^{195}Bi α decay (87 s) 1985Co06,1974Le02

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Parent: ^{195}Bi: E=399 *6*; $J^{\pi}=1/2^{+}$; $T_{1/2}$=87 s *1*; Q(α)=5832 *5*; %α decay=33 *17*

^{195}Bi-E: From 2021Ko07 – NUBASE. Other: 401 keV *7* 2014Hu18 (evaluation).

^{195}Bi-J^{π}: From 2016Ba42 (laser spectroscopy). Configuration=π $(s_{1/2})^1$ (1985Co06).

^{195}Bi-$T_{1/2}$: From α(t) (1985Co06). Also in 2014Hu18 (evaluation).

^{195}Bi-%α decay: From 0.16≤Iα≤0.49 (1985Co06),

^{195}Bi was produced from the ^{181}Ta(^{20}Ne,6n) (1985Co06,1970Ta14,1974Le02), ^{203}Tl(^{3}He,11n) (1972Ga27,1974Le02), ^{159}Tb(^{40}Ar,4n) (1972Ga27), ^{185}Re(^{16}O,6n) (1974Le02,1985Co06), and Ir(^{14}N,xn) (1985Co06) reactions.

1985Co06: Measured Eα, Iα, and $T_{1/2}$; deduced proton intruder states.

1974Le02: Measured Eα, Iα, and $T_{1/2}$.

^{191}Tl Levels

E(level)	J^{π}	Comments
0	$1/2^{+}$	Configuration=π $s_{1/2}$ (1985Co06).
341.20 *20*	$(3/2^{+})$	E(level),J^{π}: from Adopted Levels.

α radiations

Eα[†]	E(level)	Iα[†#]	HF[‡]	Comments
5772 *5*	341.20	0.16 *2*	21 *12*	Iα: deduced from Iα(Eα=5772 keV)/Iα(Eα=6104 keV)=0.16 *2%* (1985Co06). HF: 1985Co06 quote an estimate of 16≤HF≤120 for this α ray.
6106 *5*	0	99.84 *2*	1.1 *6*	Eα: Others: 6110 keV *10* (1974Le02,1972Ga27), 6100 keV *5* (1967Tr06), 6150 keV *20* (1970Ta14). Weighted average of all values yields 6105 keV *5*. A range of 1.0≤HF≤5.8 is estimated in 1985Co06, which agrees with an unhindered transition, indicating the same configuration for the initial and final states.

[†] From 1985Co06.

[‡] Calculated by evaluator using $r_0(^{191}Tl)$=1.475 *13*, obtained from the neighboring even-even isotones, $r_0(^{190}Hg)$=1.437 *24* and $r_0(^{192}Pb)$=1.513 *3* (2020Si16).

[#] For absolute intensity per 100 decays, multiply by 0.33 *17*.