^{68}Zn(d,d′),(^{3}He,^{3}He′) 1965Li10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

1992Ra31: E(d)=80 MeV. Measured $\sigma(\theta)$, strong absorption analysis, deduced β_L.
1971Du09: E(d)=80 MeV. Measured $\sigma(\theta)$, DWBA, deduced β_L.
1971Ha45: E(^{3}He)=24 MeV. Measured $\sigma(\theta)$ for θ=15°−100° (5° steps) using Si(Li) ΔE-E telescopes (FWHM≈250 keV); coupled channel calculations, deduced β_L.
1969Jo01: E(d)=11.5,11.8 MeV. Measured $\sigma(\theta)$ using magnetic spectrometer and ΔE-E position sensitive detector (FWHM≈25 keV); DWBA, deduced B(EL), β_L.
1965Li10: E(d)=15 MeV. Measured $\sigma(\theta)$ using magnetic spectrometer and photographic emulsion plates (FWHM≈120 keV).
Other:1980Co13.

^{68}Zn Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
0	0^+		
1080	2^+	1.50 ps *14*	B(E2): 0.130 *12* (1969Jo01). β_2: 0.23 (1969Jo01), 0.22 *4* (1971Du09), 0.205 (1971Ha45), 0.170 (1992Ra31). 1971Ha45 deduce β_2 values in the range 0.150 to 0.205 for several sets of optical model potentials and parameters. Becchetti′s surface potential gives β_2=0.205 and an overall better fit than others. B(E2)↑: calculated from β_2 and thus model dependent. Uncertainties are statistical only. $T_{1/2}$: deduced from B(E2) and adopted γ-ray properties.
1630	0^+		
1870	2^+		
2370			E(level): may be a doublet.
2740	3^-		B(E3): 0.0220 *17* (1969Jo01). β_3: 0.198 (1969Jo01), 0.170 (1971Ha45). 1971Ha45 deduce β_3 values in the range 0.130 to 0.170 for several sets of optical model potentials and parameters. Becchetti′s surface potential gives β_3=0.170 and an overall best fit. B(E2)↑: calculated from β_2 and thus model dependent. Uncertainties are statistical only.
3200	$(1,2^+)$		
3300			
3440			
3580	4^+		
3640			
3780	$(1,2^+)$		
3920			
4170			
4320			

† From 1965Li10. Uncertainties not available from these measurements.
‡ From the Adopted Levels.