^{64}Ni(^{3}He,d) 1976Br36

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 111, 2425 (2010)	1-Aug-2009

1976Br36: E(^{3}He)=18 MeV, FWHM≈30 keV; measured σ(E(d),θ), θ=5°−90°; DWBA analysis.
1976Bo06: E(^{3}He)=30.2 MeV, FWHM≈50 keV; measured σ(E(d),θ), θ=10°−45°; DWBA analysis, IAS.
1965Bl14: E(^{3}He)=22 MeV, FWHM≈70-90 keV; measured σ(E(d),θ), θ≈12°−50°; DWBA analysis.
Below E(level)=10000, data are from 1976Br36, except as noted. Above E(level)=10000 all data are from 1976Bo06.

^{65}Cu Levels

E(level)[†]	L[‡]	C^2S'	Comments
0	1	3.08	
763 *20*	1	1.30	
1113 *20*	3	1.14	
1503 *20*	3	0.32	
1589 *20*	3	2.40	
1743 *20*	1	0.06	
2125 *20*	3	0.36	
2223 *20*	1	0.34	
2339 *20*	1	0.24	
2550 *20*	4	3.80	
2650 *50*	3	0.31	Peak obscured by impurities in 1976Br36 data. All data are from 1965Bl14.
2898 *20*	1	0.16	
3119 *20*	1	0.10	
3284 *20*			
3391 *20*	2	0.24	
3452 *20*	(2)	0.082	
3519[#] *20*	1+3		
3601 *20*	2	0.21	
3768 *20*	2	0.18	
3800 *50*	4	0.4	An L=2+4 doublet at 3800 *50* was reported in 1965Bl14. The L=2 component has been identified as the 3768 level (1976Br36). The data for this component are from 1965Bl14.
3858 *20*			
3966 *20*	1	0.06	
4080 *50*	1	0.26	Peak obscured by impurities in 1976Br36. All data are from 1965Bl14.
4190 *50*	4	0.7	All data for the 4190 level are from 1965Bl14.
10750 *40*	(3)+(1)		IAS of ^{65}Ni g.s., J^{π}=5/2$^-$ and E(level)=63, J^{π}=1/2$^-$; the corresponding C^2S' are 2.5≈and 1.4≈.
11760 *40*	(4)	≈7.5	IAS of ^{65}Ni E(level)=1013, J^{π}=9/2$^+$.
12670 *40*	(2)	≈1.7	IAS of ^{65}Ni E(level)=1920, J^{π}=5/2$^+$.
13090 *40*	(3)+(4)		IAS of ^{65}Ni E(level)=2336, J^{π}=5/2$^-$ and the possible level with E(level)≈2330, J^{π}=9/2$^+$; the corresponding C^2S' are ≈0.6 and ≈1.1, respectively.

[†] Uncertainty not given by 1976Br36, but estimated by the evaluators as ≈20 keV from the resolution.
[‡] From DWBA analysis of $\sigma(\theta)$, except for E(level)>10000 for which L-values quoted in 1976Br36 were assumed from ^{64}Ni(d,p)^{65}Ni data.
[#] Doublet. C^2S'=0.42 quoted for total peak cross section corresponding to L=3 (1976Br36).