

## Structural, Optical and Electrical Properties of $Mn_xZn_{1-x}O$ Nanocrystals Synthesized by Sol-Gel Method

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**Abstract :** ZnO is one of the most important semiconductor materials, non toxic, biocompatible, antibacterial properties for research and it is used in many biomedical applications.  $Mn_xZn_{1-x}O$  nano thin films were prepared by a spin coating sol-gel method on silicon substrate. The structural, optical, electrical properties of Mn Doped ZnO are studied by using X-rd, FESEM, UV-Visible spectrophotometer. The X-rd reveals that the sample shows hexagonal wurtzits structure. Surface morphology and thickness of the sample are characterized by field emission scanning electron microscopy. Absorption and transmission spectra are studied by UV-Visible spectrophotometer. The electrical properties are measured by TCR meter.

**Keywords :** transition metals, Mn doped ZnO, Sol-gel, x-ray diffraction

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