

$^{37}\text{Cl}(^3\text{He,p})$ 1977Co01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 149, 1 (2018)	1-Jan-2018

$J^\pi(^{37}\text{Cl g.s.})=3/2^+$.

1977Co01: E=17 and 19 MeV ^3He beams were produced from the Argonne Physics Division FN Tandem van de Graaff accelerator. Target was $\approx 400 \mu\text{g}/\text{cm}^2$ PbCl_2 on a carbon backing. Reaction products were momentum-analyzed with a split-pole magnetic spectrograph (FWHM=35-40 keV). Measured $\sigma(E_p, \theta)$, $\theta=5^\circ-40^\circ$. Deduced levels, J, π , L-transfers from DWBA analysis. Comparisons with available data.

 ^{39}Ar Levels

E(level) [†]	J π [#]	L	d σ /d Ω ($\mu\text{b}/\text{sr}$) [@]	E(level) [†]	L	d σ /d Ω ($\mu\text{b}/\text{sr}$) [@]
0	7/2 ⁻	1+3+5	104	4519	0	244
1264	3/2 ⁻	1+3	81	4819	0	276
1508		0	15	4925		302
2093		1	94	5005		156
2345			27	5167		83
2485			72	5261		140
2517			15	5416		270
2636			60	5528		96
2750		1	40	5606		146
3064			&	5741		281
3155		0	29	5820		&
3271			46	5908		203
3391		0	85	6061		114
3559			58	6153		177
3634			42	6261		187
3689			44	6394		83
3849			69	6494		198
3889			54	6587		&
4111			&	6637		&
4192			83	6700		&
4263			78	6820		&
4345			52	6869		&
4408			57	6950		&
4471			177	9078 [‡]	0	624

[†] Levels above 3500 may be unresolved multiplets, except the analog state at 9078. Uncertainty is estimated to be about 20 keV by the evaluators from energy spectra.

[‡] Dominant transition; interpreted as analog of ^{37}Cl g.s.

[#] From Adopted Levels.

[@] At 19 MeV, $\theta=10^\circ$. Uncertainty is about 20%.

& Weak group.