

Adopted Levels

$Q(\beta^-) = -1.595 \times 10^4$ 11; $S(n) = 17757$ 17; $S(p) = 83.6$ 5; $Q(\alpha) = -6563$ 3 [2021Wa16](#)

$Q(\beta^-), S(n)$: 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](#): $Q(\beta^-) = -16360$ 200 (syst), $S(n) = 18020$ 200 (syst).

$S(2n) = 34860$ 200 (syst), $S(2p) = 4747.5$ 6, $Q(\varepsilon) = 11874.4$ 9, $Q(\varepsilon p) = 5978.2$ 5 ([2021Wa16](#)).

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

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

Theoretical studies: [2003Sm02](#), [1978Gu10](#), [1977Sh13](#), [1975Sh10](#).

 ^{35}K LevelsCross Reference (XREF) Flags

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

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0.0	$3/2^+$	175 ms 2	ABC	$\% \varepsilon + \% \beta^+ = 100$; $\% \varepsilon p = 0.37$ 15 $\mu = (+)0.392$ 7 (2006Me04 , 2019StZV) $\% \varepsilon p$: from 1980Ew02 . 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^π : $L(^{36}\text{Ca}, ^{35}\text{K}) = 2$ 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 $(^3\text{He}, ^8\text{Li})$. J^π : 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^π : 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.