^{98}Tc β^- decay (4.2×10^6 y) 1973CoYY

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh	NDS 164, 1 (2020)	15-Feb-2020

Parent: ^{98}Tc: E=0; $J^\pi=(6)^+$; $T_{1/2}$=4.2×10^6 y *3*; Q(β^-)=1793 *7*; %β^- decay=100.0
^{98}Tc-J^π,$T_{1/2}$: From ^{98}Tc Adopted Levels.
^{98}Tc-Q(β^-): From 2017Wa10.
1973CoYY, 1966GoZZ: Source was TcO_2 solution. γ rays were detected with a large Ge(Li) detector. Measured Eγ, Iγ.
Others:
β^-: 1973Ok05, 1955Ka26.
β-γ-coin: 1973Ok05, 1956Ok15, 1956Bo65, 1955Ka26.
γ: 1993Ko64, 1979Dz07, 1966GoZZ, 1958Ka11, 1956Bo65, 1955Ka26.
$T_{1/2}$ (^{98}Tc isotope): 1966GoZZ, 1973Ok05, 1993Ko64. Others: 1956Ok15 (quoted by 1956Bo65), 1955Bo97, 1955Ka26.

^{98}Ru Levels

The level scheme is from 1973CoYY.

E(level)	J^π[†]
0.0	0^+
652.41 *5*	2^+
1397.77 *7*	4^+

[†] From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(395 *7*)	1397.77	100	14.05 *4*	av Eβ=118.5 *24* E(decay): measured 397 *22* from 1973Ok05. Other: 1955Ka26.

[†] Absolute intensity per 100 decays.

γ(^{98}Ru)

Iγ normalization: Iγ(652γ)=100. No ε decay detected (1993Ko64).
Iγ(1398γ)<0.49 (1973CoYY).

E$_\gamma$[†]	I$_\gamma$[†#]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[‡]	α[@]	Comments
652.41 *5*	100	652.41	2^+	0.0	0^+	E2	0.00253	α(K)=0.00221 *3*; α(L)=0.000265 *4*; α(M)=4.85×10^{-5} *7* α(N)=7.80×10^{-6} *11*; α(O)=3.89×10^{-7} *6*
745.35 *5*	102 *7*	1397.77	4^+	652.41	2^+	E2	0.00179	α(K)=0.001565 *22*; α(L)=0.000185 *3*; α(M)=3.39×10^{-5} *5* α(N)=5.46×10^{-6} *8*; α(O)=2.77×10^{-7} *4*

[†] From 1973CoYY, with Iγ(745γ)/Iγ(652γ)=1.02 *7*.
[‡] From Adopted Gammas.
[#] Absolute intensity per 100 decays.
[@] 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