^{17}F β^+ decay 1969Ga05

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. G. Sheu, J. H. Kelley, J. Purcell	ENSDF	5-Aug-2021

Parent: ^{17}F: E=0; $J^\pi=5/2^+$; $T_{1/2}$=64.385 s *53*; Q(β^+)=2760.47 *25*; %β^+ decay=100.0

^{17}F-$T_{1/2}$: Weighted Average (external uncertainty) of (1977Al20: 64.80 s *12*), (1977Az01: 64.31 s *9*), (2015Gr14: 64.347 s *35*) and (2016Br01: 64.402 s *39*). See also (1949Br27, 1954Wo20, 1954Ko54, 1958Ar15, 1960Ja12, 1969Wo09, 1972Al42) for other $T_{1/2}$ values measured and the analysis of half-lives (2008Se10).

^{17}F-Q(β^+): From (2017Wa10).

1949Br27: ^{17}F(β^+); measured $T_{1/2}$.

1954Ko54: ^{17}F(β^+); measured $T_{1/2}$.

1954Wo20: ^{17}F(β^+); measured $T_{1/2}$.

1958Ar15: ^{17}F(β^+); measured $T_{1/2}$.

1960Ja12: ^{17}F; measured not abstracted; deduced nuclear properties.

1969Ga05: ^{17}F β^+-decay was studied by bombarding a 3-MeV deuterons beam a thick target PbO_2 with the Van de Graaff accelerator. A 22-cc Ge(Li) detector was used to measure γ-rays. Four runs were made to search possible 871-keV γ-ray that results from the ^{17}F→^{17}O*(8.57 MeV) decay. The upper limit for this transition is determined as $<3.4\times10^{-4}$, corresponig to log *ft*>5.6.

1969Wo09: ^{17}F(β^+); measured $T_{1/2}$.

1972Al42: ^{17}F(β^+); measured $T_{1/2}$.

1977Al20: ^{17}F(β^+); measured $T_{1/2}$.

1977Az01: ^{17}F(β^+); measured $T_{1/2}$.

1987SeZL,1987SeZR,1988Se11: ^{17}F(β^+); measured β-anisotropy.

1989Se07: ^{17}F(β^+); measured $\beta(\theta)$, oriented nuclei.

1990FuZQ,1991MaZL,1992Mi13,1993Mi33: ^{17}F(β^+); measured β-NMR spectra asymmetry change in NaF; deduced μ.

2000Se23: ^{17}F(β^+); measured polarization asymmetry correlation.

2007Zh03: ^{17}F(β^+),(ε); measured β-NMR spectra from polarized source. ^{17}F deduced quadrupole moment.

2015Gr14: ^{17}F(β^+),(ε); measured E_β, I_β, E_γ, half-lives of the ground states; deduced *ft*.

2016Br01: ^{17}F(β^+); measured β radiation, half-life.

See also (2015To02, 2012Sa50: theory).

^{17}O Levels

E(level)	J^π	$T_{1/2}$
0	$5/2^+$	
870.756 *20*	$1/2^+$	179.6 ps *27*

ε,β^+ radiations

E(decay)	E(level)	Iβ^+[†][‡]	Iε[‡]	Log *ft*	I($\varepsilon+\beta^+$)[‡]	Comments
(1889.7 *3*)	870.756	<0.034	<0.00042	>5.6	$<3.4\times10^{-2}$	av Eβ=349.16 *11*; εK=0.01156 *1*; εL=0.0006887 *7*
(2760.47 *25*)	0	99.8544 *15*	0.1456 *15*	3.3562 *5*	100	av Eβ=739.46 *12*; εK=0.0013744 *6*; εL=8.184×10^{-5} *4*

† From (1969Ga05).

‡ Absolute intensity per 100 decays.