^{92}Nb ε decay (3.47×10^7 y) 1978Ne04,1977Ma45

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 2187 (2012)	15-Sep-2012

Parent: ^{92}Nb: E=0.0; $J^\pi=7^+$; $T_{1/2}=3.47\times10^7$ y *24*; Q(ε)=2005.9 *18*; %ε+%$β^+$ decay=100.0

Others: 1972KnZY, 1974Ap03.

1978Ne04: ^{93}Nb(n,2n)^{92}Nb g.s.; chem. The decay of ^{92}Nb g.s. was measured ≈1 year after irradiation by detecting the 561γ-934γ cascade.

1977Ma45: Mo(n,p) E=th; chem; measured 650 days after irradiation.

^{92}Zr Levels

E(level)†	Jπ‡
0.0	0^+
934.5	2^+
1495.6	4^+

† From Eγ.
‡ From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	Iε†	Log *ft*	I(ε+$β^+$)†	Comments
(510.3 *18*)	1495.6	100	14.44^{2u} *4*	100	εK=0.8336 *3*; εL=0.13485 *18*; εM+=0.03151 *5*

† Absolute intensity per 100 decays.

γ(^{92}Zr)

Iγ normalization: from Ti(561γ)=100%.

Eγ‡	Iγ@	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	α&	Comments
561.1	282† *36*	1495.6	4^+	934.5	2^+	E2	0.00299 *5*	α=0.00299 *5*; α(K)=0.00262 *4*; α(L)=0.000303 *5*; α(M)=5.26×10^{-5} *8*; α(N+..)=7.88×10^{-6} *11* α(N)=7.39×10^{-6} *11*; α(O)=4.93×10^{-7} *7* I(γ+ce)=100% from level scheme.
934.5	210† *17*	934.5	2^+	0.0	0^+	E2	0.000786 *11*	α=0.000786 *11*; α(K)=0.000693 *10*; α(L)=7.73×10^{-5} *11*; α(M)=1.341×10^{-5} *19*; α(N+..)=2.03×10^{-6} α(N)=1.90×10^{-6} *3*; α(O)=1.320×10^{-7} *19* I(γ+ce)=100% from level scheme.

† I(935γ):I(561γ)=0.210 *17*:0.282 *36* (1977Ma45). Although it is not clear from authors′ text, it appears that this ratio has not been corrected for detector efficiency; 1978Ne04 assume Iγ≈100% for each G.
‡ From 1978Ne04; no uncertainties are stated.
# From Adopted Gammas.
@ For absolute intensity per 100 decays, multiply by 0.354 *45*.
& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays