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Effect of annealing temperature on structure and optical properties of CuO films deposited by CBD

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CuO semiconductor films have been deposited onto glass substrates by chemical bath deposition method at 90°C bath temperature. CuO-deposited films were annealed at 200, 300 and 400°C for 1 hour in oxygen gas. X-ray diffraction spectra have revealed that the samples were polycrystalline with monoclinic phase. The optical band gap of the films was evaluated from the absorbance measurements in the wavelength range 300-2000 nm. CuO films have direct band gap with the band gap values varying between 1.57-1.62 eV. The optical transmittance values of films are changed between 10-55% in the visible region. The thicknesses of the CuO films have been determined to be about 540 nm by weighing method.

Biography

Hilal Rüzgar is a Doctorate student in Physics Department at Anadolu University, Turkey since 2011. Her studies have focused on production of semiconducting films and the investigation of the structural optical and electrical properties of the samples using characterization techniques.

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