



Effect of capillary tube on structural and Optical Properties of SnO₂ Thin Films Prepared by APCVD

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Abstract : Tin oxide SnO₂ films were prepared by atmospheric chemical vapor deposition (APCVD) technique. Our study focus on prepare SnO₂ films by using capillary tube as deposition nozzle and the effect of these tubes on the structural properties and optical properties of the prepared samples. X-ray diffraction (XRD) was employed to find the crystallite size. (XRD) studies show that the structure of a thin films changes from polycrystalline to amorphous by increasing the number of capillary tubes used in sample preparation. Maximum transmission can be measured is (95%) at three capillary tube. (AFM) where use to analyze the morphology of the tin oxides surface. Roughness and average grain size for different number of capillary tubes have been investigated. The optical properties of the SnO₂ thin films were determined using UV-Visible spectrum.

Keywords : APCVD ; SnO₂ thin film; optical properties; capillary tube.