^{197}Pb IT decay (43 min) 1957An53,1962Ju05

History

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

Parent: ^{197}Pb: E=319.31 *11*; $J^\pi=13/2^+$; $T_{1/2}$=42.9 min *9*; %IT decay=19 *2*

^{197}Pb-%IT decay: ε/IT=4.3 *3* from ce(K)(234γ,M4)/ce(K)(222γ,E3)=0.77; uncertainty estimated on the basis of the experiment (1957An53). Other: IT branching≈35% (1980Hi04).

Sources produced by ^{203}Tl(p,7n) (1955An01,1957An53), protons on U (1972Ho09), ^{187}Re(^{14}N,4n) (1974Ne16).

Others: 1979Ra04, 1980Hi04.

Identification: thallium(95-MeV p) chem, ms (1957An53).

^{197}Pb Levels

E(level)†	J^π‡	$T_{1/2}$‡	Comments
0.0	$3/2^-$	8.1 min *17*	
84.90 *20*	$5/2^-$		
319.31 *11*	$13/2^+$	42.9 min *9*	%IT=19 *2*; %ε=81 *2*

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

‡ From Adopted Levels.

γ(^{197}Pb)

Iγ normalization: For I(γ+ce)(234γ,M4)=100, α(M4)=63.8.

Measured Eγ, I(ce), ceγ coin (1962Ju05).

E$_\gamma$†	I$_\gamma$‡#	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α@	I$_{(\gamma+ce)}$#	Comments
84.9 *2*	25.5 *6*	84.90	$5/2^-$	0.0	$3/2^-$	M1	2.92	100	α(L)= 2.231; α(M)= 0.523; α(N+..)= 0.1714 E$_\gamma$: other: 85.0 (1979Ra04). I$_\gamma$: from I(γ+ce) and α. From I(ce(M1))/I(ce(K) 234γ)=0.37 *9* one obtains Iγ=28 *7*. Mult.: from L2/L3/M1/N1≈32/≈8/100/32 (1962Ju05).
234.4 *7*	1.54 *5*	319.31	$13/2^+$	84.90	$5/2^-$	M4	62.2	100	ce(K)/(γ+ce)=0.359 *11*; ce(L)/(γ+ce)=0.448 *14*; ce(M)/(γ+ce)=0.132 *4*; ce(N)/(γ+ce)=0.0453 *14* Additional information 1. E$_\gamma$: other: 234.0 *5* (1957An53). Mult.: from L1+L2/L3=1.5, K/L>0.3 (1957An53).

† From 1962Ju05.

‡ Relative intensity from I(γ+ce)=100 and α.

For absolute intensity per 100 decays, multiply by 0.190 *15*.

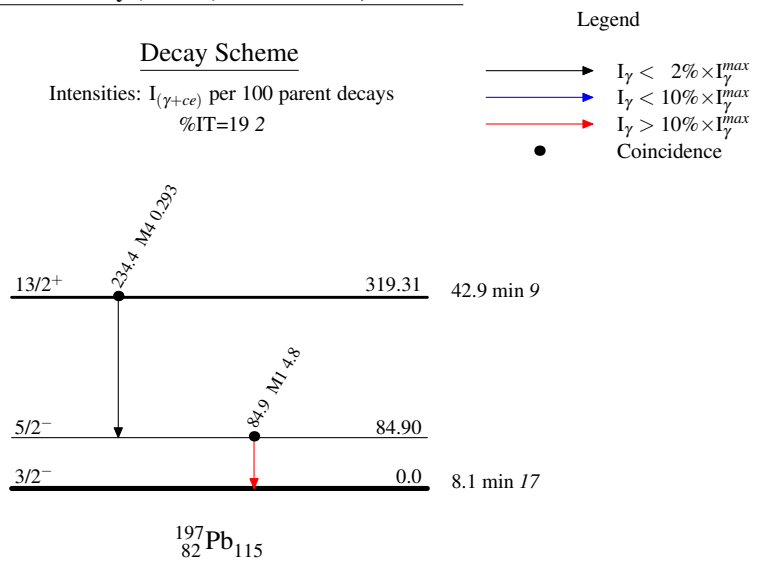
@ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^{197}Pb IT decay (43 min) 1957An53,1962Ju05

Decay Scheme

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

%IT=19 *2*



$^{197}_{82}Pb_{115}$