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Characterization of Indium tin oxide thin films deposited by DC- magnetron sputtering on polyethylene terephthalate substrate

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ABSTRACT

This paper is presenting the Indium Tin Oxide (ITO) thin films of low resistivity with different thicknesses. The thin films of ITO are deposited on polyethylene terephthalate (PET) substrate by means of DC-sputtering. The properties of the deposited films samples were characterized by X-ray diffraction (XRD), scanning electron microscopy (SEM), transmittance electron microscopy (TEM), atomic force microscopy (AFM) and Raman spectroscopy. The obtained results for the surface morphology, the sheet resistance, the resistivity, the carrier concentration, Hall mobility, optical transmittance and the transmittance ratio of the ITO films deposited on PET substrate are reported. Details on the sample preparations and experimental details will be presented.

Keywords: Indium Tin Oxide; Polyethylene Terephthalate; D C- Magnetron Sputtering