

<sup>70</sup>Zn(<sup>3</sup>He,α) 1973DaXY,1967Bo39

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 115, 1 (2014)	31-Jul-2013

1967Bo39: E=33 MeV, solid state detectors; measured  $\sigma(\theta)$ ,  $\theta \approx 15^\circ - 45^\circ$ ; DWBA analysis.

1973DaXY: E=17 MeV, magnetic spectrograph, resolution (FWHM)=15-20 keV; measured  $\sigma(\theta)$ , for  $\theta = 5^\circ - 35^\circ$ ; DWBA analysis.

<sup>69</sup>Zn Levels

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	L <sup>#</sup>	C <sup>2</sup> S <sup>@</sup>	Comments
0	1/2 <sup>-</sup>	1	1.0	
440 20	9/2 <sup>+</sup>	4	2.0	
530 20	5/2 <sup>-</sup>	3	3.4	
840 20		1		C <sup>2</sup> S: 1.9-2.4 for J <sup>π</sup> =1/2 <sup>-</sup> or 3/2 <sup>-</sup> .
880 20				
1180 20	5/2 <sup>-</sup>	3	0.51	
1460 20		3		C <sup>2</sup> S: 0.63 for J <sup>π</sup> =5/2 <sup>-</sup> , 0.44 for J <sup>π</sup> =7/2 <sup>-</sup> .
1610 20	(3)	(0.53)		C <sup>2</sup> S: for J <sup>π</sup> =(7/2 <sup>-</sup> ) (1967Bo39).
1650 20	(3)	≤(0.35)		C <sup>2</sup> S: for J <sup>π</sup> =(5/2 <sup>-</sup> ) or (7/2 <sup>-</sup> ). L: includes impurity peak.
1850 20		3		C <sup>2</sup> S: 0.67 for J <sup>π</sup> =5/2 <sup>-</sup> , 0.48 for J <sup>π</sup> =7/2 <sup>-</sup> .
1890 20				
1970 20	(1)	(0.84)		C <sup>2</sup> S: for J <sup>π</sup> =(1/2 <sup>-</sup> ) (1967Bo39).
2290 20	(3)			L: L=(1) (1967Bo39); L=3 (1973DaXY). C <sup>2</sup> S: 0.36 for J <sup>π</sup> =5/2 <sup>-</sup> , 0.26 for J <sup>π</sup> =7/2 <sup>-</sup> .
2420 20		3		C <sup>2</sup> S: 0.28 for J <sup>π</sup> =5/2 <sup>-</sup> , 0.19 for J <sup>π</sup> =7/2 <sup>-</sup> .
2700 20		3		C <sup>2</sup> S: 0.29 for J <sup>π</sup> =5/2 <sup>-</sup> , 0.20 for J <sup>π</sup> =7/2 <sup>-</sup> .
2780? 20	(3)	(0.29)		C <sup>2</sup> S: for J <sup>π</sup> =(5/2 <sup>-</sup> ).
2930? 20				
3050 20				
3200? 20				
4180 20	(1)	(0.37)		E(level),L: from 1967Bo39. C <sup>2</sup> S: for J <sup>π</sup> =(3/2 <sup>-</sup> ) (1967Bo39).
4600 20				E(level): from 1967Bo39.

<sup>†</sup> From 1973DaXY, except as noted.

<sup>‡</sup> Assumed to extract spectroscopic factors.

<sup>#</sup> From 1973DaXY, except where noted otherwise.

<sup>@</sup> From 1973DaXY, except where noted otherwise. These authors feel that the spectroscopic factors are only approximate due to difficulties in fitting their data by DWBA analysis. For comparison with 1967Bo39, 1973DaXY normalized their results to C<sup>2</sup>S(440)=2.0 and deduced that the normalization constant N lies between 40 and 50. This is about twice the recommended value of N=23 (1977En02). However, comparison with <sup>70</sup>Zn(p,d) data suggests that C<sup>2</sup>S should not be increased further.