

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen [#] and Balraj Singh		NDS 135, 1 (2016)	31-May-2016

$Q(\beta^-)=18.65 \times 10^3$ 21; $S(n)=2.08 \times 10^3$ 22; $S(p)=18.40 \times 10^3$ 43; $Q(\alpha)=-17.63 \times 10^3$ 33 [2012Wa38](#)

$S(2n)=7060$ 240, $S(2p)=41540$ 550 (syst), $Q(\beta^-n)=11950$ 210 ([2012Wa38](#)).

⁴²P identified in ¹⁸¹Ta(⁴⁸Ca,X) reaction at 55 MeV/nucleon ([1989Le16](#)), ⁹Be(⁴⁸Ca,X) E=212 MeV/nucleon ([1979We10](#)).

Mass measurements: [2000Sa21](#), [2001Sa72](#), [2007Ju03](#).

[1989Le16](#): ¹⁸¹Ta(⁴⁸Ca,X) reaction E=55 MeV/nucleon; measured $T_{1/2}$ and $\% \beta^-n$. Other: [1999YoZW](#), from fragmentation of ⁴⁸Ca beam using ⁹Be(⁴⁸Ca,X) and ¹⁸¹Ta(⁴⁸Ca,X) reactions at 70 MeV/nucleon; preliminary values of $T_{1/2}$ and $\% \beta^-n$ reported.

[2006Kh08](#): Si(⁴²P,X) E=30-65 MeV/nucleon; measured energy-integrated reaction σ ; deduced mean radius.

Others: [1989MuZU](#), [2003Gr22](#).

[Additional information 1](#).

⁴²P Levels

E(level)	$T_{1/2}$	Comments
0	48.5 ms 15	$\% \beta^- = 100$; $\% \beta^-n = 50$ 20 (1989Le16); $\% \beta^- 2n = ?$ Theoretical $T_{1/2} = 42.1$ ms, $\% \beta^-n = 36.3$, $\% \beta^- 2n = 12.8$ (2003Mo09). Theoretical $T_{1/2} = 219$ ms, $\% \beta^-n = 20.6$, $\% \beta^- 2n = 16.3$ (2016Ma12). $T_{1/2}$: From 2004Gr20 (β -decay). Others: 110 ms +40-20 (1989Le16 , β -decay). Mean radius $r_0^2 = 1.25$ fm ² 10 (2006Kh08). Additional information 2 .