^{68}Zn(d,α)   1983Wo06,1969Da09

		History		
Type	Author	Citation	Literature Cutoff Date	
Full Evaluation	E. Browne, J. K. Tuli	NDS 111, 1093 (2010)	3-Mar-2009	

1983Wo06: E(d)(polarized)=9, 9.5, 10, 10.5 MeV, FWHM=35 keV; measured tensor-analyzing power at θ(lab)=4°.
1969Da09: E(d)=12 MeV, FWHM=11-12 keV; measured $\sigma(\theta)$, $\theta\approx10°-110°$; DWBA analysis.

^{66}Cu Levels

E(level)[†]	J$^{\pi}$[‡]	L[#]	S[@]	Comments
0	1^{+d}	0+2	50	
185 *1*	2^{+c}	2	9	
274 *1*	3^{+d}	4	13	
383 *2*	(1^{+})^{e}	(4+2)	3	
462 *2*	2^{+c}	(2)	11	
588 *2*	4^{+c}	4	17	
727 *3*	3^{+d}	4+2	10	
819 *3*	2^{+c}	2	8	
1013^{b} *4*		4+(2)	84	
1048 *4*	1^{+d}	0+(2)	21	
1151 *5*	(6)$^{-d}$	5+(3)	10	J=(6) (1969Da09); π=− (1983Wo06).
1208 *5*		2	6	
1247 *5*	4^{-d}	3	9	
1339 *5*	1^{+d}	0	10	
1434 *6*	1^{+d}	0+2	4	
1543$^{\&}$ *6*				
1555$^{\&}$ *6*				
1573$^{\&}$ *6*				
1679 *7*		(4)+(2)^{a}	2.5	
1697 *7*		(0)+(2)^{a}	2	
1713 *7*		(0)+(2)^{a}	2	
1730 *7*		(5)	4	
1815 *7*	1^{+d}	0+(2)	19	
1894 *8*			2	
1922 *8*		4+(2)^{a}	3	
1977 *8*		(3)^{a}	2	
2017 *8*		2	12	
2120 *8*			2.5	
2158 *9*			3	
2173? *9*				
2195 *9*		(0)+(2)^{a}	2	
2266 *9*		4+(2)	9	
2329 *9*				
2361 *9*		4	5.5	
2391 *10*		(1)	4	
2449 *10*		0	7	
2501 *10*		(2)^{a}	2.5	
2525 *10*				
2537 *10*		0^{a}	3	
2557?$^{\&}$ *10*				
2567 *10*		6+(4)	50	
2581$^{\&}$ *10*				
2604 *10*		0+(2)^{a}	3	

^{68}**Zn(d,α)**   **1983Wo06,1969Da09 (continued)**

^{66}Cu Levels (continued)

E(level)[†]	L[#]	S[@]	E(level)[†]	L[#]	S[@]	E(level)[†]	L[#]	S[@]	E(level)[†]	L[#]	S[@]
2630 *11*	4	4	2707 *11*	4	17	2812 *11*			2944[&] *12*		
2644 *11*			2743 *11*	3	10	2837 *11*			2964[&] *12*		
2660 *11*			2760 *11*	0+(2)	5	2863 *11*	0	9	2986 *12*	(6)[a]	2
2682 *11*	0+2	15	2793 *11*	(0+2)[a]	2	2903 *12*	4+(2)	13	3007 *12*	4	17

[†] Authors quote a single set of energies from ^{65}Cu(d,p) and ^{68}Zn(d,α) data without specific uncertainties. The quoted E(level) values are a weighted mean of ^{65}Cu(d,p) and ^{68}Zn(d,α) whenever the two measurements are within 5 keV. Uncertainties on E(level) have been taken to be 0.4%, quoted by the authors as an upper limit for the ^{65}Zn(d,p) data (1969Da09).

[‡] From analysis of tensor-analyzing power data (1983Wo06), unless indicated otherwise.

[#] From DWBA analysis of $\sigma(\theta)$ (1969Da09).

[@] Maximum value of $\sigma(\theta)$ in μb/sr.

[&] Not resolved.

[a] The cross section to this level is small ($\approx$2 μb/sr or less) causing some doubt about the assumed reaction mechanism (1969Da09).

[b] The level mainly populated in this reaction probably corresponds to the level observed at 1008.5 *1* in thermal ^{65}Cu(n,γ) (1969Da09).

[c] Natural parity from tensor-analyzing power data (1983Wo06).

[d] Unnatural parity from tensor-analyzing power data (1983Wo06).

[e] This level could be either natural or unnatural parity level (1983Wo06).