

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 198,449 (2024)	31-Jul-2022

$Q(\beta^-)=-120$ 60; $S(n)=5920$ 60; $S(p)=4330$ 60; $Q(\alpha)=6070$ 60 [2021Wa16](#)
 $S(2n)=12890$ 60, $S(2p)=10490$ 60 ([2021Wa16](#)).

Theoretical structure calculations:

$Q(\alpha)$, $T_{1/2}(\alpha)$ and $T_{1/2}(\text{SF})$, binding and separation energies.

[2019Sr04](#),[2017Su11](#),[2001Mo07](#).

Fission Barrier heights:

[2020Ja01](#).

Decay of $^{246}\text{Bk}^m$ via dynamical cluster-decay model (DCM):

[2008Si17](#).

Long-lived isomers:

[1987So10](#).

Rotational structure, configurations:

[1994So16](#).

 ^{246}Bk Levels

In analogy with neighboring odd-mass nuclei one expects for $Z=97$ configuration= $(\pi 3/2[521])$ (from ^{245}Bk , ^{247}Bk , ^{251}Bk) and for $N=149$ configuration= $(\nu 7/2[624])$ (from ^{243}Pu , ^{245}Cm). This combination should give two states with $J^\pi=2^-$ and with $J^\pi=5^-$, respectively, the latter being of lower energy (Gallagher-Moszkowski rule). Another possible configuration= $(\pi 7/2[633])$ (from ^{249}Bk) and configuration= $(\nu 7/2[624])$ would give 7^+ , 0^+ states. [1987So10](#) predict the occurrence of 2^- and 0^+ states in this nuclide.

E(level)	J^π	$T_{1/2}$	Comments
0.0+x	$2^{(-)}$	1.80 d 2	$\% \epsilon + \% \beta^+ = 100$ E(level): This level is the only known isomer in this nucleus. Predicted by 1987So10 . J^π : $\log ft$'s of ≈ 7 to 2^- , 3^- and 1^- states in ^{246}Cm require $J=2$. Configuration= $(\pi 3/2[521])-(\nu 7/2[624])$ favors $\pi=-$. $T_{1/2}$: Weighted average of 1.80 d 2 (1976Ah03) and 1.83 d 15 (1966Or01).