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Structural and optical properties of tin oxide thin films

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Tin oxide thin films with different thicknesses were deposited under vacuum on glass substrates by thermal evaporation technique. Transmission electron microscopy was used to study the structural properties of thin films. Atomic force microscopy method was used to study the surface morphology of thin films of tin oxide. The optical constants such as the absorption coefficient and optical band gap energy of thin films were obtained from the analysis of the experimental recorded transmission spectral data over the wavelength range 300-1100 nm. The correlations between optical constants and the structure of tin oxide thin films are discussed.

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