

Abstract Submitted
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Structural and Optical properties of Er doped ZnO diluted magnetic semiconductor nano thin films produced by sol gel method.¹ A. TOLGA TASCI, OZGUR OZTURK, ELIF ASIKUZUN, KASTAMONU UNIVERSITY, LUTFI ARDA, Bahcesehir University, SUKRU CELIK, Sinop University, CABIR TERZIOGLU, Abant Izzet Baysal University — Undoped and Er doped ZnO ($Zn_{1-x}Er_xO$) transparent semiconductor thin films were coated using sol-gel method on non-alkali glass. Erbium was doped 1%, 2%, 3%, 4% and 5% ratio. Methanol and monoethanolamine were used as solvent and stabilizer. In this study, the effect of Er doping was examined on the structural and optical properties of ZnO DMS thin films. XRD, SEM and UV-VIS-NIR spectrometer measurements were performed for the structural and optical characterization. XRD results showed that, all of Er doped ZnO thin films have a hexagonal structure. The optical transmittance of rare earth element (Er) doped ZnO thin films were increased. The Er doped ZnO thin films showed high transparency (>84) in the visible region (400-700 nm).

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