^{185}Pb α decay (6.3 s) 2002An15,1980Sc09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 367 (2005)	31-Aug-2005

Parent: ^{185}Pb: E=0.0; $J^\pi=3/2^-$; $T_{1/2}$=6.3 s *4*; Q(α)=6695 *5*; %α decay=34 *25*

^{185}Pb-%α decay: from the recoil-α(^{189}Po)-α(^{185}Pb) correlations (2005Va04).

Others: 1987To09, 1982HeZM, 1975Ca06.

2005Va04: ^{185}Pb from ^{189}Po(α); activity of ^{189}Po produced by ^{142}Nd(^{52}Cr,5n) at 5.27 MeV/A; ^{142}Nd(^{50}Cr,3n) at 5.04 MeV/A; 99.8% enriched $^{142}Nd_2F_3$ target; Detectors: velocity filter (SHIP), 16-strip position sensitive silicon detector for α-particles; 6 silicon detectors for conversion electrons; four-fold segmented Clover detector for γ's. measured E(α), I(α), E(γ), α-γ-coin., α-e coin., α_{tot}.

2002An15: α activity produced by 1.4 GeV protons on UC_x target; Resonance ionization laser ion source; on-line mass separator; measured Eα, Eγ, $\alpha\gamma$-coin, $T_{1/2}$. ^{181}Hg deduced levels, possible J^π.

1980Sc09: α activity produced by ^{150}Sm(^{40}Ca,5n) (1975Ca06), ^{142}Nd(^{48}Ti,5n) at E=185 MeV (1980Sc09), Pd(^{82}Kr,X) at E=4.2, 4.4 MeV/nucleon (1982HeZM), ^{147}Sm(^{40}Ca,2n) at 194 MeV (1987To09).

^{181}Hg Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	$1/2^-$	3.6 s *1*	J^π,$T_{1/2}$: from Adopted Levels.
64	$3/2^-$		J^π: 4p6h state; populated by α-decay from the $3/2^-$ state of ^{185}Pb with HF=11 *6*.
269	$3/2^-$		J^π: 0p2h state; populated by α-decay from the $3/2^-$ state of ^{185}Pb with HF=1.5 *8*.

α radiations

Eα[†]	E(level)	Iα[†#]	HF[‡]	Comments
6288 *5*	269	56 *2*	2.5 *19*	Eα: others: 6290 *15* (1980Sc09). Iα: other: Iα=40 *6* relative to Iα(6485+6290) (1980Sc09).
6486 *5*	64	44 *2*	19 *15*	Eα: others: 6485 *15* (1980Sc09); 6480 *20* (1975Ca06). Iα: other: Iα=60 *10* relative to Iα(6485+6290) (1980Sc09).
6548[@]	0.0	<1.4	>1100	

[†] From 2002An15 and 2005Va04.
[‡] If r_0=1.503 *17* (based on r_0(^{180}Hg)=1.505 13 and r_0(^{182}Hg)=1.50 2 from 1998Ak04).
[#] For absolute intensity per 100 decays, multiply by 0.34 *25*.
[@] Existence of this branch is questionable.

γ(^{181}Hg)

E$_\gamma$[†]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	Comments
(64)	64	$3/2^-$	0.0	$1/2^-$	[E2]	
205 *1*	269	$3/2^-$	64	$3/2^-$	M1	Mult.: α(K)exp=1.2 *3* if the observed K x-rays result from the 205 keV γ's only(2002An15).
269 *1*	269	$3/2^-$	0.0	$1/2^-$	M1	Mult.: α(K)exp=0.65 *15* if the observed K x-rays result from the 269 keV γ's only(2002An15).

[†] From 2002An15 and 2005Va04.

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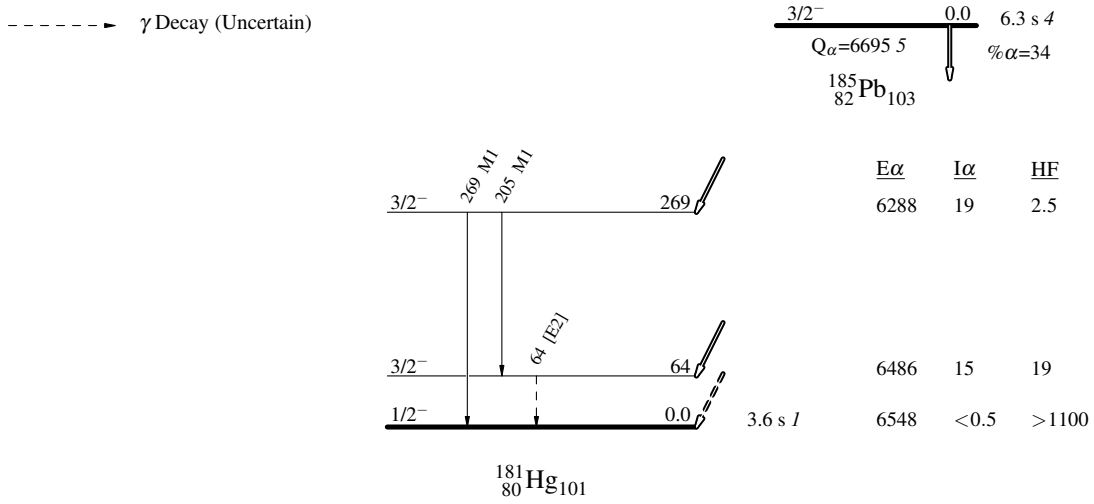
Legend

γ Decay (Uncertain)

Decay Scheme



	Eα	Iα	HF
	6288	19	2.5
	6486	15	19
	6548	<0.5	>1100