^{192}Bi α decay (39.6 s) 1991Va04,1988Hu03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Juutinen, D. J. Hartley	NDS 150, 1 (2018)	1-Feb-2018

Parent: ^{192}Bi: E=140 *30*; J^π=(10$^-$); $T_{1/2}$=39.6 s *4*; Q(α)=6377 *4*; %α decay=10 *3*

^{192}Bi-J^π,$T_{1/2}$: From 2012Ba36. Q(α) from 2017Wa10.

^{192}Bi-E: From measured mass differences (2017Au03).

^{192}Bi-%α decay: From 2012Ba36.

1991Va04 (and 1988Hu03): sources from ^{nat}Re(^{16}O,xn), E(^{16}O)<180 MeV, ^{181}Ta(^{20}Ne,xn) and ^{182}W(^{20}Ne,pxn), E(^{20}Ne)<240 MeV, mass separation; measured time-sequential α, x-ray, and γ-ray spectra, $\alpha\gamma$ coin, Xγ coin.

Others: 1966Si11, 1967Tr06, 1970Ta14, 1972Ga27, 1974Le02, 1983Fa03, and 2003Ke04.

^{188}Tl Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[‡]	Comments
35 *31*	7$^+$	71.5 s *14*	Additional information 1. E(level): From E((10$^-$),^{192}Bi)=140 keV *30* (2017Au03) and Eα=6348 keV *5* to the 7$^+$ level and Eα=6245 keV *5* to the (2$^-$) ground state.
138.1 *8*	6$^+$	<0.4 ns	$T_{1/2}$: Using $\alpha\gamma$(t) in 1991Va04.
303.80 *20*	9$^-$	41 ms *4*	
337.4 *5*	10$^-$	<0.4 ns	$T_{1/2}$: Using $\alpha\gamma$(t) in 1991Va04.

[†] From a least-squares fit to Eγ and relative to E(7$^+$)=35 keV *31*.
[‡] From Adopted Levels, unless otherwise stated.

α radiations

Eα[‡]	E(level)	Iα[‡#]	HF[†]	Comments
6052 *5*	337.4	90.7 *7*	1.6 *6*	Eα: Others: 6062 keV *5* (2003Ke04), 6090 keV *20* (1970Ta14), 6060 keV *10* (1972Ga27,1974Le02), 6050 keV *5* (1966Si11, 1967Tr06, but activity originally assigned to ^{191}Bi or ^{195}Bi), and 6060 keV (1983Fa03).
6081 *10*	303.80	6.5 *6*	32 *11*	
6253 *5*	138.1	0.54 *19*	1.84×10^3 *88*	
6348 *5*	35	2.3 *2*	1.11×10^3 *40*	

[†] r_0=1.503 *5*, average of values in neighboring even-Z nuclei: r_0(^{186}Hg)=1.491 *5*, r_0(^{188}Hg)=1.500 *13*, r_0(^{188}Pb)=1.511 *8* and r_0(^{190}Pb)=1.511 *6*.
[‡] From 1991Va04.
[#] For absolute intensity per 100 decays, multiply by 0.10 *3*.

γ(^{188}Tl)

E$_\gamma$[‡]	I$_\gamma$[#@]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[‡]	α[†]	Comments
33.6 *4*	2.30 *9*	337.4	10$^-$	303.80	9$^-$	M1	38.5 *15*	α(L)=29.5 *12*; α(M)=6.9 *3* α(N)=1.74 *7*; α(O)=0.338 *13*; α(P)=0.0319 *13* Mult.: α(L)exp=40 *10* (1991Va04).
103.1 *8*	0.061 *21*	138.1	6$^+$	35	7$^+$	M1	7.88 *21*	α(K)=6.43 *17*; α(L)=1.11 *3*; α(M)=0.259 *7* α(N)=0.0654 *18*; α(O)=0.0127 *4*; α(P)=0.00120 *4* Mult.: α(K)exp=7.8 *32* (1991Va04).
268.8 *2*	92.8 *8*	303.80	9$^-$	35	7$^+$	M2	2.13	α(K)=1.601 *23*; α(L)=0.400 *6*; α(M)=0.0985 *14*

Continued on next page (footnotes at end of table)

^{192}Bi α decay (39.6 s) 1991Va04,1988Hu03 (continued)

$\gamma(^{188}Tl)$ (continued)

E_γ ‡	E_i(level)	Comments
		α(N)=0.0251 *4*; α(O)=0.00482 *7*; α(P)=0.000422 *6* Mult.: From Adopted gammas.

† Additional information 2.
‡ From 1991Va04, unless otherwise stated.
# From Iα and intensity balances.
@ For absolute intensity per 100 decays, multiply by 0.10 *3*.

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Decay Scheme

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