Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 146, 387 (2017)	31-Aug-2017

Q(β^-)=−764 *15*; S(n)=6047 *15*; S(p)=3757 *14*; Q(α)=6779 *4* 2017Wa10

Identification:
1972Wo07: ^{244}Bk was produced by irradiating ^{243}Am with α particles at the Argonne 152 cm cyclotron via the (α,3n) reaction.
1956Ch77: ^{244}Bk was produced by irradiating ^{243}Am with α particles.

Theoretical studies:
2009Mo18, 1984Ku05, 1972We09: Calculated fission barrier heights.
1997Mo25: Calculated partial half-lives for α and β decays.
1995Mo29: Calculated deformation parameters.
1972We09: Calculated spontaneous fission half-lives.

^{244}Bk Levels

Cross Reference (XREF) Flags

A ^{248}Es α decay

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	(4$^-$)	5.02 h *3*		%α=0.006 *3*; %ε=99.994 *3* Branchings were determined by 1956Ch77 from ^{244}Cm yield and ^{244}Bk α activity; α/EC ratio= 6 ×10^{-5}. Uncertainty is deduced by using T$_{1/2}$(α decay)=8 y *3*, quoted by 1956Ch77. T$_{1/2}$: From weighted average of three values from the decay curves of 187γ, 217γ and 891γ in ^{244}Bk electron capture decay measured by 2014So17. Other: 4.35 h *15* (1956Ch77). J$^\pi$: Analogy to ^{243}Bk and ^{245}Bk for 97 th proton, to ^{243}Cm and ^{241}Pu for 147 th neutron state suggests 4$^-$,(π 3/2[521]+ν 5/2[622]) configuration.
140 *SY*			A	E(level): Δ(E)=50 (sys).
170 *SY*			A	E(level): Δ(E)=50 (sys).
200 *50*			A	E(level): Δ(E)=50 (sys).
0+x		820 ns *60*		%SF≤100 Only SF decay observed (1972Ga42,1972Wo07). T$_{1/2}$: From measured half-life in 1972Wo07. Other: ≥30 ns (1972Ga42). Theoretical calculations: T$_{1/2}$(SF)=61 ns (1972We09), 7.76 μs (2005Re16). E(level): Level energy has not been experimentally determined. Calculations of 1972We09 suggest E=1.68 MeV.

† Except for the SF isomer, the excited states given here were populated in ^{248}Es α decay only. Their energies are obtained from experimental α energies and Qα(^{248}Es)=7160 *50* (syst, 2017Wa10).