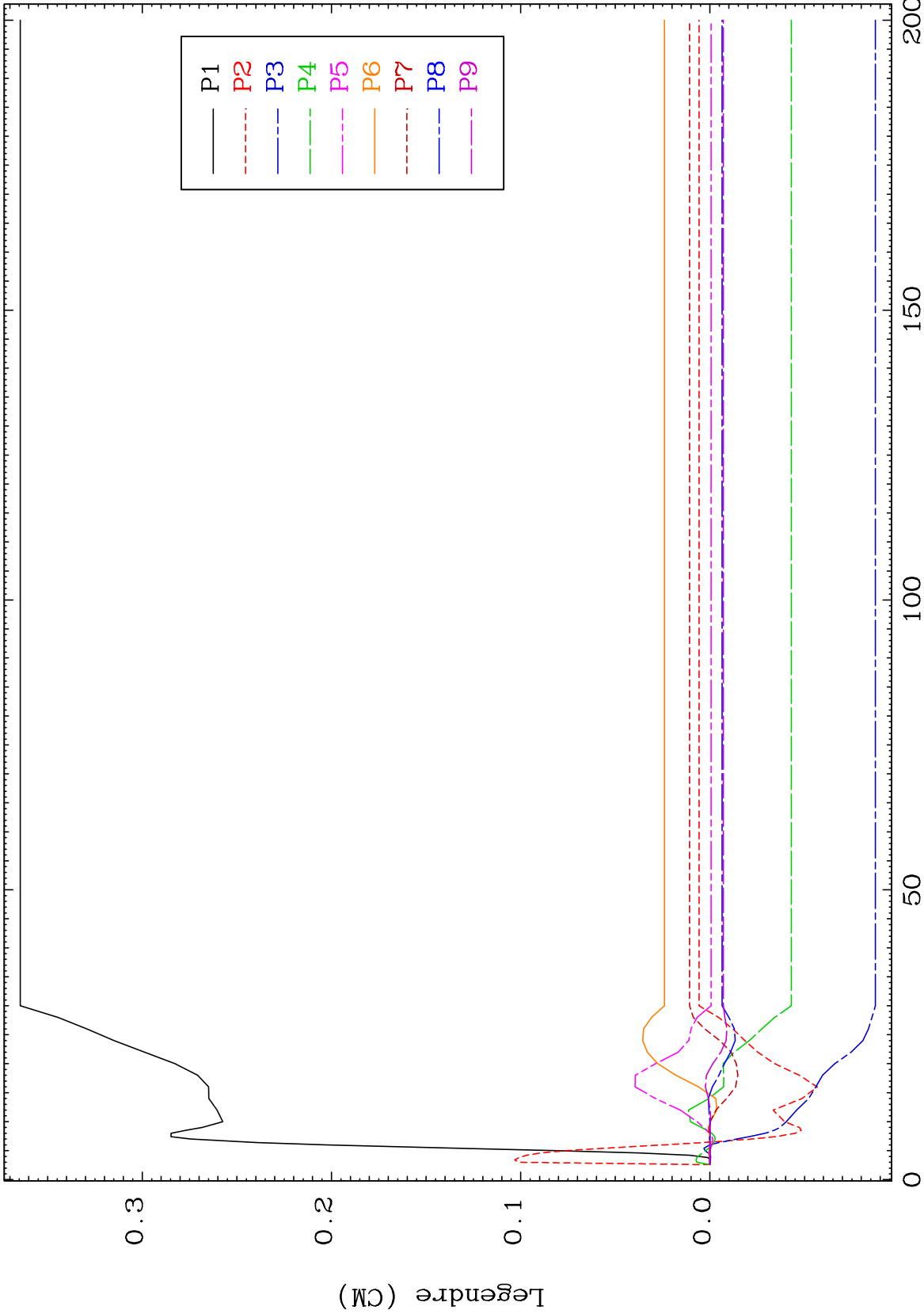
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 76 (n,n') Level
Legendre Coefficients

60-Nd-139



60-Nd-139

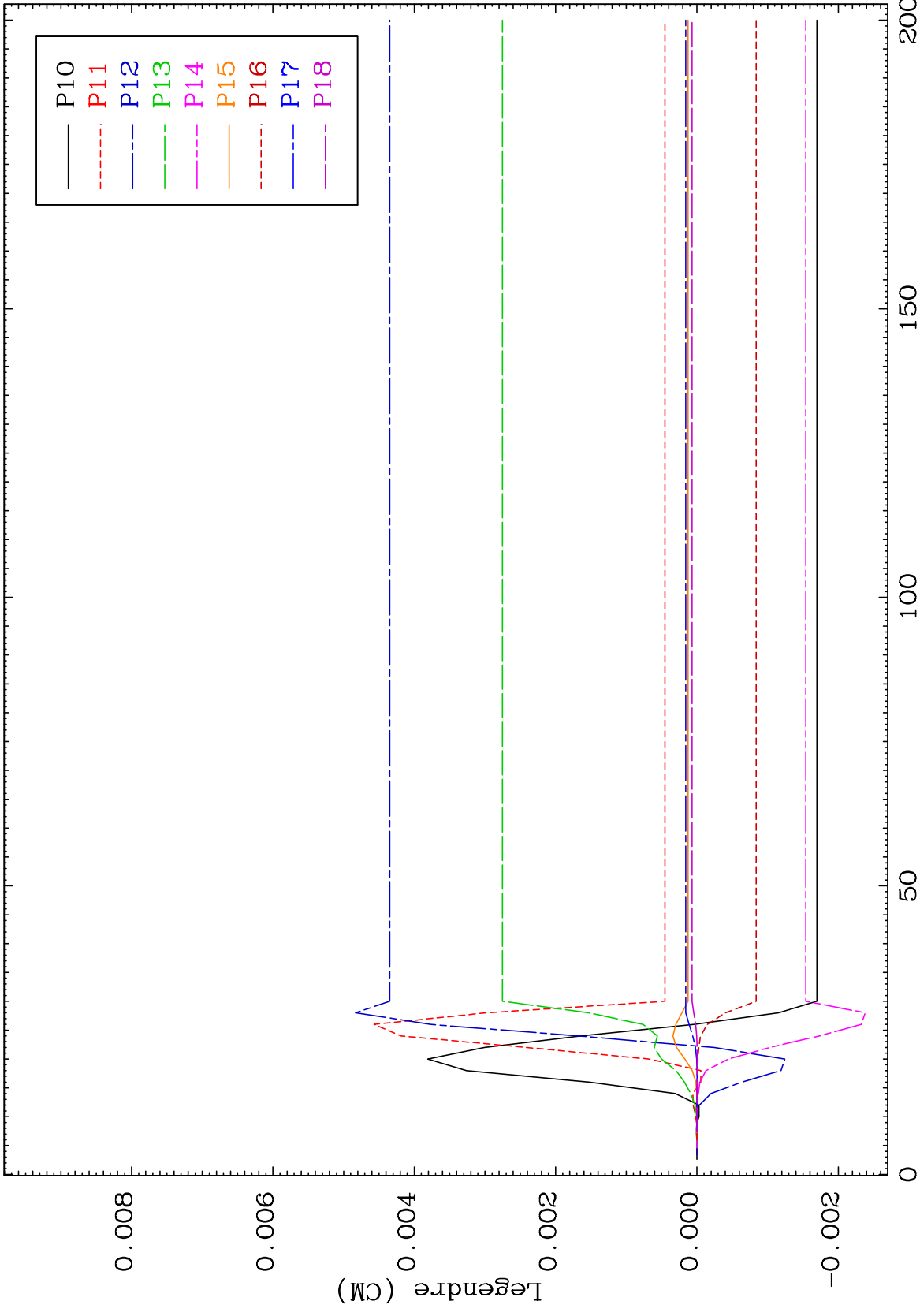
Incident Energy (MeV)

Legendre (CM)

MAT 6016

MT= 76 (n,n') Level
Legendre Coefficients

60-Nd-139



121

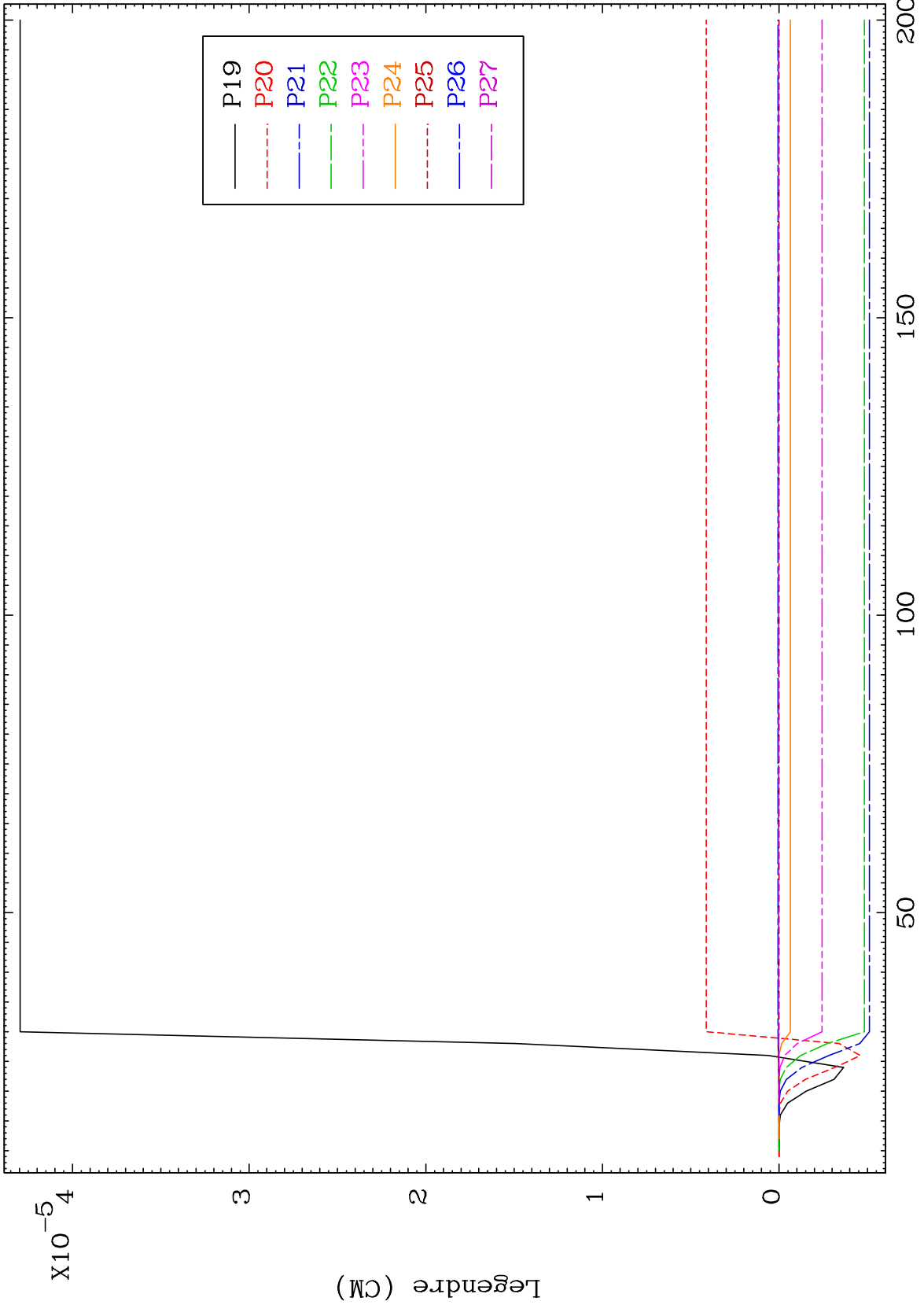
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 76 (n,n') Level
Legendre Coefficients

60-Nd-139



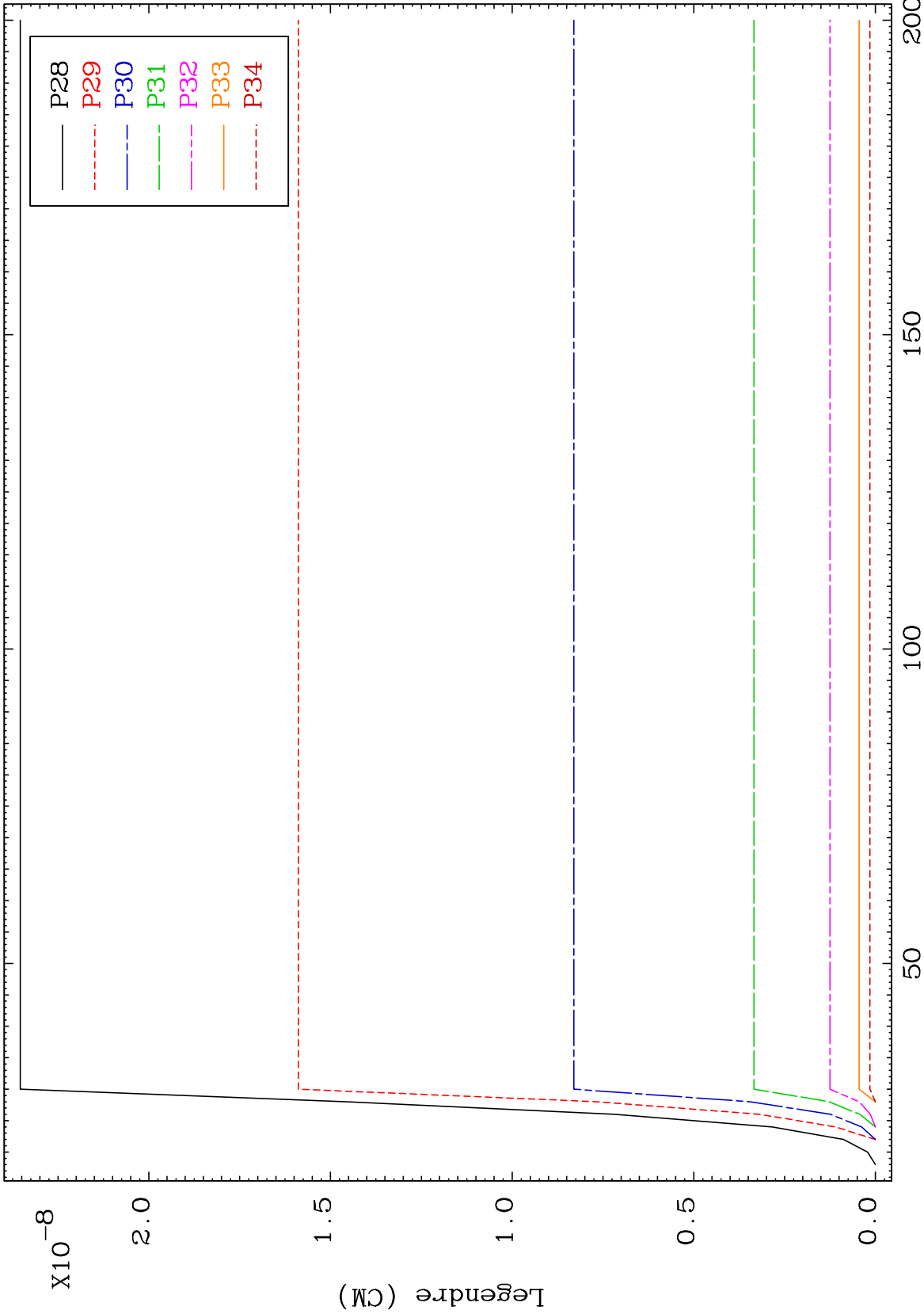
122

60-Nd-139

MAT 6016

MT= 76 (n,n') Level
Legendre Coefficients

60-Nd-139



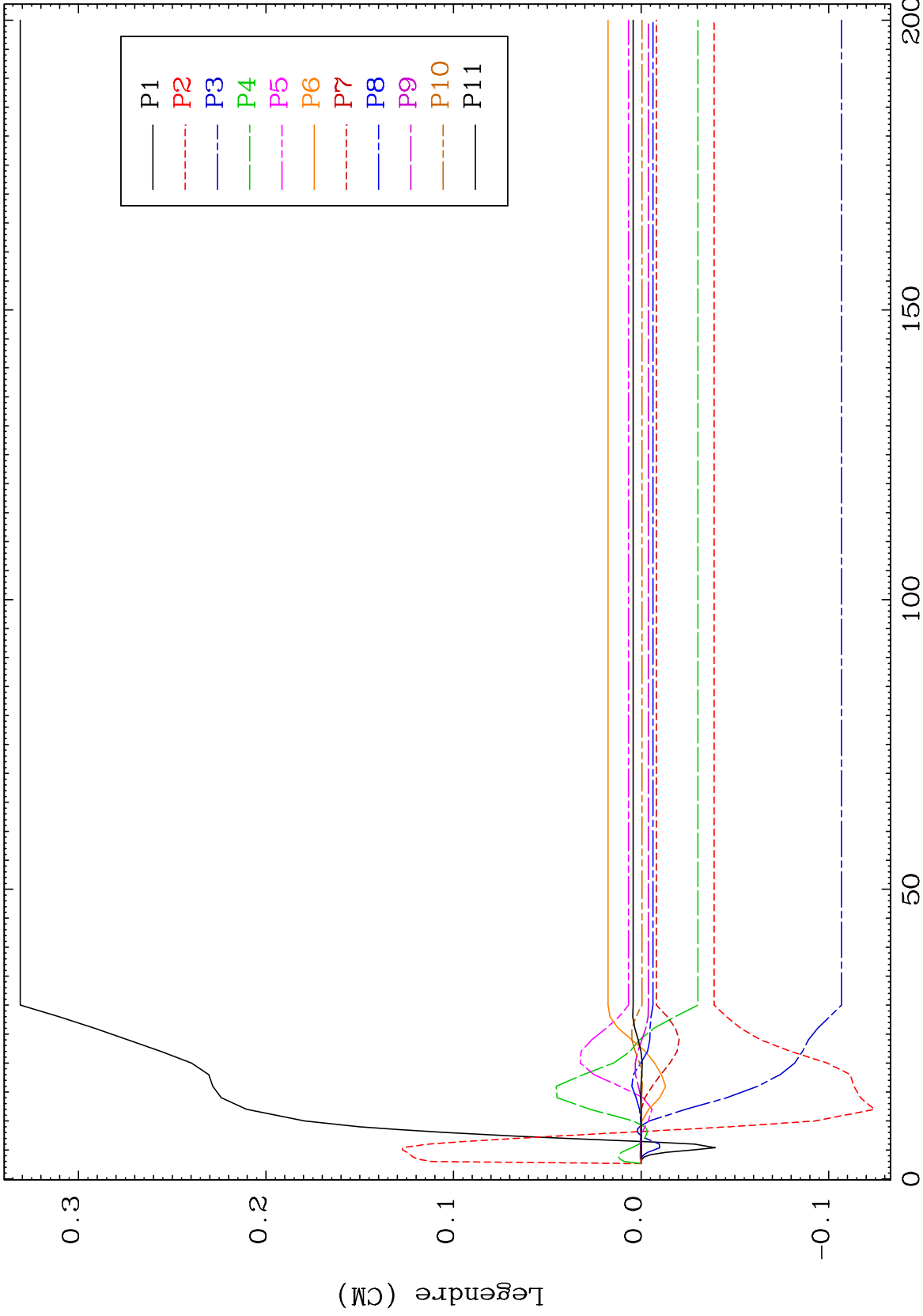
123

60-Nd-139

MAT 6016

MT= 77 (n,n') Level
Legendre Coefficients

60-Nd-139



60-Nd-139

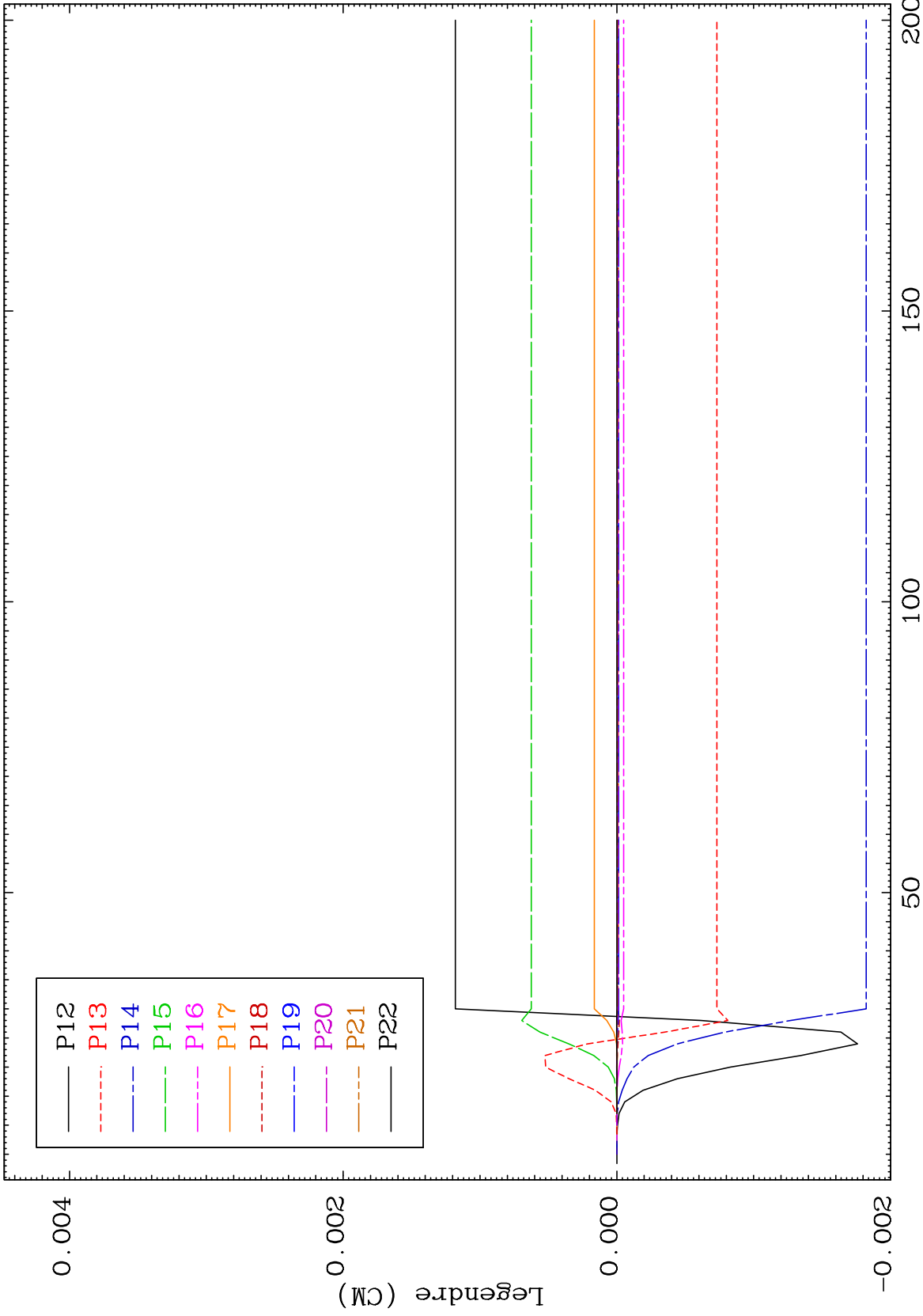
Incident Energy (MeV)

124

MAT 6016

MT= 77 (n,n') Level
Legendre Coefficients

60-Nd-139



125

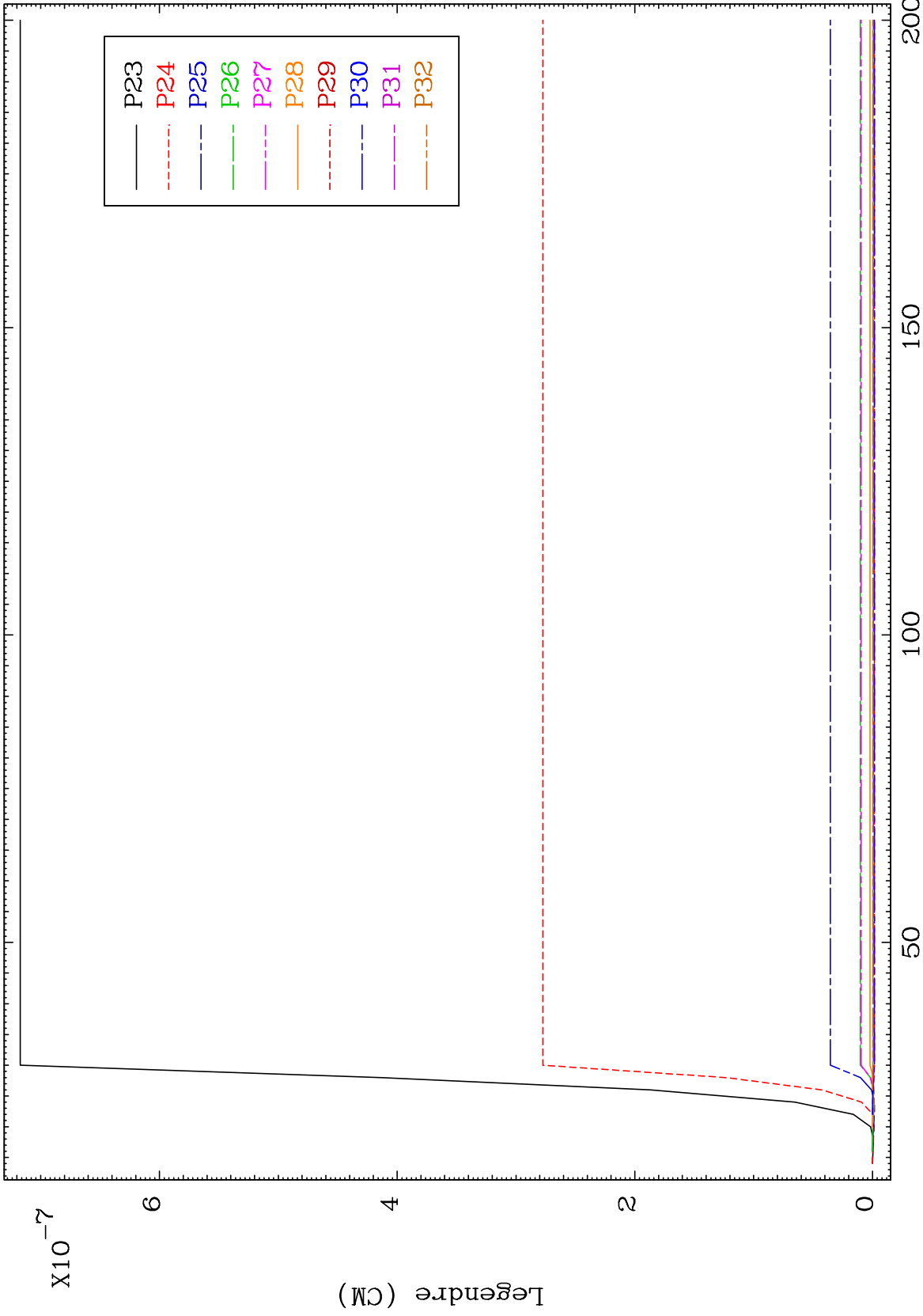
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 77 (n,n') Level
Legendre Coefficients

60-Nd-139



126

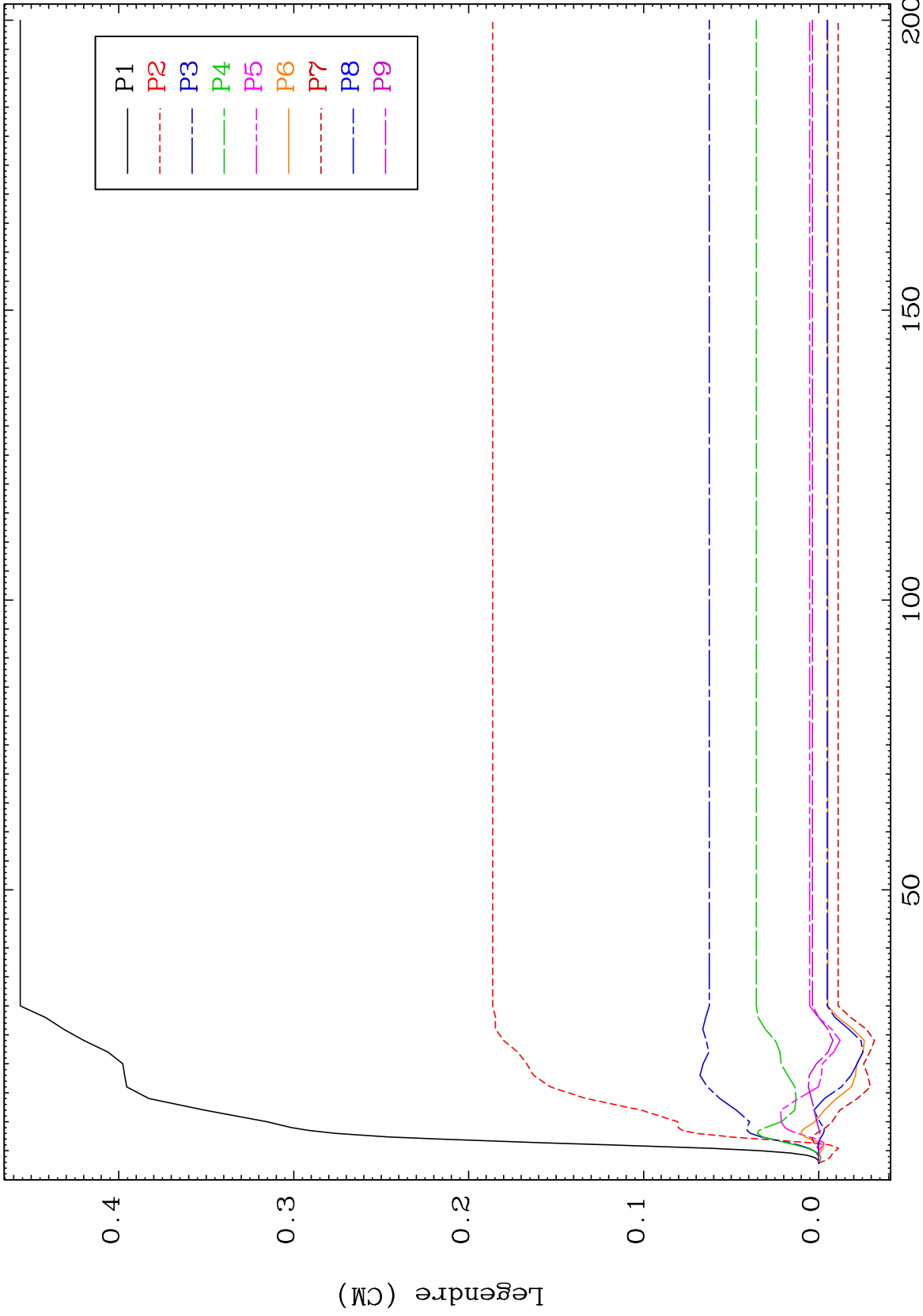
Incident Energy (MeV)

60-Nd-139

MAT 6016

MT= 78 (n,n') Level
Legendre Coefficients

60-Nd-139



127

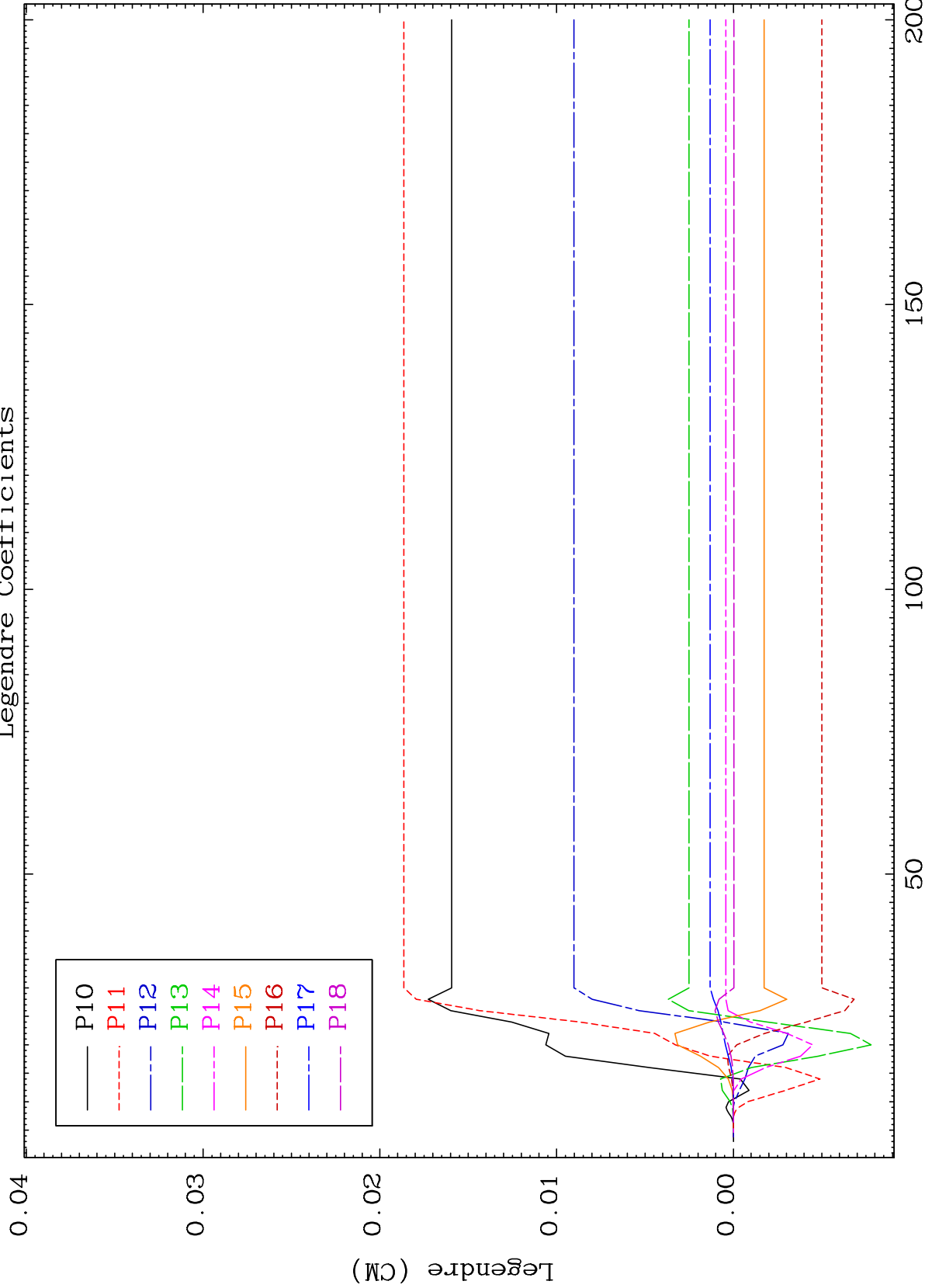
Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 78 (n,n') Level Legendre Coefficients

60-Nd-139

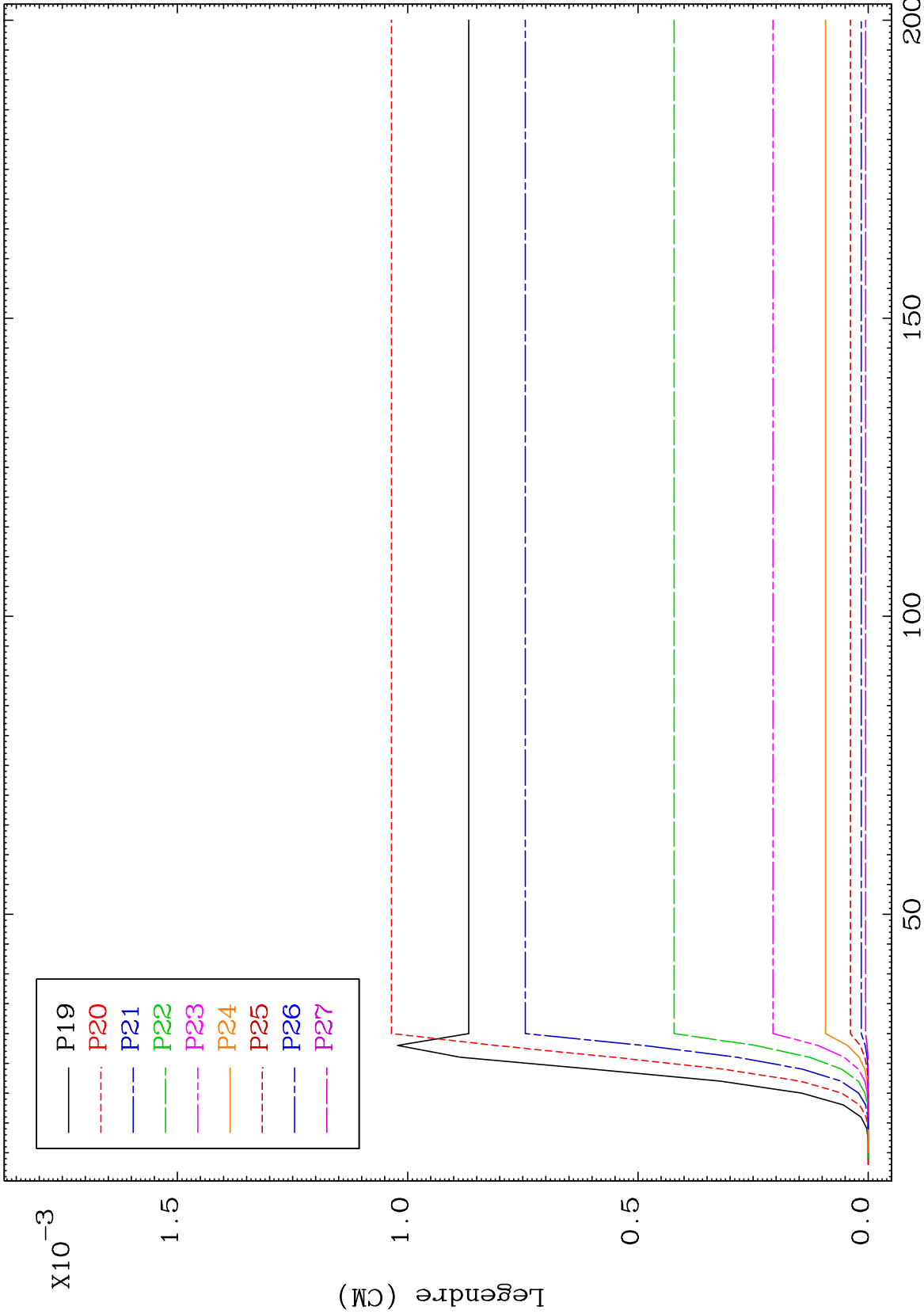
60-Nd-139



MAT 6016

MT= 78 (n,n') Level
Legendre Coefficients

60-Nd-139

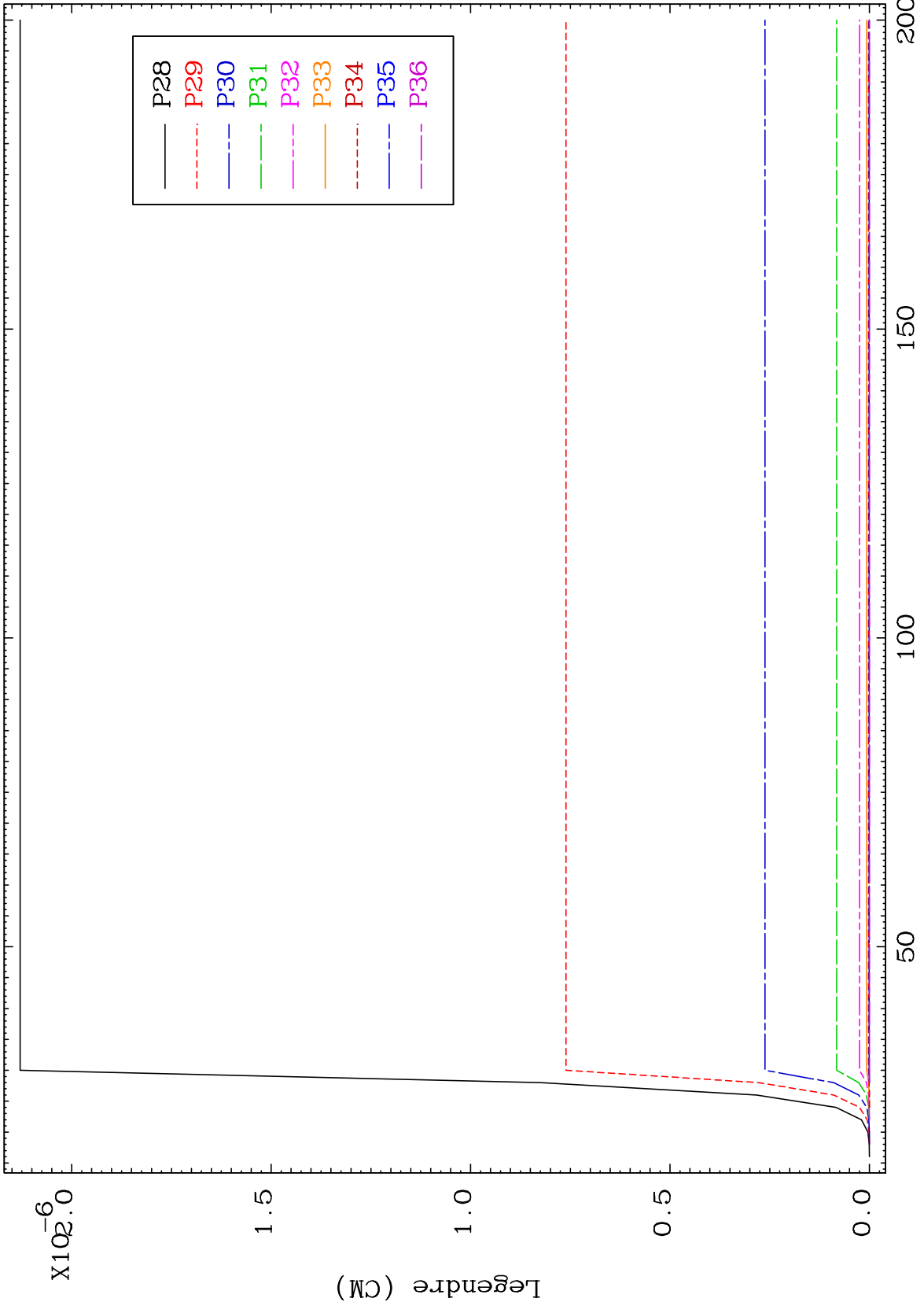


129

Incident Energy (MeV)

60-Nd-139

MAT 6016 MT= 78 (n,n') Level Legendre Coefficients 60-Nd-139

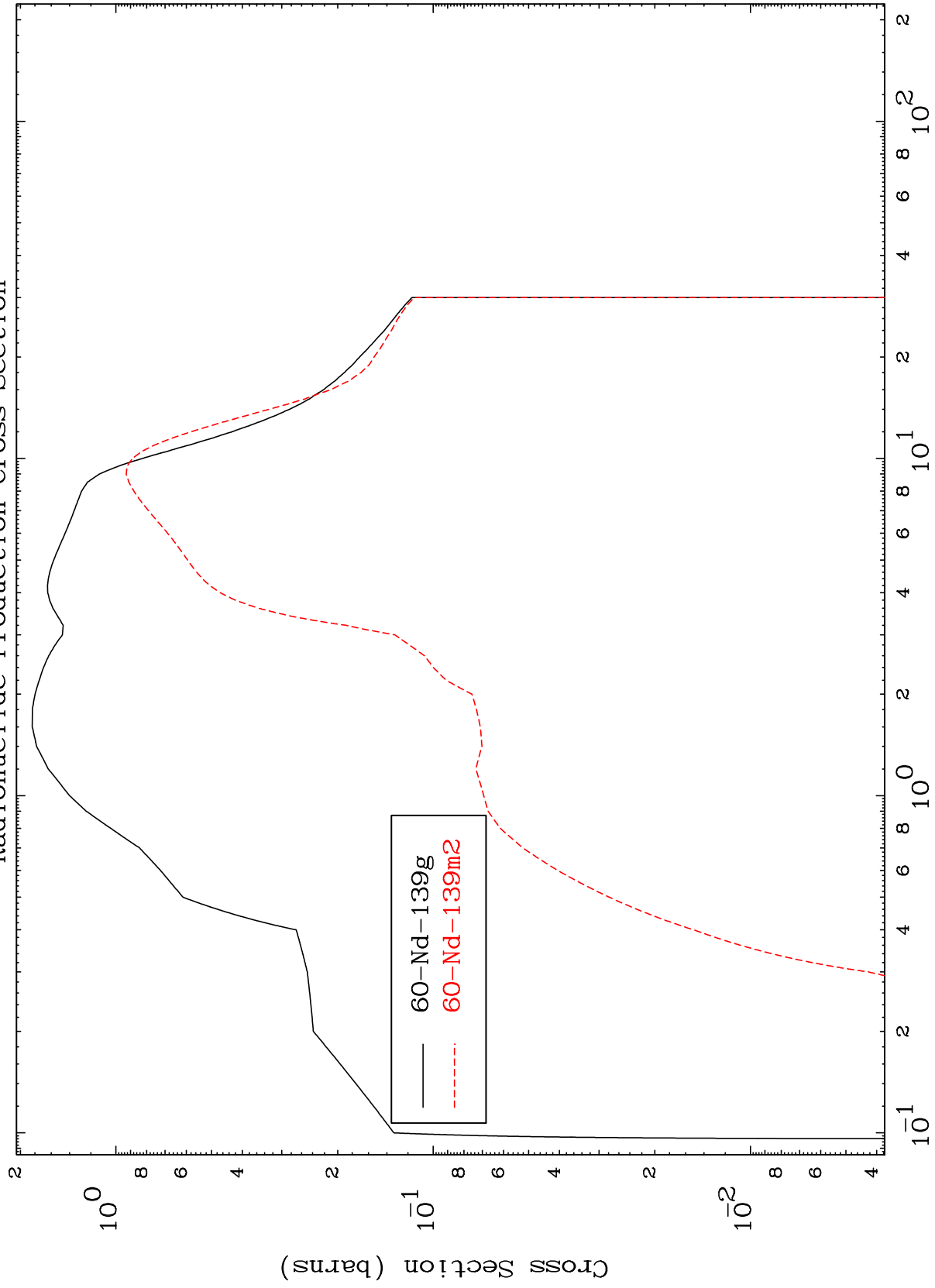


130 Incident Energy (MeV) 60-Nd-139

MAT 6016

60-Nd-139

Inelastic Radionuclide Production Cross Section



131

Incident Energy (MeV)

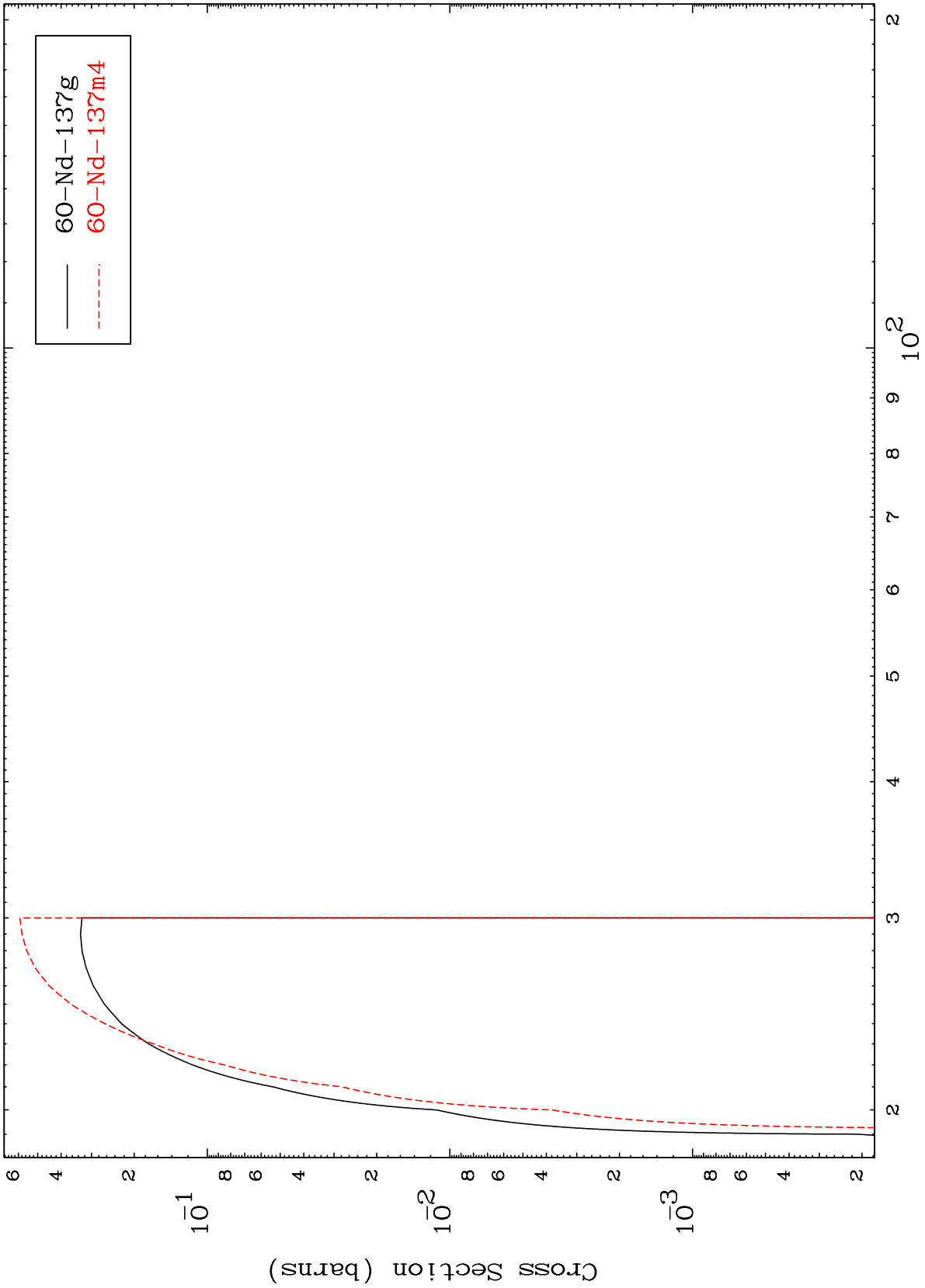
60-Nd-139

MAT 6016

(n,3n)

60-Nd-139

Radionuclide Production Cross Section



132

Incident Energy (MeV)

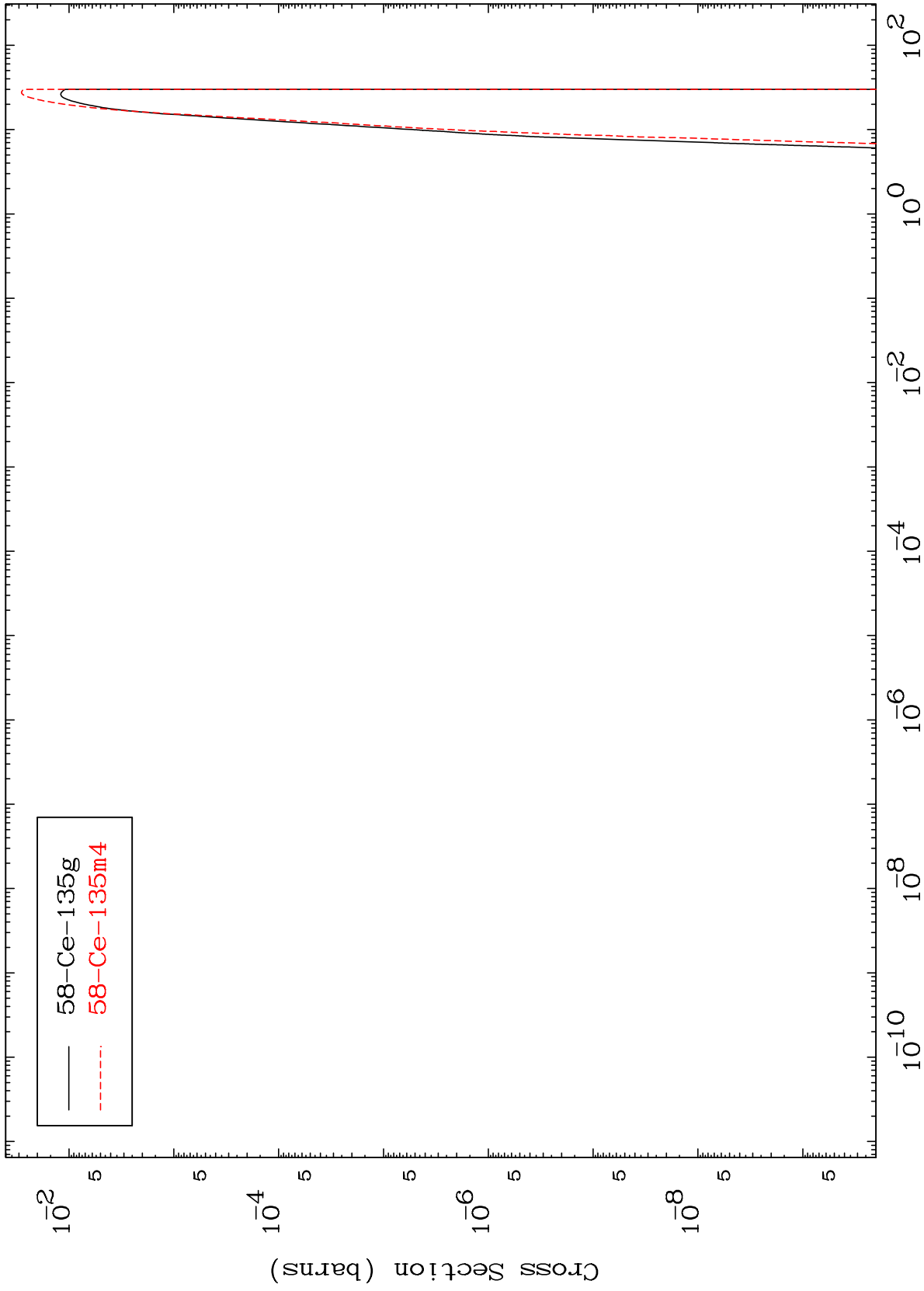
60-Nd-139

MAT 6016

(n,n') α

60-Nd-139

Radionuclide Production Cross Section



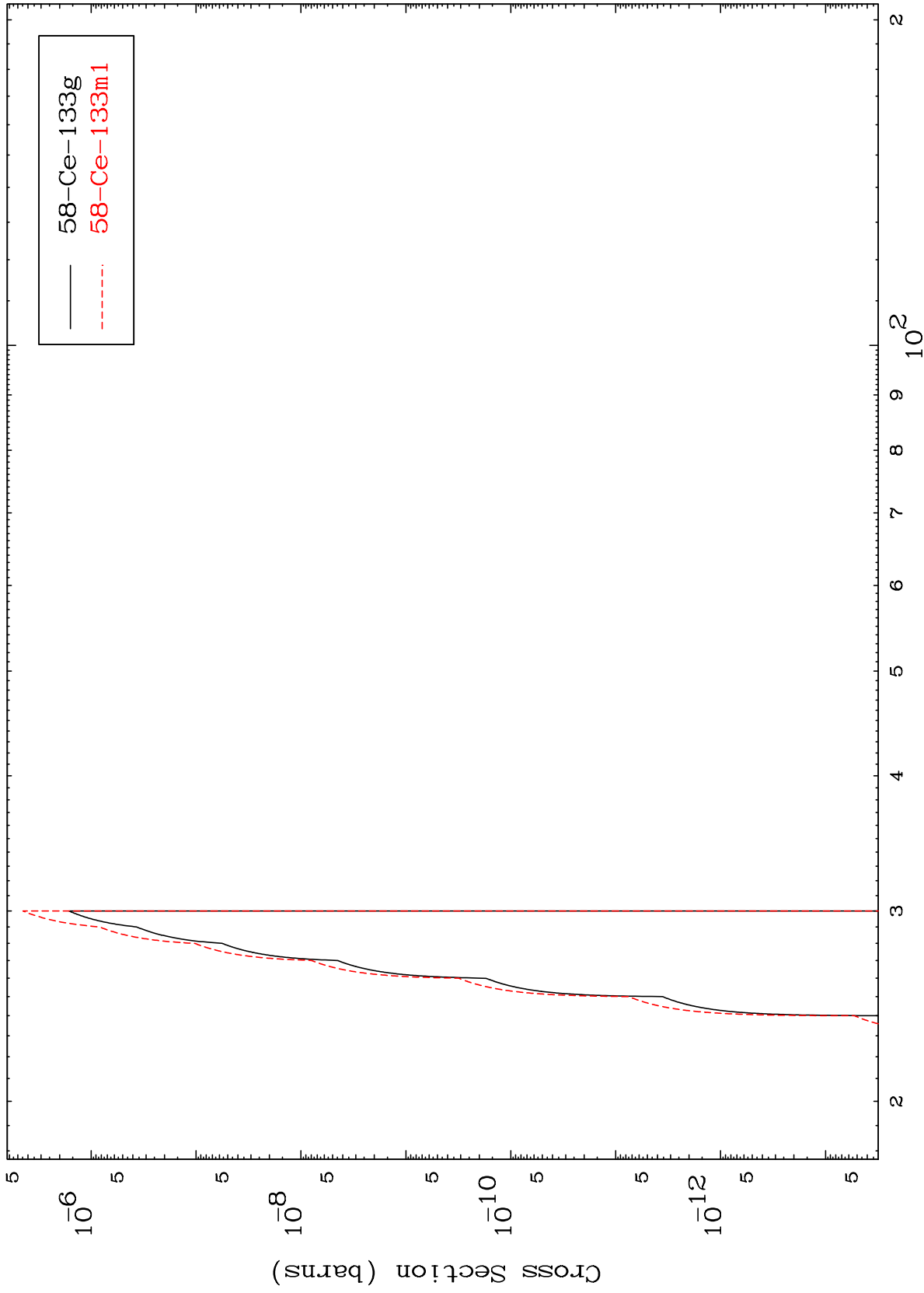
58-Ce-135g
58-Ce-135m4

MAT 6016

(n,3n) α

$^{60}\text{Nd}-^{139}$

Radionuclide Production Cross Section



134

Incident Energy (MeV)

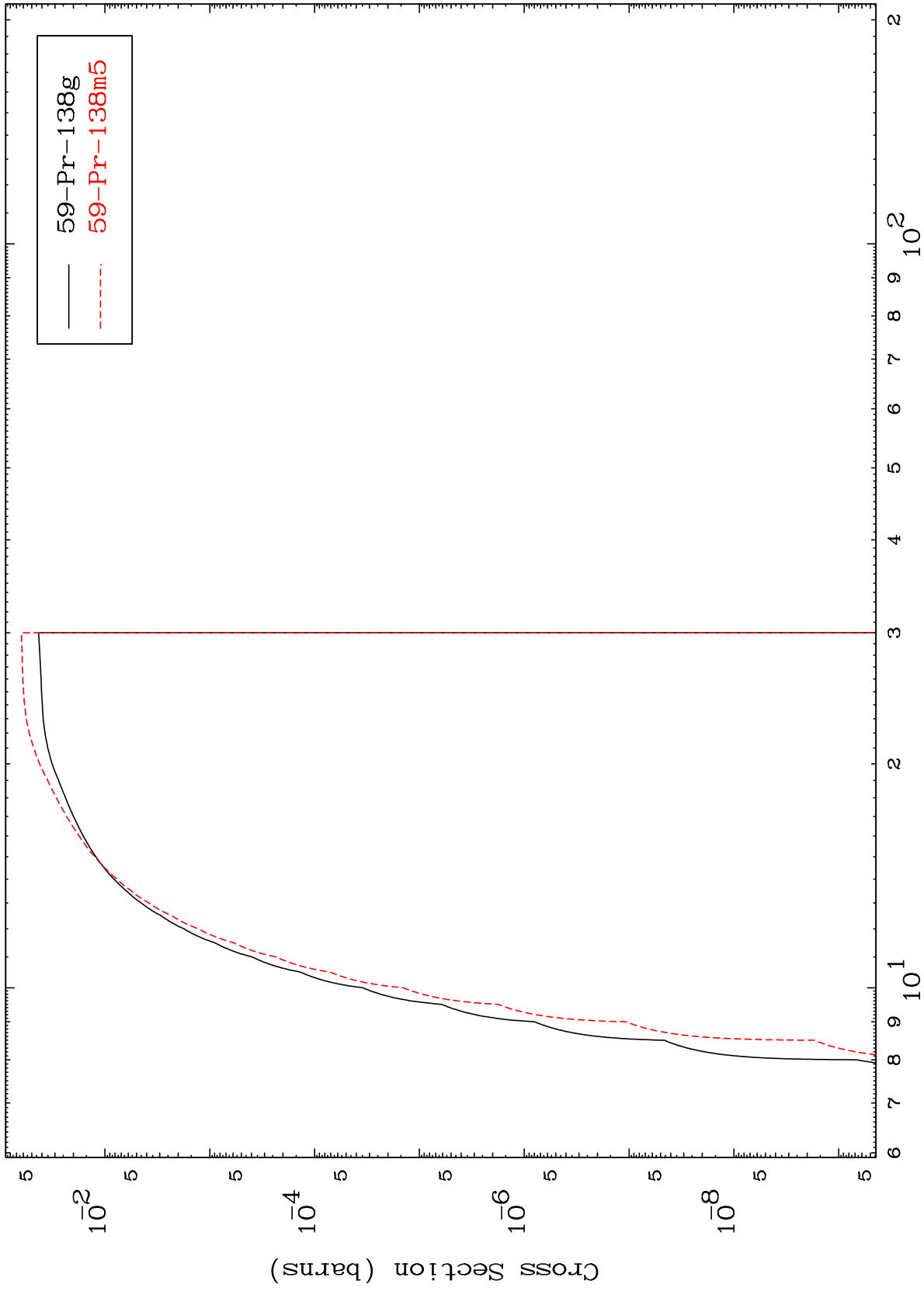
$^{60}\text{Nd}-^{139}$

MAT 6016

(n,n') p

60-Nd-139

Radionuclide Production Cross Section



135

Incident Energy (MeV)

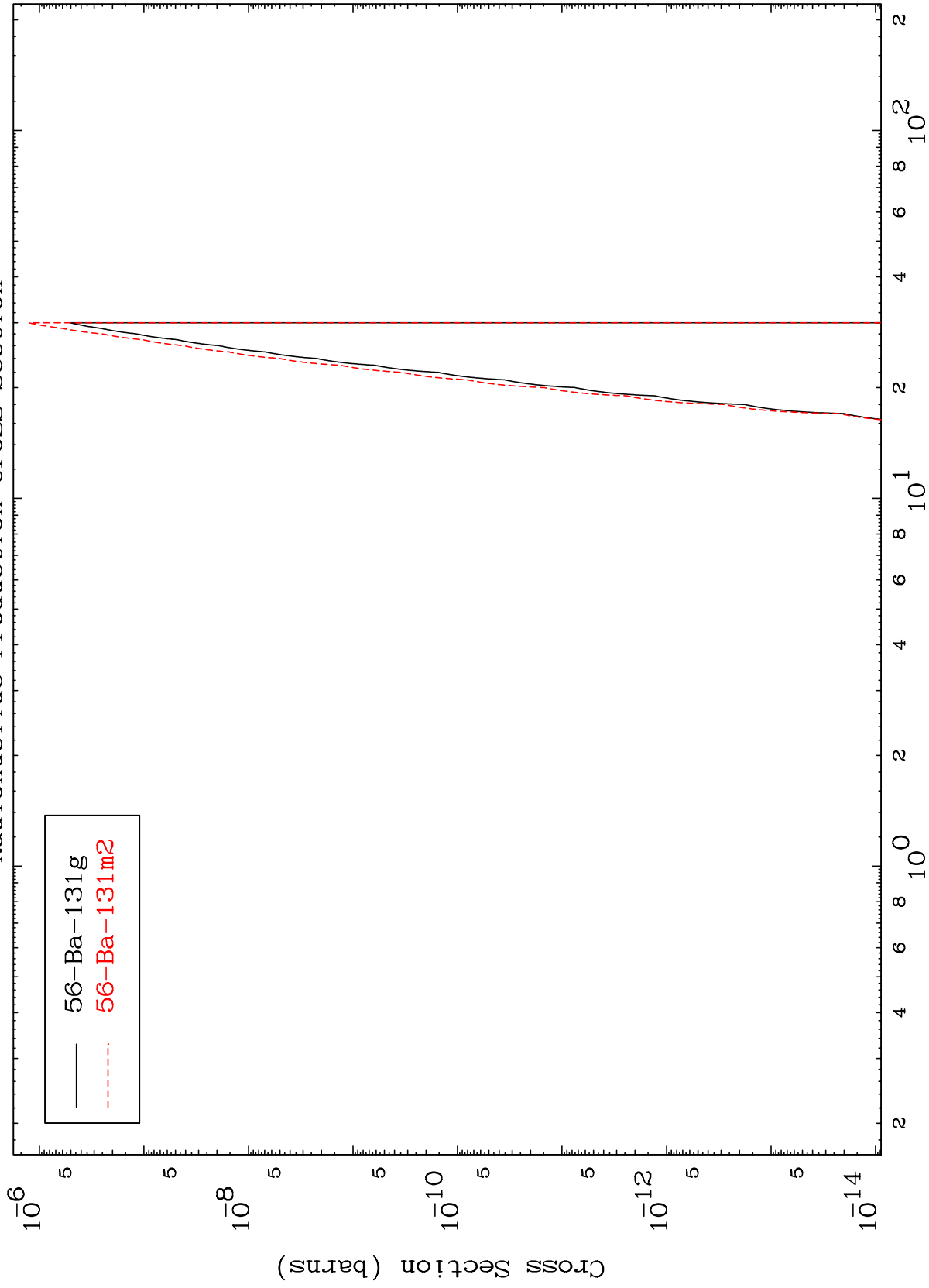
60-Nd-139

MAT 6016

(n,n') 2 α

60-Nd-139

Radionuclide Production Cross Section



56-Ba-131g
56-Ba-131m2

136

Incident Energy (MeV)

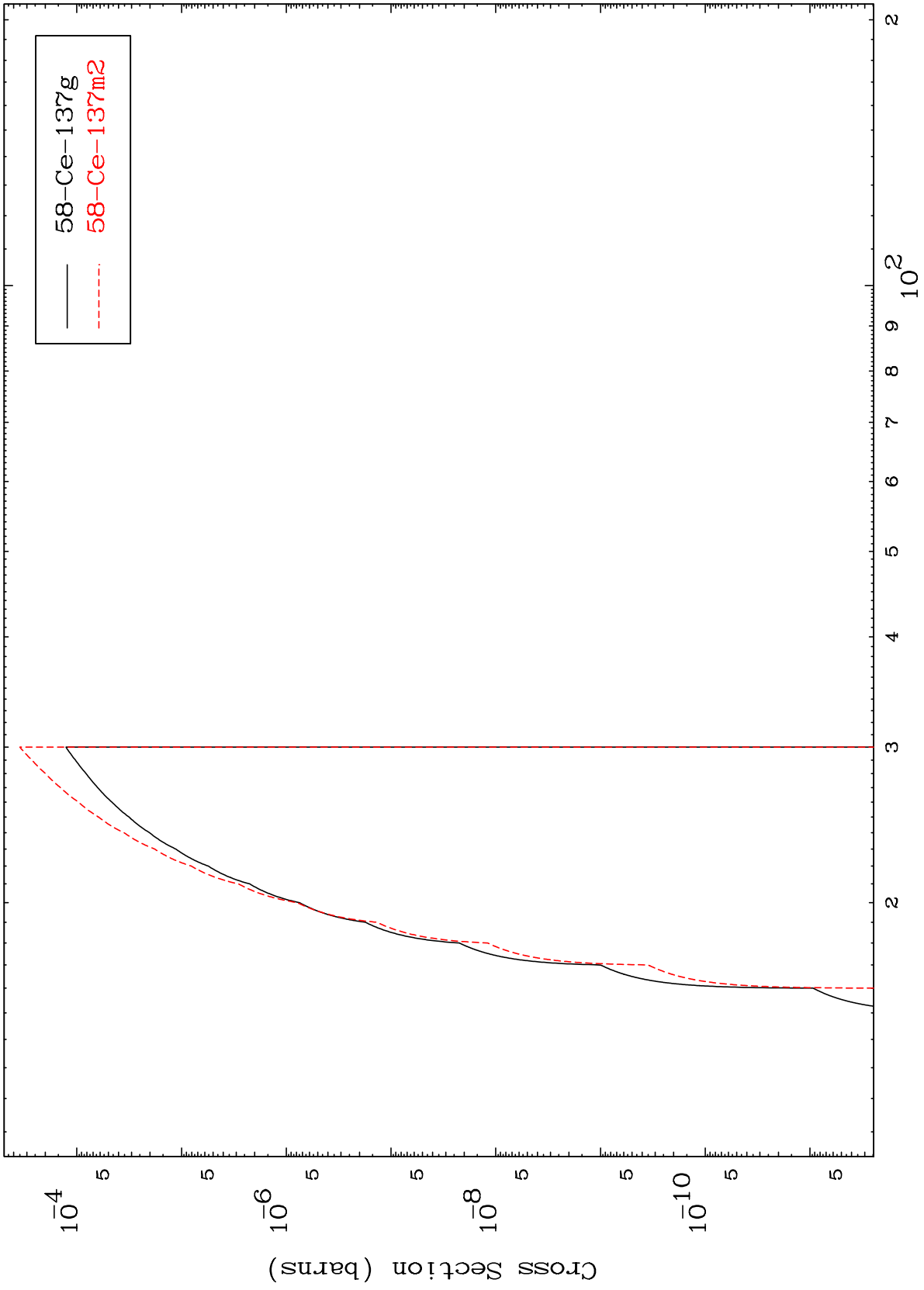
60-Nd-139

MAT 6016

(n,2n) p

60-Nd-139

Radionuclide Production Cross Section



137

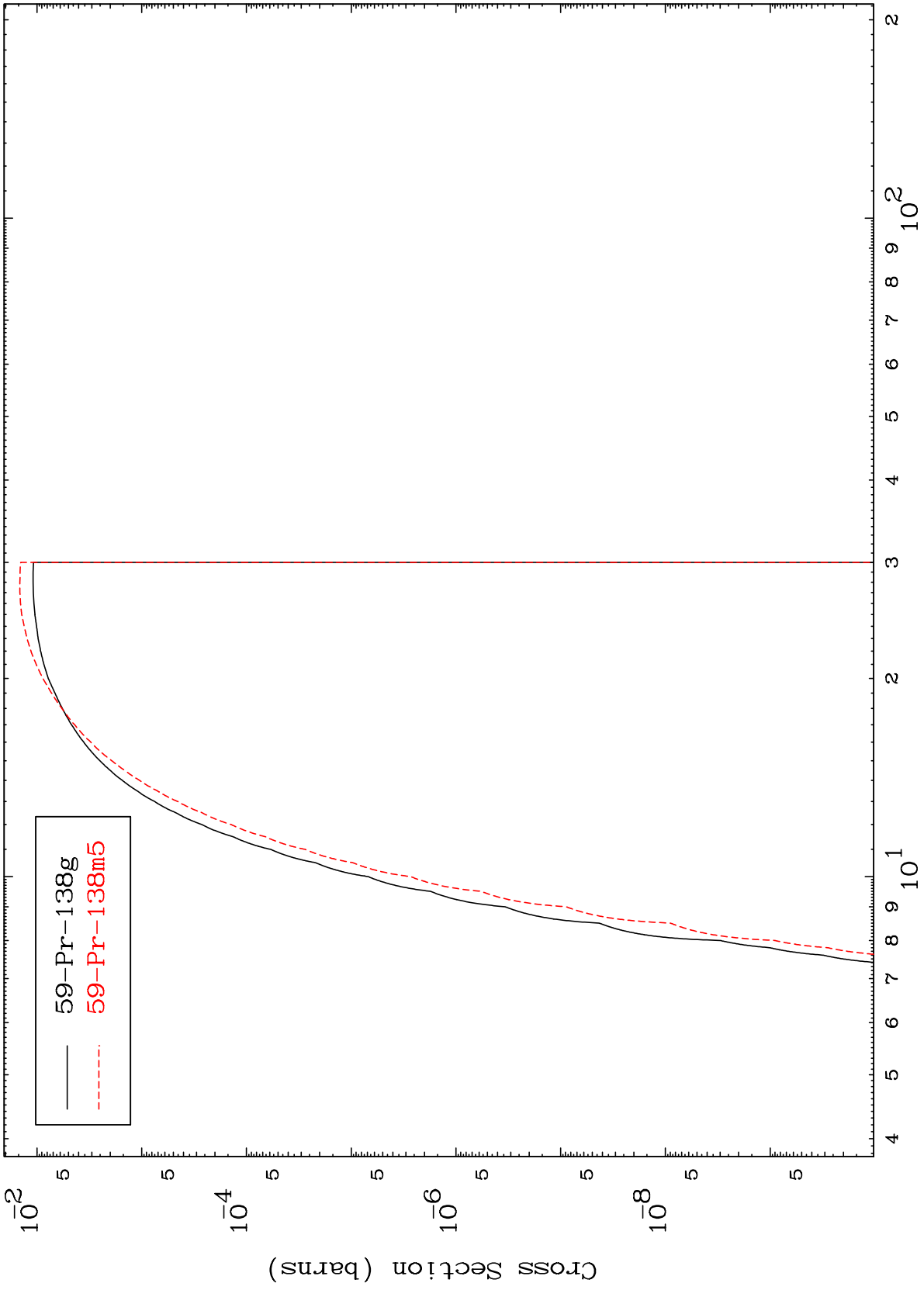
Incident Energy (MeV)

60-Nd-139

MAT 6016

60-Nd-139

(n,d)
Radionuclide Production Cross Section



138

Incident Energy (MeV)

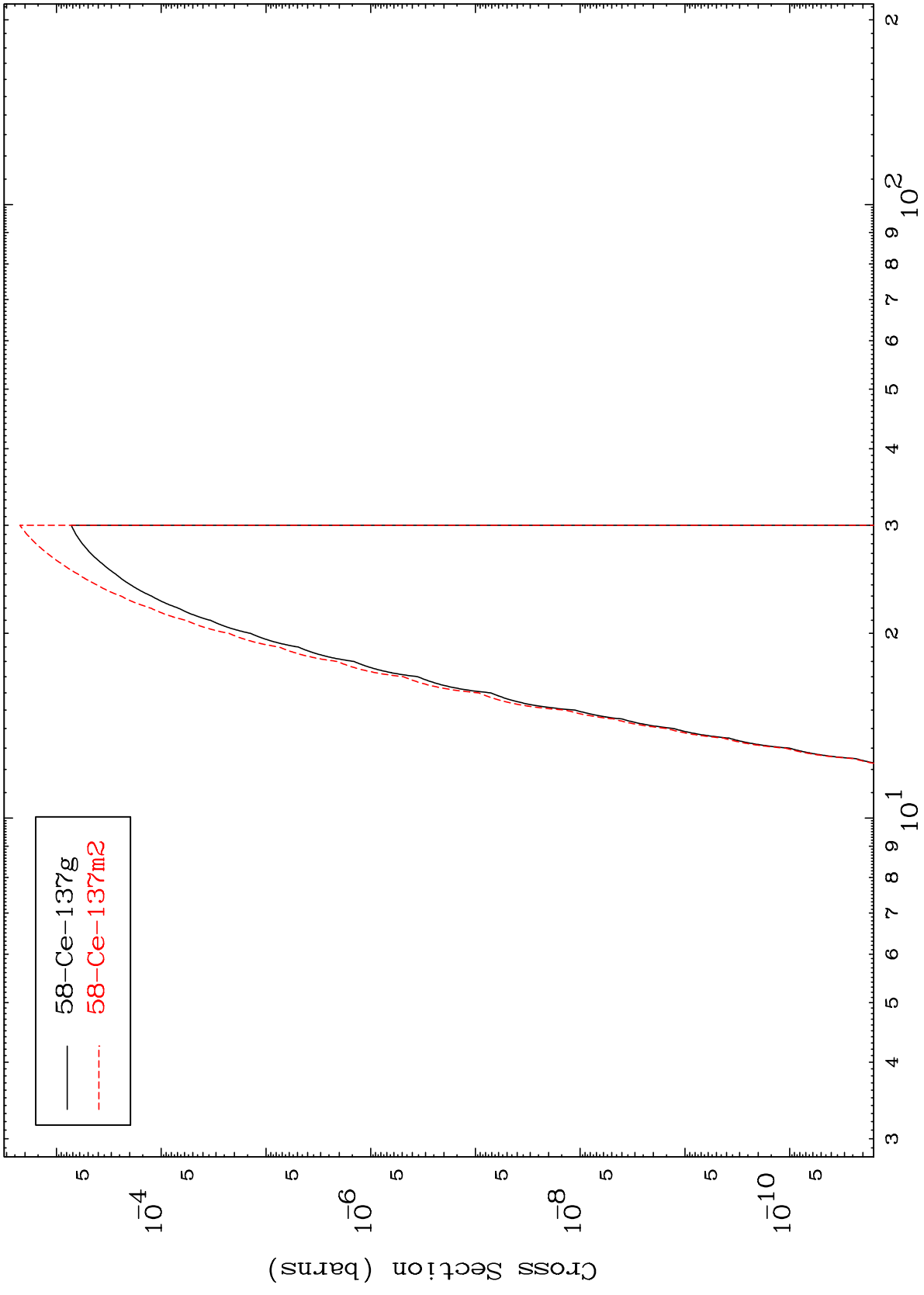
60-Nd-139

MAT 6016

(n, He-3)

60-Nd-139

Radionuclide Production Cross Section



58-Ce-137g
58-Ce-137m2

139

Incident Energy (MeV)

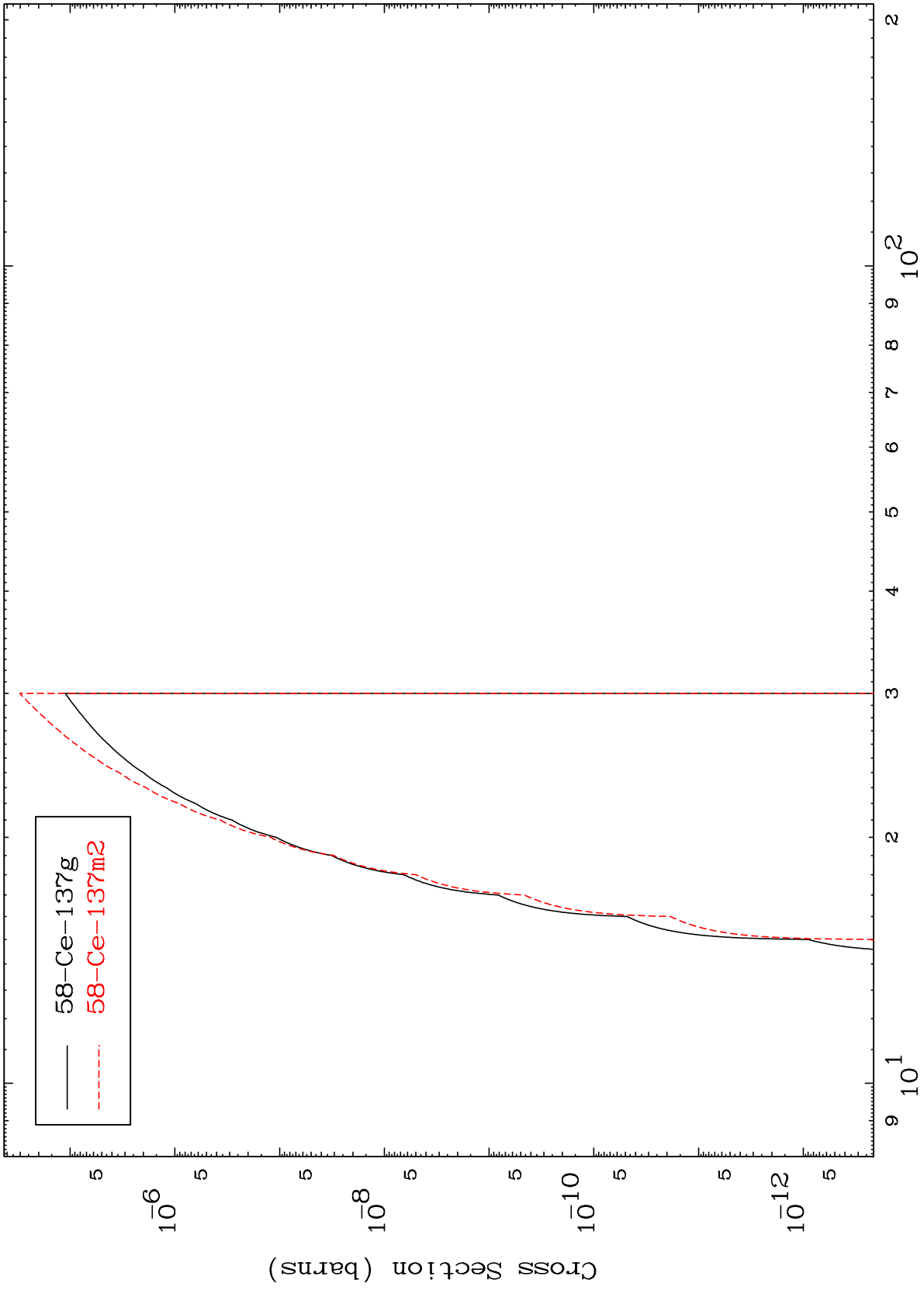
60-Nd-139

MAT 6016

(n,p) d

⁶⁰Nd-139

Radionuclide Production Cross Section



140

Incident Energy (MeV)

⁶⁰Nd-139