

^{56}Ti β^- decay (200 ms) [2003Ma56](#),[1998Am04](#),[1996Do23](#)

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	25-Mar-2022

Parent: ^{56}Ti : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=200$ ms 5; $Q(\beta^-)=676\times 10^1$ 19; $\% \beta^-$ decay=100.0

^{56}Ti - $T_{1/2}$: From ^{56}Ti Adopted Levels.

^{56}Ti - $Q(\beta^-)$: From [2021Wa16](#).

[2003Ma56](#): ^{56}Ti isotope produced in $^9\text{Be}(^{86}\text{Kr}^{34+}, X)$ at $E(^{86}\text{Kr})=140$ MeV/nucleon followed by separation of fragments using A1900 fragment separator. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, $\beta\gamma$ -coin, $T_{1/2}$ using a double-sided Si microstrip detector (DSSD) and Segmented Germanium Array (SeGA) arranged around the β counting system.

[1998Am04](#): ^{56}Ti isotope produced in $^9\text{Be}(^{86}\text{Kr}^{34+}, X)$ at $E(^{86}\text{Kr})=500$ MeV/nucleon, fragments separated using FRS fragment separator at GSI by a combination of $B\rho$, ΔE and tof techniques. Measured $T_{1/2}$ of decay of ^{56}Ti .

[1996Do23](#): ^{56}Ti isotope produced in $^9\text{Be}(^{65}\text{Cu}^{26+}, X)$ at $E=64.5$ MeV/nucleon; identification of particle from energy loss and tof at GANIL. Measured singles β^- and $\beta\gamma$ -coin.

 ^{56}V Levels

<u>E(level)</u>	<u>J^π</u>	<u>$T_{1/2}$</u>	<u>Comments</u>
0.0	1^+	216 ms 4	$J^\pi, T_{1/2}$: from the Adopted Levels.

 β^- radiations

<u>E(decay)</u>	<u>E(level)</u>	<u>$I\beta^-^\dagger$</u>	<u>Log ft</u>	<u>Comments</u>
$(6.76\times 10^3$ 19)	0.0	94 3	3.86 6	av $E\beta=3124$ 93 $I\beta^-$: no evidence was found by 2003Ma56 for delayed g rays from ^{56}Ti decay with absolute γ -ray intensity greater than 2%. Further search for γ rays in ^{55}V for possible β -delayed neutron decay mode of ^{56}Ti did not show any γ rays. On this basis, 2003Ma56 deduced β branching of 94% 3 to ^{56}V ground state, with little or no β branching to excited states in ^{56}V . \$Note that results in 1996Do23 are in contradiction to those from 2003Ma56 . 1996Do23 estimated that 40% of all the ^{56}Ti β decay to low-lying levels in ^{56}V in the range of 0.2 MeV to 0.8 MeV from a comparison of the numbers of ^{56}Ti β singles and $\beta\gamma$ -coin events, while excluding β feeding of the g.s. of ^{56}V , as also in the decay of ^{54}Ti decay.

† Absolute intensity per 100 decays.