

$^{92}\text{Rh} \beta^+ \text{p} \text{ decay}$ 2012Lo08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 114, 1293 (2013)	1-Sep-2013

Parent: ^{92}Rh : $E=0.0$; $J^\pi=(\geq 6^+)$; $T_{1/2}=5.7 \text{ s } I$; $Q(\beta^+ \text{p})=5698 \text{ 5}$; $\% \beta^+ \text{p} \text{ decay}=1.9 \text{ I}$

$^{92}\text{Rh}-Q(\beta^+ \text{p})$: From 2012Wa38.

$^{92}\text{Rh}-T_{1/2}$: Measured by 2012Lo08; from decay curves of time correlations between implantations and decay radiation, fitted with Poisson distribution using log-likelihood function with consideration of decay of parent, daughter and grand-daughter. This differs from $4.66 \text{ s } 25$ (2004De40; from time behavior of 163γ , 340γ , 818γ and 919γ In ^{92}Ru following $^{92}\text{Rh} \varepsilon$ decay) and $3.0 \text{ s } 8$ (2001Xu05,2005Xu04) from $893\gamma(t)$ following εp decay, requiring $893\gamma-(2.4-5.0 \text{ MeV})\text{P}$ coin), but is consistent with $5.6 \text{ s } 5$ (2001Ki13) and $5.6 \text{ s } 3$ (2002Ku21; from time-to-digital converter spectrum gated by 817γ , 865γ and 990γ In ^{92}Ru).

$^{92}\text{Rh}-J^\pi$: From ^{92}Rh Adopted Levels.

$^{92}\text{Rh}-\% \beta^+ \text{p} \text{ decay}$: $\% \beta^+ \text{p}=1.9 \text{ I}$ (2012Lo08).

^{92}Rh produced by fragmentation of a $120 \text{ MeV/nucleon } ^{112}\text{Sn}$ beam by a $195 \text{ mg/cm}^2 \text{ } ^9\text{Be}$ target at the National Superconducting Cyclotron Laboratory (NSCL); fragments separated by the A1900 Fragment Separator operated in achromatic mode and the Radio Frequency Fragment Separator (RFFS); Kapton wedge at intermediate image of A1900 selected Z; magnetic- and velocity-purified beam traversed 3 Si PIN detectors prior to implantation in double-sided Si strip detector segmented into 1600 pixels; 6 single-sided Si strip detectors and planar Ge detector served as β calorimeter (for $E_\beta \leq 14 \text{ MeV}$); SeGA segmented Ge array (16 HPGe detectors) arranged in concentric rings, one upstream and one downstream of double-sided Si strip detectors (FWHM 2.5-2.8 keV). Measured E_γ , I_γ , β spectra, $E(p)$, $I(p)$, $\beta\gamma$ -coin, βp -coin (1800 events), $\gamma\beta\text{p}$ -coin, half-life, β -delayed proton emission probability.

No evidence was found for a 2^+ isomer in ^{92}Rh (2012Lo08).

2012Lo08 do not provide a decay scheme; the scheme given here was constructed by the evaluator in accord with Adopted Levels, Gammas.

 ^{91}Tc Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$
0.0	$(9/2)^+$
394.4 2	$(7/2)^+$
893.1 2	$(13/2^+)$
1097.5 5	$(11/2^+)$

† From E_γ (2012Lo08).

‡ From Adopted Levels.

 $\gamma(^{91}\text{Tc})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
394.4 2	100 20	394.4	$(7/2)^+$	0.0	$(9/2)^+$	γ -gated $T_{1/2}=4 \text{ s } I$ (2012Lo08).
893.1 2	98 20	893.1	$(13/2^+)$	0.0	$(9/2)^+$	γ -gated $T_{1/2}=5 \text{ s } I$ (2012Lo08).
1097.5 5	15 10	1097.5	$(11/2^+)$	0.0	$(9/2)^+$	

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Decay Scheme

Intensities: Relative I_γ

