

${}^{238}\text{U}({}^{76}\text{Ge}, {}^{74}\text{Zn}\gamma)$  **2013Lo04**

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	31-Mar-2017

**2013Lo04** (also **2013Le20**):  $E({}^{76}\text{Ge})=540$  MeV from LNL Tandem-ALPI accelerator complex at INFN-Legnaro. Projectile-like reaction products were analyzed at the focal plane of PRISMA magnetic spectrometer.  ${}^{238}\text{U}$  target was  $1.4$  mg/cm<sup>2</sup> thick evaporated on a backing of  $1.2$  mg/cm<sup>2</sup> thick Ta. Time-of-flight of residues was measured between a microchannel plate (MCP) and parallel-plate avalanche counters (PPAC). The arrangement allowed residue identification by Z, A and charge Q. Prompt  $\gamma$  rays were detected by AGATA Demonstrator comprised of four triple cluster modules. Measured ( ${}^{74}\text{Zn}$ ) $\gamma$ -coin, lifetimes of levels by RDDS method using Cologne-type plunger device. Comparison with shell-model calculations using three different interactions.

 ${}^{74}\text{Zn}$  Levels

E(level)	$J^\pi$	$T_{1/2}^\dagger$
0	$0^+$	
606 2	$2^+$	19.8 ps 25
1419 3	$4^+$	13.9 ps +12-36
2621 4	$(6^+)$	

<sup>†</sup> From RDDS (**2013Lo04**).

 $\gamma({}^{74}\text{Zn})$ 

B(E2): deduced by **2013Lo04** from their level half-life measurements.

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
606 2	606	$2^+$	0	$0^+$	B(E2) $\downarrow=0.0352$ +50-39 ( <b>2013Lo04</b> )
813 2	1419	$4^+$	606	$2^+$	B(E2) $\downarrow=0.0116$ +32-10 ( <b>2013Lo04</b> )
1202	2621	$(6^+)$	1419	$4^+$	$E_\gamma$ : cited by <b>2013Lo04</b> in their reference 43 (Thesis: T. Paul, University of Strasbourg, 2007). 1187 keV 2 in spectral figure 3 of <b>2013Lo04</b> is the shifted energy.

---

 ${}^{238}\text{U}({}^{76}\text{Ge}, {}^{74}\text{Zn}\gamma)$  2013Lo04Level Scheme