Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia	NDS 183, 1 (2022)	1-Mar-2022

Q(β^-)=−7247 *25*; S(n)=8980 *SY*; S(p)=−1107 *23*; Q(α)=7757 *12* 2021Wa16
ΔS(n)=80 (syst) (2021Wa16).

Production: From ^{97}Mo(^{92}Mo,p2nγ) in 1997Ba21); From ^{94}Mo(^{93}Nb,n) and ^{95}Mo(^{93}Nb,2n) in 2003An27; and from ^{142}Nb(^{50}Cr,p3n) in 2013La02. α decay from two isomers reported by 1997Ba21, 2003An27, and 2013La02.

2013La02: Detected three events of β-delayed fission from ^{186}Bi and compared counts of β-delayed fission events and α decays and estimated β-delayed fission probability of ^{186}Bi.

^{186}Bi Levels

E(level)	J^{π} †	$T_{1/2}$	Comments
0.0	(3^+)	14.8 ms *8*	%α≈95.5; %ε+%β^+≈4.5 %β^+F≈ 0.02 %α: Based on theoretical partial β-decay half-life of 329 ms (2019Mo01) and measured half-life. %β^+F: Estimated from the ratio of observed fission events to observed alpha events from both isomers (2013La02). Assuming equal population of the two isomers, the β-delayed fission probability was estimated with a factor of ≈ 5 uncertainty (2013La02). $T_{1/2}$: From 7263α(t) (2003An27). Other: 15.0 ms *17* from 7261α(t) (1997Ba21).
0.0+x	(10^-)	9.8 ms *4*	%α≈100 %ε+%β^+≈? %β^+F ≈ 0.022. %β^+F: Estimated from the ratio of observed fission events to observed alpha events from both isomers (2013La02). Assuming equal population of the two isomers, the β-delayed fission probability was estimated with a factor of ≈ 5 uncertainty (2013La02). $T_{1/2}$: From 7070-7230α(t) (2003An27). Others: 9.8 ms *13* from 7158α(t) (1997Ba21), 10 ms *4* (1984ScZQ).

† Based on the systematics of 10^- and 3^+ isomers in neighboring even-A Bi isotopes. Since the heavy-ion reaction used to produce the ^{186}Bi is likely to favor formation of the higher-spin isomer, the stronger α group (7261α) might be expected to arise from that isomer (1997Ba21).