^{185}Hg IT decay (21.6 s) 1982Bo27

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

Parent: ^{185}Hg: E=99 *8*; $J^\pi=13/2^+$; $T_{1/2}$=21.6 s *15*; %IT decay=54 *10*

^{185}Hg-%IT decay: given by authors from absolute intensity measurements of ce lines.

Mass-separated sources of ^{185}Hg produced by ^{197}Au(p,xn). Measured Eγ, Iγ, $\gamma\gamma$ coin, E(ce), Ice. Detectors: Ge(Li), Si(Li), magnetic spectrograph.

^{185}Hg Levels

E(level)	J^π†	$T_{1/2}$†
0.0	$1/2^-$	49.1 s *10*
26.1	$3/2^-$	
34 *8*	$(7/2)^-$	
99 *8*	$13/2^+$	21.6 s *15*

† From Adopted Levels.

$\gamma(^{185}Hg)$

Identification of γ rays in ^{185}Hg based on precise ce energies, and L and M atomic-shell binding energies.

Eγ	Iγ†	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	δ	α‡	I$_{(\gamma+ce)}$†	Comments
(8 *8*)		34	$(7/2)^-$	26.1	$3/2^-$					Eγ: experimental Eγ is <15 keV.
26.1	0.046 *11*	26.1	$3/2^-$	0.0	$1/2^-$	M1+E2	1.3 *6*	2.2×10^3 *5*	100	α(L)= 1.6×10^3 *3*; α(M)= 415 *70* δ: from ce(L1):ce(L2):ce(L3): ce(M1):ce(M2):ce(M3)exp= 17.4 *14*:16.6 *43*: 15.4 *68*:5.5:.4:5.4. I$_{(\gamma+ce)}$: % Ice exp=71 *22*. I$_\gamma$: from I(γ+ce) and α.
65.3	0.062 *2*	99	$13/2^+$	34	$(7/2)^-$	E3		1610	100	α(L)= 1159; α(M)= 341; α(N+..)= 109 Mult.: from ce(L1):ce(L2):ce(L3): ce(M1)+ce(M2):ce(M3): ce(M4)+ce(M5)exp= <0.7:14.2:12.3:3.7:3.3:0.9. I$_{(\gamma+ce)}$: % Ice exp=54 *10*. I$_\gamma$: from I(γ+ce) and α.

† For absolute intensity per 100 decays, multiply by 0.54 *10*.

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

%IT=54 *10*

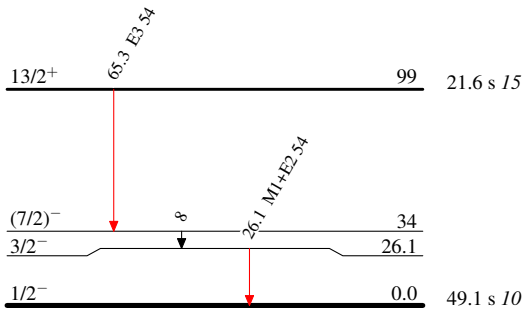
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{185}_{80}Hg_{105}$