^{235}U(n,Fγ) E=thermal 2012Mu08,2016Il01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 154, 1 (2018)	20-Nov-2018

Includes ^{241}Pu(n,Fγ) reaction (2016Il01).
2016Il01 compiled for XUNDL compilation by B. Singh (McMaster).
2012Mu08 compiled for XUNDL compilation by E. Thiagalingam and B. Singh (McMaster).
2016Il01: E=thermal or cold high-flux neutrons from ILL-Grenoble reactor. Measured Eγ, level lifetimes by $\gamma\gamma$(t) using EXILL array of eight HPGe EXOGAM clover detectors and FATIMA array of 16 $LaBr_3$(Ce) fast scintillation detectors. The time spectra were analyzed by generalized centroid difference method. Deduced quadrupole behavior. Comparison with shell-model calculations.
2012Mu08: E=thermal neutrons from the Canada India Research Utility Services (CIRUS) reactor facility, Bhabha Atomic Research Center (BARC), Mumbai. Target≈5.1 gm/cm^3 UAl_3 (17% enriched ^{235}U). Gamma rays were detected by two clover HPGe detectors equipped with anti-Compton shields, in coincidence mode. Measured Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J, π, isotopic yield, angular momentum distribution.

^{140}Xe Levels

E(level)	J$^{\pi}$†	$T_{1/2}$	Comments
0.0‡	0$^+$		
377‡	2$^+$	70.7 ps *49*	$T_{1/2}$: from 2016Il01, from gate on 582 transition in Ge detectors and on 377 transition in $LaBr_3$(Ce) detector. Corresponding $T_{1/2}$=68.6 ps *125* using ^{241}Pu(n,Fγ) reaction also from 2016Il01. 2016Il01 deduce g factor=0.56 *19* using their lifetime and measured gτ from 2009Go09, as compared to g factor=0.35 *12* in 2009Go09.
835‡	4$^+$	11.8 ps *35*	$T_{1/2}$: from 2016Il01, from gate on 377 transition in Ge detectors and on 582 transition in $LaBr_3$(Ce) detector.
1417‡	6$^+$		
1573			
1772#	5$^-$		
1955			
1984‡	8$^+$		
2184#	7$^-$		
2591‡	10$^+$		
2735#	9$^-$		
3270‡	(12$^+$)		

† From the Adopted Levels.
‡ Band(A): g.s. band.
# Band(B): Band based on 5$^-$.

γ(^{140}Xe)

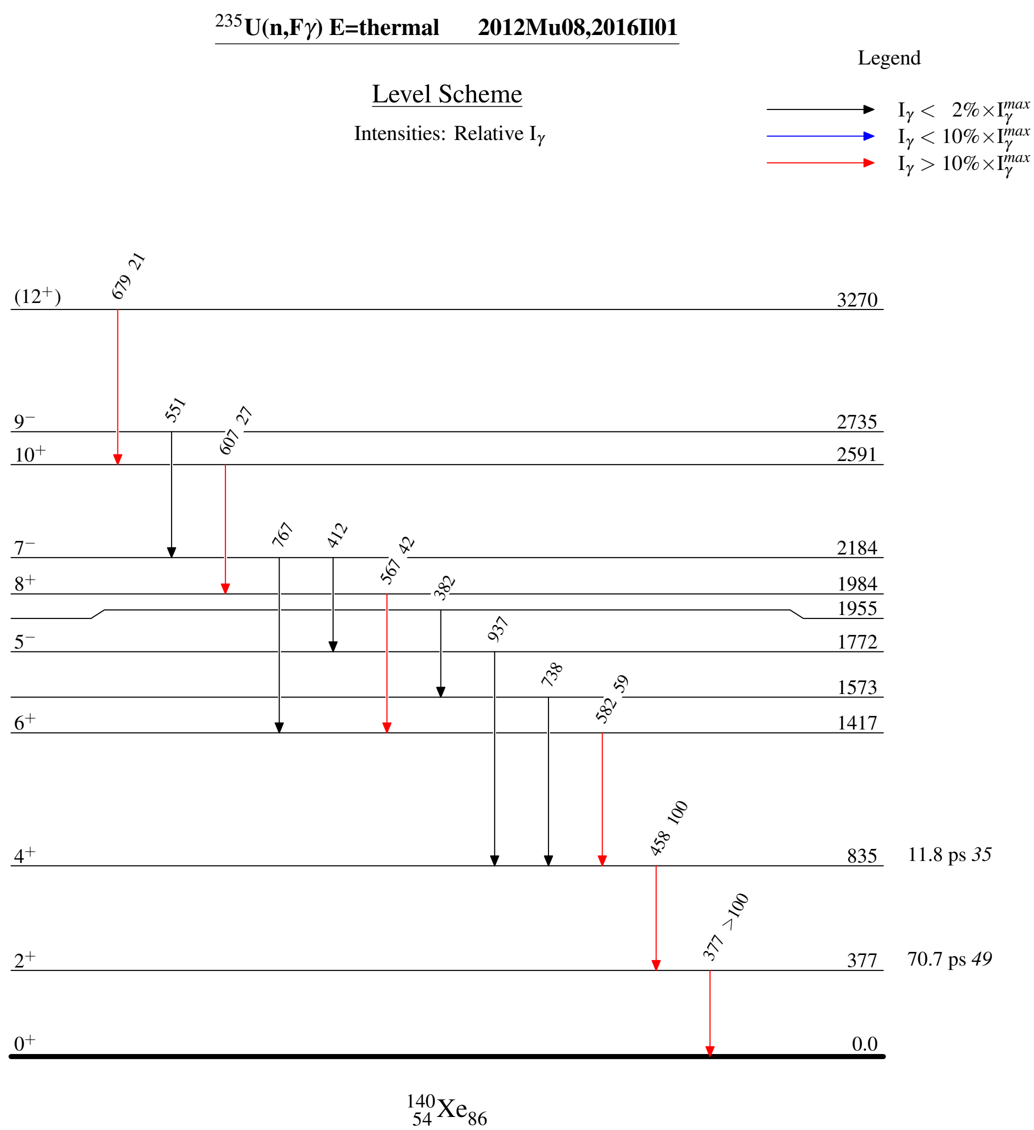
Eγ	Iγ†	E_i(level)	J_i^{π}	E_f	J_f^{π}
377	>100	377	2$^+$	0.0	0$^+$
382		1955		1573	
412		2184	7$^-$	1772	5$^-$
458	100 *5*	835	4$^+$	377	2$^+$
551		2735	9$^-$	2184	7$^-$
567	42 *6*	1984	8$^+$	1417	6$^+$
582	59 *3*	1417	6$^+$	835	4$^+$
607	27 *4*	2591	10$^+$	1984	8$^+$
679	21 *3*	3270	(12$^+$)	2591	10$^+$
738		1573		835	4$^+$
767		2184	7$^-$	1417	6$^+$
937		1772	5$^-$	835	4$^+$

Continued on next page (footnotes at end of table)

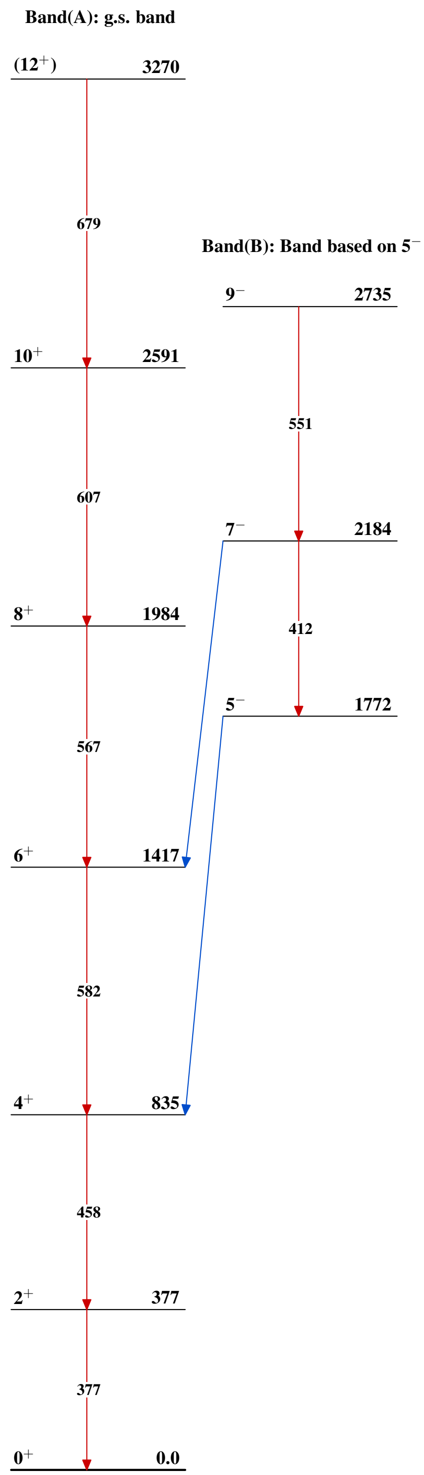
^{235}U(n,Fγ) E=thermal 2012Mu08,2016Il01 (continued)

$\gamma(^{140}$Xe) (continued)

† 2012Mu08 mention uncertainties of 5% to 25% depending on the γ-ray intensity. The following uncertainties for intensities were adopted : 5% for γ rays with I$\gamma \geq 50$, 15% for Iγ=20-50, and 25% for Iγ<20.



^{235}U(n,Fγ) E=thermal 2012Mu08,2016Il01



$^{140}_{54}Xe_{86}$