^{114}Ru β^- decay 1992Jo05

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

Parent: ^{114}Ru: E=0.0; $J^\pi=0^+$; $T_{1/2}$=0.52 s *5*; Q(β^-)=5.50×10^3 *7*; %β^- decay=100.0

Activity: ^{238}U(p,F), E=20 MeV, on-line isotope separator IGISOL.

Measured: γ, $\gamma\gamma$, γ(t), ce, Ge(Li), Ge, Si(Li), Electron spectrometer.

Q(β^-)=6120 *20* (1992Jo05) disagrees with mass adjustment value of 4800 syst (1993Au05)?, but is closer (5.50E+3 7) than the new 2011AuZZ.

The beta feedings and logft values should be considered as limits only.

^{114}Rh Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	1^+	1.85 s *5*	$T_{1/2}$: From Adopted Levels.
126.89 *18*	$(2)^+$		
179.35 *23*	1^+		
255.1 *4*	1^+		
267.0 *4*	1^+		

β^- radiations

E(decay)	E(level)	Iβ^- [†]	Log *ft*	Comments
(5.23×10^3 *7*)	267.0	4.6 *18*	5.37 *18*	av Eβ=2316 *34*
(5.24×10^3 *7*)	255.1	14 *6*	4.89 *20*	av Eβ=2322 *34*
(5.32×10^3 *7*)	179.35	26 *10*	4.65 *18*	av Eβ=2358 *34*
(5.50×10^3 *7*)	0.0	60 *14*	4.35 *12*	av Eβ=2444 *34*

[†] Absolute intensity per 100 decays.

γ(^{114}Rh)

Iγ normalization: the total β feeding was determined from the growth and decay of the 373 keV in ^{114}Rh decay.

E$_\gamma$ [‡]	I$_\gamma$ [#]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult. [†]	δ	α [@]	Comments
52.7 *3*	27 *4*	179.35	1^+	126.89	$(2)^+$	M1(+E2)	≤0.27	2.5 *4*	α(K)exp>1.11 α(K)=2.33; α(L)=0.494; α(M)=0.093; α(N+..)=0.0168 Mult.: δ≤0.27. α(K)exp: from α(K)>1.11 Mult≠E1. From intensity balance at the 127 level Mult=M1(+E2) with δ≤0.27.
87.7 *3*	12 *2*	267.0	1^+	179.35	1^+	M1(+E2)	≤0.25	0.55 *5*	α(K)=0.436; α(L)=0.0531; α(M)=0.00987; α(N+..)=0.00193 α(K)exp=0.47 *4*
127.0 *2*	100 *16*	126.89	$(2)^+$	0.0	1^+	M1+E2	0.78 *4*	0.328 *10*	α(K)exp=0.274 *7* α(K)=0.273; α(L)=0.0454; α(M)=0.0085; α(N+..)=0.00156
128.2 *3*	42 *11*	255.1	1^+	126.89	$(2)^+$	[M1,E2]		0.36 *19*	α(K)=0.30 *15*; α(L)=0.05 *4*; α(M)=0.010 *7*; α(N+..)=0.0018 *12*
[x]145.1 *3*									

Continued on next page (footnotes at end of table)

^{114}Ru β^- decay 1992Jo05 (continued)

$\gamma(^{114}Rh)$ (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[@]	Comments
179.1 *3*	31 *5*	179.35	1^+	0.0	1^+	[M1,E2]	0.12 *5*	α(K)=0.10 *4*; α(L)=0.015 *8*; α(M)=0.0028 *15*; α(N+..)=0.0005 *3*

[†] From electron measurements.
[‡] ΔE estimated by evaluators.
[#] For absolute intensity per 100 decays, multiply by 0.24 *8*.
[@] 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.
[x] γ ray not placed in level scheme.

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Decay Scheme

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