

^{114}Rh β^- decay (1.85 s): $J=1^+$ 2003Lh01

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

Parent: ^{114}Rh : $E=0.0$; $J^\pi=1^+$; $T_{1/2}=1.85$ s 5; $Q(\beta^-)=7.78$ 7; $\% \beta^-$ decay=100.0

^{114}Rh -from systematics (2011AuZZ).

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

The first work of 1988Ay02 used the same facility but the new work benefited from production yields improved by two orders of magnitude.

Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, and $\beta\gamma$ using four Ge detectors.

 ^{114}Pd Levels

E(level) [†]	J^π [‡]
0	0^+
332.61 10	2^+
694.64 18	2^+
852.41 23	4^+
1115.50 21	(0^+)
1391.66 24	2^+

[†] From least-squares fit to $E\gamma$'s.

[‡] From Adopted Levels

3.

 β^- radiations

E(decay)	E(level)	$I\beta^-$ [†]	Log ft	Comments
(-1383.88 25)	1391.66	9 3	6.1 2	av $E\beta=2922$ 144
(-1107.72 22)	1115.50	10 4	6.1 2	av $E\beta=3054$ 144
(-686.86 19)	694.64	31 12	5.7 2	av $E\beta=3255$ 143
(-324.83 12)	332.61	19 16	6.0 4	av $E\beta=3427$ 143
(7.78 7)	0	30 15	5.9 2	av $E\beta=3586$ 143

[†] Absolute intensity per 100 decays.

 $\gamma(^{114}\text{Pd})$

E_γ	I_γ [†]	E_i (level)	J_i^π	E_f	J_f^π	Mult.	Comments
276.2 4	1.3 5	1391.66	2^+	1115.50	(0^+)		
332.6 1	100 28	332.61	2^+	0	0^+	E2	Mult.: Measurements of 1988Ay02 support the E2 character of this transition.
362.0 2	46 21	694.64	2^+	332.61	2^+		
519.8 2	3.1 12	852.41	4^+	332.61	2^+		
539.6 2	3.1 10	1391.66	2^+	852.41	4^+		
694.7 3	18 7	694.64	2^+	0	0^+		
697.0 2	11 2	1391.66	2^+	694.64	2^+		
782.9 2	19 2	1115.50	(0^+)	332.61	2^+		

[†] For absolute intensity per 100 decays, multiply by 0.58 13.

^{114}Rh β^- decay (1.85 s): $J=1^+$ 2003Lh01

Decay Scheme

Intensities: I_γ per 100 parent decays

Legend

- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{max}$
- \longrightarrow $I_\gamma < 10\% \times I_\gamma^{max}$
- \longrightarrow $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

