^{61}Ni(^{3}He,d) 1967Mo07,1976Bo06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alan L. Nichols, Balraj Singh, Jagdish K. Tuli	NDS 113, 973 (2012)	15-Apr-2012

$J^{\pi}(^{61}Ni)=3/2^{-}$.
1967Mo07: E=18 MeV, $\sigma(\theta)$ (unpublished, see 1974Ve13 for summary).
1976Bo06: E=30.2 MeV, $\sigma(\theta)$, Si telescopes, FWHM=50 keV. Data for 4.64, 5.82, 7.97 and 8.19 MeV levels.
Data are from 1967Mo07, except as noted.

^{62}Cu Levels

E(level)	L	C^2S[†]	Comments
0	1	0.05 *3*	
42 *10*	1	0.95 *3*	
290 *10*	1	0.38 *3*	
428 *10*	1	0.98 *3*	
551 *10*	1	0.11 *3*	
640 *10*	1	0.16 *3*	
680 *10*	1+3	0.16,0.30[‡]	
699 *10*	1	0.44 *3*	
908 *10*	1	0.07 *3*	
980 *10*	2		
1057 *10*	1+3	0.35,1.4[‡]	
1074 *10*	1	0.15 *3*	
1144 *10*	3	0.85 *20*	
1221 *10*	1	0.04 *3*	
1285 *10*	1+3	0.07,0.16[‡]	
1347 *10*	1+3	0.05,0.09[‡]	
1432 *10*	1	0.24 *3*	
1484? *10*			
1530 *10*	1	0.31 *3*	
1580 *10*	2		
1684 *10*	0		
1746 *10*	3	0.55 *20*	
1773 *10*	1	0.07 *3*	
1846 *10*	1	0.09 *3*	
1915? *10*			
2024 *10*	2		
2124 *10*	3	0.90 *20*	
2235 *10*	1+3	0.06,0.26[‡]	
2298 *10*	2		
2362 *10*	3	0.70 *20*	
2448 *10*	1+3	0.35,0.75[‡]	
4628 *10*	1	0.09 *3*	E(level): identified by 1967Mo07 as ground-state analog. C^2S: $(2J_f+1)S/(2J_i+1)=0.83$ (1976Bo06).
5720[@]			
5785 *10*	1	0.09 *3*	E(level): from 1967Mo07. C^2S: $(2J_f+1)S/(2J_i+1)=0.65$ for the 5820 level (1976Bo06).
7970[#]	1+3		C^2S: $(2J_f+1)S/(2J_i+1)\approx0.13$ for L=1,≈1.4 for L=3 (1976Bo06).
8190[#]	1		C^2S: $(2J_f+1)S/(2J_i+1)\approx0.75$ (1976Bo06).
9430[@]			
9640[@]			

[†] Normalized so that L=3 strength sums to six (1967Mo07), whereas normalization of values from 1976Bo06 (quoted in the

Continued on next page (footnotes at end of table)

^{61}Ni(^{3}He,d) 1967Mo07,1976Bo06 (continued)

^{62}Cu Levels (continued)

comments) is not explained.

‡ Uncertainty in L=1 component is 0.03, in L=3 component is 0.2.

Observed by 1976Bo06 and identified by them as IAS.

@ Level observed by 1976Bo06 with no known analog in ^{61}Ni(d,p)^{62}Ni.