

Program EVALPLOT  
(Version 2021-1)

by

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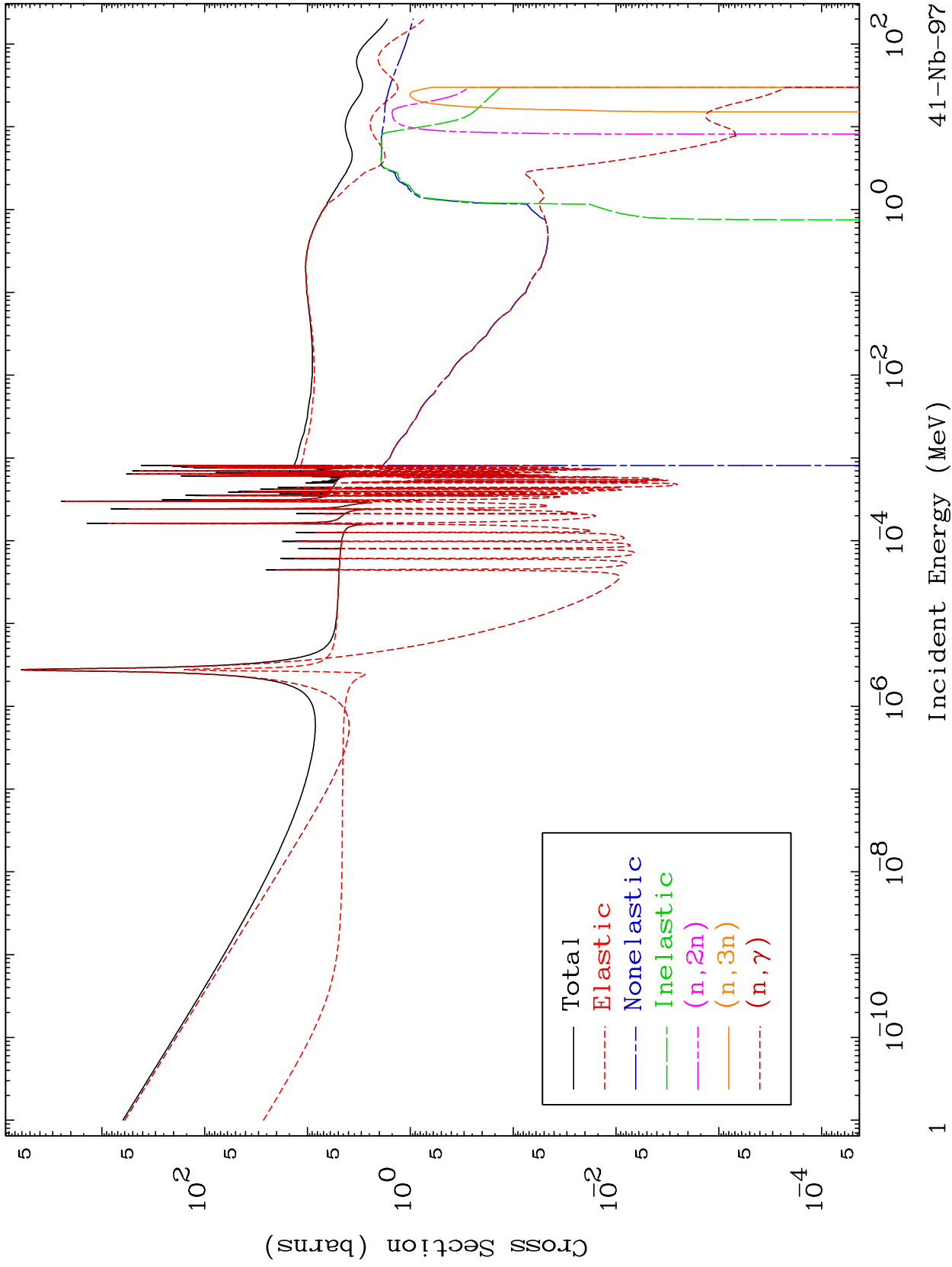
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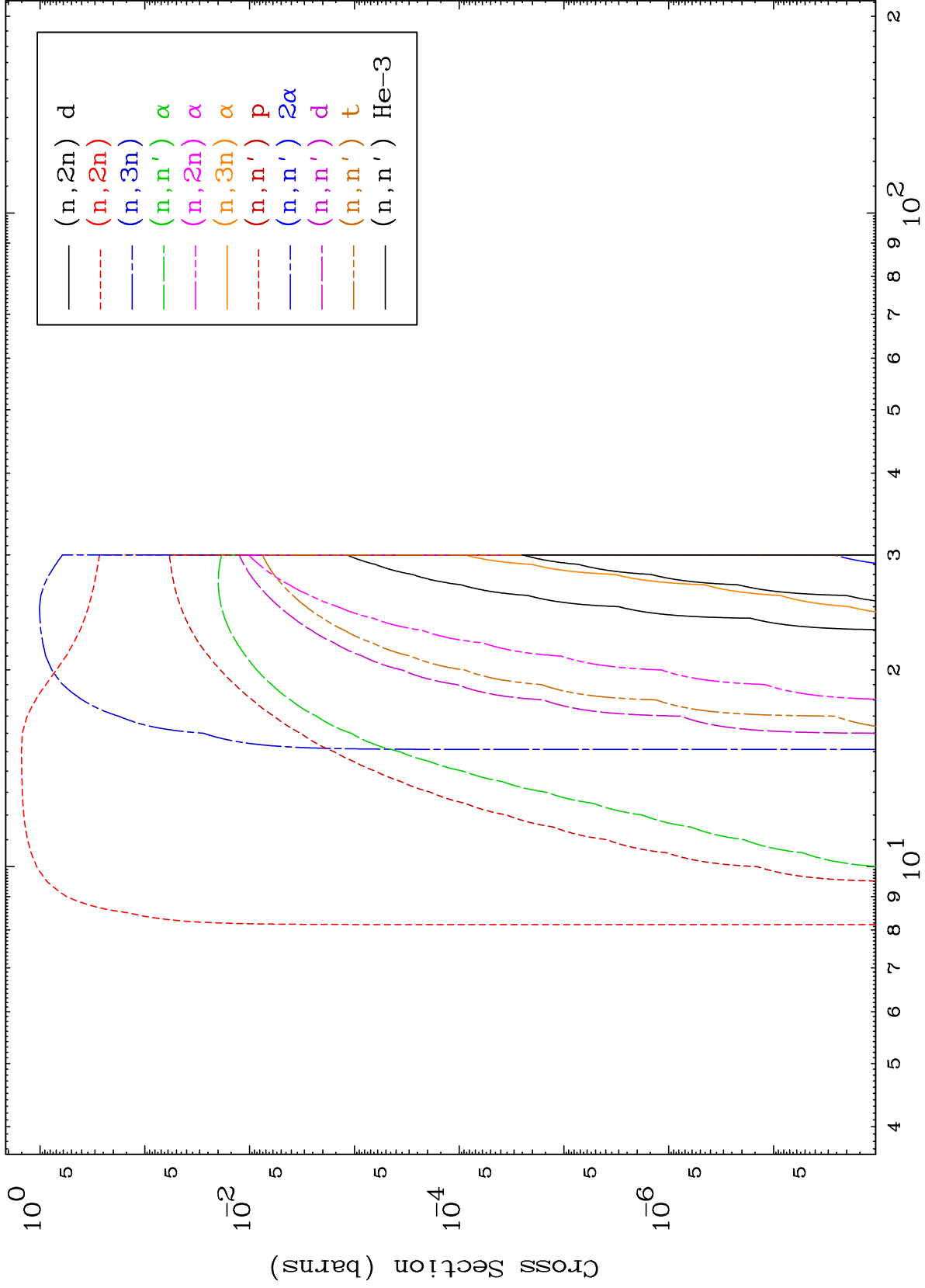
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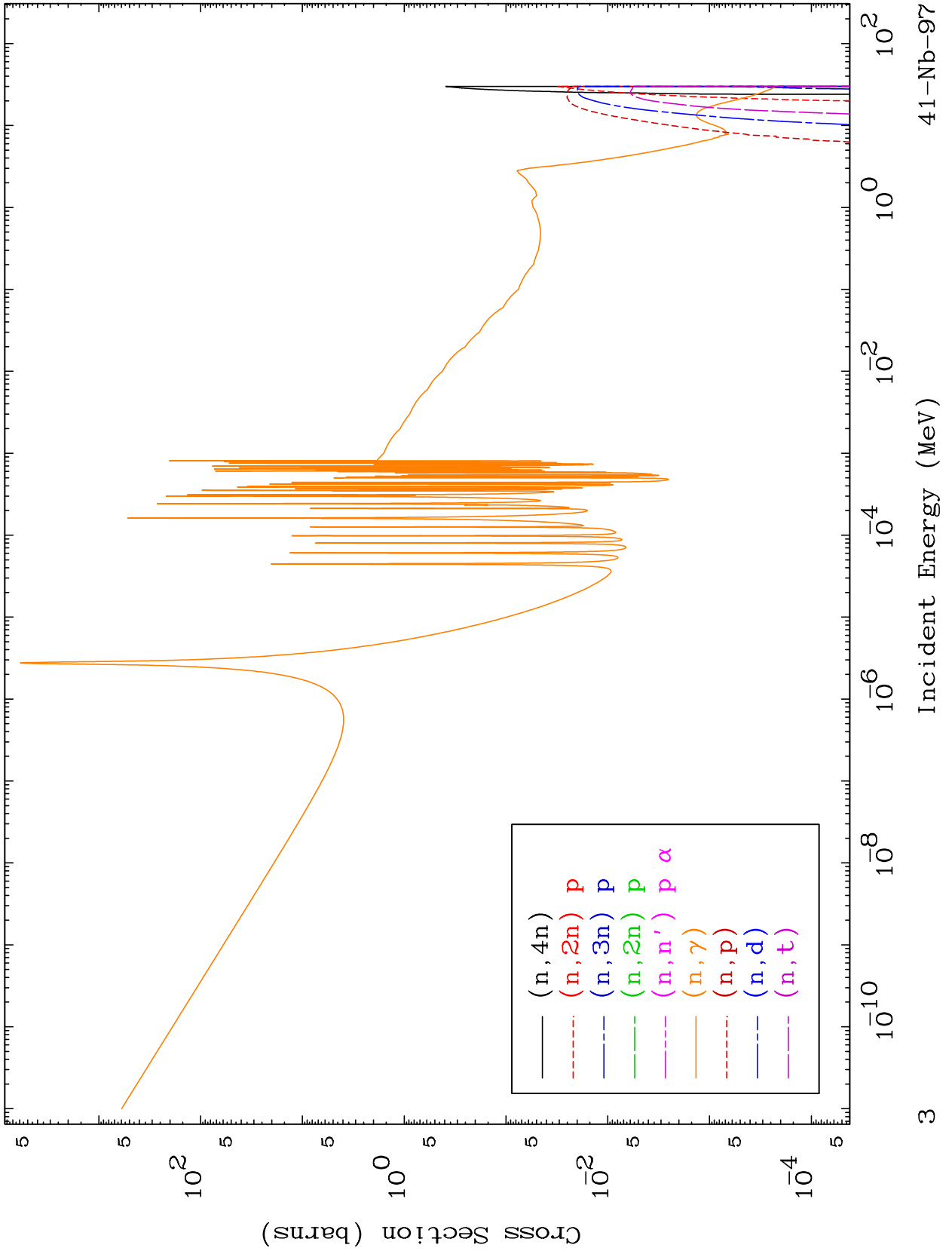
MAT 4137

Neutron Major  
293 Kelvin Cross Sections

41-Nb-97



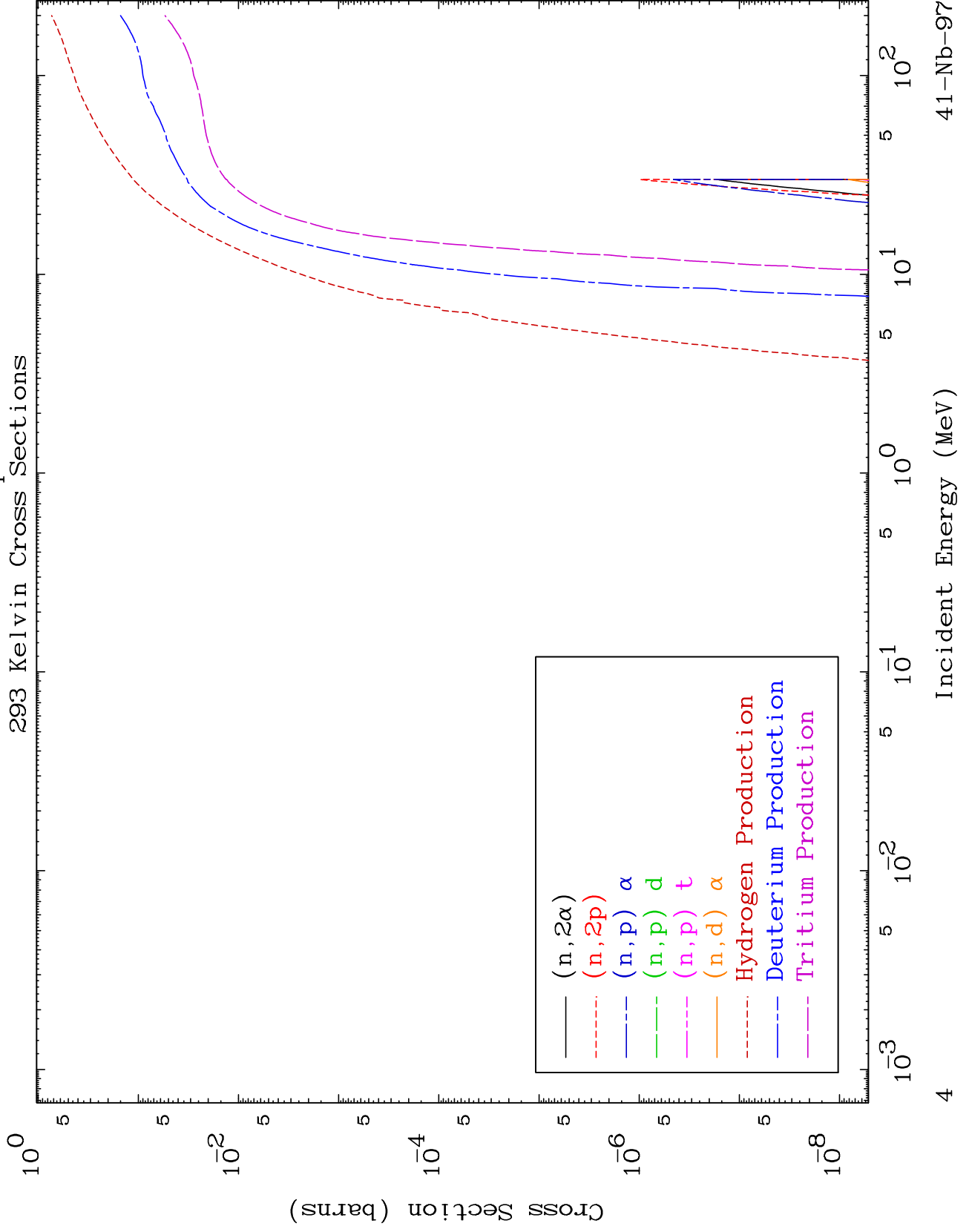




MAT 4137

Neutron Absorption  
293 Kelvin Cross Sections

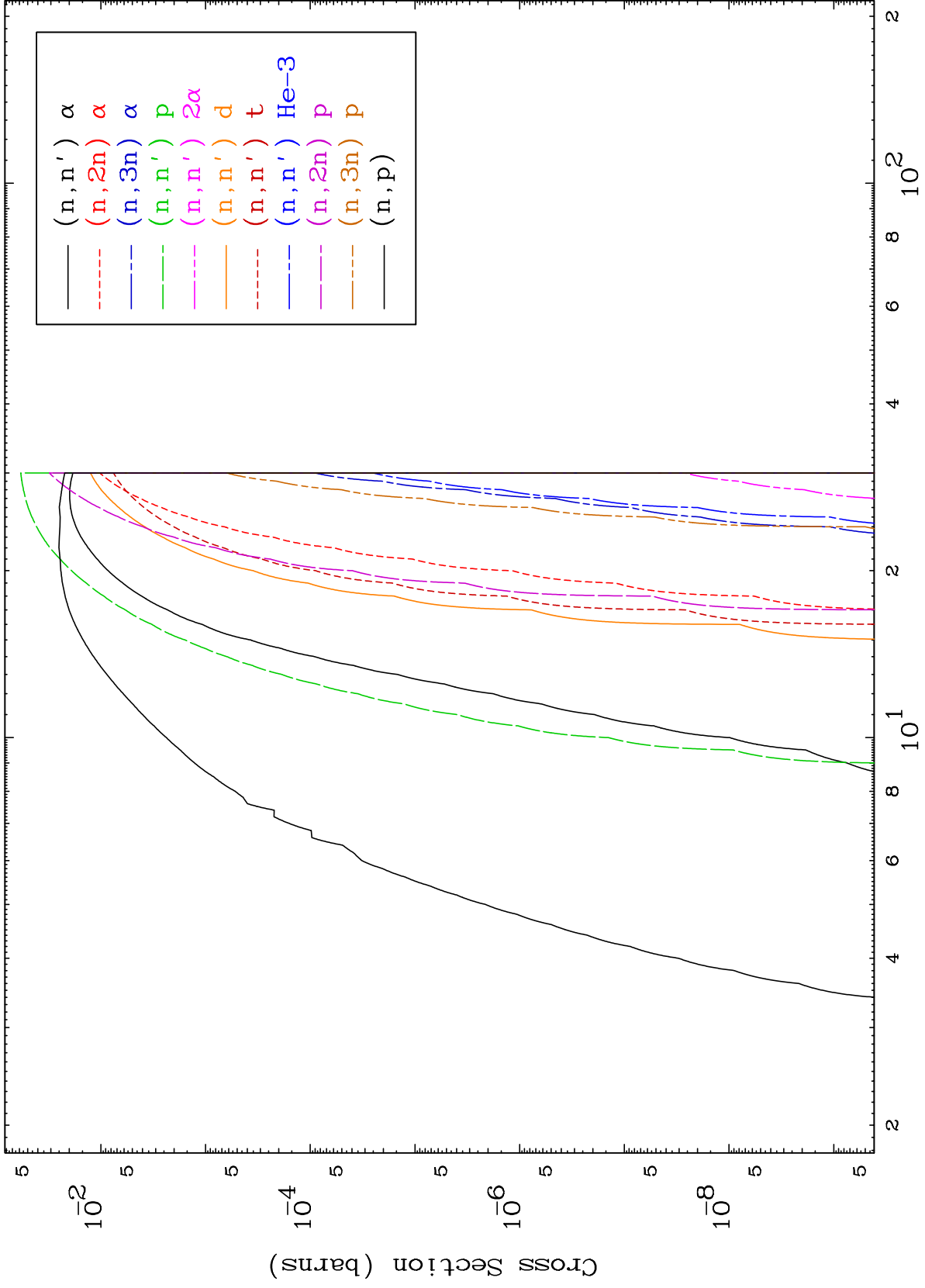
41-Nb-97



MAT 4137

Charged Particle  
293 Kelvin Cross Sections

41-Nb-97



5

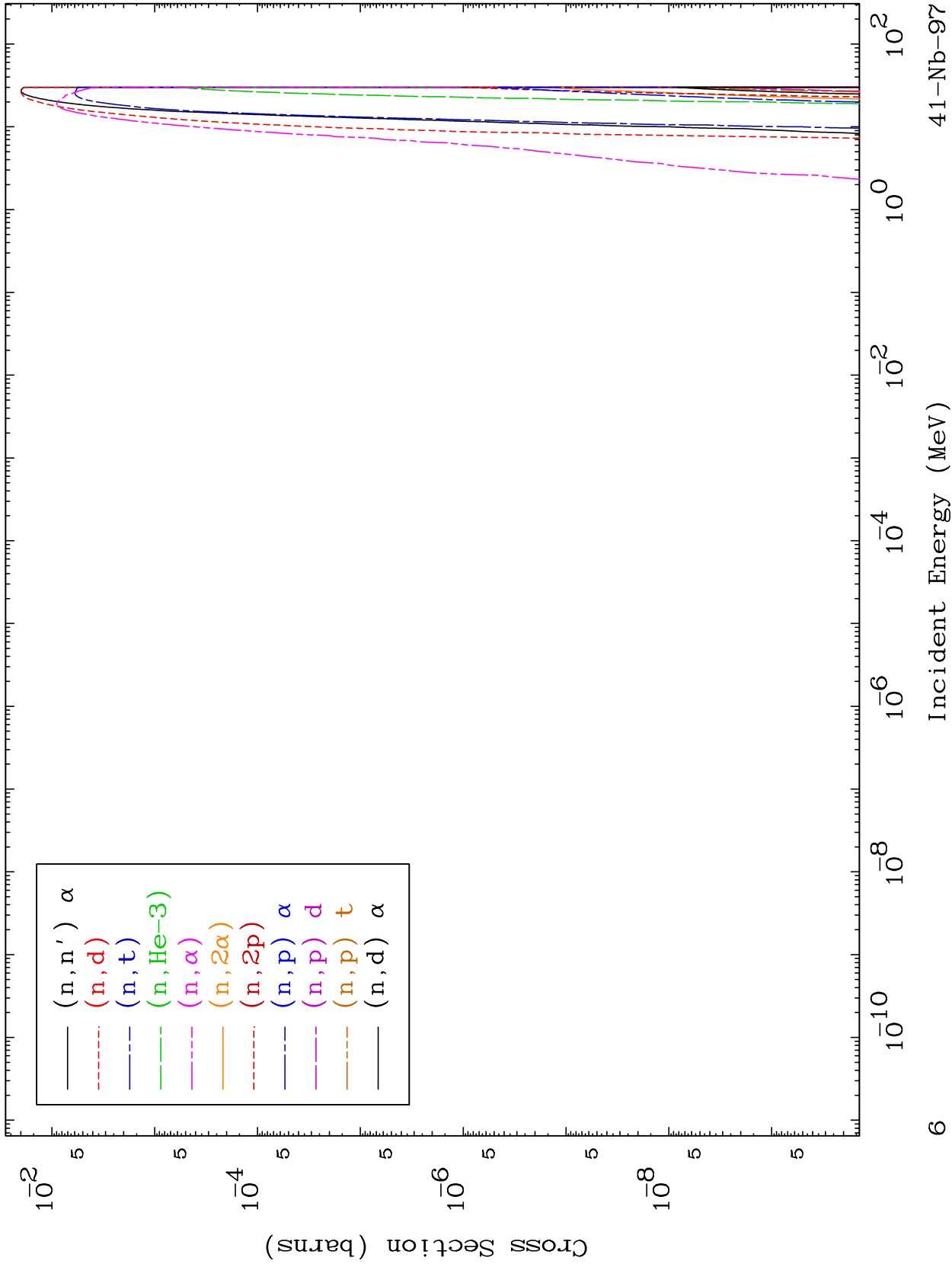
Incident Energy (MeV)

41-Nb-97

MAT 4137

Charged Particle  
293 Kelvin Cross Sections

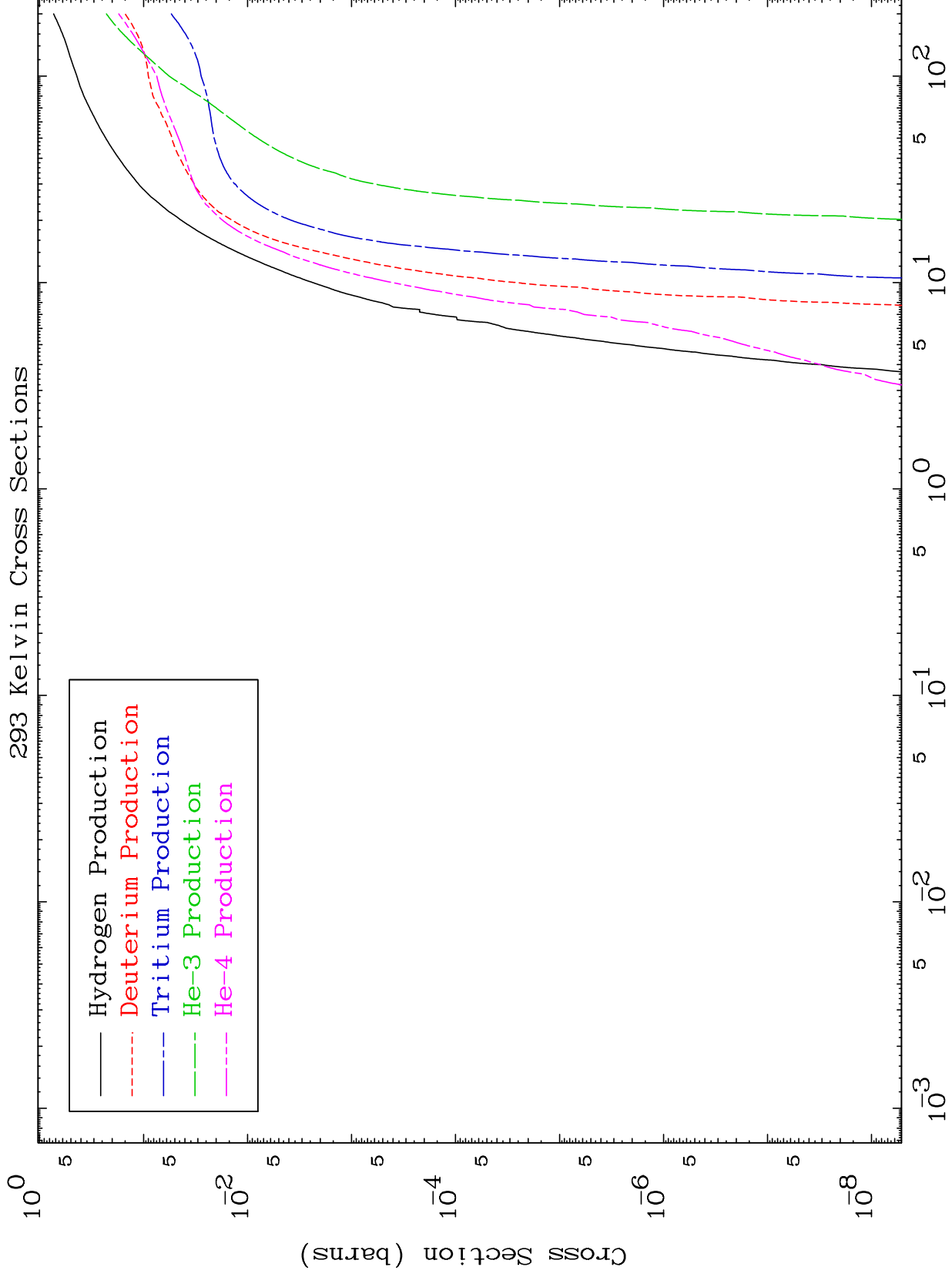
41-Nb-97



MAT 4137

Particle Production  
293 Kelvin Cross Sections

41-Nb-97



Incident Energy (MeV)

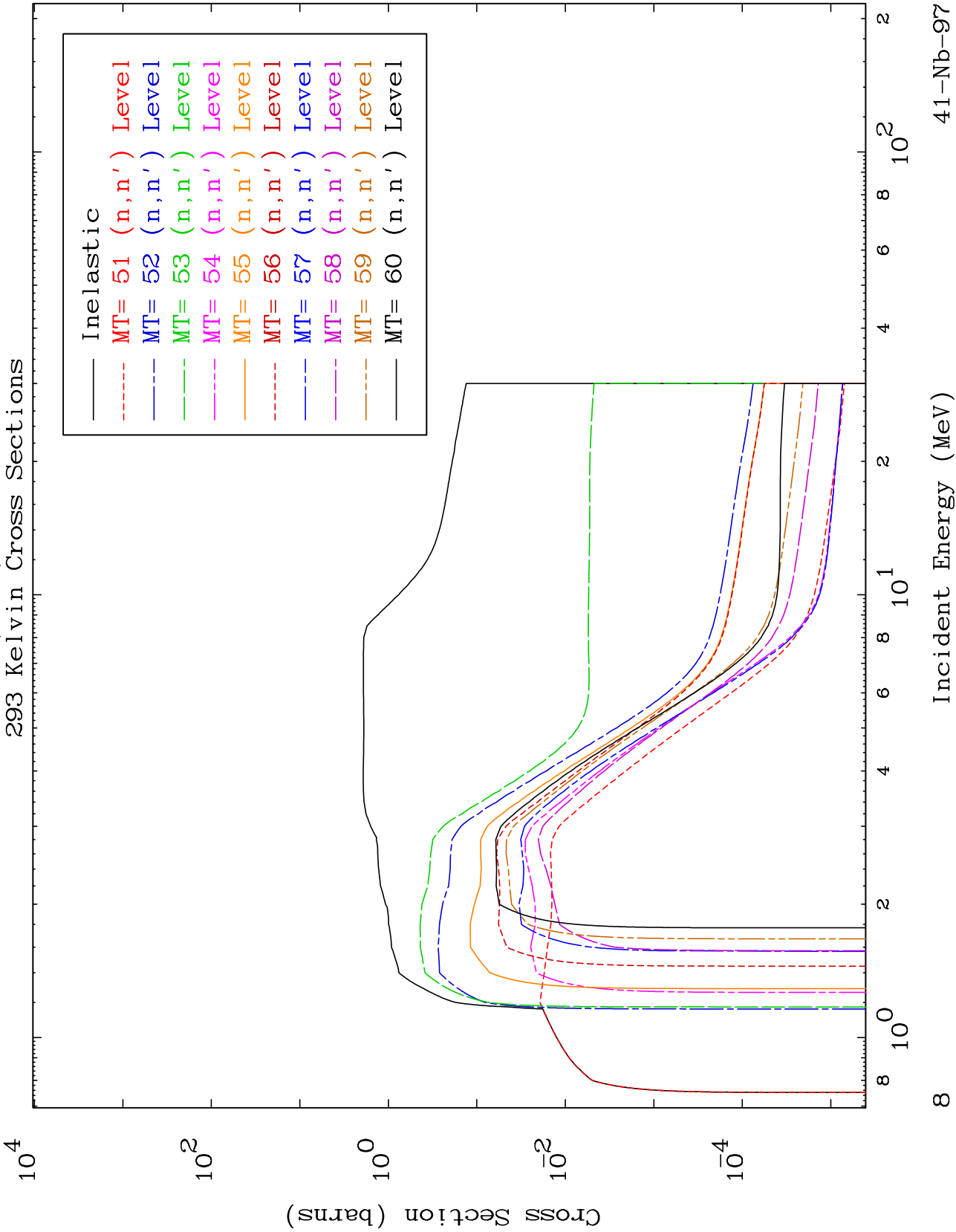
41-Nb-97

7

MAT 4137

(n,n') Levels

41-Nb-97



8

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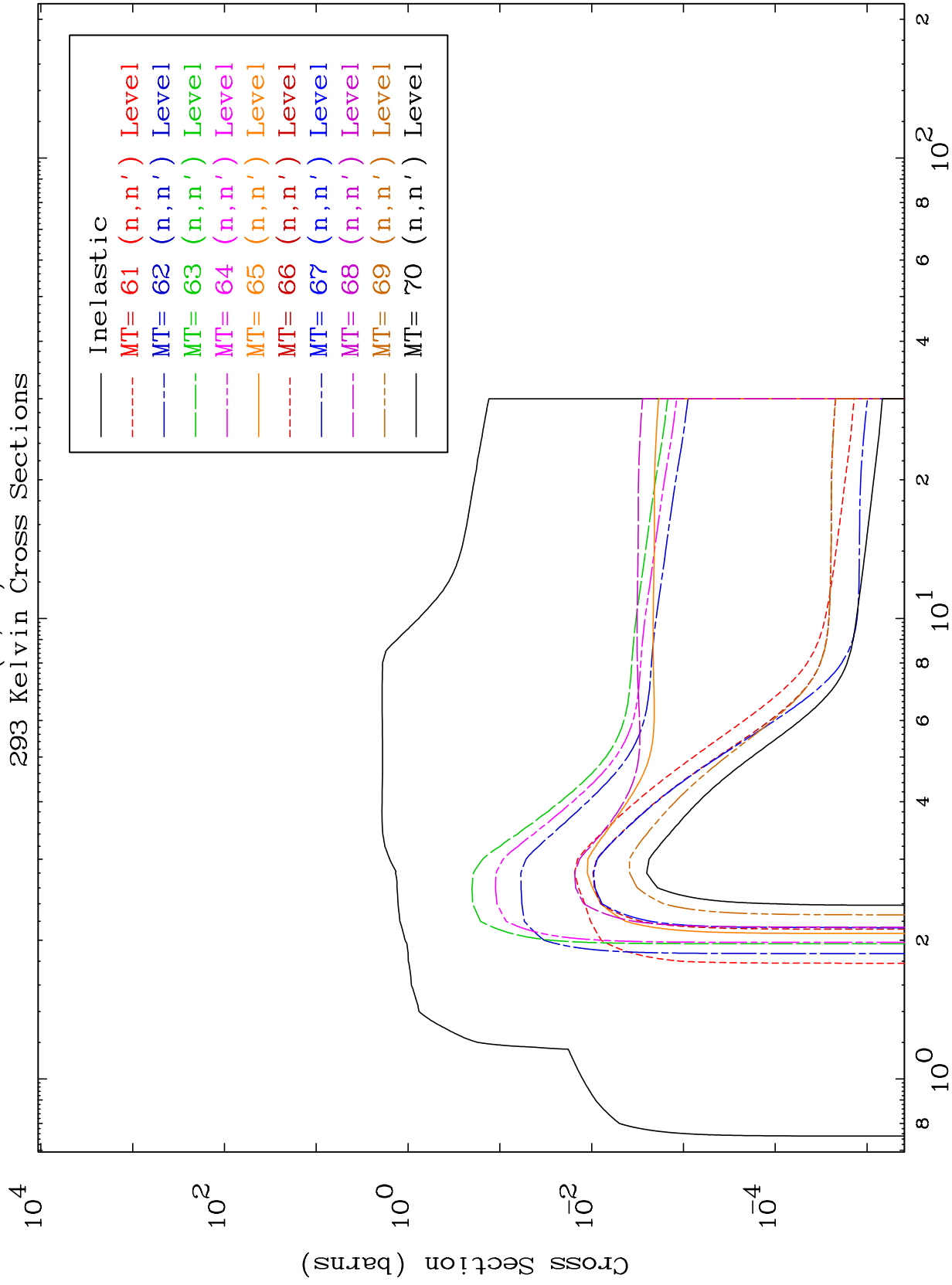
41-Nb-97

MAT 4137

(n,n') Levels

41-Nb-97

293 Kelvin Cross Sections



9

Incident Energy (MeV)

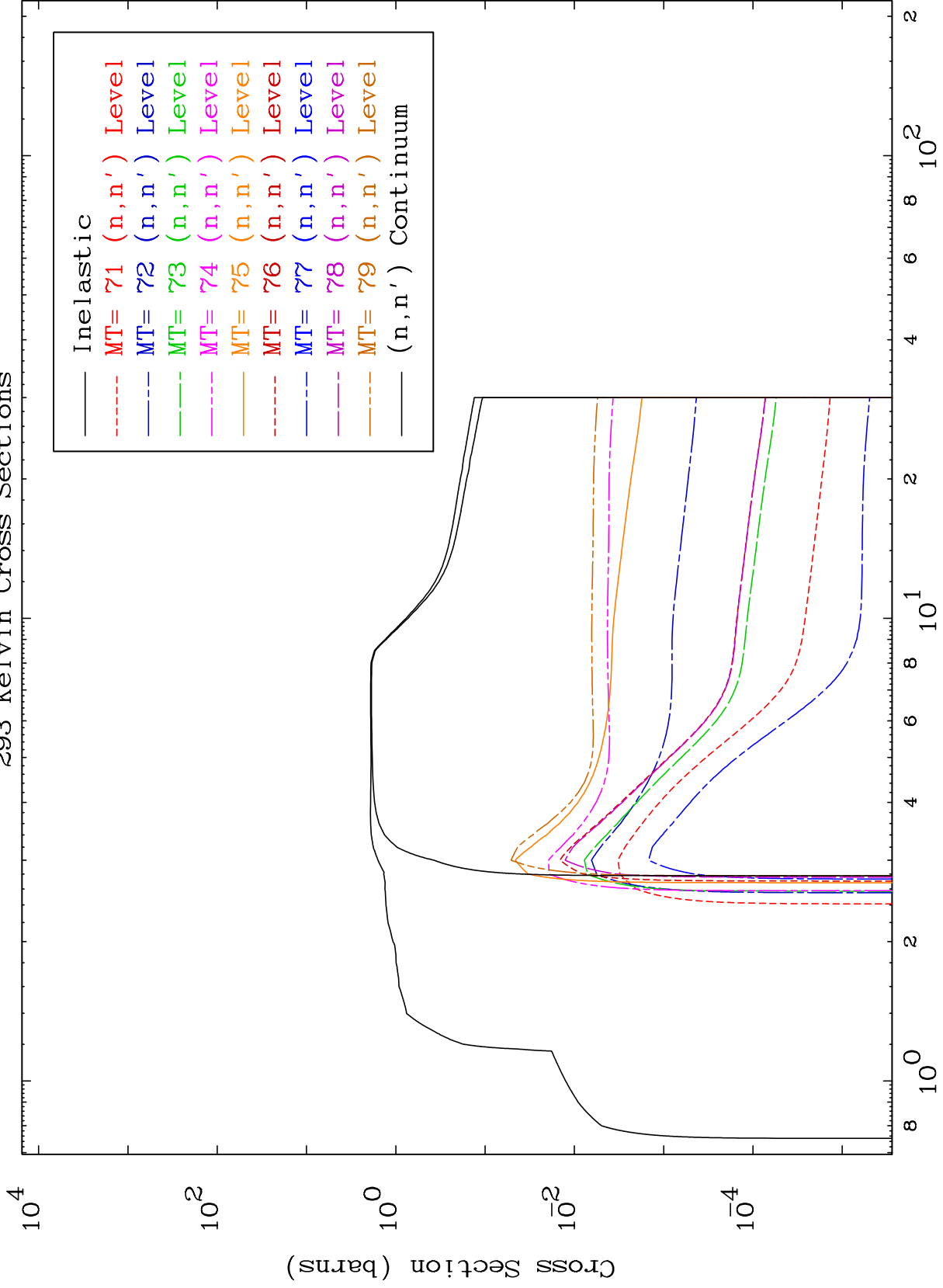
41-Nb-97

MAT 4137

(n,n') Levels

293 Kelvin Cross Sections

41-Nb-97



10

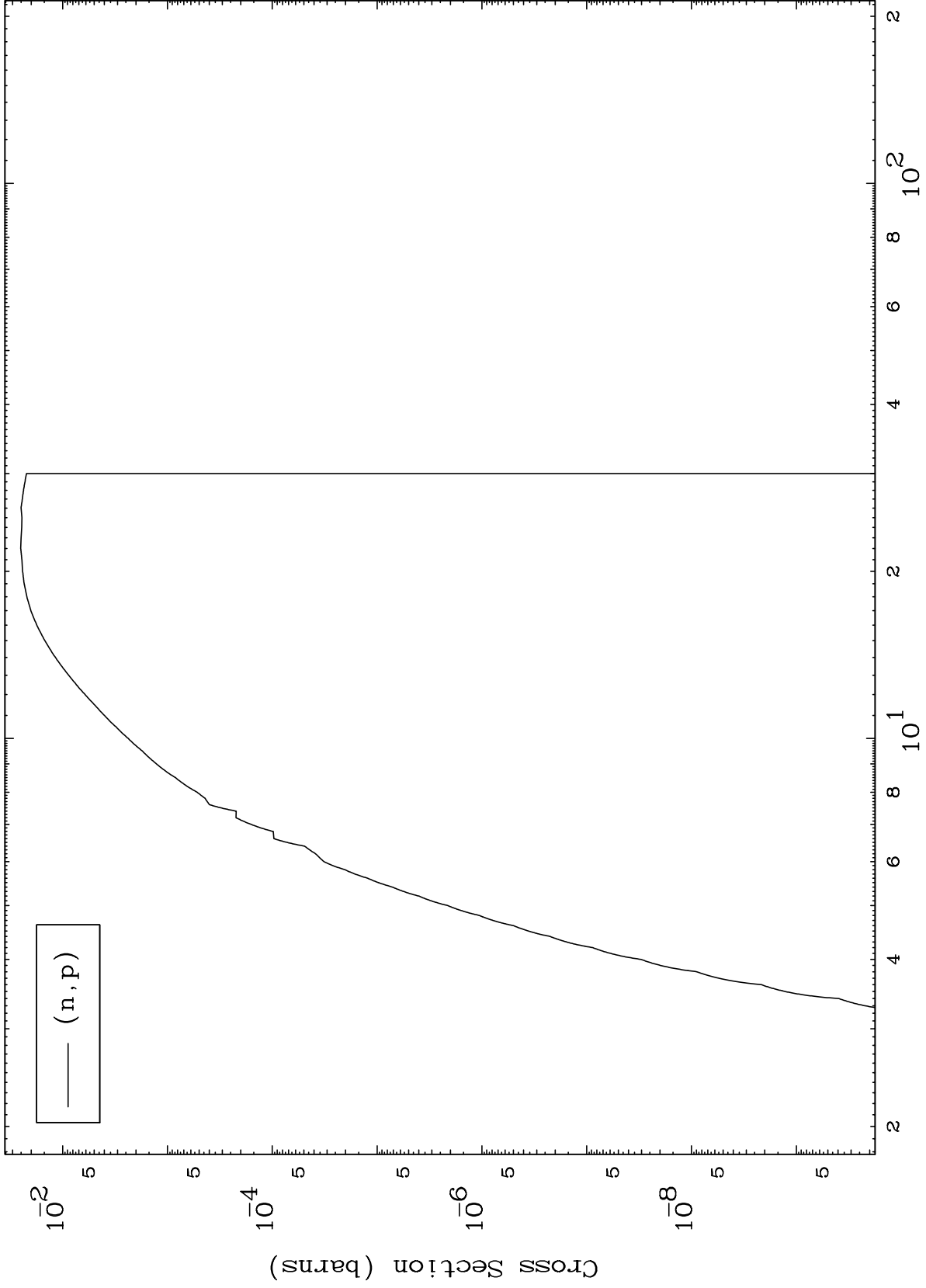
Incident Energy (MeV)

41-Nb-97

MAT 4137

(n,p) Levels  
293 Kelvin Cross Sections

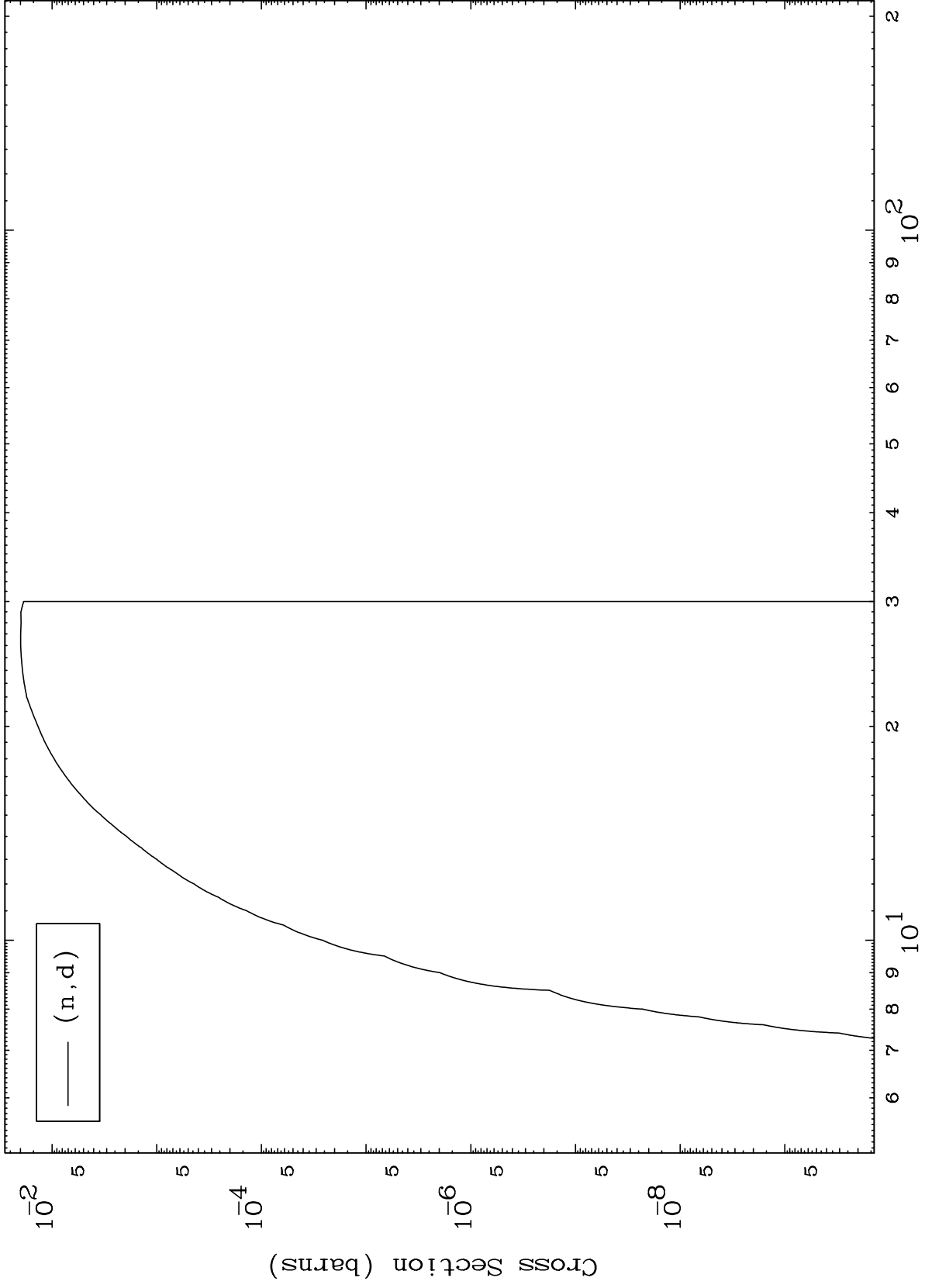
41-Nb-97



MAT 4137

(n,d) Levels  
293 Kelvin Cross Sections

41-Nb-97



12

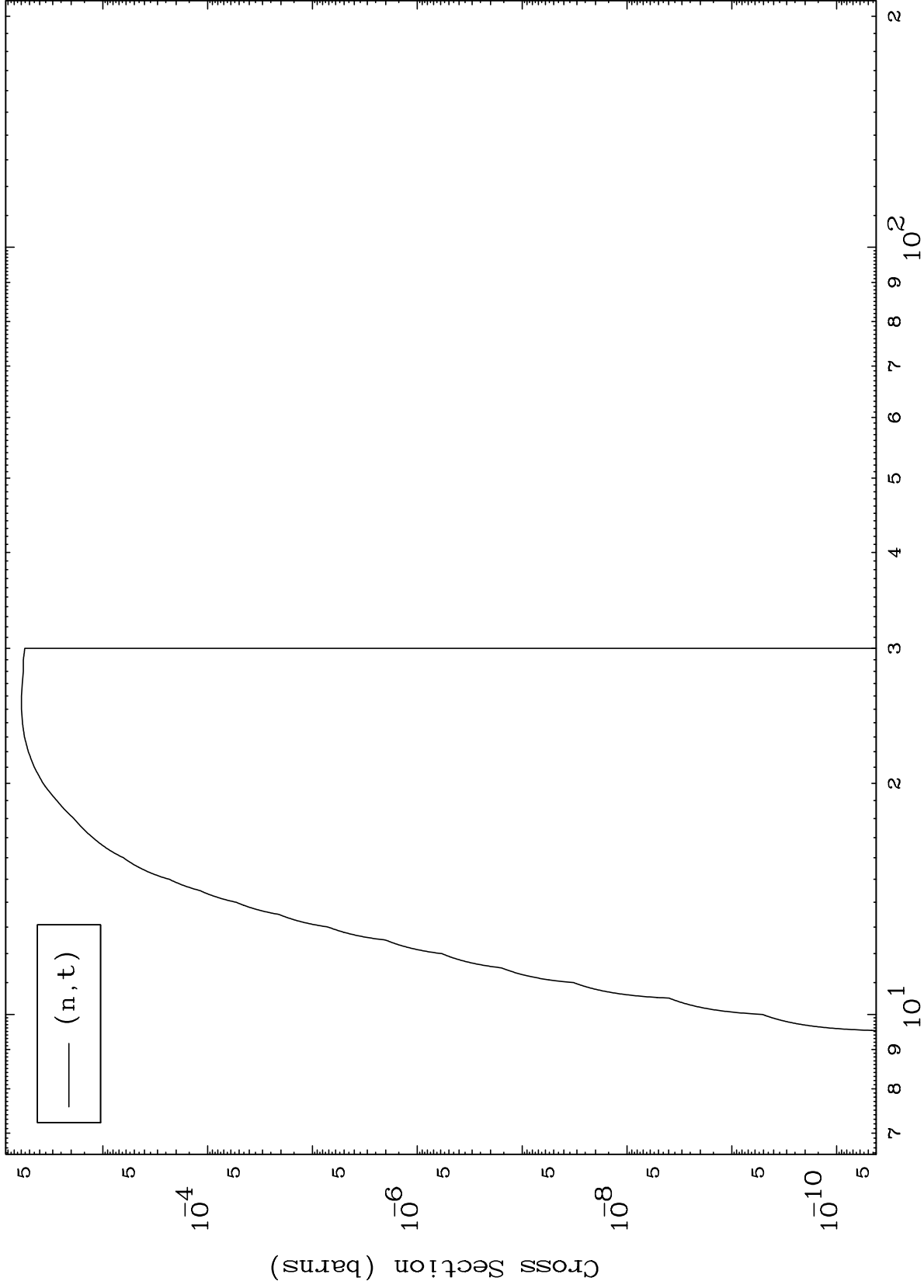
Incident Energy (MeV)

41-Nb-97

MAT 4137

(n,t) Levels  
293 Kelvin Cross Sections

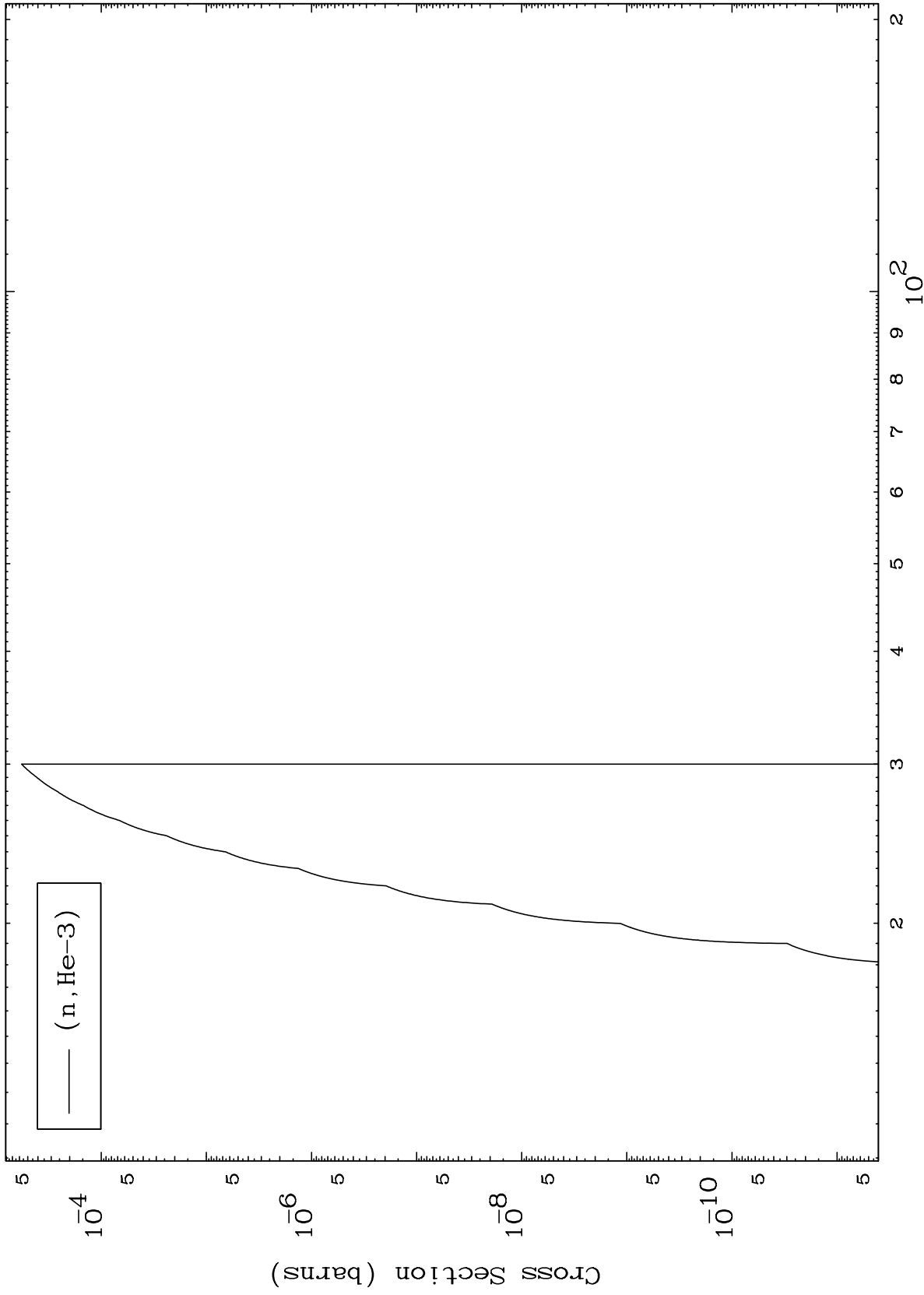
41-Nb-97



13

Incident Energy (MeV)

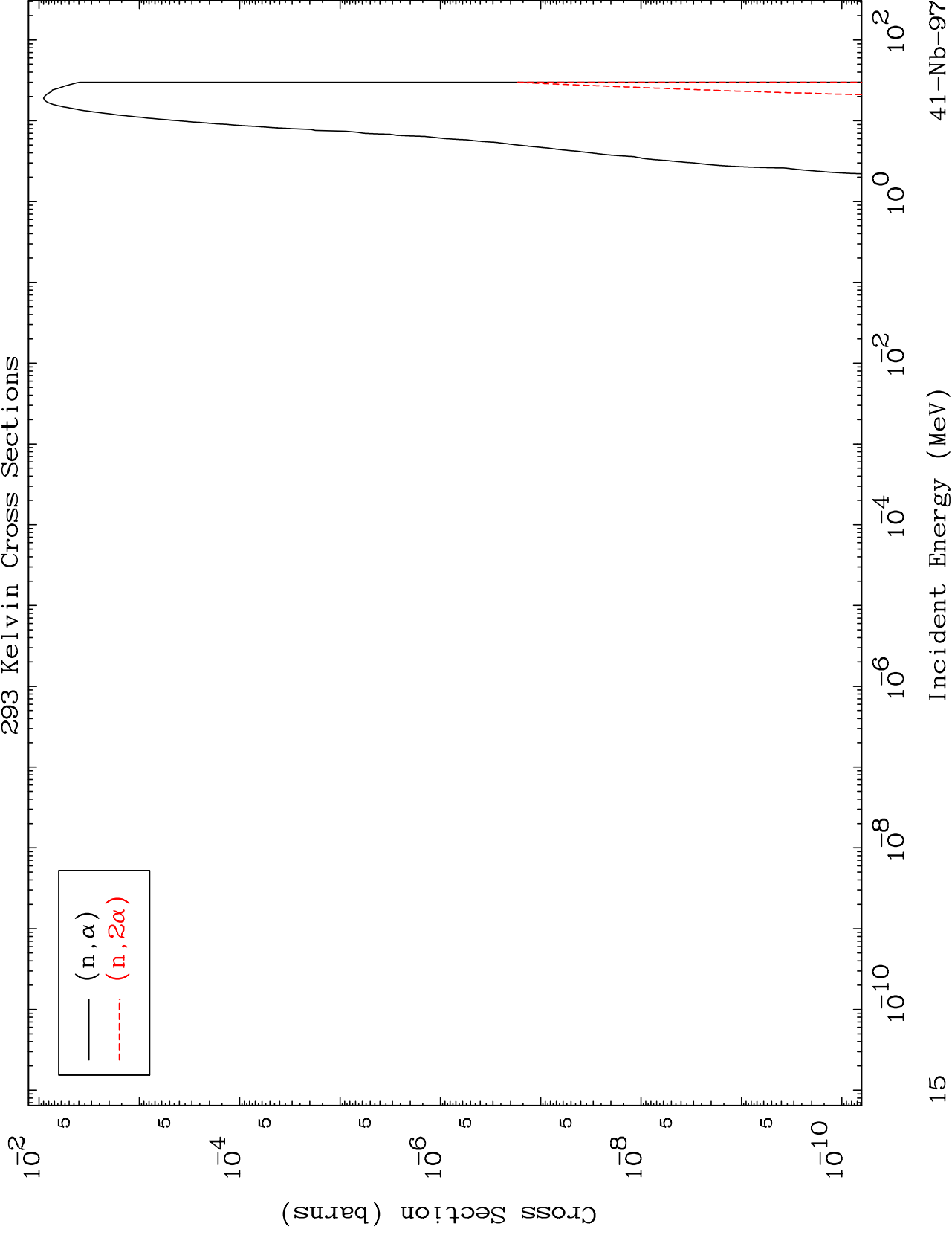
41-Nb-97



MAT 4137

(n,  $\alpha$ ) Levels  
293 Kelvin Cross Sections

41-Nb-97



15

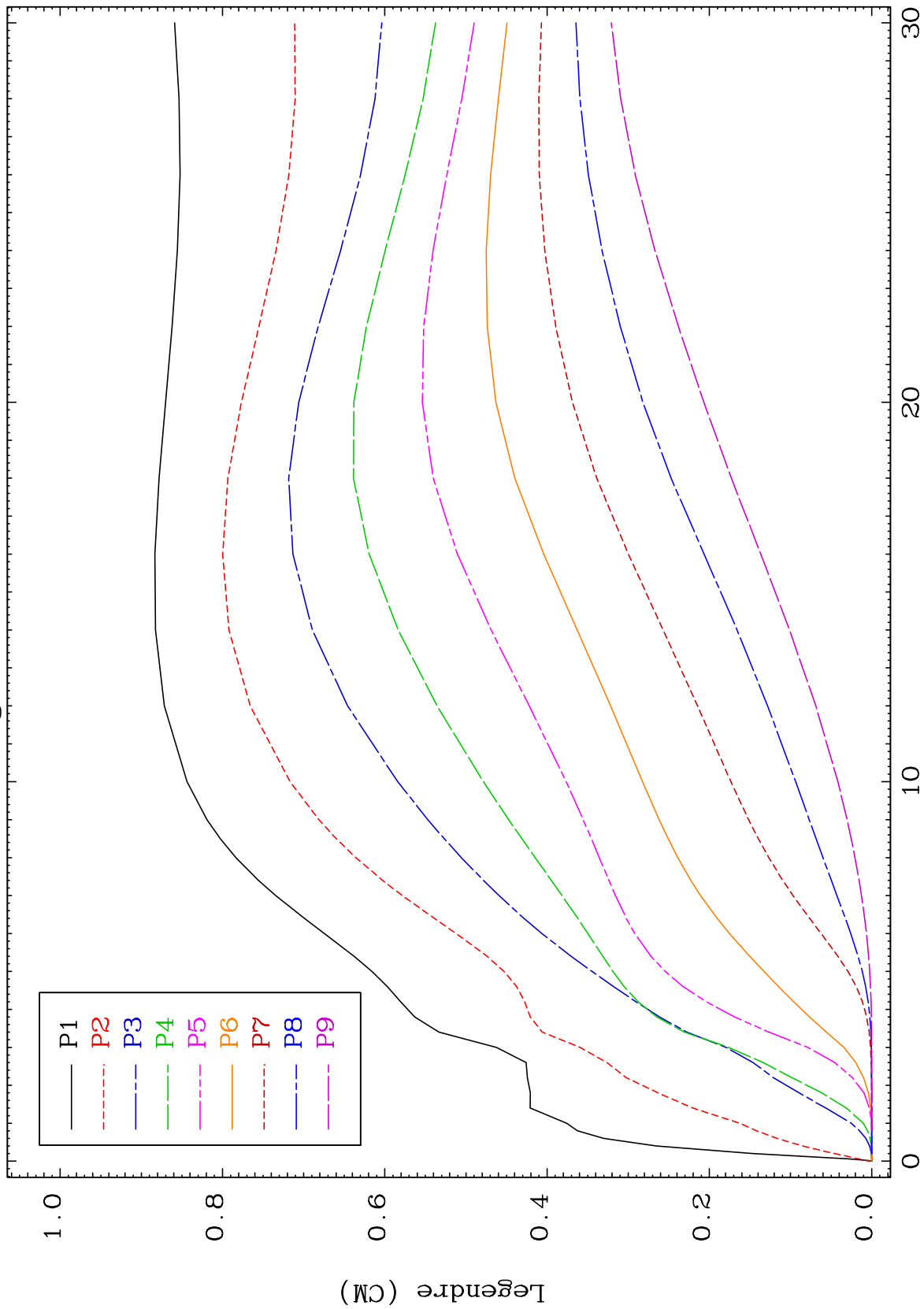
Incident Energy (MeV)

41-Nb-97

MAT 4137

Elastic Legendre Coefficients

41-Nb-97



16

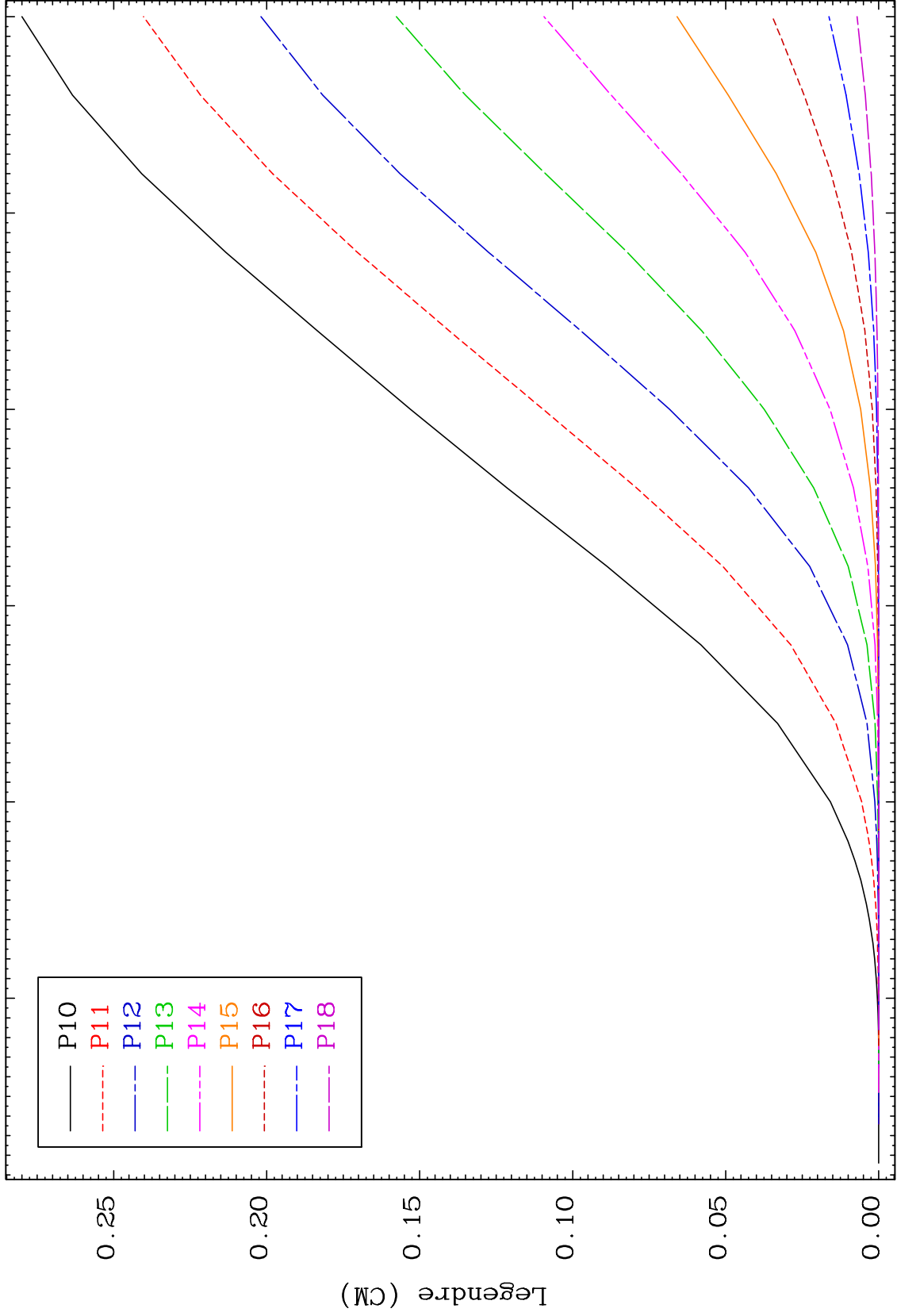
Incident Energy (MeV)

41-Nb-97

MAT 4137

Elastic  
Legendre Coefficients

41-Nb-97



17

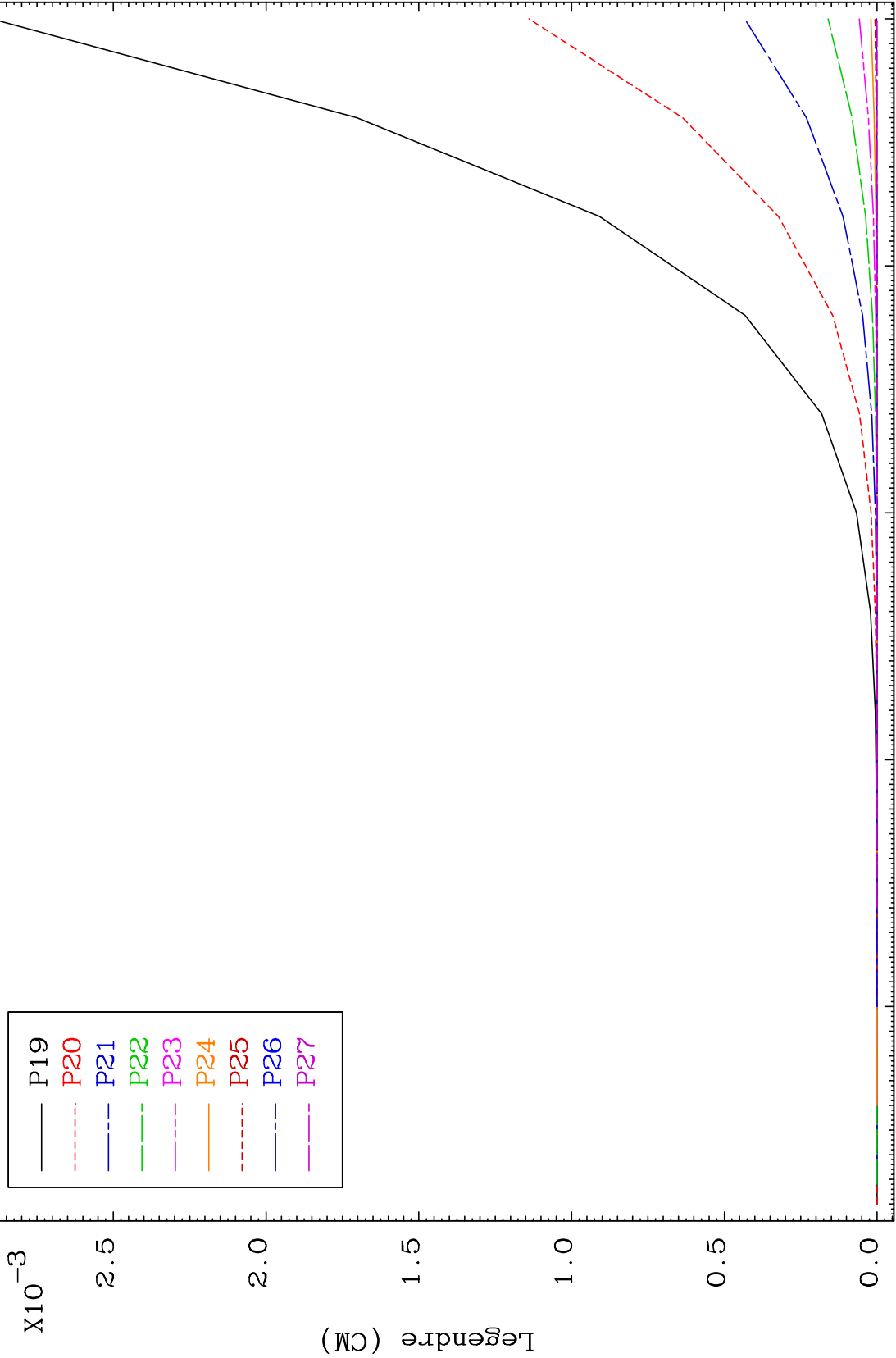
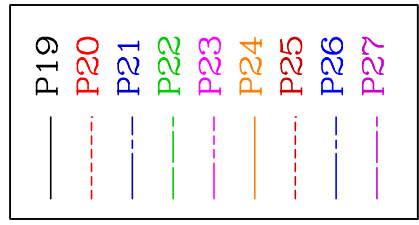
Incident Energy (MeV)

41-Nb-97

MAT 4137

Elastic  
Legendre Coefficients

41-Nb-97



18

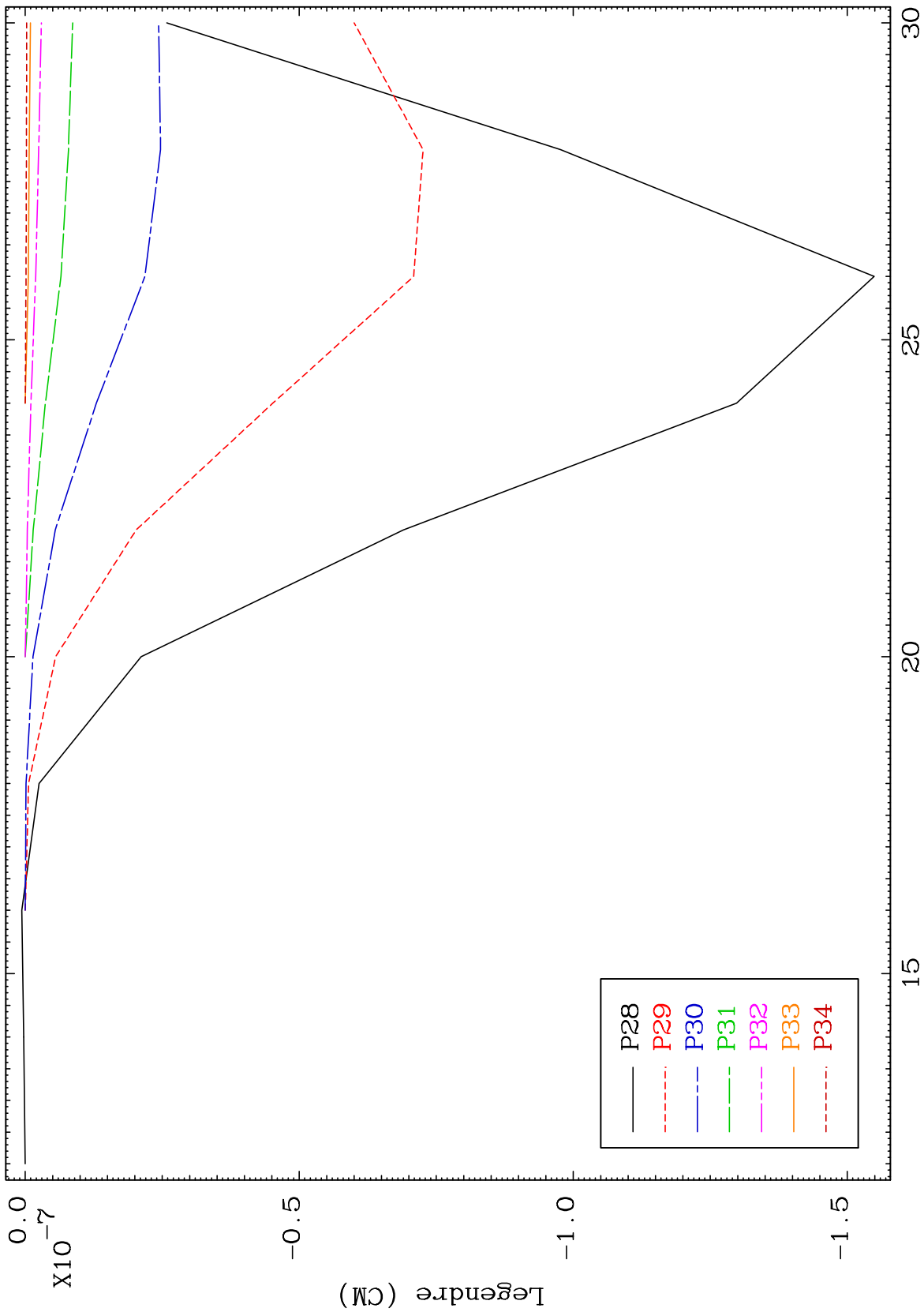
Incident Energy (MeV)

41-Nb-97

MAT 4137

41-Nb-97

Elastic Legendre Coefficients



19

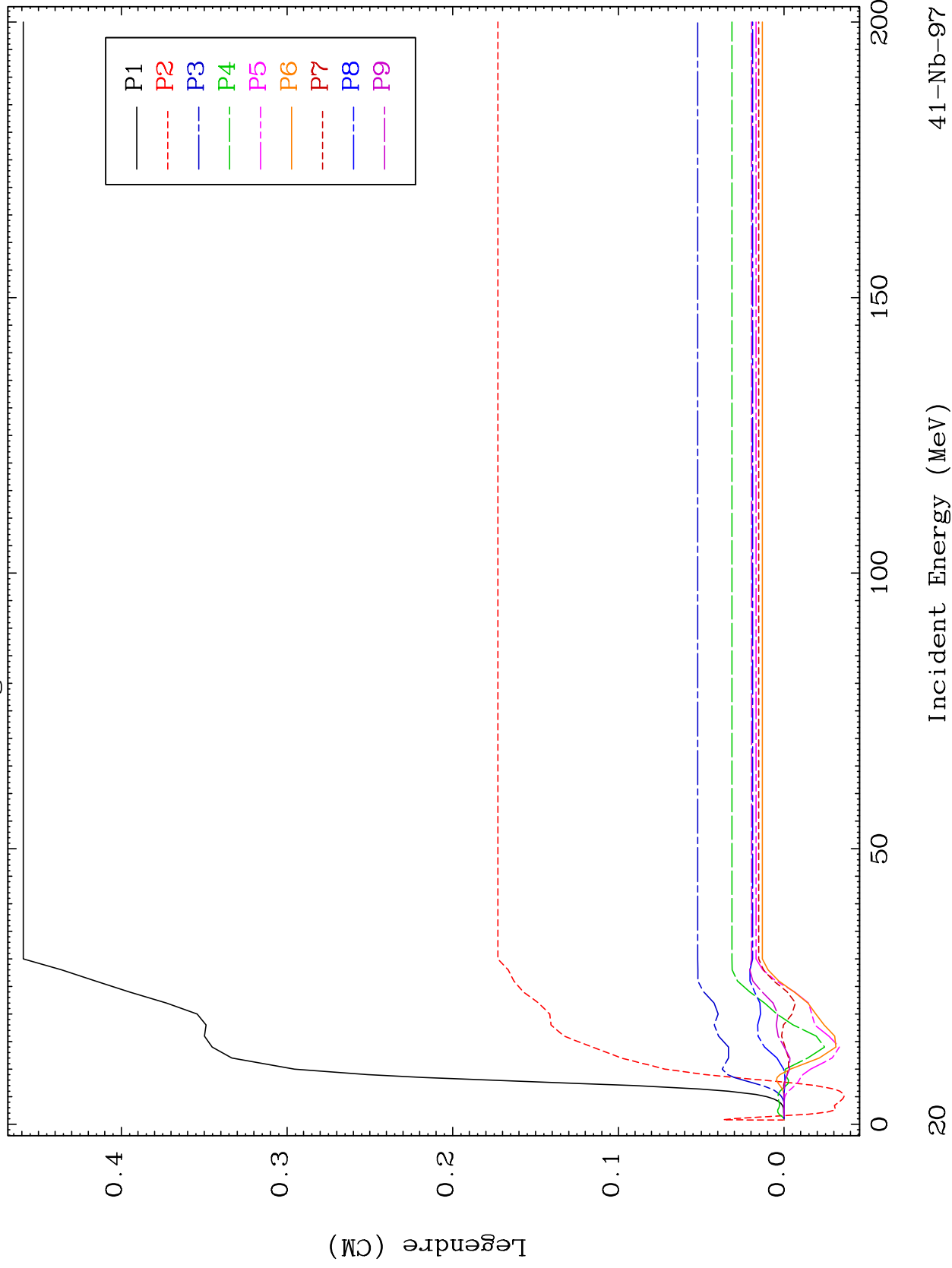
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97

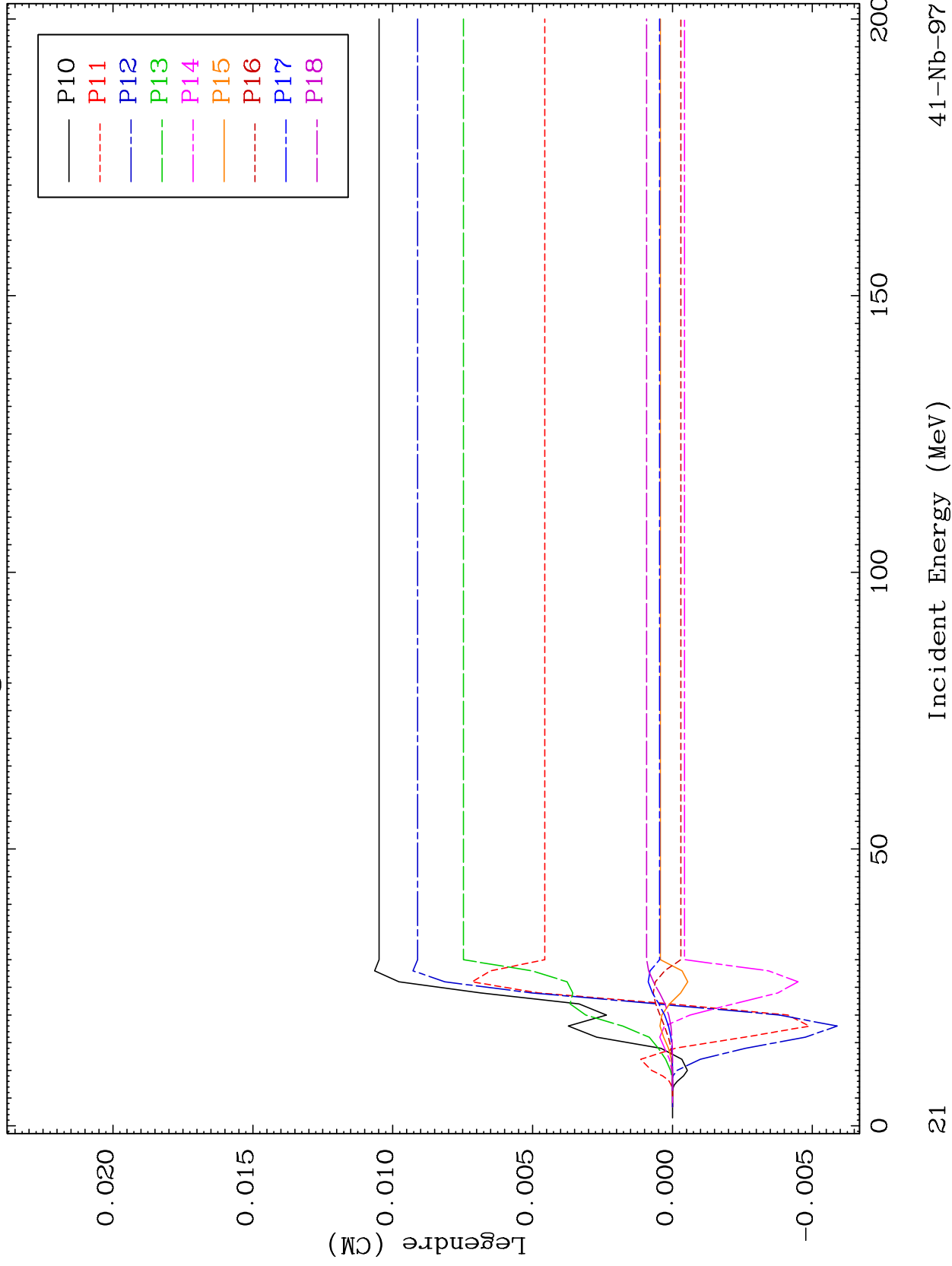


41-Nb-97

MAT 4137

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

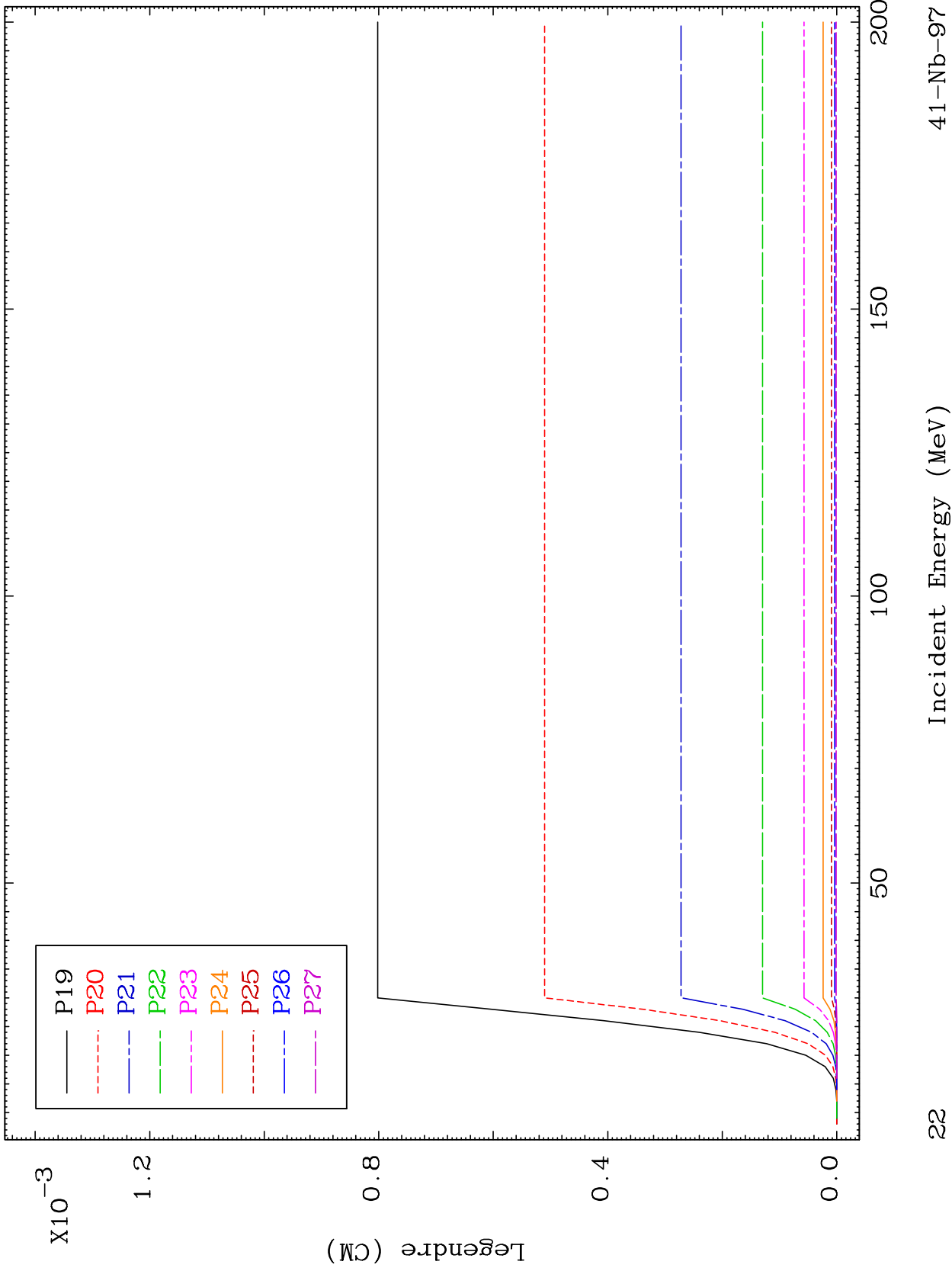
41-Nb-97



21

Incident Energy (MeV)

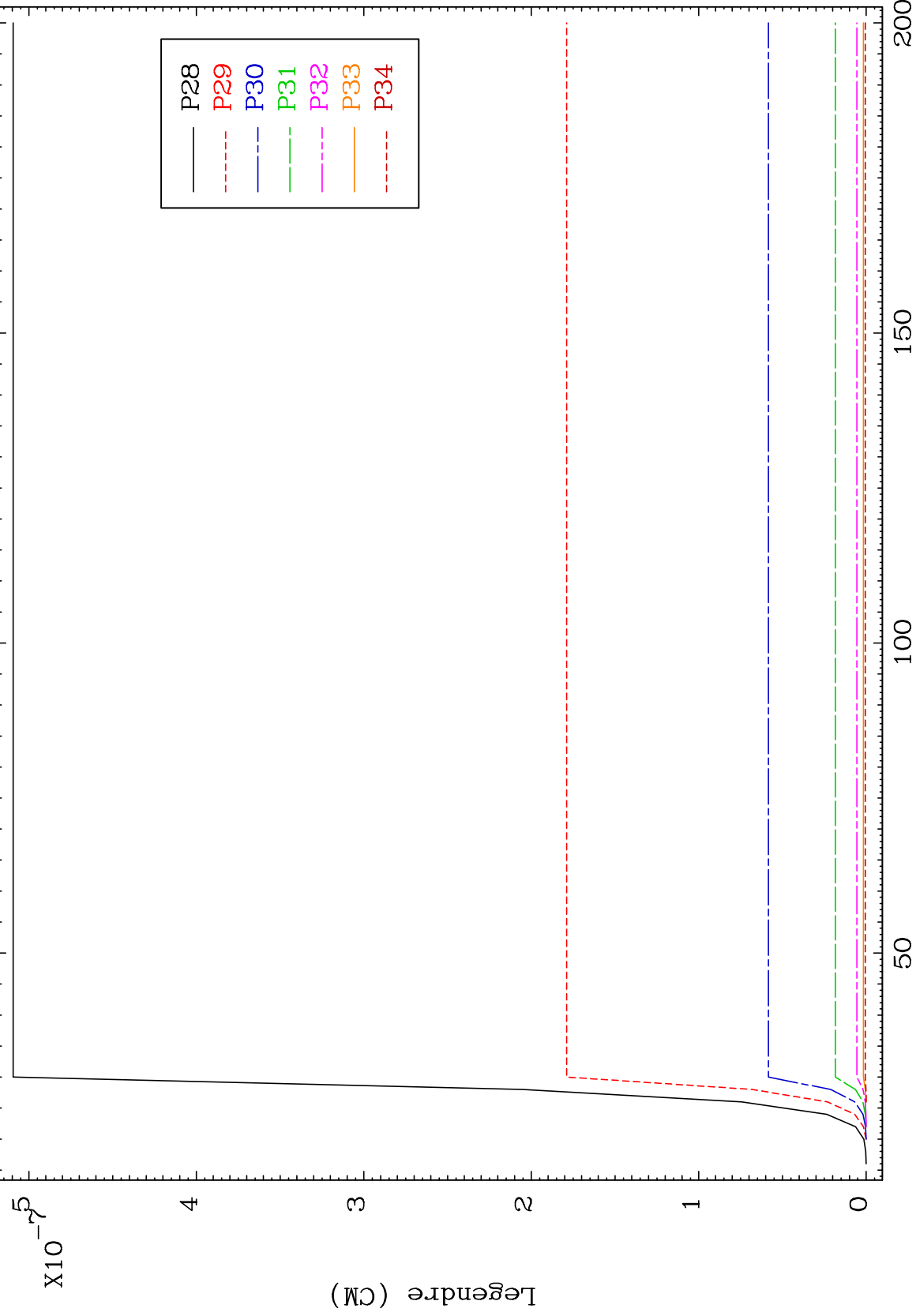
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MAT 4137

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

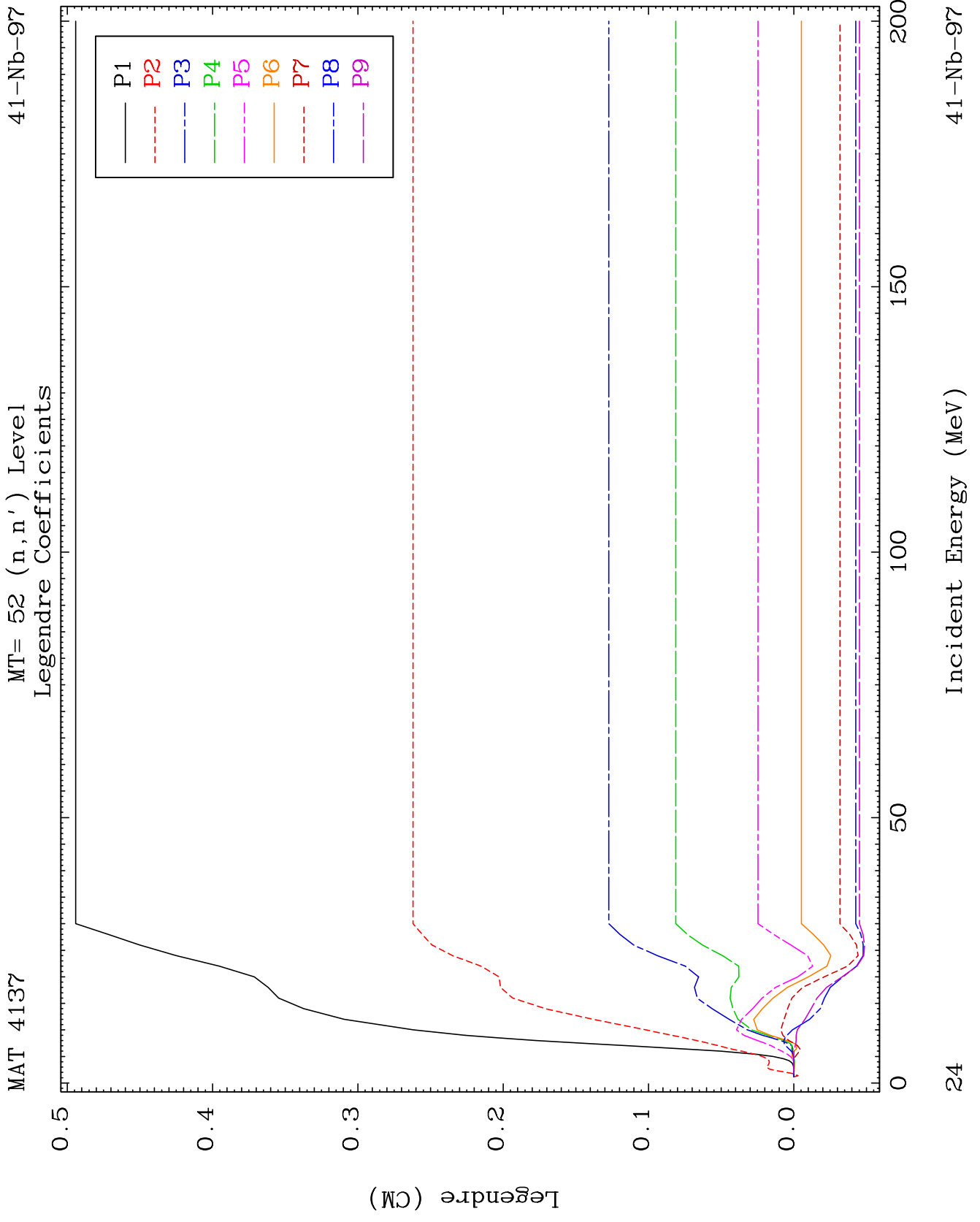
41-Nb-97



23

Incident Energy (MeV)

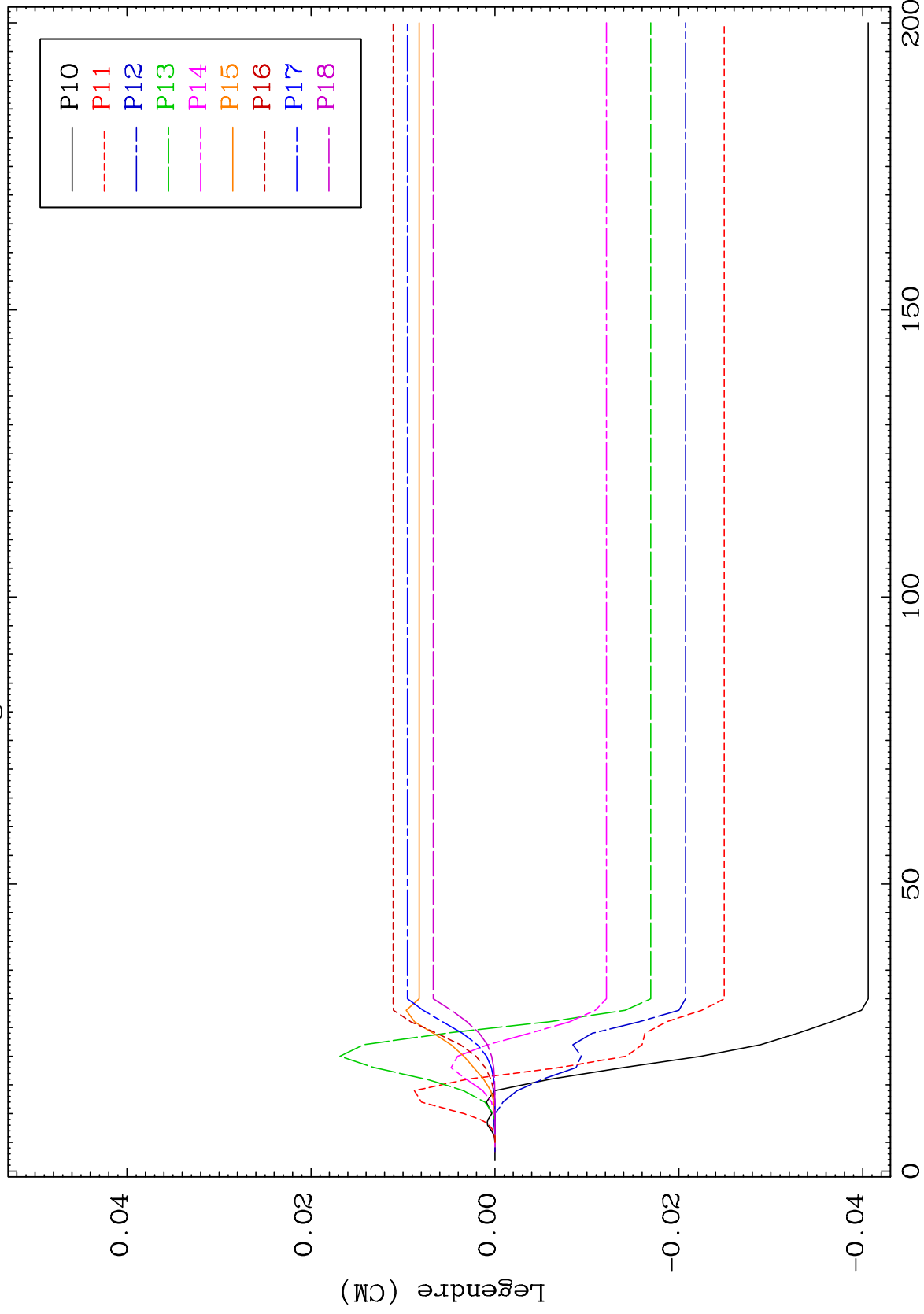
41-Nb-97



MAT 4137

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

41-Nb-97



25

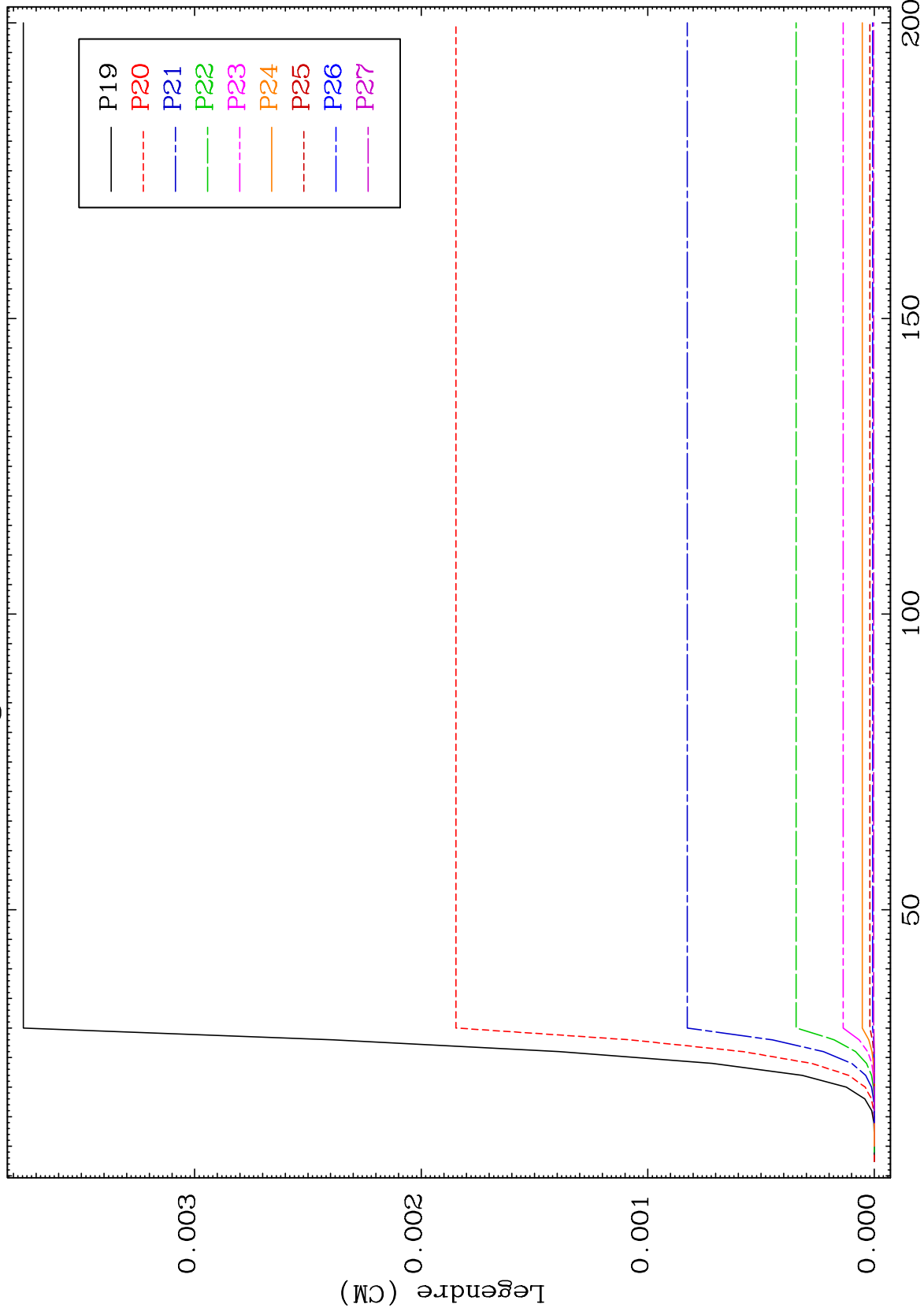
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



26

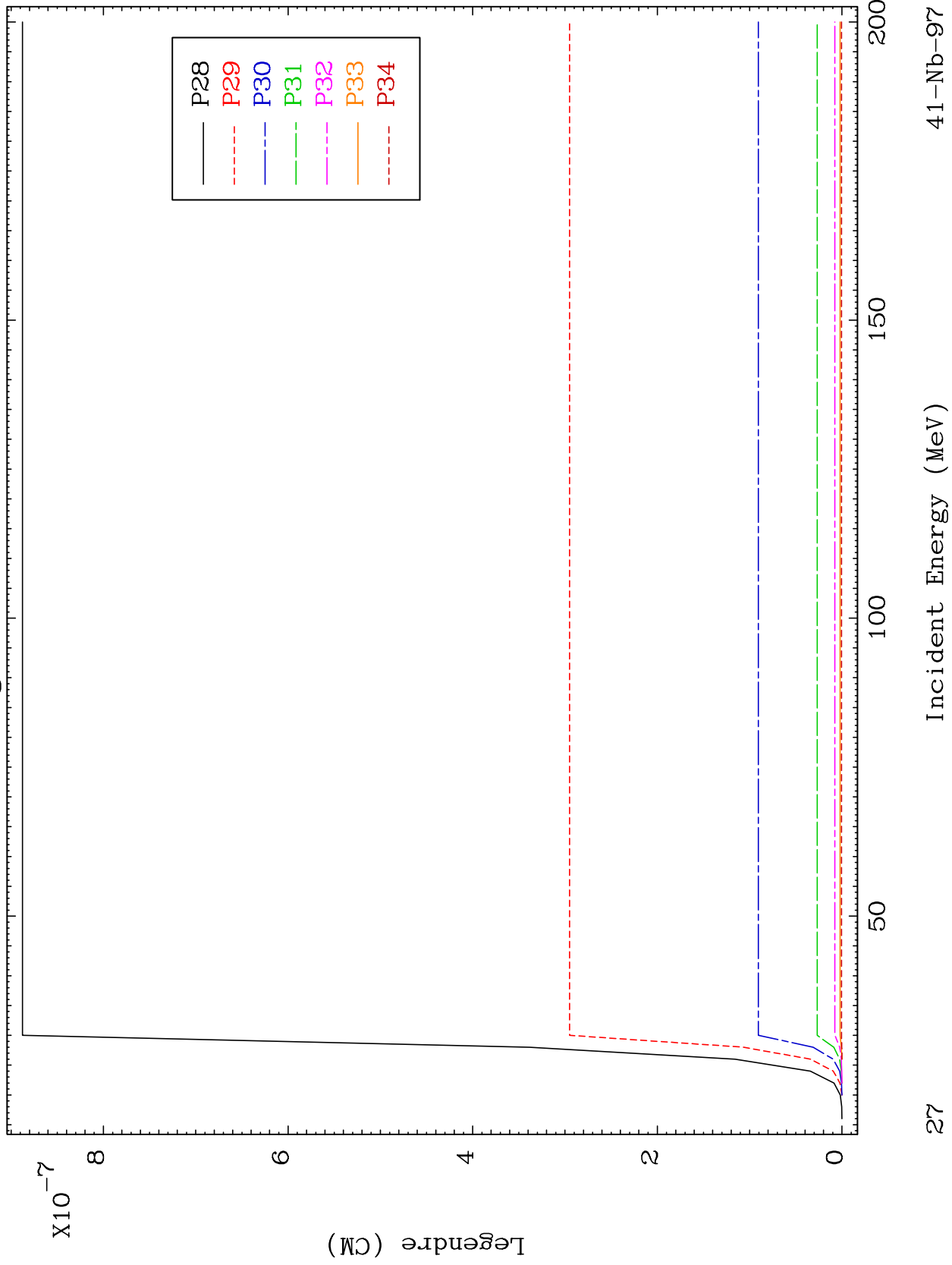
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



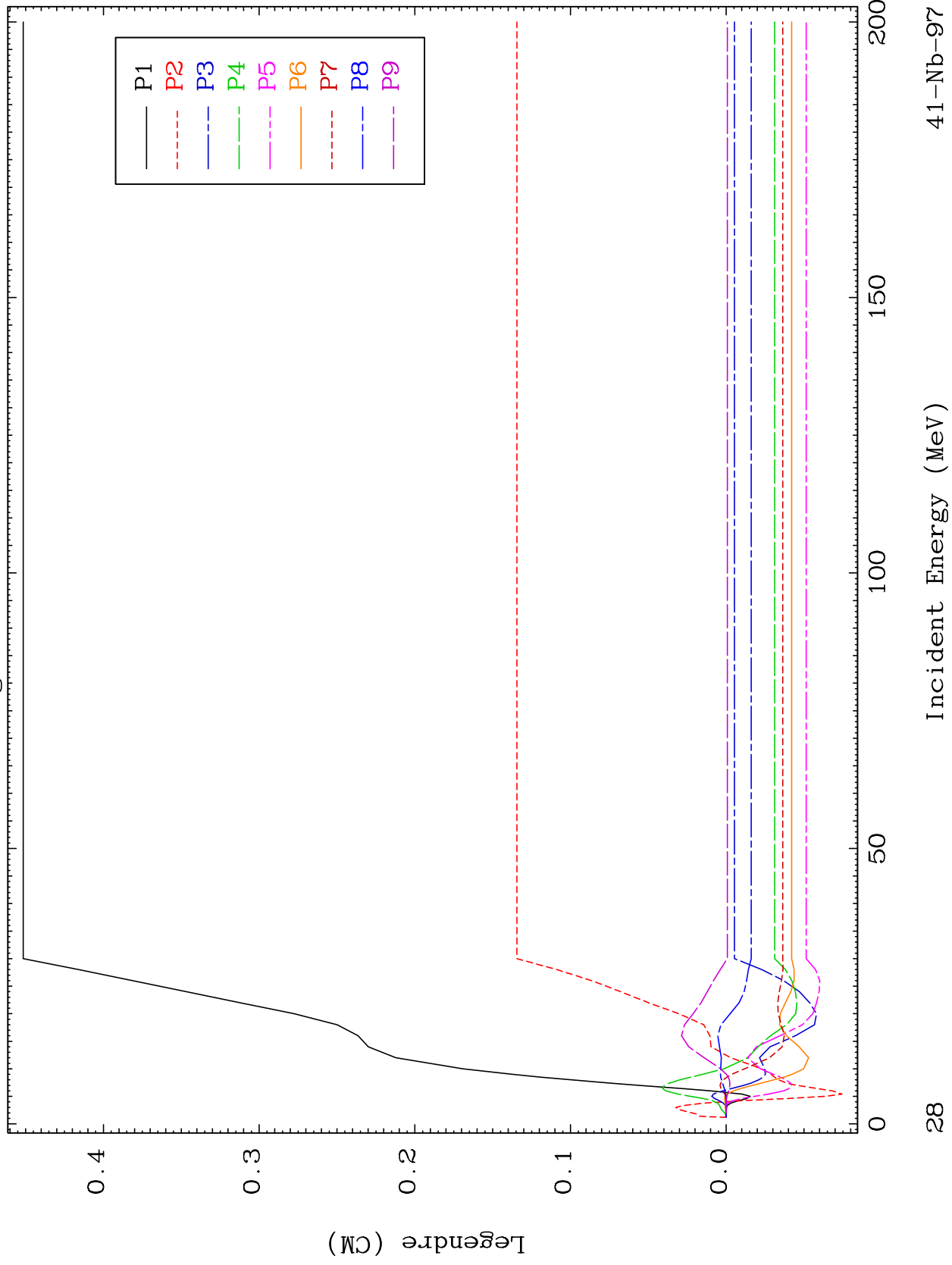
27

41-Nb-97

MAT 4137

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

41-Nb-97



28

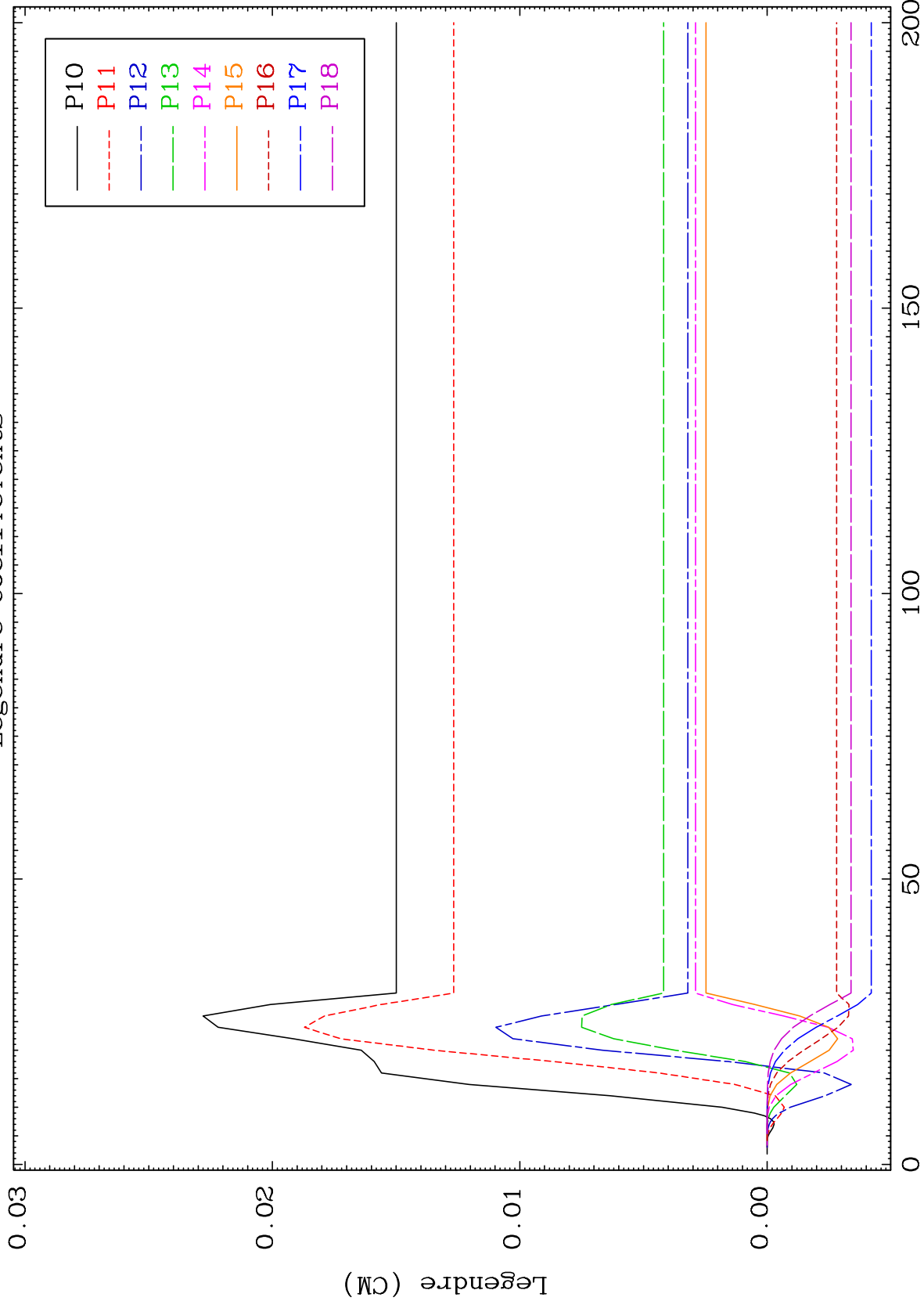
Incident Energy (MeV)

41-Nb-97

MAT 4137

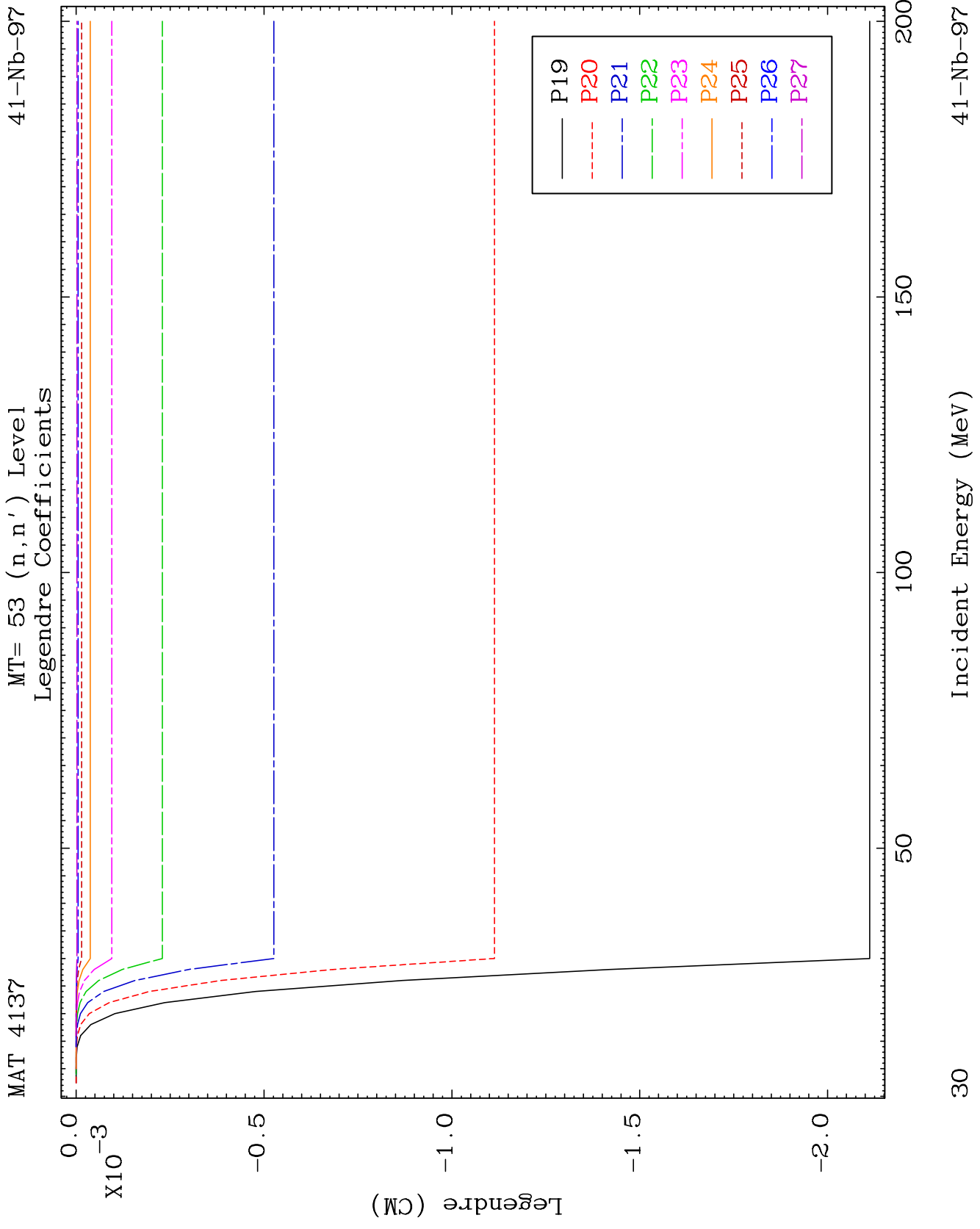
MT= 53 (n,n') Level  
Legendre Coefficients

41-Nb-97



29

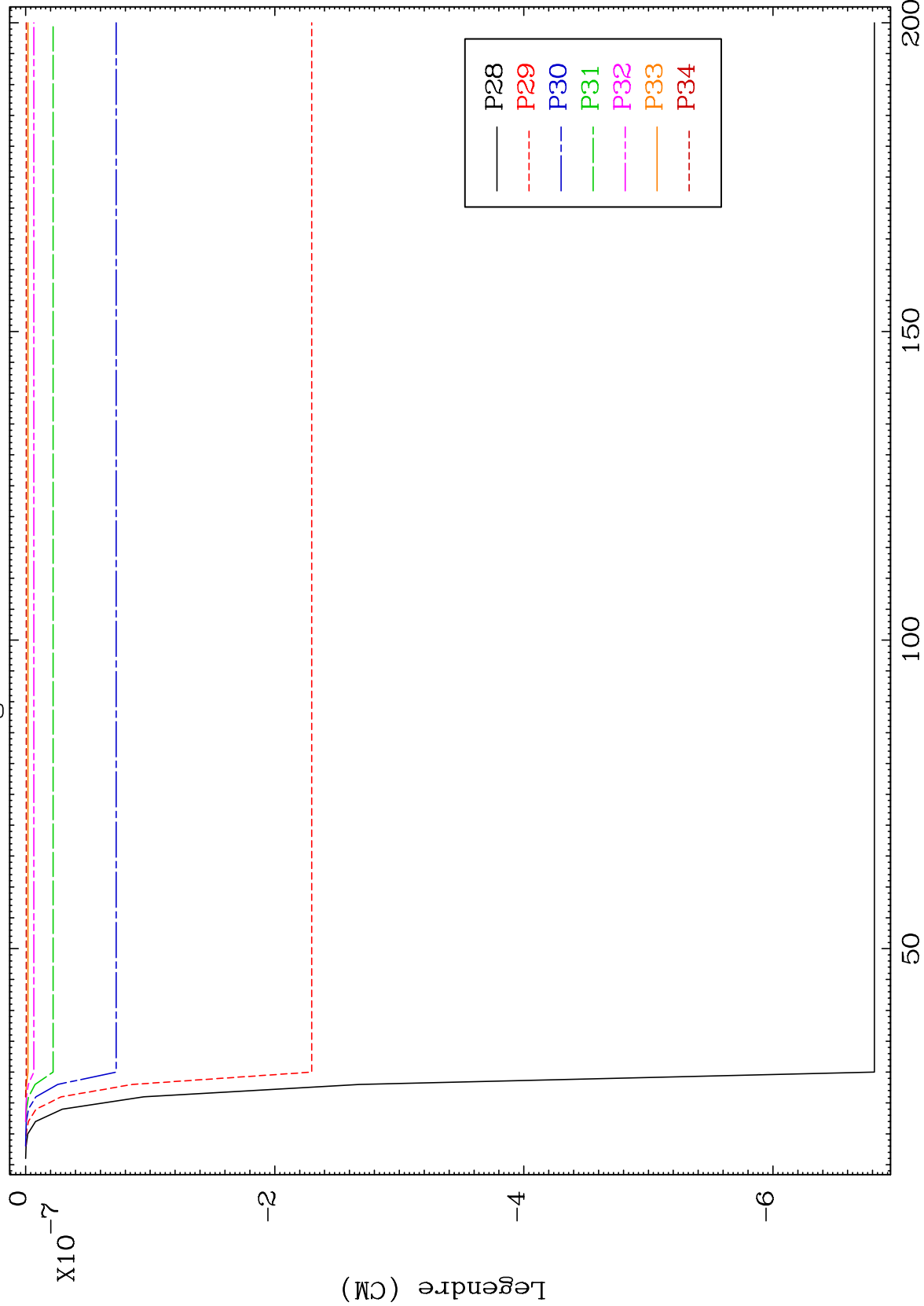
41-Nb-97



MAT 4137

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

41-Nb-97



31

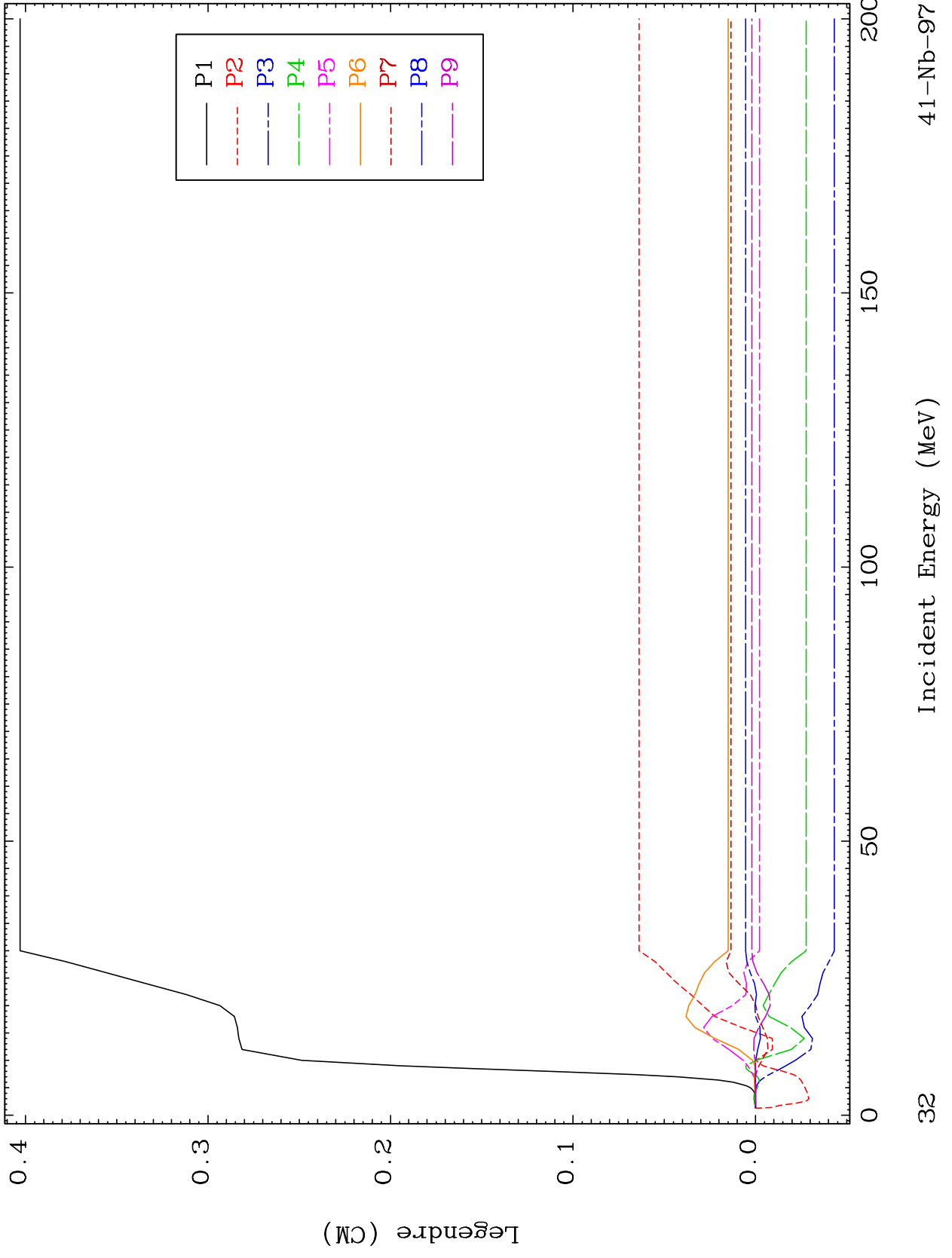
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



32

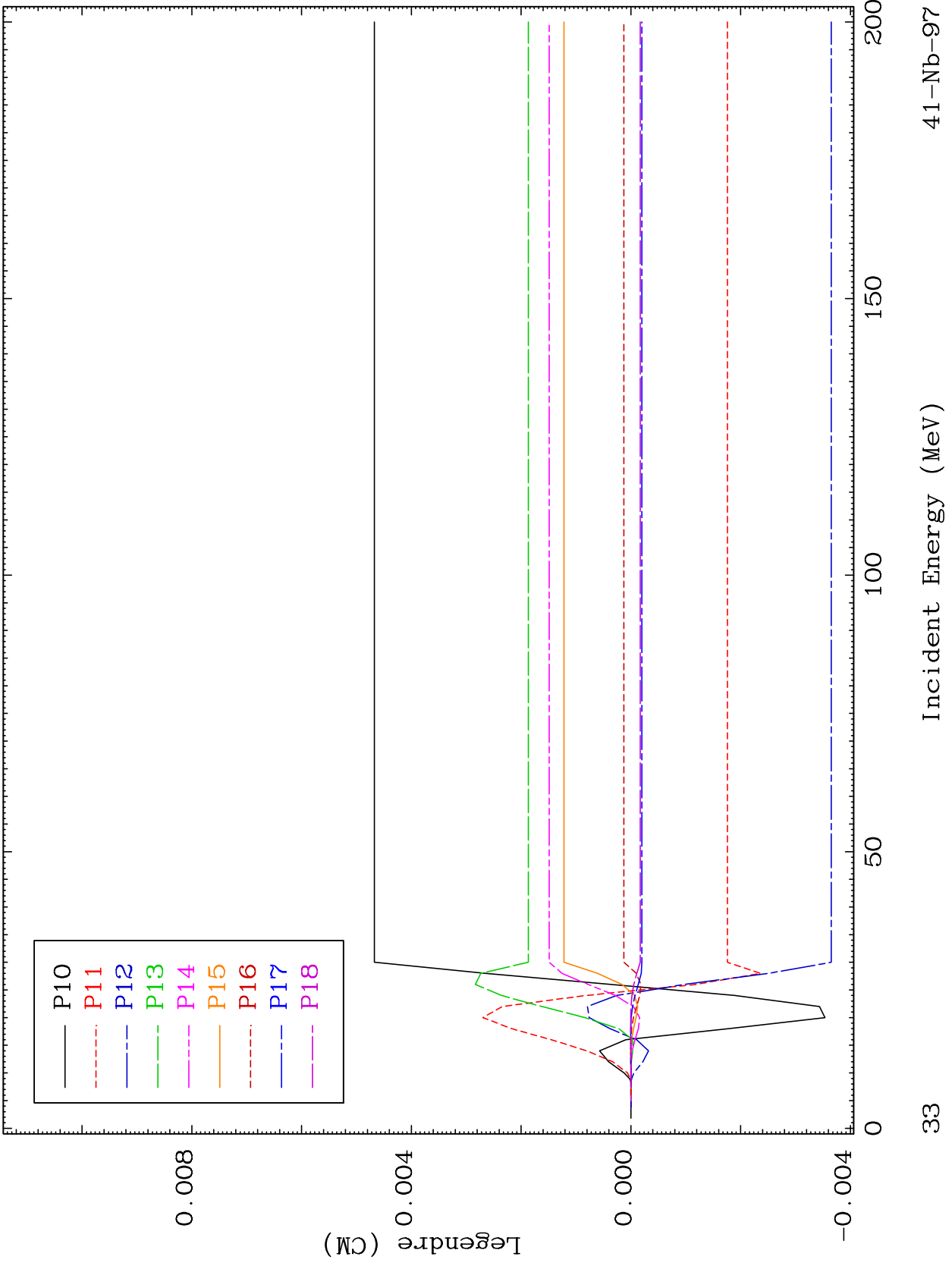
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

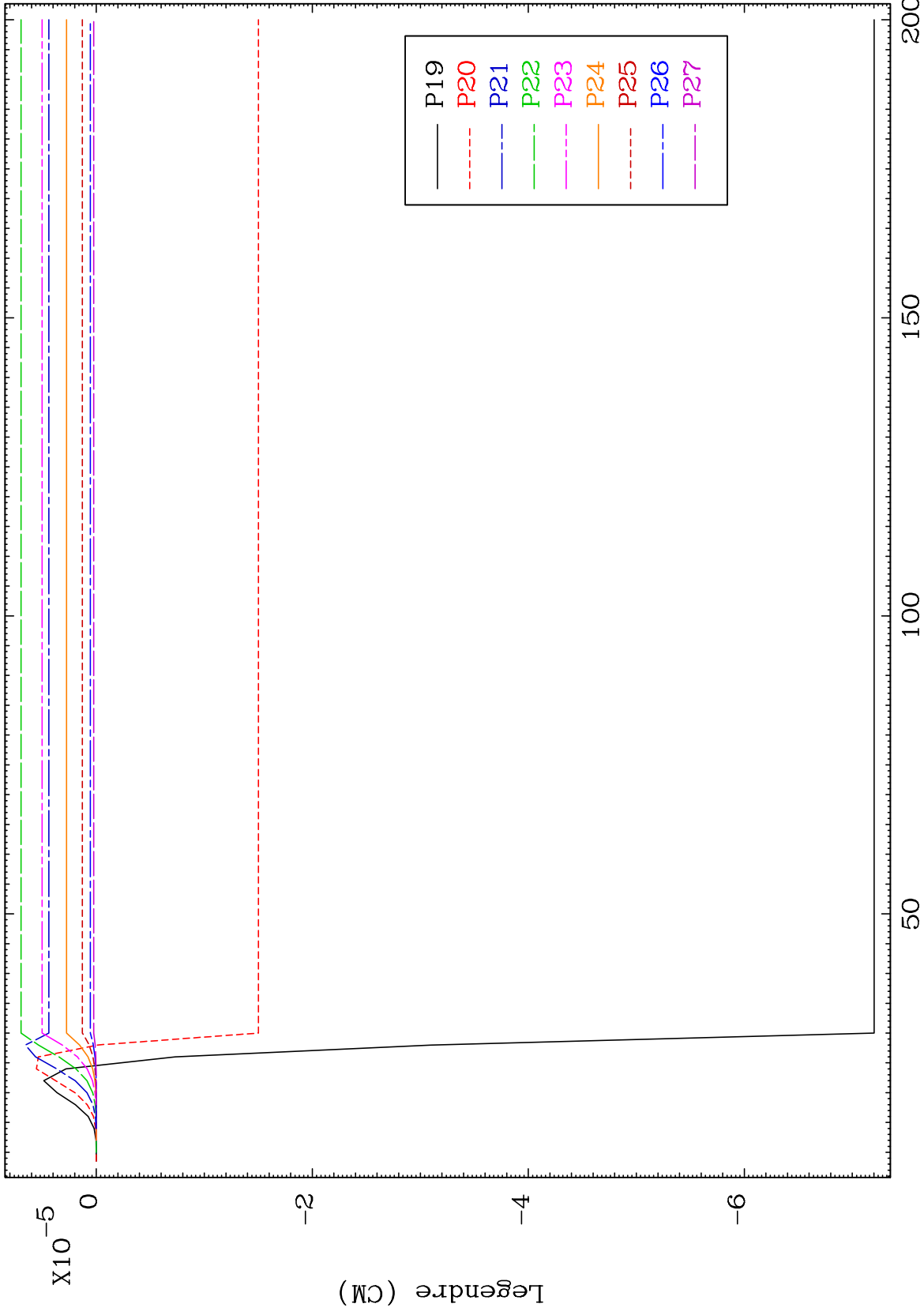
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MAT 4137

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

41-Nb-97



34

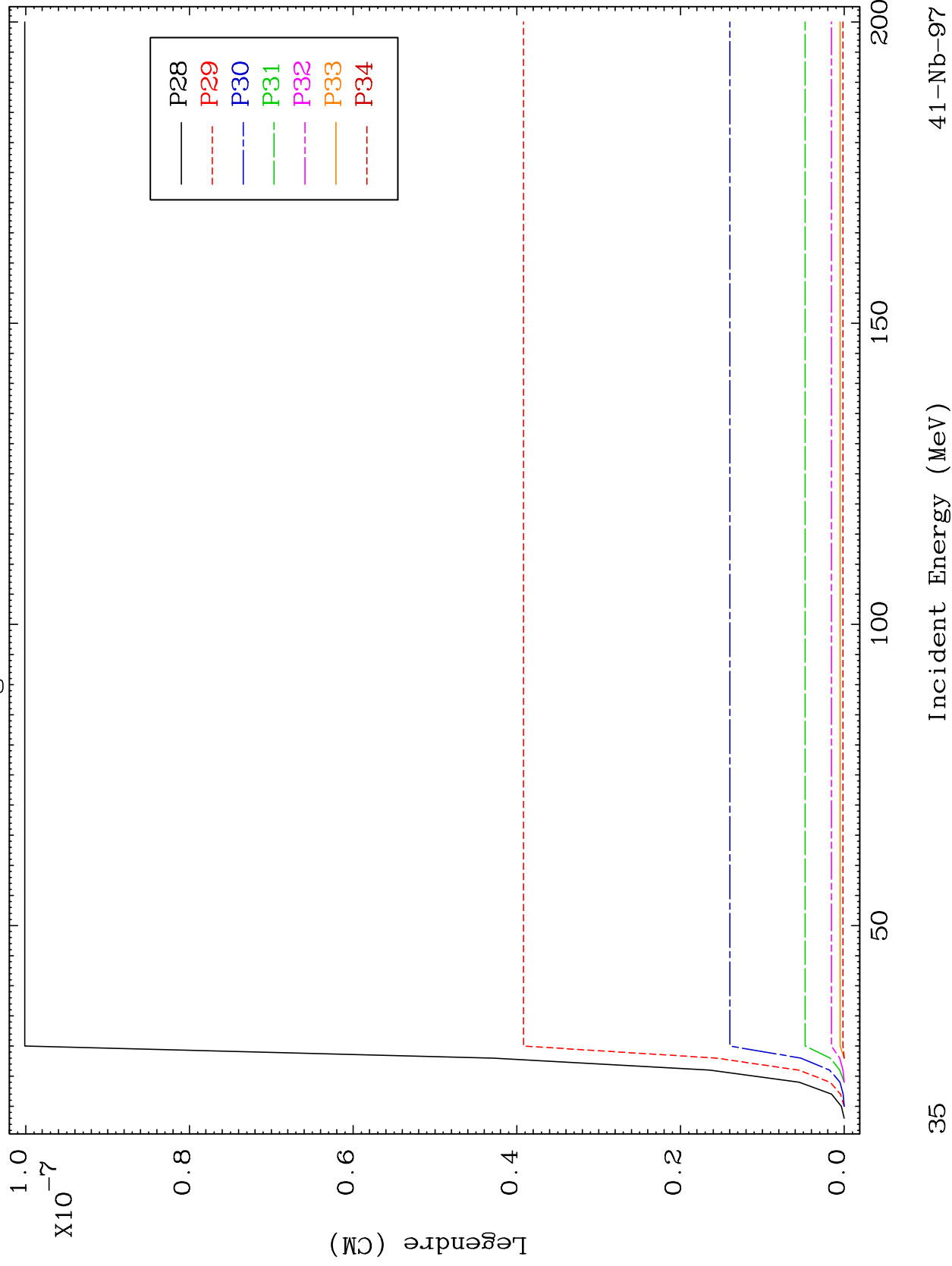
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

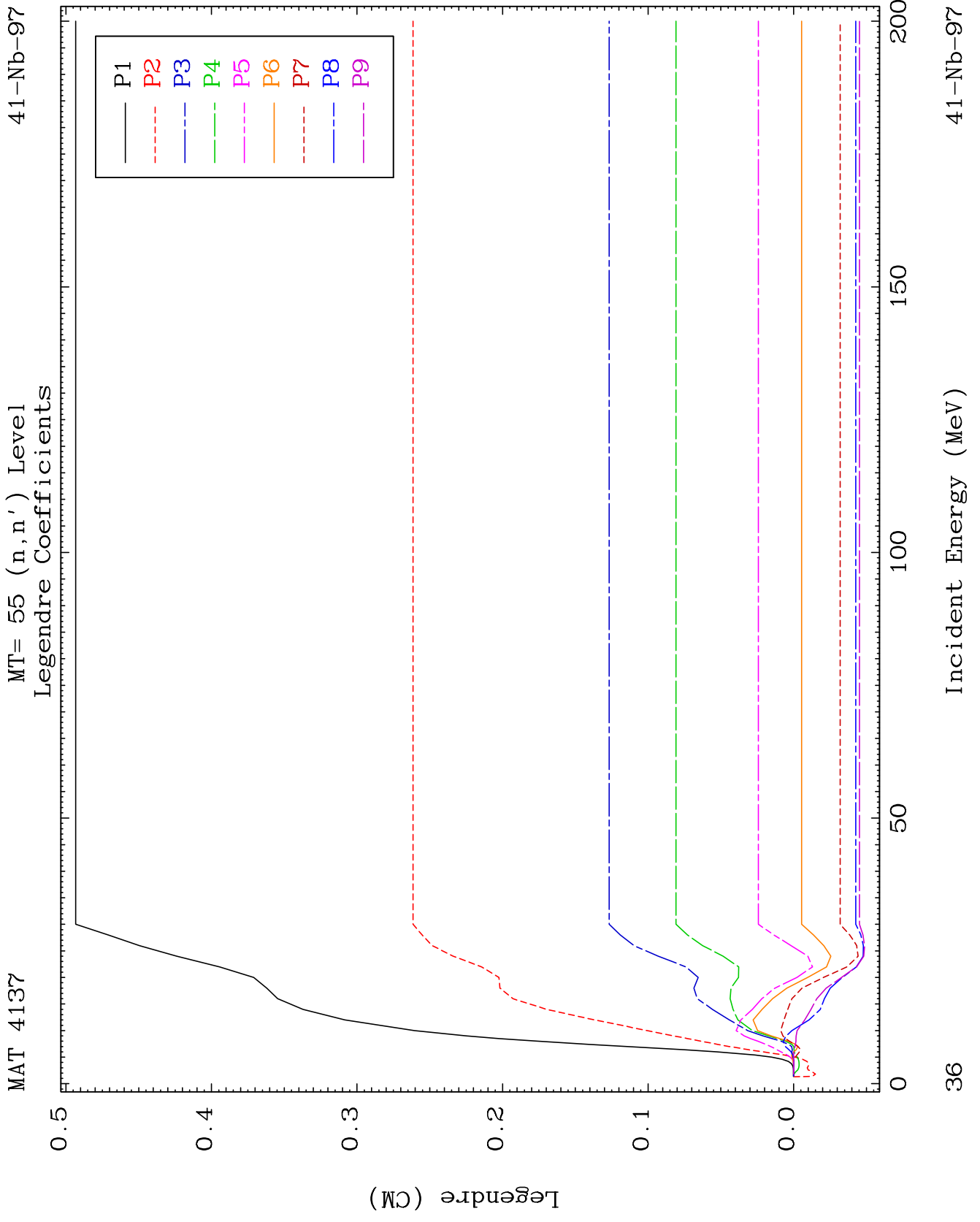
41-Nb-97



35

Incident Energy (MeV)

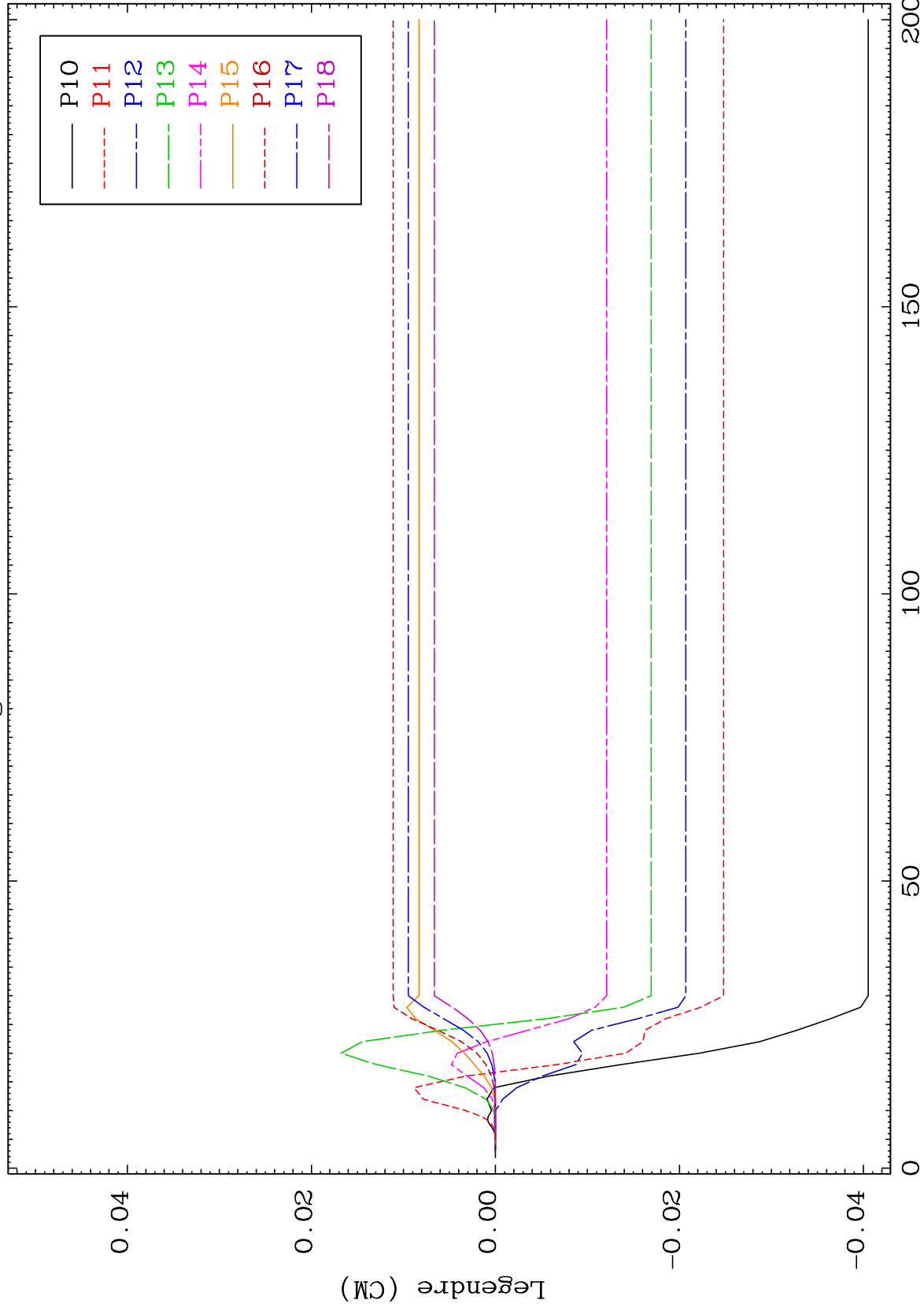
41-Nb-97



MAT 4137

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

41-Nb-97



37

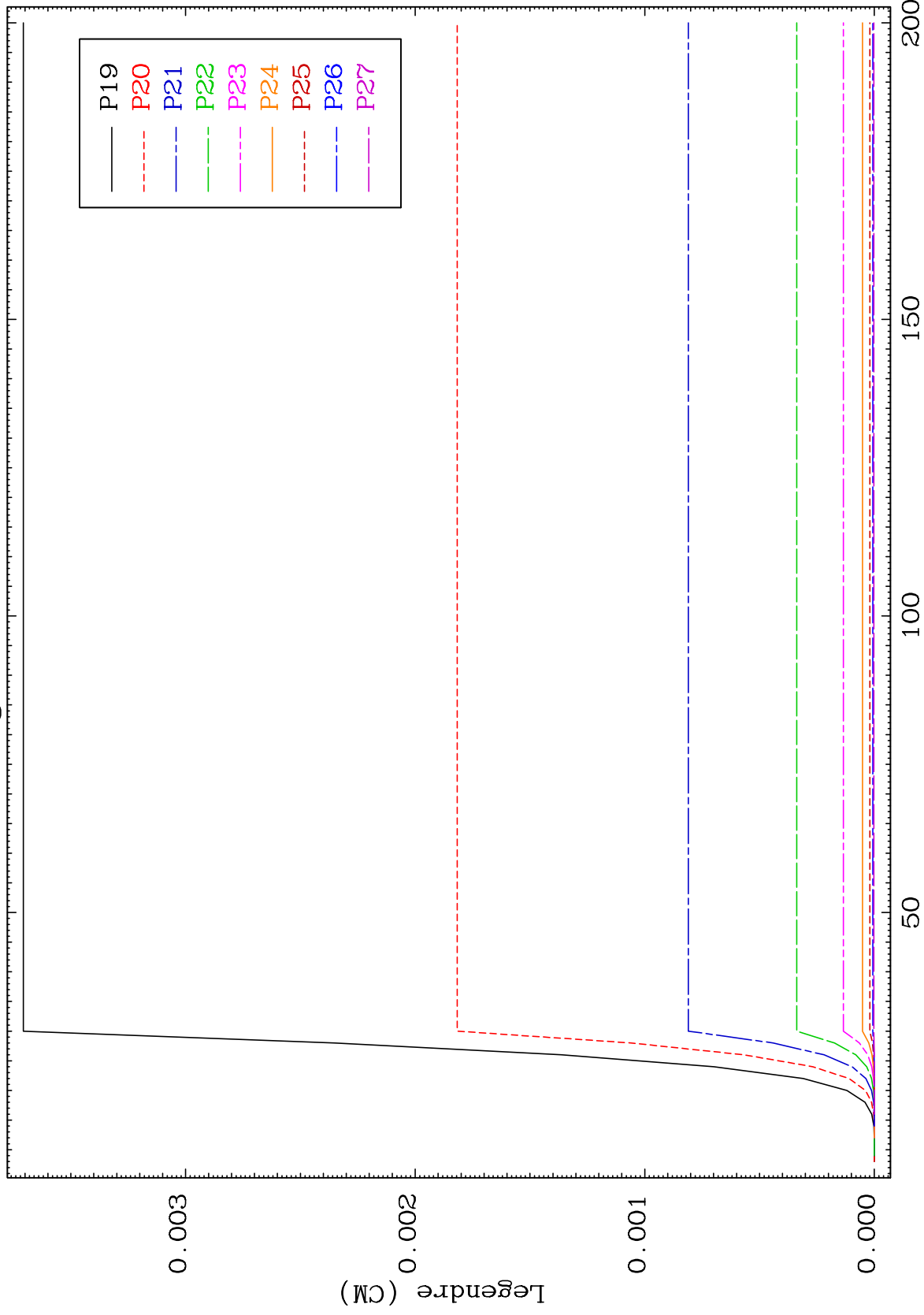
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



38

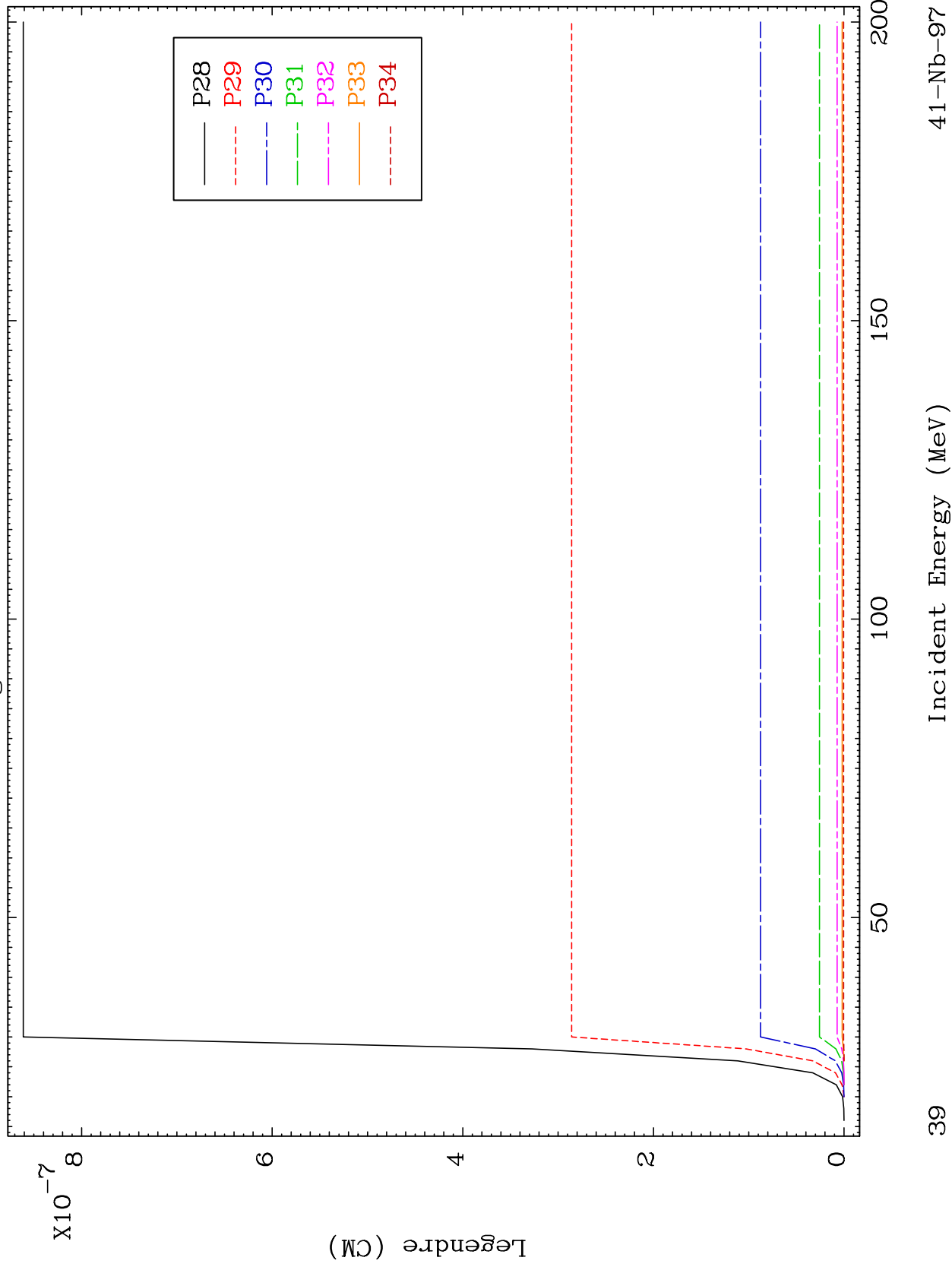
Incident Energy (MeV)

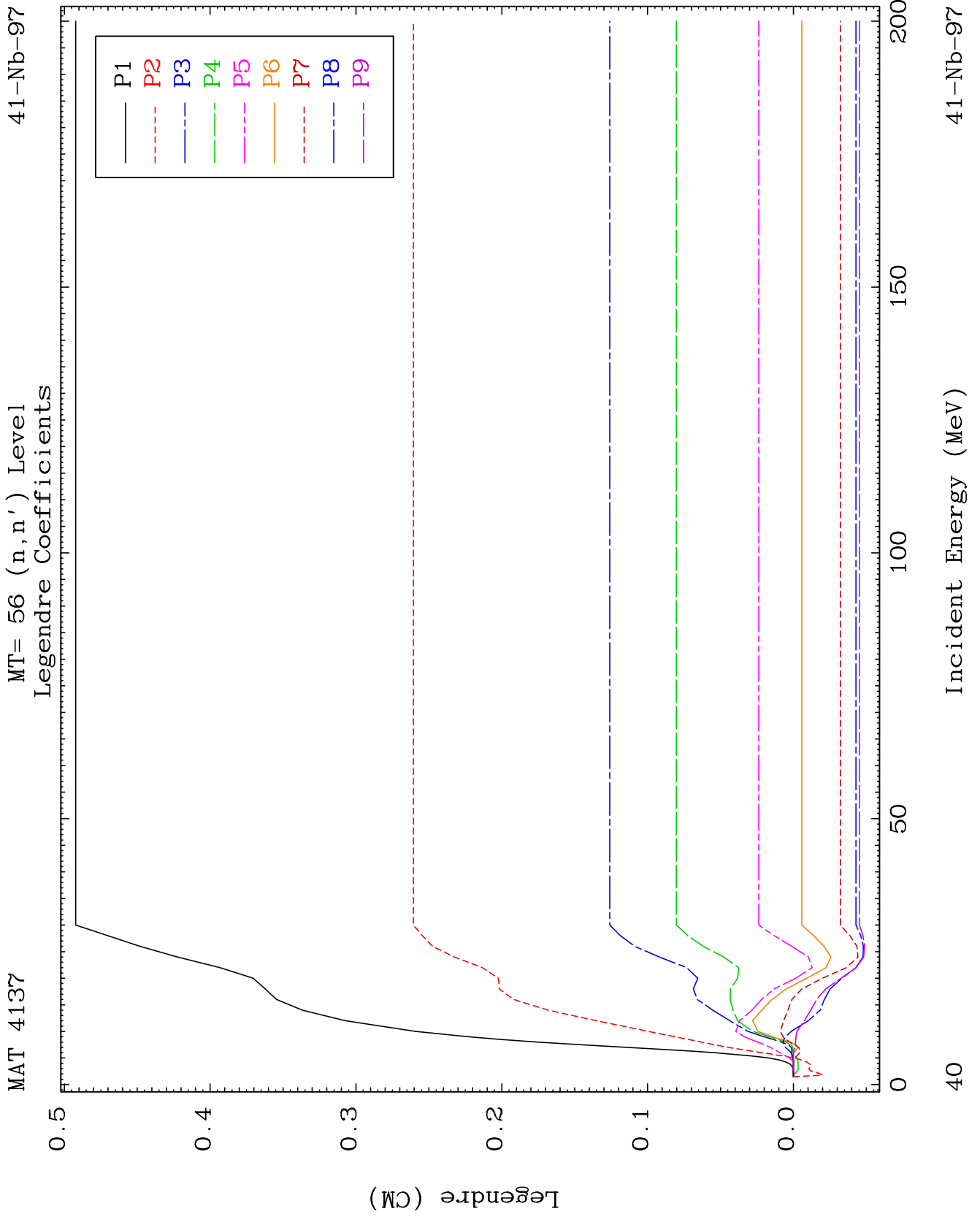
41-Nb-97

MAT 4137

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

41-Nb-97

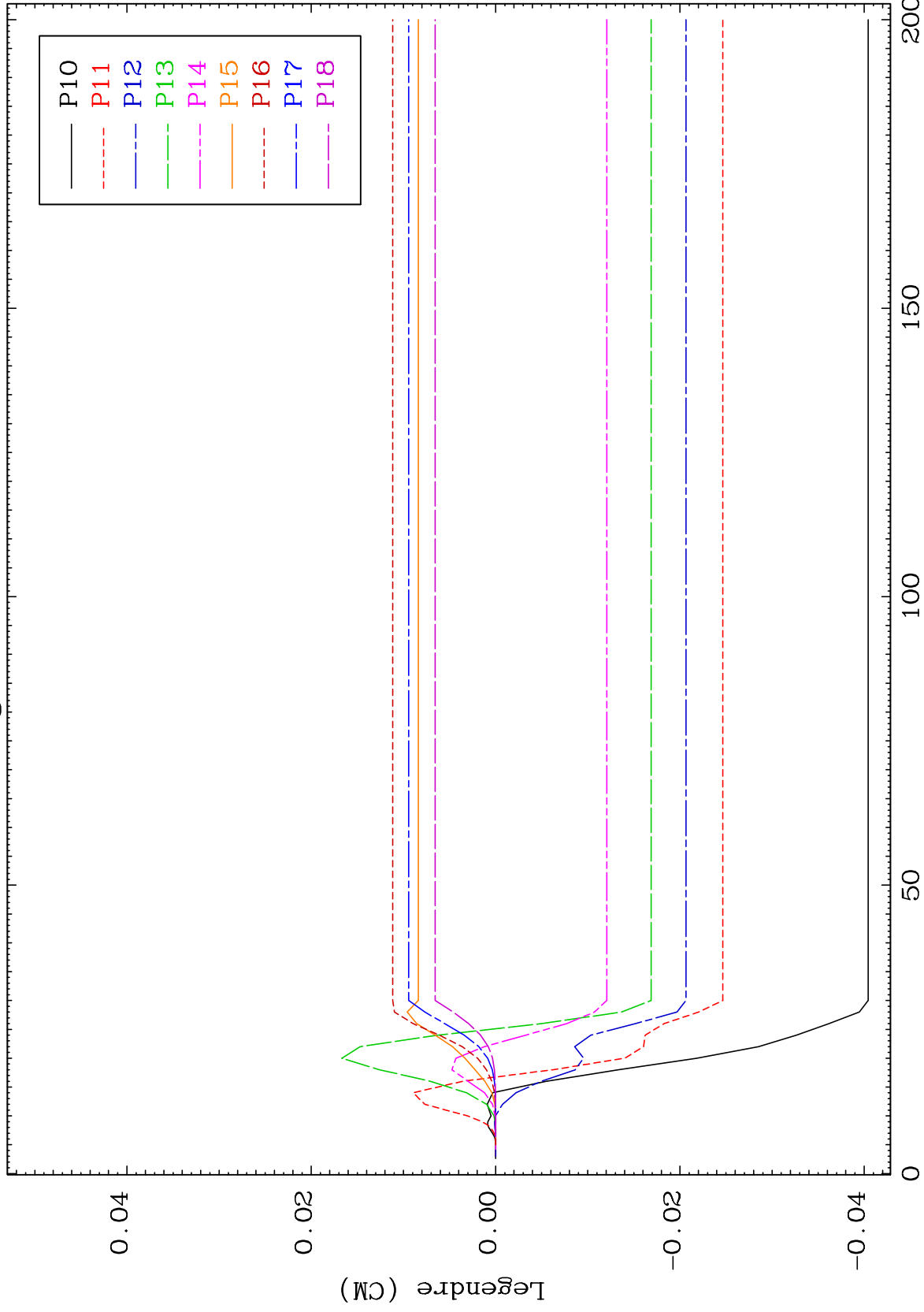




MAT 4137

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

41-Nb-97



41

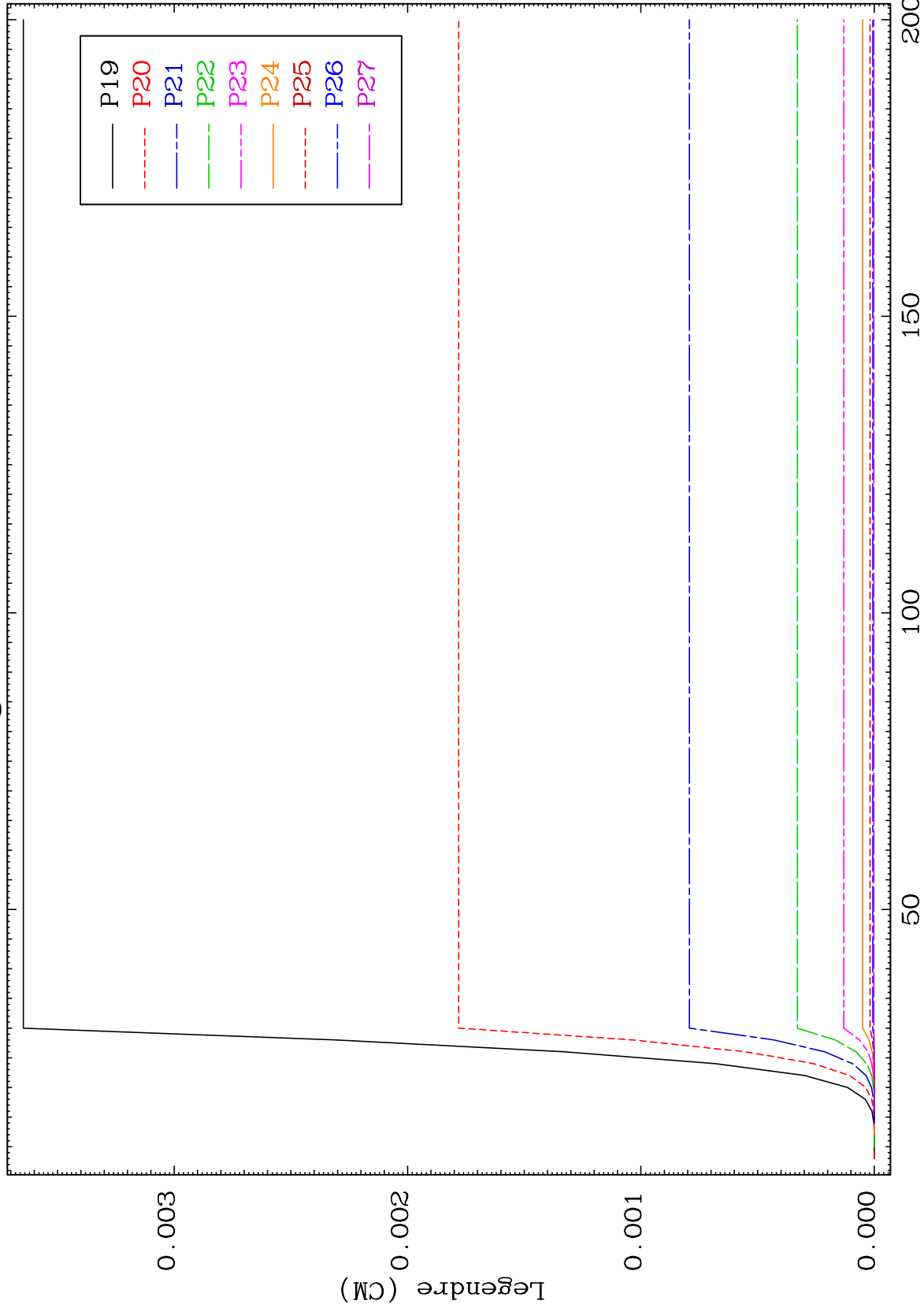
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



42

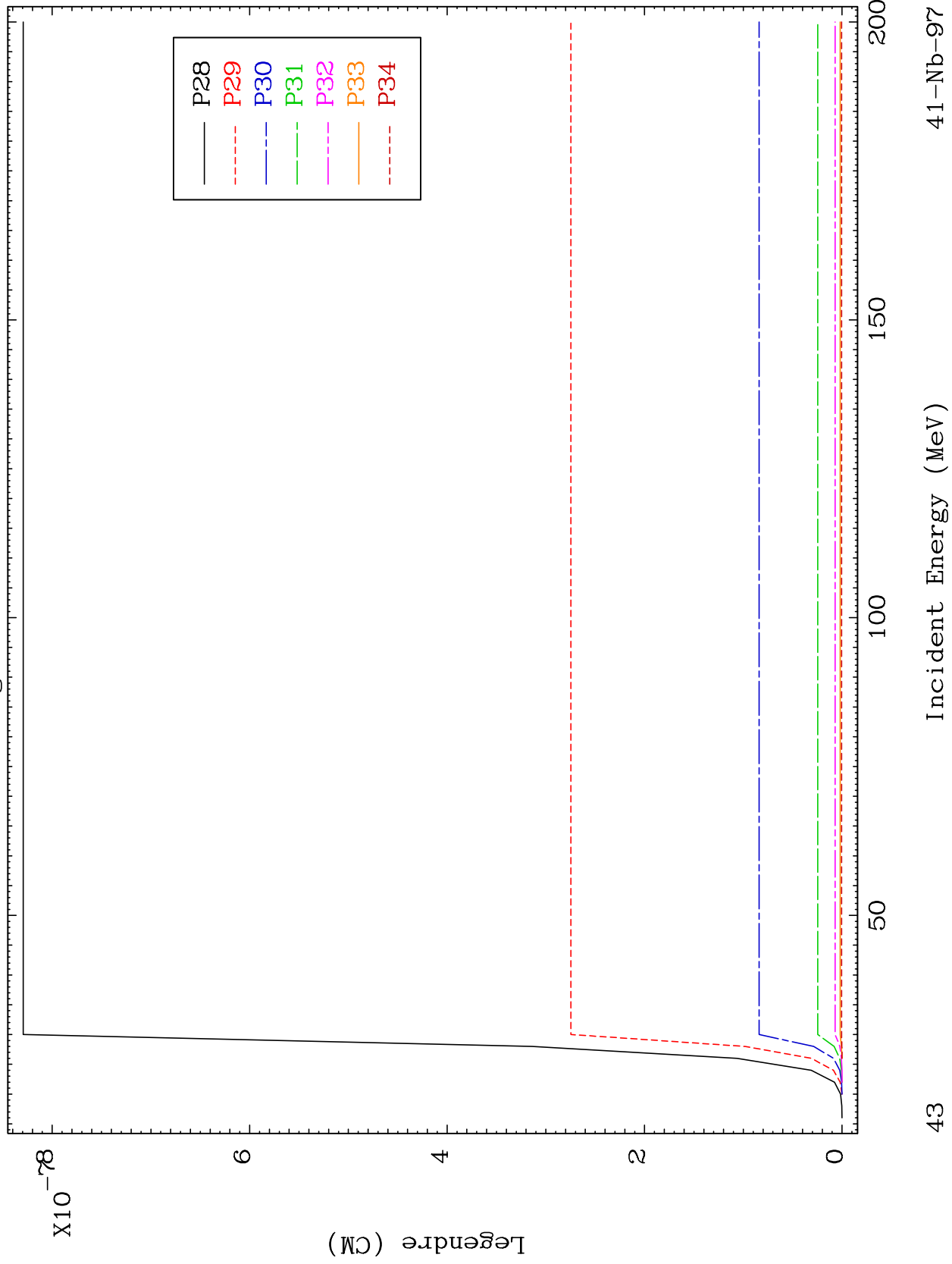
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

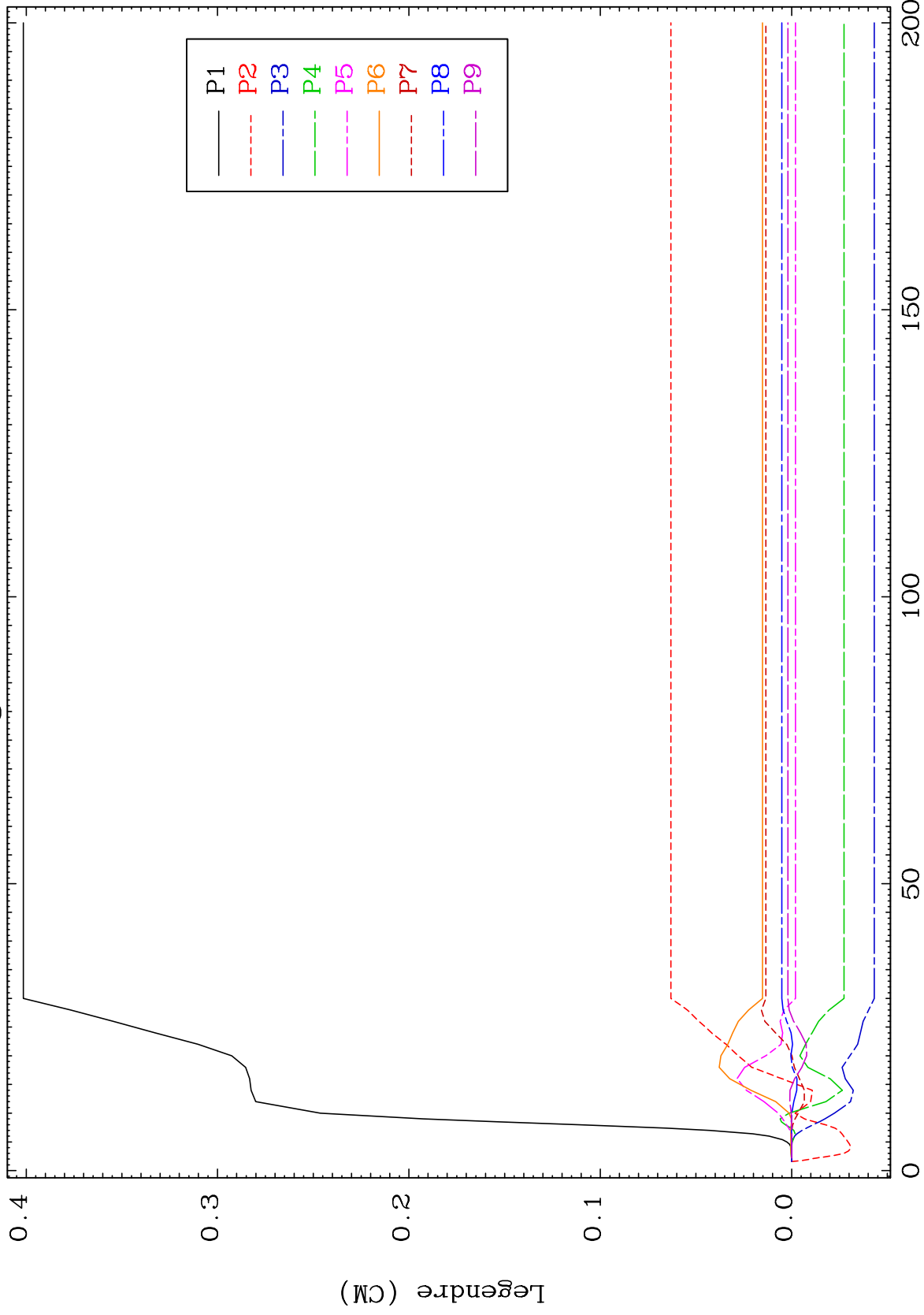
41-Nb-97



MAT 4137

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

41-Nb-97



44

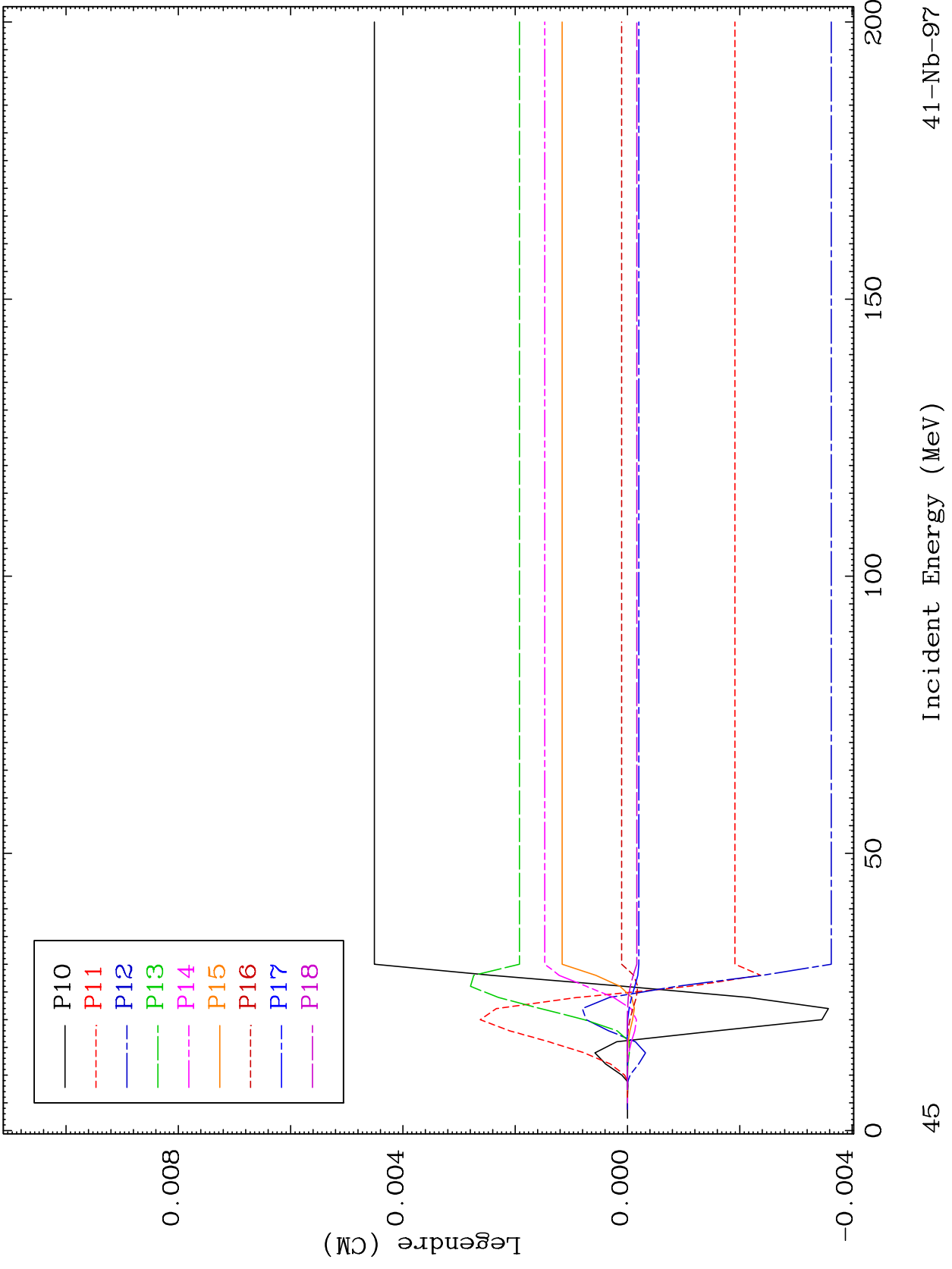
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



41-Nb-97

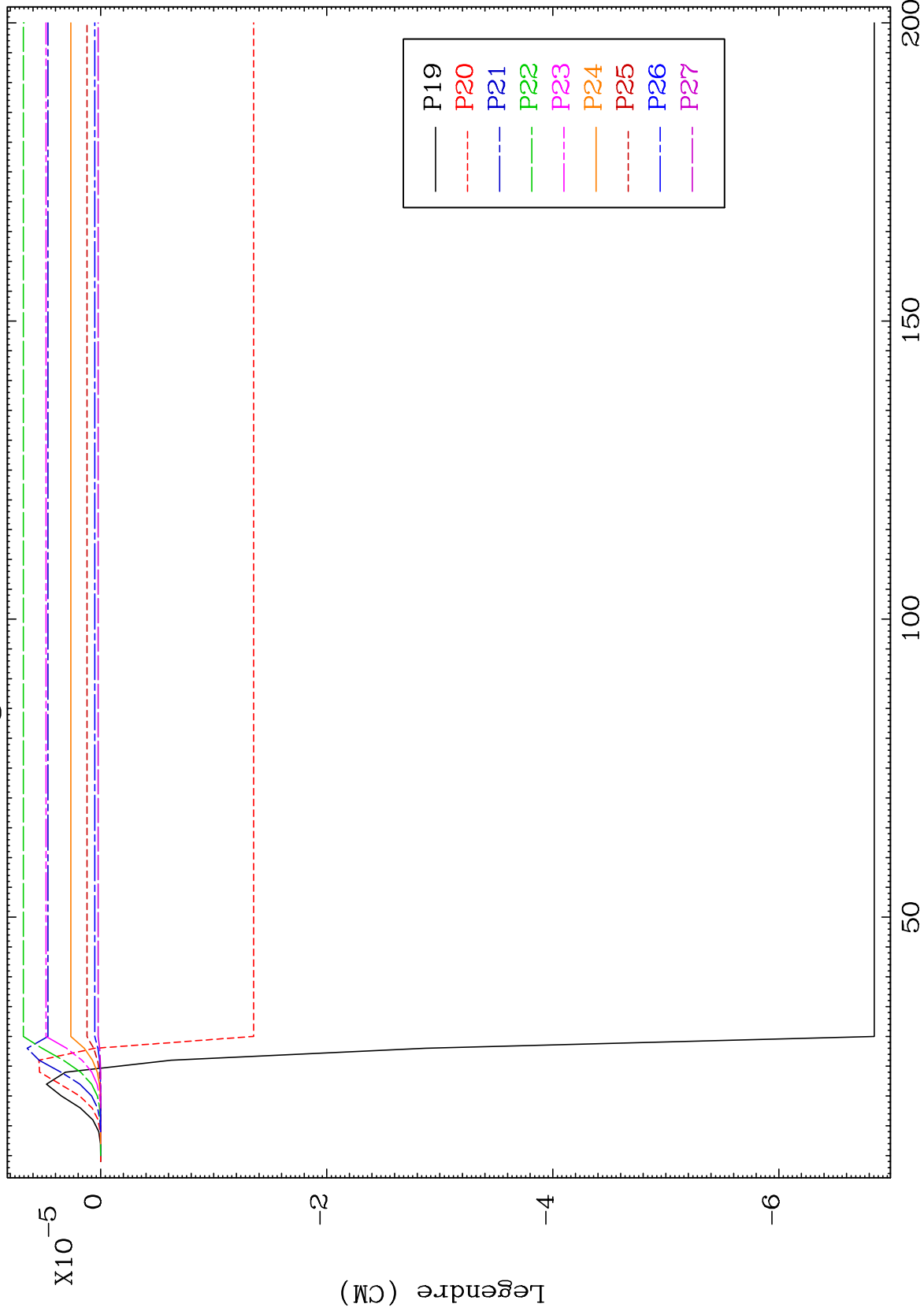
Incident Energy (MeV)

45

MAT 4137

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

41-Nb-97



46

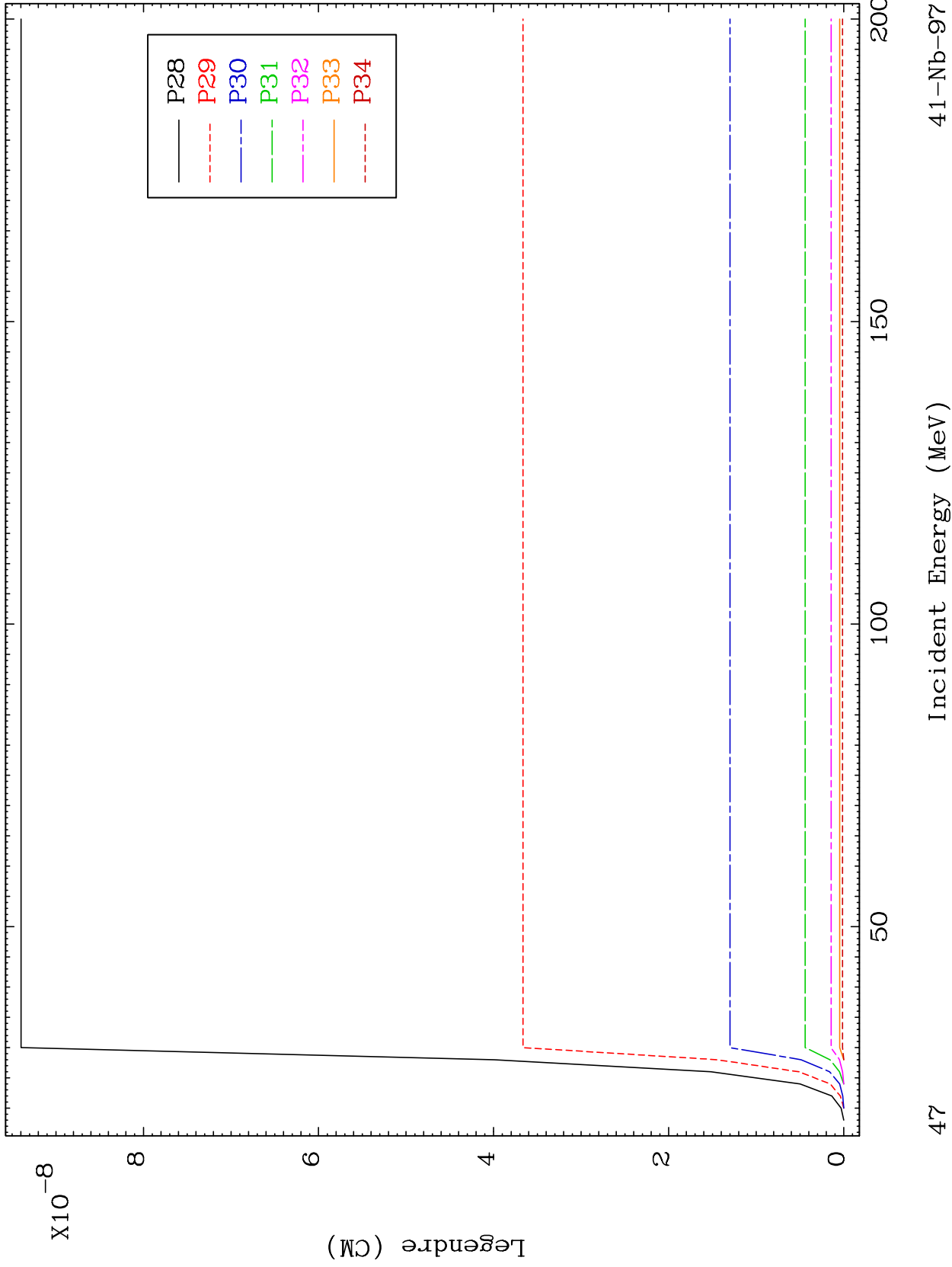
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

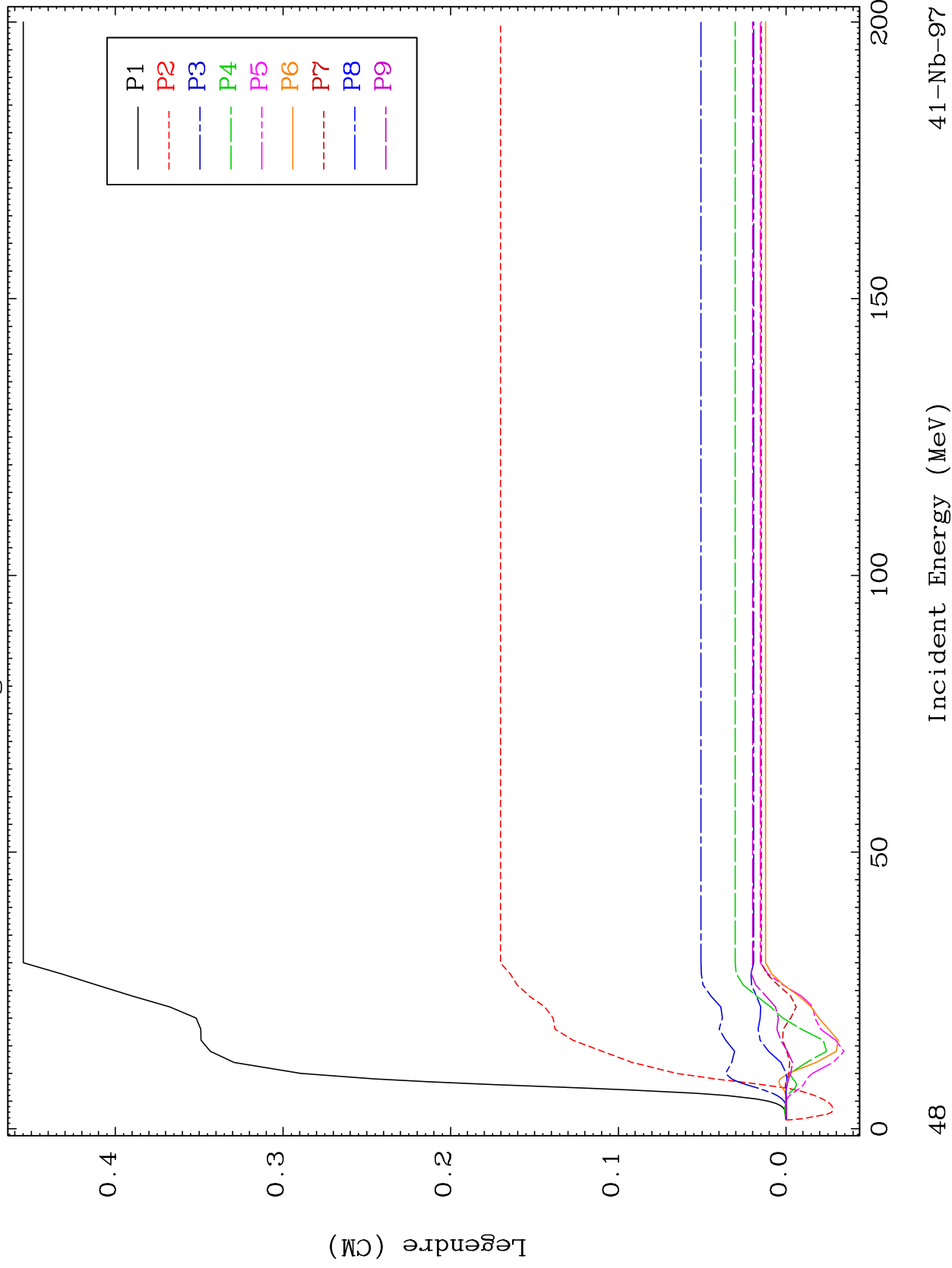
41-Nb-97



MAT 4137

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

41-Nb-97



41-Nb-97

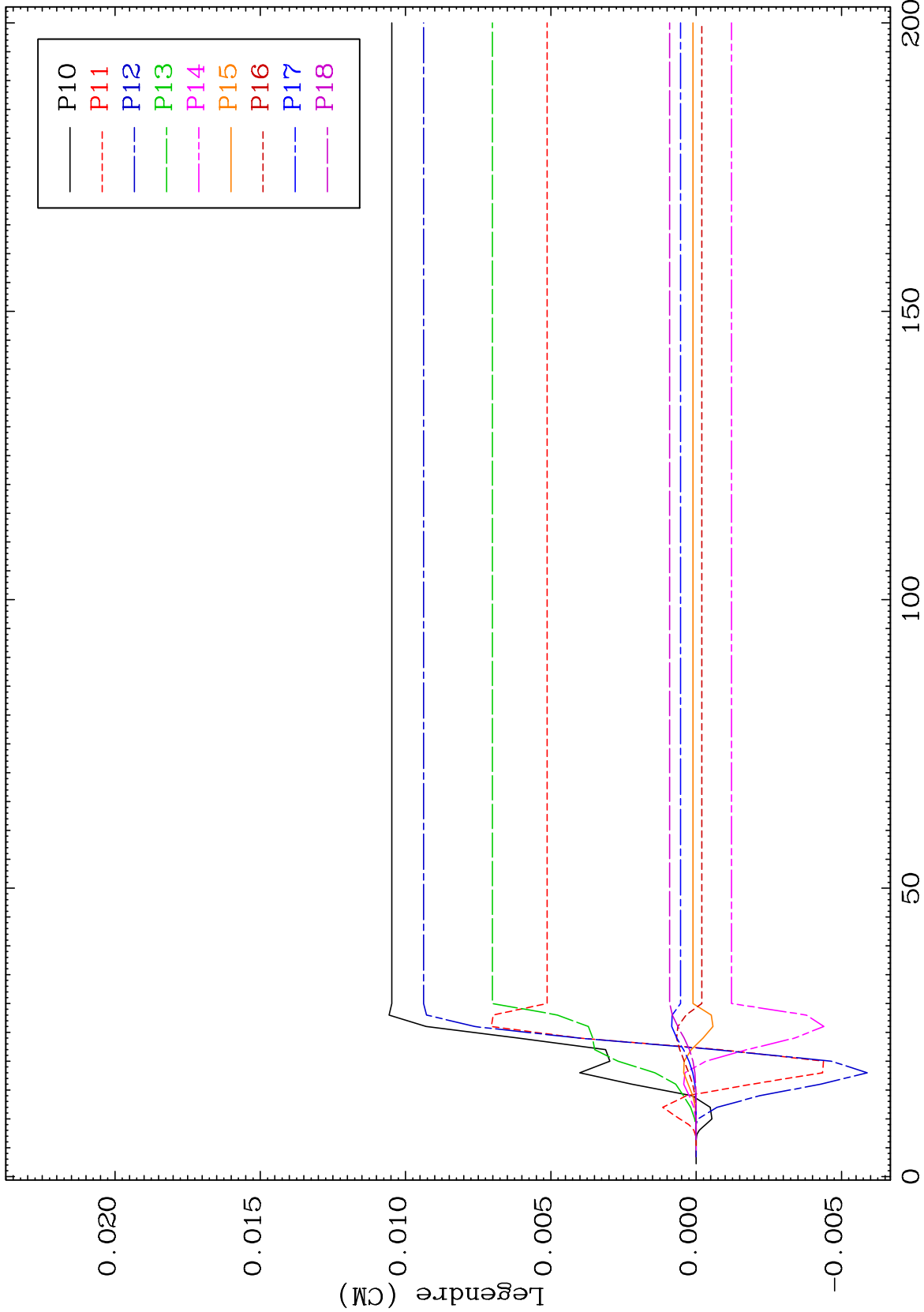
Incident Energy (MeV)

48

MAT 4137

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

41-Nb-97



49

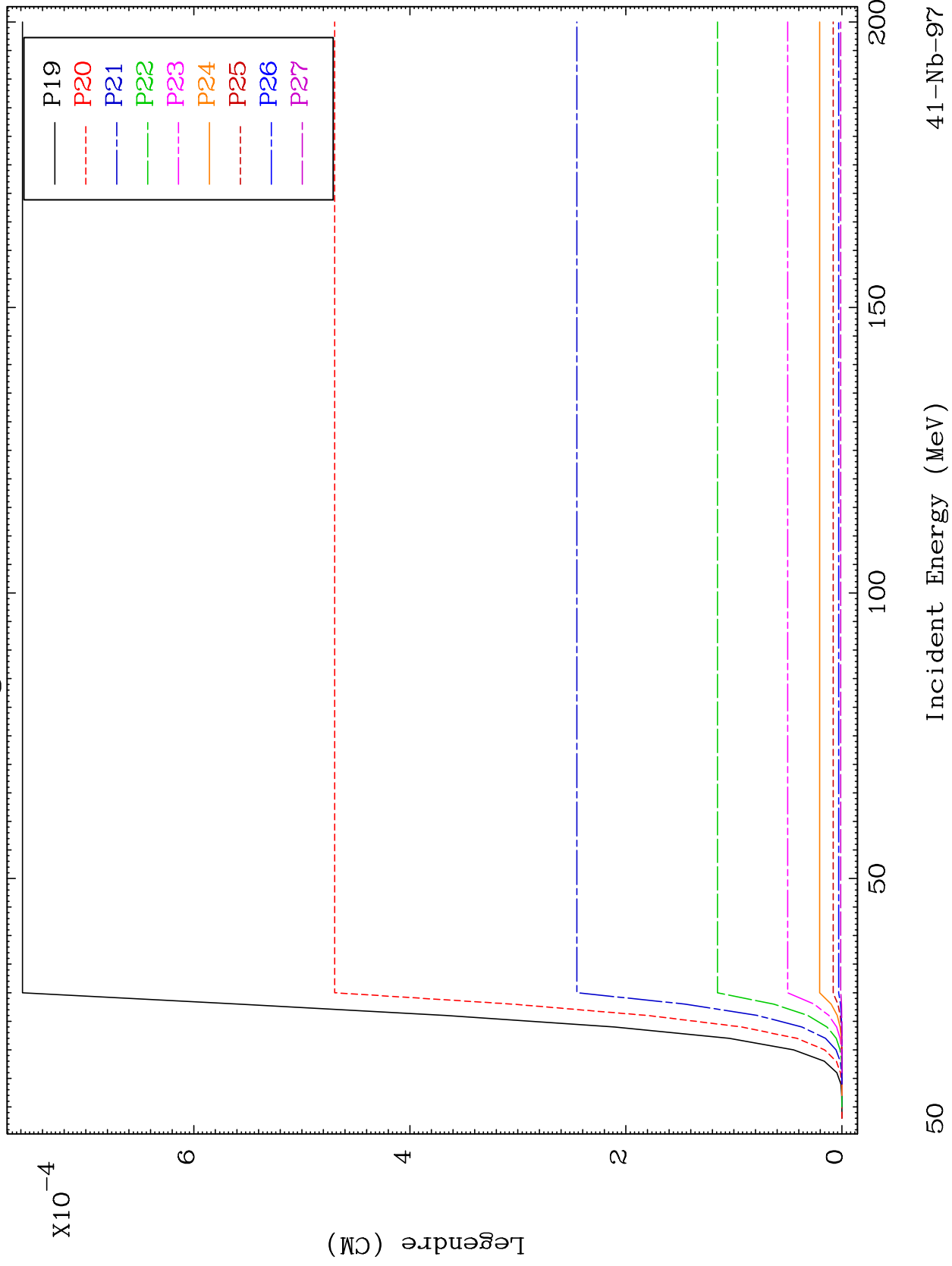
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

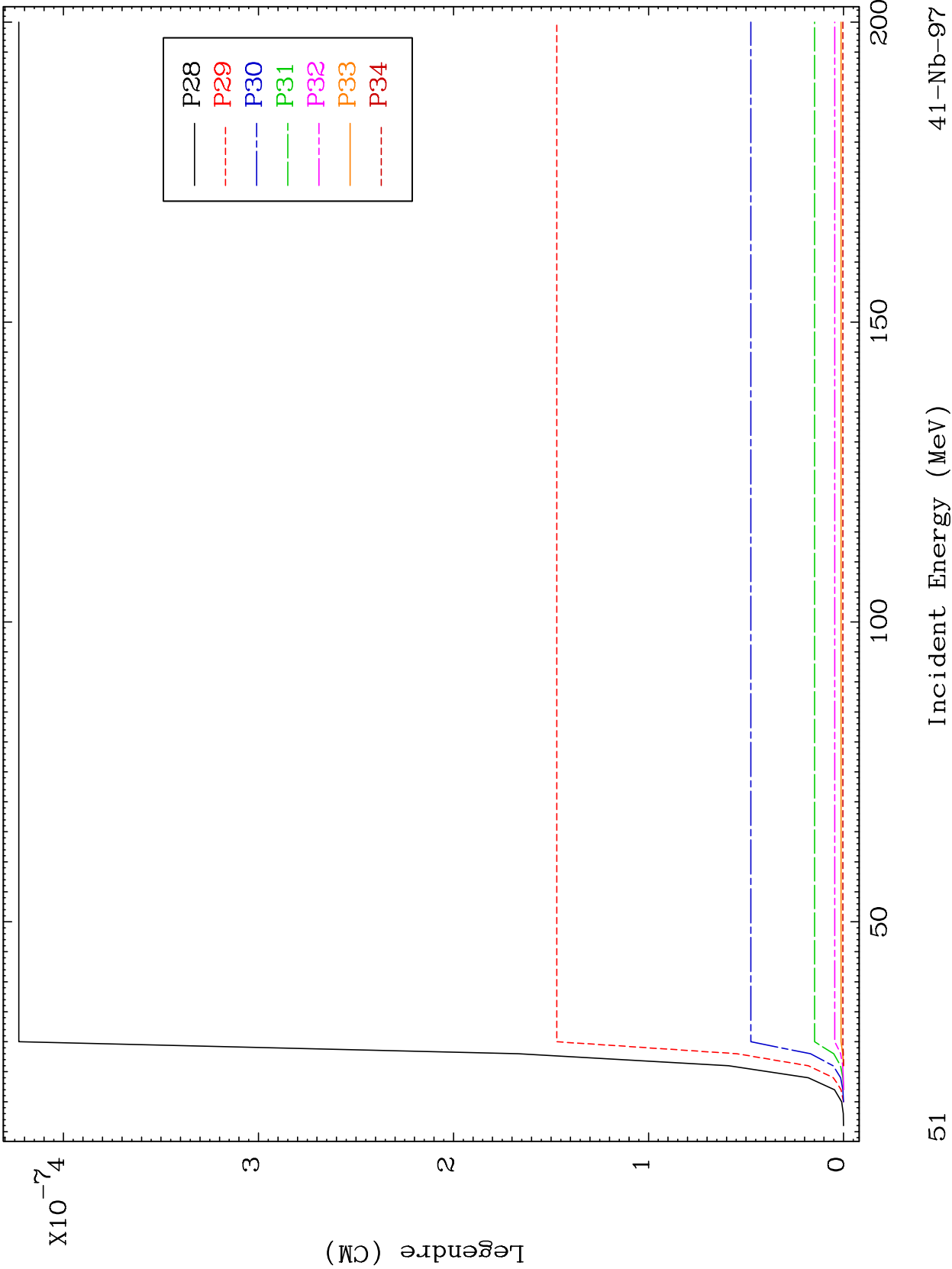
41-Nb-97



MAT 4137

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

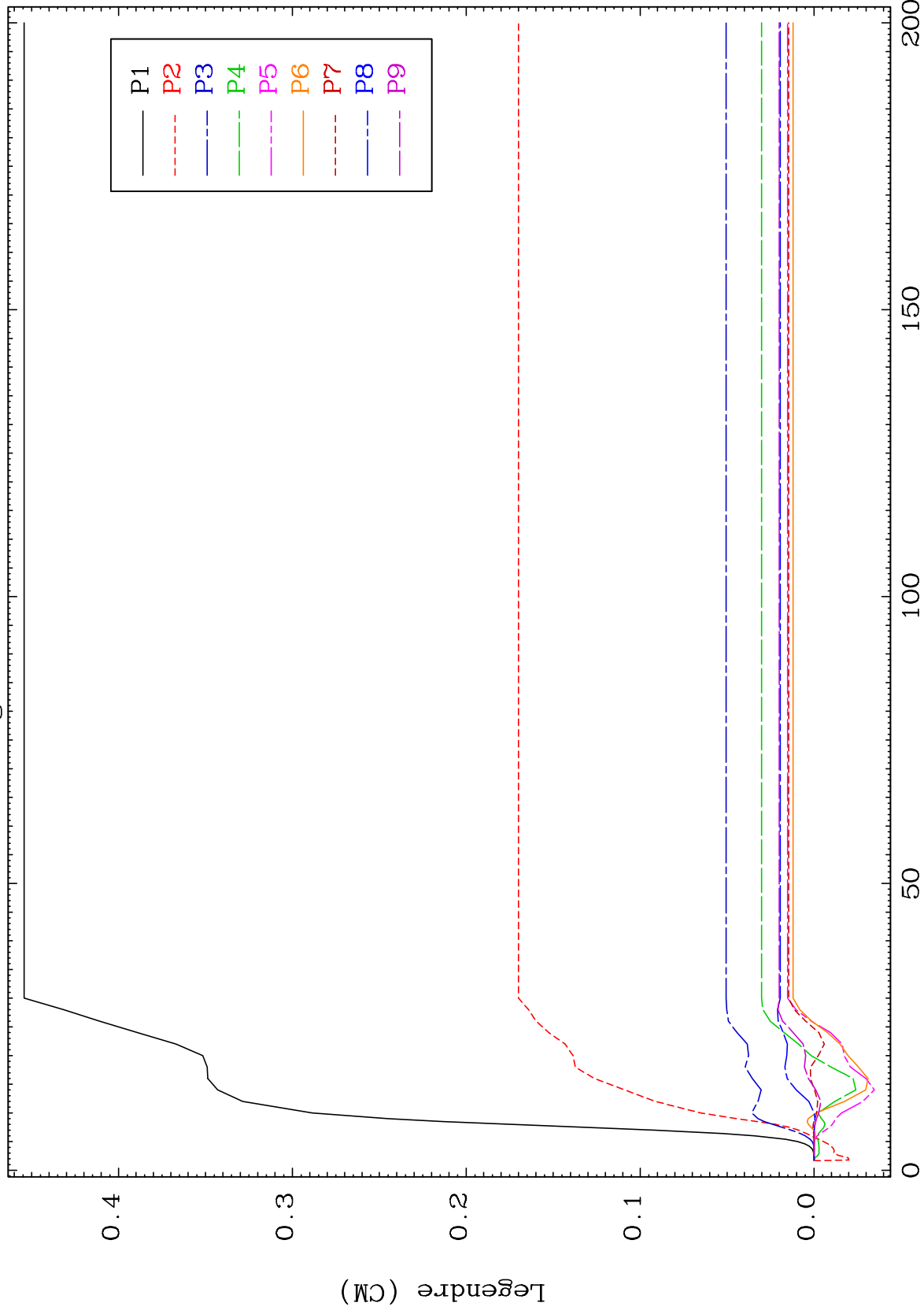
41-Nb-97



MAT 4137

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

41-Nb-97



52

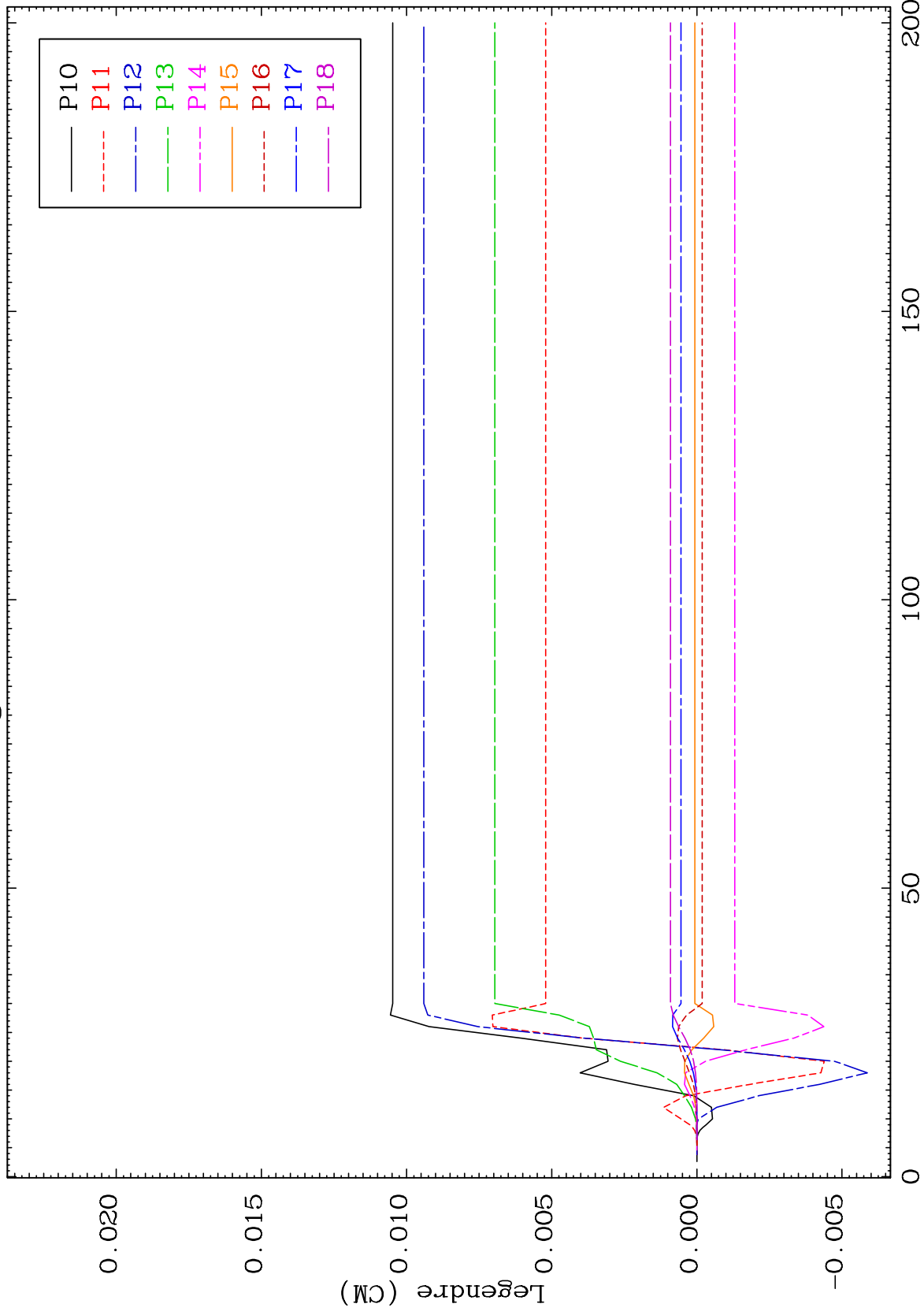
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



53

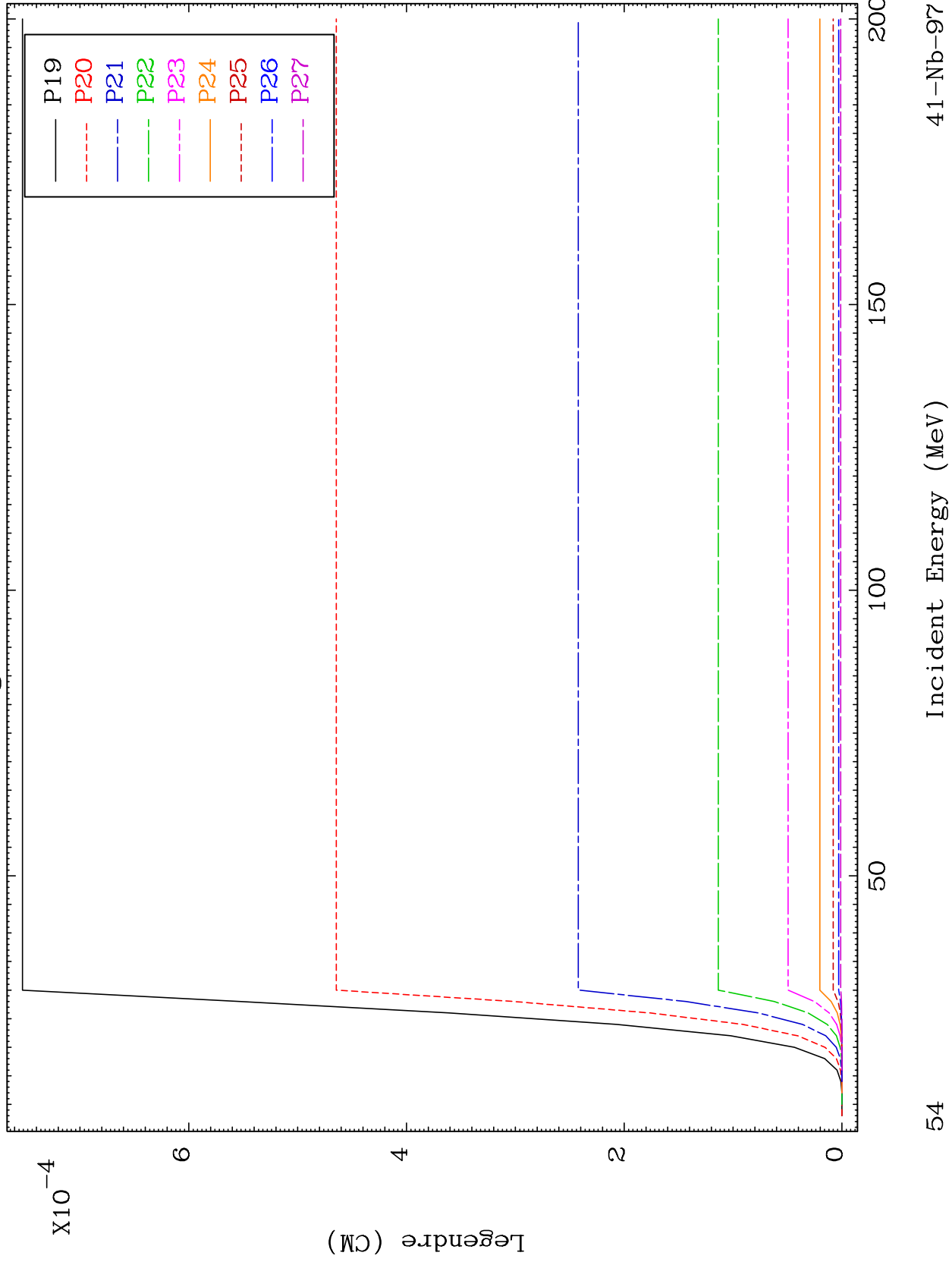
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



54

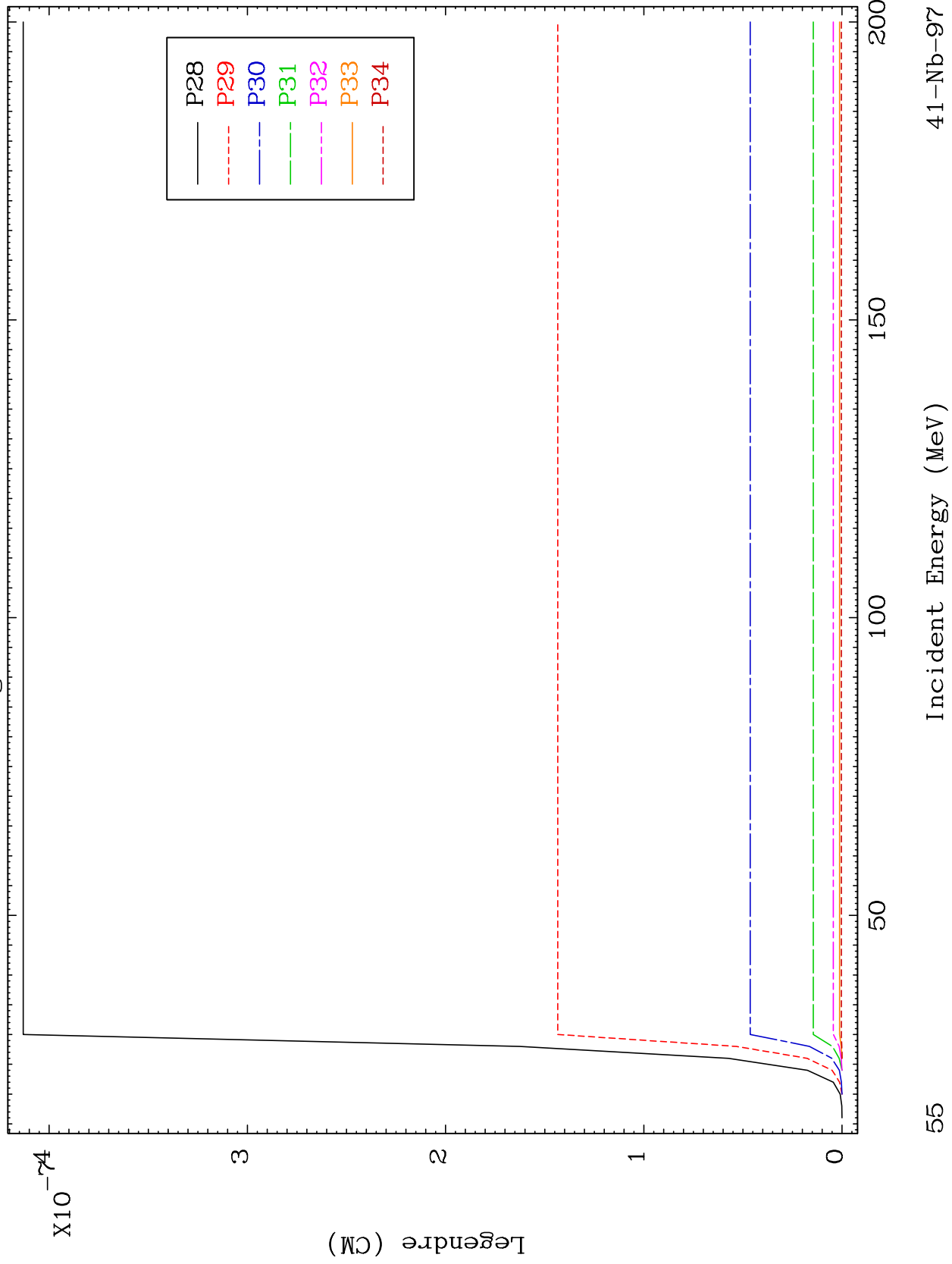
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

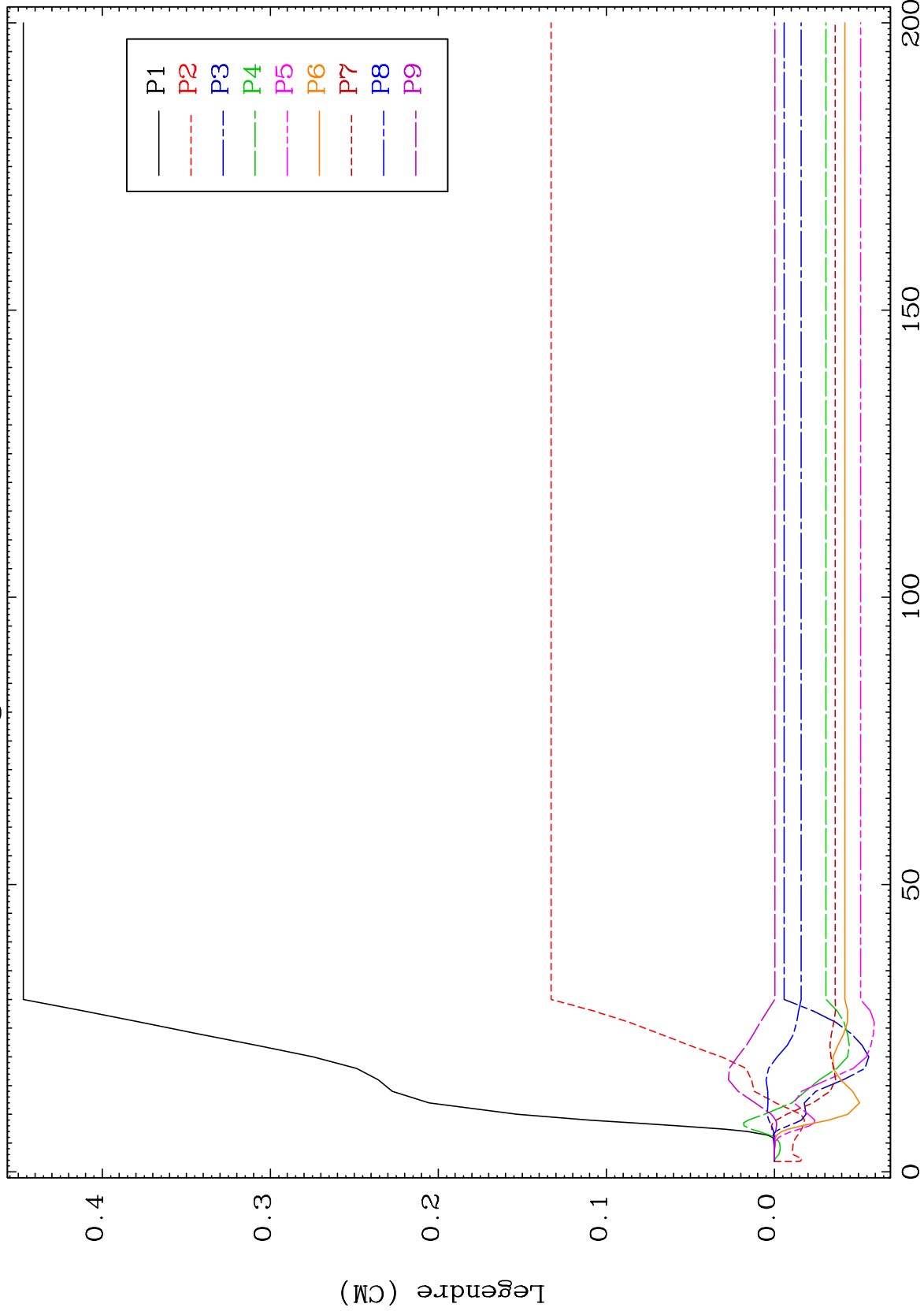
41-Nb-97



MAT 4137

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

41-Nb-97



56

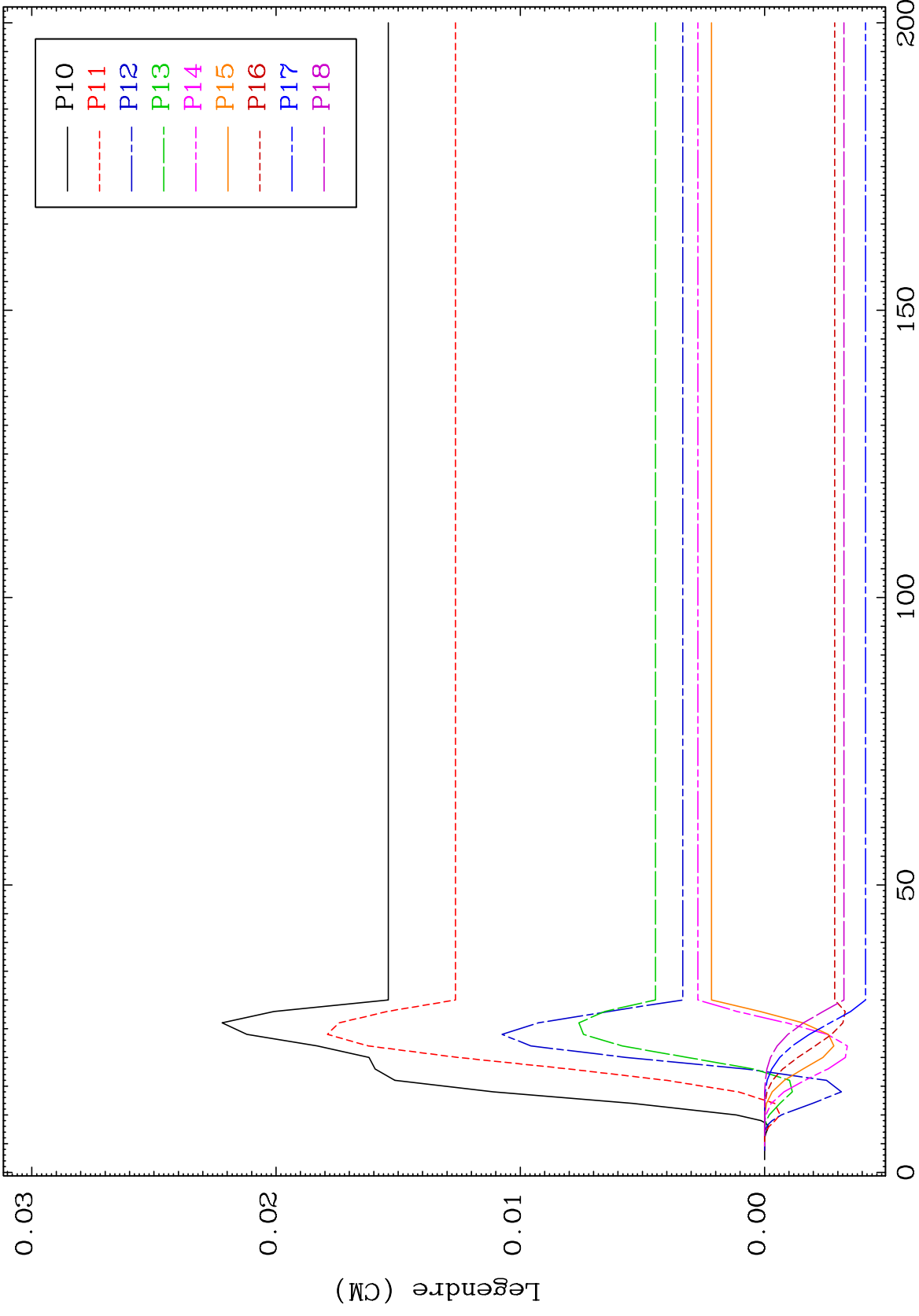
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

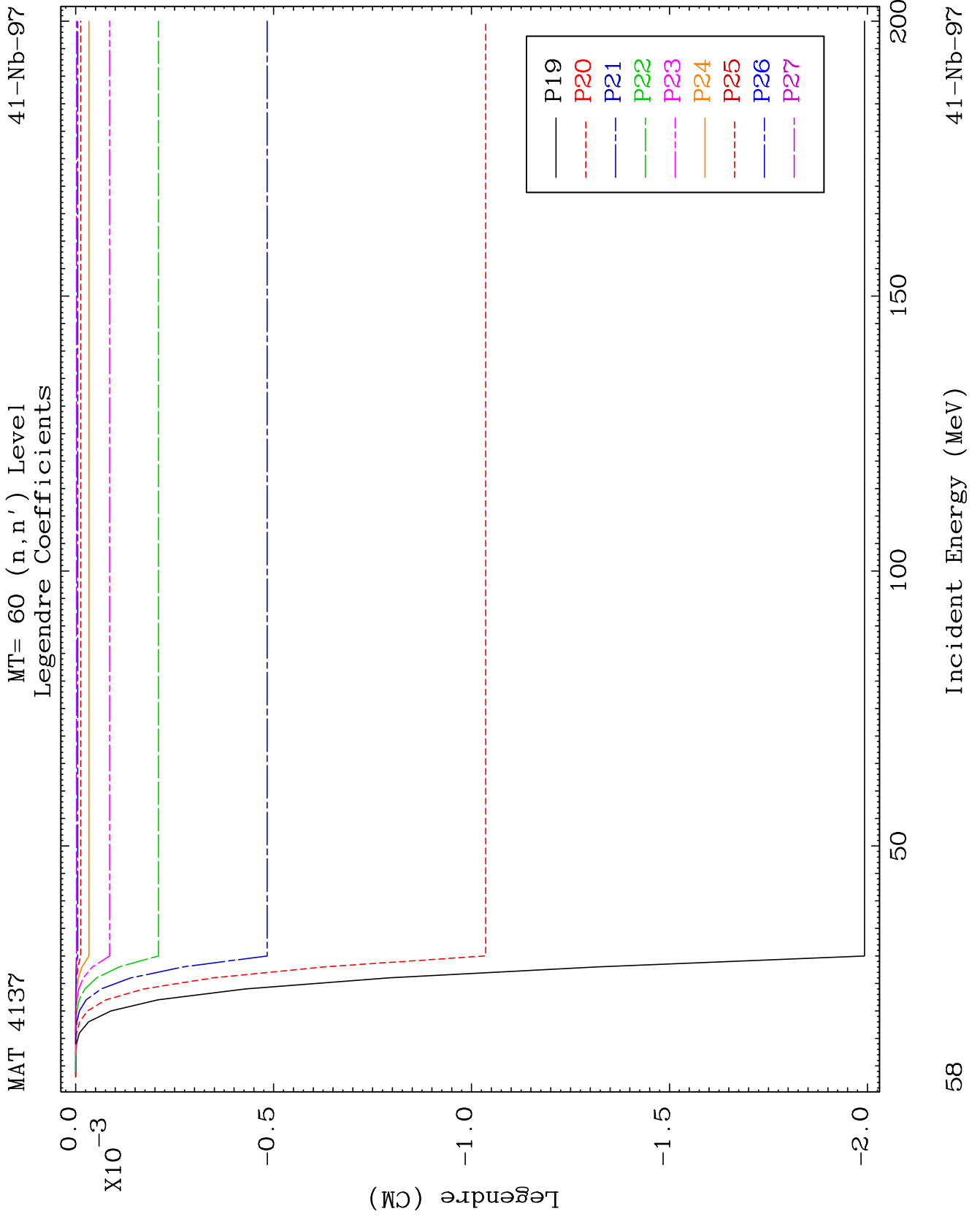
41-Nb-97



57

Incident Energy (MeV)

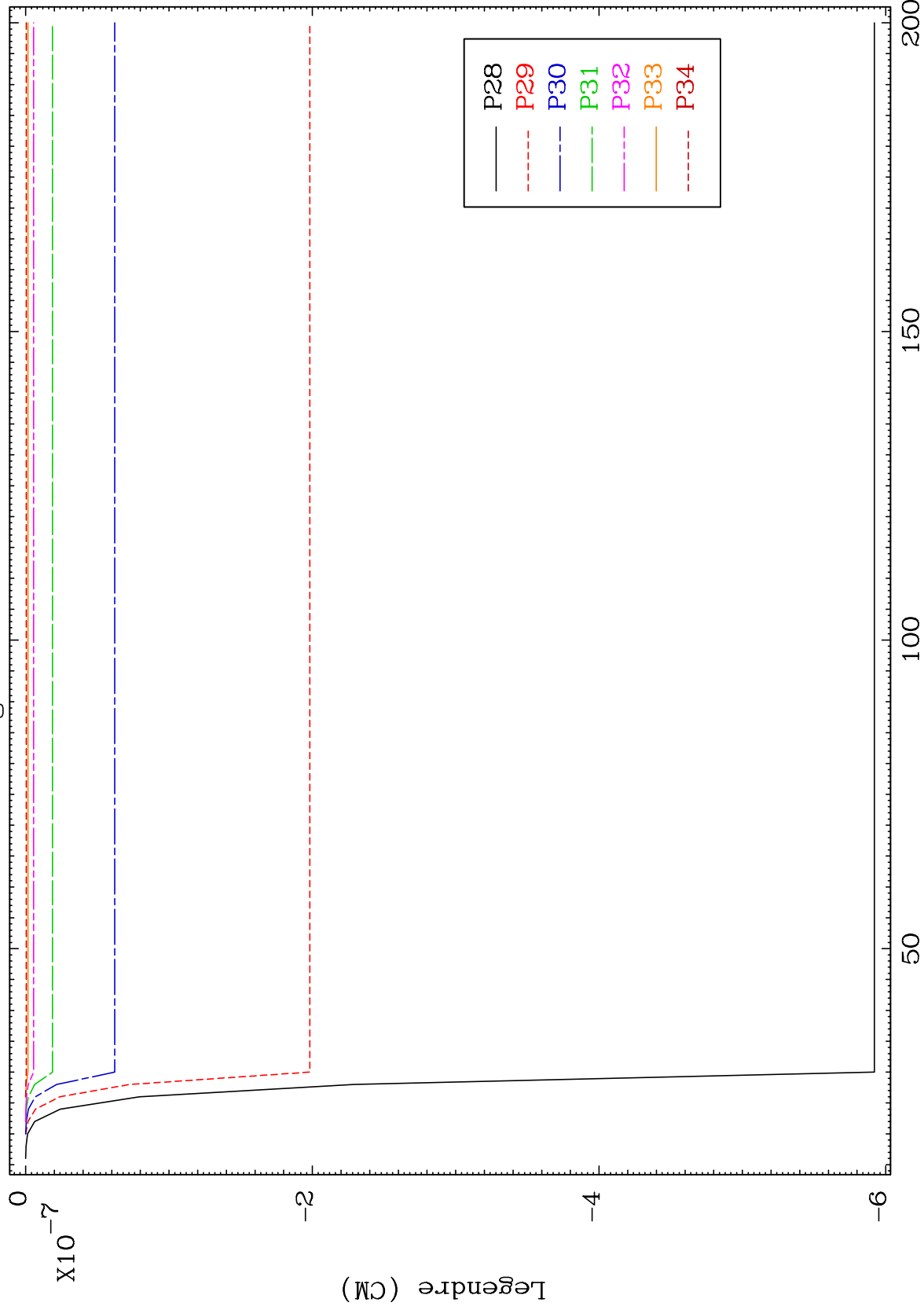
41-Nb-97



MAT 4137

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

41-Nb-97



59

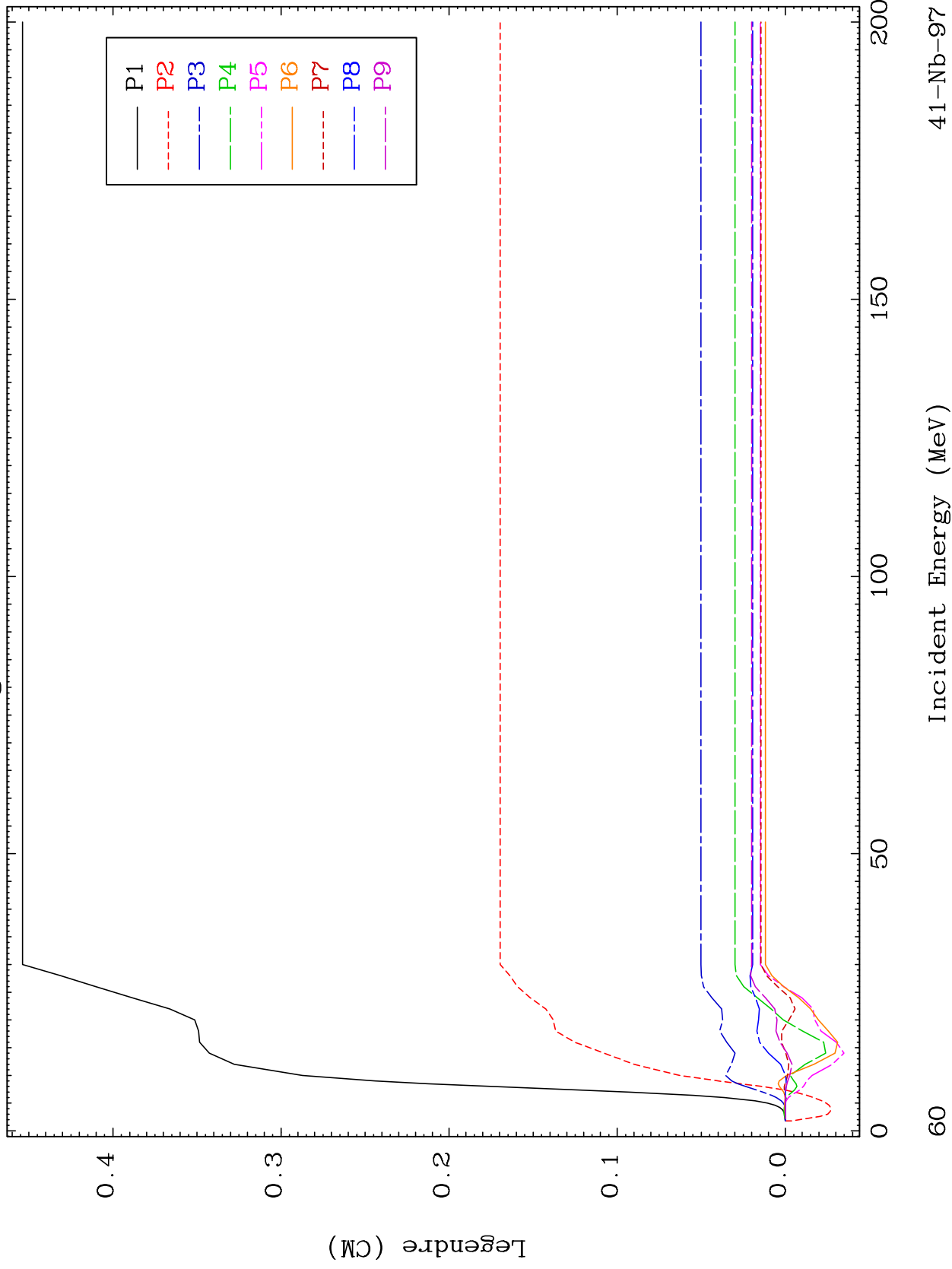
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97

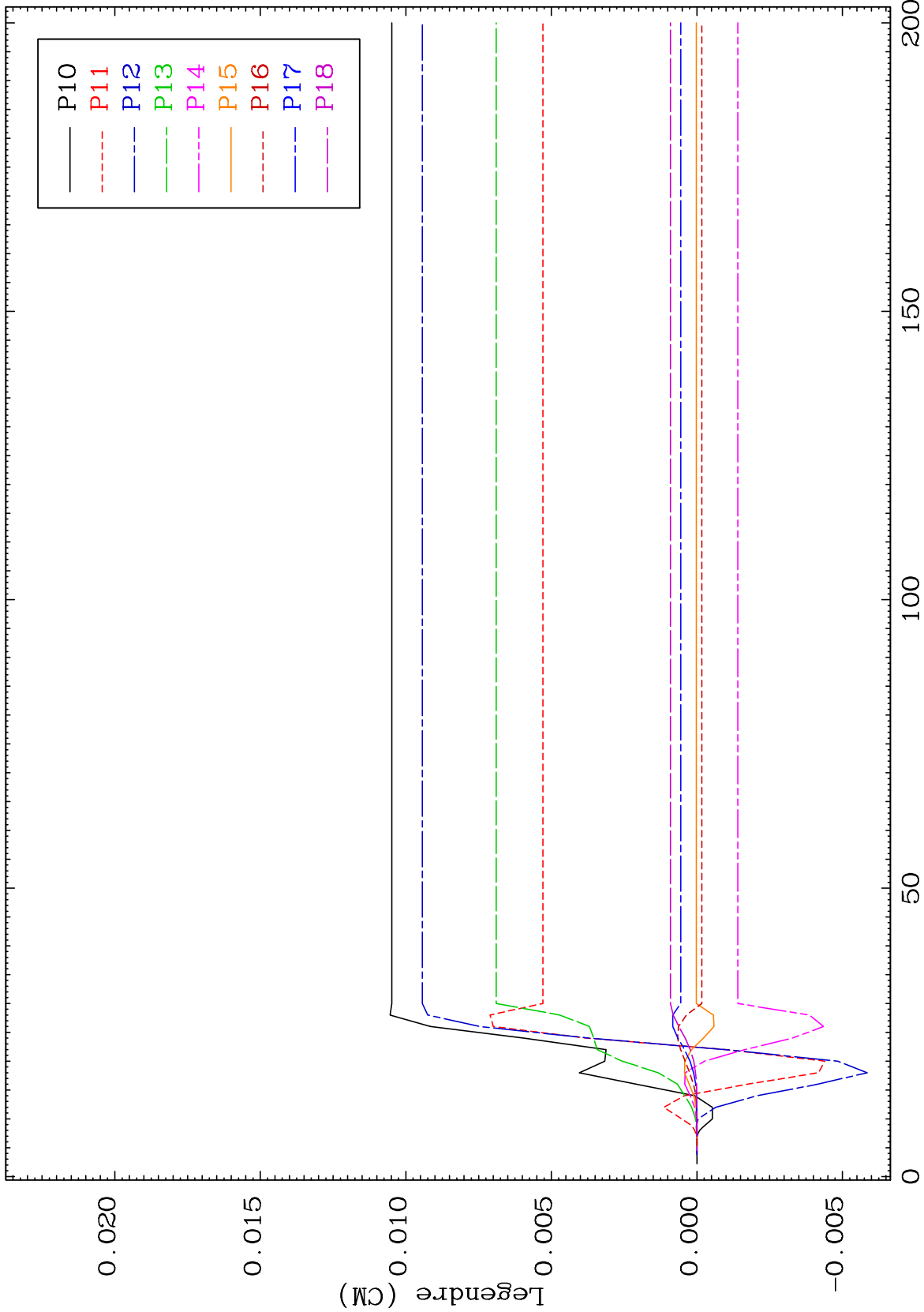


41-Nb-97

MAT 4137

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

41-Nb-97



61

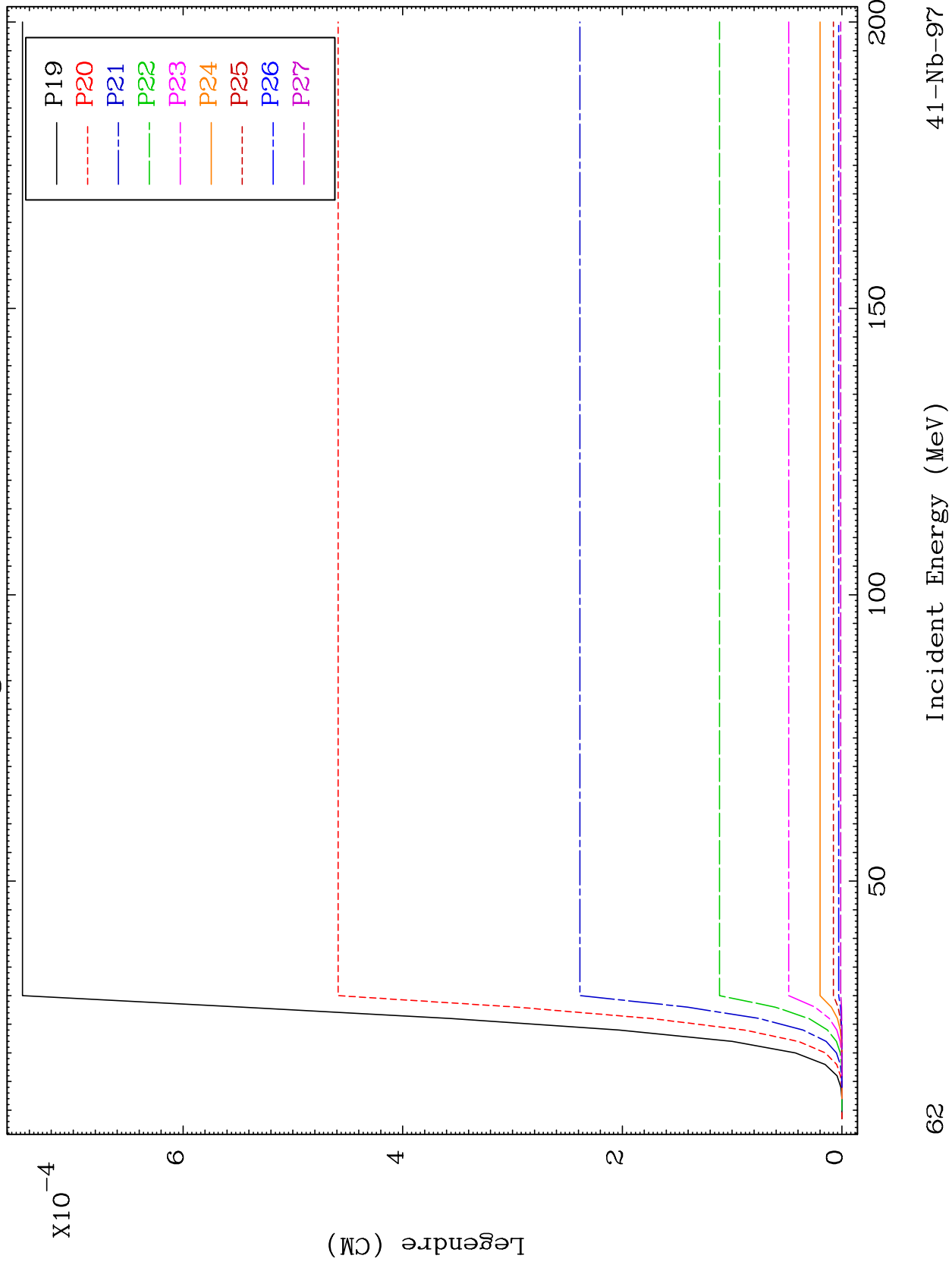
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

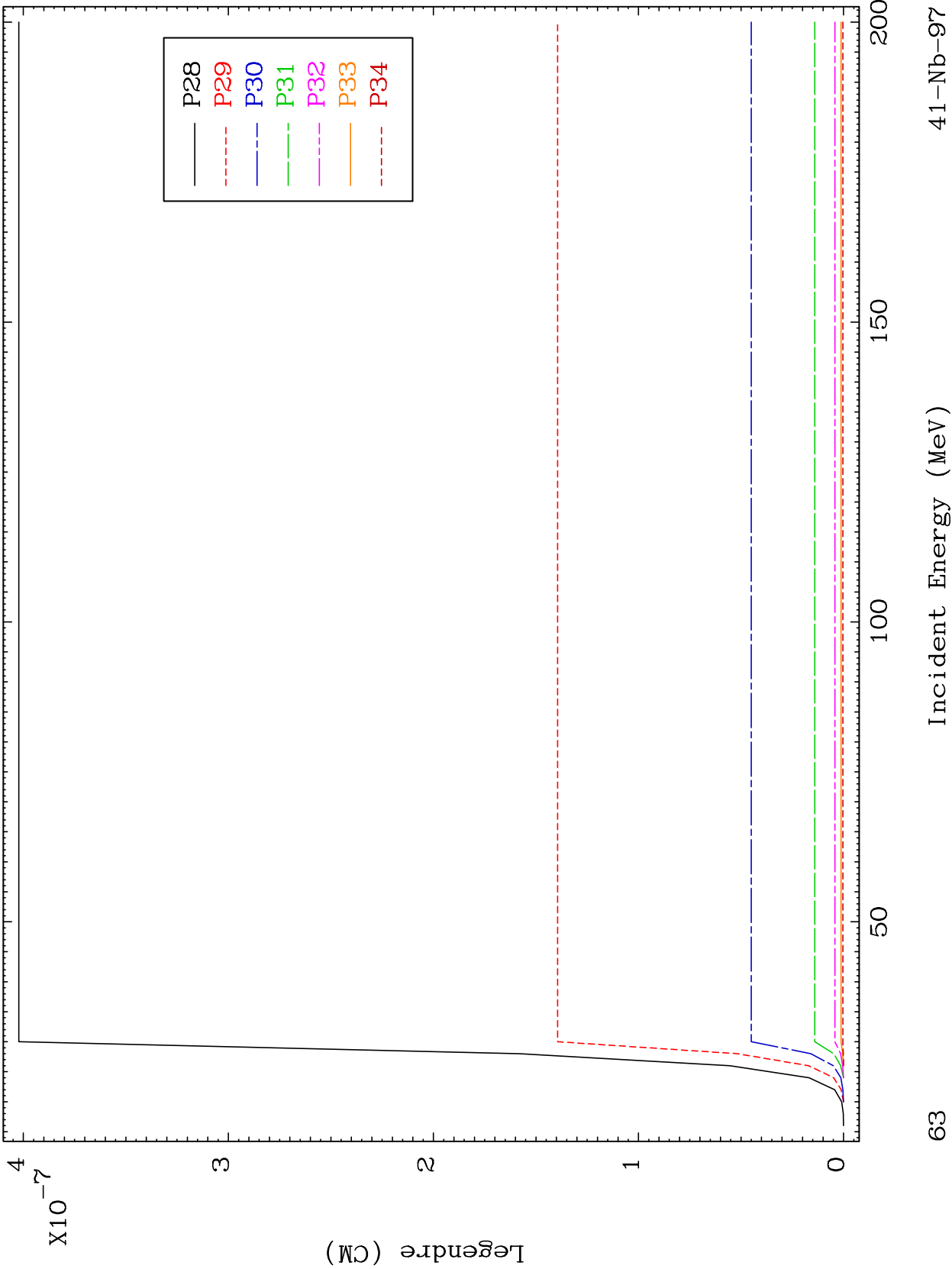
41-Nb-97



MAT 4137

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

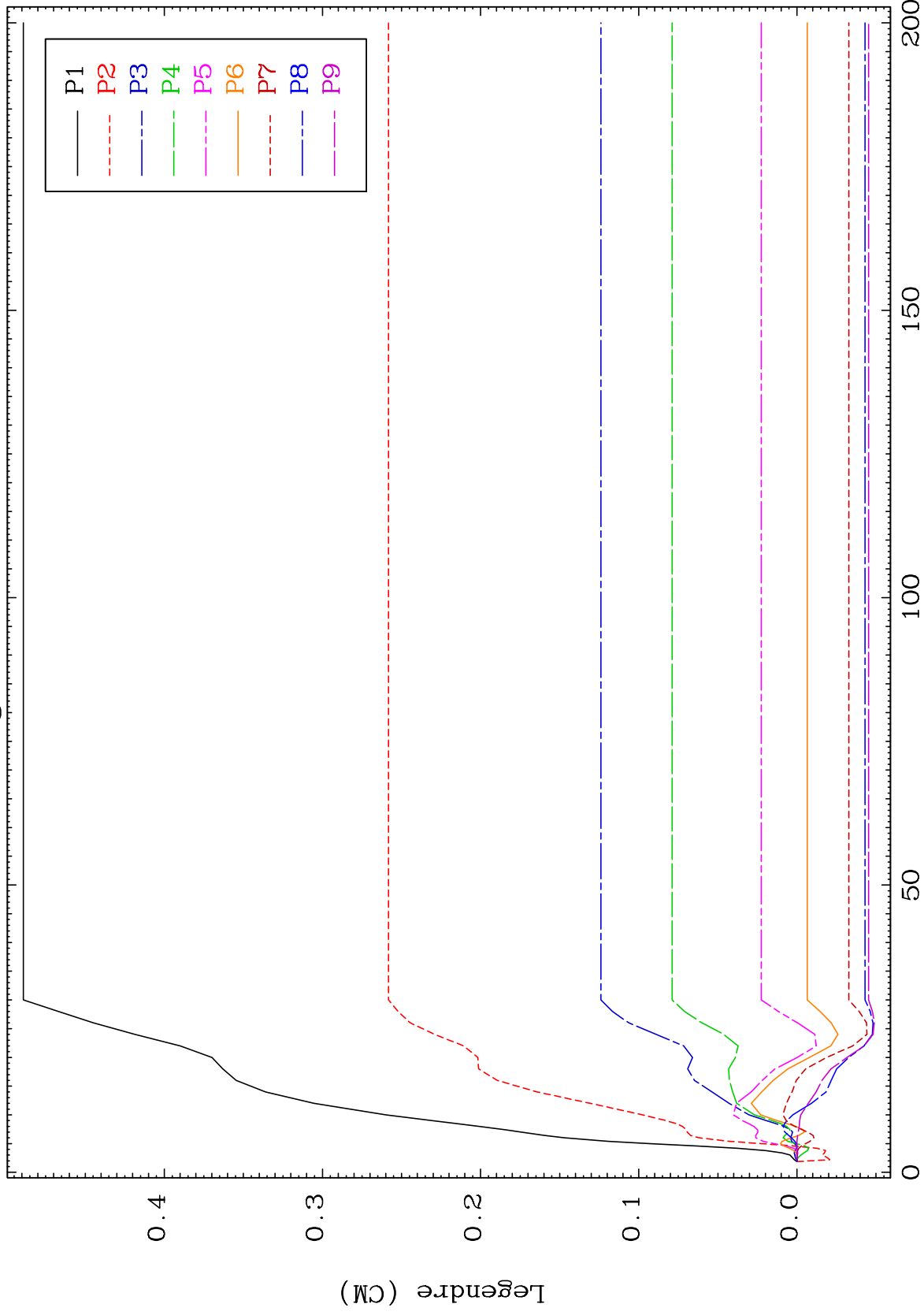
41-Nb-97



MAT 4137

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

41-Nb-97



64

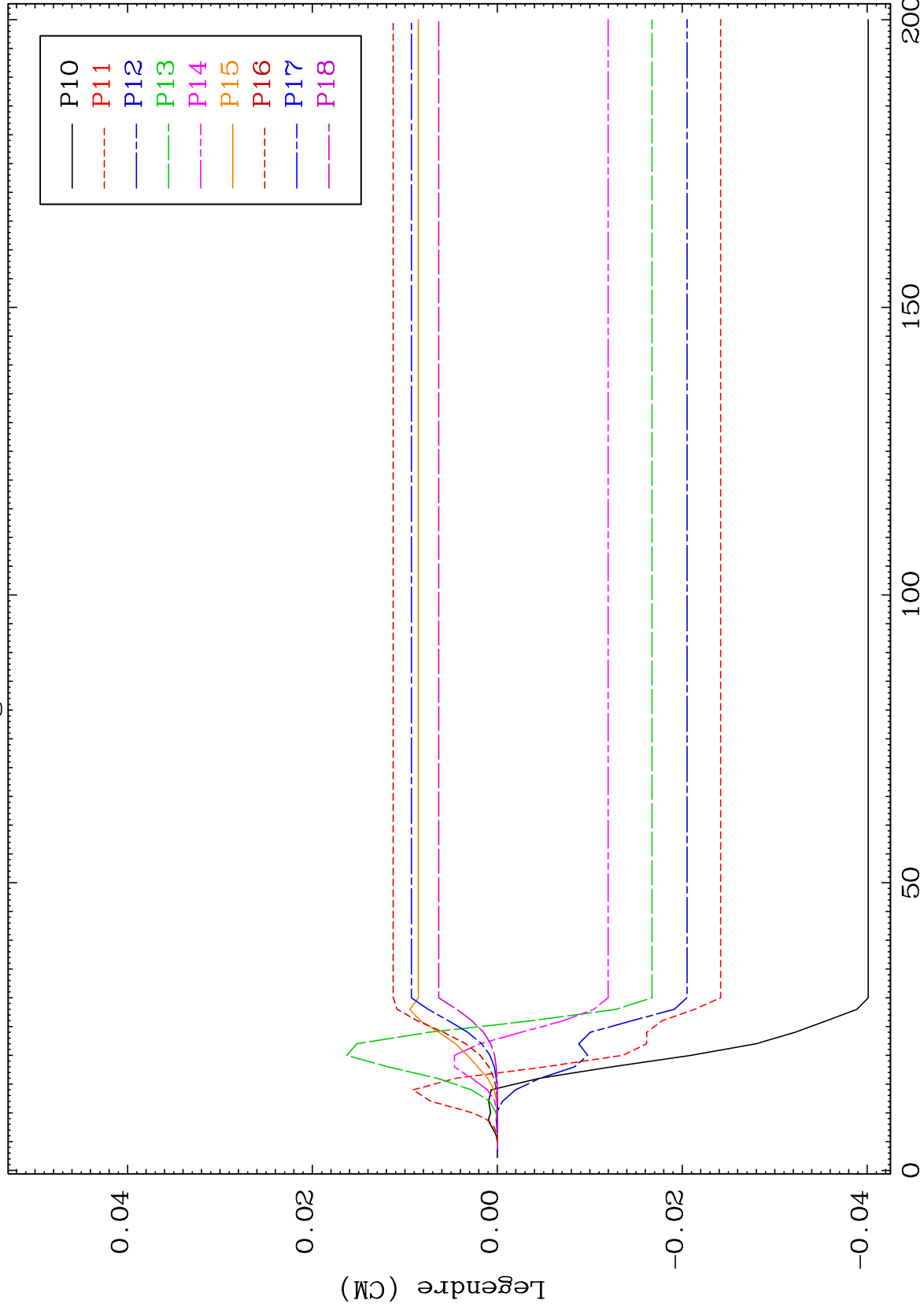
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



65

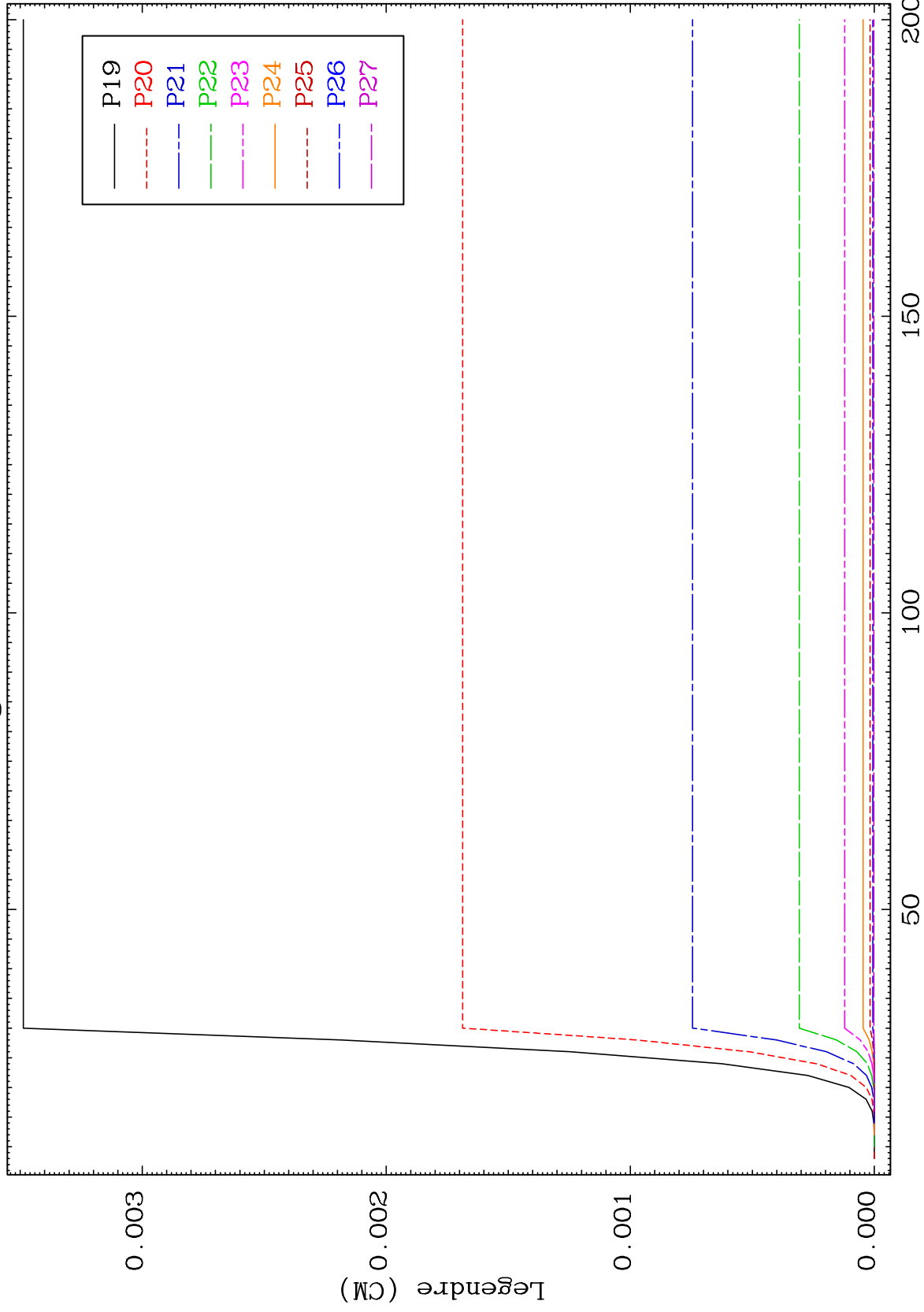
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



66

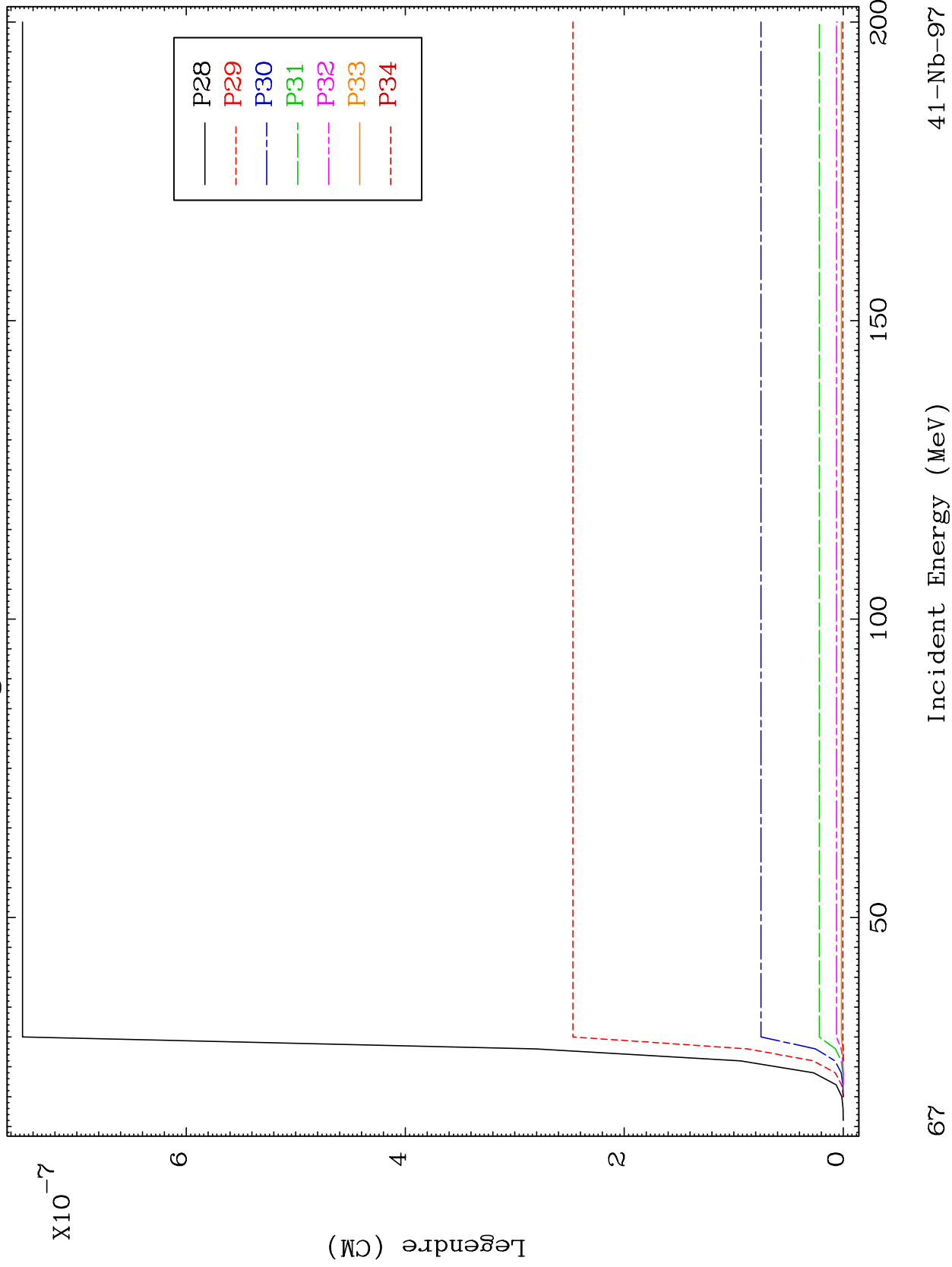
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

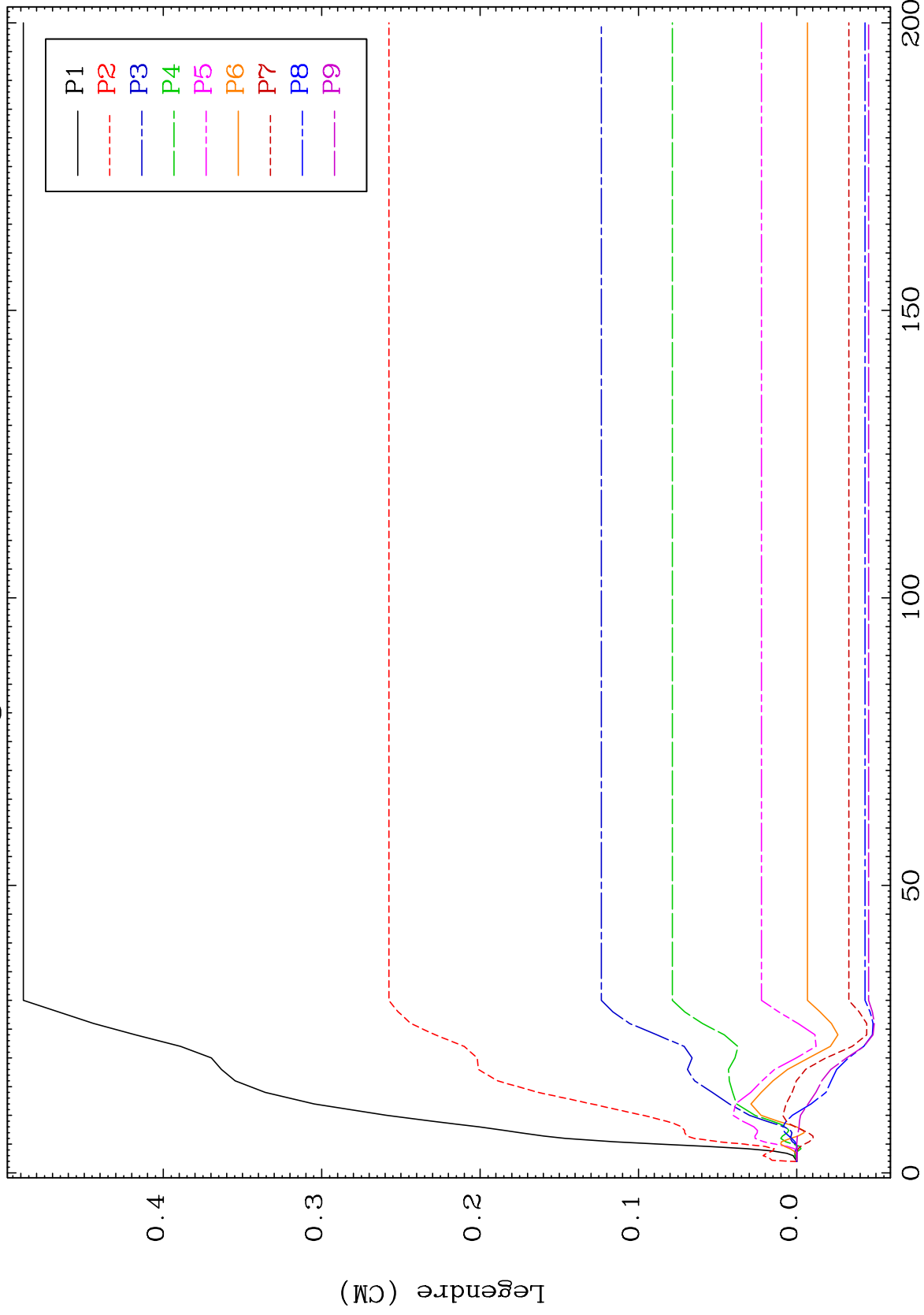
41-Nb-97



MAT 4137

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

41-Nb-97



68

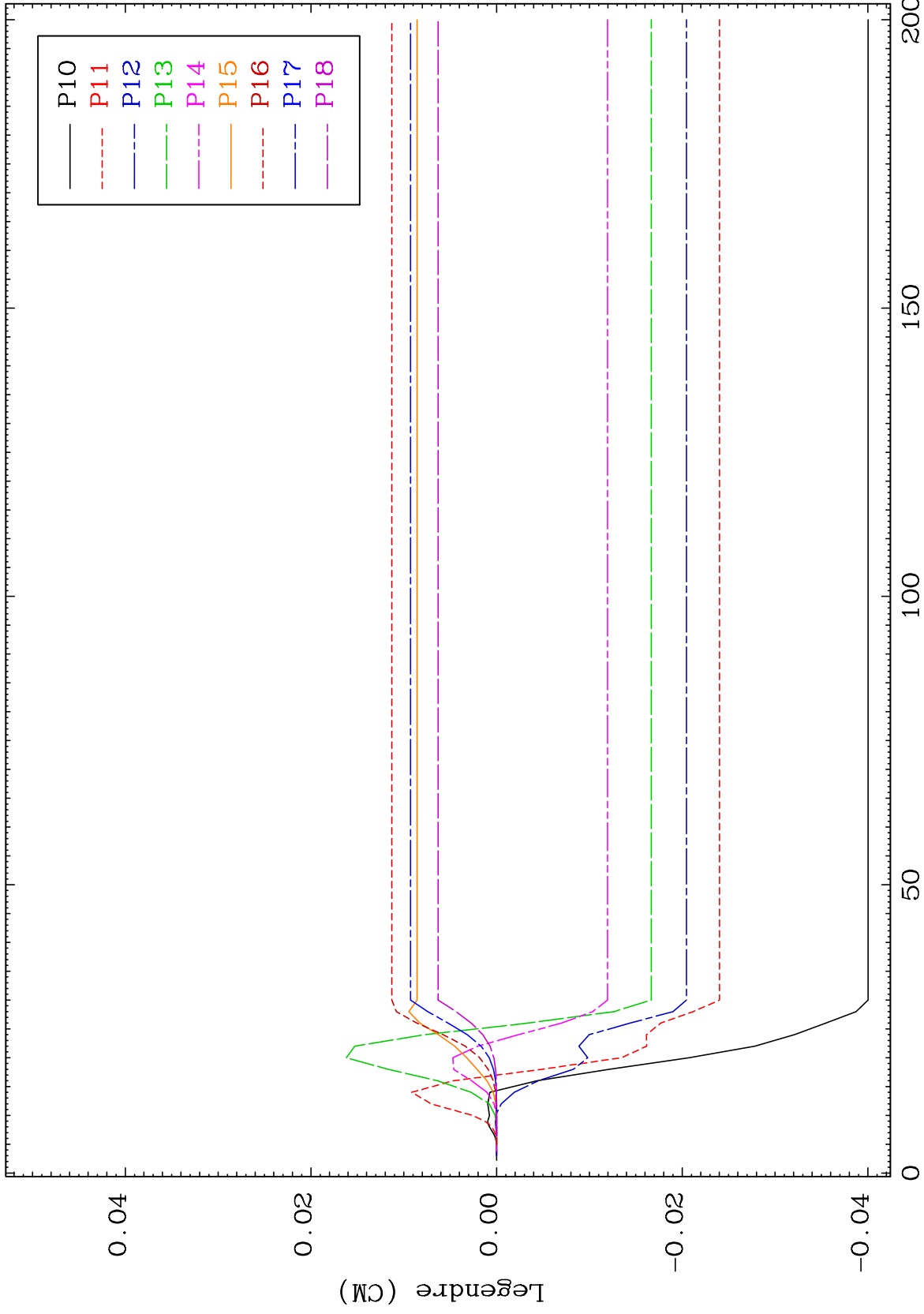
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



69

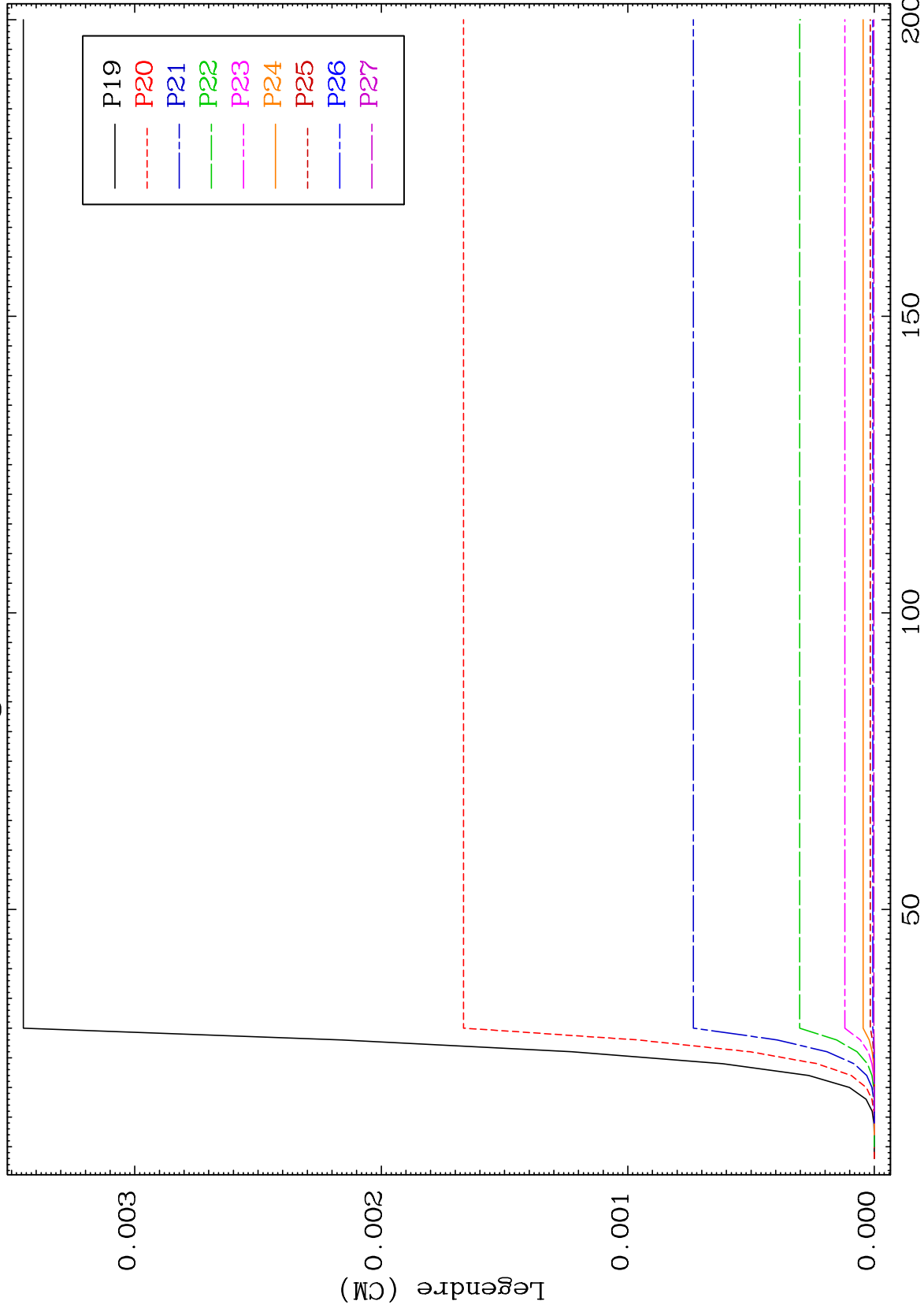
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



70

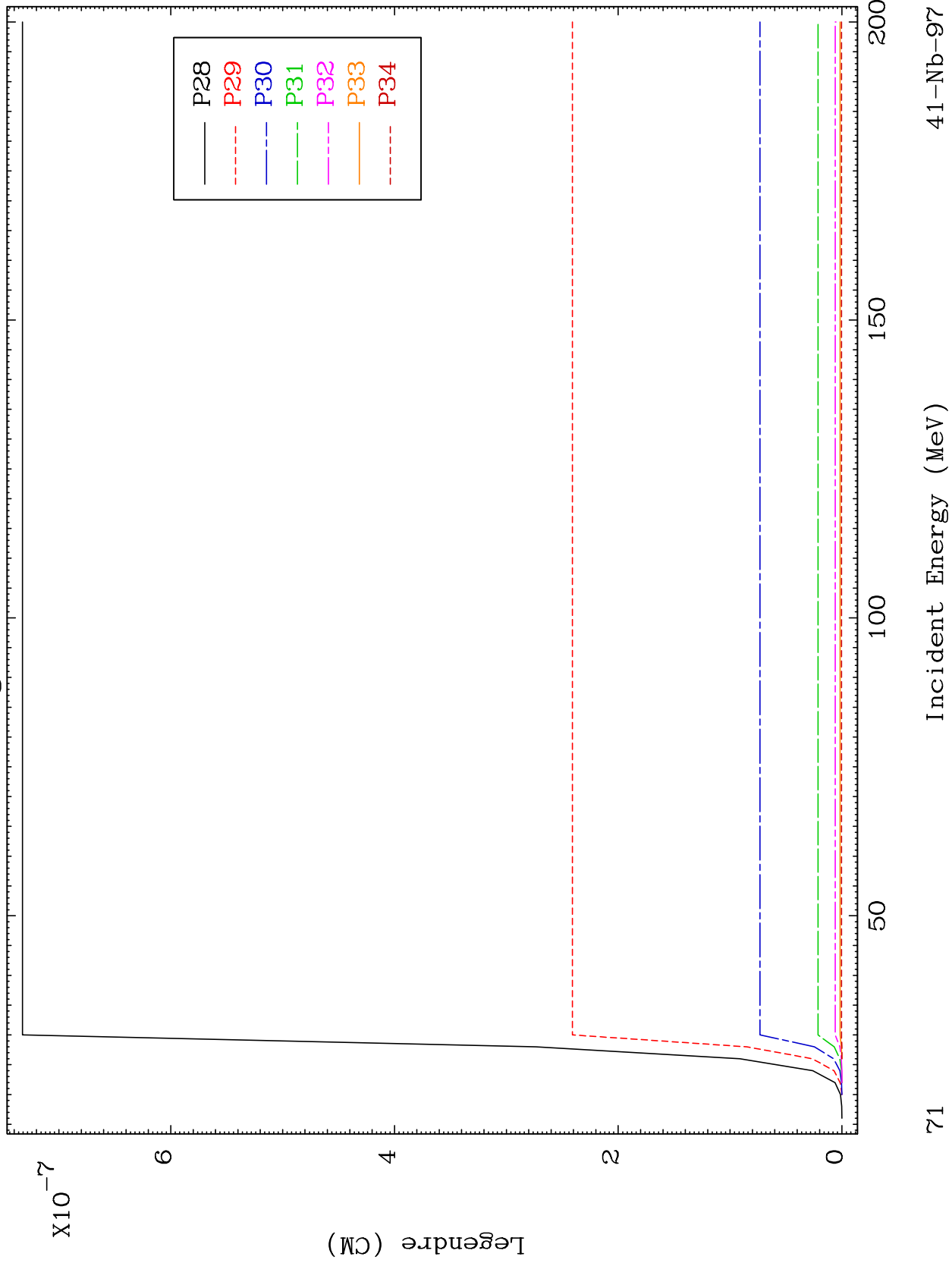
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

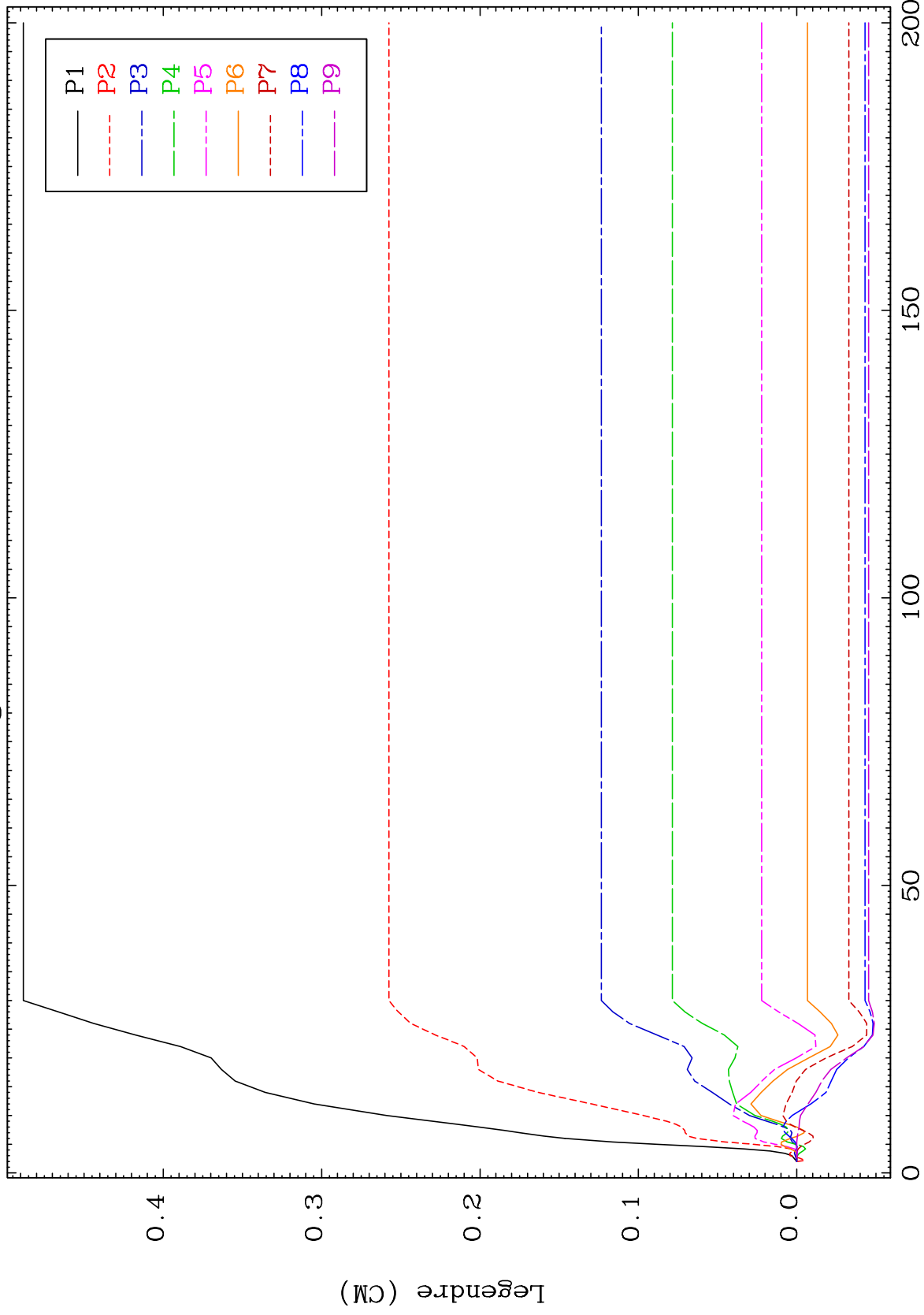
41-Nb-97



MAT 4137

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

41-Nb-97



72

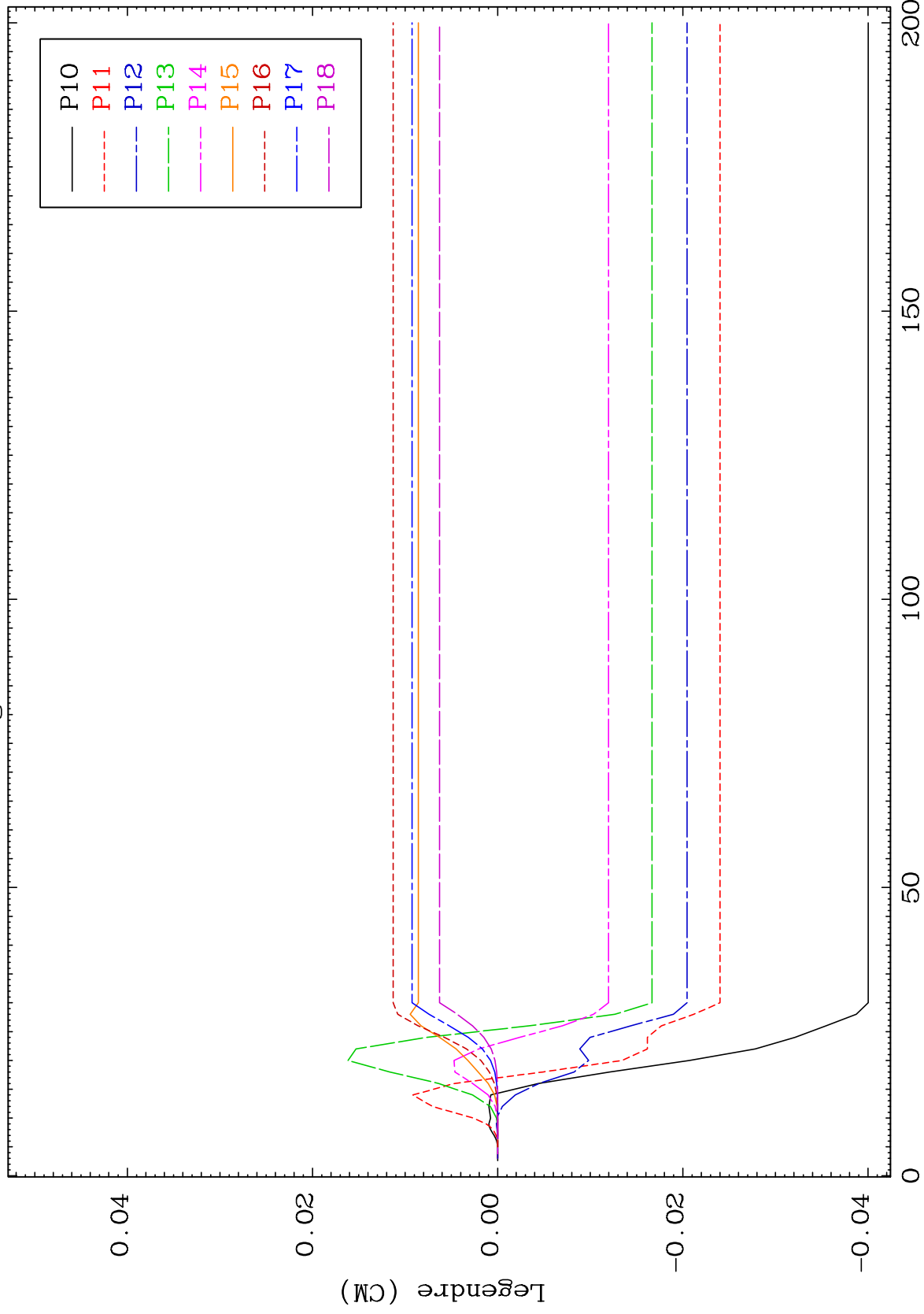
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



73

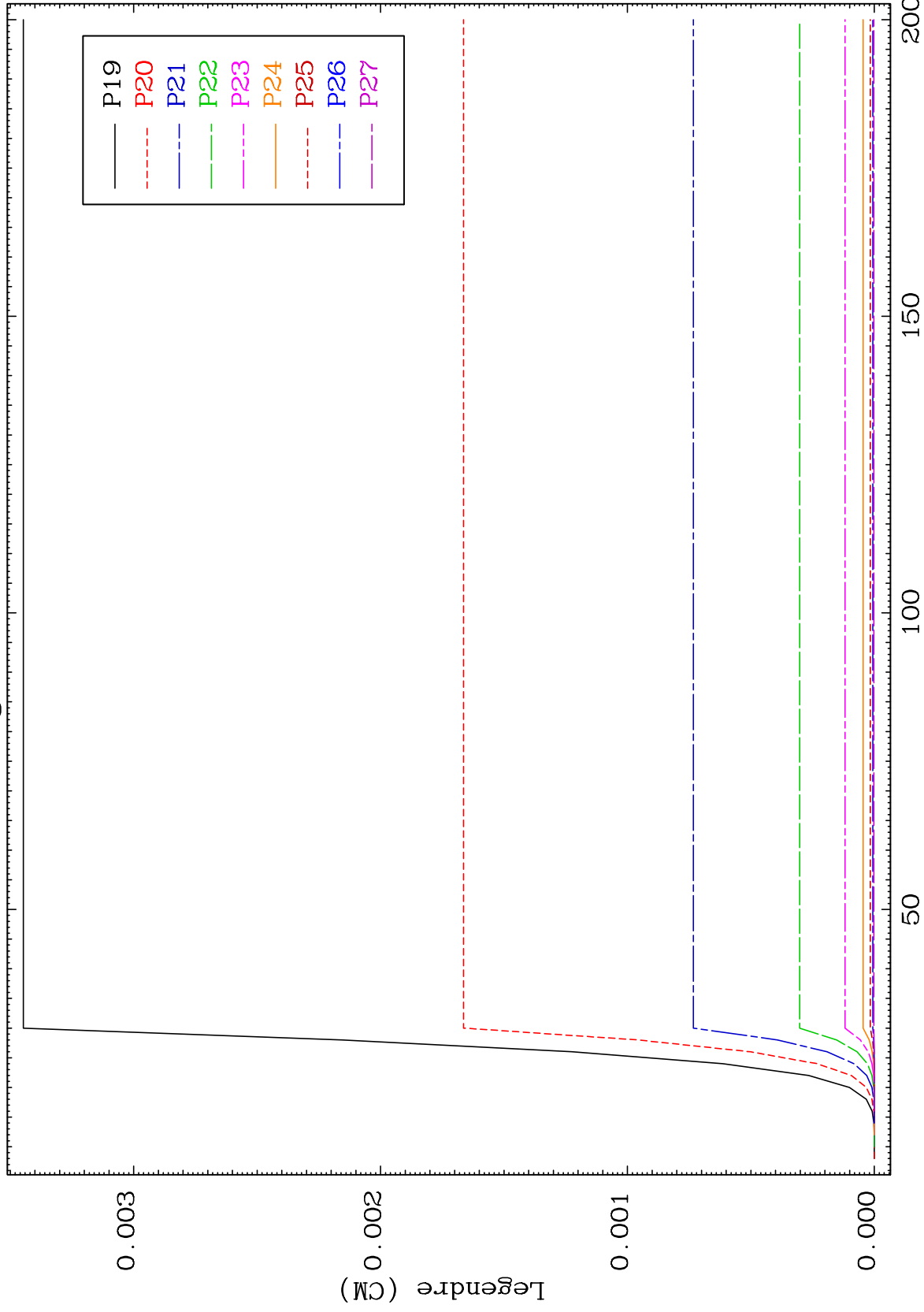
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



74

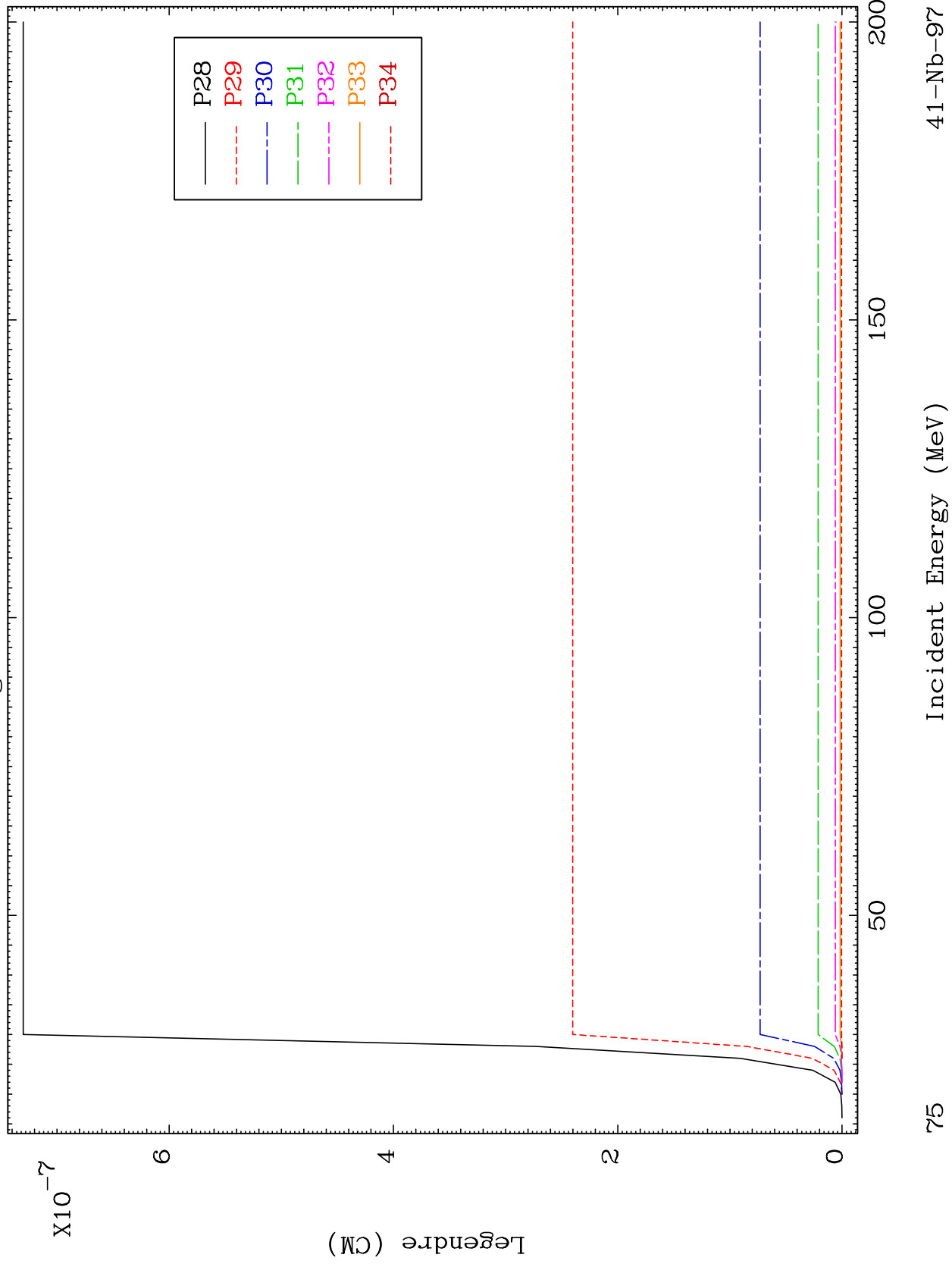
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

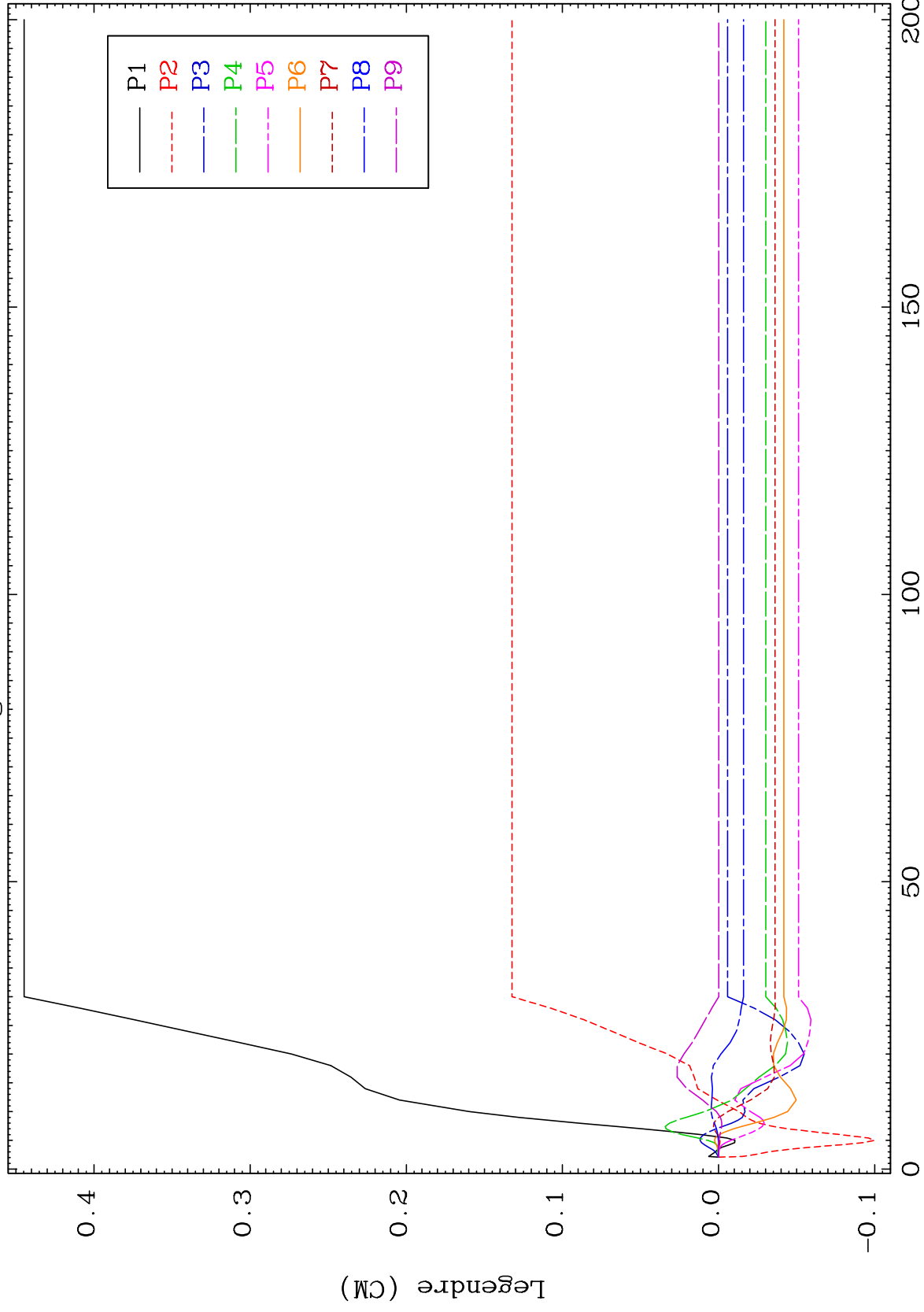
41-Nb-97



MAT 4137

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

41-Nb-97



76

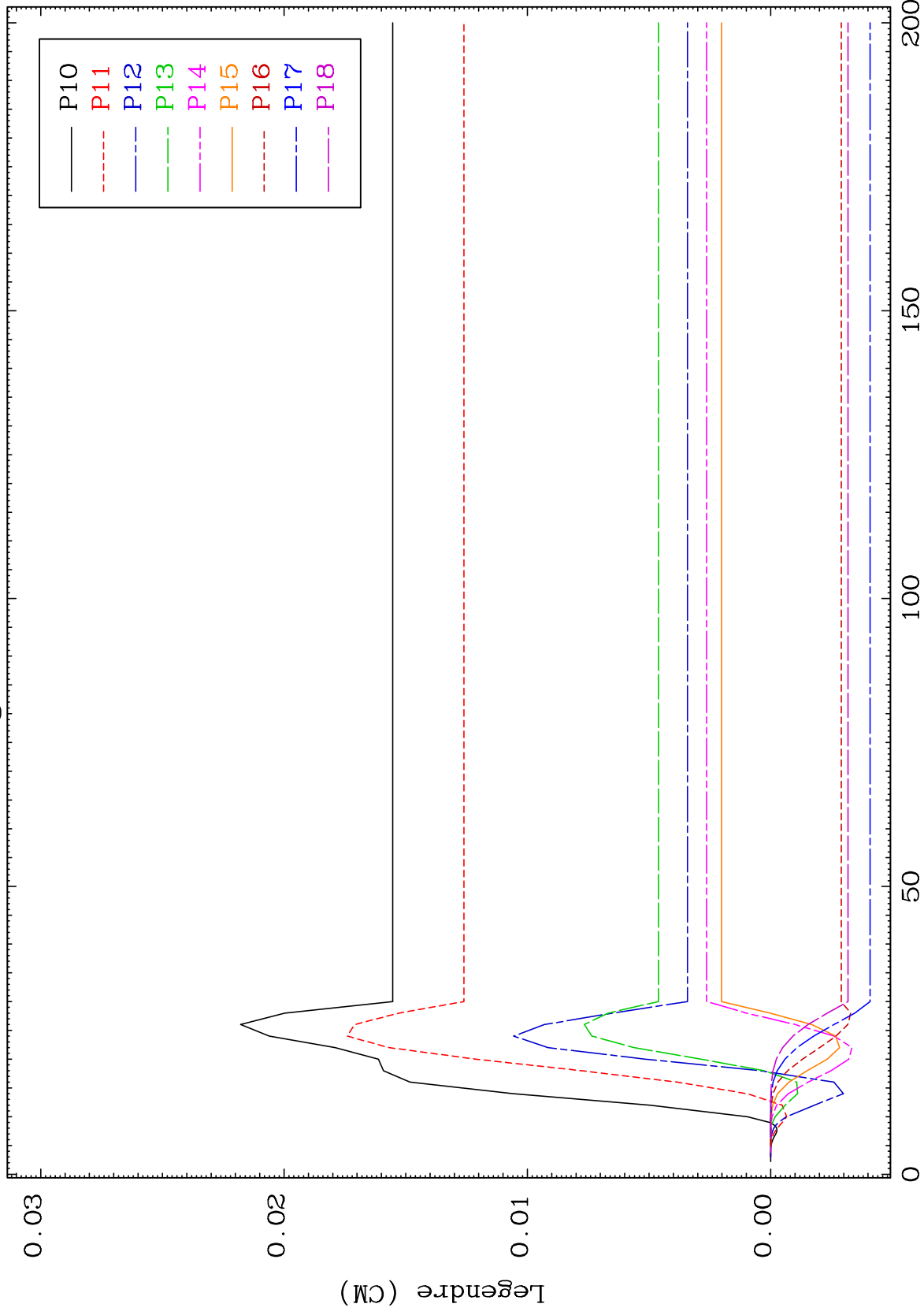
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



77

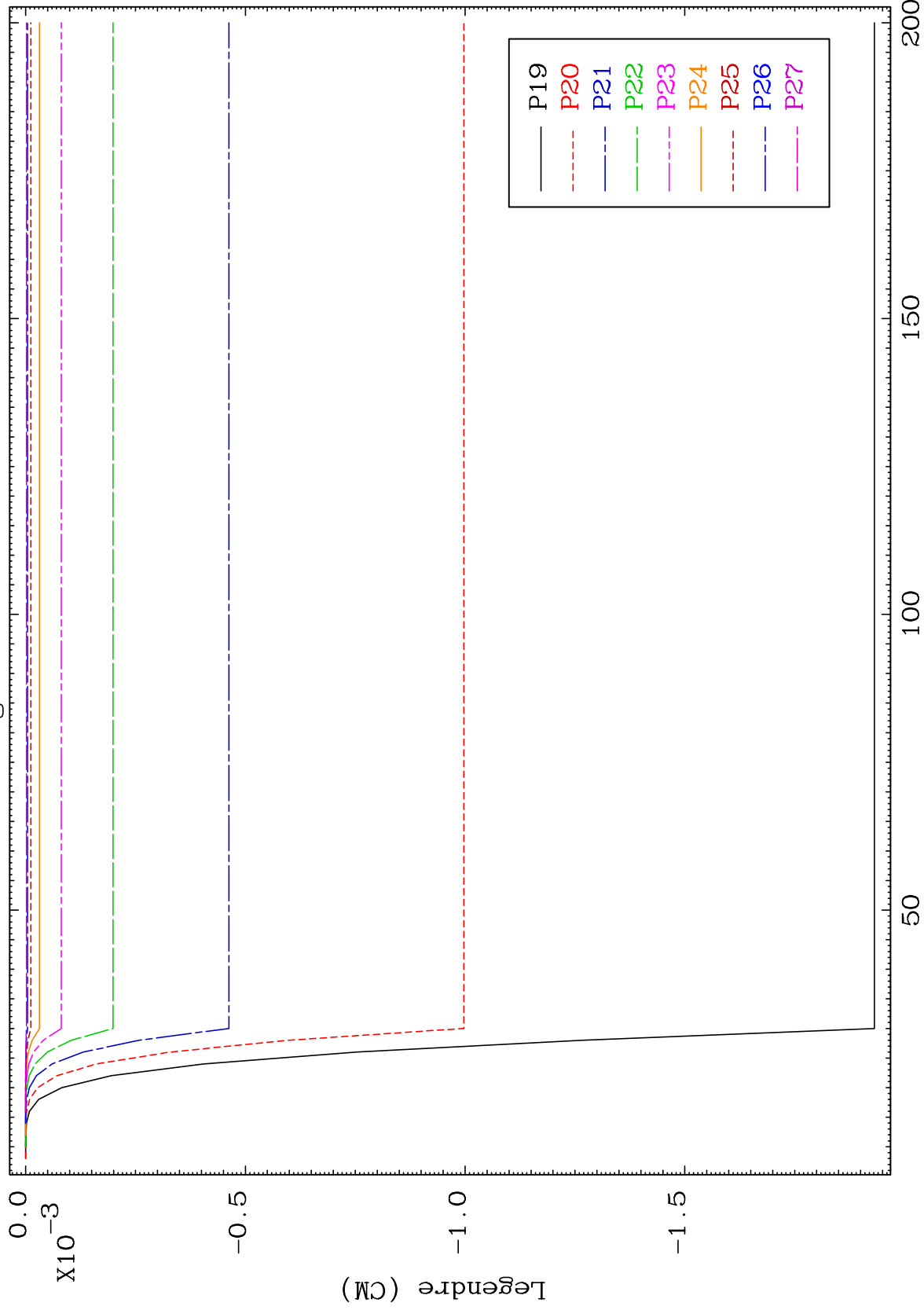
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

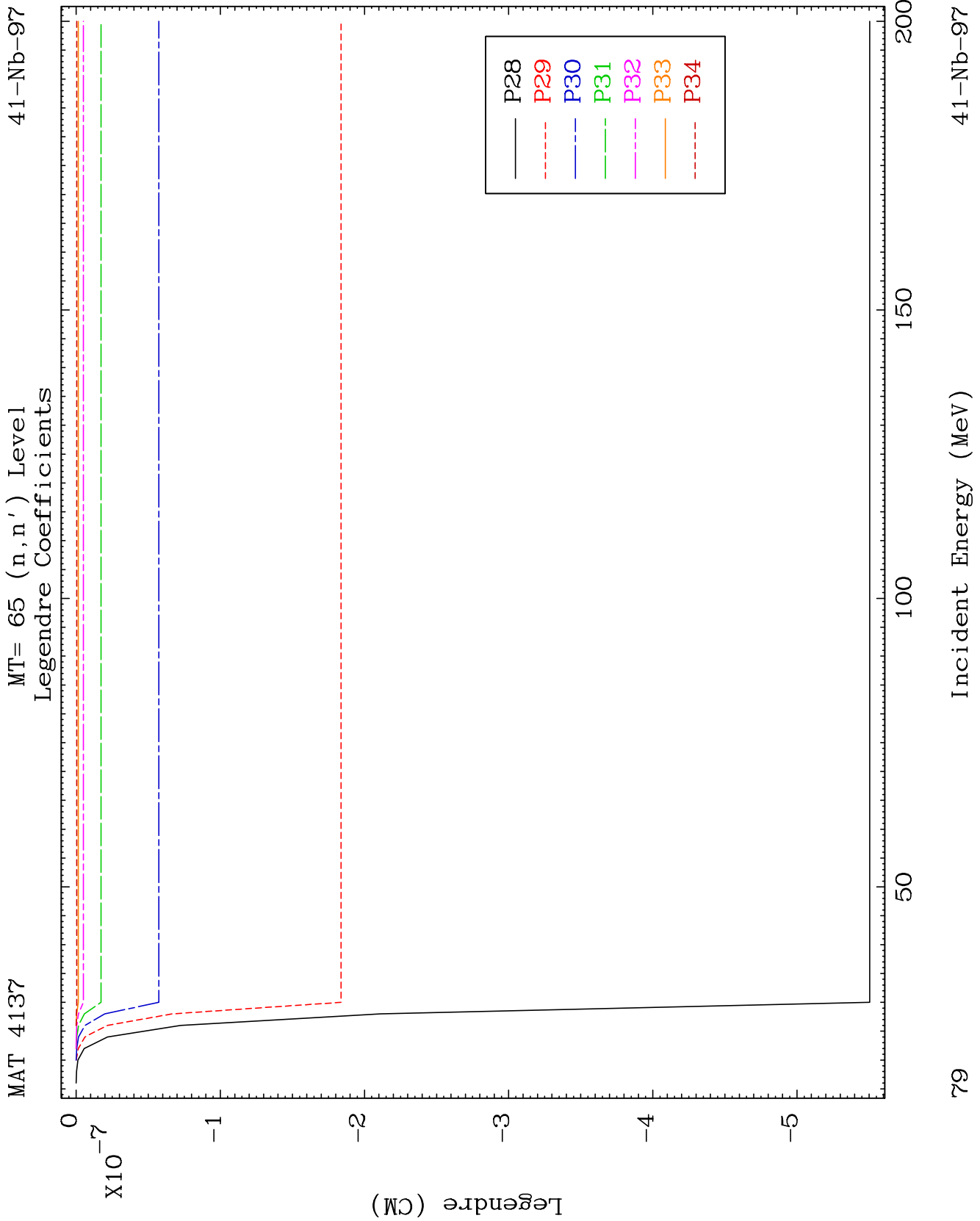
41-Nb-97



78

Incident Energy (MeV)

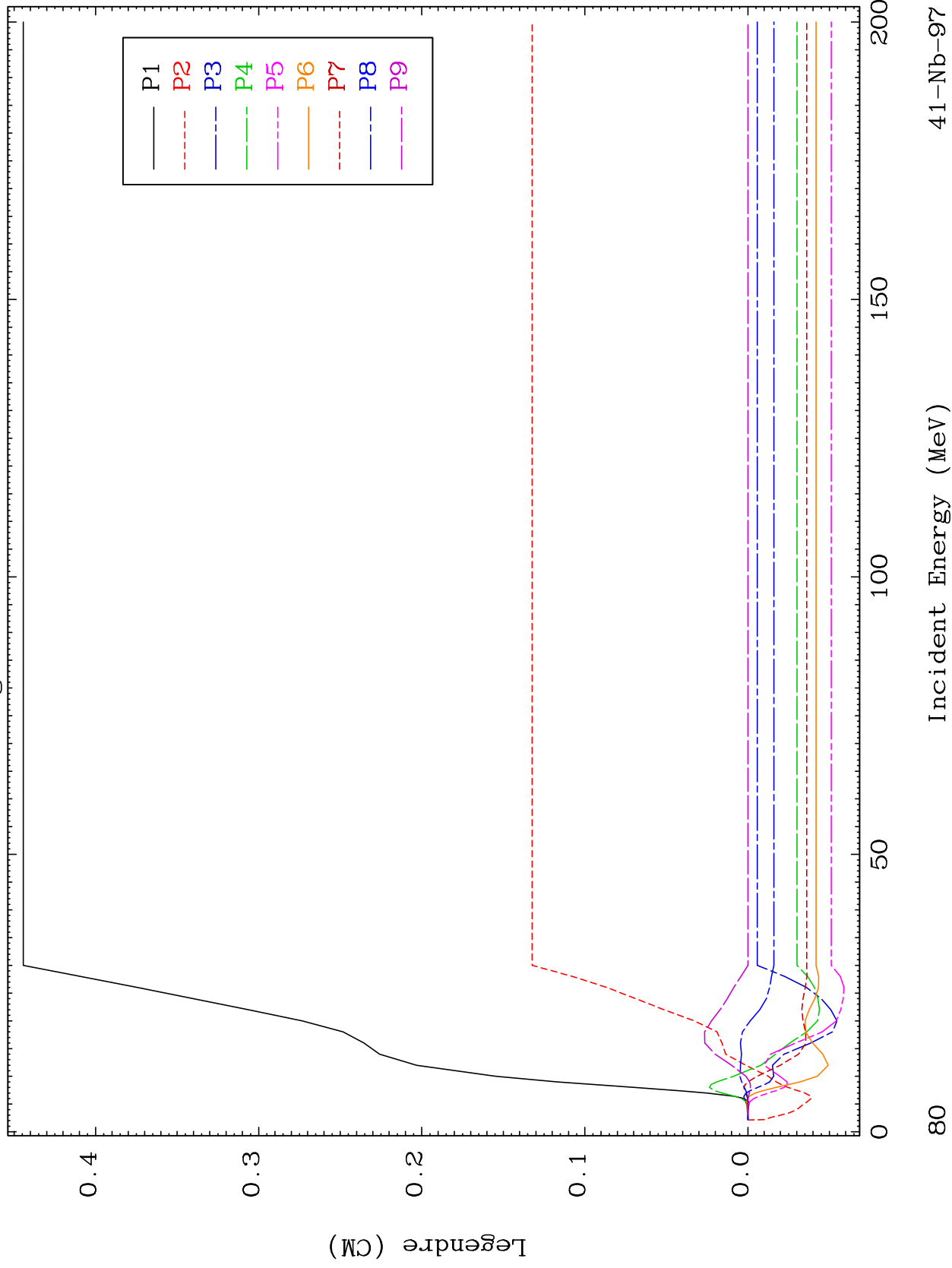
41-Nb-97



MAT 4137

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

41-Nb-97



41-Nb-97

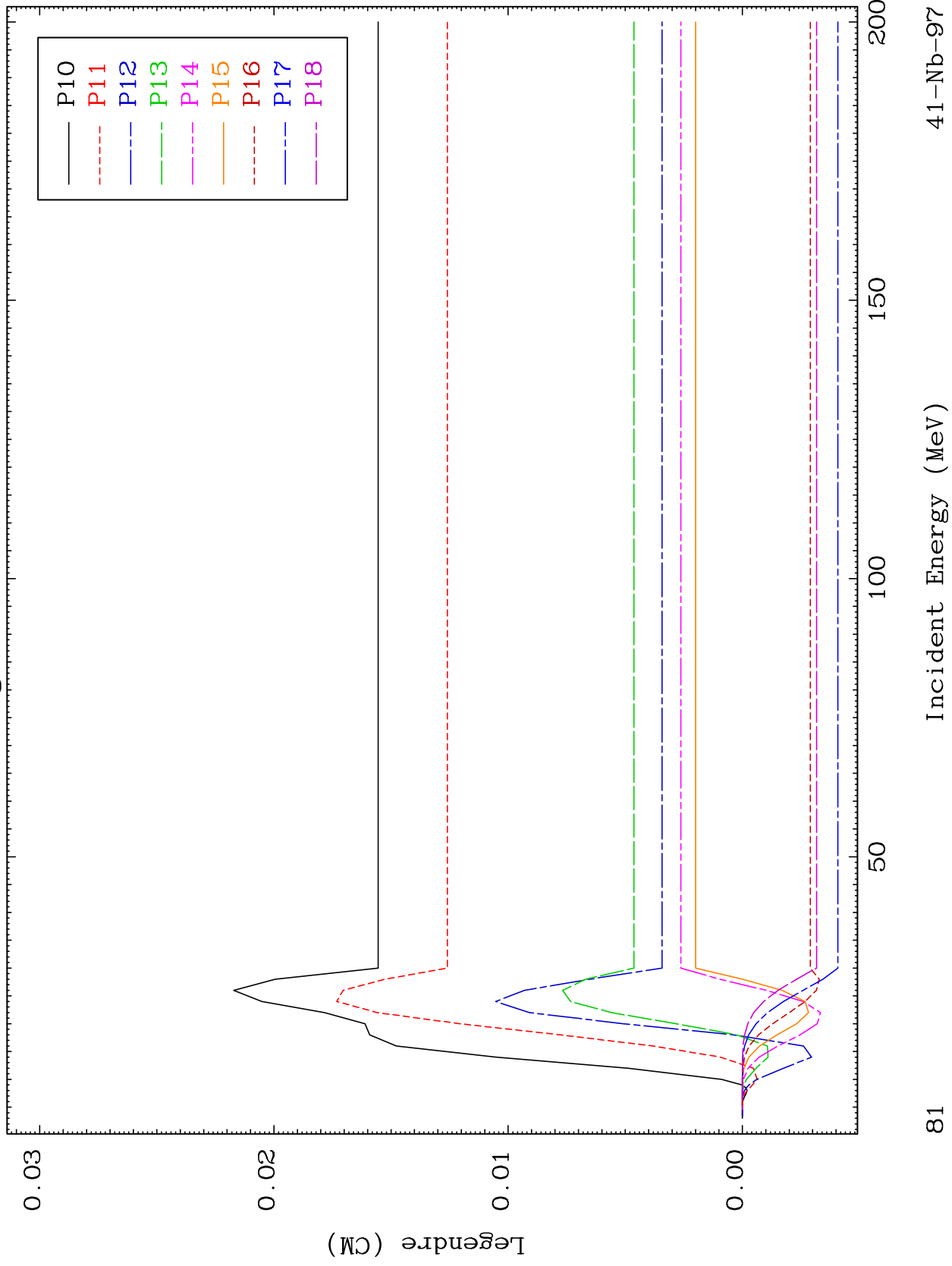
Incident Energy (MeV)

80

MAT 4137

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

41-Nb-97



81

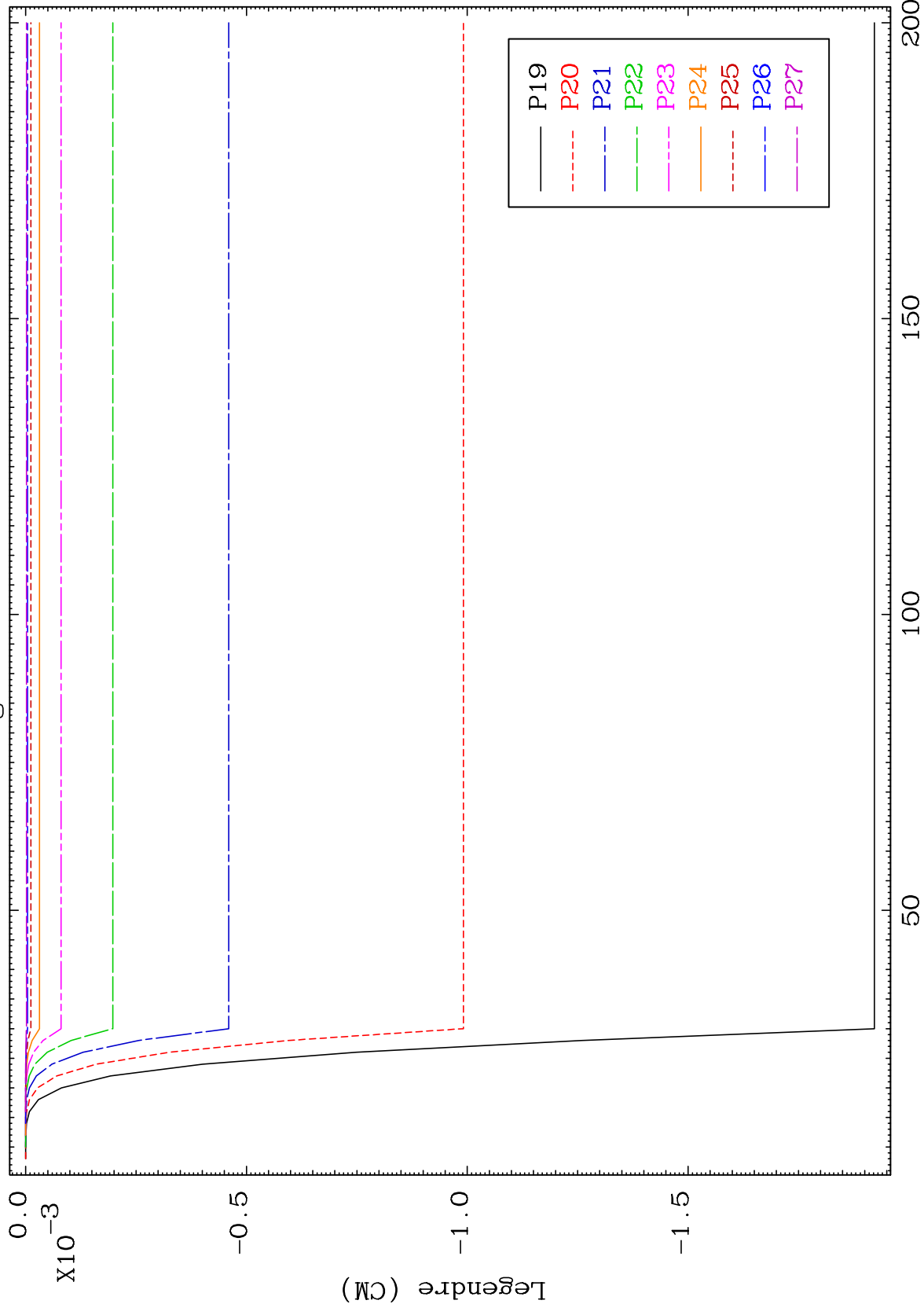
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



82

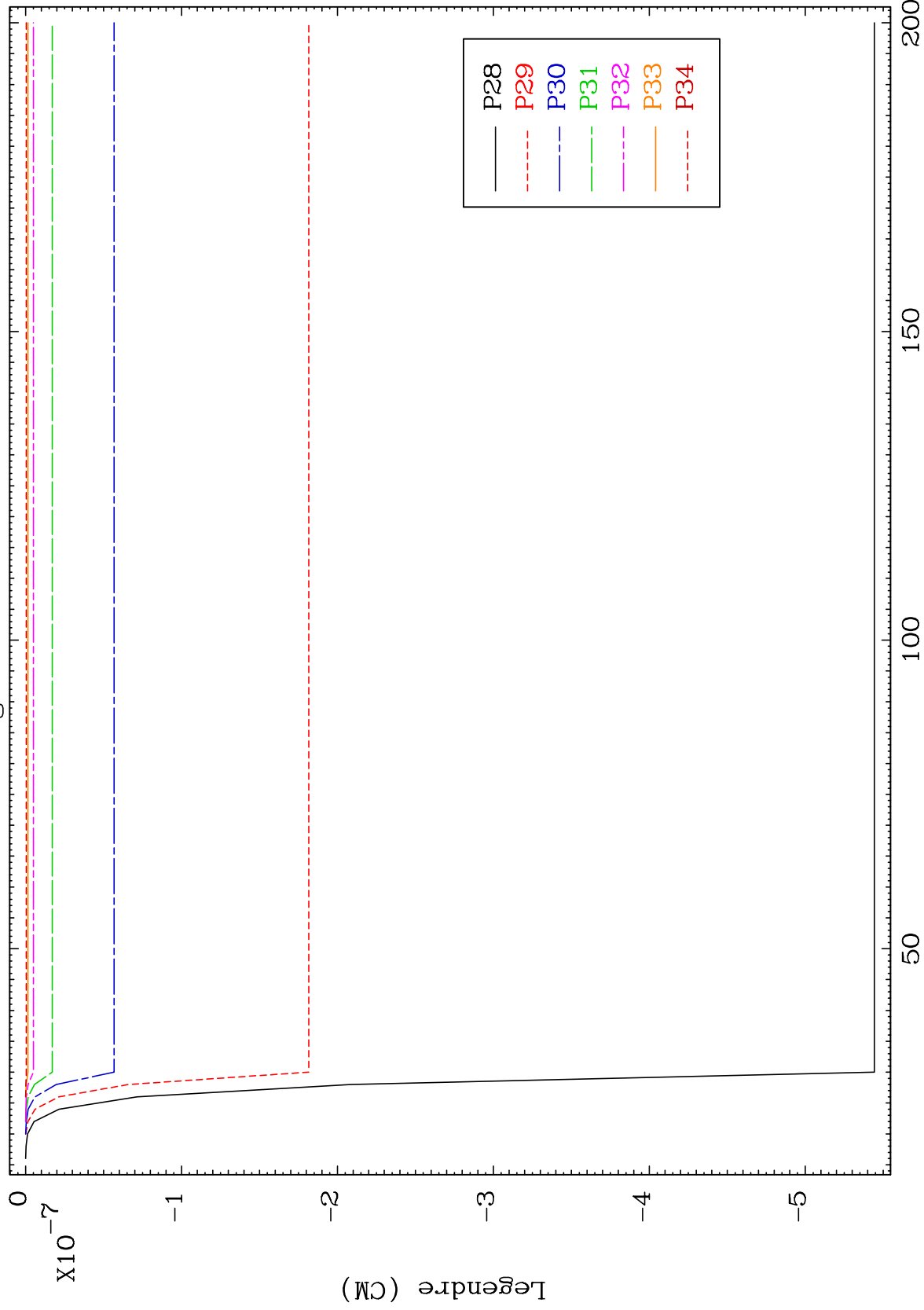
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



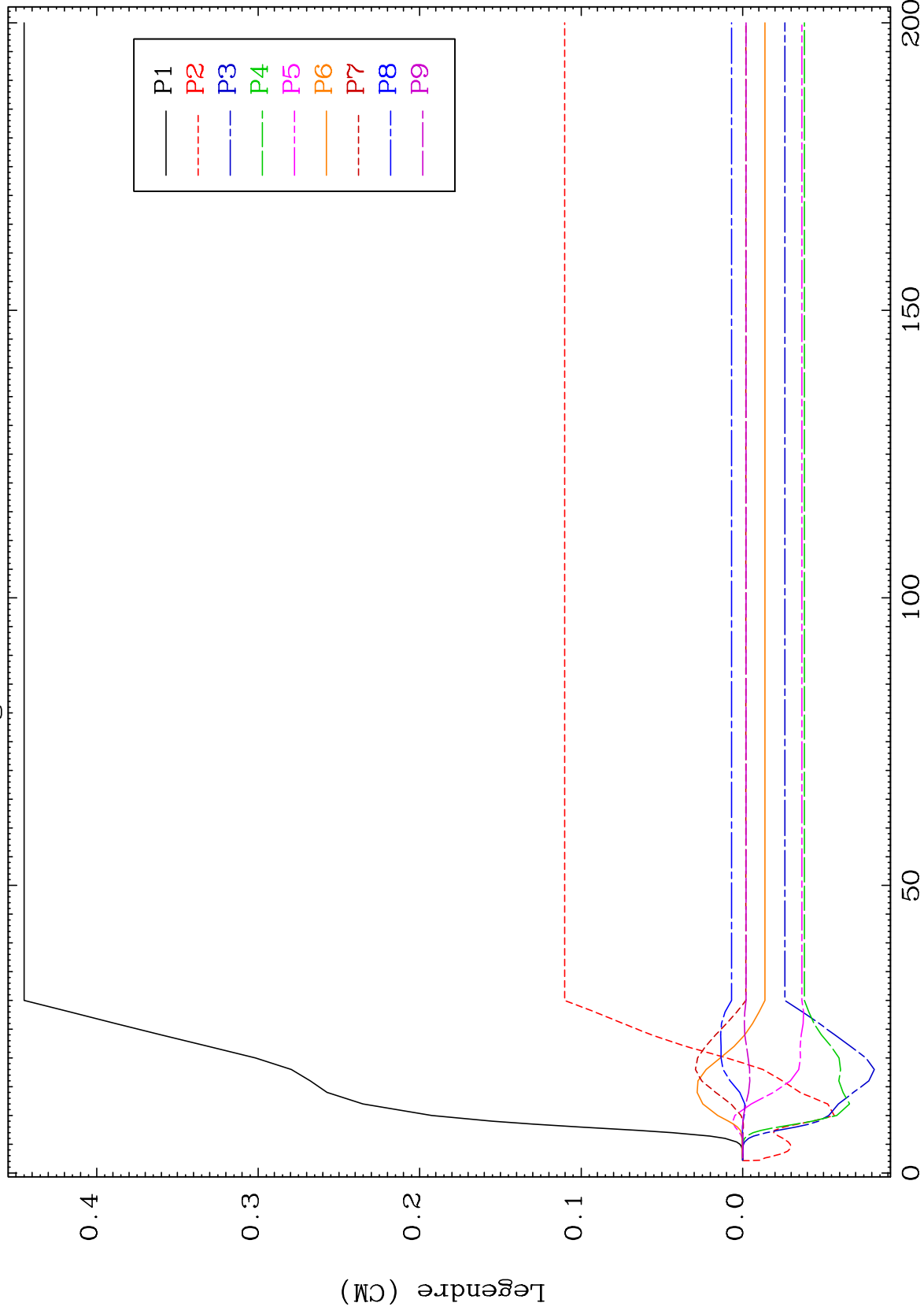
83

41-Nb-97

MAT 4137

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

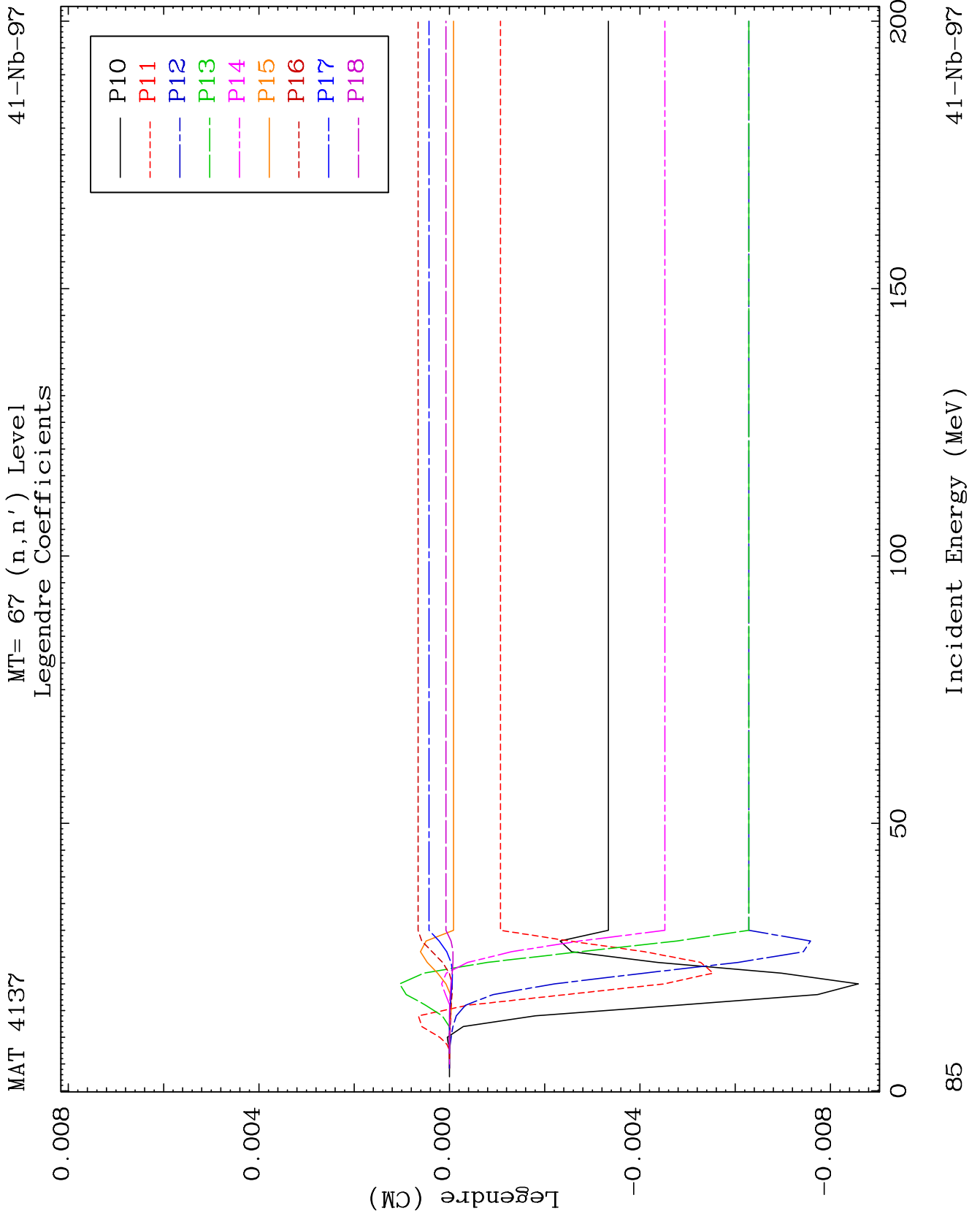
41-Nb-97



84

Incident Energy (MeV)

41-Nb-97



MAT 4137

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

41-Nb-97

$\times 10^{-4}$

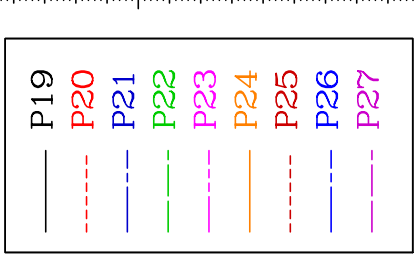
0.5

Legendre (CM)

0.0

-0.5

-1.0

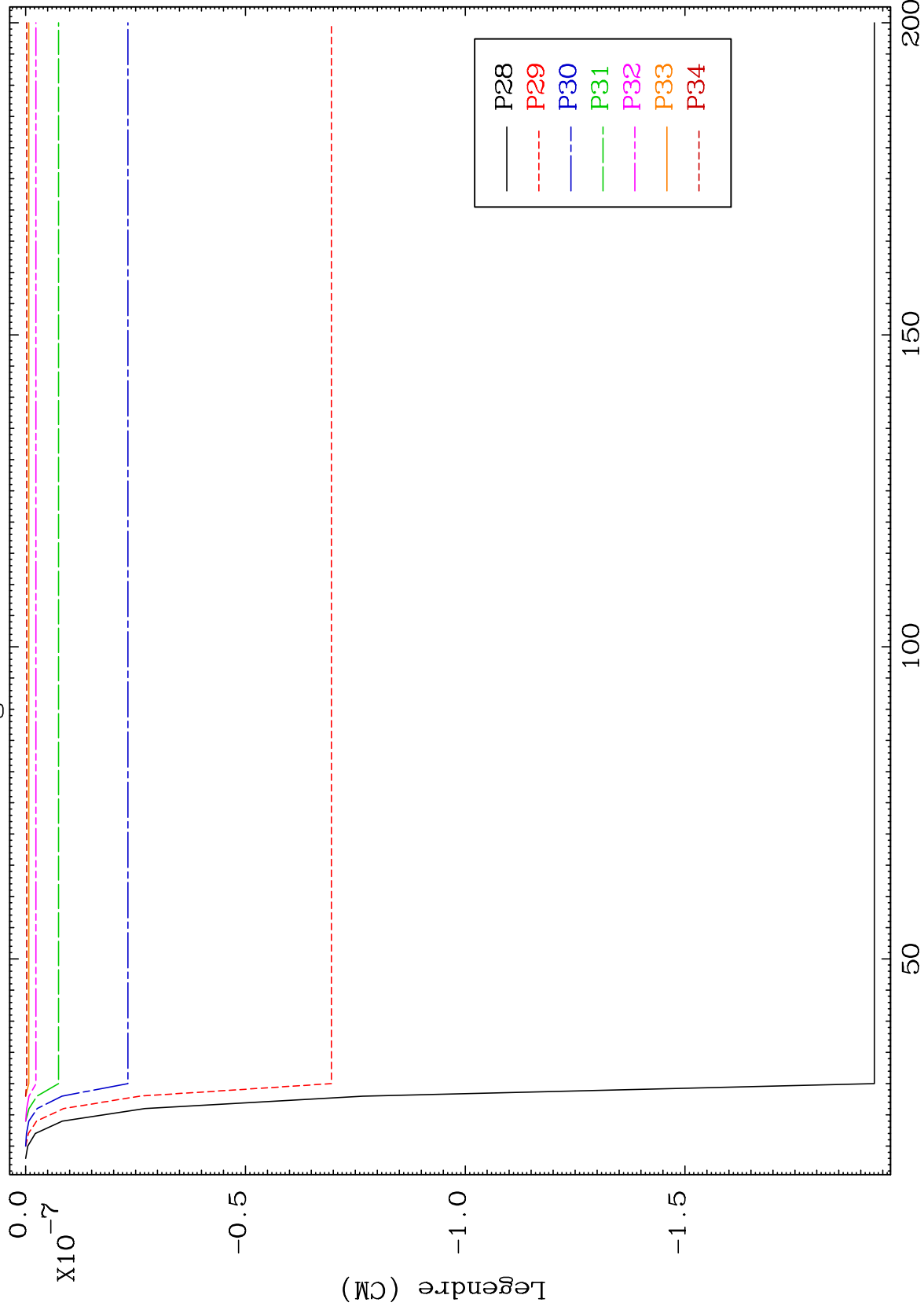


50 100 150 200

86

Incident Energy (MeV)

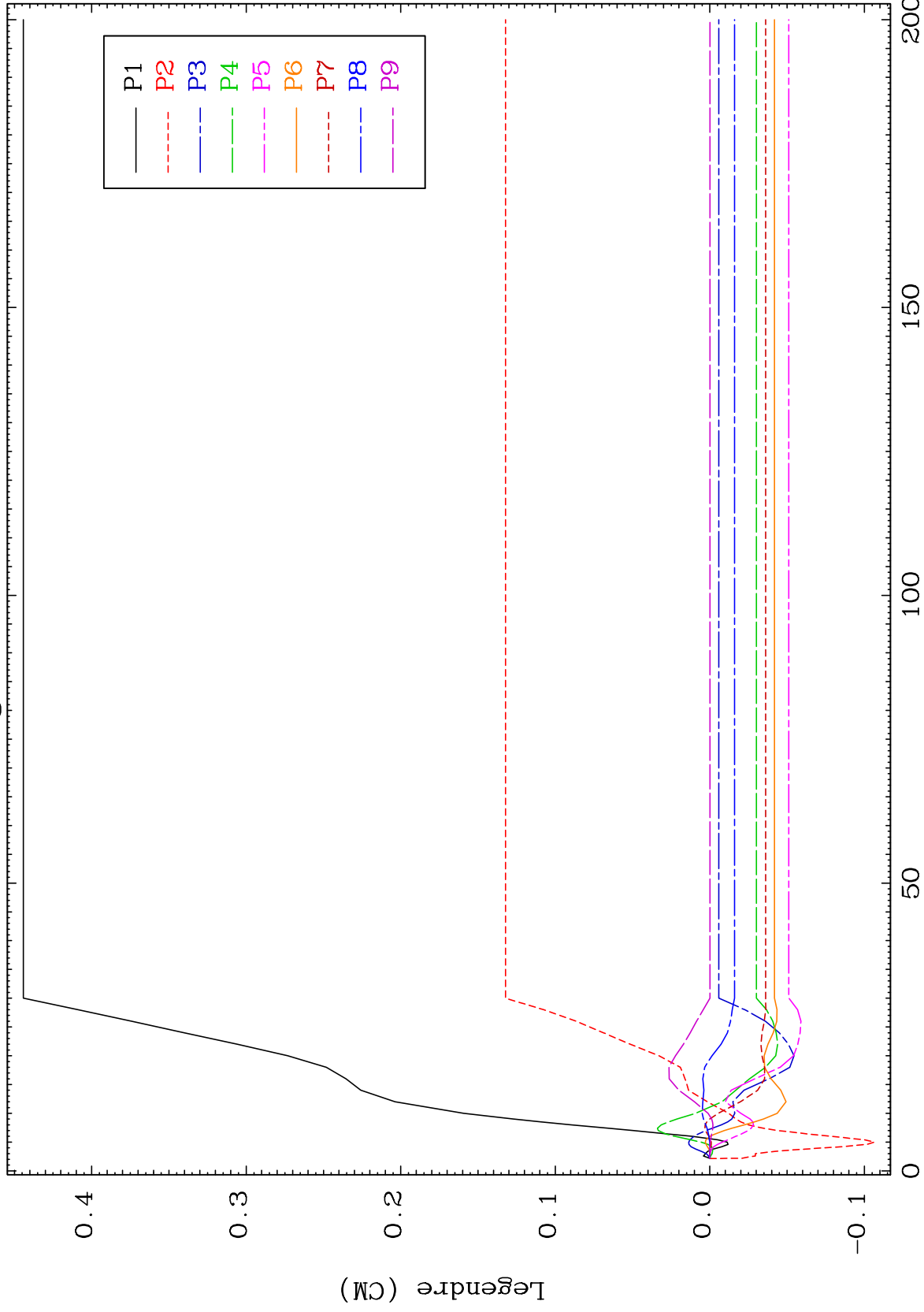
41-Nb-97



MAT 4137

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

41-Nb-97



88

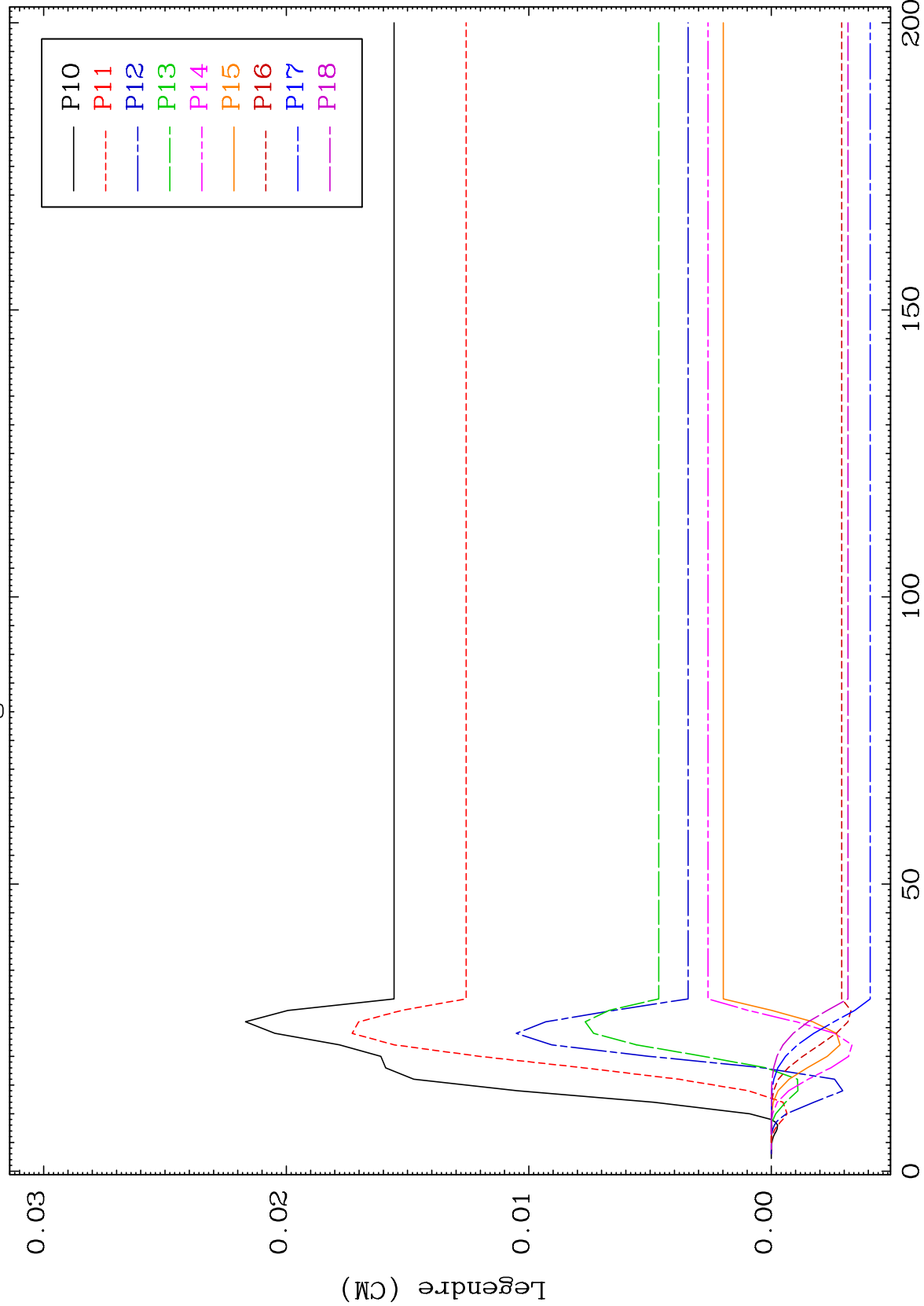
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

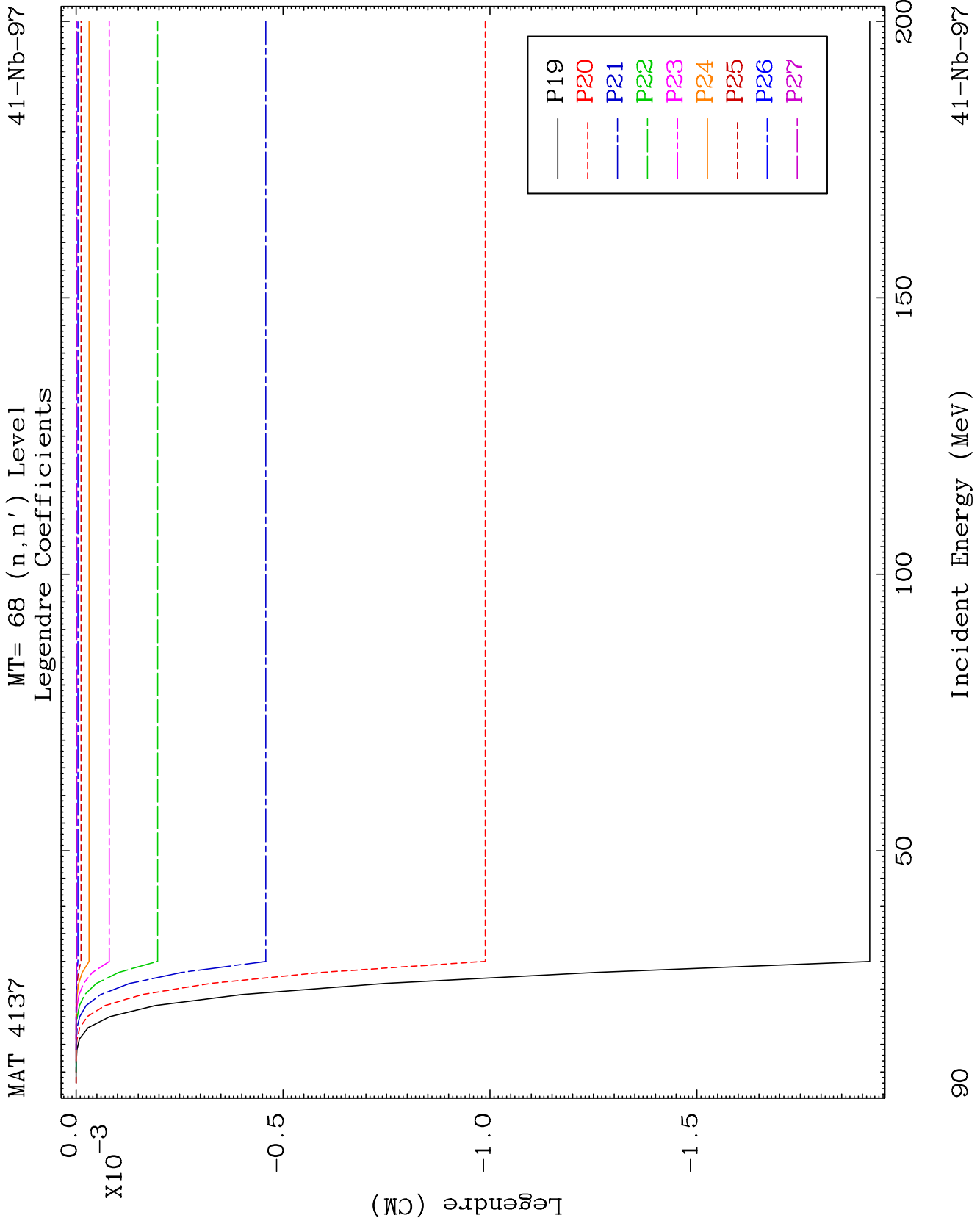
41-Nb-97

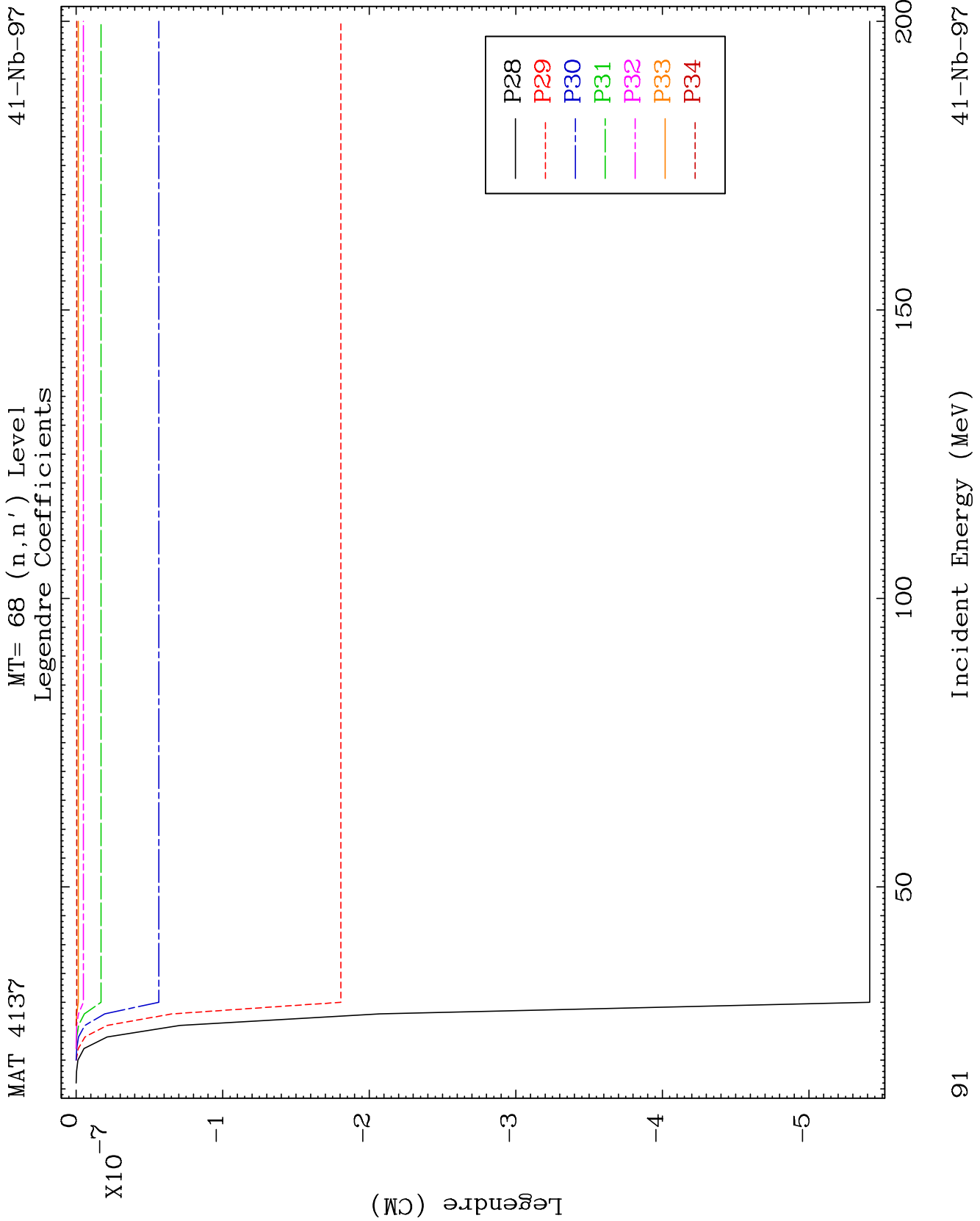


89

Incident Energy (MeV)

41-Nb-97

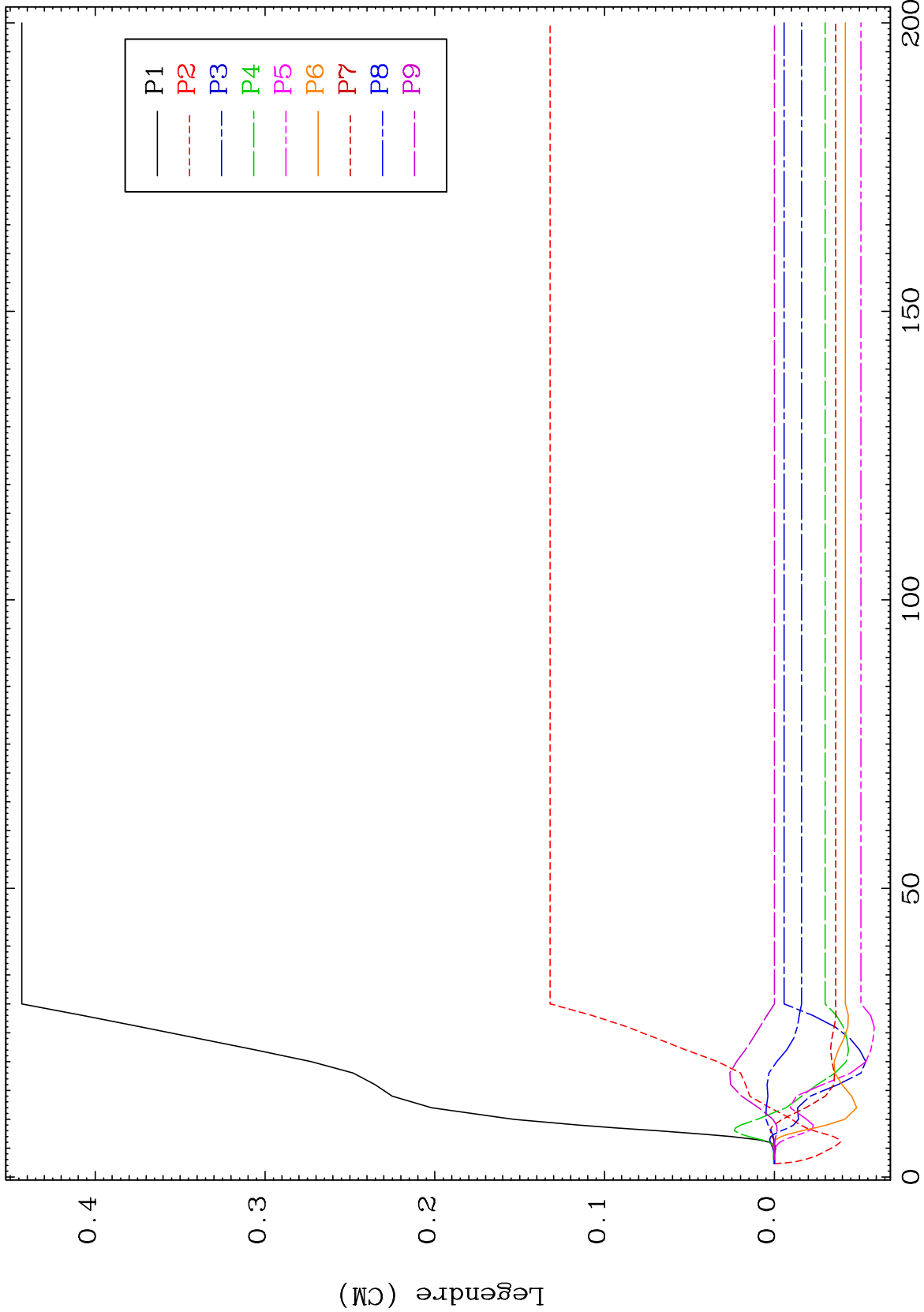




MAT 4137

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

41-Nb-97



92

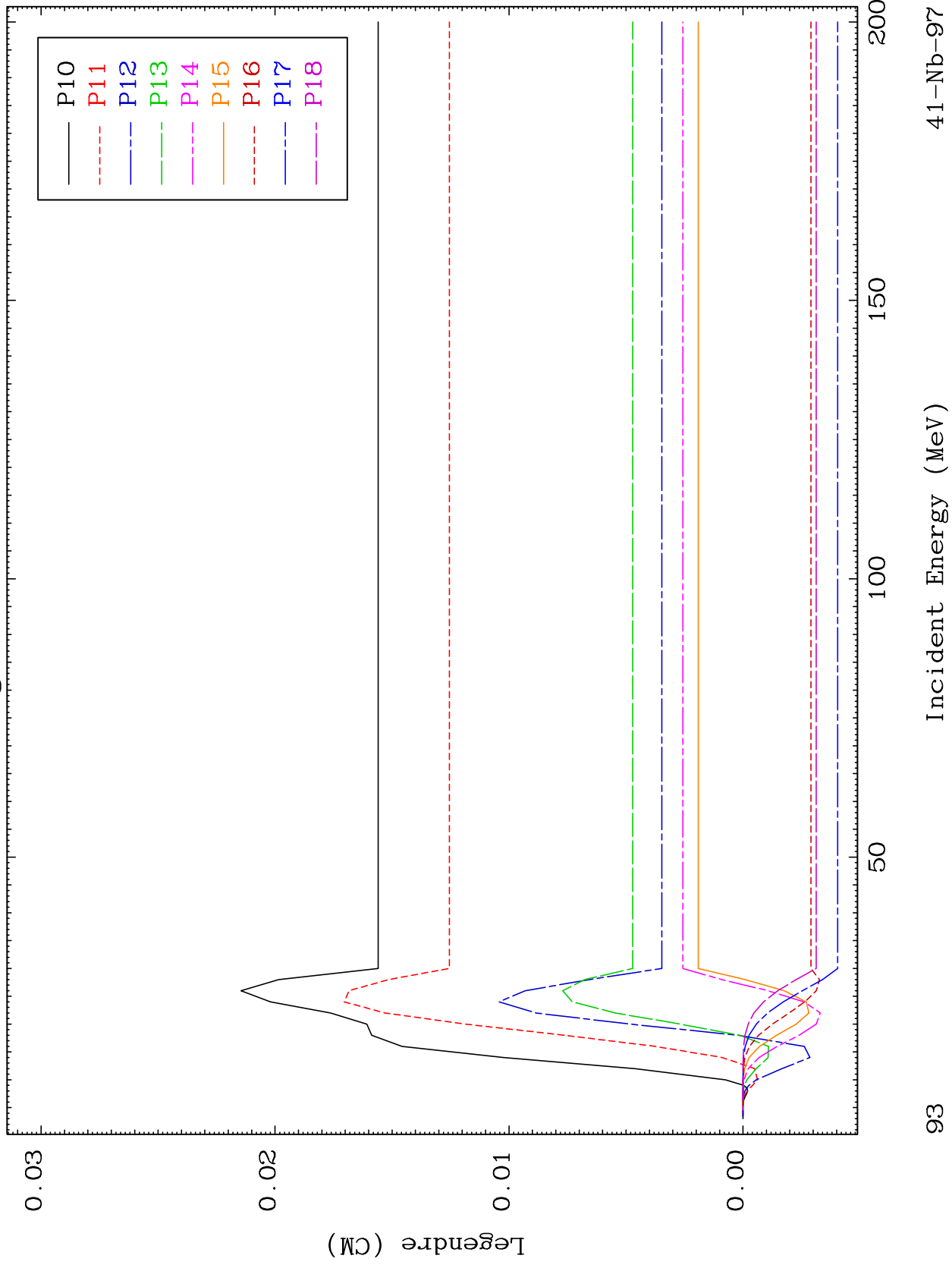
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

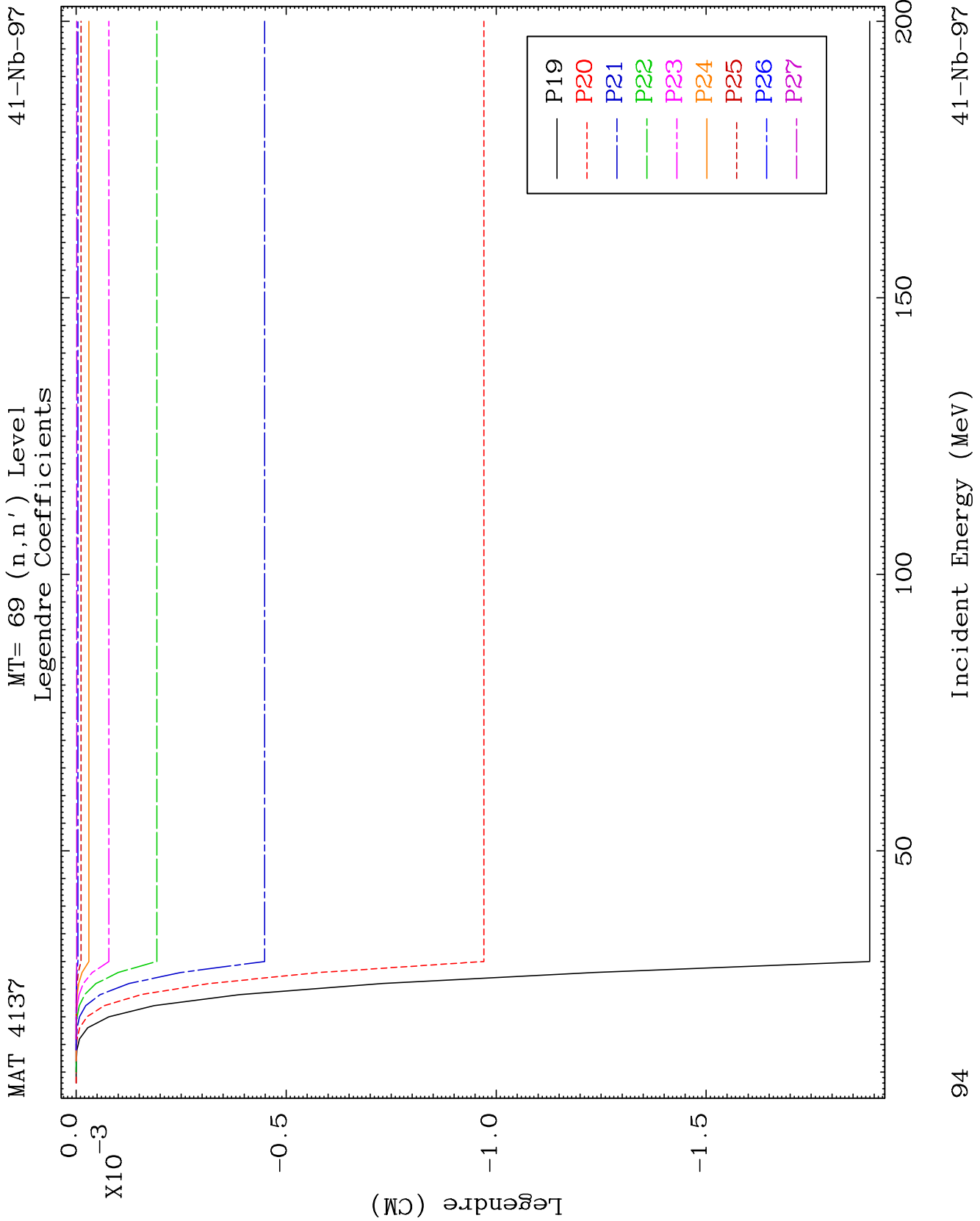
41-Nb-97



93

Incident Energy (MeV)

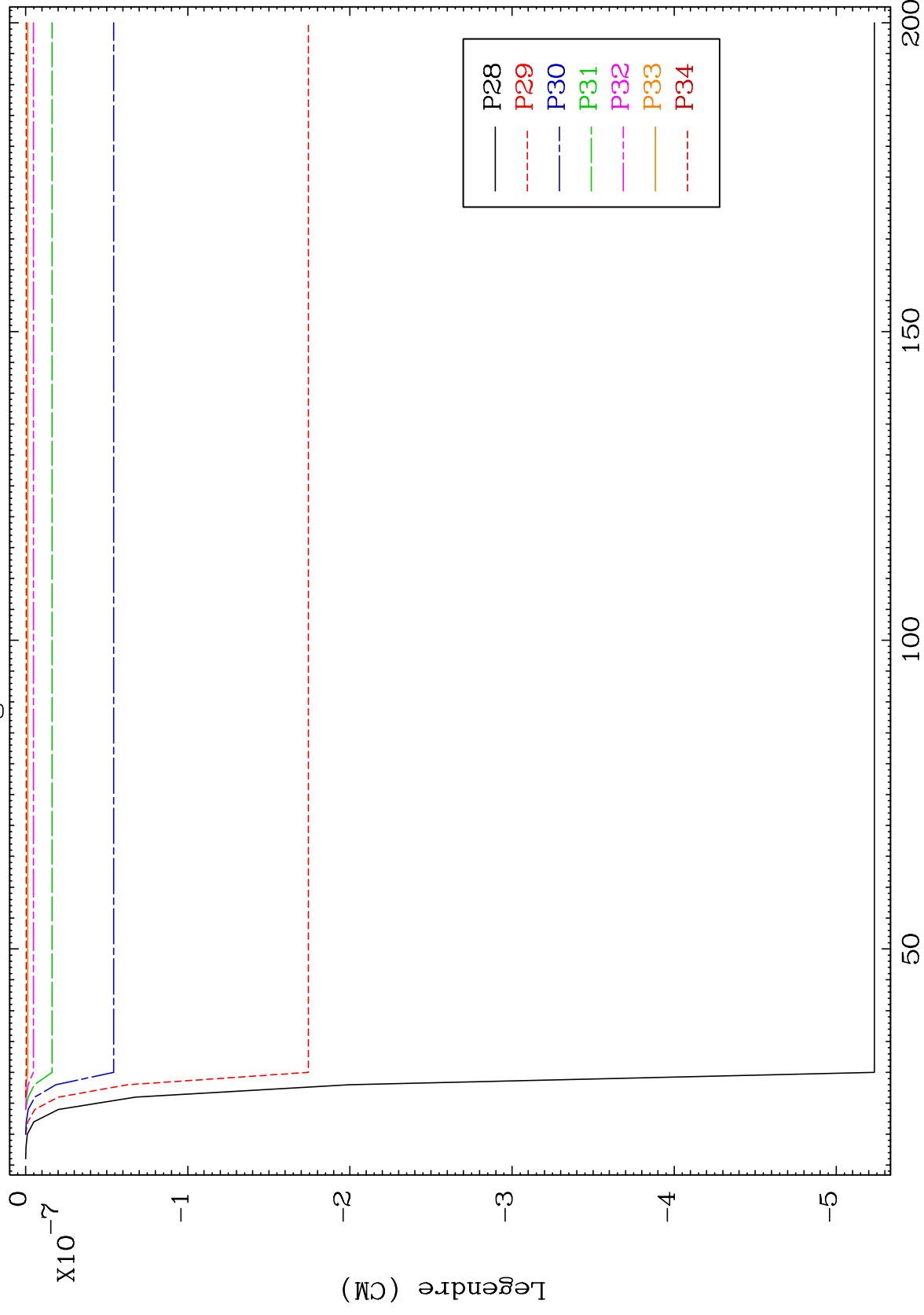
41-Nb-97



MAT 4137

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

41-Nb-97



41-Nb-97

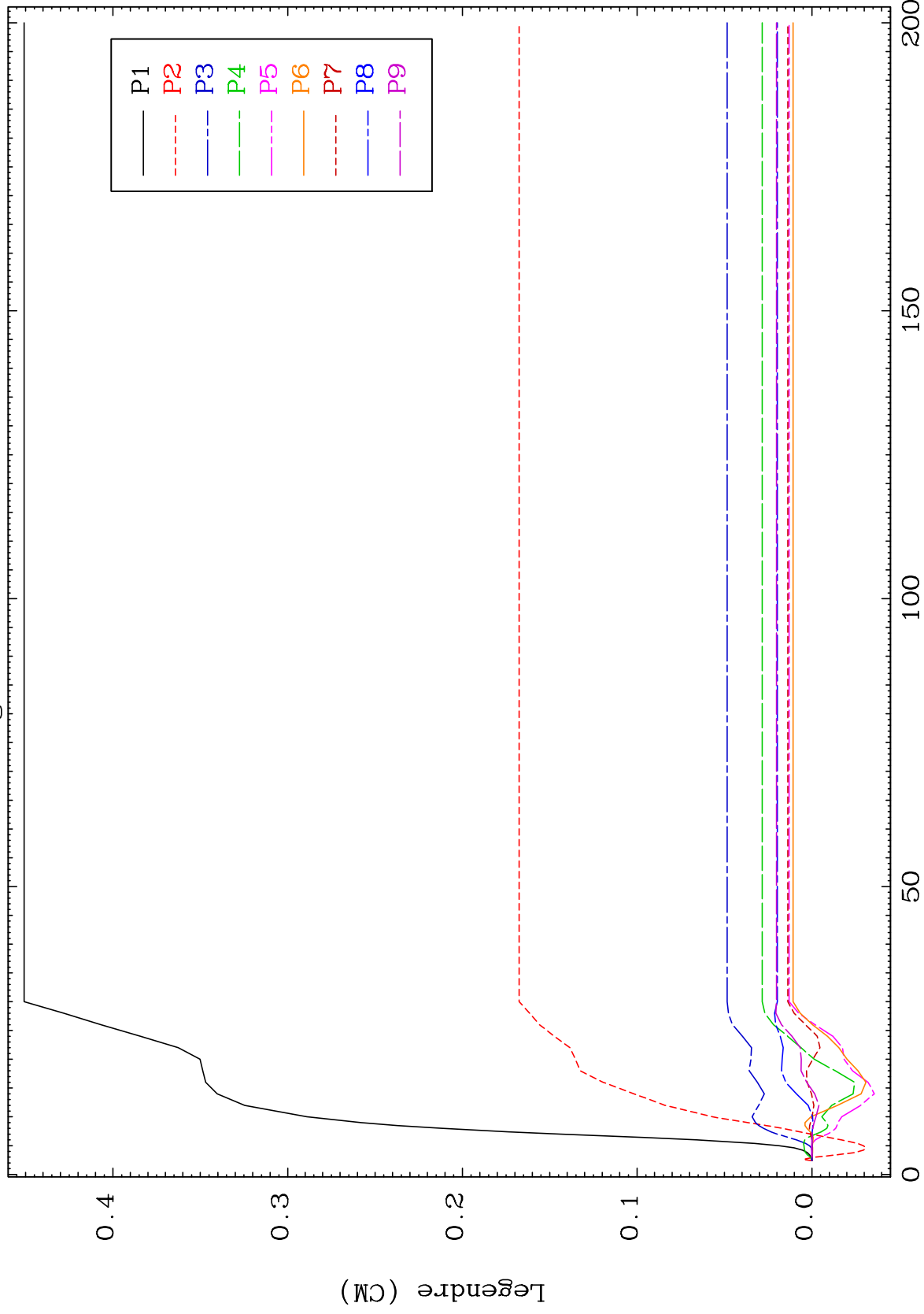
Incident Energy (MeV)

95

MAT 4137

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

41-Nb-97



96

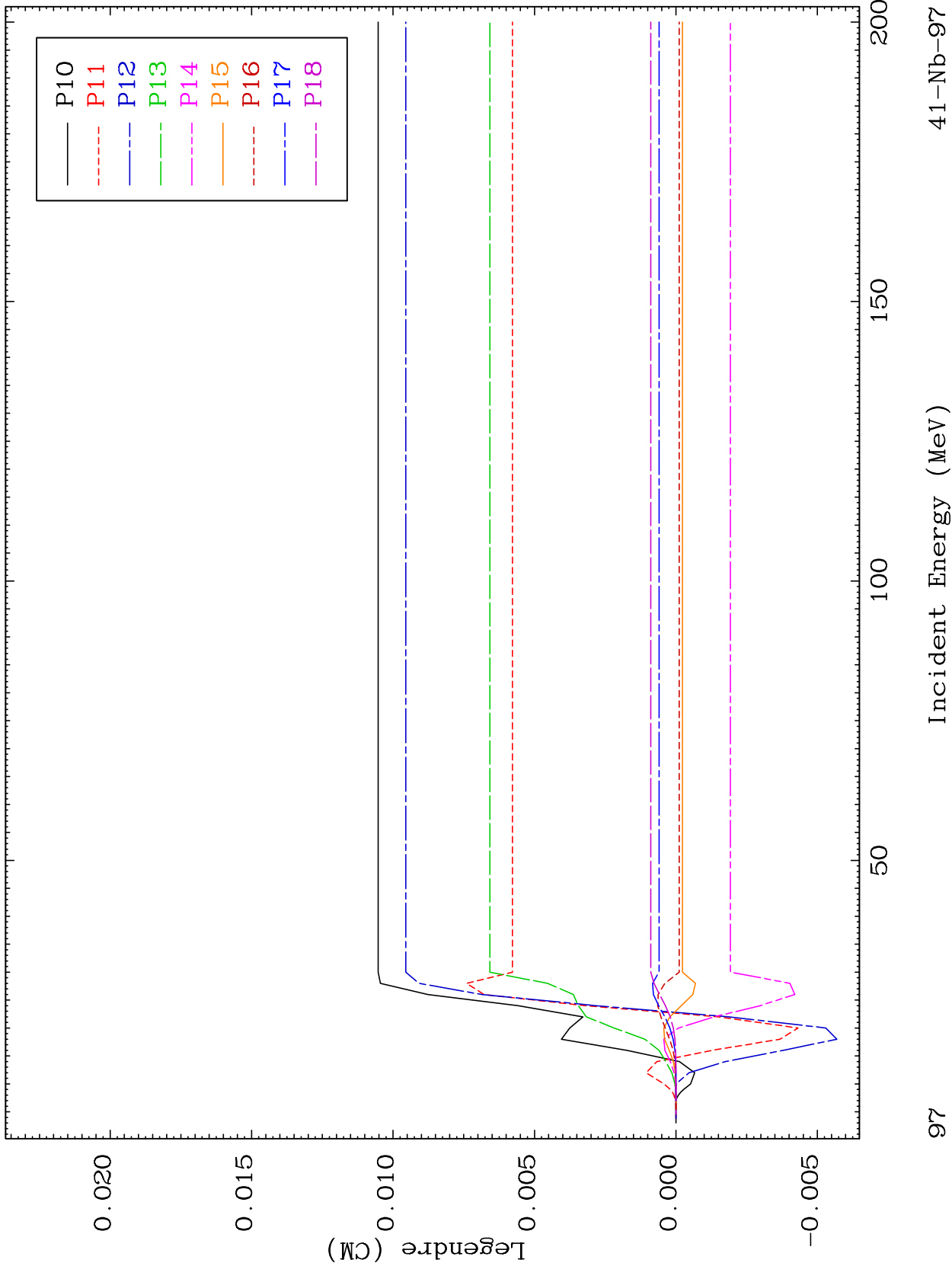
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97

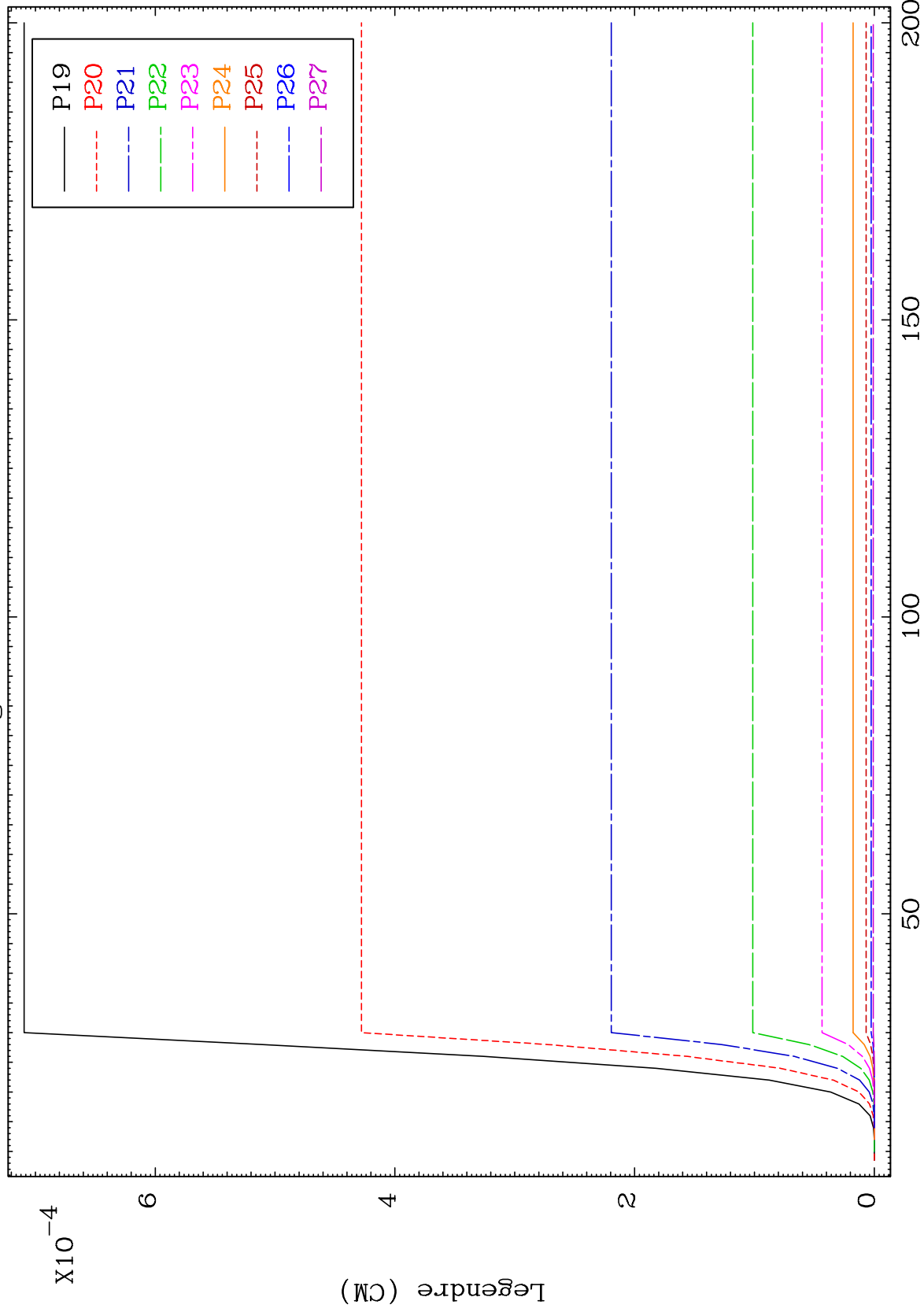


97

MAT 4137

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

41-Nb-97



98

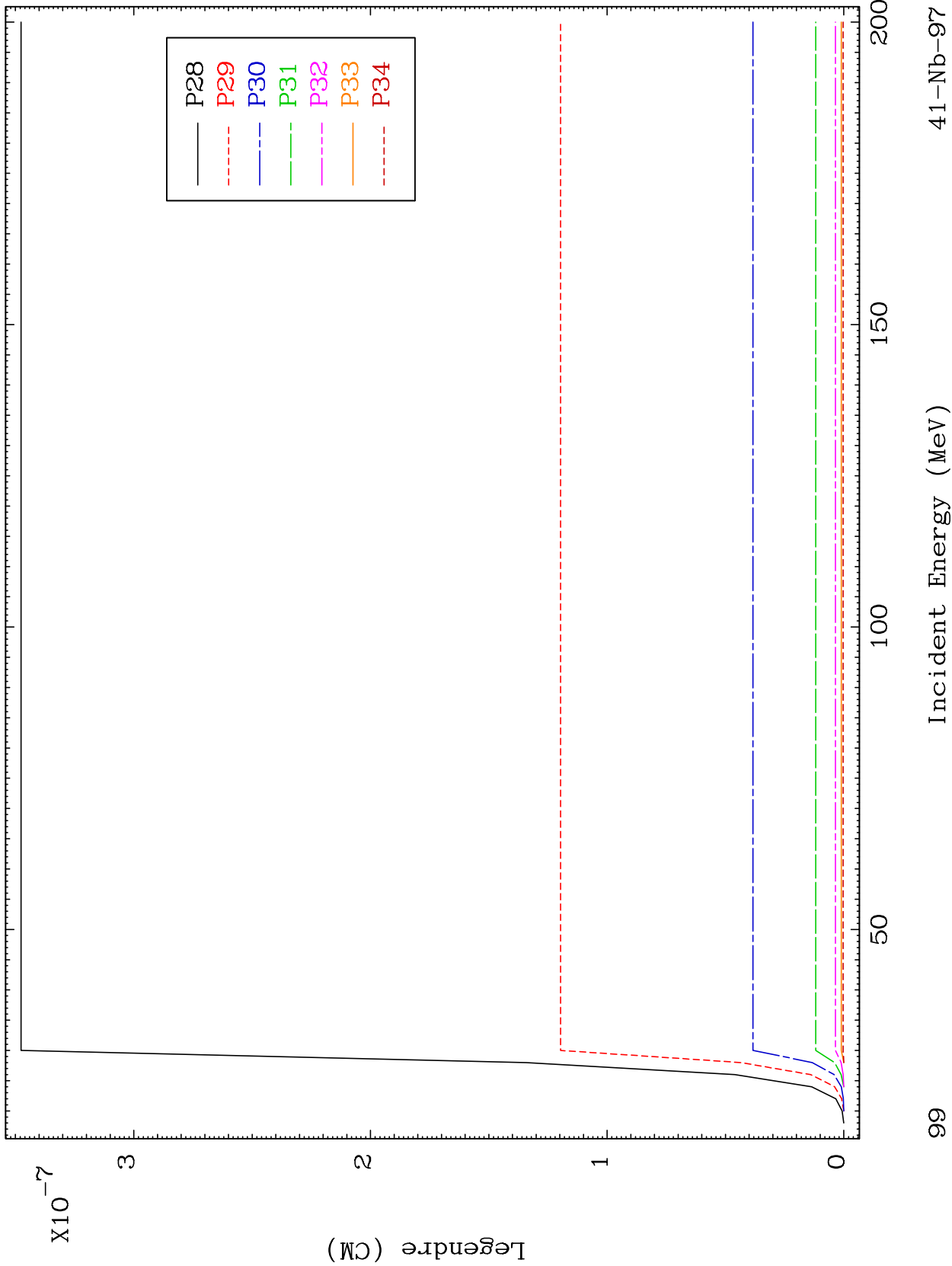
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

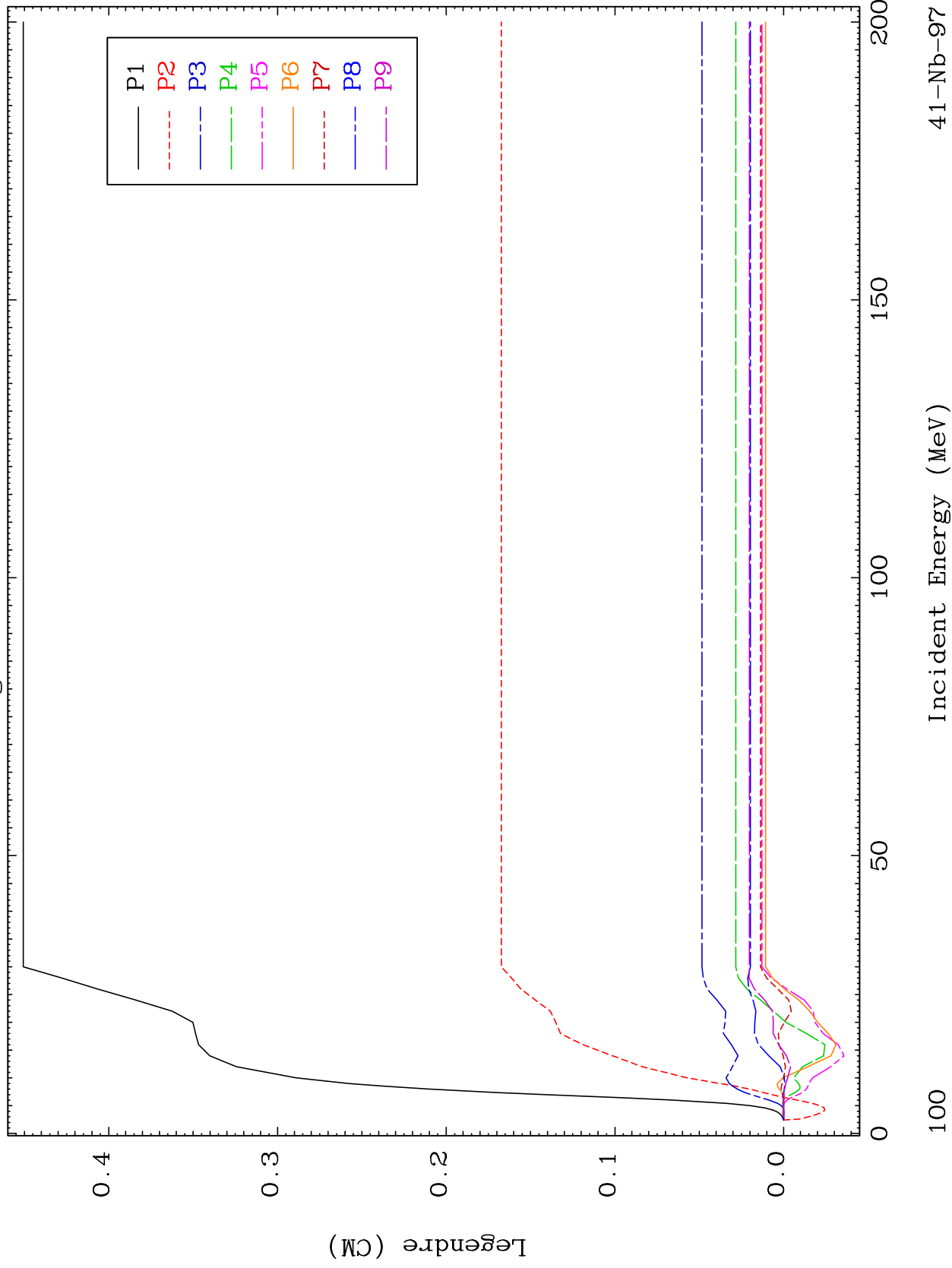
41-Nb-97



MAT 4137

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

41-Nb-97

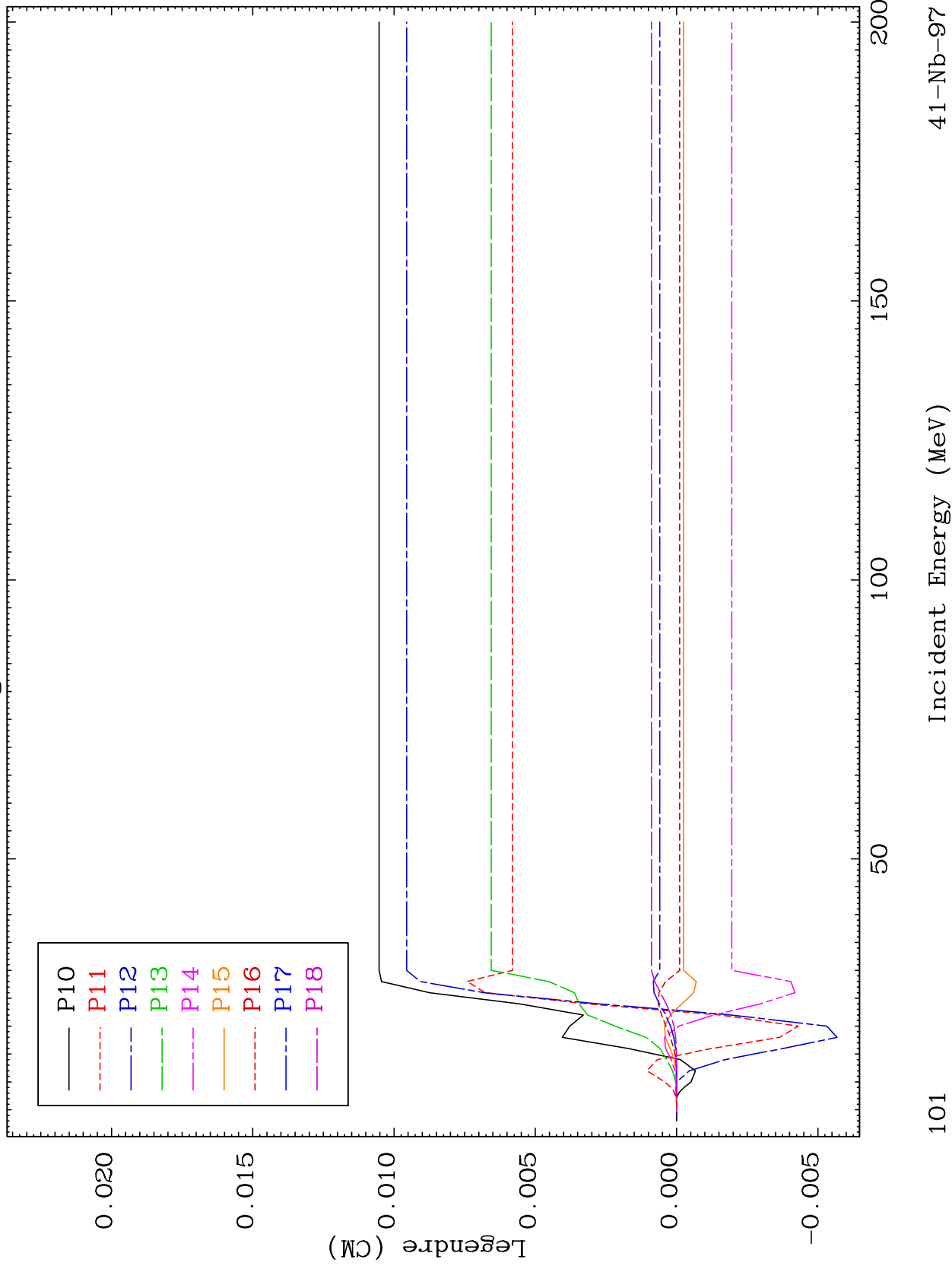


41-Nb-97

MAT 4137

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

41-Nb-97



101

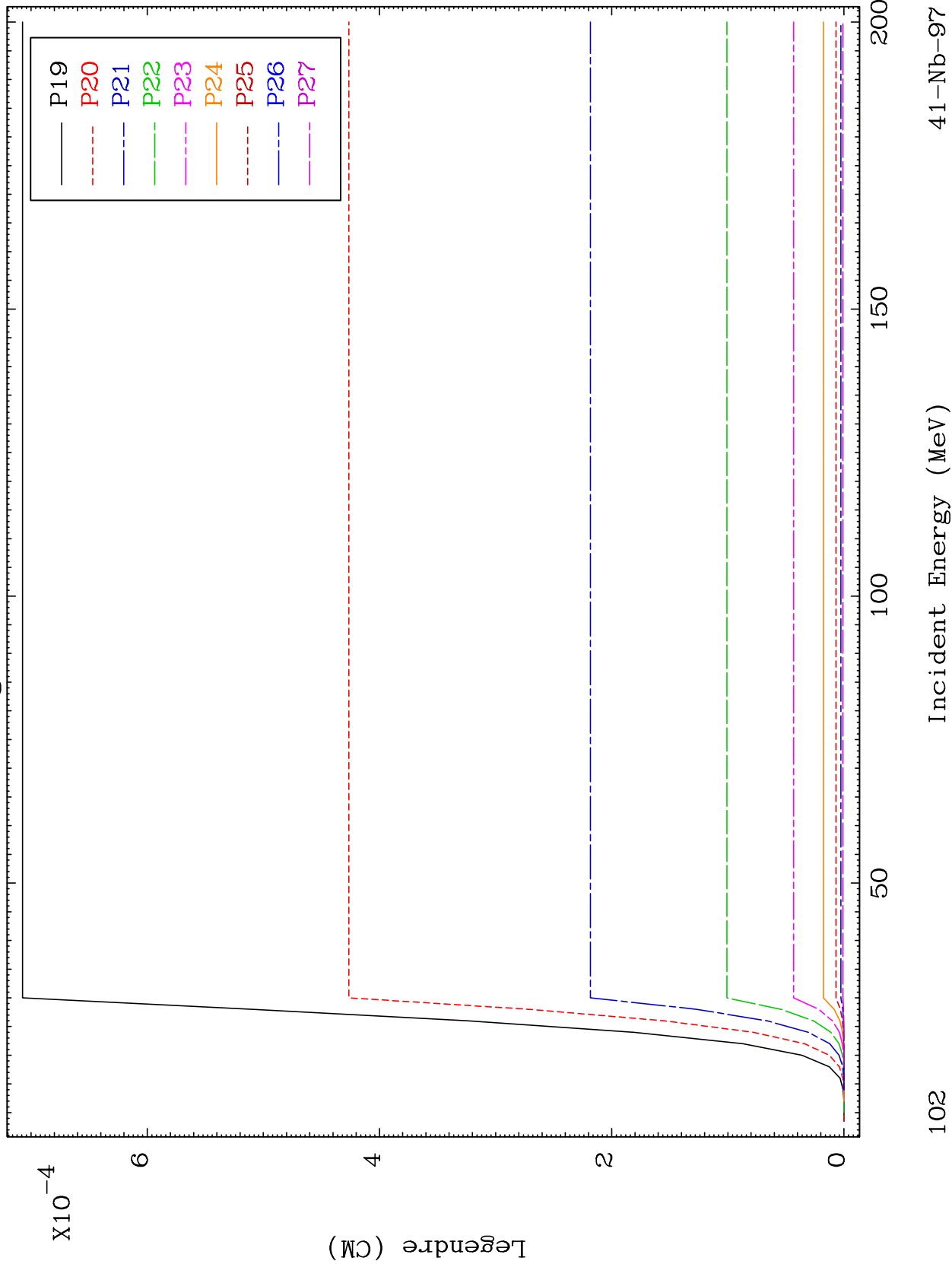
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

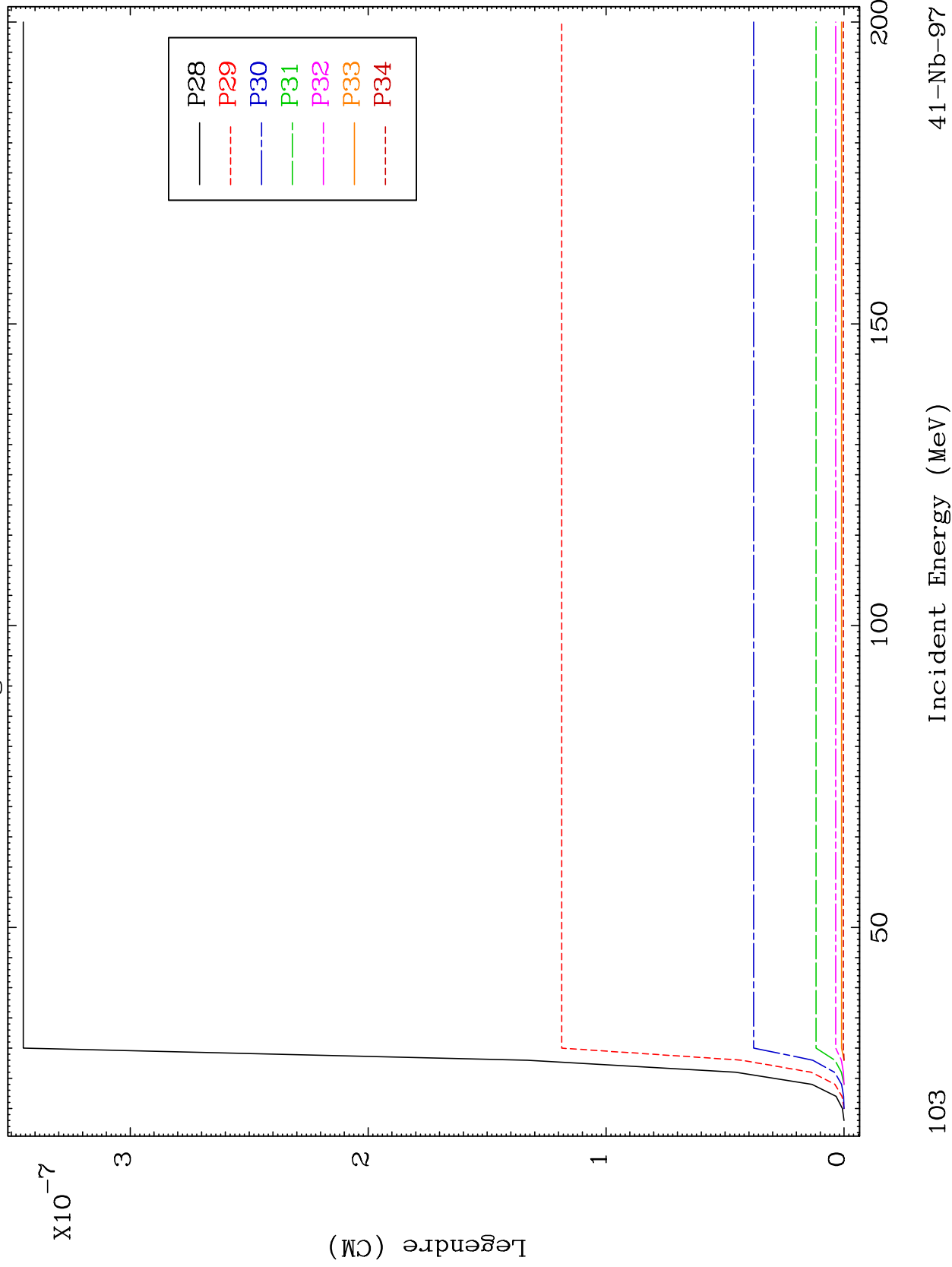
41-Nb-97



MAT 4137

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

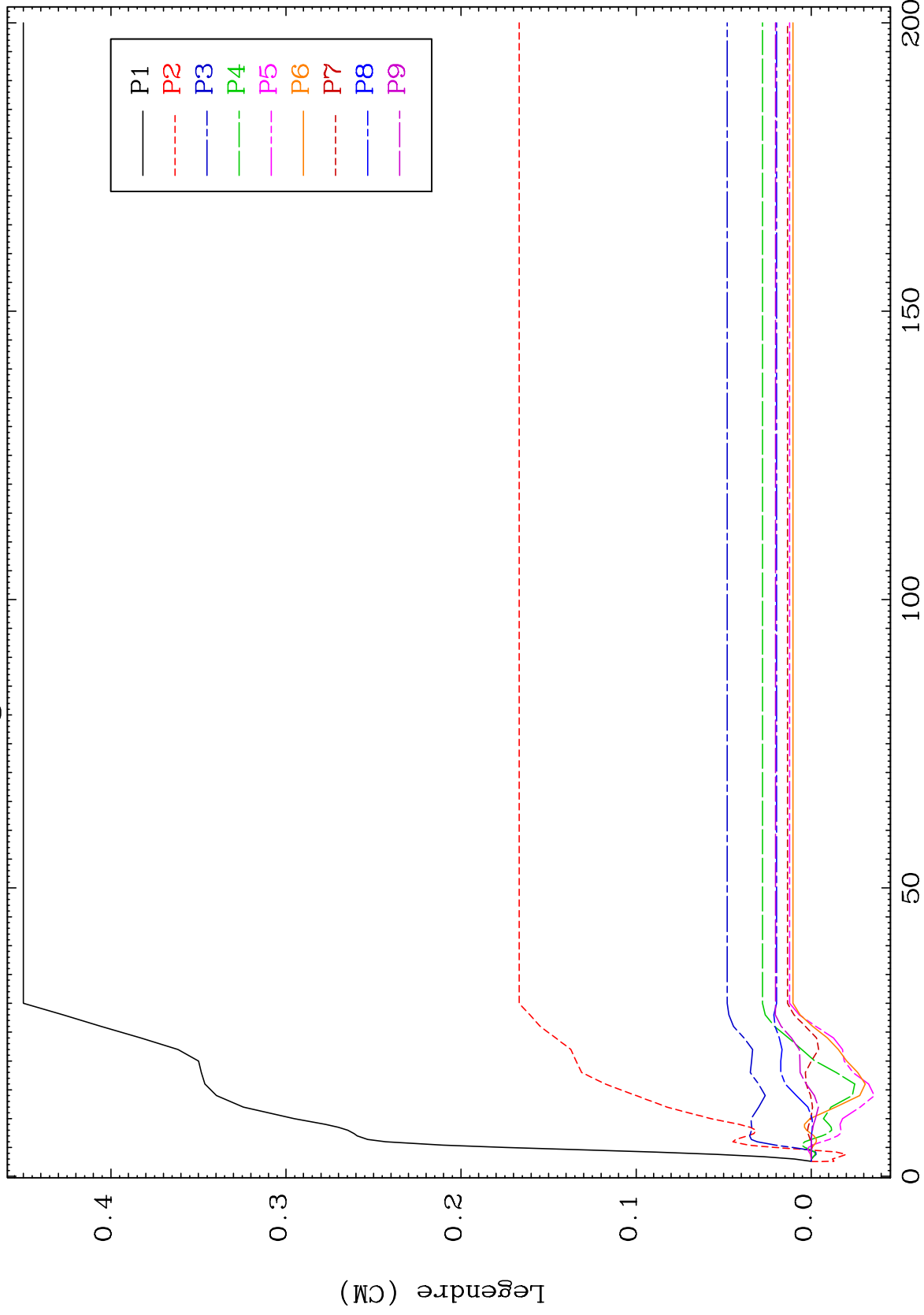
41-Nb-97



MAT 4137

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

41-Nb-97



104

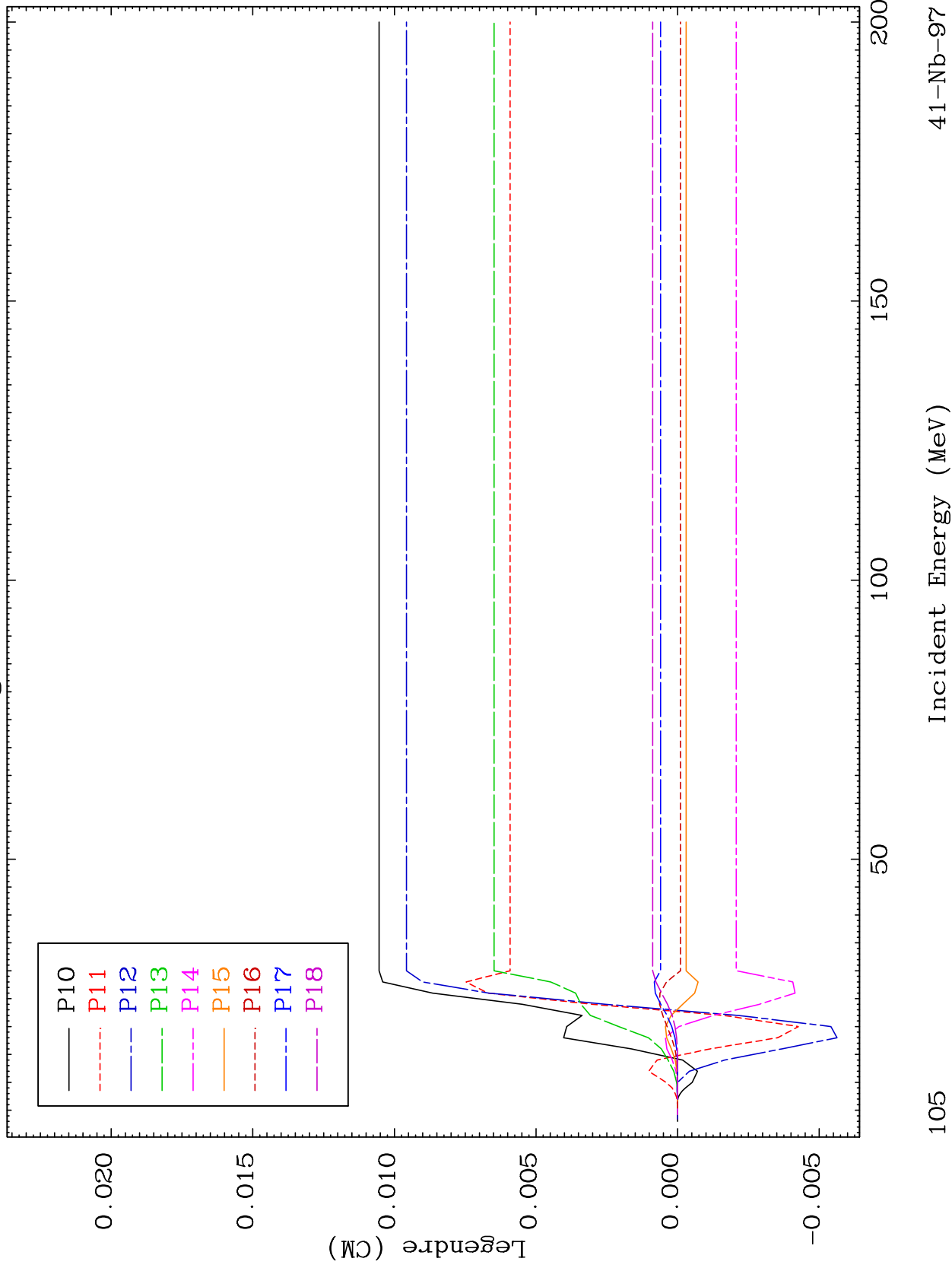
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



105

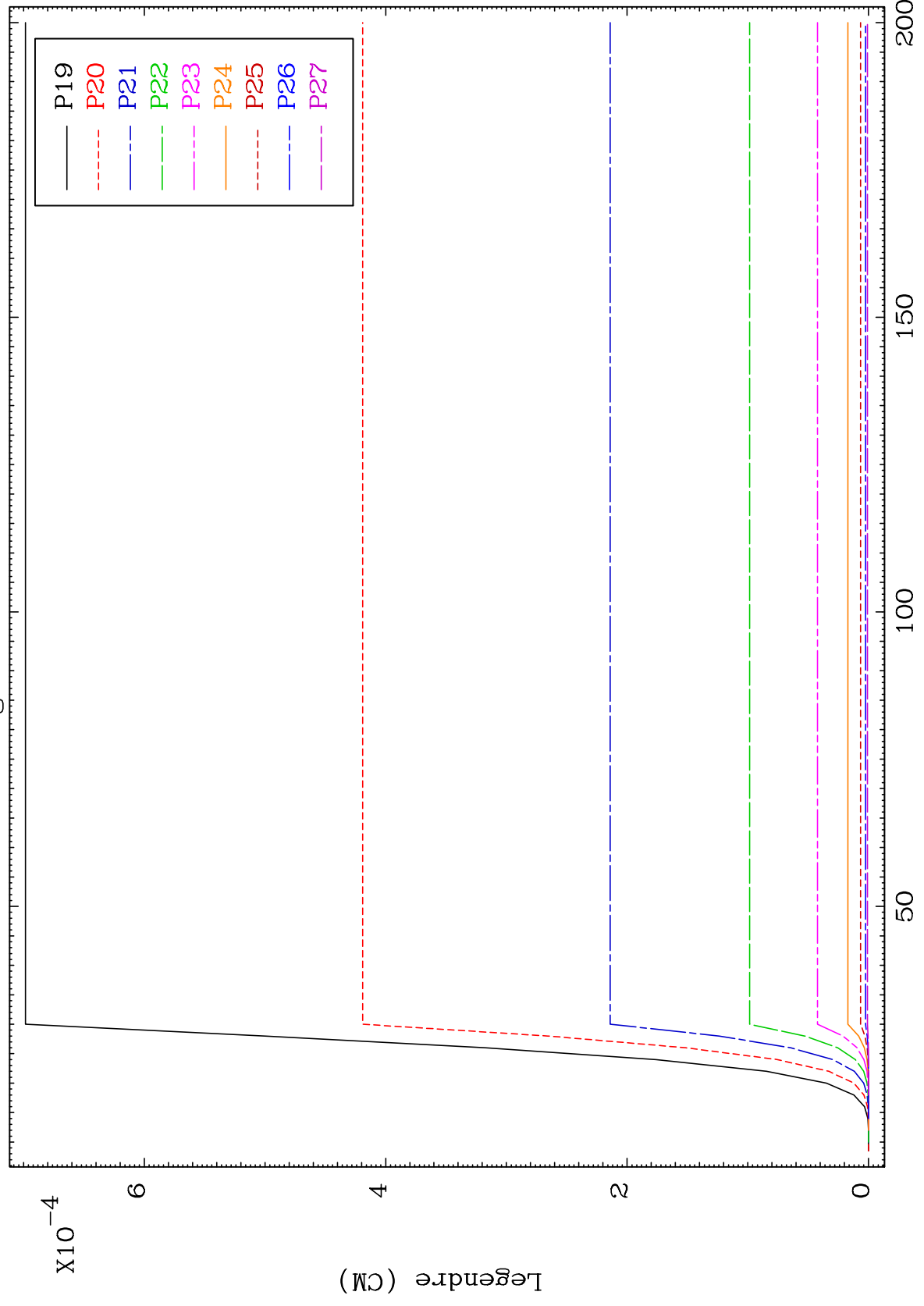
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



106

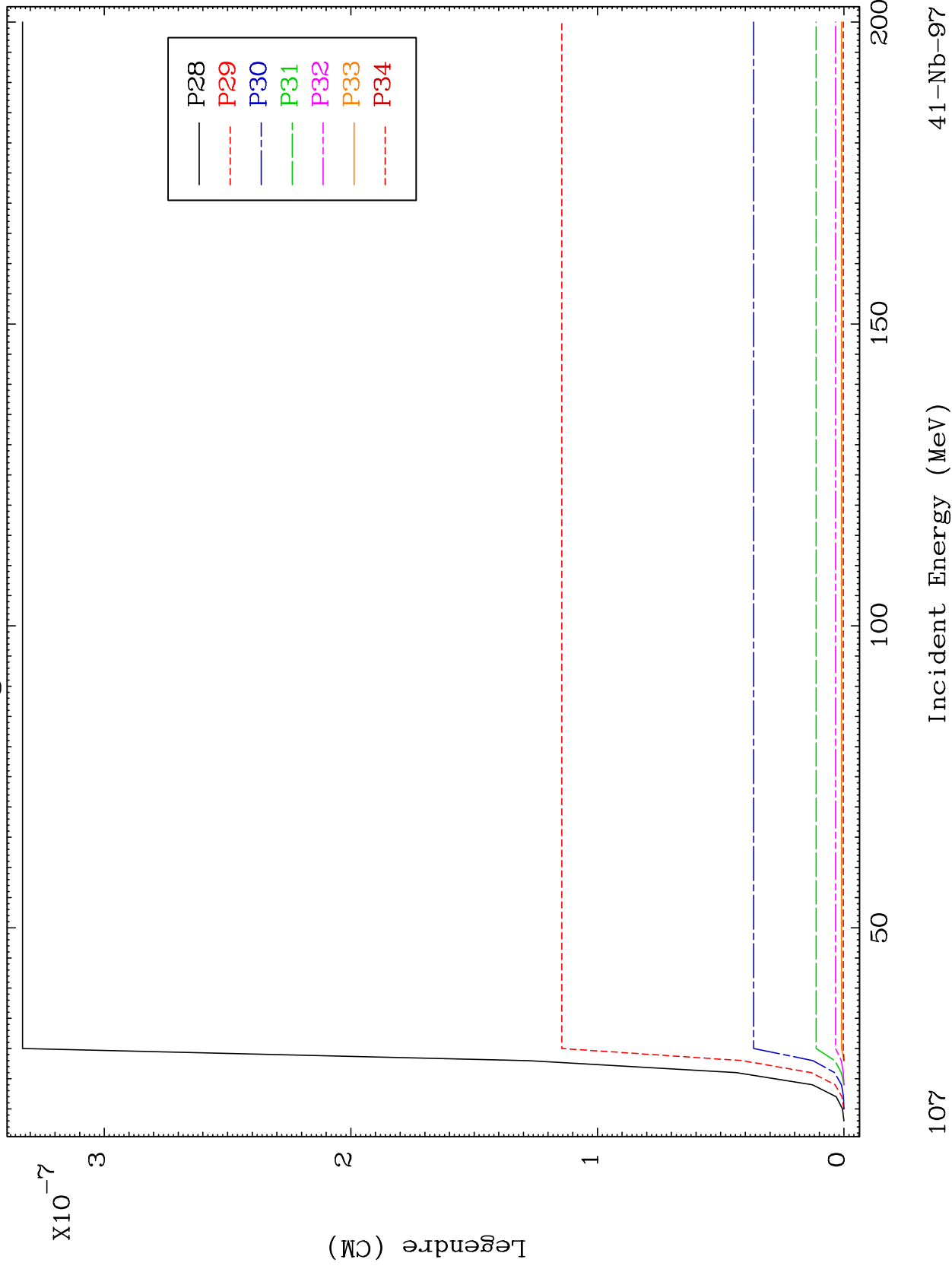
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

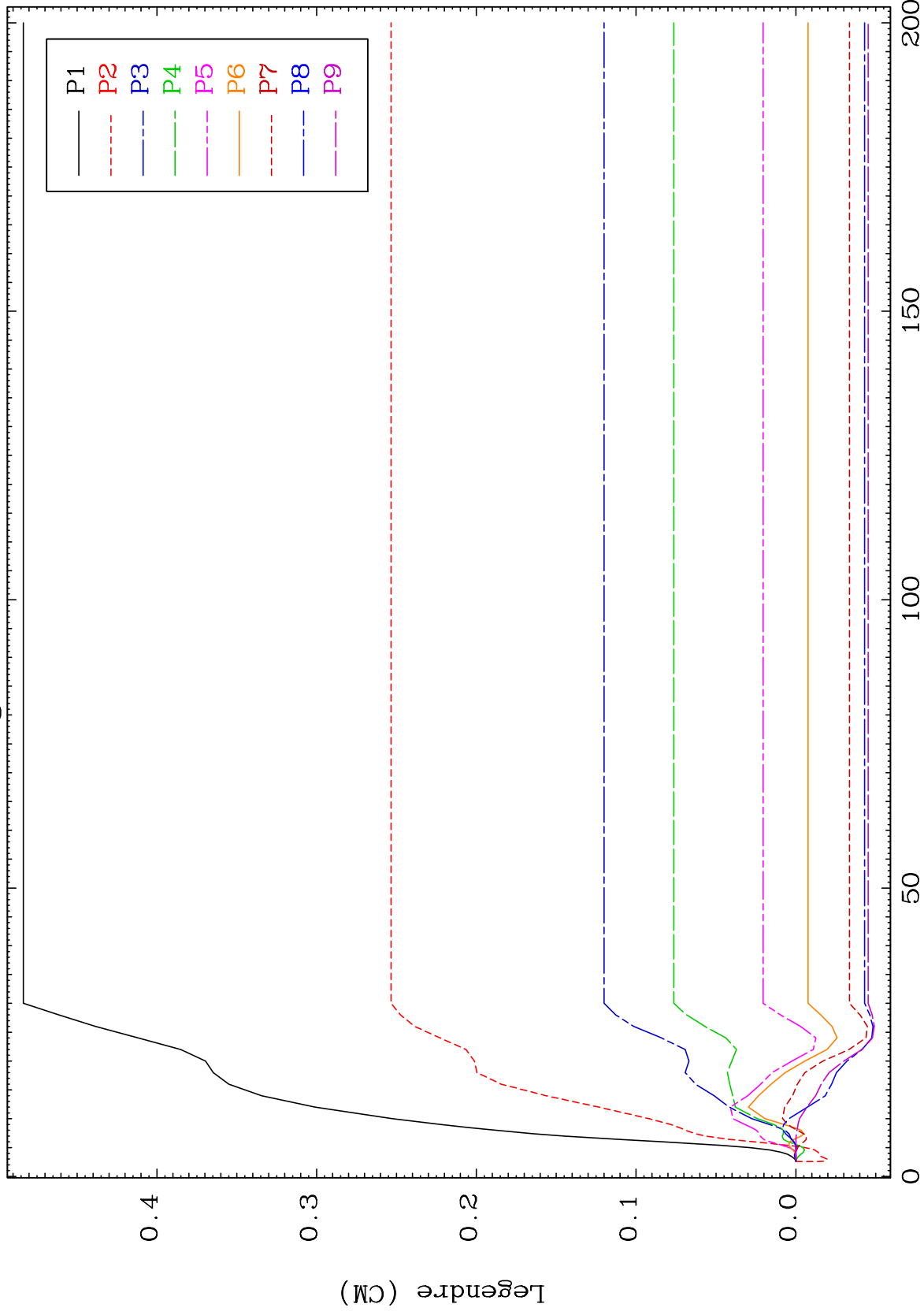
41-Nb-97



MAT 4137

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

41-Nb-97



108

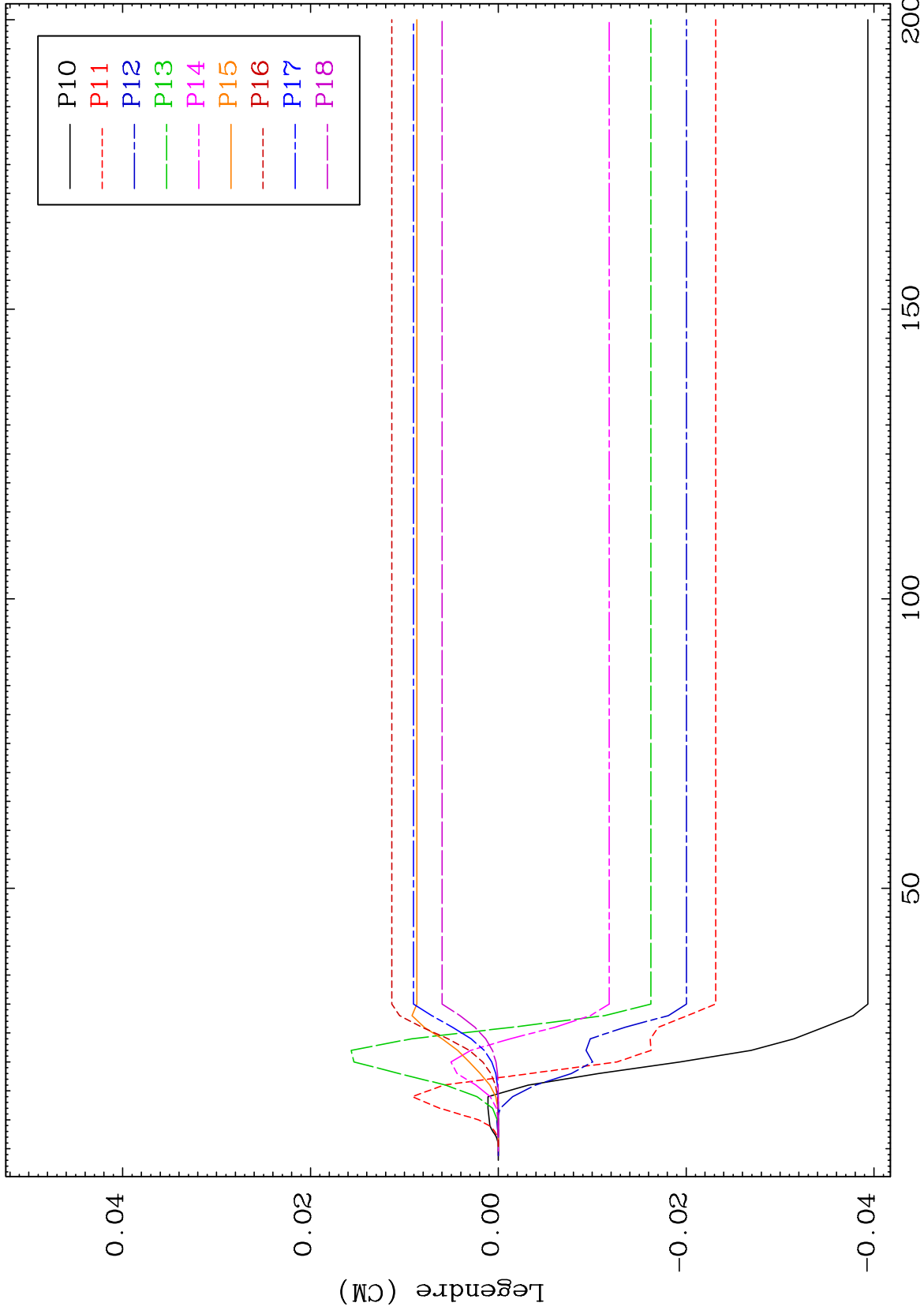
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



109

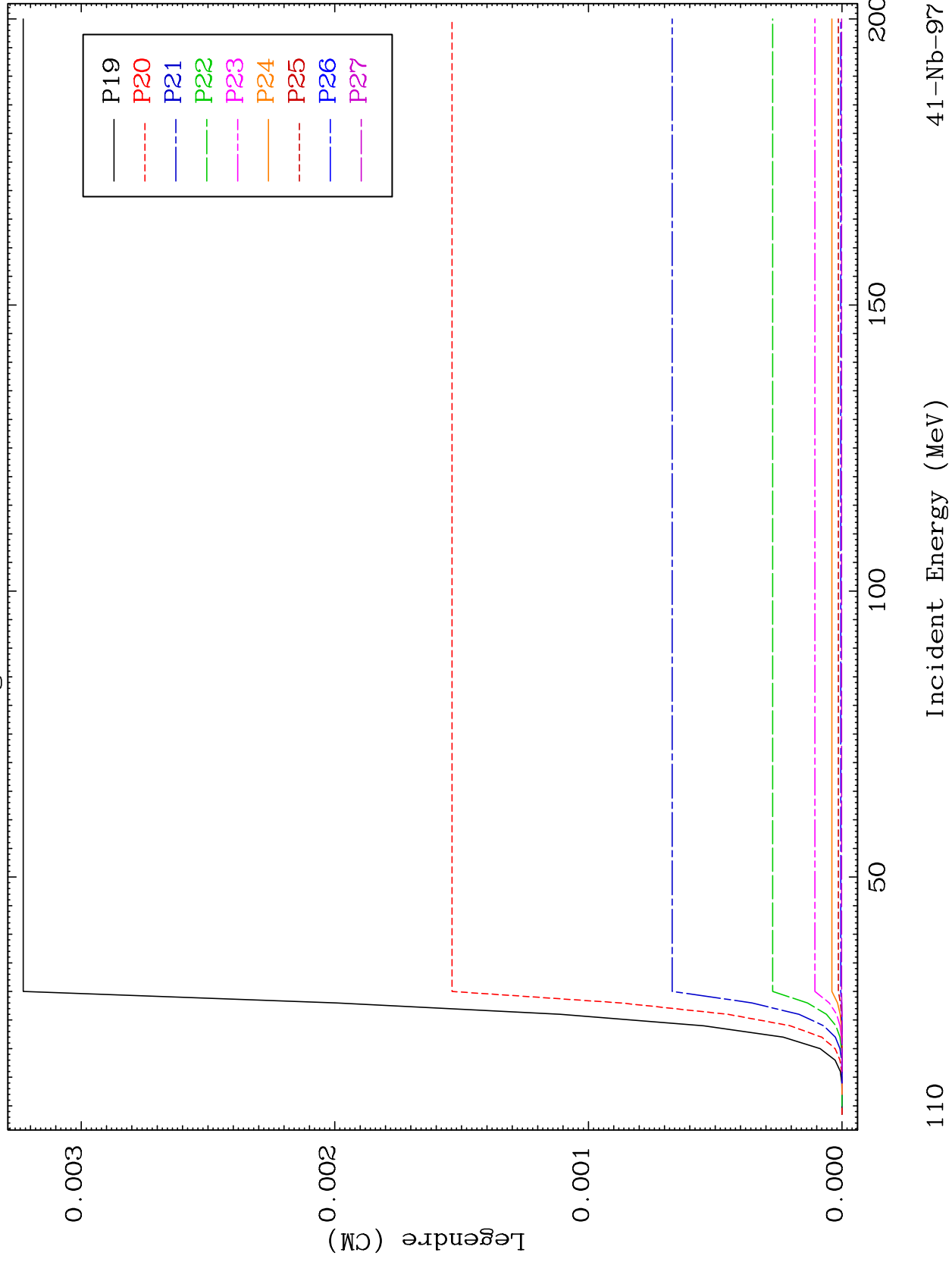
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



110

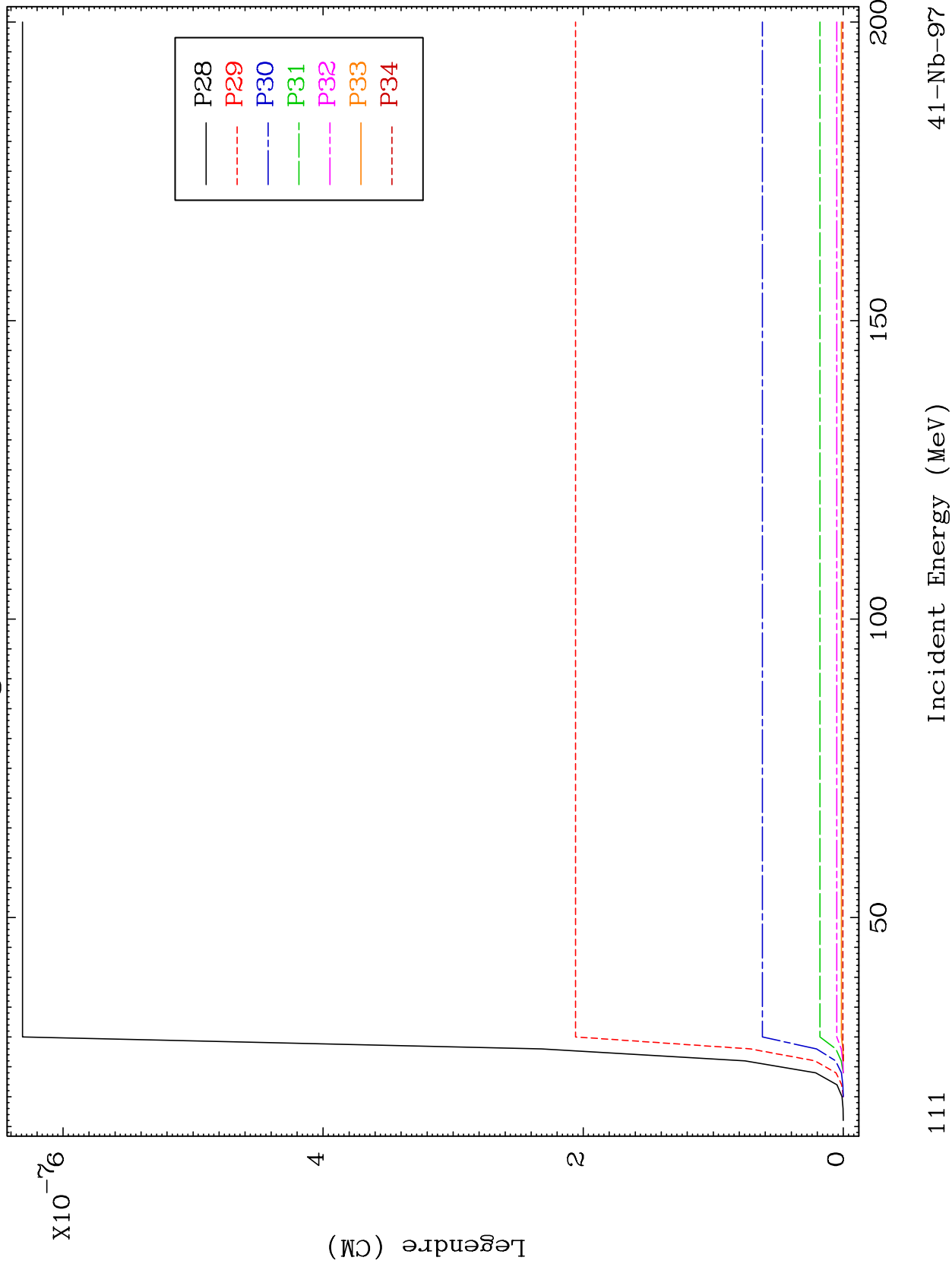
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



111

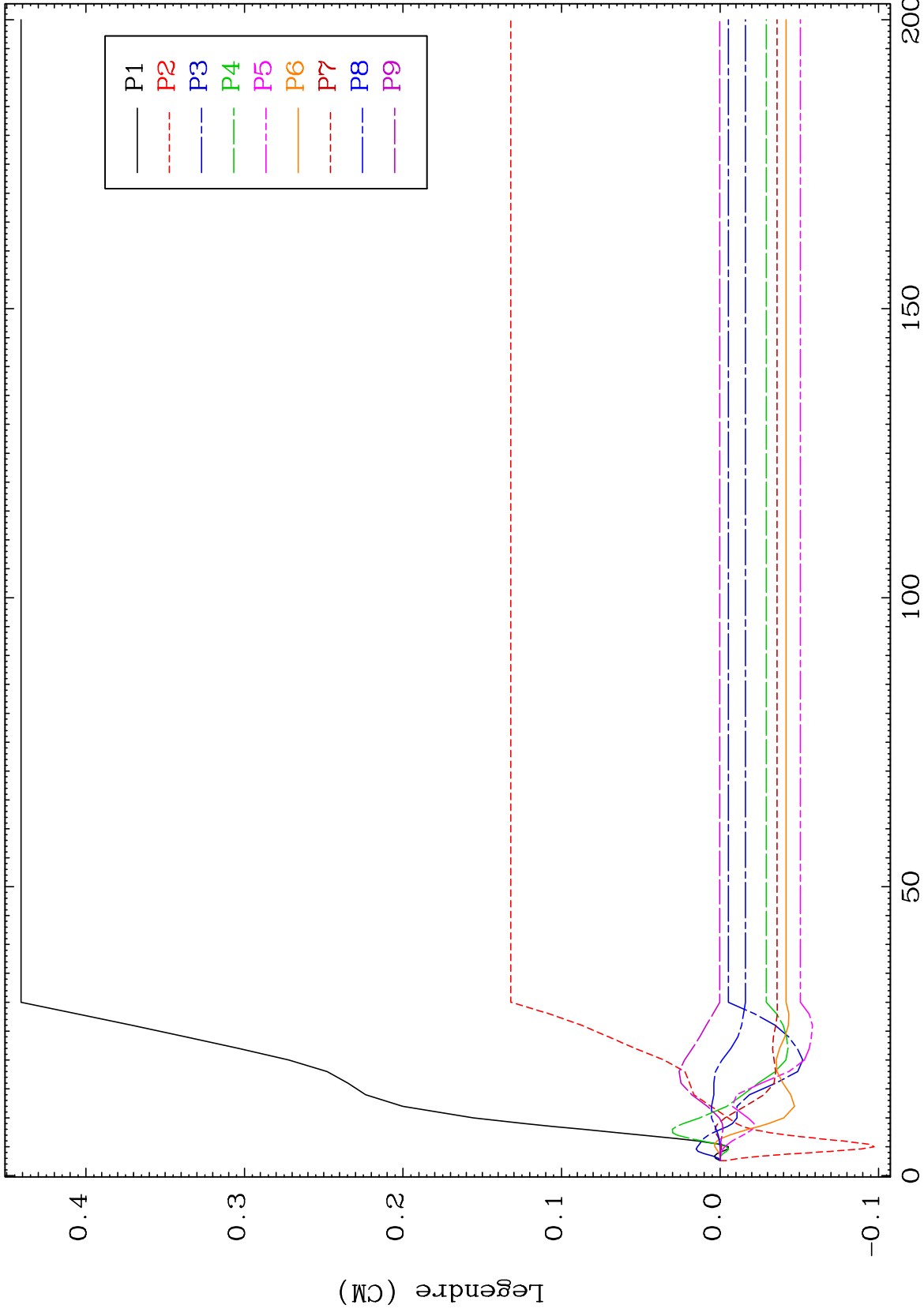
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



112

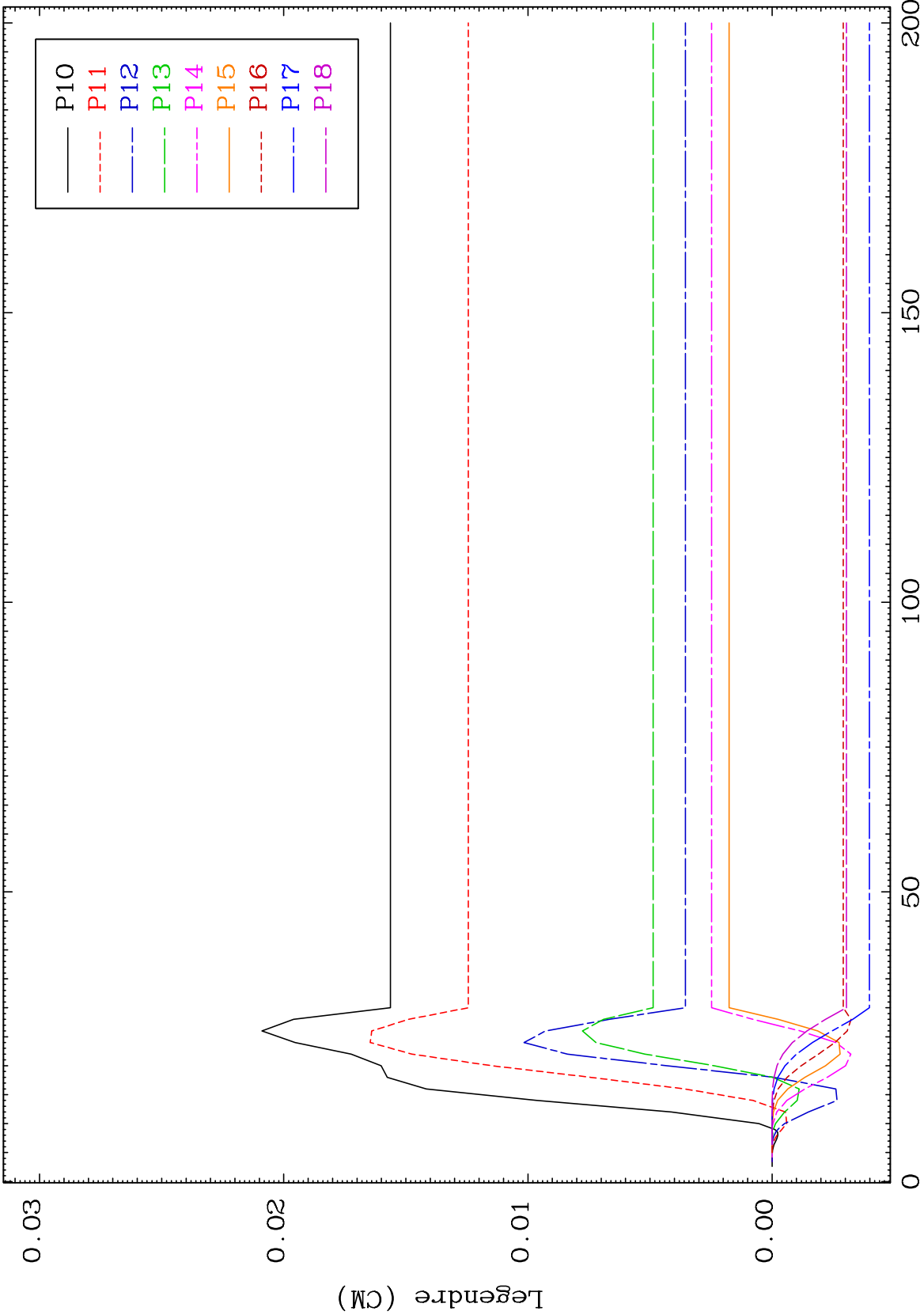
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



113

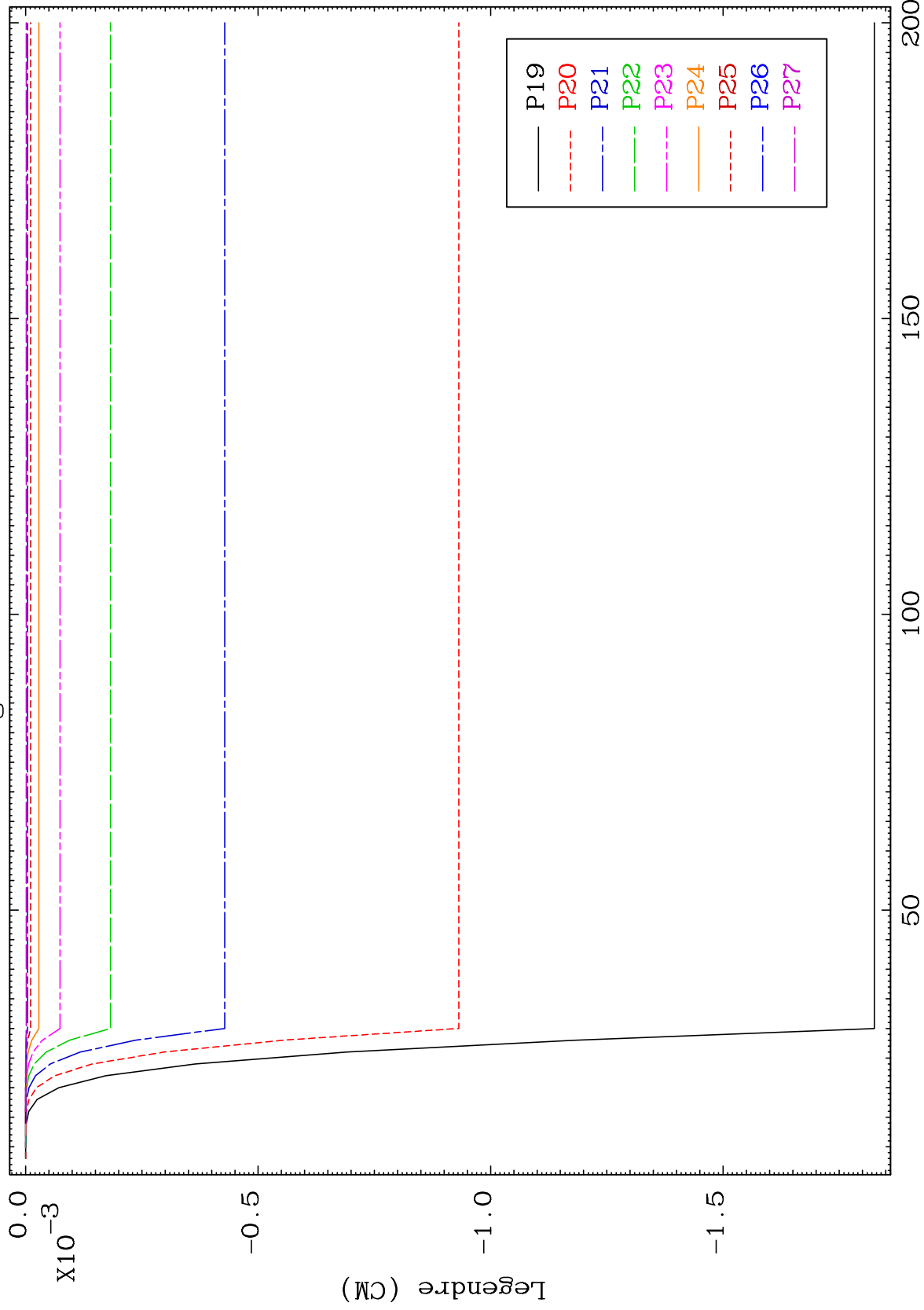
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

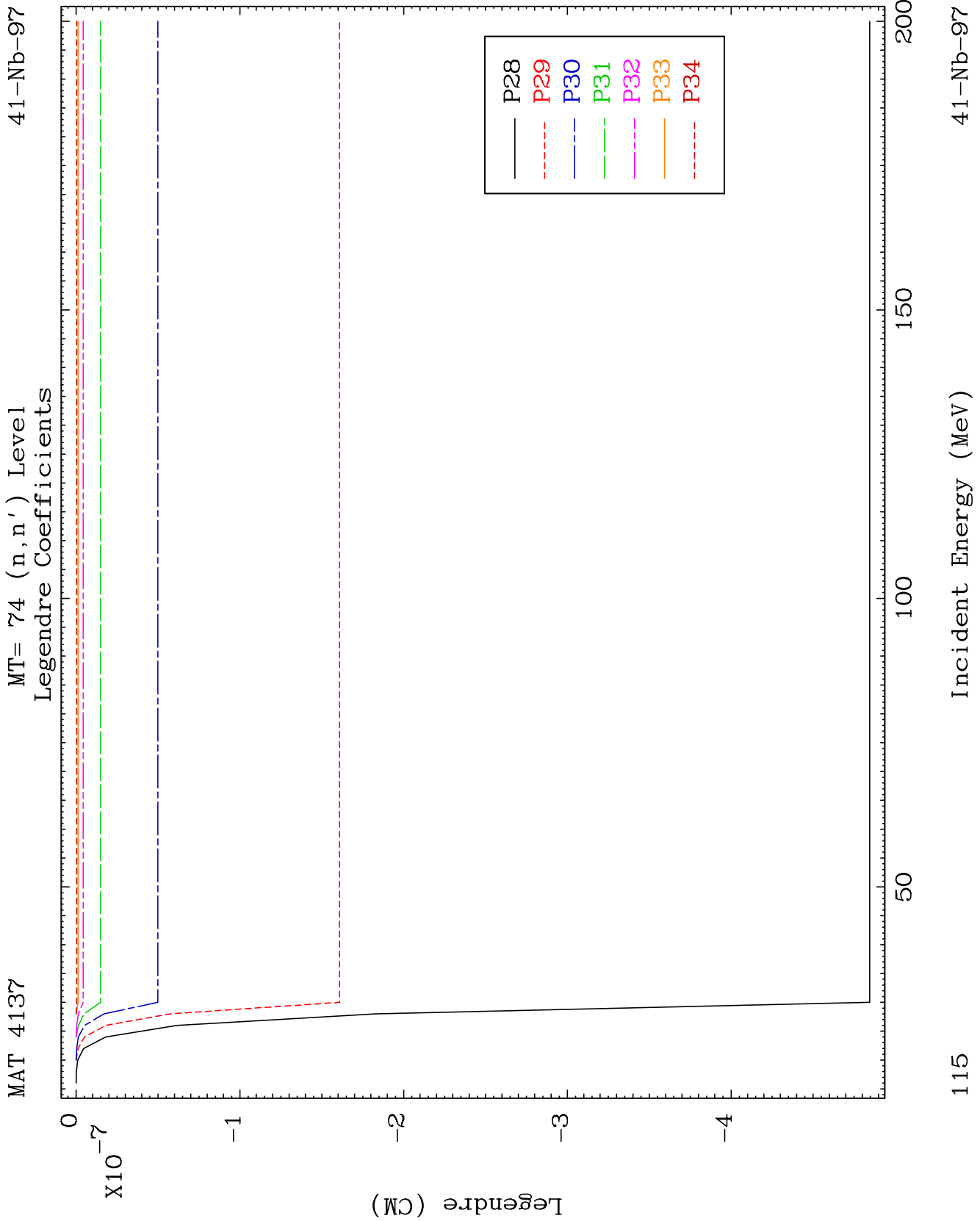
41-Nb-97



114

Incident Energy (MeV)

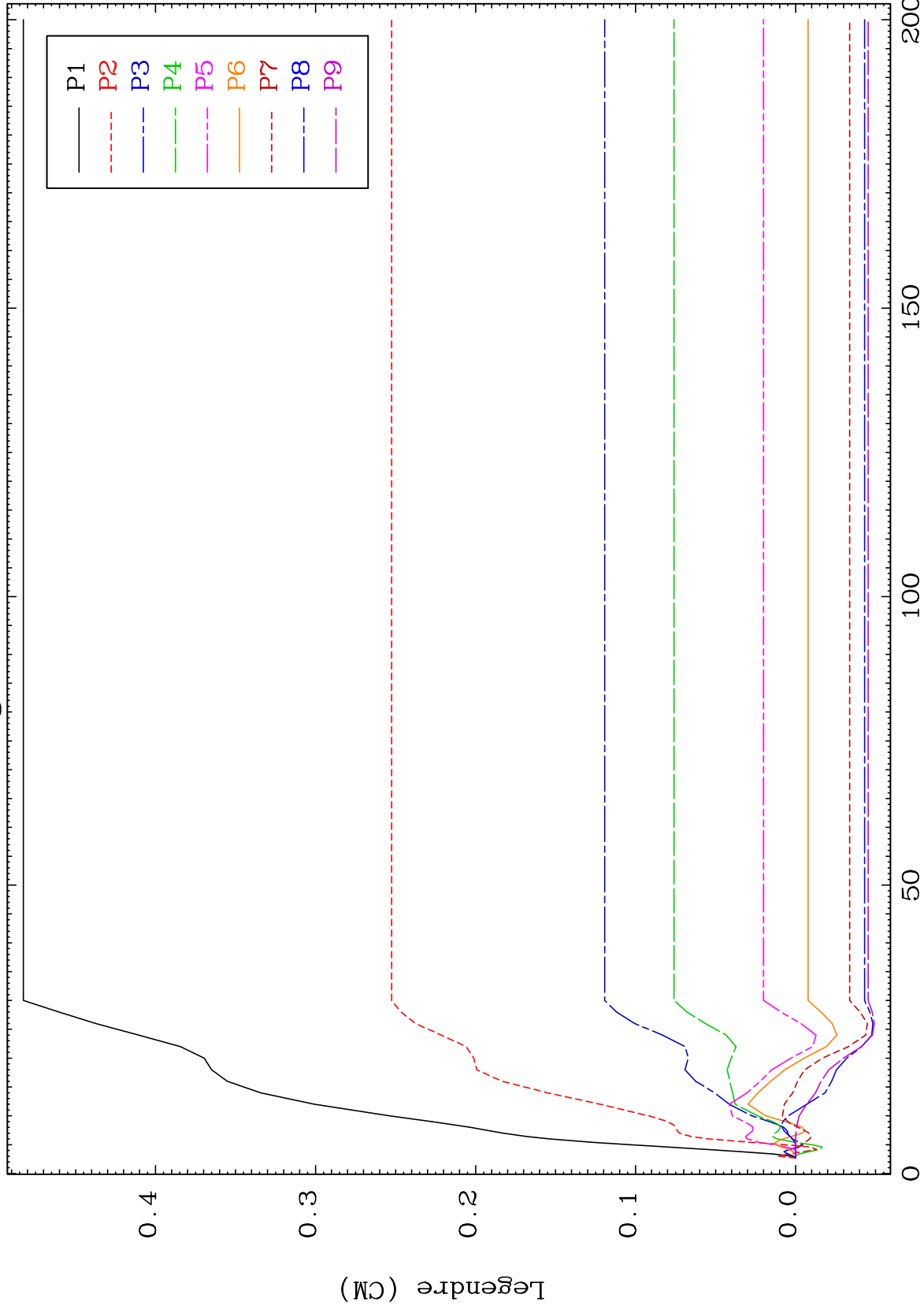
41-Nb-97



MAT 4137

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

41-Nb-97



116

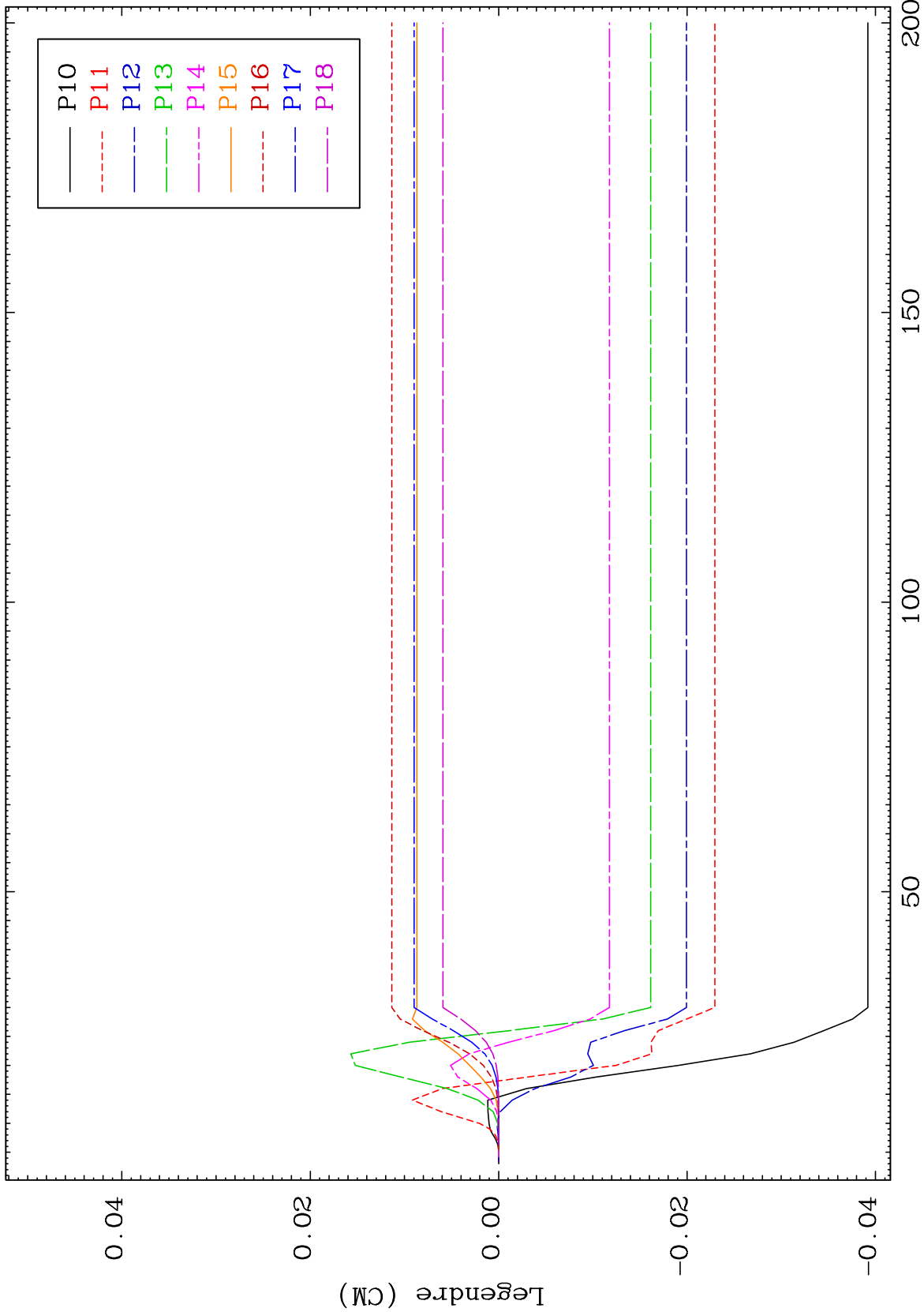
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



117

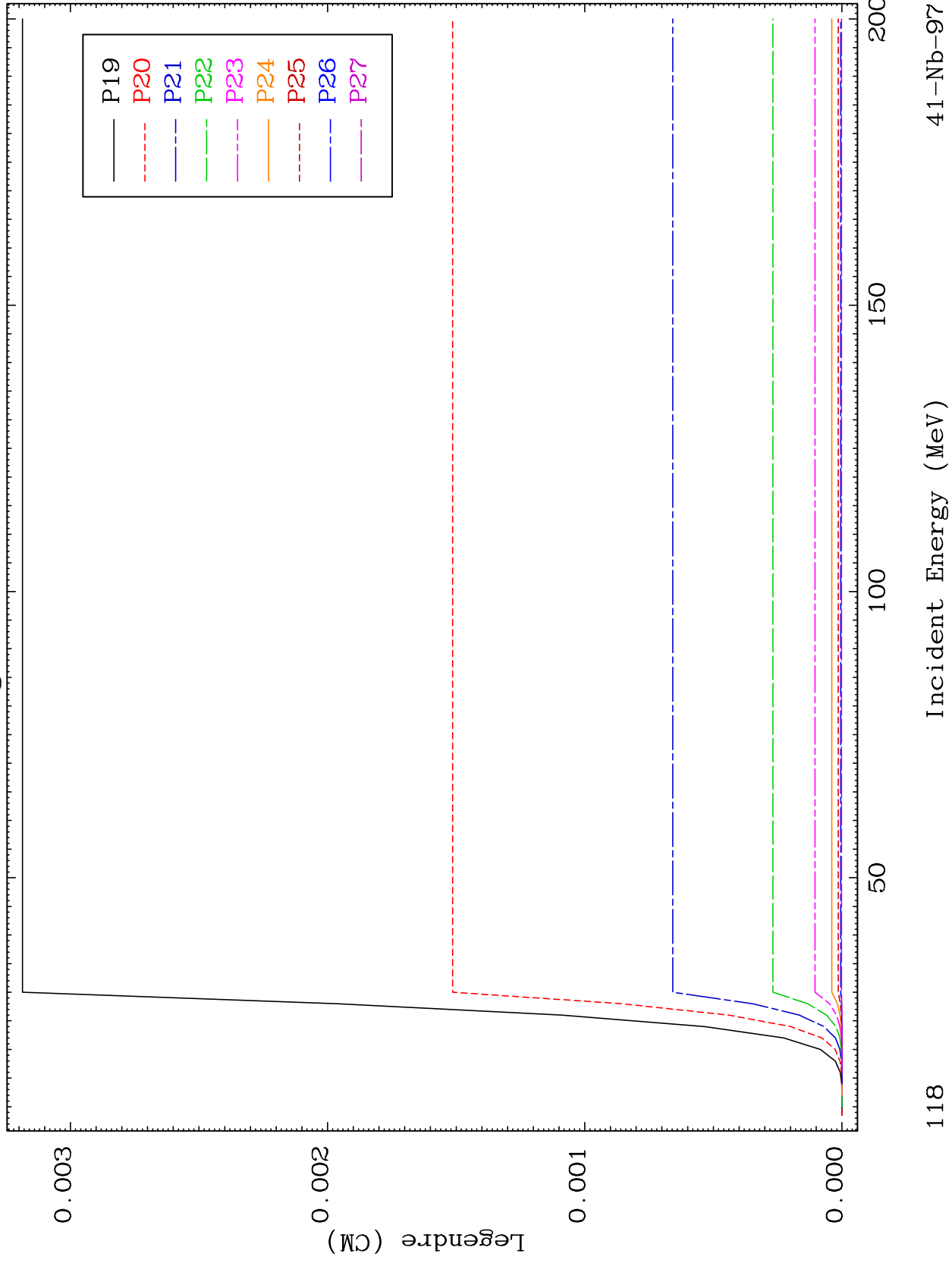
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

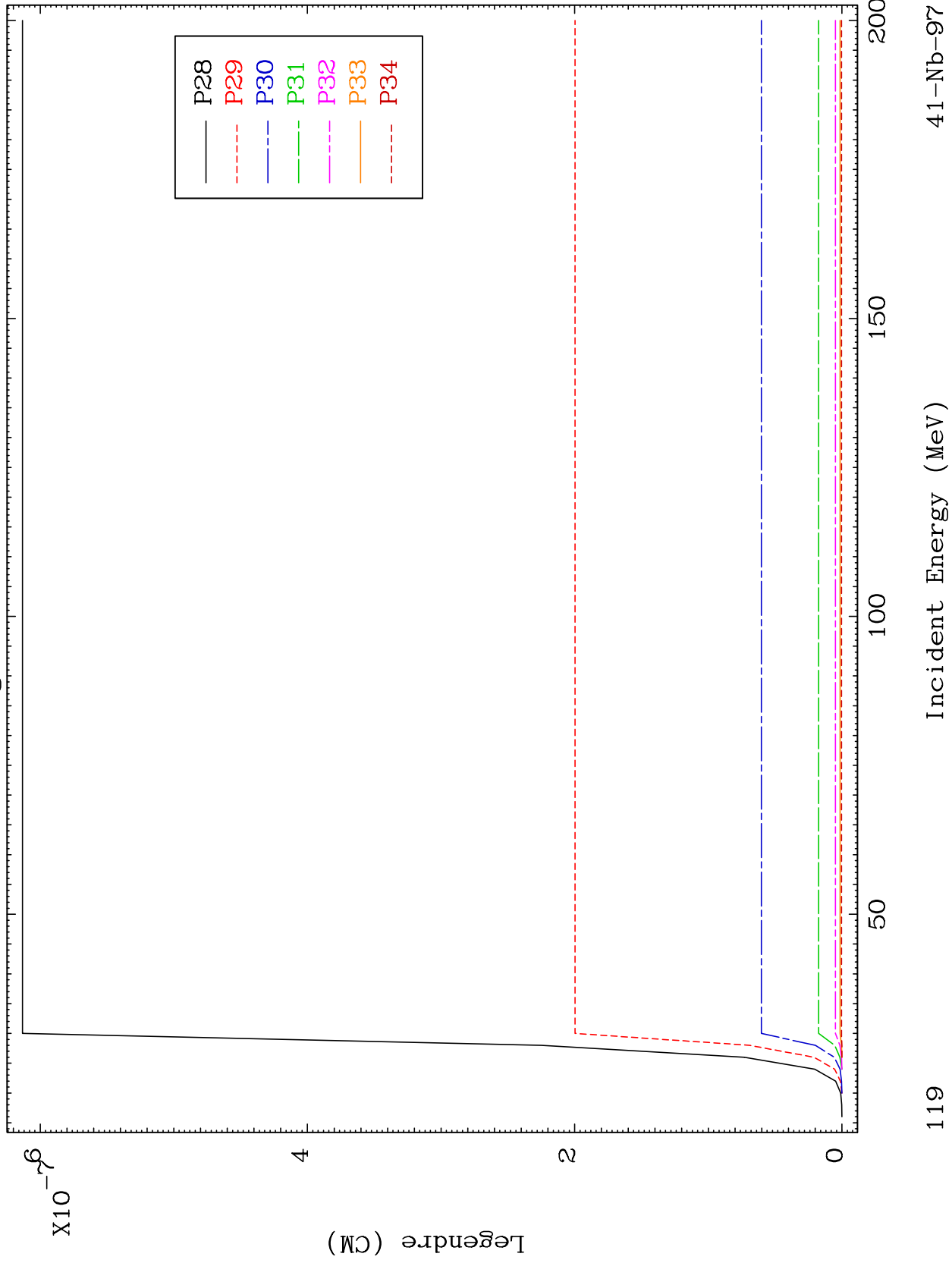
41-Nb-97



MAT 4137

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

41-Nb-97

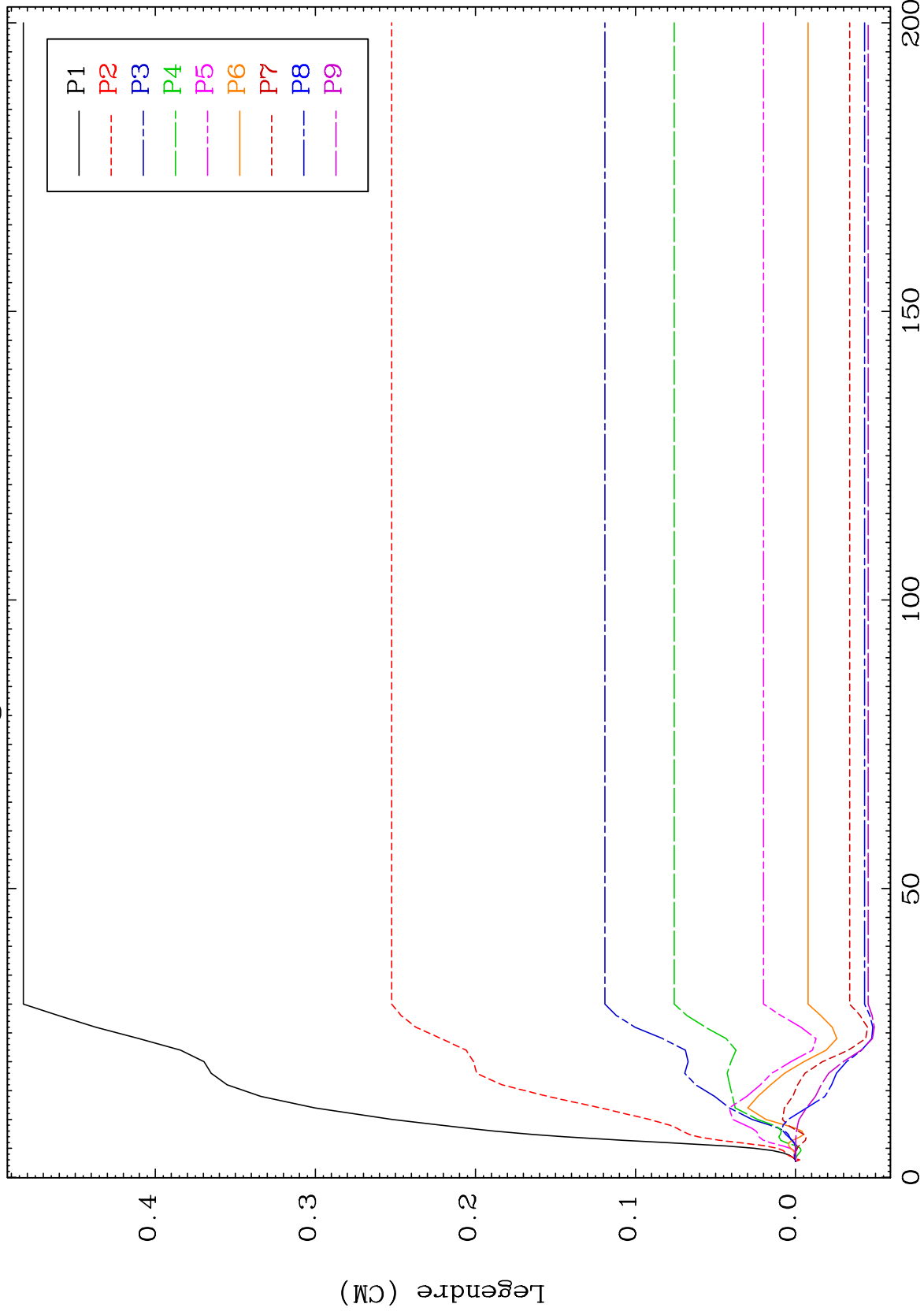


119

MAT 4137

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

41-Nb-97



120

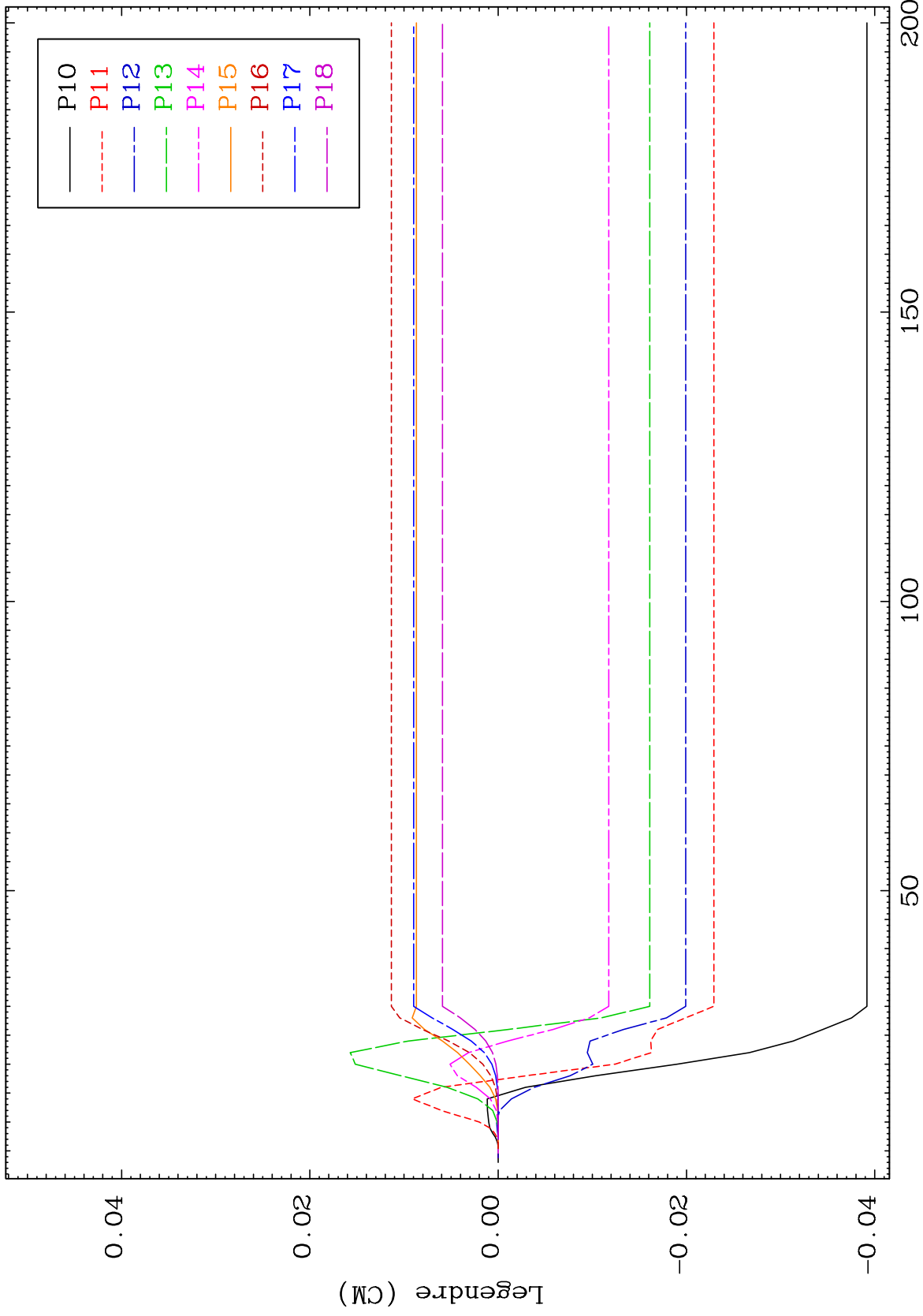
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



121

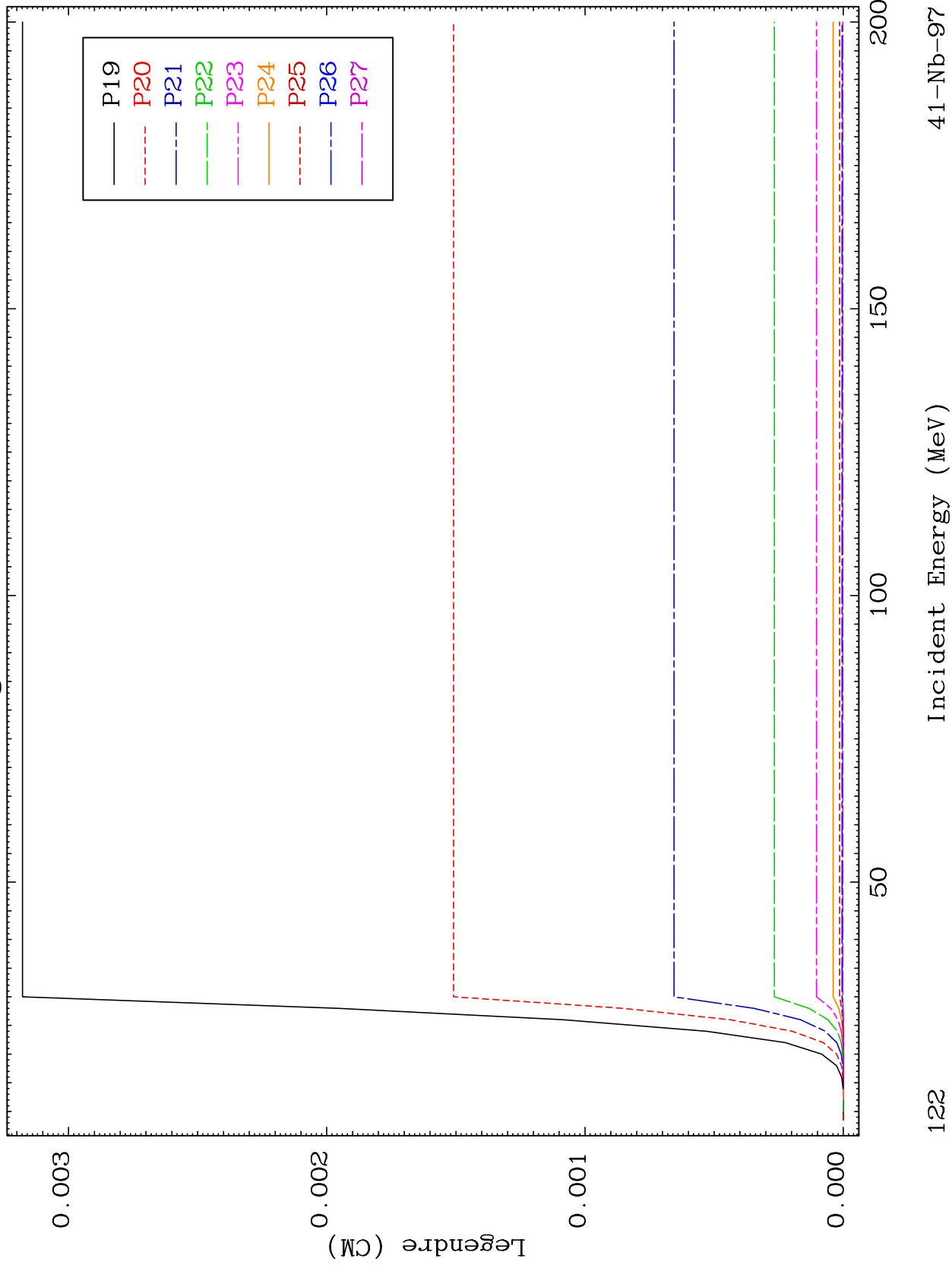
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



122

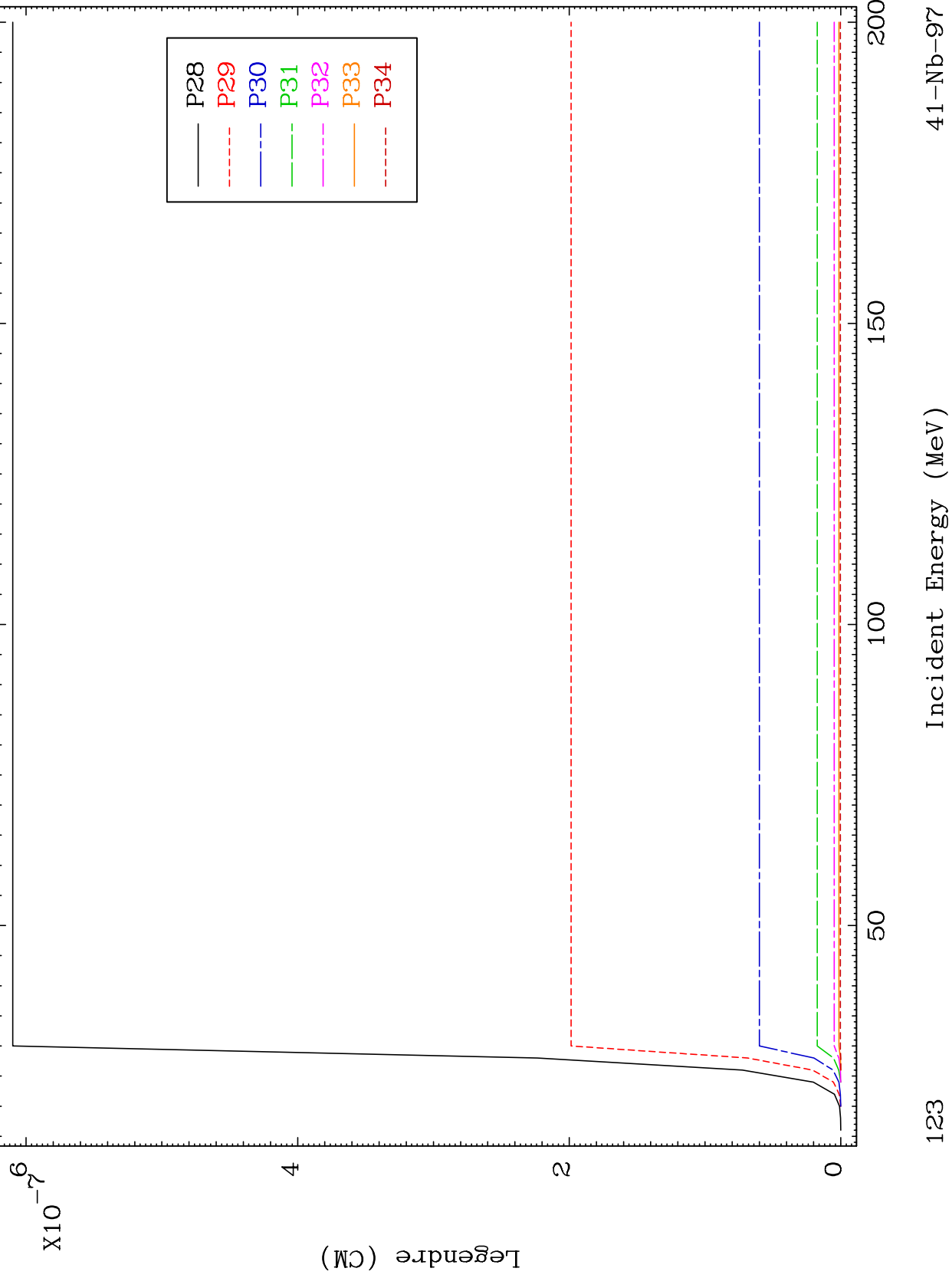
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



123

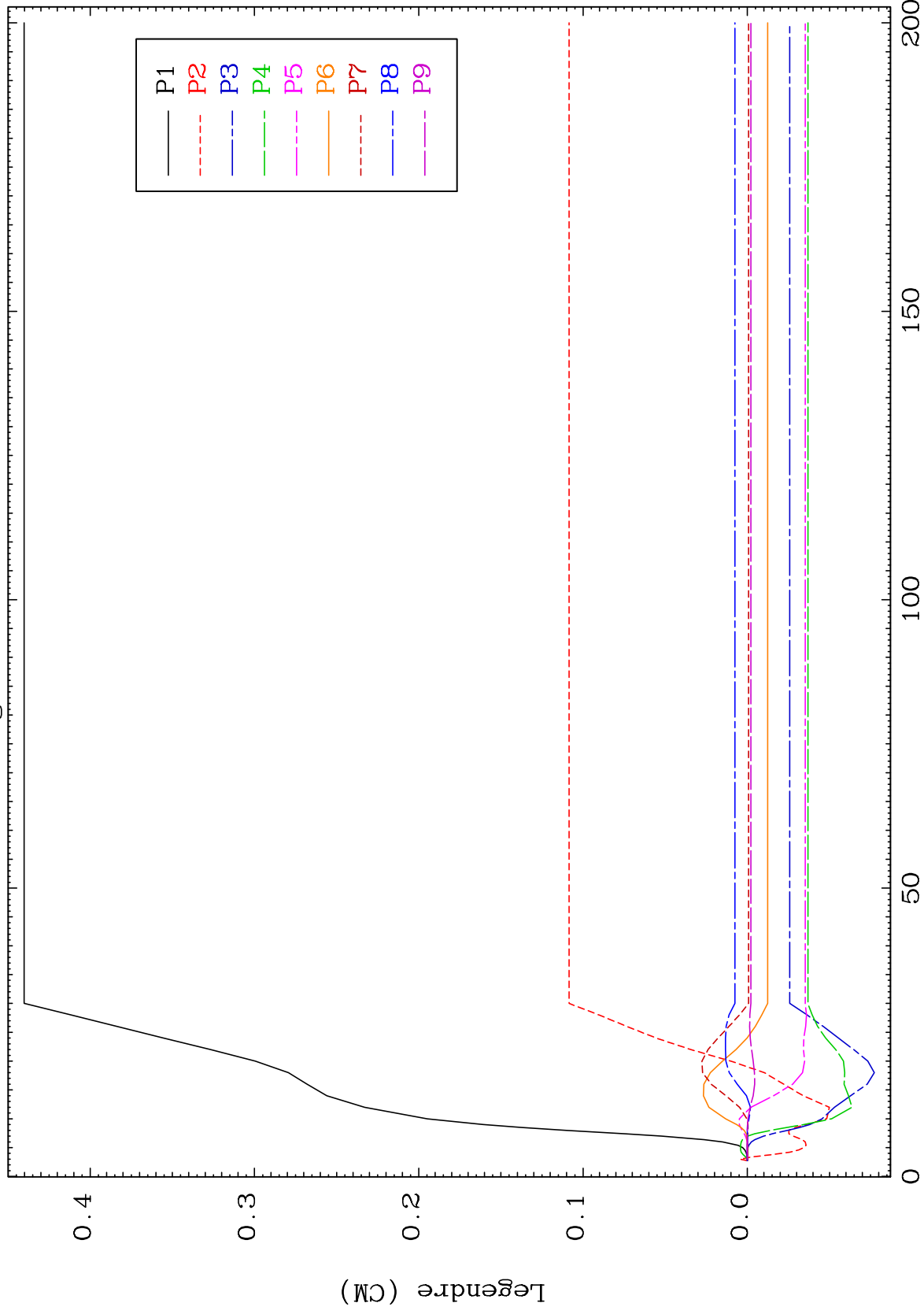
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

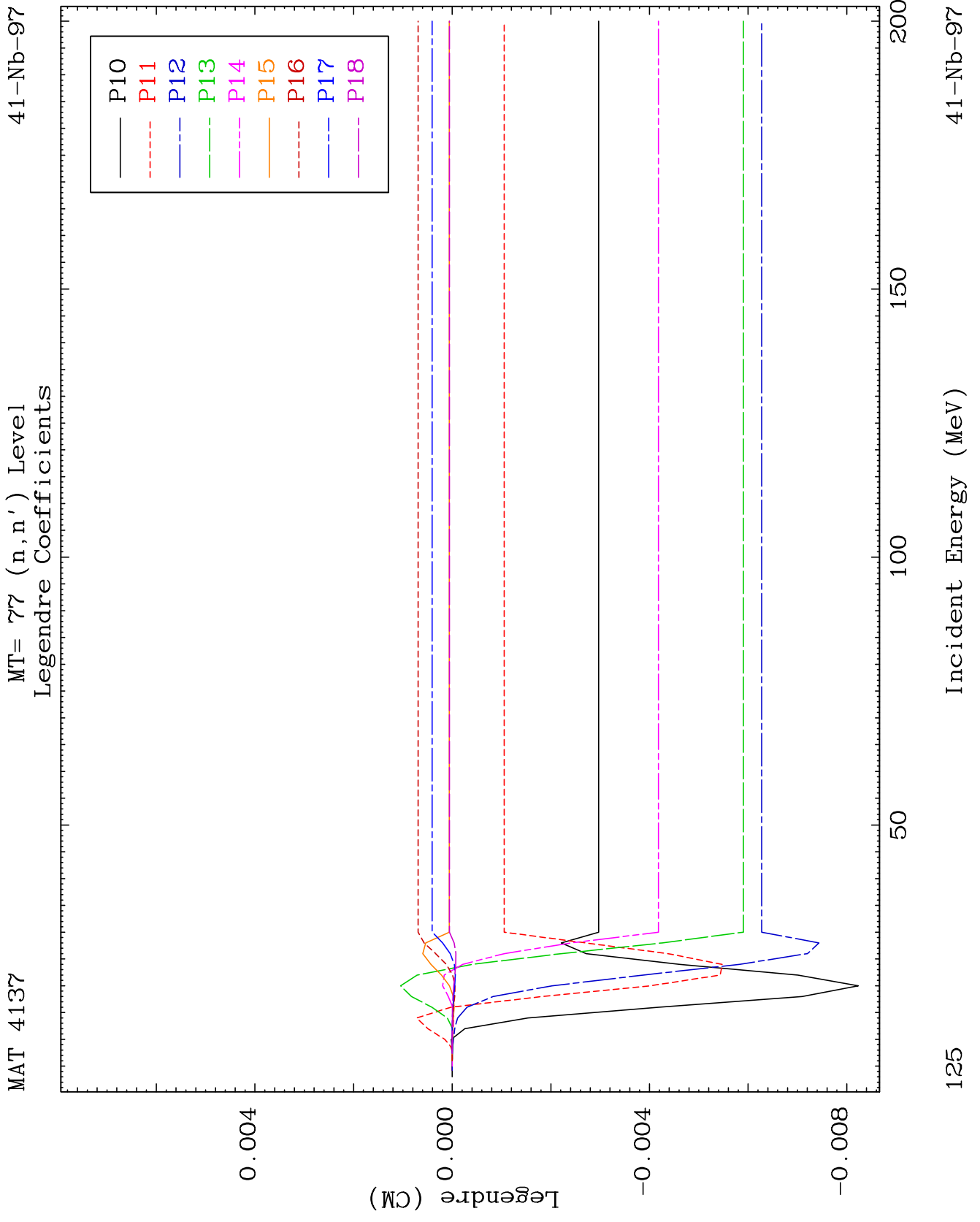
41-Nb-97



124

Incident Energy (MeV)

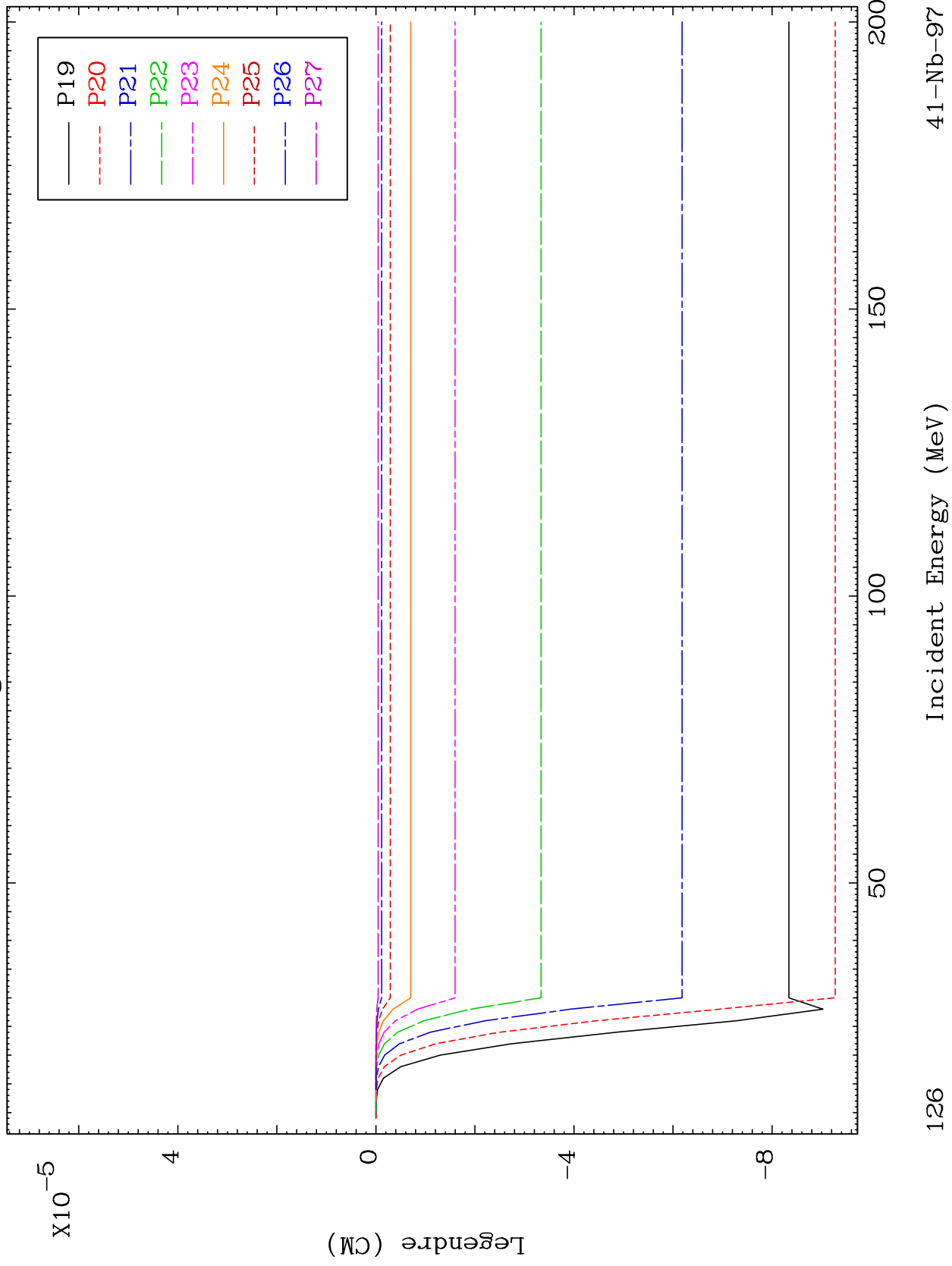
41-Nb-97



MAT 4137

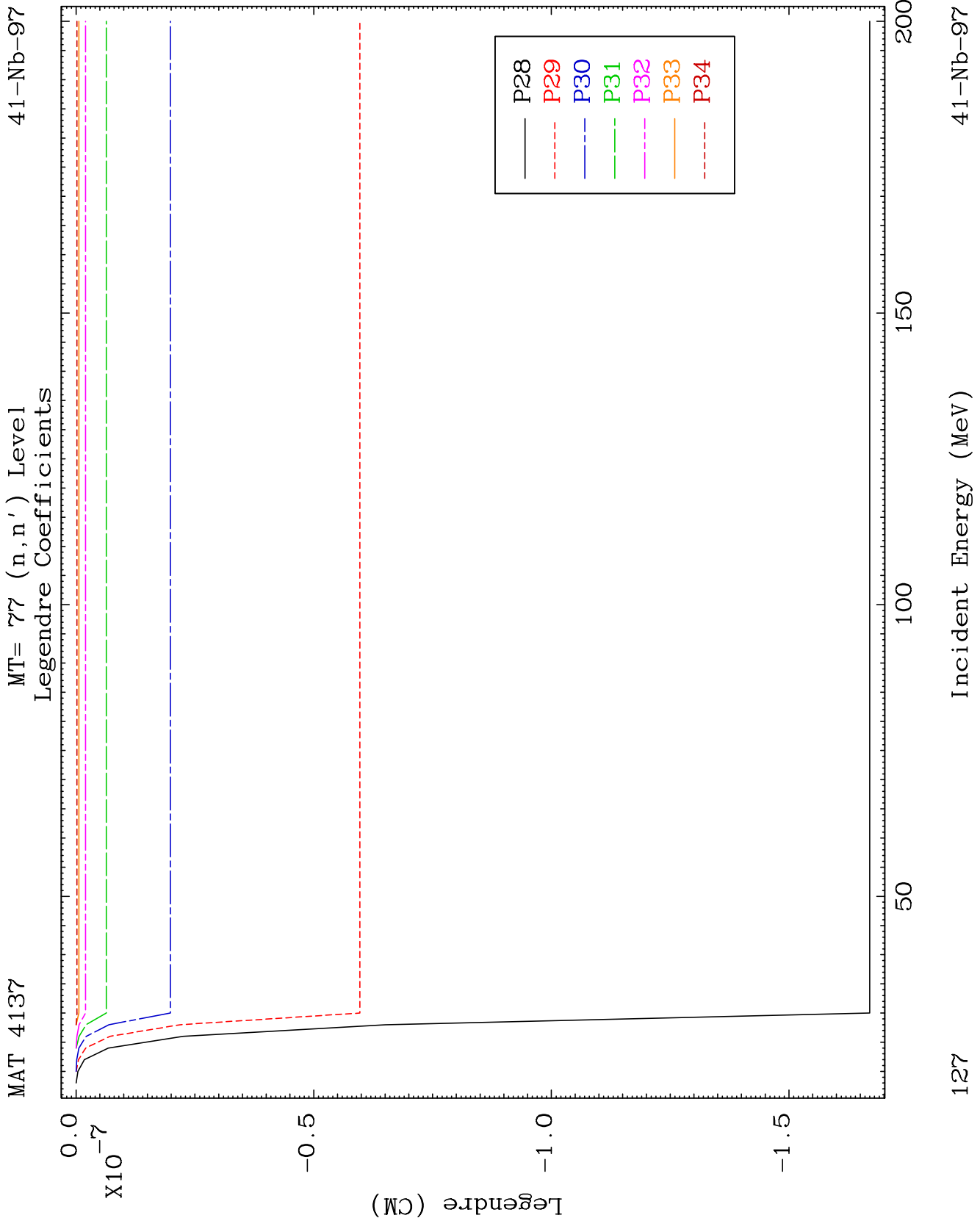
MT= 77 (n,n') Level  
Legendre Coefficients

41-Nb-97



126

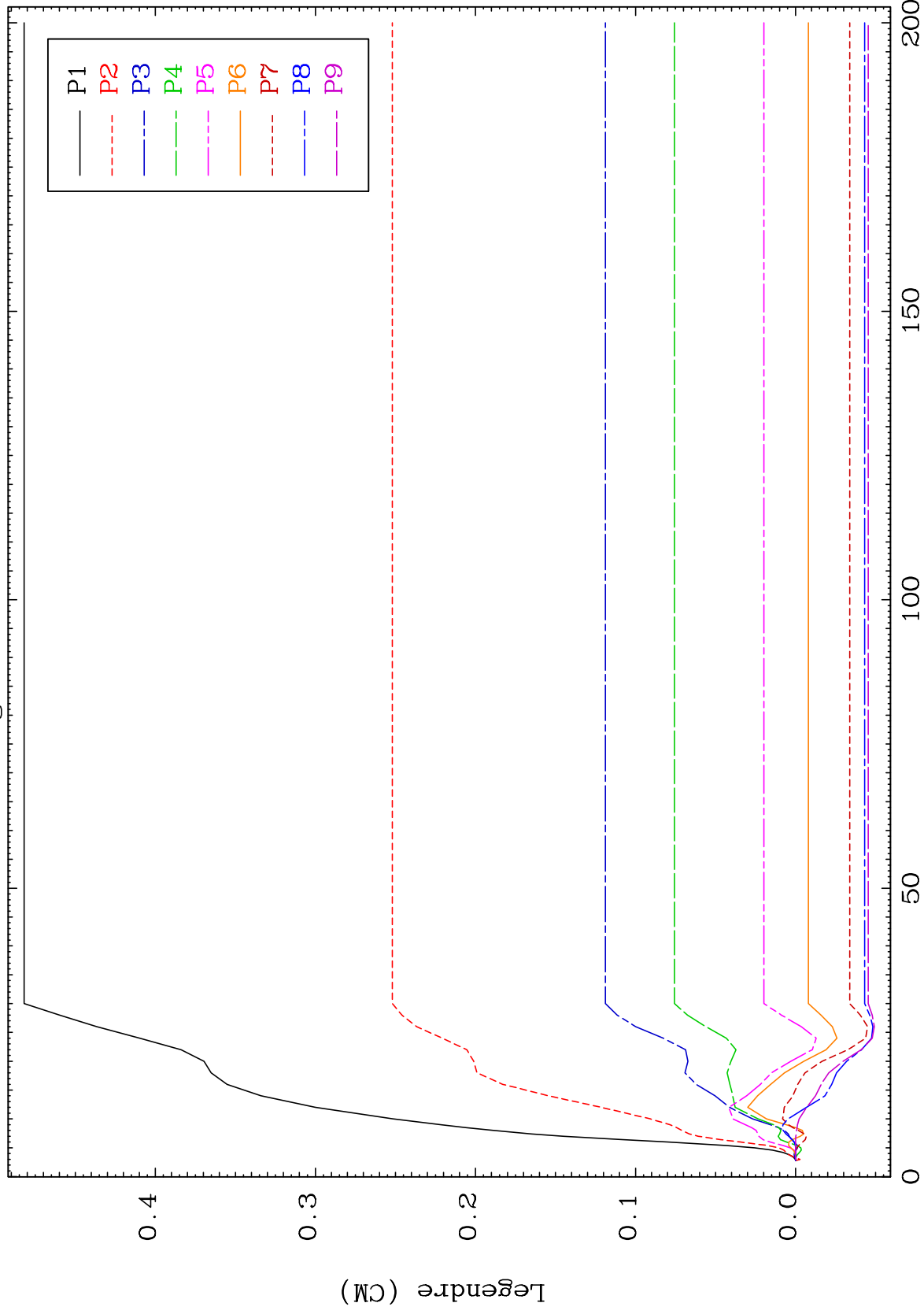
41-Nb-97



MAT 4137

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

41-Nb-97



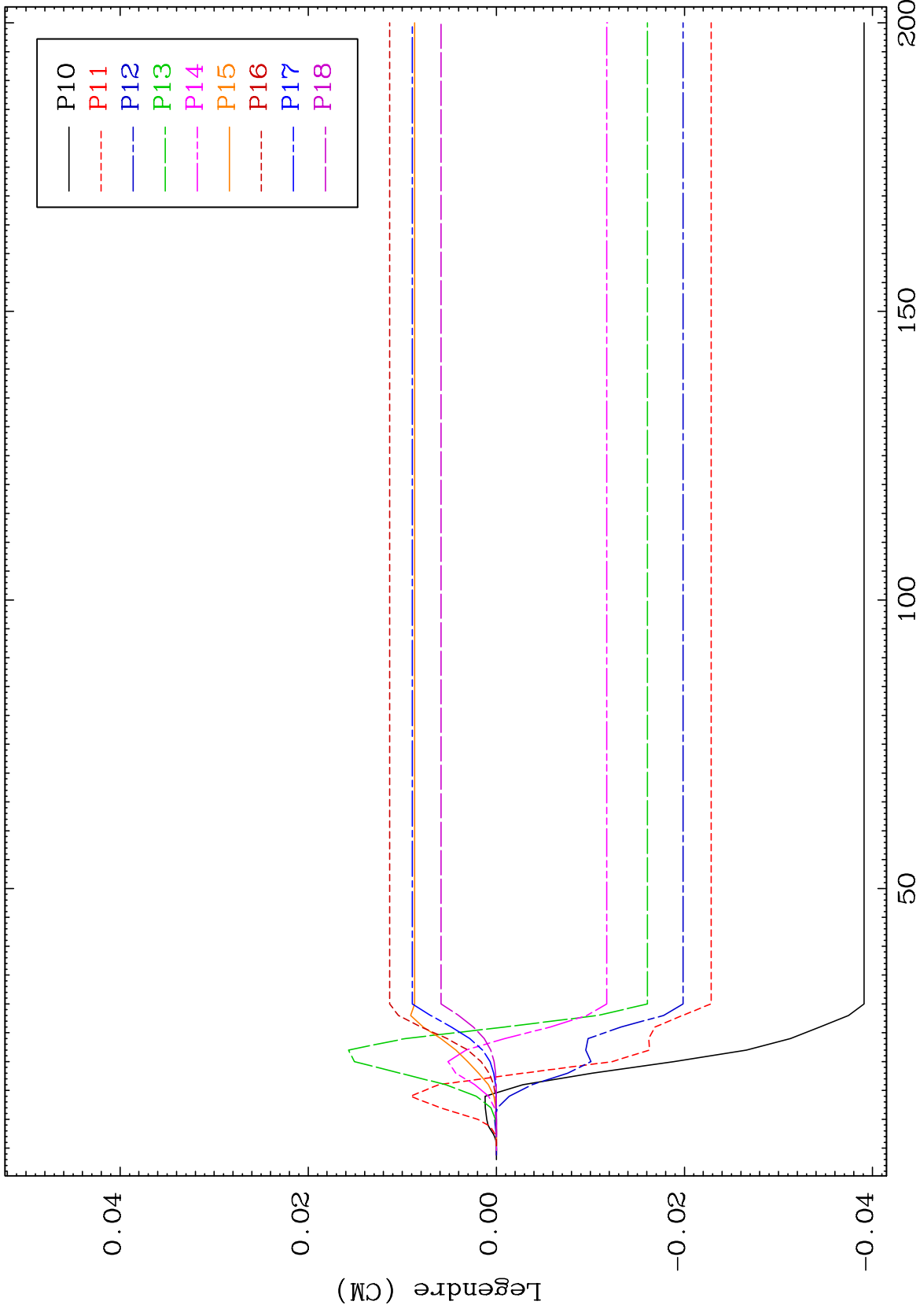
128

41-Nb-97

MAT 4137

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

41-Nb-97



129

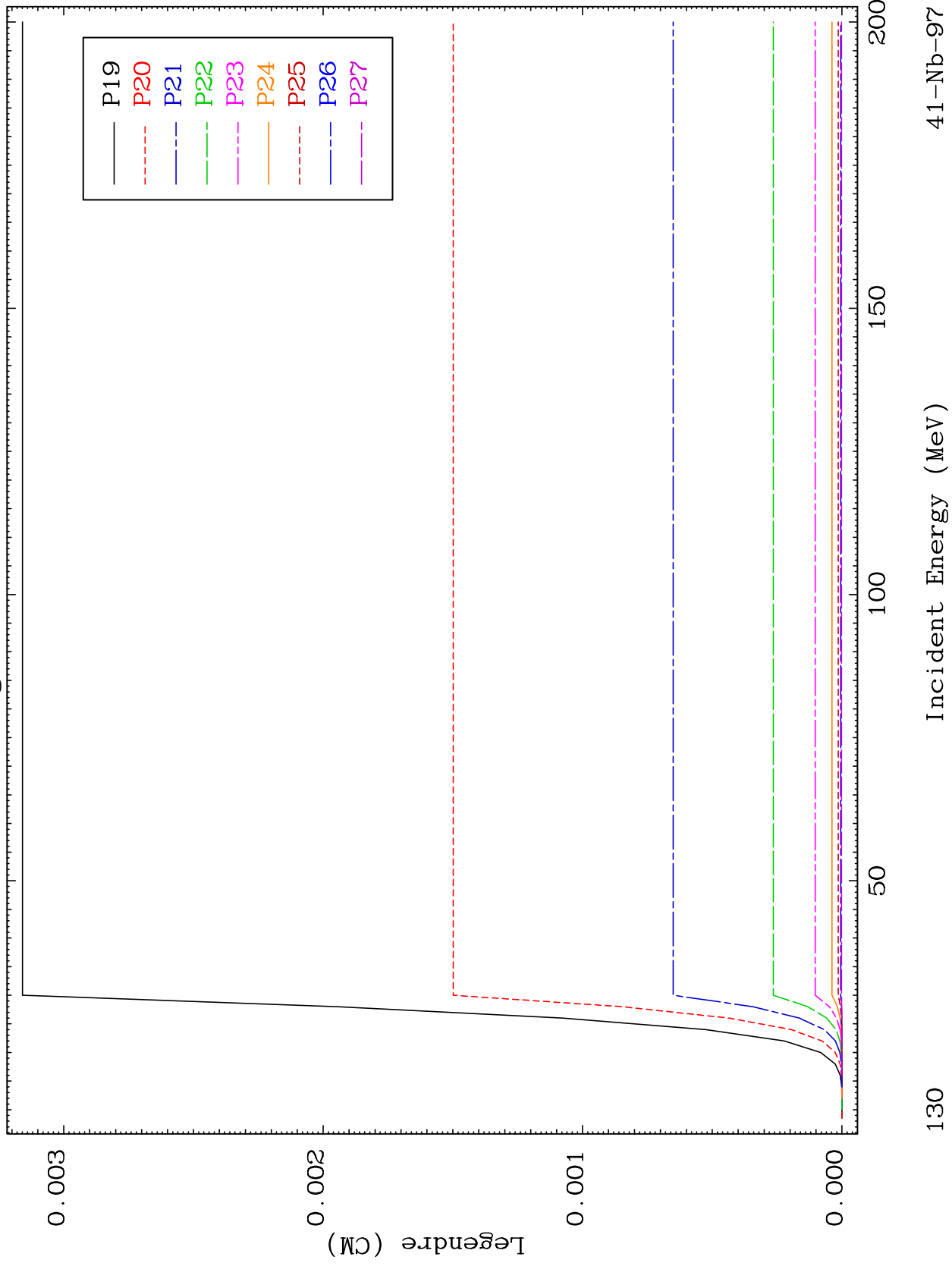
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



130

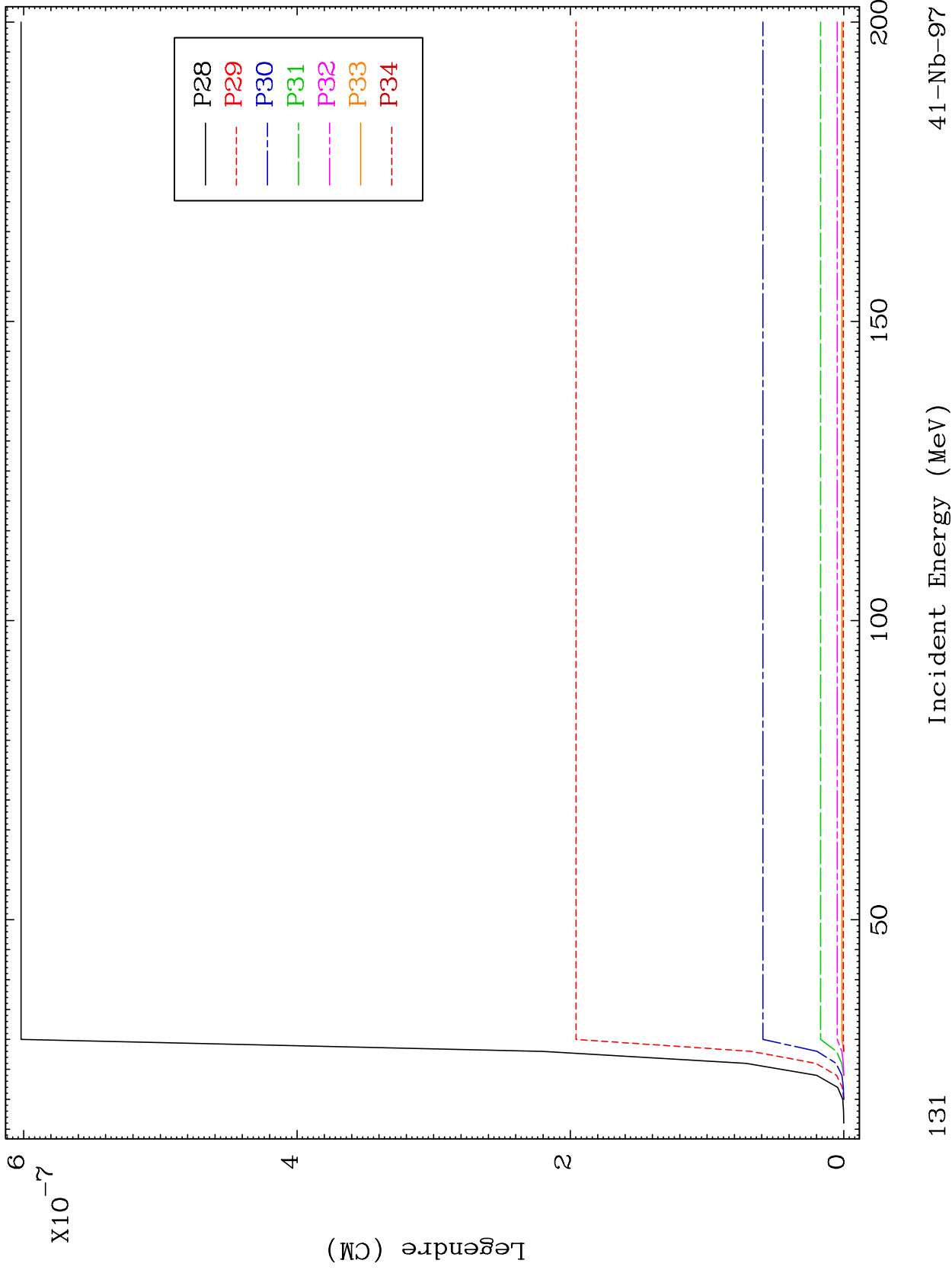
Incident Energy (MeV)

41-Nb-97

MAT 4137

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

41-Nb-97



131

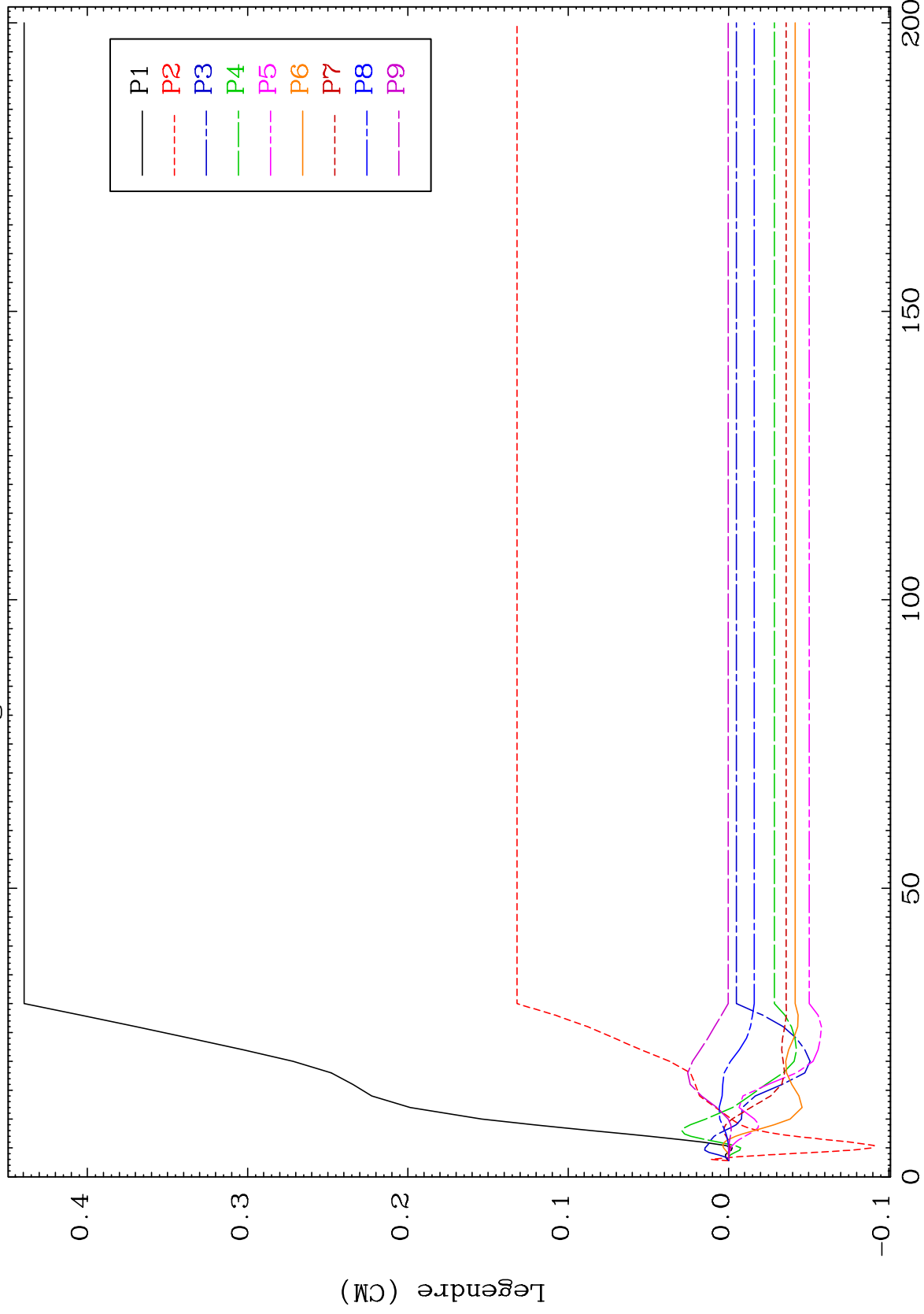
Incident Energy (MeV)

41-Nb-97

MAT 4137

MT= 79 (n,n') Level  
Legendre Coefficients

41-Nb-97



132

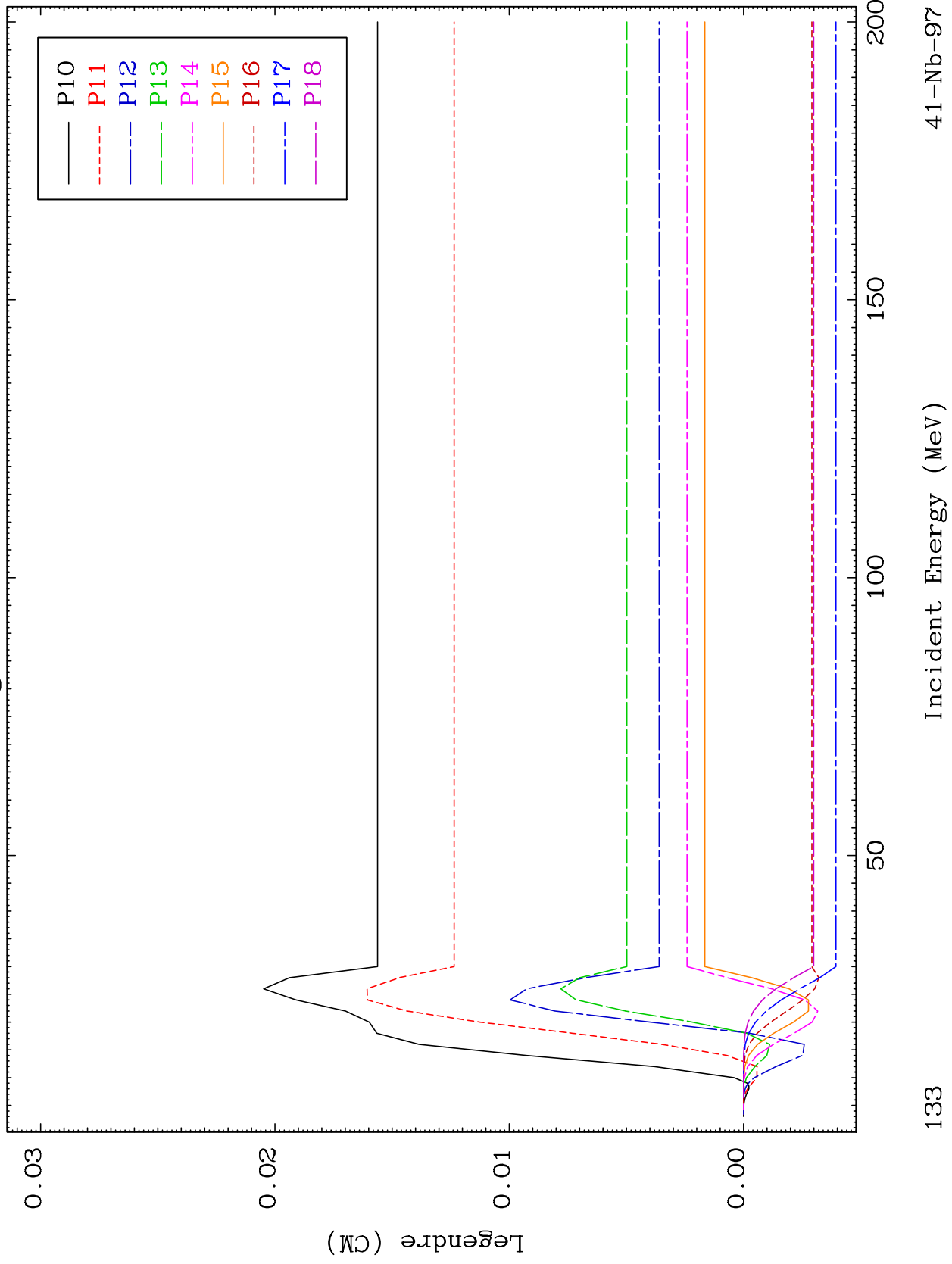
Incident Energy (MeV)

41-Nb-97

MAT 4137

MT= 79 (n,n') Level  
Legendre Coefficients

41-Nb-97



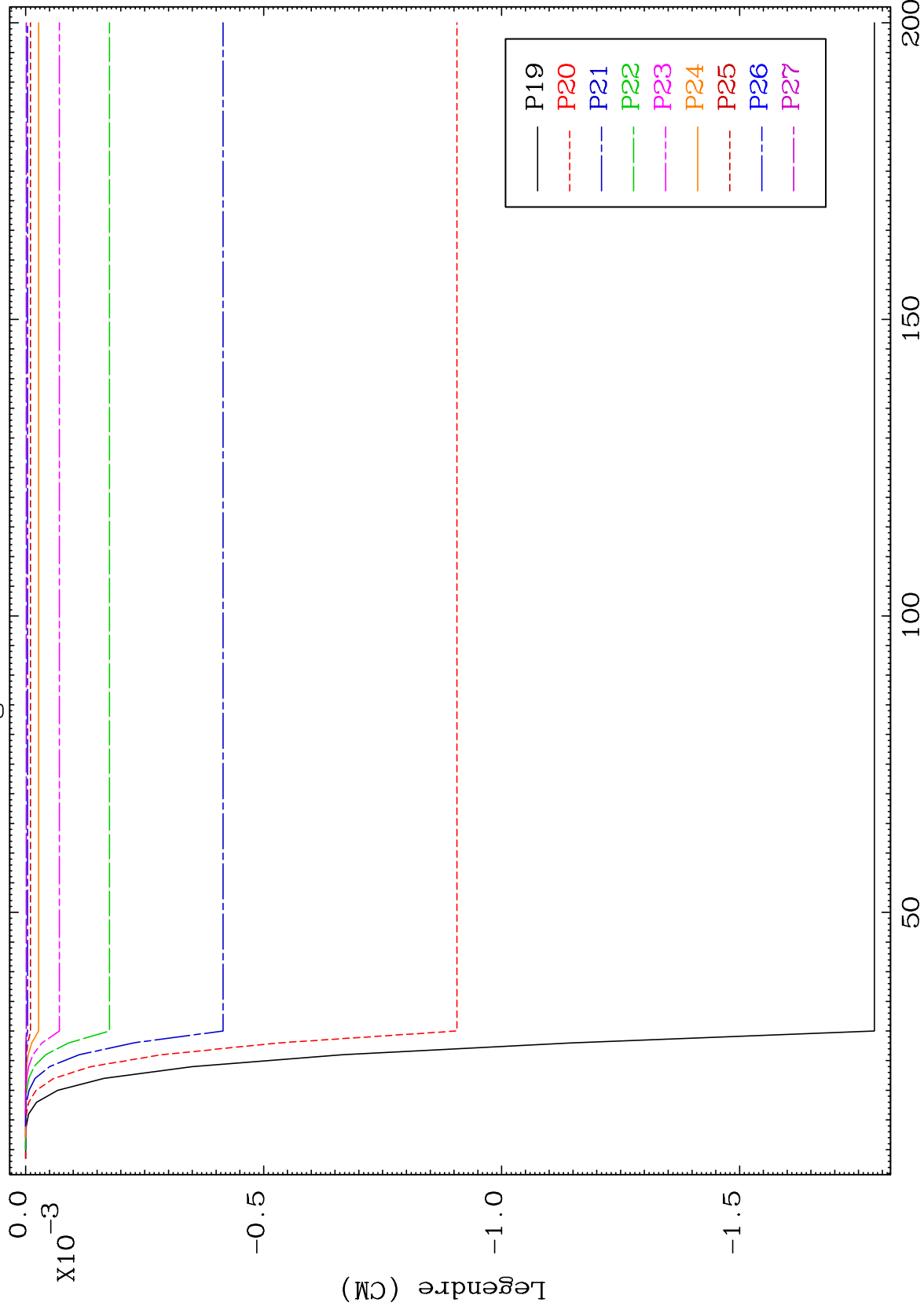
133

41-Nb-97

MAT 4137

MT= 79 (n,n') Level  
Legendre Coefficients

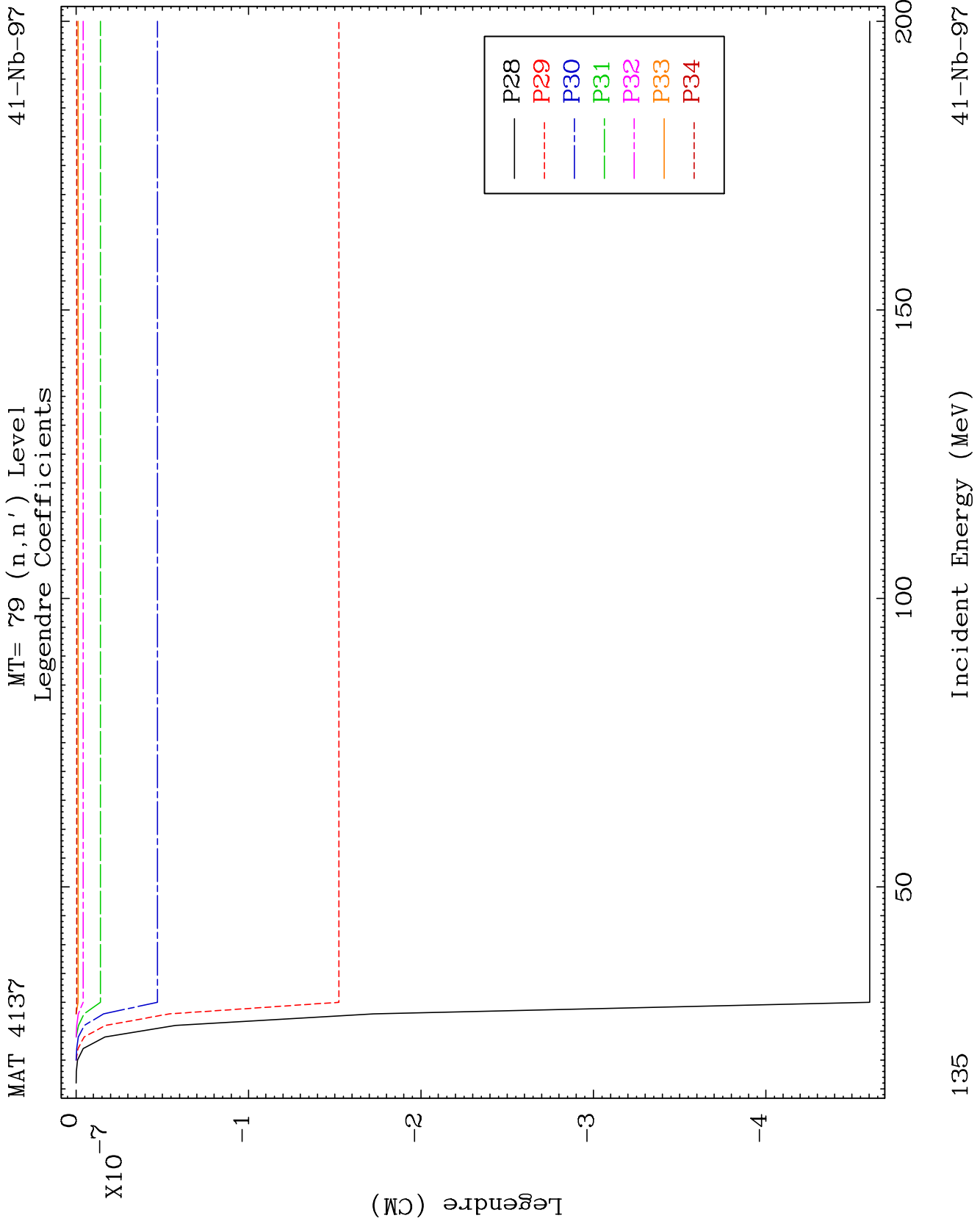
41-Nb-97



134

Incident Energy (MeV)

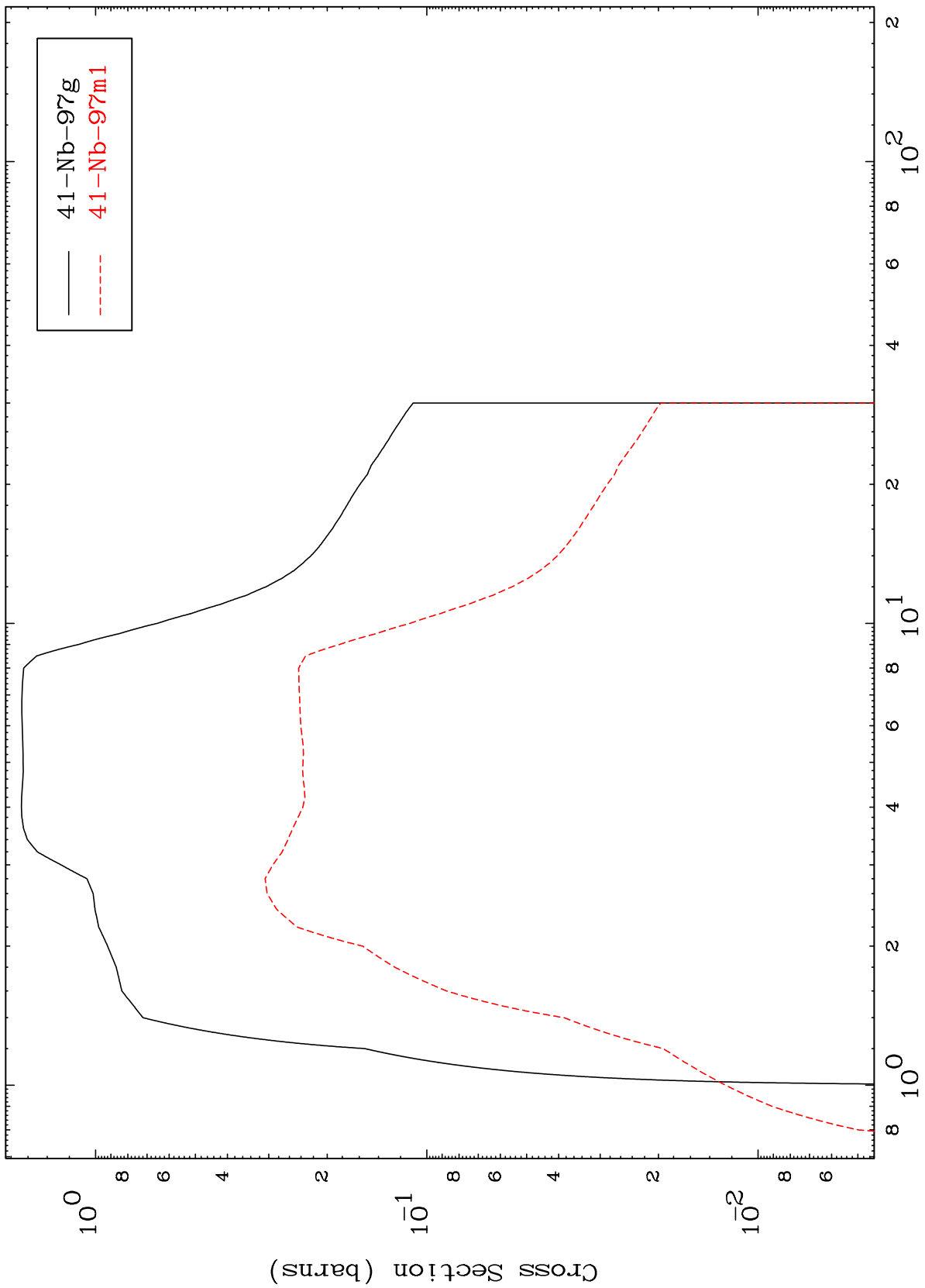
41-Nb-97



MAT 4137

41-Nb-97

Inelastic  
Radionuclide Production Cross Section



136

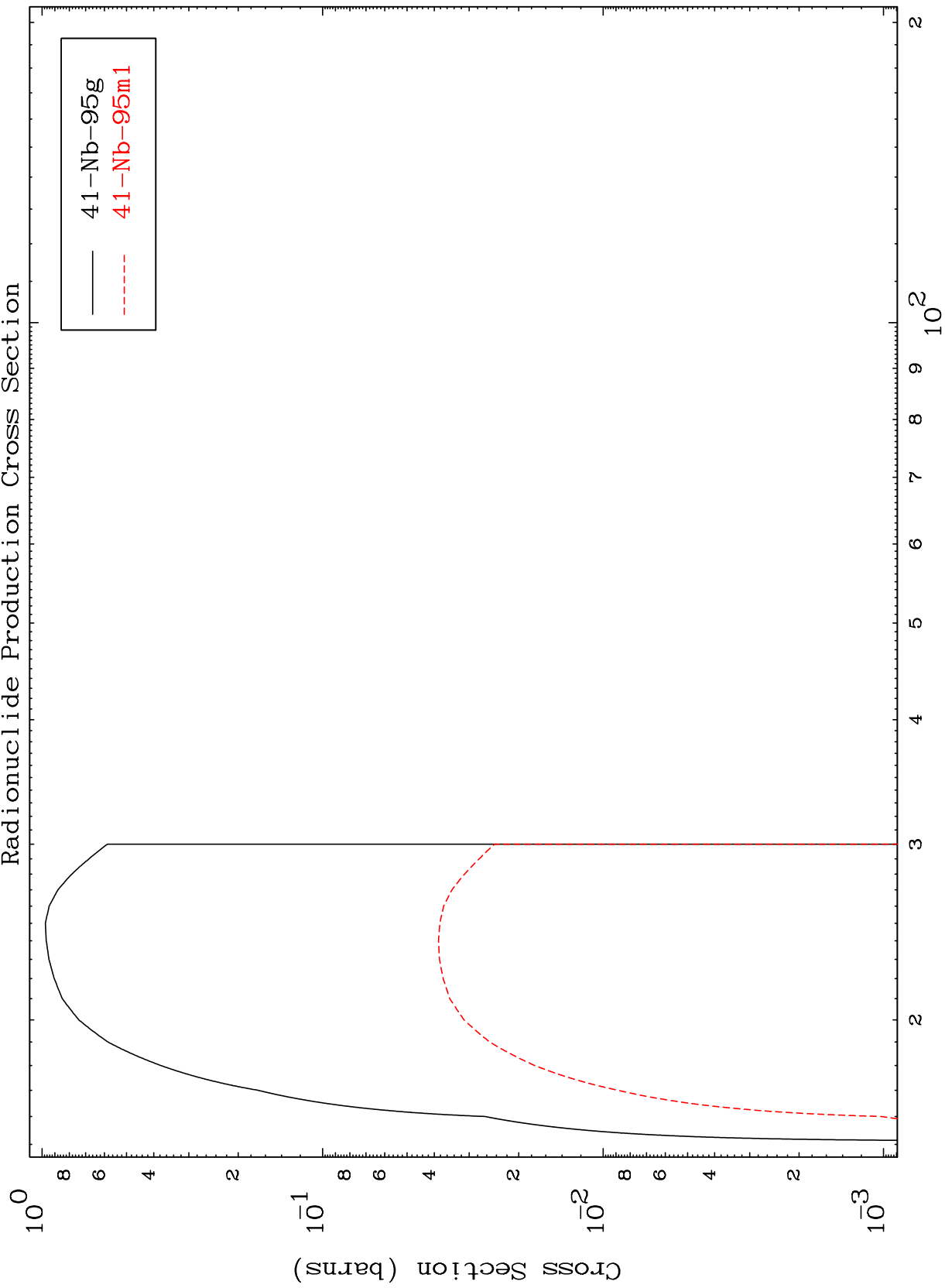
Incident Energy (MeV)

41-Nb-97

MAT 4137

41-Nb-97

(n,3n)  
Radionuclide Production Cross Section



137

Incident Energy (MeV)

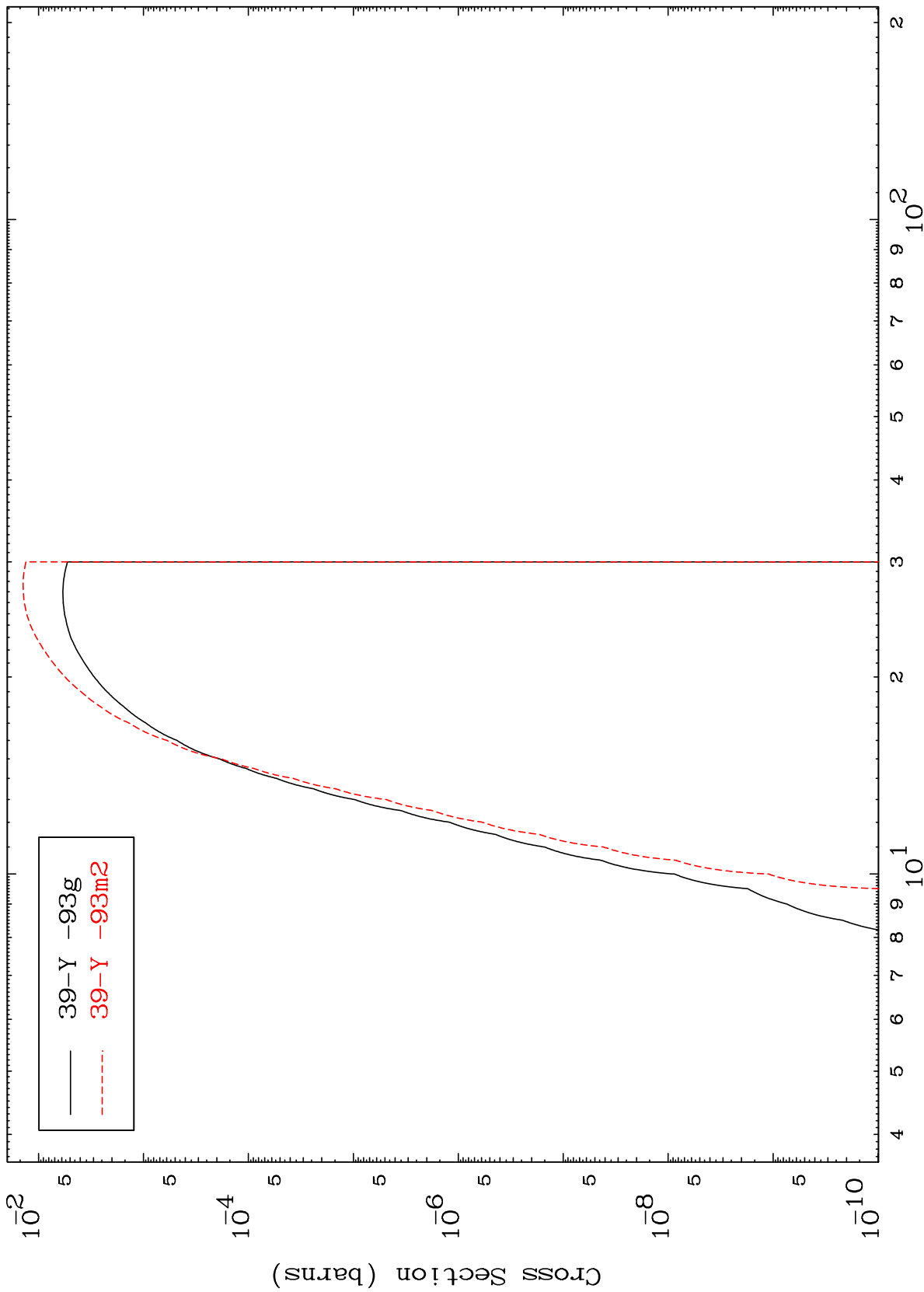
41-Nb-97

MAT 4137

(n,n')  $\alpha$

41-Nb-97

Radionuclide Production Cross Section



138

Incident Energy (MeV)

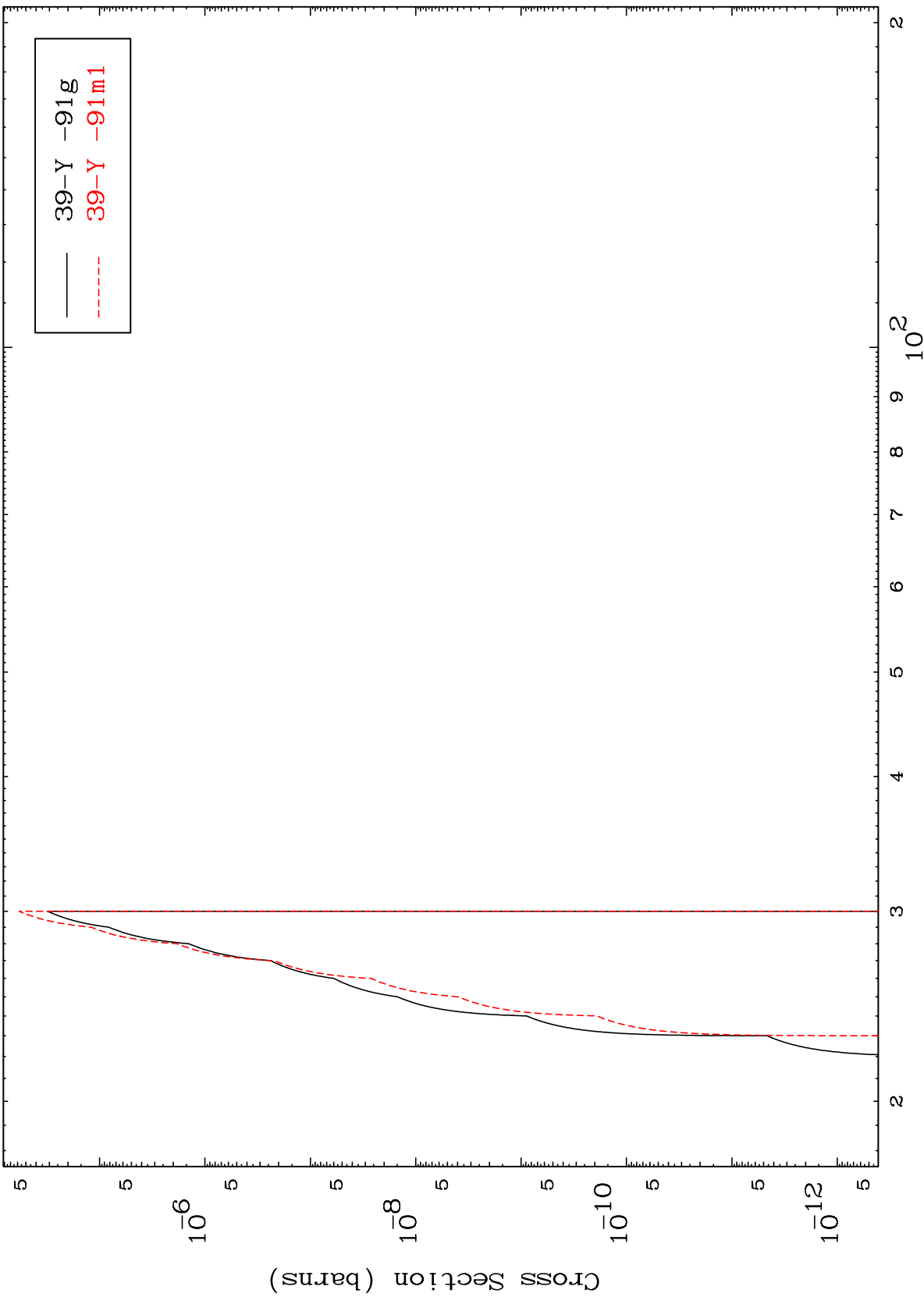
41-Nb-97

MAT 4137

(n,3n)  $\alpha$

41-Nb-97

Radionuclide Production Cross Section



139

Incident Energy (MeV)

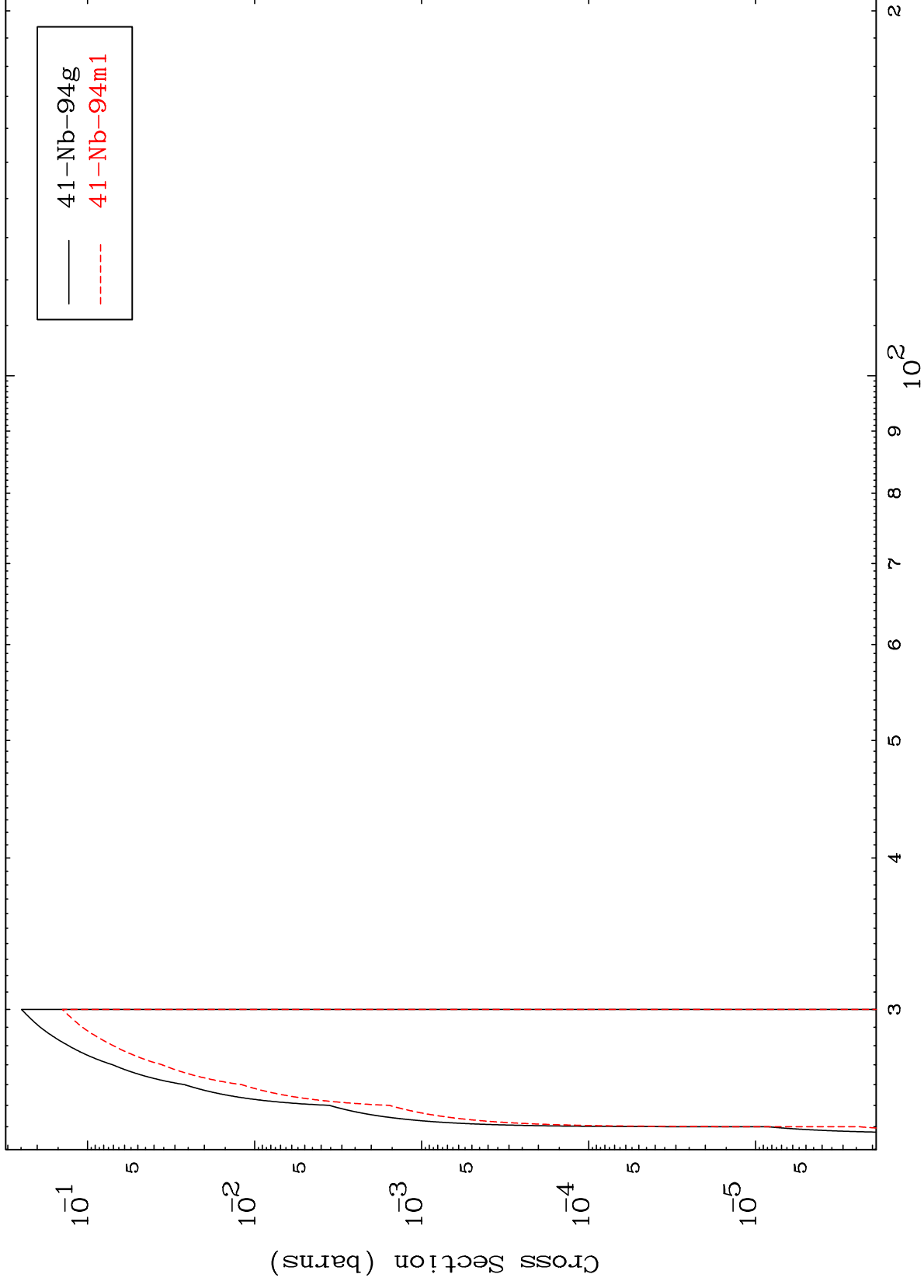
41-Nb-97

MAT 4137

(n,4n)

41-Nb-97

Radionuclide Production Cross Section



140

Incident Energy (MeV)

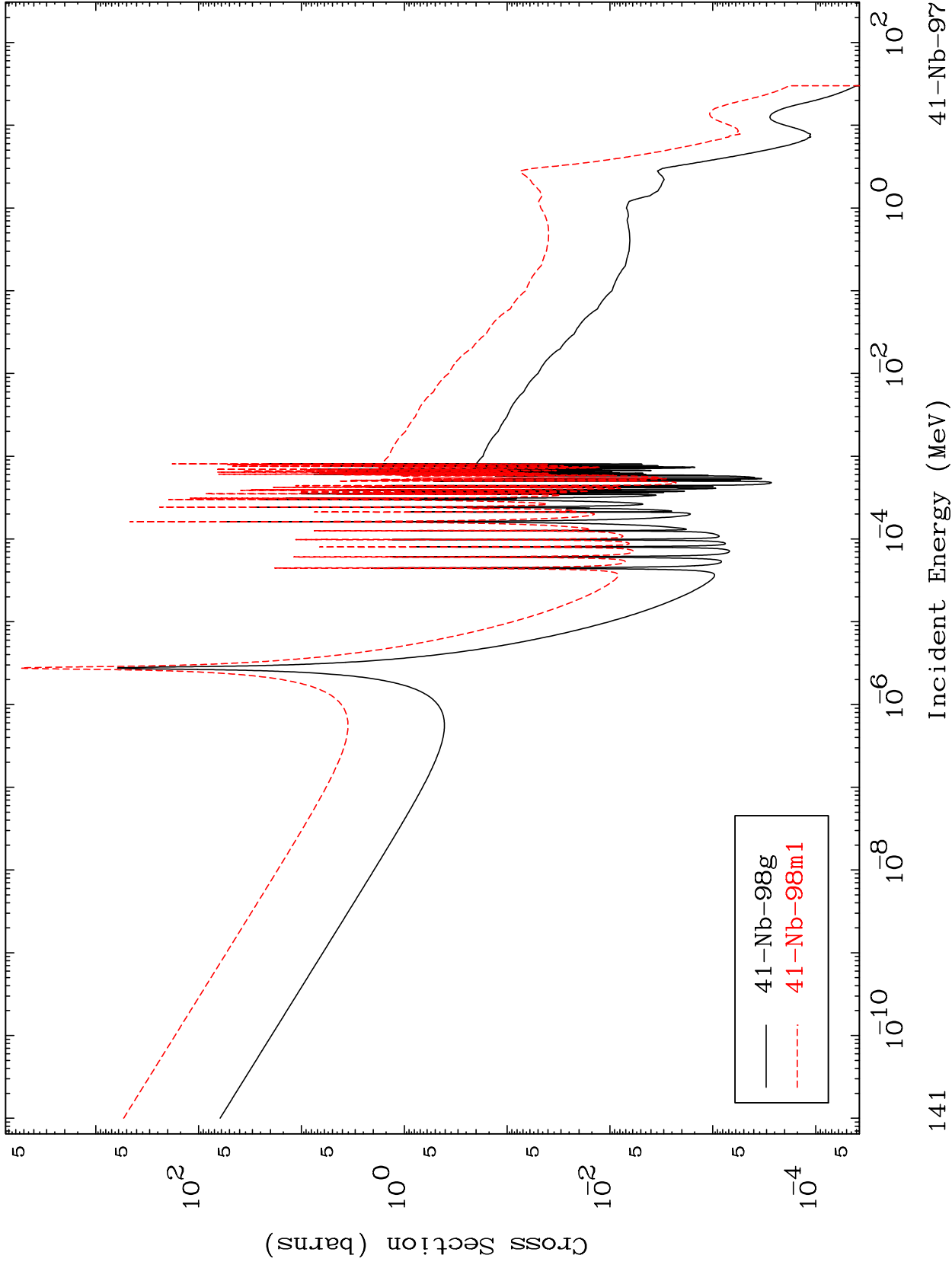
41-Nb-97

MAT 4137

41-Nb-97

Radionuclide Production Cross Section

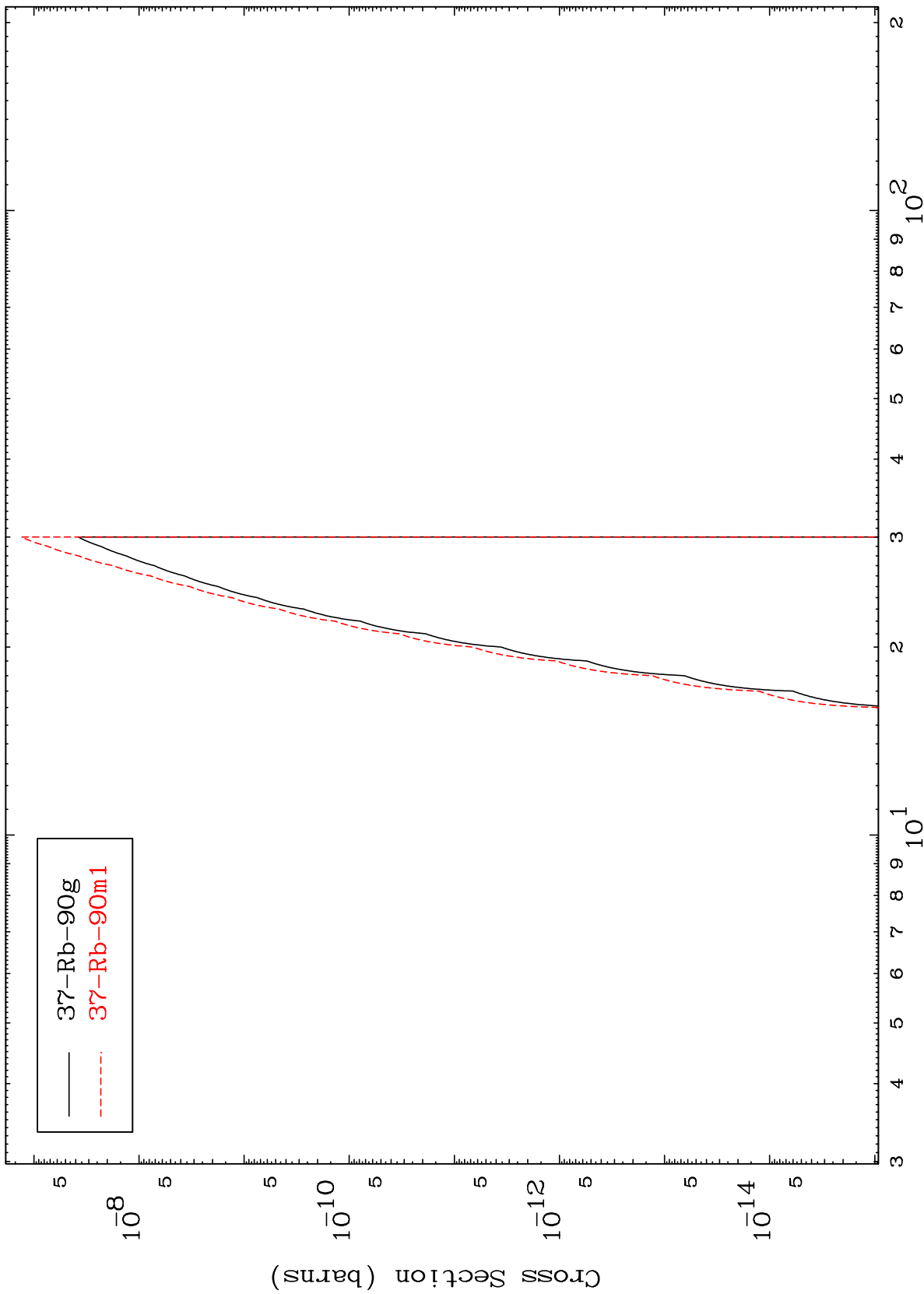
(n,  $\gamma$ )



MAT 4137

41-Nb-97

(n,2α)  
Radionuclide Production Cross Section



41-Nb-97

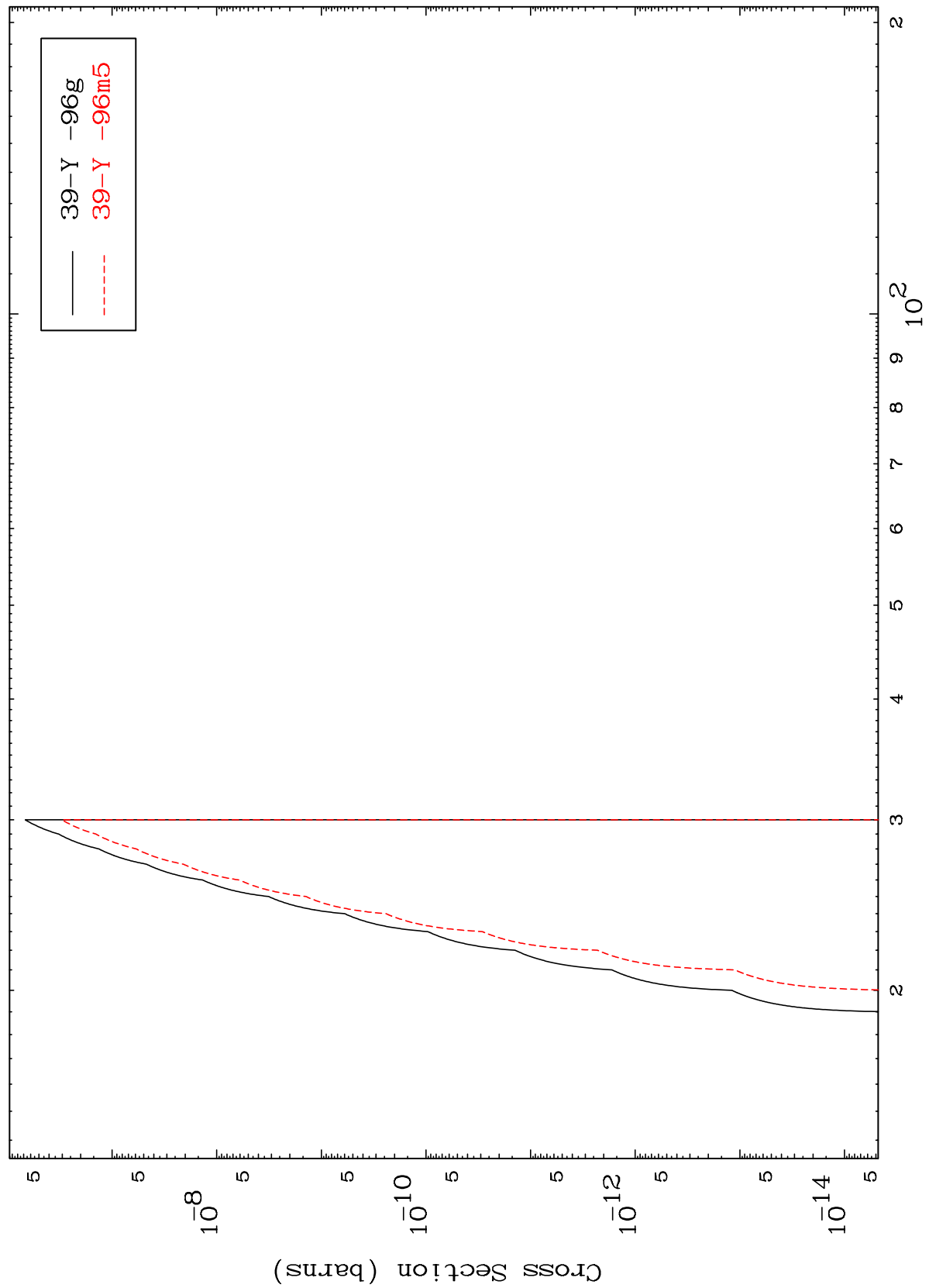
Incident Energy (MeV)

142

MAT 4137

41-Nb-97

(n,2p)  
Radionuclide Production Cross Section



143

41-Nb-97

Incident Energy (MeV)