^{255}Es α decay 1966Rg01,1967Fi03,1970HoZN

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 189,111 (2023)	23-Sep-2022

Parent: ^{255}Es: E=0; J^π=(7/2$^+$); $T_{1/2}$=39.8 d *12*; Q(α)=6436.3 *13*; %α decay=8.0 *4*
^{255}Es-$T_{1/2}$: From 1966Rg01.
^{255}Es-Q(α): From 2021Wa16.
^{255}Es-%α decay: From %α/%β$^-$=0.087 *4* and %β$^-$/%SF=2.22×10^4 *10* (1967Fi03).

^{251}Bk Levels

E(level)†	Jπ#	$T_{1/2}$	Comments
0	(3/2$^-$)		
32.6 *10*	(5/2$^-$)		
35.5& *14*	(7/2$^+$)@	40 μs *3*	$T_{1/2}$: From α-X-ray coincidence (1970HoZN). E(level): Stated in 1978Lo13, citing 1970HoZN.
72‡&	(9/2$^+$)@		
123‡&	(11/2$^+$)@		
269.1 *10*	(5/2$^+$)		

† From least-squares fit to γ-ray energies, unless otherwise noted.
‡ From ΔEα.
# From Adopted Levels.
@ Inferred from K=7/2 rotational structure built on 35.7 keV level (1967Fi03).
& Band(A): 7/2$^+$ band (1967Fi03).

α radiations

Eα†	E(level)	Iα#	HF‡	Comments
(6070)	269.1			Eα: 1978LO13 cites 1970HoZN in claiming the 269.1-keV γ ray is observed in α-γ coincidence, but does not provide the α-particle energy.
6219	123	2.5	24	
6267	72	9.8	11	
6306	35.5	87.7	1.8	1966Rg01 reports 6300 keV *3* but not other α decays. The evaluator has opted to adopt the more complete set of α-decay energies, noting this measurement for reference.
≈6339	0			Eα: From 1970HoZN.

† From 1967Fi03 unless otherwise noted.
‡ The nuclear radius parameter $r_0(^{251}Bk)$=1.508 *14* is deduced from interpolation (or unweighted average) of radius parameters of the adjacent even-even nuclides (2020Si16).
# For absolute intensity per 100 decays, multiply by 0.080 *4*.

γ(^{251}Bk)

Eγ†	Ei(level)	J_i^π	E_f	J_f^π
32.6	32.6	(5/2$^-$)	0	(3/2$^-$)
233.6	269.1	(5/2$^+$)	35.5	(7/2$^+$)
269.1	269.1	(5/2$^+$)	0	(3/2$^-$)

† From α-γ coincidence (1978Lo13, citing 1970HoZN).

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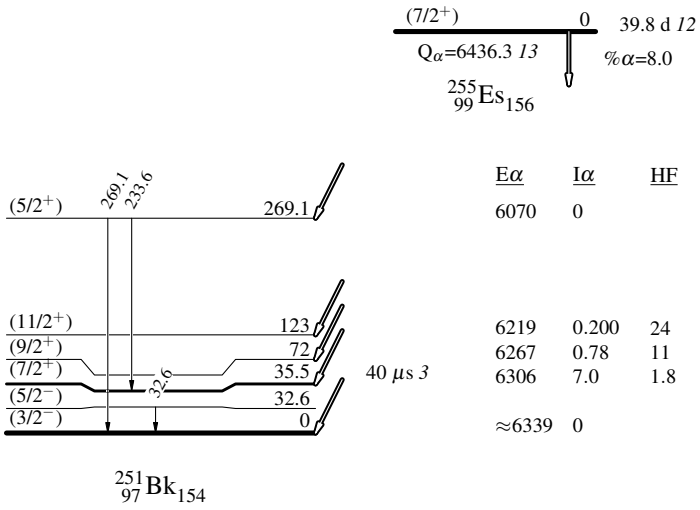
Decay Scheme



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Band(A): 7/2$^+$ band (1967Fi03)

(11/2$^+$) 123

(9/2$^+$) 72

(7/2$^+$) 35.5

$^{251}_{97}Bk_{154}$