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Properties of Electrodeposited Cadmium Sulfide Films for Photovoltaic Devices With Comparison to CdS Films Prepared by Other Methods

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Abstract: Films of CdS for photovoltaic devices were electrochemically deposited on tin oxide coated glass substrates at different conditions. The films were found to be smooth and uniform with a small grain size. X-ray diffraction measurement and analysis indicated a hexagonal phase rather than the cubic phase. The surface composition of the films was investigated by Auger Spectroscopy. Electrochemical deposition parameters were studied to obtain the optimum conditions for the best CdS films. Our films are compared from the pinhole number and particulate point of view with the films prepared by other methods.

Key Words: Electrodeposition of CdS, CdS/CdTe solar cells, photovoltaic devices

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