

$^{152}\text{Gd}(\alpha, t)$ 1976St10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

0^+ target and $E(\alpha)=27$ MeV. Magnetic spectrometer; DWBA analysis; FWHM ≈ 18 keV estimated by evaluator.

 ^{153}Tb Levels

Cross section data in $\mu\text{b}/\text{sr}$
 Level energy $d\sigma/d\Omega$ (40°) $d\sigma/d\Omega$ (70°)

0	≈ 24	40
80	≈ 17	20
162	98	74
219	10	31
230	≈ 5	≈ 5
260	≈ 1	≈ 2
530	≈ 2	≈ 2
544	≈ 6	6
622	< 1	2
661	2	2
709	< 1	≈ 1
722	< 1	≈ 2
881	17	13
1064 a		< 2
1102 a		3
1126 a		< 2
1170 a		< 2
1187 a		< 2
1219 a		< 1
1242 a		< 1
1283 a		< 2
1305	2	2
1338	3	2
1391 a		2

a: value from ($^3\text{He}, d$)

E(level)	$L^\dagger$	$(2J+1)S^\ddagger$	E(level)	$L^\dagger$	$(2J+1)S^\ddagger$	E(level)	$(2J+1)S^\ddagger$
0.0		1.9	260 4	> 3		≈ 709	
80 4		1.3	530 4	> 3		≈ 722	
162 4		5.4	544 4		0.49	881 4	1.4
219 4		2.0	622 4			1305 4	
≈ 230	(5)	0.34	661 4			1338 4	0.42

† Values were deduced by 1976St10 from comparison of ratios of experimental (α, t) to ($^3\text{He}, d$) cross sections with DWBA predictions. See ($^3\text{He}, d$) for L values seen in both reactions.

‡ Listed values calculated by 1976St10, using $N=111$.