

$^{108}\text{Rh} \beta^-$ decay (6.0 min) [1984Bh02,1969Pi08](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Parent: ^{108}Rh : E=0.0+x; $J^\pi=(5^+)$; $T_{1/2}=6.0$ min 3; $Q(\beta^-)=4.51 \times 10^3$ 11; % β^- decay=100.0

^{108}Rh -E: E=-60 (110) in [2003Au03](#).

[1969Pi08](#) activity: Pd(n,p) E= 14 MeV. Measured: γ , $\gamma\gamma$, $\gamma(t)$.

[1984Bh02](#) activity: Pd(n,p) E= 14 MeV. Measured: γ , $\gamma\gamma$, $\gamma(t)$.

The decay scheme is that proposed by [1984Bh02](#). The γ spectrum has been studied to 3500 keV.

 ^{108}Pd Levels

E(level)	$J^\pi^\dagger$
0	0^+
434.21 18	2^+
931.29 20	2^+
1048.98 24	4^+
1335.67 22	(3^+)
1772.3 3	6^+
2283.0 3	
2536.4 6	
2864.4 3	$4^+, 5^+, 6^+$

† Adopted values given.

 β^- radiations

E(decay)	E(level)	$I\beta^{-\dagger\ddagger}$	Log ft	Comments
$(1.65 \times 10^3$ 11)	2864.4	68 5	4.84 9	av $E\beta=594$ E(decay): 1570 50 (1969Pi08) $\beta\gamma$ -coin.
$(1.97 \times 10^3$ 11)	2536.4	21 5	5.60 10	av $E\beta=741$
$(2.74 \times 10^3$ 11)	1772.3	6.1 25	6.8 3	av $E\beta=1093$

† From $I(\gamma+\text{ce})$ -imbalance at each level.

‡ Absolute intensity per 100 decays.

 $\gamma(^{108}\text{Pd})$

I_γ normalization: from sum $I(\gamma \text{ to g.s.})=100$.

E_γ	$I_\gamma^{\dagger\ddagger}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
327.6 3	6 1	2864.4	$4^+, 5^+, 6^+$	2536.4		
404.3 2	30 3	1335.67	(3^+)	931.29	2^+	I_γ : $I_\gamma=30.2$ (1969Pi08).
434.2 1	100	434.21	2^+	0	0^+	
$^x437.6$ 3	6 1					
497.4 2	22 1	931.29	2^+	434.21	2^+	I_γ : $I_\gamma=25.2$ (1969Pi08).
581.1 2	68 5	2864.4	$4^+, 5^+, 6^+$	2283.0		I_γ : $I_\gamma=64.3$ (1969Pi08).
614.3 4	24 2	1048.98	4^+	434.21	2^+	I_γ : $I_\gamma=30.5$ (1969Pi08).
723.3 5	12 2	1772.3	6^+	1048.98	4^+	I_γ : $I_\gamma=8.0$ (1969Pi08).
901.3 2	32 3	1335.67	(3^+)	434.21	2^+	I_γ : $I_\gamma=33.5$ (1969Pi08).
931.6 2	14 2	931.29	2^+	0	0^+	I_γ : $I_\gamma=9.8$ (1969Pi08).

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 $^{108}\text{Rh } \beta^- \text{ decay (6.0 min) } \quad \text{1984Bh02,1969Pi08 (continued)}$

 $\gamma(^{108}\text{Pd}) \text{ (continued)}$

E_γ	$I_\gamma^{\dagger\ddagger}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
947.5 4	56 3	2283.0		1335.67	(3 ⁺)	I_γ : $I_\gamma=54.6$ (1969Pi08). Value of 36 seems to be a misprint in 1984Bh02. From the authors' decay scheme, an intensity balance gives $I_\gamma>58$ 6.
1092.5 3	5 2	2864.4	4 ⁺ ,5 ⁺ ,6 ⁺	1772.3	6 ⁺	I_γ : $I_\gamma=3.2$ (1969Pi08).
1234.3 3	10 2	2283.0		1048.98	4 ⁺	I_γ : $I_\gamma=8.7$ (1969Pi08).
2102.2 5	30 5	2536.4		434.21	2 ⁺	

[†] From 1984Bh02. The 747, 1528, 1815 gammas given by 1969Pi08 are not seen by 1984Bh02.

[‡] For absolute intensity per 100 decays, multiply by 0.877 15.

^x γ ray not placed in level scheme.

^{108}Rh β^- decay (6.0 min) 1984Bh02,1969Pi08**Decay Scheme**Intensities: I_γ per 100 parent decays

Legend

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

