

$^{39}\text{K}(\text{p},\text{p}')$ 1958Sp88,1986St02

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

[1958Sp88](#): E=7.04, 7.17, 7.45 MeV proton beams on KI targets at MIT. Scattered protons were momentum-analyzed with a broad-range magnetic spectrograph. Measured proton spectra at 60°, 90°, 130°. Deduced levels.

[1986St02](#): E=5.675-5.925 MeV proton beams were produced from the 6-MV Van de Graaff of the National Accelerator Centre at Faure, Cape. Targets were 106 $\mu\text{g}/\text{cm}^2$ KI (>99% enriched) on a thin carbon backing. Scattered protons were detected with a surface-barrier detector. Measured σ . Deduced levels, probable J^π from Hauser-Feshbach analysis.

[1966Li02](#), [1964Ja02](#): E=155 MeV; measured $\sigma(\theta)$, FWHM=100 keV. Six groups reported.

Others:

[Additional information 1](#).

[1980Fa07](#): E=29.7 MeV. Measured $\sigma(\theta)$.

[1970Ho26](#): E=4.5 MeV. Four groups reported.

[1968Lo03](#): E=7.26 MeV; measured energies of 13 groups from 2530-4740.

[1965Ne09](#): E=141 MeV. Measured σ .

[1964Bo27](#): (pol p,p').

(p,p), (p,p') leading to resonances In ^{40}Ca : [1970De30](#), [1968Va27](#).

 ^{39}K Levels

E(level) [†]	J^π [‡]	$\sigma(\text{rel})$ [#]	Comments
0			
2526 7	(1/2 ⁺)	3.1 2	
2817 7	(7/2 ⁻)	5.6 2	
3021 7	(3/2 ⁻)	2.8 1	
3603 7	(9/2 ⁻)	1.00 5	
3879 7	(3/2 ⁻)	0.29 3	
3935 7	(3/2 ⁺)	0.46 5	$\sigma(\text{rel})$: for 3939+3942 doublet in 1986St02 .
4078 8	(3/2 ⁻)	0.42 4	$\sigma(\text{rel})$: for 4078+4092+4122.
4092 8	(1/2 ⁺)		
4122 8	(5/2 ⁻ ,7/2 ⁻)		
4472 8			
4511 8			
4678 8			
4737 8			
4928 8			
5010 8			
5168 8			
5800			
6700			
7900			
9300			

[†] From [1958Sp88](#) for levels up to 5168, from [1966Li02](#) and [1964Ja02](#) for levels above this energy.

[‡] From Hauser-Feshbach analysis in [1986St02](#), with brackets added by the evaluator.

[#] Relative total cross-section from [1986St02](#).