^{155}Gd(^{3}He,d),(α,t) 1974ElZW

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 2537 (2012)	1-Mar-2012

$J^{\pi}(^{155}Gd)=3/2^{-}$. Configuration=$\nu$3/2[521].

Additional information 1.

^{155}Gd(^{3}He,d), E(^{3}He)=27 MeV. Isotope-separated metallic target, 25-40 μg/cm^2 thick, on two layers of C foil, 20 μg/cm^2 thick. Reaction products were analyzed in an Enge split-pole magnetic spectrograph and recorded in photographic emulsions. Spectra measured at θ=60°. FWHM=15 keV. Cross-section values normalized using a separate monitor counter.

^{155}Gd(α,t), E(α)=28.5 MeV. Experimental details similar to those for the (^{3}He,d) reaction, except FWHM=20 keV and 24 keV at θ=30° and 60°, respectively.

^{156}Tb Levels

E(level)†	Jπ‡	S#@	E(level)†	Jπ‡	S#@	E(level)†	S#@	E(level)†	S#@
0[a]	3⁻	14.1	222		2.6	405	5.7	638	32.0
87[a]	4⁻	41.0&	245		7.1	483	13.3	695	94.9
100[b]	1⁻	41.0&	290[b]	4⁻	13.1	550	12.2	754	27.5
156[b]	2⁻	23.0	313		6.5	590	7.2	790	37.7
188[b]	3⁻	15.9	379		8.0	615	16.5		

† Excitation energies believed accurate to within 2-3 keV (1974ElZW).

‡ From comparison of measured cross sections with those predicted for the proposed configurations, together with the expected energy spacings. These assignments agree with the adopted values.

Label=dσ/dΩ(^{3}He,d) (μb/sr)$_{c.m.}$

@ Values measured at θ=60°.

& Value is for the composite 87+100 peak.

[a] Band(A): $K^{\pi}=3^{-}$ Band, conf=π3/2[411]+ν3/2[521].

[b] Band(B): $K^{\pi}=0^{-}$ Band, conf=π3/2[411]-ν3/2[521].

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Band(B): $K^{\pi}=0^{-}$ Band, conf=π3/2[411]-ν3/2[521]

4^{-} 290

3^{-} 188

2^{-} 156

Band(A): $K^{\pi}=3^{-}$ Band, conf=π3/2[411]+ν3/2[521]

1^{-} 100

4^{-} 87

3^{-} 0