^{43}Ca(d,p) 1967Bj02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 190,1 (2023)	20-Jun-2023

Target J^π(^{43}Ca g.s.)=7/2$^-$.

1967Bj02: E=8.532 MeV deuteron beam was produced from the Aldermaston tandem. Target was enriched ^{43}Ca (>99%). Protons were momentum-analyzed with a multi-angle spectrograph (FWHM=15 keV). Measured $\sigma(E_p,\theta)$. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis.

1955Sc82: E=4.15 MeV deuteron beam was produced from the Yale cyclotron. Target was CaI evaporated on Au or Ta backing. Protons were detected in argon filled proportional counters. Measured $\sigma(E_p)$. Deduced levels.

Others: 1956Br08 (thesis), 1967Ha41.

^{44}Ca Levels

E(level)[†]	J^π	L[@]	$(2J_f+1)/(2J_i+1)S$[@]	E(level)[†]	L[@]	$(2J_f+1)/(2J_i+1)S$[@]
0		3	0.36	4662 *10*	1	0.28
1158[‡] *4*		1+3	0.05,0.36	4696 *10*		
1885[‡] *4*		3	0.07	4826 *10*		
2287[‡] *5*		1+3	0.008,0.22	4914 *10*	1	0.12
2660[‡] *5*		3(+1)	0.45,0.01	4992 *10*	1	0.05
3048[‡] *5*		3	1.46	5016 *10*	1	0.25
3299[‡] *6*	2$^+$	3	2.45	5143 *10*	1	0.12
3306[‡] *6*	3$^-$			5172 *10*		
3360[‡] *6*				5243 *10*	1	0.54
3585[#] *6*				5296 *10*	1	0.27
3660[#] *6*				5351 *10*	1	0.28
3677[‡] *6*				5385 *10*	1	0.07
3729 *10*				5405? *10*	(1)	0.01
3792 *10*				5468 *10*	1	0.33
3880 *10*				5558 *10*	1	0.40
3934? *10*		(1)	0.04	5666 *10*		
4026 *10*				5743 *10*	1	0.75
4104 *10*		3	0.09	5776 *10*		
4207 *10*		1	0.02	5832 *10*		
4410 *10*		0	0.01	5873? *10*	(1)	0.16
4491? *10*		(1)	0.04	5975 *10*		
4569 *10*				6050 *10*	1	0.08
4598 *10*				6156 *10*	1	0.46
4616 *10*						

[†] From 1967Bj02, unless otherwise noted.

[‡] Weighted average from 1967Bj02 and 1956Br08.

[#] From 1956Br08 only.

[@] From DWBA analysis of measured $\sigma(\theta)$ (1967Bj02). For spectroscopic factor, J_f=spin of final state, J_i=target spin=7/2$^-$. Uncertainty is estimated to be 25%.