

$^{235}\text{U}(\text{n},\text{F}\gamma)$  2017Re05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

**2017Re05:** measured level lifetimes by fast-timing  $\gamma\gamma(t)$  method using EXILL and FATIMA spectrometer consisting of eight EXOGAM clover Ge detectors and 16 LaBr<sub>3</sub>(Ce) detectors for fast timing. The experiment was performed at the ILL-Grenoble reactor facility using cold neutron beam. The  $^{98}\text{Sr}$  nuclide was produced as a fission fragment. Time-stamped data were acquired and sorted off line for Ge-LaBr<sub>3</sub>-Ge events for  $\gamma\gamma$ -coincidence analysis and Ge-LaBr<sub>3</sub>-LaBr<sub>3</sub>-TAC events for lifetime analysis. Deduced B(E2) values and compared with Monte Carlo Shell-model calculations.

Others:

**2012Mu08:** E=thermal neutrons from the Canada India Research Utility Services (CIRUS) reactor facility, Bhabha Atomic Research Center (BARC), Mumbai. Target  $\approx 5.1 \text{ gm/cm}^3$  UAl<sub>3</sub> (17% enriched  $^{235}\text{U}$ ). Gamma rays were detected by two clover HPGe detectors equipped with anti-Compton shields, in coincidence mode. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$ -coin. Deduced levels, J,  $\pi$ , isotopic yield, angular momentum distribution. All the four excited states observed.

**1973Kh05:** E=thermal, measured prompt  $\gamma$  and ce radiation. Assignment of a single 193 $\gamma$  to  $^{98}\text{Sr}$  seems incorrect (evaluators).

 $^{98}\text{Sr}$  Levels

E(level) <sup>†</sup>	J $\pi$ <sup>†</sup>	T <sub>1/2</sub> <sup>‡</sup>
0.0 <sup>#</sup>	0 <sup>+</sup>	
144 <sup>#</sup>	2 <sup>+</sup>	2.77 ns 14
434 <sup>#</sup>	4 <sup>+</sup>	84 ps 8
867 <sup>#</sup>	6 <sup>+</sup>	11 ps 6
1433 <sup>#</sup>	8 <sup>+</sup>	

<sup>†</sup> From Adopted Levels. Energies are rounded values.

<sup>‡</sup> From  $\gamma\gamma(t)$  (2017Re05).

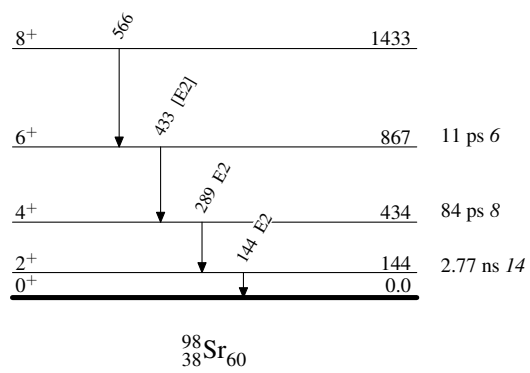
<sup>#</sup> Band(A): g.s. band.

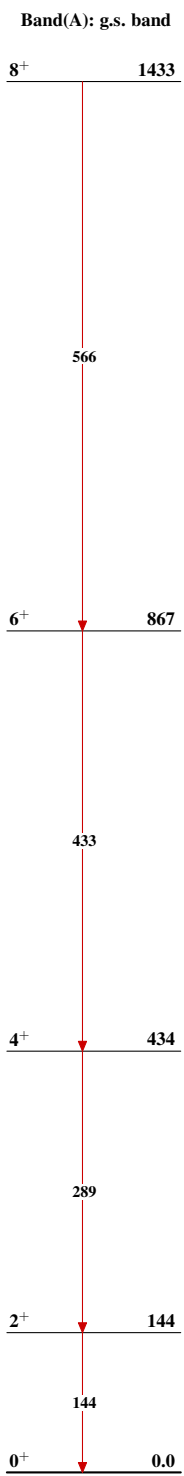
 $\gamma(^{98}\text{Sr})$ 

$E_\gamma$ <sup>†</sup>	$E_i$ (level)	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha$ <sup>‡</sup>
144	144	2 <sup>+</sup>	0.0	0 <sup>+</sup>	E2	0.266
289	434	4 <sup>+</sup>	144	2 <sup>+</sup>	E2	0.0218
433	867	6 <sup>+</sup>	434	4 <sup>+</sup>	[E2]	0.0057
566	1433	8 <sup>+</sup>	867	6 <sup>+</sup>		

<sup>†</sup> From Adopted Gammas. Energies are rounded values.

<sup>‡</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

$^{235}\text{U}(\text{n},\text{F}\gamma)$  2017Re05Level Scheme

$^{235}\text{U}(\text{n},\text{F}\gamma)$  2017Re05 $^{98}_{38}\text{Sr}_{60}$