^{189}Bi α decay (674 ms) 1997Wa05,1995Ba75,1997An09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

Parent: ^{189}Bi: E=0.0; J^{π}=(9/2$^-$); $T_{1/2}$=674 ms *11*; Q(α)=7270 *3*; %α decay≈75.0

^{189}Bi-%α decay: %α=50-100.

2003Ke08: Activity of ^{189}Bi following the α-decay of ^{193}At produced by ^{141}Pr(^{56}Fe,4n), E=248-272 MeV; JYFL gas-filled recoil separator RITU, Gas counter, Position sensitive silicon detector, Time of Flight; Eα, Iα measured.

1997Wa05: Activity of ^{189}Bi produced by ^{96}Mo(^{95}Mo,pn), E=418 MeV; Fragment mass analyzer, Parallel grid avalanche counter, Double-sided silicon strip detector; Eα, Iα measured.

1997An09,1999An52,2001An11,1993An19: Activity of ^{189}Bi produced by ^{144}Sm(^{48}Ti,p2n), E=225 MeV and ^{142}Nd(^{52}Cr,p4n), E=272 MeV; the evaporation residues implanted into position-sensitive detector for α-decay measurements; Ge Clover detector for γ and X-ray; measured Eα and Iα, $\alpha\gamma$-coin.

Others: 2002Hu14, 1995Ba75, 1993BoZK, 1992BoZO, 1985Co06, 1984ScZQ.

^{185}Tl Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[‡]	Comments
0.0	(1/2$^+$)	19.5 s *5*	
286 *1*	(3/2$^+$)		
454 *4*	(9/2$^-$)	1.93 s *8*	$T_{1/2}$: from Adopted Levels.
578 *15*	(11/2$^-$)		

[†] From Eα and Q(α).
[‡] From Adopted Levels.

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
6550 *15*	578	1.2 *9*	37 *31*	Eα: from 1997Wa05. Iα: from 1997Wa05.
6670.9 *22*	454	94.5 *21*	1.4 *5*	Eα: Weighted average of 6667 *4* (2003Ke08), 6674 *5* (2002Hu14), 6672 *5* (1997Wa05), 6670 *15* (1997An09), 6672 *5* (1985Co06), 6675 *10* (1984ScZQ), and 6670 *10* (1973Go08). Other values: 6675 *10* (1984ScZQ), 6670 *10* (1973Ga08). Iα: Weighted average of 94 *3* (2003Ke08), 95 2 (1997Wa05), and 95 *3* (1985Co06). Others: 95 from 1995Ba75 and 75 *25* from 1993An19. HF: 0.89 *6* from 2003Ke08. Other: HF=1 from 1997Wa05.
6833 *6*	286	1.3 *6*	3.9×10^2 *23*	Eα: Weighted average of 6833 *7* (1997Wa05), 6834 *15* (1999An52), Iα: from 1997Wa05. HF: 92 from 1997Wa05.
7115 *4*	0.0	6 *3*	7.8×10^2 *47*	Eα: weighted average of 7114 *6* (2003Ke08), 7114 *6* (1997Wa05), 7120 *15* (1997An09) and 7116 *15* (1985Co06). Others: 7120 from 1995Ba75 and 7120 from 1993An19. Iα: From 2003Ke08, Iα=3.1 *7* from 1997Wa05. Others: 4.0 *4* from 1997An09, 5 from 1995Ba75, 5 *3* from 1985Co06. HF: 40 *20* from 2003Ke08. Other: HF=76 from 1997Wa05.

[†] If r_0=1.52 (based on r_0(^{184}Hg) and r_0(^{186}Pb) from 1998Ak04).
[‡] For absolute intensity per 100 decays, multiply by ≈0.75.

^{189}Bi α decay (674 ms) 1997Wa05,1995Ba75,1997An09 (continued)

$\gamma(^{185}Tl)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
(164)	454	$(9/2^-)$	286	$(3/2^+)$	[E3]	
286 *1*	286	$(3/2^+)$	0.0	$(1/2^+)$	[M1+E2]	E_γ: From 1999An52.

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Legend

γ Decay (Uncertain)

Decay Scheme