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## Microstructural, Photoluminescence and Raman properties of highly Cu doped ZnO nanorods.

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In this study, we report on the chemical bath deposited (CBD) copper (Cu) doped ZnO nanorods. X-ray diffraction (XRD), scanning electron microscope (SEM), Raman and photoluminescence (PL) studies have been done in order to investigate the effect of doping concentration on ZnO nanostructures. XRD patterns of the ZnO nanorods, show a remarkably strong diffraction peak along the (002) direction indicating the formation of hexagonal wurtzite structure of ZnO. The intensity of longitudinal optical peak, E<sub>1</sub> (LO) observed in the Raman spectra ZnO nanostructures increased with increase in doping concentrations, confirming the formation of defect with doping. Photoluminescence spectra of Cu doped ZnO nanorods shows ultraviolet (UV) emission along with visible emission peaks while undoped ZnO showed only UV emission peak.

**Apply to be considered for a student award (Yes / No)?**

Yes

**Level for award (Hons, MSc, PhD, N/A)?**

PhD

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

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