Document Type	:	Thesis
Document Title	:	*ELECTRICAL AND OPTICAL CHARACTERIZATION OF CHEMICALLY DEPOSITED SEMICONDUCTING FILMS* *الخواص الكهربية و الضوئية للأغشية شبه الموصلة المرسبة كيميائياً*
Document Language	:	Arabic
Abstract	:	Cadmium Sulphide (CdS) films were fabricated using Chemical Bath Deposition (CBD) technique on plain glass slides and on Indium Tin Oxide (ITO) coated glass substrates. The thickness of the films ranged between 50.8 to 360 nm. Films deposited on glass slides were used for optical characterization by studying absorption and transmission as a function of wavelength in the visible region of the spectrum. Form this data band gap, absorption coefficients and extinction depths were calculated. Thickness of these films was determined by the gravimetrical method. The values of direct band gap varied in the range 2.4-2.43 eV. These values are in excellent agreement with other reported values. Films deposited in ITO coated substrates were studied for their current transport properties by studying their I-V-T characteristics. This was done by depositing top circular areas of Aluminum on top. The thickness was calculated from capacitance measurements. It was found that current conduction is due to SCLC in a uniform distribution of traps. The trap density has been calculated from I-V data as 3.25? 1019 cm-3eV-1.
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