^{206}Pb(^{48}Ca,3n)   **2004He28,2006He27**

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

2004He28,2006He27: ^{251}No produced by the ^{206}Pb(^{48}Ca,3n) reaction at E=4.80 MeV/nucleon. Reaction products were separated from the primary beam by the SHIP velocity filter and implanted into a position-sensitive 16-strip PIPS detector. Measured E_γ, γ(residues)(t), lifetimes with a Clover detector.

2006He27: Observed an isomer with half-life of $\approx$2 μs.

α: Additional information 1.

^{251}No Levels

E(level)	J^π	$T_{1/2}$	Comments
0†	(7/2$^+$)	0.80 s 1	configuration=7/2$^+$[624] (2006He27)
			$T_{1/2}$: From 2006He27.
60.3† 3	(9/2$^+$)		
106 6	(1/2$^+$)	1.00 s 4	%$\alpha\approx$100
			configuration=1/2$^+$[631] (2006He27)
			%α: Based on non-observation of γ rays from this state.
			$T_{1/2}$: Weighted average 0.93 s 6 (2004He28) and 1.02 s 3 (2006He27).
			E(level): From difference of Q(α) values from decay from this state and the ground state into ^{247}Fm.
203.6 2	(9/2$^-$)		configuration=9/2$^-$[734] (2006He27)
917.2? 5	(7/2$^+$)		configuration=7/2$^+$[613] (2006He27)
			E(level): If the ordering of the 782.5-713.6 cascade is reversed, the excitation energy is 986.1 keV 6.
≥1699.2?		$\approx$2 μs	E(level): 2006He27 indicate that the 203.6, 713.6, and 782.5-keV transitions are in cascade, but it is not certain that there are no other unobserved transitions in the sequence, hence the lower limit on the level energy.
			$T_{1/2}$: From 2006He27.

† Band(A): 7/2$^+$[624].

γ(^{251}No)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α	Comments
(60.3 3)	60.3	(9/2$^+$)	0	(7/2$^+$)			E_γ: From difference of the 203.6 and 143.3 keV transitions.
143.3 2	203.6	(9/2$^-$)	60.3	(9/2$^+$)	E1‡	0.0669	α(L)=0.0499 8; α(M)=0.01248 18; α(N)=0.00348 5; α(O)=0.000905 13; α(P)=0.0001546 23 α(Q)=5.14×10^{-6} 8 α(L)exp+α(M)exp<0.25 (2006He27)
203.6 2	203.6	(9/2$^-$)	0	(7/2$^+$)	E1‡	0.1143	α(K)=0.0857 13; α(L)=0.0213 3; α(M)=0.00530 8; α(N)=0.001482 21; α(O)=0.000388 6 α(P)=6.84×10^{-5} 10; α(Q)=2.52×10^{-6} 4 α(K)exp<0.088 (2006He27); α(L)exp+α(M)exp<0.1 (2006He27)
713.6$^{\dagger\#}$ 5	917.2?	(7/2$^+$)	203.6	(9/2$^-$)			
^{x}782.5† 6							

† The 782.5-713.6 keV γs are in cascade but the ordering is uncertain.
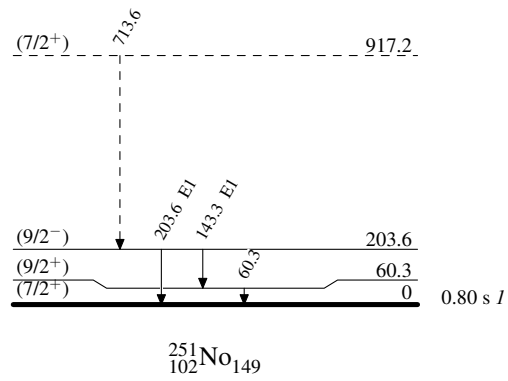
‡ Based on measured conversion coefficients in 2006He27.
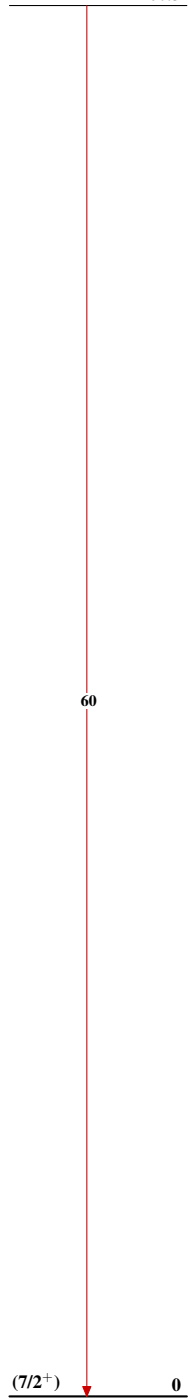
$^\#$ Placement of transition in the level scheme is uncertain.

^{x} γ ray not placed in level scheme.

${}^{206}\text{Pb}({}^{48}\text{Ca},3n)$ 2004He28,2006He27

Legend

Level Scheme

- - - - - - ▶ γ Decay (Uncertain)

$(7/2^+)$ ⌐ - - - - - - - - - - - - - - - - - 917.2

713.6

203.6 E1   143.3 E1

$(9/2^-)$ _____ 203.6
$(9/2^+)$ _____ 60.3   60.3
$(7/2^+)$ _____ 0   0.80 s *1*

${}^{251}_{102}\text{No}_{149}$

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Band(A): 7/2$^+$[624]

(9/2$^+$)   60.3

60

(7/2$^+$)   0

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