^{66}Zn(p,t) 1974Hi05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178, 41 (2021).	12-Nov-2021

1974Hi05: E(p)=35 MeV. Measured tritons and $\sigma(\theta)$ using Enge split-pole spectrograph at Michigan State University sector-focused cyclotron. Target was 200 μg/cm^2 thick with carbon backing, and the analyzed tritons were directed to photographic emulsions. FWHM=20 keV. DWBA analysis of $\sigma(\theta)$ data.

Measurement of g.s. transition strength: 1985Mi06 and 1980Or04 at E(p)=51.9 MeV; both studies from the same lab.

Others:

1966Mc15: E(p)=17.5 MeV. Measured triton spectra using ΔE-E Si surface barrier detector telescope at Princeton cyclotron. FWHM=70 keV. The ground state with L=0 and the first excited state with L=2 reported.

1964Ba34: E(p)=40 MeV. Measured triton spectra at 10° and 20° using magnetic spectrometer and a detector array of thick plastic scintillators at the University of Minnesota linear accelerator. Data reported for the g.s. with L=0 and the first excited state with L=2, with weak triton groups shown at 1.7, 2.7 and 3.8 MeV in Fig. 27. FWHM≈1.5%.

All data are from 1974Hi05.

^{64}Zn Levels

E(level)	L[‡]	dσ/δΩ (μb/sr)[&]	Comments
0	0	835	dσ/dΩ (max)=1.2 mb (1966Mc15).
992[†]	2	210	dσ/dΩ (max)=0.24 mb (1966Mc15).
1800[†]	2	20	
1940 *10*	0	5.0	
2310 *10*	4	3.0	
2609[†]	0	16	
2750 *10*	4	63	
2810 *10*	2	120	
3020 *10*	(3)[#]	39	
3110 *20*	4	44	
3240 *20*	0	11	
3300 *20*			
3340 *10*	2	37	
3410 *10*			
3500 *10*	(2)[#]	3.4	
3600 *10*	(2)[#]	7.3	
3780 *10*	2	34	
3920 *10*	(2)	36	
3960 *10*			
4010 *10*	(0)	5.5	
4120 *10*	(2)[#]	22	
4230 *20*	(3,4)[#]	9.1	
4290 *20*	(3,4)[@]		
4340 *20*			
4380 *20*			
4410 *20*	3	6.3	
4480 *20*	(0)	7.4	
4580 *20*			
4660 *30*			
4700 *30*			
4780 *30*			
4810 *30*			
4840 *30*			
4930 *30*			
4980 *30*	2		

Continued on next page (footnotes at end of table)

^{66}Zn(p,t) 1974Hi05 (continued)

^{64}Zn Levels (continued)

E(level)	L[‡]
5070 *30*	
5160 *30*	
5220 *30*	(2)[@]

† Level energy from γ-ray studies used for calibration of triton spectra.
‡ From comparison of $\sigma(\theta)$ distributions with DWBA calculations.
# L-transfer implied by firm J^π assignment in Table II of 1974Hi05 treated as tentative by evaluators as either the comparison with theoretical DWBA distribution is not shown or the agreement with DWBA distribution is not good in authors' $\sigma(\theta)$ Figs. 9 and 10. The J^π assignment for this level in 1974Hi05 is not used in the Adopted Levels.
@ L-transfer implied by J^π assignment in Table II of 1974Hi05 treated as tentative by evaluators as $\sigma(\theta)$ distribution is not shown in Figs. 9 and 10. The J^π assignment for this level in 1974Hi05 is not used in the Adopted Levels.
& Value is at an angle where the cross section is maximum.