

$^{235}\text{U}(\text{n},\text{F}\gamma)$ 2009Ur01, 1978Si05

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

2009Ur01: ^{133}Sb [from $^{235}\text{U}(\text{n},\text{F}\gamma)$, E=th]; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -, (fragment) γ - coin, $\gamma(t)$, $T_{1/2}$. ^{133}Sb ; deduced levels, J^π , high-spin isomer. LOHENGRIN recoil separator, ionization camera, x-ray and nine Ge detectors, and two clover detectors.

1978Si05: ^{133}Sb [from $^{235}\text{U}(\text{n},\text{F}\gamma)$, E=th]; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, $\gamma(t)$, $T_{1/2}$. ^{133}Sb ; deduced levels, J^π , isomers. JOSEF and LOHENGRIN facilities, Ge detectors (not Compton suppressed).

No evidence for the existence of a $3\ \mu\text{s}$ isomer, originally introduced by [1978Si05](#) at $4364.5+x$ keV, was found in [2009Ur01](#), see [2000Ur05](#), [2000Ge08](#) also.

 ^{133}Sb Levels

E(level) [†]	J^π [‡]	$T_{1/2}$	Comments
0.0	$7/2^+$		$T_{1/2}$: from 'Adopted Levels'.
962.16 24	$5/2^+$		
2791.72 20	$11/2^-$		
4191.87 23	$11/2^+$		configuration: member of the $\pi g_{7/2} \otimes \nu(f_{7/2} h_{11/2}^{-1})$ multiplet.
4297.03 21	$13/2^-$		
4302.08 25	$13/2^+$		configuration: member of the $\pi g_{7/2} \otimes \nu(f_{7/2} h_{11/2}^{-1})$ multiplet.
4360.2 4	$15/2^-$		
4464.65 25	$15/2^+$		configuration: member of the $\pi g_{7/2} \otimes \nu(f_{7/2} h_{11/2}^{-1})$ multiplet.
4526.3 4	$17/2^+$		configuration: member of the $\pi g_{7/2} \otimes \nu(f_{7/2} h_{11/2}^{-1})$ multiplet.
4.56×10^3 10	$21/2^+$	$16.6\ \mu\text{s}$ 3	Fed with about 7% of the fission yield of ^{133}Sb (1978Si05). E(level): From Adopted Levels. $x \leq 20$ keV in 2009Ur01 . $T_{1/2}$: from $\gamma(t)$ (2009Ur01). Other: $17\ \mu\text{s}$ 2 and $15\ \mu\text{s}$ 2 using $162\gamma(t)$ in JOSEF and LOHENGRIN experiments, respectively (1978Si05). configuration: member of the $\pi g_{7/2} \otimes \nu(f_{7/2} h_{11/2}^{-1})$ multiplet.

[†] From least-squares fit to $E\gamma$'s, assuming $\Delta E\gamma = 0.3$ keV for each γ .

[‡] From [2009Ur01](#).

 $\gamma(^{133}\text{Sb})$

$I(\text{K x ray}) = 80$ 20 ([1978Si05](#)), corrected for fluorescence yield.

$E_i(\text{level})$	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.	Comments
962.16	$5/2^+$	962.1		0.0	$7/2^+$		
2791.72	$11/2^-$	1829.5	0.7 3	962.16	$5/2^+$		
		2791.7	100 5		0.0	$7/2^+$	
4191.87	$11/2^+$	4191.8			0.0	$7/2^+$	
4297.03	$13/2^-$	1505.3	20 5	2791.72	$11/2^-$		
		4297.0	100 10		0.0	$7/2^+$	
4302.08	$13/2^+$	110.2	0.8 2	4191.87	$11/2^+$		
		1510.3	100 5	2791.72	$11/2^-$		
4360.2	$15/2^-$	63.1		4297.03	$13/2^-$		
4464.65	$15/2^+$	162.5	100 5	4302.08	$13/2^+$		$\alpha(\text{exp}) < 0.4$ from intensity balance considerations in 1978Si05 , consistent with E1, M1 or E2 assignment.
		167.7	8 1	4297.03	$13/2^-$		
		272.8	0.7 2	4191.87	$11/2^+$		
4526.3	$17/2^+$	61.7	100 10	4464.65	$15/2^+$	M1	Mult.: $\alpha(\text{exp}) = 2.3 + 17 - 8$ from intensity balance considerations in 1978Si05 .
		166.1	7 3	4360.2	$15/2^-$		

[†] From [2009Ur01](#).

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Intensities: Relative photon branching from each level

