

³⁵Cl(³He,d) 1970Mo10

Type	Author	History	Citation	Literature Cutoff Date
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³⁵Cl target J^π: 3/2⁺.

1970Mo10: E=12 MeV, measured σ(E(d),θ), DWBA analysis deduced L, S.

Other 1994Ve04; E=25 MeV, measured σ(E(d),θ).

1995Ro22: ³⁵Cl(³He,d) and ³⁵Cl(³He,dγ) reactions.

³⁶Ar Levels

All the data are from 1970Mo10, unless noted otherwise.

E(level)	J ^π †	L	(2J+1)C ² S	Comments
0	+	2	2.36	
1976 10	+	2	4.08	
4179 10	-	1+3	1.38	(2J+1)C ² S: for L=3, 0.216 for L=1.
4331 10	(0 ⁺)	2	0.028	
4416 10	+	2	0.152	
4442 10	+	0+2	1.79	(2J+1)C ² S: for L=2, 0.196 for L=0.
4948 10	(1,2) ⁺	0	0.020	L,(2J+1)C ² S: or 0+2.
4971 10	(2,3) ⁻	1+3	1.32	(2J+1)C ² S: for L=3, 0.052 for L=1.
5165 10	-	3	3.97	
5203 10				
5826 10	(1) ⁻	1	0.520	
5847 10	(2 to 5) ⁻	3	0.760	L,(2J+1)C ² S: or (1+3), and 0.005+0.160 respectively.
6605 10	(2) ⁺	2	1.92	
6721 10	(1,2) ⁺	0	0.048	L,(2J+1)C ² S: or 0+2, and g=0.010+0.012 respectively.
6830 10	(0 to 3) ⁻	1	2.60	
6861 10	(1 ⁺ ,2 ⁺)	(0)	0.220	
7131 10	3 ⁻	1+3	0.08+0.13	L,(2J+1)C ² S: or (2), and 0.416 respectively.
7171 10	(1,2) ⁺	0	0.060	L,(2J+1)C ² S: or 0+2, and 0.048+0.040 respectively.
7241 10	-	1	1.09	
7330 10	+	2	1.09	
7424 10	(1,2) ⁺	0	0.060	L,(2J+1)C ² S: OR 0+2, and 0.040+0.052 respectively.
7567 10	(2 to 5) ⁻	3	0.690	
7667 10	(2,3) ⁻	1+3	0.044	(2J+1)C ² S: 0.552 for L=3.
7706 10	-	1	0.344	
7743 10	-	1	0.052	
7873 10	-	1	0.616	
7965 10	(1,2) ⁺	0	0.064	L,(2J+1)C ² S: OR 0+2, and 0.032+0.052 respectively.
8010 10	+	2	0.132	L,(2J+1)C ² S: OR 1+3, and g=0.012+0.160 respectively.
8129 10				
8230 10				
8303 3	(0 to 3) ⁻ #	1	0.684	E(level): weighted average of: 8302 10 (1970Mo10), 8303.4 30 (1994II01). L,(2J+1)C ² S: also 0.34 for L=(1), 0.25+0.46 for L=(0+2) (1994II01).
8332 10	(3) ⁻	1	0.744	J ^π : (1 ⁺ ,2 ⁺ ,3 ⁻) from 1994II01 and π=- from 1970Mo10. L,(2J+1)C ² S: also 0.41 for L=(1), 0.27+0.62 for L=(0+2) (1994II01).
8365 3	(1 to 5) ⁻	1	0.568	E(level): weighted average of: 8365 10 (1970Mo10), 8365.3 30 (1994II01). J ^π : (1,2,3 ⁻ ,4 ⁻ ,5 ⁻) based on L=(1+3), or L=(3), or L=(0+2) (1994II01); π=- from L=1 or L=1+3 (1970Mo10) selects (1:5) ⁻ . L,(2J+1)C ² S: OR 1+3 (1970Mo10); other: 0.14+1.1 for L=(1+3), 1.5 for L=(3), 0.30+0.84 for L=(0+2) (1994II01).
8400 10				
8449 3	(-)	(1+3)	0.37+0.58	E(level): weighted average of: 8448 10 (1970Mo10), 8448.7 30 (1994II01).

Continued on next page (footnotes at end of table)

$^{35}\text{Cl}(^3\text{He,d})$ **1970Mo10** (continued) ^{36}Ar Levels (continued)

E(level)	J^π [†]	L	(2J+1)C ² S	Comments
8471 [‡] 3				L,(2J+1)C ² S: other: 0.24+0.43 for L=(1+3) (1994II01); they also give L=(0+2) or (1) or (2) and (2J+1)C ² S=0.16+0.74 or 0.40 or 0.93 respectively).
8505 3	(⁺)	(0)	0.32	E(level): weighted average of: 8505 10 (1970Mo10), 8505.5 30 (1994II01). L,(2J+1)C ² S: others: 0.13 for L=(3), 0.017+0.10 for L=(0+2), 0.12 for L=(2), 0.050 for L=(1) (1994II01).
8553 10	(⁺)	0 [@]	0.17 [@]	J ^π : from L=0. L,(2J+1)C ² S: others: 0.40 for L=(0) (1970Mo10).
8672 3	(⁻)	(1)	0.12	E(level): weighted average of: 8672 10 (1970Mo10), 8671.5 30 (1994II01). L,(2J+1)C ² S: others: 0.086 for L=(1), 0.19 for L=(2), 0.031+0.15 for L=(0+2), 0.12 for L=(0) (1994II01).
8806 [‡] 3	(0 ⁻ ,1,2,3 ⁻) [#]	(1,0) [@]	0.09,0.15 [@]	L,(2J+1)C ² S: plus 0.057+0.13 for L=(0+2) (1994II01).
8887 [‡] 4	(≤5 ⁻) [#]	(0+2,3) [@]	0.04+0.03 [@]	L,(2J+1)C ² S: for L=(0+2), 0.074 for L=(3), 0.067 for L=(0), 0.033 for L=(1), 0.069 for L=2 (1994II01).
8923 [‡] 3	(1,2,3 ⁻ ,4 ⁻ ,5 ⁻) [#]	(3,0+2) [@]	0.85 [@]	L,(2J+1)C ² S: for L=(3), 0.24+0.59 for L=(0+2) (1994II01).
8938 [‡]	(2 ⁺ ,3,4 ⁻) [#]	(0+2,1) [@]	0.43+1.5 [@]	L,(2J+1)C ² S: for L=(0+2), 0.94 for L=(1), 0.63+0.65 for L=(1+3).
9015 [‡] 3	(1,2,3 ⁻ ,4 ⁻ ,5 ⁻) [#]	(3,0+2) [@]	2.0 [@]	E(level): energetically not resolved from transition to weak 9024 In (p,γ) reaction (1994II01). L,(2J+1)C ² S: for L=(3), 0.73+1.3 for L=(0+2) (1994II01).
9065 [‡] 3	- [#]	1 [@]	0.10 [@]	
9292 [‡] 3	- [#]	3 [@]	1.1 [@]	

[†] From 1970Mo10, unless noted otherwise. Parities are determined while J values are restricted by authors to one or two possible values As follows: (1,2) for L=0; (2,3) for L=1+3 (or for pure L=3 but these are highly improbable); (4,5) for L=3. In some cases J values are limited by the strength of the transition.

[‡] From 1994II01.

[#] From 1994II01 (J^π's based on their determined L values plus extra arguments similar to those of 1970Mo10).

[@] From 1994II01.