

$^{159}\text{Tb}({}^3\text{He},\alpha)$  1989Bu03

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

$J^\pi(^{159}\text{Tb})=3/2^+$ .

( ${}^3\text{He},\alpha$ ) reaction with  $E({}^3\text{He})=28$  MeV and  $\alpha$ 's measured in magnetic spectrograph with FWHM  $\approx 25$  keV (1989Bu03). Other: 1984Bu30.

 $^{158}\text{Tb}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$d\sigma/d\Omega(\mu\text{b}/\text{sr})$ <sup>#</sup>	E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$d\sigma/d\Omega(\mu\text{b}/\text{sr})$ <sup>#</sup>
0	$3^-$	2	406		0.1
77	$4^-$	9	445	$8^+ \text{ \& } 6^+$	71
125	$5^+$	4	496	$2^+ \text{ \& } 4^- \text{ \& } 5^-$	54
175	$5^- \text{ \& } 1^+$	12	542	$7^+$	37
212	$3^- \text{ \& } 2^+ \text{ \& } 6^+$	21	596	$3^+ \text{ \& } 5^-$	22
237	$3^+$	2	644	$2^+$	18
301	$4^+ \text{ \& } 4^- \text{ \& } 6^-$	10	670		10
323	$7^+$	34	696	( $1^+$ )	9
359	$5^+ \text{ \& } 5^-$	18	733		22
389	$7^-$	76	753		14

<sup>†</sup> Energies were reported relative to the levels at 323 and 389 keV as reported in (d,t).

<sup>‡</sup>  $J^\pi$  and band assignments are from authors (1989Bu03) and are based on the characteristic pattern of cross sections among rotational-band members ("fingerprint") based on Nilsson configurations, and on angular distributions and comparison of measured calculated cross sections for (d,t), ( ${}^3\text{He},\alpha$ ), and (p, $\alpha$ ) reactions. See  $^{158}\text{Tb}$  Adopted Levels for band assignments and configurations.

<sup>#</sup> Cross section for ( ${}^3\text{He},\alpha$ ) reaction at  $40^\circ$ .