^{210}**Hg IT decay (2 μs)**   **2013Go10**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 121, 561 (2014)	31-Mar-2014

Parent: ^{210}Hg: E=x+1366; J$^{\pi}$=(8$^+$); T$_{1/2}$=2 μs 1; %IT decay=100.0

Others: 2010Al24, 1998Pf02, 1998PfZZ.

2013Go10: ^{210}Hg isomer was produced from fragmentation of ^{238}U, 1 GeV/nucleon, beam on beryllium target (2.5 g/cm^2) followed by a niobium (223 mg/cm^2) stripper. Pulsed beam of ~1 s separated by ~2 s, fragmented products were separated and identified with the double-stage magnetic spectrometer FRS at GSI. Separated ions were slowed down in a thick Al degrader and implanted in a composite double-sided silicon-strip (DSSD) detector. The DSSD was surrounded by the RISING γ-ray spectrometer consists of 105 large volume germanium crystals. Measured Eγ, Iγ, x-ray, and T$_{1/2}$. Deduced level scheme.

2010Al24: ^{210}Hg was produced from fragmentation of a 1 GeV/nucleon beam of ^{238}U on a beryllium target. The ions of ^{210}Hg were separated and analyzed with the GSI fragment separator (2010Al24,1998Pf02,1998PfZZ). Production cross section measured in 2010Al24, for ^{210}Hg $\sigma \approx$0.02 μb (estimated by evaluator from Fig. 2).

All data from 2013Go10.

^{210}Hg Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$	Comments
0.0	0$^+$		
643	(2$^+$)		
1196	(4$^+$)		
1366	(6$^+$)		
x+1366	(8$^+$)	2 μs 1	T$_{1/2}$: From 553γ(t). Other: 2.0 μs 4 from 643γ(t).

[†] From γ-ray energy and feeding.
[‡] From shell model calculation and γ ray feeding, except otherwise noted.

γ(^{210}Hg)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Comments
y		x+1366	(8$^+$)			E$_\gamma$: 20 < Y < 80 keV suggested in 2013Go10. Upper limit from x-ray measurements − the 71 keV identified as characteristics K$_\alpha$ x ray following 170 keV γ-ray. Lower limit from systematics.
170	22 12	1366	(6$^+$)	1196	(4$^+$)	
553	23 8	1196	(4$^+$)	643	(2$^+$)	
643	100 16	643	(2$^+$)	0.0	0$^+$	

^{210}Hg IT decay (2 μs)   2013Go10

Decay Scheme

Intensities: Relative I$_\gamma$

%IT=100.0

Legend

→	I$_\gamma$ < 2%×I$_\gamma^{max}$
→	I$_\gamma$ < 10%×I$_\gamma^{max}$
→	I$_\gamma$ > 10%×I$_\gamma^{max}$
●	Coincidence

(8$^+$)   x+1366   2 μs 1
(6$^+$)   1366
(4$^+$)   1196

(2$^+$)   643

0$^+$ 0.0

$^{210}_{80}$Hg$_{130}$