

GROWTH AND CHARACTERIZATION OF ZNSE NANOMATERIALS BY A COST EFFECTIVE CHEMICAL REDUCTION METHOD

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ABSTRACT

A simple chemical reduction method is followed to grow ZnSe nonomaterials at room temperature with different duration of growth time. The dispersed samples are characterized using electron diffraction techniques. Simultaneously optical absorption, photoluminescence and longtime photorelaxation of these samples are studied at room temperature. Nanomaterials are obtained with different shape. An increase in band gap is observed in each case as compared to bulk ZnSe. Dimension of nanomaterials decreases with increase of growth time and hence there is increase of band gap with increase of growth duration. Simultaneously long time relaxation decreases with increase of growth time. An attempt is made to correlate the structural, optical and optoelectrical properties.

KEYWORDS: Microstructure, Nanomaterials ZnSe, Optical Properties, Optoelectrical Properties