

## IMPROVED LUMINESCENCE OF CU DOPED ZNTE QUANTUM DOTS IRRADIATED WITH 120 MEV $Fe^{3+}$ IONS

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### ABSTRACT

Cu-doped ZnTe quantum dots (ZnTe: Cu QDs) have been irradiated with 120 MeV  $Fe^{3+}$  swift heavy ions (SHIs). Irradiated samples cover the important green window for nano light emitting devices at 560 to 569 nm. X-ray diffraction (XRD), high resolution transmission electron microscope (HRTEM) and scanning electron microscope (SEM) studies have been carried out on the SHI irradiated ZnTe: Cu quantum dots. UV-Vis absorption spectroscopy reveals that absorption edges of irradiated samples are little bit red shifted with respect to the unirradiated sample. Moreover, intense luminescent peaks (FL & EL) are observed at green region for the irradiated samples. Significantly, better luminescent peaks are achieved at the same wavelength for the irradiated samples.

**KEYWORDS:** SHI Irradiation, Copper Doped, Fluence, Electroluminescence