

$^{65}\text{Cu}(\alpha,\alpha')$ 1973StZJ

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

Target $J^\pi(^{65}\text{Cu g.s.})=3/2^-$.

1973StZJ: $E\alpha=42$ MeV, FWHM=80-100 keV; measured $\sigma(E\alpha,\theta)$, $\theta=10^\circ-50^\circ$; DWBA analysis.

1968Ku21: $E\alpha=29$ MeV, FWHM \approx 70 keV; measured $\sigma(E\alpha,\theta)$, $\theta=20^\circ-60^\circ$; DWBA analysis.

1963Br29: $E\alpha=44$ MeV, FWHM=150-180 keV; measured $\sigma(E\alpha,\theta)$.

Data are mostly taken from 1973StZJ and are in agreement with 1968Ku21 data, except as noted.

Others: 1960Cr05, 1961Ch20, 1961Sa03, 1965Ta06, 1970Iv02, 1970Le21, 1970Iv02, 1973Wi14, 1974Po04, 1985Sm02.

For level density measurements see 1972Lu03, 1972Lu09, 1973Bu32, 1974Pa06.

For elastic scattering data see 1975Bo02, 1982En04, 1982Pa08.

 ^{65}Cu Levels

E(level) [†]	L [‡]	Comments
0		
771 25	2	
1114 25	2	
1482 25	2	
1629 25	2	
1725 25	2	
2098 25	2	
2344 25		E(level): only reported in 1973StZJ.
2530 25	3	
2858 25	(2)	L: from DWBA analysis of $\sigma(\theta)$ data in 1973StZJ. L=3 favored from $\sigma(\theta)$ data in 1968Ku21.
2980 25	3	
3082 25	3	
3310 25	3	E(level): reported as 3350 in 1968Ku21.
3494 25	3	
3709 25	3	
3930 25	3	E(level): only reported in 1973StZJ.
4047 25	3	
4180 25		E(level): only reported in 1973StZJ.
4260		E(level): from 1963Br29.

[†] From 1973StZJ, except as noted.

[‡] From DWBA analysis of $\sigma(\theta)$ data in 1973StZJ.