^{249}Bk(α,t) 1976Ya02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Y. Akovali	NDS 94,131 (2001)	1-Aug-2001

E(α)=28 MeV.

The g.s. of ^{249}Bk is p 7/2[633] state. (α,t) will populate primarily two-quasiproton states; see 1976Ya02 for a discussion of mixing between two-quasiproton and two-quasineutron configurations.

^{250}Cf Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0#	0^+	872@	2^-	1210		1478a	5^-
43#	2^+	906@	3^-	1255		≈1530&	7^-
142#	4^+	952@	4^-	1378		≈1550a	6^-
296#	6^+	1009@	5^-	1396&	5^-		
≈500#	8^+	≈1070@	6^-	1458&	6^-		

† Rounded off from values In Adopted Levels. 1976Ya02 did not list their measured energies; the spectrum taken is shown In a figure and the peaks on the spectrum are identified by their Jπ′s and band assignments.

‡ Assignments given by 1976Ya02. The authors utilized results from their ^{249}Cf(d,p) reaction and earlier work on ^{250}Es ε decay. Intense γ transition between the 5^- states seen In 8.6-H ^{250}Es ε decay indicate that the two $K^\pi=5^-$ two-quasiparticle bands are strongly mixed. Only the dominant two-quasiparticle components populated In this reaction are given with their band assignments.

Band(A): $K^\pi=0^+$ ground state band.

@ Band(B): $K^\pi=2^-$ octupole-vibrational band. Band is populated through its large 2^-,(p 3/2[521],p 7/2[633]) component In this reaction.

& Band(C): $K^\pi=5^-$ band. Dominant configuration: (p 3/2[521],p 7/2[633]). The configuration assignment was based on the target ^{249}Bk state, p 7/2[633], coupled with the lowest energy proton state yielding $J^\pi=5^-$, determined In the decay work.

a Band(D): $K^\pi=5^-$ band. Dominant configuration: (n 9/2[734],n 1/2[620]). The assignment is made from band′s strong population In (d,p). This band is populated In (α,t) because of its admixture with the 5^-,(p 3/2[521],p 7/2[633]) band.

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Band(A): $K^{\pi}=0^{+}$ ground state band

8^{+}	≈500
6^{+}	296
4^{+}	142
2^{+}	43
0^{+}	0.0

Band(B): $K^{\pi}=2^{-}$ octupole-vibrational band

6^{-}	≈1070
5^{-}	1009
4^{-}	952
3^{-}	906
2^{-}	872

Band(C): $K^{\pi}=5^{-}$ band

7^{-}	≈1530
6^{-}	1458
5^{-}	1396

Band(D): $K^{\pi}=5^{-}$ band

6^{-}	≈1550
5^{-}	1478

$^{250}_{98}Cf_{152}$