

$^{65}\text{Cu}(\text{p,t})$ 1981Iw02,1973Ma05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 196,17 (2024)	30-Sep-2023

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

1981Iw02: E=40 MeV proton beam was produced from the Michigan State University Isochronous Cyclotron. Target was 250 $\mu\text{g}/\text{cm}^2$ self-supporting metallic foil of ^{65}Cu . Reaction products were momentum-analyzed with an Enge split-pole magnetic spectrograph (FWHM=16 keV). Measured $\sigma(E_t, \theta)$. Deduced levels, L-transfers from DWBA analysis.

1973Ma05: E=18 and 19.5 MeV protons were produced from the tandem Van de Graaff accelerator at the Nuclear Structure Laboratory of the University of Rochester. Reaction products were momentum-analyzed with a magnetic spectrograph (FWHM=18 keV). Measured $\sigma(E_t, \theta)$. Deduced levels, J, π , L-transfers from DWBA analysis.

 ^{63}Cu Levels

E(level) [†]	L [‡]	Comments
0	0	
670 10	2	E(level): other: 669 (1973Ma05).
960 10	2	E(level): other: 962 (1973Ma05).
1330 10	2	E(level): other: 1327 (1973Ma05).
1410 10	2	E(level): other: 1412 (1973Ma05).
1550 10	0+2	E(level): other: 1547 (1973Ma05).
1860 10	2+4	E(level): other: 1862 (1973Ma05).
2010 10	2	E(level): other: 2012 (1973Ma05).
2060 10	2	E(level): other: 2063 (1973Ma05).
2080 10	@	E(level): other: 2082 (1973Ma05).
2090 10	@	E(level): other: 2090 (1973Ma05).
2210 10	4	E(level): other: 2210 (1973Ma05).
2340 10	4	E(level): other: 2335 (1973Ma05).
2410 10	2+4	
2510 [#] 10	(0+2)+3 ^{&}	
2540 10	4	E(level): other: 2537 (1973Ma05).
2680 10	4	
2790 20	0+2	
2820 20	2	
2850 20	4	
2880 20	4	
2990 20	2	
3040 20	2	
3110 20	2	
3140 20	2	
3190 20	4	
3210 20	4	
3230 20	4	
3260 20	4	
3310 20	3 ^a	
3380 20	4	
3440 20	0+2	
3470 20	3 ^a	
3580 [#] 20	0+2	
3680 [#] 20	4 ^a	
3720 20	3 ^a	
3790 [#] 20	3 ^a	
3840 20	3 ^a	
3900 [#] 20	3 ^a	

Continued on next page (footnotes at end of table)

 $^{65}\text{Cu}(\text{p,t})$ [1981Iw02,1973Ma05](#) (continued)

 ^{63}Cu Levels (continued)

[†] From [1981Iw02](#).

[‡] From comparison of $\sigma(\theta)$ with shapes for levels with known J^π ([1981Iw02](#)). Empirical L assignments corroborated by DWBA calculation ([1981Iw02](#)). The same L values are also from [1973Ma05](#) where levels are also seen in that work as noted under comments.

Unresolved multiplet ([1981Iw02](#)).

@ L=2+4 for the combined distribution ([1981Iw02](#)).

& L=0+2 for a level at 2498 ([1973Ma05](#)).

^a May have contributions from other values of L ([1981Iw02](#)).