CdO THIN FILM PREPARED BY USING CHEMICAL BATH DEPOSITION

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A chemical synthesis process for the fabrication of CdO nanowires is described. In the present work, transparent and conductive CdO films were synthesized on the glass substrate using chemical bath deposition (CBD) at room temperature. In the experiment, bare glasses are used as substrate. Initially, the substrate were washed with acetonitril, distilled water (DW) and ultrasonic cleaner before deposition of thin film. The CdO thin film was grown on glass substrate by a chemical bath deposition method using cadmium chloride as a Cd2+ ion source. For the complex formation, an excess ammonium hydroxide solution was added (25%) till to get clear solution. This clear solution was kept under unstirred condition and glass substrate was dipped in it for 22h. Whitish films due to the $Cd(OH)_2$ were formed on glass substrate. The CdO films were heat treated at 450^0C for 3h which generally facilitates decrease in dislocations, stresses, inhomogeneities. Finally, whitish films were changed to brown, confirming the formation of CdO. As-grown CdO films on glass substrate were characterized by using atomic force microscopy (AFM), X-ray diffraction (XRD). For the optical studies, UV–VIS absorption spectra were recorded in the wavelength range of 300– 850 nm.