

$^{39}\text{K}(e,e')$  1970Pe03

Type	Author	History Citation	Literature Cutoff Date
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$J^\pi(^{39}\text{K g.s.})=3/2^+$ .

**1970Pe03:** E=60 MeV electron beam was produced from the Yale linear electron accelerator. Target was a 30 mg/cm<sup>2</sup> flake of anhydrous K<sub>2</sub>CO<sub>3</sub> of natural isotopic composition, 93.7% in <sup>39</sup>K. Scattered electrons were analyzed with a double-focusing magnetic spectrometer and detected with two counters. Measured  $\sigma(\theta)$ . Deduced levels, B(EL). Comparisons with available data and DWBA predictions.

Others:

**1985De02:** E=100-310 MeV electrons from the MIT-Bates and the NIKHEF-K facilities. Measured longitudinal and transverse form factors with a high-resolution spectrometer (FWHM=30-100 keV). Deduced B(M1), B(E2) for 2510 level.

**1981Gr04:** E=40-66 MeV beam from the 70-MeV Darmstadt linear accelerator (DALINAC). Measured  $\sigma(\theta)$ , FWHM=35 keV. Deduced B(M1), B(E2) for 2510 level.

**1975We15:** E=50.98,60.65 MeV. Measured  $\sigma(\theta)$ . Deduced partial width  $\Gamma(M1)$ .

**1969Sa16:** E=100-230 MeV. Measured  $\sigma(\theta)$ .

**1963Ba19:** E=41.5 MeV. Measured  $\sigma(\theta)$ .

Elastic scattering (e,e): **1975Li23**, **1973Si15** (E=150,249,497,757 MeV), **1971Si08** (E=497 MeV).

**Additional information 1.**

All data are from **1970Pe03**, unless otherwise noted.

 $^{39}\text{K}$  Levels

Values of B(EL)↑ are extracted from DWBA analysis in **1970Pe03**, unless otherwise noted.

E(level)	$J^\pi^\dagger$	$L^\ddagger$	Comments
0	$3/2^+$		
2510 20	$1/2^+$	2	B(E2)↑=0.00205 11; B(M1)↑=0.015 6 B(E2)↑: weighted average of 0.00210 11 ( <b>1985De02</b> ), 0.00189 18 ( <b>1981Gr04</b> ) and 0.0022 5 ( <b>1970Pe03</b> ), with all values extracted from DWBA analysis. B(M1)↑: weighted average of 0.014 6 ( <b>1985De02</b> ) and 0.015 6 ( <b>1981Gr04</b> ). Note that <b>1985De02</b> and <b>1981Gr04</b> deduced B(M1) from measured B(E2) using the adopted $T_{1/2}=52$ fs 14 at that time, while the currently adopted $T_{1/2}=63$ fs 6.
2820 30	$7/2^-$	3	B(E3)↑=0.0025 5
3020 20	$3/2^-$	3	B(E3)↑=0.0034 6
3600 30	$9/2^-$	3	B(E3)↑=0.0085 8
3870 30		(3)	B(E3)↑=0.0066 7
4110 30		(3)	E(level), $J^\pi$ : doublet of 3883,5/2 <sup>-</sup> and 3939,3/2 <sup>+</sup> . $J^\pi=(7/2)^-$ quoted in <b>1970Pe03</b> . B(E3)↑=0.0076 10
5260 60		(3)	E(level), $J^\pi$ : triplet of 4082,3/2 <sup>-</sup> , 4095,1/2 <sup>+</sup> and 4126,7/2 <sup>-</sup> ( <b>1970Pe03</b> ). $J^\pi=(5/2)^-$ quoted in <b>1970Pe03</b> . B(E3)↑=0.0053 4

<sup>†</sup> From Adopted Levels.

<sup>‡</sup> Multipole order given in table 2 of **1970Pe03**.