

$^9\text{Be}(^{78}\text{Zn},p\gamma)$  2018Va08

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

**2018Va08:**  $E(^{78}\text{Zn})=240$  MeV/nucleon from  $^9\text{Be}(^{238}\text{U},X),E=345$  MeV/nucleon reaction, followed by separation of fragments using the BigRIPS separator at RIBF-RIKEN facility. Target= $1.89$  g/cm<sup>2</sup> thick. Measured reaction products identified by measuring  $B\rho$ ,  $E-\Delta E$ , and TOF using the ZeroDegree spectrometer,  $E\gamma$  and  $I\gamma$  using the DALI2 array of 186 NaI(Tl) detectors. Deduced levels and  $J^\pi$ . Comparison with large-scale shell model calculations.

 $^{77}\text{Cu}$  Levels

E(level)	$J^\pi$ †	Comments
0	$5/2^-$	$J^\pi$ : from the Adopted Levels.
271 16	$(3/2^-)$	
902 28	$(9/2^-, 3/2^-)$	$J^\pi$ : $(9/2^-)$ in the Adopted Levels based on assignment in $^{77}\text{Ni}$ decay study by 2017Sa32.
2068 64	$(7/2^-)$	




† As given by 2018Va08 for the excited states, based on shell-model predictions, and  $J^\pi$  values for neighboring nuclides.

 $\gamma(^{77}\text{Cu})$ 

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
271 16	20 4	271	$(3/2^-)$	0	$5/2^-$
902 28	21 3	902	$(9/2^-, 3/2^-)$	0	$5/2^-$
2068 64	100 15	2068	$(7/2^-)$	0	$5/2^-$

 $^9\text{Be}(^{78}\text{Zn},p\gamma)$  2018Va08Level SchemeIntensities: Relative  $I_\gamma$ 

## Legend

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

