^{99}Tc β^- decay (2.111×10^5 y) 1973Le10,1974En02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

Parent: ^{99}Tc: E=0; $J^\pi=9/2^+$; $T_{1/2}=2.111\times10^5$ y *12*; $Q(\beta^-)=297.5$ *10*; $\%\beta^-$ decay=100.0
Measured: γ (1974En02,1973Le10), ce (1973Le10,1974En02), β, $\beta\gamma$, $\beta\gamma$(t) (1974En02).

^{99}Ru Levels

E(level)	J^π[†]	$T_{1/2}$[‡]
0	$5/2^+$	
89.50 *20*	$3/2^+$	18.9 ns *10*

[†] Adopted values.
[‡] From $\beta\gamma$(t) (1974En02).

β^- radiations

Shape factor of the second-forbidden β(g.s.) (1974Re11).

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
(208.0 *10*)	89.50	0.0016 *4*	15.78^{2u} *11*	av Eβ= 81.7 *6*
(297.5 *10*)	0	99.9984 *4*	12.325 *12*	av Eβ= 84.6 *5*

[†] From absolute Iγ (1973Le10).
[‡] Absolute intensity per 100 decays.

γ(^{99}Ru)

Iγ normalization: Measured absolute intensity (1974En02).
Internal bremsstrahlung measured by 1983Gu07, 1984El11, and 2000Ke02.
Measurements of K-shell autoionization probability: 0.000352 *20* (1980La02), 0.00039 *3* (1974Ha12), 0.000389 *16* (1972Wa32).

E$_\gamma$[‡]	I$_\gamma$[a]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[#]	δ[#&]	α[†@]	Comments
89.5 *2*	100	89.50	$3/2^+$	0	$5/2^+$	E2+M1	−1.56 *2*	1.50 *3*	α(K)=1.174 *20*; α(L)=0.265 *5*; α(M)=0.0497 *9* α(N)=0.00745 *14*; α(O)=0.000173 *3*

[†] Additional information 1.
[‡] From 1974En02.
[#] From Adopted γ rays.
[@] Additional information 2.
[&] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[a] For absolute intensity per 100 decays, multiply by 6.5×10^{-6} *15*.

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Decay Scheme

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