

$^{42}\text{Ca}(\text{p}, ^3\text{He})$ [1970Ha10,1970Ko13](#)

<u>Type</u>	<u>Author</u>	<u>History Citation</u>	<u>Literature Cutoff Date</u>
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$J^\pi(^{42}\text{Ca g.s.})=0^+$.

[1970Ha10](#): E=45 MeV proton beam was produced from the Berkeley 88-in cyclotron incident on a gas target. Reaction products were detected by two ΔE -E counter telescopes of three silicon detectors. Measured energy spectrum. Deduced levels, T=2 isobaric analog state.

[1970Ko13](#): E=40 MeV proton beam was produced from the cyclotron facility of the Naval Research Laboratory. Target was a 688 $\mu\text{g}/\text{cm}^2$ self-supporting foil of ^{42}Ca . Measured $\sigma(\theta)$. Deduced levels, J, π , L-transfers from DWBA analysis.

Others: [1974DeZZ](#), [1973ShZQ](#), [1972DeyF](#).

 ^{40}K Levels

<u>E(level)</u>	<u>J^π</u>	<u>$L^\dagger$</u>	<u>Comments</u>
0	4^-		J^π : from Adopted Levels.
1640	0^+	0	E(level): From 1970Ko13 . J^π : 0^+ is confirmed by characteristic L=0 shape and is consistent with its non-population in (d, α) (1970Ko13). This state is interpreted as an anti-analog state (1970Ko13).
2290			doublet: 2290+2291 (1970Ha10).
4375 25	0^+	0	E(level): from 1970Ha10 , interpreted as T=2 analog state. J^π : from L=0 transfer (1970Ko13).

[†] Extracted from DWBA fits to measured differential cross sections ([1970Ko13](#)).