^{104}Rh β^- decay (4.34 min)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 108,2035 (2007)	30-Mar-2007

Parent: ^{104}Rh: E=128.9679 *5*; $J^\pi=5^+$; $T_{1/2}$=4.34 min *3*; Q(β^-)=2440 *5*; %β^- decay=0.13 *1*

See also ^{104}Rh IT decay.

From 1971Do10, 1972Ok01, 1972Si08, 1974Gi11. Others: 1967Fe03, 1963Wi10.

$\gamma\gamma$-coincidence measurements by 1972Si08 are summarized on the decay scheme. Others: 1963Wi10, 1955Bu33.

$\gamma\gamma(\theta)$: 1972Ok01, 1972Si08.

The total β branching as estimated from the equilibrium source intensities reported by 1972Si08 and 1974Gi11 and the adopted decay scheme is Iβ=0.13%. This gives Iβ(1323 level)=0.062%, in good agreement with≈0.07% reported by 1960Bu05.

^{104}Pd Levels

E(level)	J^π†	E(level)	J^π†	E(level)	J^π†	E(level)	J^π†
0.0	0^+	1341.68 *5*	2^+	1941.6? *5*		2265.31 *7*	4^+
555.81 *4*	2^+	1792.86 *6*	0^+	2082.38 *6*	4^+	2444.5? *3*	$4^+,5^+,6^+$
1323.59 *6*	4^+	1793.4 *2*	2^+	2125.5?			
1333.2	0^+	1820.65 *16*	3^+	2181.58 *6*	4^+		

† From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
310 *8*	2265.31	0.013 *2*	5.8 *1*	av Eβ= 90 *3*
393 *8*	2181.58	0.018 *2*	6.2 *1*	av Eβ= 118 *3*
493 *8*	2082.38	0.040 *3*	6.1 *1*	av Eβ= 152 *3*
1251 *8*	1323.59	0.062 *10*	7.3 *1*	av Eβ= 456 *4*

† Absolute intensity per 100 decays.

$\gamma(^{104}Pd)$

Iγ normalization: from Σ I(γ+ce) to g.s.=0.13 *1*. No Iβ to g.s.

E_γ‡	I_γ†&	E_i(level)	J_i^π	E_f	J_f^π	Comments
332.6# *2*	0.11	2125.5?		1793.4	2^+	
443.5@ *5*	0.07 *3*	2265.31	4^+	1820.65	3^+	
451.5# *2*	0.29 *3*	1793.4	2^+	1341.68	2^+	
460.5# *4*	0.08	1793.4	2^+	1333.2	0^+	
479.4a *5*	0.05 *3*	1820.65	3^+	1341.68	2^+	
488.5# *3*	0.11	1820.65	3^+	1333.2	0^+	
497.8# *8*	0.09	1820.65	3^+	1323.59	4^+	
555.81 *4*	100	555.81	2^+	0.0	0^+	
618.0@ *5*	0.03 *3*	1941.6?		1323.59	4^+	
623.2@ *5*	0.06 *3*	2444.5?	$4^+,5^+,6^+$	1820.65	3^+	
740.69 *5*	0.66 *4*	2082.38	4^+	1341.68	2^+	
758.78 *6*	0.72 *4*	2082.38	4^+	1323.59	4^+	δ=0.05 *13* or 0.77 *11*, $\gamma\gamma(\theta)$ 1972Ok01.

Continued on next page (footnotes at end of table)

^{104}Rh β^- decay (4.34 min) (continued)

$\gamma(^{104}Pd)$ (continued)

E_γ[‡]	I_γ[†&]	E_i(level)	J_i^π	E_f	J_f^π	Comments
767.78[#] *5*	5.0 *2*	1323.59	4^+	555.81	2^+	
777.2[#] *2*	0.29 *3*	1333.2	0^+	555.81	2^+	
785.88[#] *5*	0.66 *4*	1341.68	2^+	555.81	2^+	δ>10 or <−12, $\gamma\gamma(\theta)$ 1972Si08. Other: 1972Ok01.
839.90 *10*	0.050 *15*	2181.58	4^+	1341.68	2^+	
858.00 *6*	0.55 *4*	2181.58	4^+	1323.59	4^+	δ=−0.28 *11* or 1.7 *4*, $\gamma\gamma(\theta)$ 1972Ok01.
923.62 *10*	0.14 *2*	2265.31	4^+	1341.68	2^+	
941.72 *6*	0.52 *3*	2265.31	4^+	1323.59	4^+	δ=−0.41 *14*, $\gamma\gamma(\theta)$ 1972Ok01.
1237.05 *5*	3.2 *3*	1792.86	0^+	555.81	2^+	
1238.0	≈0.5	1793.4	2^+	555.81	2^+	I_γ: deduced from 33.5-min ^{104}Ag decay.
1264.85 *15*	0.03 *1*	1820.65	3^+	555.81	2^+	
1341.67 *7*	0.50 *3*	1341.68	2^+	0.0	0^+	
1526.60 *6*	0.61 *4*	2082.38	4^+	555.81	2^+	
1625.76 *7*	0.30 *2*	2181.58	4^+	555.81	2^+	
1708.0[@] *5*	0.005 *5*	2265.31	4^+	555.81	2^+	
1793.2[#] *2*	0.05 *1*	1793.4	2^+	0.0	0^+	

[†] Relative photon intensity from 4.34 min+42.3 s ^{104}Rh equilibrium sources.
[‡] From 1972Si08.
[#] From 1974Gi11.
[@] From 1971Do10.
[&] For absolute intensity per 100 decays, multiply by 0.00130 *17*.
[a] Placement of transition in the level scheme is uncertain.

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Decay Scheme

Intensities: I_γ per 100 parent decays