^{197}Pt IT decay (95.41 min) 1982So05,1981Sa30,1974Al25

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong, Zhou Chunmei	NDS 104, 283 (2005)	1-Jan-2002

Parent: ^{197}Pt: E=399.59 *20*; J^π=13/2$^+$; $T_{1/2}$=95.41 min *18*; %IT decay=96.7 *4*

^{197}Pt-%IT decay: From (I(γ+ce)(279γ)+I(γ+ce)(202γ))/I(γ+ce)(346γ) and Iγ(346γ):Iγ(279γ):Iγ(202γ)=100:0.21 *2*:0.0031 *12*.

Others: 1976PeZW, 1983La26, 1987Vi08.

Sources produced by ^{196}Pt(n,γ) (1982So05,1983Ca04,1987Vi08,1981He03), ^{198}Pt(n,2n) (1983La26), and ^{197}Au(e$^-$,γ) (1981Ha51).

1982So05: measured Eγ, Iγ, γ(t), $\gamma\gamma$(t), and $\gamma\gamma(\theta$,H,t) with HPGE, Ge(Li), and NaI(Tl).

1981Sa30: measured $\gamma\gamma(\theta$,H,t), γ.

1974Al25: measured Eγ and Iγ.

^{197}Pt Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[‡]	Comments
0.0	1/2$^-$	19.8915 h *19*	
53.100 *20*	5/2$^-$[#]	16.58 ns *17*	g=+0.335 *10* (1981Sa30,1982So05) $T_{1/2}$: from $\gamma\gamma$(t) measurements (1982So05). Others: 18.5 ns *15* (1967Ma46) (ce)(ce)(t), 16.5 ns *15* (1970Ge01) $\gamma\gamma$(t).
399.59 *20*	13/2$^+$	95.41 min *18*	%IT=96.7 *4*; %β^-=3.3 *4* $T_{1/2}$: from γ(t) measurements (1982So05). Others: 94.4 min *8* (1973Ur01) γ(t), 95 min (1965Ha15) semi 346γ, 83 min *4* (1970Bo22) GM-counter β^-, 96 min *4* (1970Wi19) semi 346γ.

[†] From decay scheme and γ's by using least-squares fit to data.

[‡] From Adopted Levels, except as noted.

[#] From $\gamma\gamma(\theta)$ (1981Sa30,1982So05).

γ(^{197}Pt)

Iγ normalization: From I(γ+ce)(346γ,M4)=96.7% *4*, α(M4)=7.71.

E$_\gamma$	I$_\gamma$[†‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[@]	I$_{(\gamma+ce)}$[#]	Comments
53.10 *2*	1.13 *3*	53.100	5/2$^-$	0.0	1/2$^-$	E2	87.5	100	α(L)= 65.6; α(M)= 16.86; α(N+..)= 5.12 E$_\gamma$: from 1976PeZW. Other: 52.95 *5* (1965Em01). I$_\gamma$: from I(γ+ce) and α. I$_{(\gamma+ce)}$: from intensity balance at the 53 level. Mult.: deduced from L2/L3≈1 (1965Em01). (346γ)(53γ)(θ): A_2=+0.166 *15* (1982So05,1981Sa30), consistent with theoretical value of solid angular corrections A_2=+0.170.
346.5 *2*	11.5 *3*	399.59	13/2$^+$	53.100	5/2$^-$	M4	7.71	100	α(K)= 4.40; α(L)= 2.447; α(M)= 0.657; α(N+..)= 0.2083 E$_\gamma$: from 1974Al25. Other: 346.5 *3* (1965Em01). Mult.: deduced from K/L=1.8 *2*, α(K)exp=4.02 *8* (1987Vi08), 3.9 *4* (ce/γ) (1965Ha15) semi, α(exp)=7.7 *4* (1983La26). Others: 1948Ho37, 1964Pr06.

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$\gamma(^{197}Pt)$ (continued)

† Relative intensity normalized to I(γ+ce)(53.1γ)=100 from intensity balance.
‡ For absolute intensity per 100 decays, multiply by 0.965 *4*.
# For absolute intensity per 100 decays, multiply by 0.967 *4*.
@ 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=96.7 *4*