

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	K. Auranen and E. A. Mccutchan		NDS 168, 117 (2020)	1-Aug-2020

$Q(\beta^-)=569.1$ 18; $S(n)=5127.2$ 25; $S(p)=8760$ 40; $Q(\alpha)=3290$ 30 [2017Wa10](#)
 $S(2n)=8963.0$ 21; $S(2p)=16760$ (syst) 200 ([2017Wa10](#)).
 α : [Additional information 1](#).

 ^{212}Pb LevelsCross Reference (XREF) Flags

- A ^{212}Tl β^- decay (30.9 s)
- B ^{216}Po α decay
- C $^9\text{Be}(^{238}\text{U}, X\gamma)$
- D $^{210}\text{Pb}(t, p)$

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
0.0 [#]	0 ⁺	10.622 h 7	ABCD	$\% \beta^- = 100$ T _{1/2} : from 2017Ko16 . Others: 10.67 h 5 (1952Bu72), 10.64 h 3 (1953Ma26), 10.643 h 12 (1955To11), and 11.0 h 6 (1995Ma90). RMS charge radius $\langle r^2 \rangle^{1/2} = 5.5396$ fm 19 (2013An02).
804.9 [#] 2	(2 ⁺)		ABCD	
1119.9 [#] 10	(4 ⁺)		A CD	
1276.9 [#] 14	(6 ⁺)		A CD	
1335 [#] 10	(8 ⁺)	6.0 μs 8	CD	T _{1/2} : from recoil- $\gamma(t)$ in $^9\text{Be}(^{238}\text{U}, X\gamma)$. E(level): interpreted as the maximally aligned $(g_{9/2})^2$ configuration in $^9\text{Be}(^{238}\text{U}, X\gamma)$.
1820 10	(3 ⁻)		D	
2249 10			D	
2287 10			D	
2488 10			D	
2616 10			D	
3067 10			D	
3140 10			D	
3174 10			D	
3256 10			D	
3285 10			D	
3526 10			D	
3716 10			D	
3844 10			D	
4093 10			D	

[†] From E γ , assuming 1 keV uncertainty when not explicitly indicated, for levels below 1.3 MeV. Above 1.3 MeV, level energies are from (t,p).

[‡] From $^{210}\text{Pb}(t, p)$. Tentative assignments based on combined evidence of : 1) comparison of limited angular distributions to those of $^{208}\text{Pb}(t, p)$, 2) comparison between measured excitation energies and those in ^{210}Pb and 3) on relative transition strengths.

[#] Seq.(A): Ground state sequence.

Adopted Levels, Gammas (continued)

$\gamma(^{212}\text{Pb})$								
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	α	Comments
804.9	(2 ⁺)	804.9	2 100	0.0	0 ⁺	[E2]	0.01027	E_γ, I_γ : from ^{216}Po α decay.
1119.9	(4 ⁺)	315	100	804.9	(2 ⁺)	[E2]	0.1001	E_γ : other: 316 in $^9\text{Be}(^{238}\text{U}, X\gamma)$.
1276.9	(6 ⁺)	157	100	1119.9	(4 ⁺)	[E2]	1.028	E_γ : other: 158 in $^9\text{Be}(^{238}\text{U}, X\gamma)$.
1335	(8 ⁺)	(58 10)	100	1276.9	(6 ⁺)	[E2]	12×10^1	B(E2)(W.u.)=0.016 +41-10 E_γ : transition to (6 ⁺) level not seen in γ -ray spectra, energy is from difference of 1335 and 1277 levels. α : symmetrized from 80 +120-40.

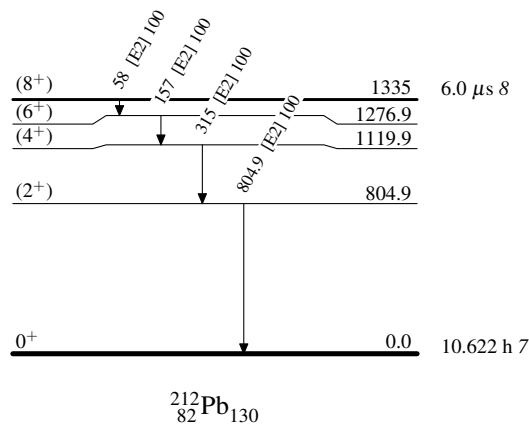
[†] From ^{212}Tl β^- decay, except where noted.

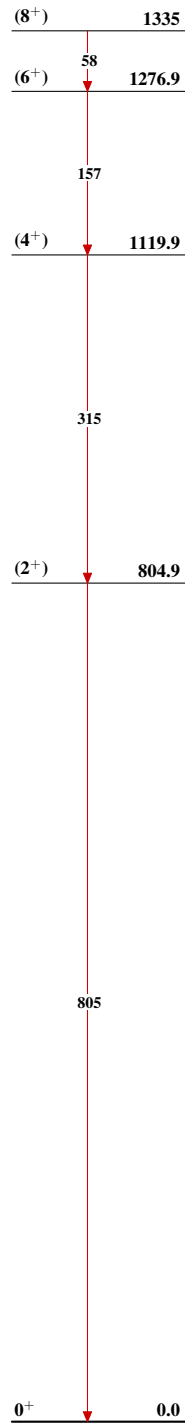
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

Adopted Levels, GammasSeq.(A): Ground state
sequence $^{212}_{82}\text{Pb}_{130}$