

**Be( $^{238}\text{U}, \text{F}\gamma$ ):XUNDL-2 2019Wa14**

Compiled (unevaluated) dataset from 2019Wa14: Phys Lett B 792, 263 (2019).

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2019Wa14:  $^{127}\text{Pd}$  isotopes were produced from in-flight of fission of  $^{238}\text{U}$  beam of 345 MeV/nucleon with 7-12 pnA intensity on a Be target at the RI-Beam Factory (RIBF) in the RIKEN Nishina Center. Fission products were transported through the BigRIPS-ZeroDegree spectrometer and implanted into the WAS3ABi active stopper consisting of eight layers of double-sided silicon-strip detectors (DSSSDs) and  $\gamma$  rays were detected using the EURCA  $\gamma$ -ray spectrometer consisting of 12 Cluster-type detectors, each of which contains 7 HPGe crystals packed closely. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma(t)$ . Deduced levels, spin-parities, half-life. Results are compared to the shell-model calculation, suggesting the competition between proton and neutron excitations in the proton-hole and neutron-hole systems in the south-west quadrant of the doubly magic nucleus  $^{132}\text{Sn}$ .

 **$^{127}\text{Pd}$  Levels**

<u><math>E(\text{level})^\dagger</math></u>	<u><math>J^\pi^\ddagger</math></u>	<u><math>T_{1/2}^\#</math></u>
0.0	(11/2 <sup>-</sup> )	
1295.51 20	(15/2 <sup>-</sup> )	
1717.91 23	(19/2 <sup>+</sup> )	39 $\mu\text{s}$ 6

<sup>†</sup> From  $E_\gamma$  data.

<sup>‡</sup> As given in 2019Wa14.

<sup>#</sup> From weighted average of results from 422.4 $\gamma(t)$  and 1295.5 $\gamma(t)$ .

 **$\gamma(^{127}\text{Pd})$** 

<u><math>E_\gamma^\dagger</math></u>	<u><math>I_\gamma^\dagger</math></u>	<u><math>E_i(\text{level})</math></u>	<u><math>J_i^\pi</math></u>	<u><math>E_f</math></u>	<u><math>J_f^\pi</math></u>	<u>Mult.<sup>‡</sup></u>
422.4 1	100 21	1717.91	(19/2 <sup>+</sup> )	1295.51	(15/2 <sup>-</sup> )	M2
1295.5 2	105 24	1295.51	(15/2 <sup>-</sup> )	0.0	(11/2 <sup>-</sup> )	E2

<sup>†</sup> From 2019Wa14.

<sup>‡</sup> As given in 2019Wa14.

**Be( $^{238}\text{U}, \text{F}\gamma$ ):XUNDL-2 2019Wa14****Level Scheme**Intensities: Relative  $I_\gamma$ 

## Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$

