

^{20}C β^- decay 2003Yo02

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. G. Sheu, J. H. Kelley	ENSDF	31-Dec-2018

Parent: ^{20}C : $E=0$; $J^\pi=0^+$; $T_{1/2}=16.3$ ms $+40-35$; $Q(\beta^-)=1574\times 10^1$ 24; $\% \beta^-$ decay=100.0

^{20}C - $T_{1/2}$: weighted average of (1989Le16,1990Mu06,2003Yo02 and p.l. Reeder et al., Int. Conf. on Nucl. Data for Science and Technology, May 9-13, 1994, Gatlinburg, Tennessee).

^{20}C - $Q(\beta^-)$ from (2017Wa10).

2003Yo02: ^{20}C ions were produced at the RIKEN/RIPS facility and implanted in a plastic scintillator detector. An array of 13 liquid scintillator detectors surrounded the implantation target. Following implantation, β and $\beta+n$ coincidence counting were carried out for 100 ms (to permit decay of daughter & granddaughter activity). Standard pulse shape analysis was used to identify high-energy neutrons, while for $50 \text{ keV} \leq E_{\text{eq}} \leq 200 \text{ keV}$ the time of flight information was used to separate neutrons and γ rays. Analysis of the 1n- and 2n- coincidence events yielded values of $P_{1n} = 65 +19-18$ and $P_{2n} < 18.6$ which implies $\% \beta-0n \approx 35$ 20. No details on the neutron emission energies was determined. $T_{1/2}(^{20}\text{C})=21.8$ ms $+150-74$ was also measured.

See also (1989LeZM,1989MuZU,1990LeZR).

 ^{20}N Levels

E(level)	J^π	$T_{1/2}$	Comments
0	(2 $^-$)	134.4 ms 37	
0+x			x>2157.32 keV.

 β^- radiations

E(decay)	E(level)	$I\beta^{-\dagger}$	Log ft	Comments
(8×10^3 8)	0+x	65 20		
(1.574×10^4 24)	0	35 20	4.8 4	av $E\beta=7.61\times 10^3$ 12

\dagger Absolute intensity per 100 decays.

\ddagger Estimated for a range of levels.