

Coulomb excitation [2007St03](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

$^{120}\text{Sn}(^{68}\text{Cu}, ^{68}\text{Cu}'\gamma)$  with  $^{68}\text{Cu}$  at  $E = 2.83$  MeV/nucleon and in isomeric  $J^\pi = 6^-$  state. Beam was produced with a 1.4 GeV proton beam on a  $\text{UC}_2$  target.  $^{68}\text{Cu}$  was mass separated with the High Resolution Separator (HRS) and isobaric contamination suppressed with the RILIS laser-ion source. Beam accelerated by REX-ISOLDE. Measured  $E_\gamma$ ,  $I_\gamma$  with MINIBALL array consisting of 8 Cluster detectors. Scattered projectiles and recoiling target nuclei were detected with a DSSD particle detector. Measured  $\gamma$ -particle coincidences. An earlier report by this same group appears in [2006Ge18](#).

 $^{68}\text{Cu}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	Comments
0.0	1 <sup>+</sup>	
84	2 <sup>+</sup>	
722 <sup>‡</sup>	6 <sup>-</sup>	
778 <sup>‡</sup>	3 <sup>-</sup>	
956 <sup>‡</sup>	4 <sup>-</sup>	B(E2;722(6 <sup>-</sup> ) to 956(4 <sup>-</sup> ))=0.0068 6. T <sub>1/2</sub> : expected to be on the order of ps based on observed Doppler broadened lineshape of 178 $\gamma$ .

<sup>†</sup> From the Adopted Levels.

<sup>‡</sup> Multiplet of states based on  $\pi 2p_{3/2} \nu 1g_{9/2}$  configuration.

 $\gamma(^{68}\text{Cu})$ 

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
84 <sup>†</sup>	84	2 <sup>+</sup>	0.0	1 <sup>+</sup>	$\gamma$ also observed in coincidence with scattered particles for $^{68}\text{Cu}$ , $J^\pi=1^+$ beam.
178 <sup>†</sup>	956	4 <sup>-</sup>	778	3 <sup>-</sup>	
693 <sup>†</sup>	778	3 <sup>-</sup>	84	2 <sup>+</sup>	

<sup>†</sup>  $\gamma$  observed in coincidence with scattered particles for  $^{68}\text{Cu}$ ,  $J^\pi=6^-$  beam.

**Coulomb excitation 2007St03**Level Scheme