^{160}Gd(p,t) 1973Fl04,2002Le34

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

1973Fl04: E_p=18 MeV. Magnetic spectrograph with FWHM=12 keV. Measured $\sigma(\theta)$. DWBA analysis.

2002Le34, 2004Ap02: E_p=27 MeV. Q3D spectrometer with FWHM ≈ 5 keV. Measured spectrum at 5 angles, especially for 0^+ levels.

Other measurements: 1971Fl09 (by same authors as 1973Fl04), 1972El07, and 1973Oo01.

Model calculation that may be of interest: 1972As10 and 2002Za13 for 0^+ levels.

In 2002Le34 the γ-ray data from (n,γ) studies are used to assign γ's for the decay of the levels at 1577 and 2277. These assignments are not included here.

2005Me19 measured triton spectra and $\sigma(\theta)$ at E_p=25 MeV and deduced 0^+ level energies (as 2002Le34).

^{158}Gd Levels

E(level)[†]	J^π[‡]	L[#]	S[@&]	Comments
0.0	0^+	0	1000 *8*	
80				
261				
539				
977				
1042				
1187				
1194.8 *13*	0^+	0	3.7 *6*	
1262				E(level): authors associate this peak with levels at 1260 and 1263 keV.
1358				
1452.4 *6*	0^+	0	305 *6*	
1517				
1577.0 *12*	0^+	0	5.4 *7*	
1668				
1742.7 *9*	0^+	0	0.6 *3*	
1953.5 *6*	0^+	0	30.8 *14*	
1960 *4*	0^+	0	3.2 *5*	
1972 *3*			0.4 *2*	L: not 0 (2002Le34).
2277.3 *22*	0^+	0	39.6 *22*	
2338.0 *8*	0^+	0	10.7 *7*	
2643.4 *8*	0^+	0	18.1 *10*	
2688.8 *8*	0^+	0	1.7 *10*	
2911.2 *11*	0^+	0	8.7 *13*	
3076.7 *16*	0^+	0	3 *5*	
3109.9 *11*	0^+	0	1.2 *5*	

[†] Values with uncertainties are from 2002Le34; others are nominal values from 1973Fl04.

[‡] Based on L values.

[#] Assignments from 2002Le34, unless otherwise noted, are done by angular distributions measurement and DWBA analysis.

[@] Relative cross section at 6° (2002Le34); others: cross section at 5° for 2^+ levels and 30° for other levels (1973Fl04) and relative cross sections at 23° (1972El07).

[&] Label=σ.