

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 122, 293 (2014)	30-Jun-2013

$Q(\beta^-) = -3995$ SY; $S(n) = 8036$ SY; $S(p) = 2483$ SY; $Q(\alpha) = 7200$ SY [2012Wa38](#)
 $\Delta Q(\beta^-) = 294$ syst $\Delta S(n) = 328$ syst $\Delta S(p) = 207$ syst $\Delta Q(\alpha) = 200$ syst ([2012Wa38](#)).

Others:

Discovery of ^{239}Bk : [2013Fr02](#).

Calculated $T_{1/2}$ for α decay of ^{243}Es : [2013Zd01](#), [2011Sa40](#).

Calculated single-particle energies: [2004Pa40](#).

 ^{239}Bk LevelsCross Reference (XREF) Flags

A ^{243}Es α decay

E(level) [†]	J^π	XREF	Comments
0	($3/2^-, 7/2^+$)	A	$\% \epsilon > 99$; $\% \text{SF} < 1$; $\% \alpha < 1$ $T_{1/2}$: decay of ^{239}Bk was not detected. $T_{1/2} \approx 100$ s from systematics and theory (2010An08). No α nor SF observed (2010An08). Partial half-life estimates are: $T_{1/2}(\alpha) \approx 115$ h (1997Mo25), $T_{1/2}(\epsilon) \approx 12$ min (1973Ta30). J^π : $J^\pi = 3/2^-$ or $7/2^+$ depending upon whether ^{243}Es g.s. J^π is $7/2^+$ or $3/2^-$ respectively. From syst $3/2[521]$ or $7/2[633]$ are the expected low-lying states. α HF suggests that $7/2^+$ is the g.s. (the HF for $7/2[633]$ to $3/2[521]$ should be a factor 4 bigger than the HF for $3/2[521]$ to $7/2[633]$ transition because of phase space considerations).
47 10	($7/2^+, 3/2^-$)	A	J^π : $J^\pi = 7/2^+$ or $3/2^-$ depending upon whether ^{243}Es g.s. J^π is $7/2^+$ or $3/2^-$, respectively.
197? 14		A	J^π : Configuration = $7/2^+[633]$ or $3/2^-[521]$.

[†] [Additional information 1](#).