

Study of the Morphological and Optical Properties of Nanometric NiO

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Abstract : Nanoscale thin films of pure and Mn-doped Nickel oxide (NiO) were prepared by dissolving nickel chloride hexahydrate ($\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$) and manganese chloride tetrahydrate ($\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$) under experimental conditions. The resulting solution was stirred at room temperature for 30 OC minutes in order to obtain homogeneity. The solution was sprayed onto heated glass substrates. The films obtained were characterized by X-ray diffraction to verify crystallinity. Atomic force microscopy (AFM) reveals surface topographical structure. UV-visible spectroscopy shows good transparency of the NiO layers.

Keywords : films, NiO, AFM, X-ray diffraction

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