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**Effect of deposition temperature on the properties of ZnO thin films** ALI ER, ASHRAF FARHA, Old Dominion University, YUKSEL UFUK-TEPE, Cukurova University — The effect of deposition temperature on the surface morphology of zinc oxide thin films prepared by spray pyrolysis has been studied. The surface morphology of the films was studied by using X-ray diffraction (XRD), scanning electron microscopy (SEM) and atomic force microscopy (AFM). The effects of substrate temperature during deposition on the structure with optical properties of ZnO thin films were determined. Surface parameters were calculated and compared for different thin films. It showed that the films were polycrystalline with hexagonal wurtzite structure and *c*-axis was perpendicular to the substrate. The grain size of the films changed from 240 to 440 nm with different substrate deposition temperatures. It was found that growth temperature has significantly affected the morphological (grains size, surface roughness) as well as optical properties of ZnO films.

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