^{66}Zn(t,α) 1967Ba14

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

1967Ba14: E=13 MeV triton beam was produced from the Aldermaston tandem Van-de-Graaff generator. Target was about 250 μg/cm^2 self-supporting ^{66}Zn (>99% enriched). Reaction products were momentum-analyzed with a broad-range multi-angle magnetic spectrograph (FWHM=20 keV). Measured σ(E$_\alpha$,θ), $\theta_{cm}\approx 20°-120°$. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis.

1984Ca26: E=18 MeV triton beam was produced from the McMaster University tandem accelerator. Target was >98% enriched ^{66}Zn with thickness of 100 μg/cm^2 on a 10 μg/cm^2 carbon backing. Reaction products were momentum-analyzed with an Enge split-pole magnetic spectrometer (FWHM=20 keV). Measured σ(E$_\alpha$,θ), θ_{lab}=15° to 50° in 5° steps. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis. Comparisons with available data.

^{65}Cu Levels

Spectroscopic factor is obtained by using dσ/dΩ(exp)=N×C^{2}S×dσ/dΩ(DWBA), where N is the normalization factor.

E(level)[†]	L[‡]	S[‡]	E(level)[†]	L[‡]	S[‡]	E(level)[†]	L[‡]	S[‡]	E(level)[†]	L[‡]	S[‡]
0[#]	1	1.52	2594 *15*			3267[#] *15*	2	0.66	4251 *15*	1	0.04
771[#] *15*	1	0.45	2654[#] *15*	3	1.98	3358[#] *15*	2	0.24	4415 *15*	3	0.99
1115[#] *15*	3	0.66	2752[#] *15*			3432[#] *15*	3	0.63	4528 *15*	0	0.89
1481[#] *15*	3	0.89	2846 *15*			3510[#] *15*	2	0.26	4562 *15*	3	0.93
1623[#] *15*	3	0.43	2870[@] *15*			3629[#] *15*	1	0.26	4611 *15*	3	0.26
2093[#] *15*	3	1.45	2897[@] *15*			3691 *15*			4678 *15*		
2213 *15*			2982 *15*			3736 *15*			4761 *15*		
2278[#] *15*	3	0.65	3028 *15*			3772 *15*	2	0.21			
2407 *15*			3079[#] *15*	1	0.18	3897 *15*	0	0.40			
2535[#] *15*	4	0.35	3243 *15*			4007 *15*	3	0.22			

[†] From 1967Ba14.
[‡] From DWBA analysis of measured $\sigma(\theta)$ in 1967Ba14. C^{2}S values are normalized to ΣC^{2}S(f7/2)=8.0.
[#] Level also seen by 1984Ca26.
[@] 1984Ca26 report a peak at 2885 which could be due to levels at 2870 and 2897.