

Adopted Levels

$Q(\beta^-) = -21910$  syst;  $S(n) = 17770$  syst;  $S(p) = 1.03 \times 10^3$  11;  $Q(\alpha) = -8.94 \times 10^3$  11 [2021Wa16](#)

$S(p), Q(\alpha)$ : Deduced by the evaluator using mass excesses of 4777 105 for  $^{35}\text{Ca}$  measured by [2023La09](#),  $-1487$  17 for  $^{34}\text{K}$  measured by [2024Dr01](#), and 11290 16 for  $^{31}\text{Ar}$  measured by [2024Yu13](#). Values from [2021Wa16](#):  $S(p) = 880$  280 (syst),  $Q(\alpha) = -8560$  280 (syst).

$\Delta Q(\beta^-) = 450$ ,  $\Delta S(n) = 360$  (syst, [2021Wa16](#)).

$S(2p) = 417$  105,  $Q(\varepsilon) = 15950$  105,  $Q(\varepsilon p) = 15866$  105, from mass excesses of 4777 105 for  $^{35}\text{Ca}$  measured by [2023La09](#);  $-9384.3$  4 for  $^{33}\text{Ar}$ ,  $-11172.9$  5 for  $^{35}\text{K}$ , and  $-18378.29$  8 for  $^{34}\text{Ar}$  from [2021Wa16](#). Values from [2021Wa16](#):  $S(2p) = 00$  200 (syst),  $Q(\varepsilon) = 16360$  200 (syst),  $Q(\varepsilon p) = 16280$  200 (syst).

$S(2n) = 41980$  450 (syst) ([2021Wa16](#)).

Isotope discovery ([2011Am01](#)):  $^{40}\text{Ca}(^3\text{He}, \alpha 4n)^{35}\text{Ca}$  at Berkeley ([1985Ay01](#)).

[1999Tr04](#), [1998Le45](#):  $^{35}\text{Ca}$  produced via the fragmentation of  $^{40}\text{Ca}$  on Ni target at GANIL. Measured  $T_{1/2}$  and  $\varepsilon + \beta^+$ -delayed 1p/2p emissions.  $^{35}\text{Ca}$  isotope production at GANIL: [1986La17](#), [1986AnZV](#).

Mass measurements: [2023La09](#), [1985Ay01](#).

Theoretical calculations: [2003Sm02](#), [1998Co30](#), [1997Co19](#), [1991De26](#), [1990Br26](#).

 $^{35}\text{Ca}$  LevelsCross Reference (XREF) Flags

A  $^1\text{H}(^{37}\text{Ca}, t)$   
 B  $^9\text{Be}(^{36}\text{Ca}, ^{35}\text{Ca})$   
 C  $^9\text{Be}(^{37}\text{Ca}, X)$

E(level)	$J^\pi$	$T_{1/2}$	XREF	Comments
0.0	$1/2^+$	25.7 ms 2	AB	$\% \varepsilon + \% \beta^+ = 100$ ; $\% \varepsilon p = 95.8$ 3; $\% \varepsilon 2p = 4.2$ 3 $T_{1/2}$ : from implant-decay correlation in <a href="#">1999Tr04</a> . Other: 50 ms 30 estimated by comparison with the $^{22}\text{Al}$ yield from <a href="#">1985Ay01</a> . $J^\pi$ : $L(^{36}\text{Ca}, ^{35}\text{Ca}) = 0$ from $0^+$ . $\% \varepsilon p$ and $\% \varepsilon 2p$ are derived from the renormalization of $\% \Sigma I(1p) + \% \Sigma I(2p) = 100.6$ in <a href="#">1999Tr04</a> to 100. The original decay branching ratios in <a href="#">1999Tr04</a> : $\% \Sigma I(1p) = 96.4$ 18 and $\% \Sigma I(2p) = 4.2$ 3.
$2.09 \times 10^3$ 10	$3/2^+$		A C	E(level): weighted average of $2.24\text{E}3$ 33 from $^1\text{H}(^{37}\text{Ca}, t)$ and $2.08\text{E}3$ 10 from $(^{37}\text{Ca}, X)$ . $J^\pi$ : $L = 0$ from $3/2^+$ in $^1\text{H}(^{37}\text{Ca}, t)$ .