

Quantum Confinement in LEEH Capped CdS Nanocrystalline

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Abstract : LEEH (L-cysteine ethyl ester hydrochloride) capped CdS semiconductor nanocrystals are grown at 800C using a simple chemical route. Photoluminescence (PL), Optical absorption (UV) and Transmission Electron Microscopy (TEM) have been carried out to evaluate the structural and optical properties of the nanocrystal. Optical absorption studies have been carried out to optimize the sample. XRD and TEM analysis shows that the nanocrystal belongs to FCC structure having average size of 3nm while a bandgap of 2.84eV is estimated from Photoluminescence analysis. The nanocrystal emits bluish light when excited with 355nm LASER.

Keywords : cadmium sulphide, nanostructures, luminescence, optical properties

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