

Adopted Levels

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

$Q(\beta^-) = -1.596 \times 10^4$  syst;  $S(n) = 1.80 \times 10^4$  syst;  $S(p) = 83.6$  6;  $Q(\alpha) = -6.53 \times 10^3$  5 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ -15961 syst 17760 syst 84.5 6 -6530 50 [2011AuZZ](#).

Estimated uncertainties:  $\Delta Q^- = 196$ ,  $\Delta S(n) = 298$  ([2011AuZZ](#)).

$Q(\epsilon p) = 5978.2$  5,  $S(2n) = 34358$  196 (syst),  $S(2p) = 4747.6$  7 ([2011AuZZ](#)).

Values in [2003Au03](#):  $Q(\beta^-) = -15770$  200 (syst),  $S(n) = 17760$  300 (syst), [2003Au03](#),  $S(p) = 81$  20,  $S(2n) = 34070$  200,  $S(2p) = 4743$  20.

First isotope identification by [1976Be08](#).

[1980Ew02](#): <sup>45</sup>Sc(p,8n3p)<sup>35</sup>K at  $E_p = 600$  MeV from the synchrocyclotron at the ISOLDE facility at CERN on a 13.6 g/cm<sup>2</sup> ScC<sub>2</sub> target. A 109 cm<sup>3</sup> Ge(Li) detector (FWHM=2.1 keV at 1.33 MeV) for detecting gammas and a telescope (FWHM=50 keV) of two surface barrier detectors ( $\Delta E$ : 20  $\mu$ m, 50 mm<sup>2</sup> and E: 700  $\mu$ m, 150 mm<sup>2</sup>) for detecting protons. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $E_p$ ,  $I_p$ ,  $T_{1/2}$ .

Deduced log *ft*, levels for <sup>35</sup>Ar.

[1990De43](#), [1992Mo15](#): <sup>39</sup>Ti( $\beta^+ \alpha$ )<sup>35</sup>K. Measured  $\beta$ -delayed charged particle spectra.

[1998Sc19](#): Fragmentation of a 500 MeV/nucleon <sup>40</sup>Ca beam from the GSI synchrotron SIS on a 4 g/mc=2 <sup>9</sup>Be target. Measured fragment beta asymmetry,  $T_{1/2}$ . Deduced g-factor.

Mass measurements: [2007Ya08](#), [1976Be08](#).

Structure calculations (quadrupole moments, mass excess, etc.): [2008Mi07](#), [2003Sm02](#), [1978Gu10](#), [1977Sh13](#), [1975Sh10](#).

[Additional information 1](#).

<sup>35</sup>K Levels

Cross Reference (XREF) Flags

- A <sup>35</sup>Ca  $\epsilon$  decay (25.7 ms)
- B <sup>40</sup>Ca(<sup>3</sup>He, <sup>8</sup>Li)

E(level)	$J^\pi$ <sup>†</sup>	$T_{1/2}$	XREF	Comments
0	(3/2) <sup>+</sup>	178 ms 8	AB	$\% \epsilon + \% \beta^+ = 100$ ; $\% \epsilon p = 0.37$ 15 $\mu = (+)0.392$ 7 ( <a href="#">2006Me04</a> , <a href="#">2011StZZ</a> ) $\mu$ : from $\beta$ -NMR spectroscopy ( <a href="#">2006Me04</a> ). Other: 0.36 3 ( <a href="#">1998Sc19</a> , $\beta$ -NMR spectroscopy). Positive sign from analogy with mirror state of <sup>35</sup> S g.s. $\% \epsilon p$ : from <a href="#">1980Ew02</a> . $J^\pi$ : log <i>ft</i> =4.85 to 1/2 <sup>+</sup> , 5.07 to 3/2 <sup>+</sup> and 4.91 to (5/2) <sup>+</sup> ; probable mirror state of <sup>35</sup> S g.s. with $J^\pi = 3/2^+$ . $T_{1/2}$ : from <a href="#">1998Sc19</a> . Other: 190 ms 30 ( <a href="#">1980Ew02</a> ). E(level), $J^\pi$ : possible mirror state of 1572, 1/2 <sup>+</sup> in <sup>35</sup> S.
1553 5			AB	
2690 50			B	
3783 26			A	
4020 37			A	
4790 49			A	
4983 13			A	
5251 73			A	
5536 49			A	
5713 49			A	
5867 38			A	
6092 62			A	
6336 73			A	
9169 23			A	

<sup>†</sup> For all excited states, except 2690,  $J^\pi$ 's are not given but from allowed log *ft* values in <sup>35</sup>Ca decay, these will be restricted to 1/2<sup>+</sup>, 3/2<sup>+</sup> if parent  $J^\pi = 1/2^+$  for <sup>35</sup>Ca.