^{204}Hg(t,pγ) 1984Ma43,1982Be38,1978Fl08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 109, 1527 (2008)	31-Jan-2008

1982Be38: E=16 MeV, pulsed beam (1 ns on with 12.8 μs separation); Target: thick ^{204}Hg liquid target; Detectors: Ge detectors; Measured: Eγ, Iγ, $\gamma\gamma$ coin, $\gamma(\theta$,H,t) and $\gamma(\theta)$; Deduced: J$^{\pi}$, T$_{1/2}$ and g-factor for the 2102-keV state.

1984Ma43: E=16 MeV, pulsed beam; Target: polycrystalline Hg, enriched to>98%; Detectors: two Ge(Li) placed at 0 and 90 degrees with respect to the beam direction; Measured: Eγ, Iγ, $\gamma(\theta)$; Q of the 2102-keV state.

1978Fl08: E=17 MeV; Target: enriched HgO (360 μg/cm^2 thick) deposited between two 20 μg/cm^2 ^{12}C foils; Detectors: helical detector (FWHM=35 keV). Authors stated that 22 levels in ^{206}Hg were observed, but they reported only two levels populated by L=0 transitions.

^{206}Hg Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$	L[#]	Comments
0.0	0$^+$	8.32 min *7*	0	T$_{1/2}$: From Adopted Levels.
1068.2 *2*	2$^+$	<21 ns		T$_{1/2}$: Upper limit from $\gamma\gamma$ coincidence data in 1982Be38. Configuration=$\pi(s^{-1}_{1/2},d^{-1}_{3/2})$.
2102.4 *2*	5$^-$	2.15 μs *21*		T$_{1/2}$: From 1034γ(t) and 1068γ(t) using the pulsed-beam technique in 1982Be38. μ: 5.45 *5* from the measured g-factor=1.09 *1* in 1982Be38 using the perturbed angular distribution technique. The value was corrected for diamagnetic shielding and Knight shift. Q: 0.65 *13* in 1984Ma43 using the perturbed angular distribution technique. This value is relative to Q(^{199}Hg)=0.83 *9*. Configuration=$\pi(s^{-1}_{1/2},h^{-1}_{11/2})$.
3625	0$^+$		0	E(level): From 1978Fl08.

[†] From a least-squares fit to Eγ, unless otherwise specified.
[‡] From deduced transition multipolarities using $\gamma(\theta)$ in 1982Be38 and 1984Ma43, and L values in 1978Fl08.
[#] From 1978Fl08.

γ(^{206}Hg)

E$_\gamma$[†]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	Comments
1034.2 *2*	2102.4	5$^-$	1068.2	2$^+$	E3	Mult.: A$_2$=0.38 *5* in 1982Be38. The measured ratio of A$_2$(1068γ)/A$_2$(1034γ)=0.58 *9* is consistent with a J=5 to 2 transition for which A$_2$(2 to 0)/A$_2$(5 to 2)=0.6 is expected, whereas A$_2$(2 to 0)/A$_2$(4 to 2)=1.0 if 1034γ were E2 (1982Be38).
1068.2 *2*	1068.2	2$^+$	0.0	0$^+$	E2	Mult.: From A$_2$=+0.22 *2* in 1982Be38. The positive sign argues against a ΔJ=1 transition.

[†] From 1982Be38.

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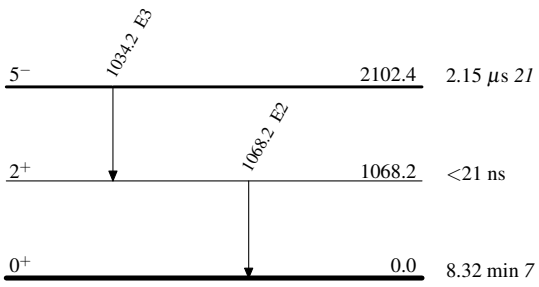
Level Scheme



$^{206}_{80}Hg_{126}$