^{212}Bi β^- decay (25.0 min) 1980Le27

History

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

Parent: ^{212}Bi: E=239 *30*; J^π=(8$^-$,9$^-$); $T_{1/2}$=25.0 min *2*; Q(β^-)=2251.5 *17*; %β^- decay=33 *1*

^{212}Bi-E: From Schottky mass spectrometry (2013Ch12). Other: 250 keV from Eα=6.34 MeV to ^{208}Tl g.s. (1978Ba44).

^{212}Bi-J^π: J^π=(9$^-$) suggested by analogy with ^{210}Bi (1978Ba44), and J^π=(8$^-$) suggested by log *ft* value for β-decay to J^π=8$^+$ state in ^{212}Po (1991Wa18).

^{212}Bi-%β^- decay: 33% *1* from I(25.0 min ^{212}Bi α)/I(^{212}Po α). β^- followed by direct α decay: 30% *1* (observed 9.6-10.9 MeV α's); β^- followed by γ decay to ^{212}Po g.s.: 3.2% *2* (observed 8.78 MeV ^{212}Po g.s. α's) (1984Es01).

1980Le27: ^{212}Bi activity from U + ^{208}Pb with energy from reaction barrier up to 7.0 MeV/u followed by mass separation. Measured E(^{212}Po α), Eγ, γ(^{212}Po α).

^{212}Po Levels

E(level)†	J^π‡	$T_{1/2}$‡	E(level)†	J^π‡	E(level)†	J^π‡
0.0	0$^+$	294.3 ns *8*	1354 *2*	6$^+$	1612# *10*	
727 *1*	2$^+$		1474 *2*	8$^+$	1657# *10*	
1131 *1*	4$^+$		1547# *10*		1749 *2*	(8$^-$)
1249# *10*			1578# *10*			

† From Eγ, except where noted.

‡ From the Adopted Levels.

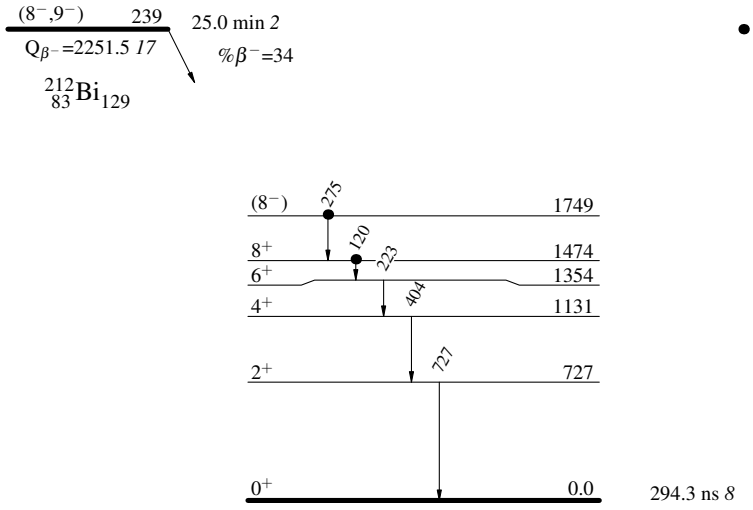
Levels populated by β^- decay that appear to decay by α decay only. E(level) calculated from measured Eα and ^{212}Po Qα. Based on the allowed energies, all α groups must decay to ^{208}Pb ground state.

γ(^{212}Po)

E$_\gamma$	E$_i$(level)	J^π_i	E$_f$	J^π_f
120 *1*	1474	8$^+$	1354	6$^+$
223 *1*	1354	6$^+$	1131	4$^+$
275 *1*	1749	(8$^-$)	1474	8$^+$
404 *1*	1131	4$^+$	727	2$^+$
727 *1*	727	2$^+$	0.0	0$^+$

^{212}Bi β^- decay (25.0 min) 1980Le27

Decay Scheme



Legend

● Coincidence