

$^{66}\text{Zn}(\text{pol d}, ^3\text{He})$ 1993Ma16

Type	Author	History Citation	Literature Cutoff Date
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1993Ma16: E=52 MeV polarized deuteron beam was produced from the Karlsruhe isochronous cyclotron. Target was a 2 mg/cm² self-supporting zinc foil (99% enriched ^{66}Zn). Reaction products were detected with a Si telescope consisting of surface barrier ΔE and E detectors (FWHM=110 keV). Measured $\sigma(E_{^3\text{He}}, \theta)$ and analyzing powers, $\theta_{\text{cm}}=16^\circ$ to 28° . Deduced levels, J, π , L-transfers, spectroscopic factors from DWBA analysis. Comparisons with available data. Uncertainty in absolute cross section is estimated to be 20%.

 ^{65}Cu Levels

Spectroscopic factor is obtained by using $d\sigma/d\Omega(\text{exp})=N \times C^2S \times d\sigma/d\Omega(\text{DWBA})$, where N is the normalization factor.

E(level) [†]	J π [‡]	L [#]	C ² S [#]	E(level) [†]	J π [‡]	C ² S [#]
0.0	3/2 ⁻	1	0.90	4487 [@]	7/2 ⁻ , 1/2 ⁺	0.5, 0.55
774	1/2 ⁻		0.21	4928 [@]	3/2 ⁺ , 7/2 ⁻	0.88, 0.80
1119	5/2 ⁻		0.30	5292 [@]	(5/2, 7/2) ⁻ , 1/2 ⁺	(0.56, 0.3)
1507	7/2 ⁻		0.67	5732	7/2 ⁻	0.64
1623?	(5/2, 7/2) ⁻		0.28	6486 [@]	(3/2, 5/2) ⁺ , 7/2 ⁻	(1.6, 0.88)
2080	7/2 ⁻		0.91	7505	(3/2, 5/2) ⁺	1.27, 0.71
2288	7/2 ⁻	3	0.48	8535	5/2 ⁺	0.90
2645	7/2 ⁻		1.41	9483	5/2 ⁺	0.48
3096	3/2 ⁻		0.13	10513	5/2 ⁺	1.17
3252 [@]	3/2 ⁻ , 7/2 ⁻		0.05, 0.21	11502	5/2 ⁺	0.90
3408	7/2 ⁻		0.69	12503	5/2 ⁺	1.75
3623 [@]	(3/2 ⁻ , 5/2 ⁻)		0.11, 0.51	13501	5/2 ⁺	1.75
3748	7/2 ⁻		0.29	14501	5/2 ⁺	1.58
3901 [@]	(5/2, 7/2) ⁻		0.67, 0.34	15498	5/2 ⁺	1.09
4125	3/2 ⁺		1.38			

[†] From 1993Ma16.

[‡] From analyzing powers in 1993Ma16.

[#] From DWBA analysis of measured $\sigma(\theta)$ in 1993Ma16. The authors note that the reported C²S values are re-normalized values, equal to original value multiplied by a re-normalization factor of 0.70.

[@] Multiplet (1993Ma16).