

## **Growth, structural and optical characterization of ZnO and CuO nanoparticles/ZnO nanorods.**

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### **Abstract**

ZnO nanorods (ZNRs) have been grown on pre-coated ITO glass substrates, and then coated with CuO nanoparticles by using a low cost and low temperature chemical solution method. The structural and optical properties of ZNRs and CuO/ZNRs composite were investigated using Scanning Electron Microscopy , Atomic Force Microscopy , X-ray Diffraction , UV-Vis absorption spectroscopy and Cathodoluminescence spectroscopy techniques. ZNR arrays with different diameters and morphologies were obtained. It was demonstrated that the introduction of CuO nanoparticles changes ZNRs optical properties.

**Keywords:** cathodoluminescence, ZnO nanorods, CuO nanoparticle, hydrothermal.