^{241}Pu(n,Fγ) E=thermal 2000Ge18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, I. Mitropolsky, A. Rodionov	NDS 107, 2715 (2006)	17-Jul-2006

2000Ge18: measured Eγ, $\gamma\gamma$, ee coin, γ(t) and ce. LOHENGRIN, Si(Li). Large volume Ge detectors.

^{131}Sb Levels

E(level)‡	J$^\pi$	$T_{1/2}$	Comments
0	$(7/2^+)$†		
1226.4 *10*	$(11/2^+)$†		
1676.7 *15*	$(15/2^-)$†	65 μs *5*	
1687.9 *17*	$(19/2^-)$	4.3 μs *8*	J$^\pi$: from the analogy with ^{129}Sb states and decay pattern. Configuration=$\pi g_{7/2}\nu(h^{-1}_{11/2}d^{-1}_{3/2})$.
1726.7 *17*	$(17/2^-)$†		
2069.9 *18*	$(19/2^+)$		J$^\pi$: from shell-model calculations: E1 transition to $17/2^-$ and transition to $19/2^-$.
2166.3 *20*	$(23/2^+)$	1.1 μs *2*	J$^\pi$: from shell-model calculations; the only E2 transition to $19/2^+$. Configuration=$\pi g_{7/2}\nu h^{-2}_{11/2}$.

† From Adopted Levels.
‡ Accuracy not given; assumed ΔE=0.5keV (evaluators).

γ(^{131}Sb)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.	α†	Comments
1226.4	$(11/2^+)$	1226.4		0	$(7/2^+)$			
1676.7	$(15/2^-)$	450.3		1226.4	$(11/2^+)$	(M2)	0.0386	B(M2)(W.u.)=0.00096 *8* Mult.: details aren't given.
1687.9	$(19/2^-)$	11.2		1676.7	$(15/2^-)$			B(E2)(W.u.)=0.99 *18* B(E2)↓=40 *7* γ, ce not observed; transition was introduced on the basis of γ1226.4 time measurements.
1726.7	$(17/2^-)$	(38.8)		1687.9	$(19/2^-)$			
		50.0		1676.7	$(15/2^-)$	D		K/L≈6.
2069.9	$(19/2^+)$	343.2	63	1726.7	$(17/2^-)$	(E1)	0.00635	Mult.: from lack of K-line in ce delayed spectrum.
		382.0	37	1687.9	$(19/2^-)$			
2166.3	$(23/2^+)$	96.4		2069.9	$(19/2^+)$	E2	1.89	α(K)exp=1.2 *2* α(K)=1.33 *4*; α(L)=0.451 *14*; α(M)=0.093 *3*; α(N+..)=0.0199 *6* B(E2)↓=21 *4* B(E2)(W.u.)=0.54 *11*

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Legend

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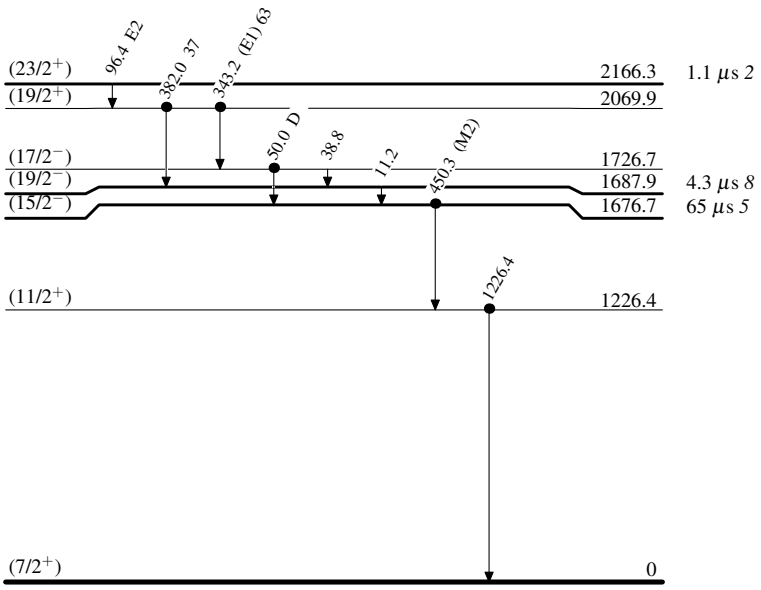
Level Scheme

Intensities: % photon branching from each level

γ Decay (Uncertain)

Coincidence



$^{131}_{51}Sb_{80}$