

$^{158}\text{Gd}(\text{t,p})$ 1986Lo15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 176, 1 (2021)	1-May-2021

Additional information 1.

Enriched (81% ^{158}Gd) target, $E(\text{t})=17$ MeV, magnetic spectrograph and photographic emulsions. Resolution ≈ 25 keV. Measured energy spectra and $d\sigma/d\Omega$ at $\theta=6.5^\circ$ and from $\theta=10^\circ$ to $\theta=70^\circ$ at 5° intervals. DWBA analysis.

Uncertainties in the relative cross sections are $\approx 10\%$ for strong peaks. Absolute uncertainties are believed to be $\approx 20\%$.

 ^{160}Gd Levels

E(level) [†]	J ^π #	L	$d\sigma/d\Omega(\mu\text{b/sr})^{\ddagger}$	Comments
0@	0 ⁺	0	233	
76@	2 ⁺		21	
253@	4 ⁺		7	
512@	6 ⁺		4	
913			9	
991&	2 ⁺		4	
1057&	3 ⁺		3	
1151&	4 ⁺		23	
1299	3 ⁻		13	J^π : reported as (3 ⁻) by 1986Lo15.
1382	0 ⁺	0	22	
1694	(3 ⁻)		6	J^π : 1986Lo15 do not report a J^π value for this level.
2139			9	
2236	(0 ⁺)	(0)	9	J^π : from 1986Lo15. It is not clear to which of the ^{160}Gd Adopted Levels this peak corresponds.
2350			12	
2410			14	

[†] Absolute uncertainties in the level energies are ≈ 7 keV.

[‡] Values at $\theta=30^\circ$.

From the Adopted Levels. Instances in which these differ from those of 1986Lo15 are pointed out.

@ Band(A): ground-state rotational band.

& Band(B): γ -vibrational band.

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Band(B): γ -vibrational
band

4⁺ 1151

3⁺ 1057

Band(A): Ground-state
rotational band

2⁺ 991

6⁺ 512

4⁺ 253

2⁺ 76

0⁺ 0