

^{100}Rb β^- 2n decay (52 ms) 1982Kr11

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

Parent: ^{100}Rb : $E=0.0$; $J^\pi=(3^+,4^-)$; $T_{1/2}=52$ ms 2; $Q(\beta^-2n)=4033$ 20; $\% \beta^-2n$ decay=0.15 5

^{100}Rb - J^π : From Adopted Levels of ^{100}Rb (update in 2007).

^{100}Rb - $T_{1/2}$: Weighted average of 50 ms 10 (1978Ko29), 51 ms 17 (1979Pe01); 59 ms 10 (1986ReZU), 53 ms 2 (1987PfZX), and 48 ms 3 (2011Ni01). Previously adopted value was 51 ms 8 in Adopted Levels for ^{100}Rb in ENSDF database (Dec 2007 update).

^{100}Rb - $Q(\beta^-2n)$: Deduced by evaluators from mass values in 2017Wa10.

^{100}Rb - $\% \beta^-2n$ decay: $\% \beta^-2n=0.15$ 5, deduced from $P_{2n}/P_{1n}=0.027$ 7 (1981JoZV) and $\% \beta^-n=5.6$ 12 (weighted average of 5.0 10 from 1986ReZU and 8.0 20 from 1987PfZX). Previously adopted value was $\% \beta^-2n=0.16$ 8 in Adopted Levels for ^{100}Rb in ENSDF database (Dec 2007 update).

1982Kr11,1980JuZY: Rb isotopes were produced via $^{238}\text{U}(n,X)$ reactions with neutron beams from the high-flux reactor in Grenoble and reaction products separated by the alkali isotope separator OSTIS. γ rays were detected with large Ge(Li) detectors. Measured E_γ , I_γ . Deduced levels, evidence for β^-2n decay branch.

1981JoZV: ^{100}Rb source was produced via $^{238}\text{U}(n,X)$ reactions at ISOLDE. Neutrons were detected with ^3He proportional counters. Measured neutrons. Deduced P_{2n}/P_{1n} .

Additional information 1.

The β -delayed 2-neutron decay of ^{100}Rb is reported in 1981JoZV with the measurement of P_{2n}/P_{1n} . On the basis of a possible weak 144.6 γ , 1982Kr11 propose that the first 2^+ level at 144.6 in ^{98}Sr is populated in the β -delayed 2-neutron decay of ^{100}Rb .

 ^{98}Sr Levels

E(level)	J^π †	$T_{1/2}$ †
0.0	0^+	0.653 s 2
144.6	2^+	

† From the Adopted Levels.

 $\gamma(^{98}\text{Sr})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
144.6	<3	144.6	2^+	0.0	0^+	E_γ, I_γ : from 1982Kr11, intensity relative to 100 for 129 γ in ^{100}Sr from ^{100}Rb β^- decay.

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Decay Scheme

Intensities: Relative I_{γ}

