^{241}Pu(n,Fγ) 2000Ge08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev	NDS 112, 855 (2011)	31-Oct-2010

2000Ge08: ^{133}Sb(IT) [from ^{241}Pu(n,F)]; measured Eγ, Iγ, γ(t), Ece, Ice, ceγ-coin; deduced levels, J^π, B(E2), $T_{1/2}$, α(exp), configurations. LOHENGRIN spectrometer, ΔE gas detector for fragments, two large volume Ge and cooled Si(Li) detectors.

^{133}Sb Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0	$7/2^+$	2.34 min *5*	$T_{1/2}$: from Adopted Levels.
2791.0 *10*	$11/2^-$		
4150?	(11/2)		E(level): Introduced from a questionable 152-keV transition depopulating the 4301.5-keV level; γ-rays depopulating this level were not observed.
4301.5 *15*	(13/2)		
4464.0 *18*	(15/2)		
4525.5 *20*	(17/2)		
4.56×10^3 *10*	(21/2)	16.8 μs *4*	Additional information 1. E(level): from Adopted Levels. The measured X-ray intensities, corrected for the fluorescence yield, suggest that there is no room for an unobserved transition higher than 30 keV (2000Ge08). $T_{1/2}$: weighted average of 16.7 μs *4* (1510.5γ(t)) and 17.6 μs *11* (162.5γ(t)) in 2000Ge08. configuration: possible $\pi g_{7/2}\nu(f_{7/2}h^{-1}_{11/2})$.

[†] From a least-squares fit to Eγ.
[‡] From 2000Ge08.

γ(^{133}Sb)

E_i(level)	J^π_i	Eγ[†]	Iγ[†]	E_f	J^π_f	Mult.[†]	Comments
2791.0	$11/2^-$	2791.0 *5*		0.0	$7/2^+$		
4301.5	(13/2)	152[‡] *1*	5.0 *25*	4150?	(11/2)		Eγ: observed in coincide with K-61.5 keV conversion electron line (2000Ge08). Iγ: from Iγ(1510γ)/Iγ(152γ)=20 *10* (2000Ge08).
		1510.5 *5*	100	2791.0	$11/2^-$		Eγ: No short time component is observed in 1510.5γ(t) that contradicts the findings in ^{235}U(n,Fγ) (1978Si05).
4464.0	(15/2)	162.5 *5*		4301.5	(13/2)	M1	Mult.: K(61.5γ)/K(162.5γ)=5.0 *3* gives M1 multipolarity for both transitions (2000Ge08).
4525.5	(17/2)	61.5 *10*		4464.0	(15/2)	M1	Mult.: K(61.5γ)/K(162.5γ)=5.0 *3* gives M1 multipolarity for both transitions (2000Ge08).

[†] From 2000Ge08. ΔEγ are assumed by the evaluators.
[‡] Placement of transition in the level scheme is uncertain.

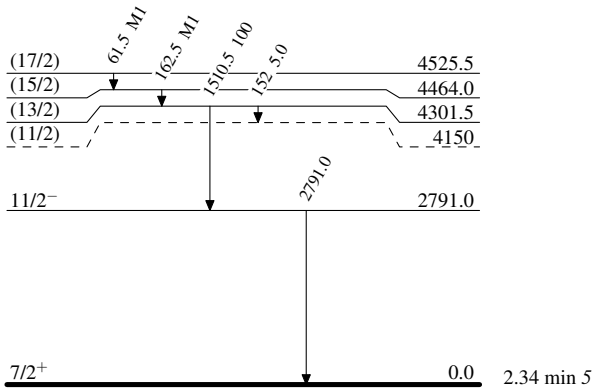
^{241}Pu(n,Fγ) 2000Ge08

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{133}_{51}Sb_{82}$