

Abstract Submitted  
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**Effects of core correlations on the photodetachment of  $\text{Cu}^-$**  J. JOSE, G.B. PRADHAN, G. ARAVIND, IIT Madras, P.C. DESHMUKH, V. RADOJEVIC', IIT Mandi, S.T. MANSON, GSU, USA — The photodetachment of anions is an excellent probe for many-electron correlation effects since the valence electron is only weakly attached to the atom. In the present study the RRPA [1] and MCTD method [2] are employed to investigate the core correlation effects on the photodetachment of  $\text{Cu}^-$  ( $Z=29$ ) in the low energy region. We included the core correlations by including double excitations from the core 3d subshells besides valence electron excitations. The GRASP92 [3] package was used to obtain the MCDF wave functions. Good agreement of MCTD results with experimental data [4] in the low energy region underlines the significance of core correlation effects. Using the RRPA, we have found a slight deviation of photoelectron angular distribution asymmetry parameter  $b_{4s}$  from 2 [5] at the Cooper minimum, within the experimental errors.

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