$^{39}\text{K}(d, {}^3\text{He})$ 1983Bh03,1970Gr02,1968Wi14

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

$J^\pi(^{39}\text{K g.s.})=3/2^+$.

1983Bh03: E=22.8 MeV deuteron beam was produced from the Argonne National Laboratory cyclotron. Target was 130 μg/cm^2
    ^{39}K. Reaction products were detected with a ΔE-E counter telescope (FWHM=140 keV). Measured $\sigma(\theta)$. Deduced levels, J, π,
    L-transfers, spectroscopic factors from DWBA analysis. Comparisons with available data and shell-model calculations.

1970Gr02: E=28.9 MeV deuteron beam was produced from the University of Michigan 83-inch cyclotron. Target was natural KI
    (93.1% in ^{39}K). Reaction products were detected with a ΔE-E counter telescope of surface-barrier detectors (FWHM=110 keV).
    Measured $\sigma(\theta)$. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis. Comparisons with available data.

1968Wi14: E=34.5 MeV deuteron beam was produced from the ORIC. Target was KI. Reaction products were detected with a
    ΔE-E solid-state detector telescope (FWHM=100 keV). Measured $\sigma(\theta)$. Deduced levels, J, π, L-transfers, spectroscopic factors
    from DWBA analysis.

^{38}Ar Levels

Spectroscopic factor C^{2}S is defined using the formula: dσ/dΩ(exp)=N$\times$C^{2}S$\times$dσ/dΩ(DWBA), where N is the normalization factor.

E(level)[†]	J$^{\pi}$[‡]	L[#]	C^{2}S[@]	Comments
0	0$^+$	2	0.44	C^{2}S: others: 0.53 (1970Gr02), 0.49 (1968Wi14).
2168 *10*	2$^+$	2(+0)	2.41	E(level): other: 2160 *30* (1983Bh03).
				L: 1970Gr02 and 1968Wi14 suggest a small L=0 component with C^{2}S=0.015 *15*.
				C^{2}S: others: 2.50 (1970Gr02), 2.50 (1968Wi14).
3377	0$^+$	(2)	<0.01	E(level): round-off value from Adopted Levels.
				L,C^{2}S: from 1970Gr02.
3935 *10*	2$^+$	0+2	0.26,0.17	E(level): other: 3930 *30* (1983Bh03).
				C^{2}S: others: 0.16,0.17 (1970Gr02), 0.26,0.13 (1968Wi14).
4569 *10*	2$^+$	0	0.81	E(level): other: 4570 *30* (1983Bh03).
				C^{2}S: others: 0.49 (1970Gr02), 0.62 (1968Wi14).
5158 *10*	2$^+$	0	0.37	E(level): other: 5150 *30* (1983Bh03).
				C^{2}S: others: 0.23 (1970Gr02), 0.33 (1968Wi14).
5563 *10*	1$^+$,2$^+$	0	0.93	E(level): other: 5540 *30* (1983Bh03).
				C^{2}S: others: 0.63 (1970Gr02), 0.78 (1968Wi14).
7120 *30*		2	0.50	E(level): weighted average of 7070 *30* (1983Bh03) and 7140 *20* (1970Gr02). It could be a doublet of 7101 and 7128 levels in Adopted Levels.
				C^{2}S: assumed L+1/2 transfer. Others: 0.40 (1970Gr02), 0.44 (1968Wi14).

† From 1970Gr02, unless otherwise noted.
‡ From Adopted Levels.
# From 1983Bh03, 1970Gr02 and 1968Wi14, unless otherwise noted.
@ Quoted values are from 1983Bh03, unless otherwise noted. Values from 1970Gr02 and 1968Wi14 are in good agreement with
    those in 1983Bh03 and given under comments.