^{91}Nb ε decay (6.8×10^2 y)   **1993Hi09,1982Na17**

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

Parent: ^{91}Nb: E=0.0; J^{π}=9/2$^+$; T$_{1/2}$=6.8×10^2 y 13; Q(ε)=1258 3; %ε+%β^+ decay=100.0

Additional information 1.

1993Hi09: radiochemically separated ^{91}Nb source; intrinsic Ge detectors; measured I($\gamma^{\pm}$), I(Zr K x ray); deduced %Iβ+.

1982Na17: HPGe detector, FWHM=263 eV at 5.9 keV and 563 eV at 122 keV. Measured K x ray activity of mass-separated sample; deduced parent T$_{1/2}$.

^{91}Zr Levels

E(level)	J$^{\pi}$
0	5/2$^+$

ε,β^+ radiations

E(decay)	E(level)	Iβ^+ †	Iε †	Log ft	I($\varepsilon+\beta^+$)†	Comments
(1258 3)	0	0.170 10	99.830 10	10.58 9	100	av Eβ=109.7 13; εK=0.8696; εL=0.10509 2; εM+=0.023621 4 Iβ^+: see comment on log ft. measured Iβ=0.0077% 8 (1993Hi09), deduced from I($\gamma^{\pm}$) and I(K x ray, Zr) measured as a function of time for≈590 days in order to differentiate between contributions from ^{91}Nb(60.86 d) and ^{91}Nb(680 y) in source. Iε: (100 − measured %Iβ+)=99.9923 8 (1993Hi09). see comment on log ft. Log ft: calculated for an allowed transition assuming %($\varepsilon+\beta^+$)=100. However, note that measured Iβ^+/Iε=0.000077 8 for this second-forbidden nonunique transition differs significantly from that calculated here (0.00170 10) assuming an allowed transition.

† Absolute intensity per 100 decays.