Adopted Levels

Q(β^-)=−1.595×10^4 *11*; S(n)=17757 *17*; S(p)=83.6 *5*; Q(α)=−6563 *3* 2021Wa16

Q(β^-),S(n): Deduced by the evaluator using mass excesses of 4777 *105* for ^{35}Ca measured by 2023La09, and −1487 *17* for ^{34}K measured by 2024Dr01; −11172.9 *5* for ^{35}K from 2021Wa16. Values from 2021Wa16: Q(β^-)=−16360 *200* (syst), S(n)=18020 *200* (syst).

S(2n)=34860 *200* (syst), S(2p)=4747.5 *6*, Q(ε)=11874.4 *9*, Q(εp)=5978.2 *5* (2021Wa16).

Isotope discovery (2012Th10): ^{40}Ca(^{3}He,^{8}Li)^{35}K at Michigan State (1976Be08).

^{35}K decay measurements:

1980Ew02,1979Ca15: ^{35}K produced via ^{45}Sc(p,8n3p) spallation at CERN. Measured $T_{1/2}$ and $\varepsilon+\beta^+$-delayed protons and γ rays.

2018Sa54,2019ChZU: ^{35}K produced via ^{1}H(^{36}Ar,^{35}K)2n at Texas A&M. Measured $T_{1/2}$ and $\varepsilon+\beta^+$-delayed protons and γ rays.

1998Sc19: Polarized ^{35}K produced via fragmentation of ^{40}Ca on ^{9}Be target at GSI. Measured $T_{1/2}$ and g-factor of ^{35}K ground state from β-NMR.

2006Me04: Polarized ^{35}K produced via ^{36}Ar(^{9}Be,^{10}Li)^{35}K at NSCL, MSU. Measured g-factor of ^{35}K ground state from β-NMR.

^{35}K mass measurements: 2023Zh10, 2007Ya08, 1976Be08.

Theoretical calculations (binding energies, moments, radii, levels, J, π, mass, $T_{1/2}$, reaction rates, etc.): 2023Bo17, 2023Fo05, 2022Zo01, 2020Ma25, 2016Si02, 2016Me17, 2003Sm02.

^{35}K Levels

Cross Reference (XREF) Flags

A ^{35}Ca $\varepsilon+\beta^+$ decay (25.7 ms)
B ^{9}Be(^{36}Ca,^{35}K)
C ^{40}Ca(^{3}He,^{8}Li)

E(level)	J$^\pi$[†]	$T_{1/2}$	XREF	Comments
0.0	3/2$^+$	175 ms *2*	ABC	%ε+%β^+=100; %εp=0.37 *15* μ=(+)0.392 *7* (2006Me04,2019StZV) %εp: from 1980Ew02 for E(p)>0.9 MeV. E(p)<0.9 MeV has also been observed (2018Sa54,2019ChZU). μ: From β-NMR spectroscopy (2006Me04). Other: 0.36 *3* (1998Sc19, β-NMR spectroscopy). The positive sign is based on the mirror ^{35}S g.s. J$^\pi$: L(^{36}Ca,^{35}K)=2 from 0$^+$ and allowed $\varepsilon+\beta^+$ feeding to 4725.9, 1/2$^+$ level in ^{35}Ar. Mirror level: 3/2$^+$ ^{35}S g.s. $T_{1/2}$: weighted average of 175 ms *2* (2018Sa54), 178 ms *8* (1998Sc19), and 190 ms *30* (1980Ew02).
1553 *5*	(1/2)$^+$		A C	E(level): From ^{35}Ca $\varepsilon+\beta^+$ decay. Other: 1560 *40* from (^{3}He,^{8}Li). J$^\pi$: mirror level: 1/2$^+$ at 1572 keV in ^{35}S.
2690 *50*			C	
3781 *26*	1/2$^+$,3/2$^+$		A	
4018 *37*	1/2$^+$,3/2$^+$		A	
4788 *49*	1/2$^+$,3/2$^+$		A	
4982 *13*	1/2$^+$,3/2$^+$		A	
5249 *73*	1/2$^+$,3/2$^+$		A	
5533 *49*	1/2$^+$,3/2$^+$		A	
5710 *49*	1/2$^+$,3/2$^+$		A	
5865 *38*	1/2$^+$,3/2$^+$		A	
6089 *62*	1/2$^+$,3/2$^+$		A	
6335 *73*	1/2$^+$,3/2$^+$		A	
9168 *23*	1/2$^+$		A	T=5/2 J$^\pi$: isobaric analog state of 1/2$^+$ ^{35}Ca g.s. with log *ft*=3.3 *1*.

[†] Allowed $\varepsilon+\beta^+$ feeding from 1/2$^+$ ^{35}Ca parent, unless otherwise noted.