

$^{200}\text{Pt} \beta^-$ decay **1976Hi06**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

Parent: ^{200}Pt : $E=0$; $J^\pi=0^+$; $T_{1/2}=12.6$ h 3; $Q(\beta^-)=640$ 30; $\% \beta^-$ decay=100

1976Hi06: Source: ^{200}Pt produced in $^{198}\text{Pt}(t,p)^{200}\text{Pt}$ and $^{204}\text{Hg}(n,\alpha n)^{200}\text{Pt}$ reactions; Detectors: Ge(Li) and LEPS; Measured: E_γ , I_γ ; $\gamma\gamma$ coinc.

Other (same collaboration): **1978HiZW**.

The decay scheme is not well established with a number of parameters, such as spins and parities, transition multiplicities and mixing ratios missing. As a consequence, no beta-decay feeding were determined.

 ^{200}Au Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$T_{1/2}^\ddagger$	$E(\text{level})^\dagger$	$E(\text{level})^\dagger$
0	(1 ⁻)	48.4 min 3	166.00? 13	303.69 3
59.98 3			239.55 9	390.22 4
76.22 4			243.67 5	468.71 6
103.65 4			292.71 5	

[†] From a least-squares fit to E_γ .

[‡] From Adopted Levels.

 $\gamma(^{200}\text{Au})$

I_γ normalization: From $I_\gamma(227\gamma)=2.07$ % based on ^{200}Pt - ^{200}Au equilibrium source measurements in **1978HiZW**.

$E_\gamma^\dagger$	$I_\gamma^{\dagger\#}$	$E_i(\text{level})$	E_f	J_f^π	Comments
^x 25.21 6	10.2 10				$\%I_\gamma \approx 0.133$
27.48 10	2.93 85	103.65	76.22		$\%I_\gamma \approx 0.038$
43.67 4	59.9 34	103.65	59.98		$\%I_\gamma \approx 0.78$
60.00 4	172 10	59.98	0	(1 ⁻)	$\%I_\gamma \approx 2.24$
76.20 5	1000	76.22	0	(1 ⁻)	$\%I_\gamma \approx 13.0$
86.40 14	2.15 86	390.22	303.69		$\%I_\gamma \approx 0.028$
97.52 9	9.4 13	390.22	292.71		$\%I_\gamma \approx 0.122$
103.60 9	76.7 41	103.65	0	(1 ⁻)	$\%I_\gamma \approx 1.0$
135.94 15	242 14	239.55	103.65		$\%I_\gamma \approx 3.2$
137.68 [‡] 16	17.2 24	303.69	166.00?		$\%I_\gamma \approx 0.224$
140.09 21	5.3 23	243.67	103.65		$\%I_\gamma \approx 0.070$
146.54 17	36.3 32	390.22	243.67		$\%I_\gamma \approx 0.47$
150.61 18	18.4 28	390.22	239.55		$\%I_\gamma \approx 0.24$
164.95 35	4.7 15	468.71	303.69		$\%I_\gamma \approx 0.061$
166.0 [‡] 2	38.1 39	166.00?	0	(1 ⁻)	$\%I_\gamma \approx 0.50$
167.37 21	27.8 37	243.67	76.22		$\%I_\gamma \approx 0.36$
179.40 19	3.49 58	239.55	59.98		$\%I_\gamma \approx 0.045$
183.38 15	4.47 60	243.67	59.98		$\%I_\gamma \approx 0.058$
189.38 40	8.5 30	292.71	103.65		$\%I_\gamma \approx 0.111$
200.00 6	50.2 30	303.69	103.65		$\%I_\gamma \approx 0.65$
^x 212.61 29	1.29 52				$\%I_\gamma \approx 0.017$
^x 218.17 21	2.48 80				$\%I_\gamma \approx 0.032$
227.45 5	154 8	303.69	76.22		$\%I_\gamma \approx 2.07$
232.80 8	6.74 51	292.71	59.98		$\%I_\gamma \approx 0.088$
239.56 16	5.92 80	239.55	0	(1 ⁻)	$\%I_\gamma \approx 0.077$
243.71 5	4.1 12	243.67	0	(1 ⁻)	$\%I_\gamma \approx 0.053$
243.71 5	186 12	303.69	59.98		$\%I_\gamma \approx 2.4$

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$^{200}\text{Pt} \beta^-$ decay **1976Hi06 (continued)** $\gamma(^{200}\text{Au})$ (continued)

E_γ [†]	I_γ ^{†#}	$E_i(\text{level})$	E_f	J_f^π	Comments
^x 251.46 22	4.75 82				%I γ ≈0.062
286.69 21	2.55 52	390.22	103.65		%I γ ≈0.033
292.66 6	20.5 13	292.71	0	(1 ⁻)	%I γ ≈0.27
303.70 5	12.2 8	303.69	0	(1 ⁻)	%I γ ≈0.159
313.97 7	9.47 69	390.22	76.22		%I γ ≈0.123
330.28 5	81.6 45	390.22	59.98		%I γ ≈1.06
390.20 6	22.4 13	390.22	0	(1 ⁻)	%I γ ≈0.29
408.68 22	1.65 37	468.71	59.98		%I γ ≈0.0215
468.72 6	19.4 11	468.71	0	(1 ⁻)	%I γ ≈0.25

[†] From 1976Hi06.[‡] The ordering of the transitions is uncertain.[#] For absolute intensity per 100 decays, multiply by ≈0.013.^x γ ray not placed in level scheme.

²⁰⁰Pt β⁻ decay ¹⁹⁷Gdβ⁺ decay

Decay Scheme

Intensities: I_γ per 100 parent decays

- Legend
- I_γ < 2% × I_γ^{max}

→ I_γ < 10% × I_γ^{max}

→ I_γ > 10% × I_γ^{max}

