^{248}Cm SF decay 2001Bh04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	28-Feb-2018

Parent: ^{248}Cm: E=0; $J^\pi=0^+$; $T_{1/2}=3.40\times10^5$ y *4*; %SF decay=8.39 *16*

^{248}Cm-%SF decay: %SF=8.39 *16* for decay of ^{248}Cm.

2001Bh04: Measured Eγ, γγ, γ(t) using GAMMASPHERE detector array comprised 99 escape-suppressed large volume Ge detectors. Prompt and delayed gamma-ray spectra obtained.

Others: 1985VaZS: ^{238}U(α,F) E=30 MeV. Measured prompt and delayed electron spectra from fission fragments to search for an excited 0^+ state. No such level was found; upper limits for population of a possible 0^+ level were quoted as 3-22% of the total yield for ^{132}Sn, for energy window of 3-4.5 MeV and time window of −3 to 65 ns.

1970Gr38: ^{235}U(n,F) E=th. Measured (fragment)(γ)(t), γγ. Deduced isomer half-life.

^{132}Sn Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[#]	Comments
0[@]	0^+		
4041.1[@] *8*	(2^+)		
4352.1 *9*	(3^-)		
4416.1[@] *8*	(4^+)		
4716.1[@] *13*	(6^+)	20.1 ns	
4831.1 *11*	(4^-)		
4849.1[@] *16*	(8^+)	2.080 μs *17*	$T_{1/2}$: other: 0.53 μs *20* (1970Gr38) for ^{132}Sn or ^{133}Sn isomer.
4885.1 *13*	(5^+)		
4919.1 *16*	(7^+)		
4942.1 *11*	(5^-)		
5280.1 *19*	(9^+)		Interpreted as a maximally aligned 9^+ state with configuration=$\nu(f_{7/2}h_{11/2}^{-1})$.

† From least-squares fit to Eγ data, assuming 1 keV uncertainty for each γ ray.

‡ As proposed by 2001Bh04, parentheses have been added by the evaluators. Same assignments are given in Adopted Levels.

From Adopted Levels.

@ Band(A): g.s. Yrast cascade.

γ(^{132}Sn)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
111	4942.1	(5^-)	4831.1	(4^-)		
133	4849.1	(8^+)	4716.1	(6^+)		
203	4919.1	(7^+)	4716.1	(6^+)		
300	4716.1	(6^+)	4416.1	(4^+)		
311	4352.1	(3^-)	4041.1	(2^+)		
375	4416.1	(4^+)	4041.1	(2^+)		
431	5280.1	(9^+)	4849.1	(8^+)		Seen in delayed coin spectrum with 4041γ and other transitions following the 2−μs isomer.
469	4885.1	(5^+)	4416.1	(4^+)		
479	4831.1	(4^-)	4352.1	(3^-)		
526	4942.1	(5^-)	4416.1	(4^+)		
4041	4041.1	(2^+)	0	0^+		
4352	4352.1	(3^-)	0	0^+	[E3]	
4416	4416.1	(4^+)	0	0^+	[E4]	

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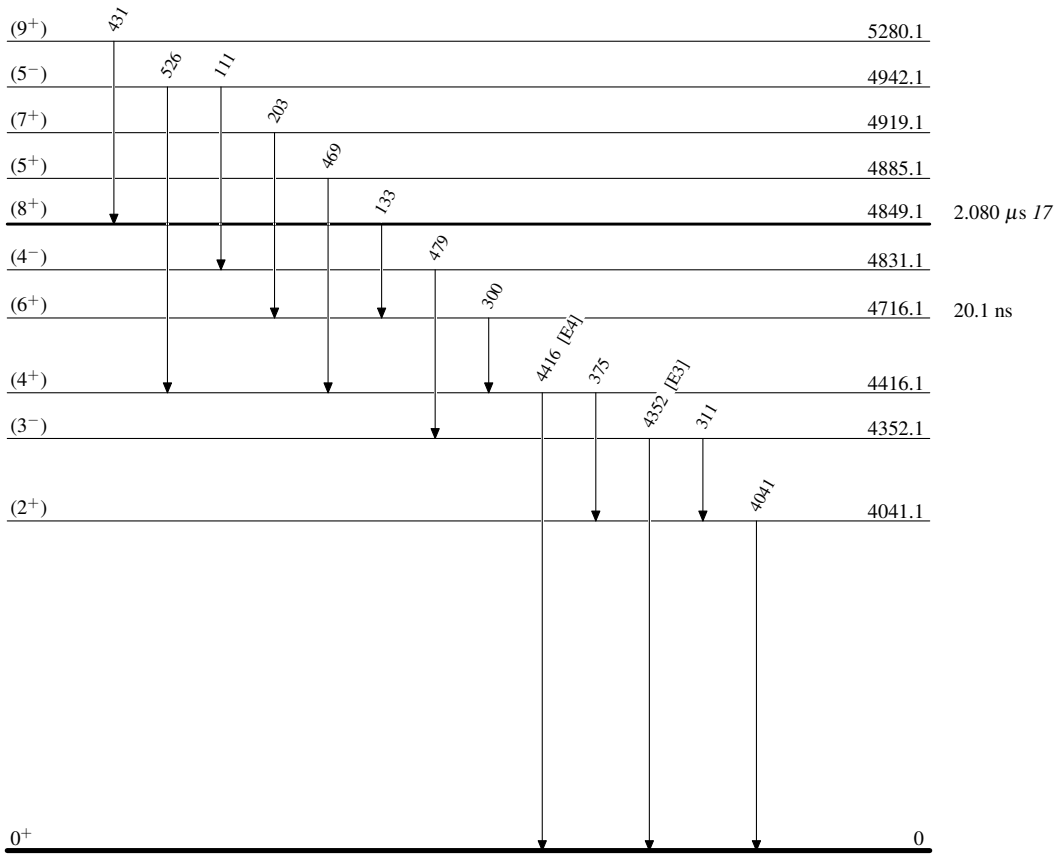
Level Scheme



$^{132}_{50}Sn_{82}$

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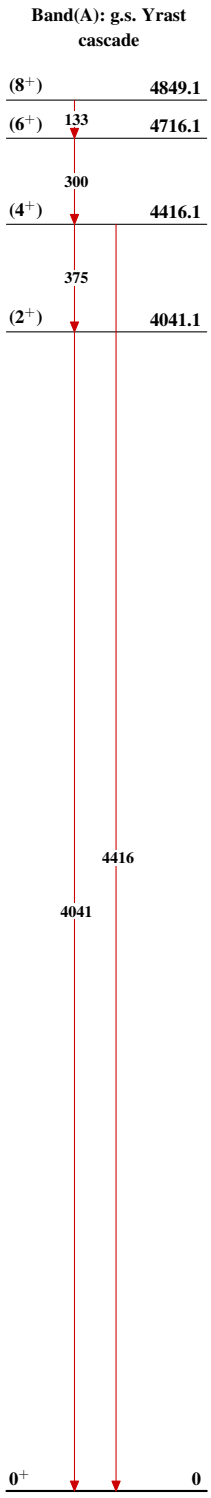

$^{132}_{50}Sn_{82}$