

$^{36}\text{Ar}(d,^3\text{He})$ 1974Do12

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, John Cameron and Balraj Singh		NDS 112,2715 (2011)	20-Oct-2011

1974Do12: E=52 MeV deuteron beam produced from the Karlsruhe isochronous cyclotron at the Max-Planck-Institut für Kernphysik. A isotopically enriched (99.9%) ^{36}Ar gas target. A detector telescope consisting of a 200 μm ΔE and a 2mm E-surface-barrier counter for detecting ^3He particles. Measured $\sigma(E_{^3\text{He}},\theta)$. Deduced levels, J^π , L, spectroscopic factors from DWBA analysis. Other: [1975Wa17](#).

 ^{35}Cl Levels

Target ^{36}Ar $J^\pi=0^+$.

Spectroscopic factor C^2S : $N \cdot C^2S = \sigma(\theta)^{\text{exp}} / \sigma(\theta)^{\text{DWBA}}$, where N is the normalization factor ([1966Ba54](#)), $N=2.95$ ([1974Do12](#)).

E(level)	J^π^\dagger	L^\dagger	C^2S	E(level)	J^π^\dagger	L^\dagger	C^2S	E(level)	J^π^\dagger	L^\dagger	C^2S
0	$3/2^+$	2	2.2	3170 20	$7/2^-$	3	0.22	6750 20	$3/2^+, 5/2^+$	2	0.79
1220 20	$1/2^+$	0	1.34	5150 20	$3/2^+, 5/2^+$	2	0.09	6930 20	$3/2^+, 5/2^+$	2	0.46
1763			<0.02	5600 20	$3/2^+, 5/2^+$	2	0.47 19	8010 20	$3/2^+, 5/2^+$	2	0.23
2700 20	$3/2^+$	2	0.39	5720 20	$3/2^+, 5/2^+$	2	0.73 29	8210 20	$3/2^+, 5/2^+$	2	0.28
3000 20	$5/2^+$	2	1.49	6140 20	$3/2^+, 5/2^+$	2	0.72	8610 20	$3/2^+, 5/2^+$	2	0.34

† From the comparison of the DWBA prediction of the angular distribution with the experimental data.