[Characterization of electrodeposited cadmium selenide thin films](https://www.researchgate.net/profile/Farzana-Sabeth/publication/267801789_Characterization_of_Electrodeposited_Cadmium_Selenide_Thin_Films/links/54b5d6480cf2318f0f9a0527/Characterization-of-Electrodeposited-Cadmium-Selenide-Thin-Films.pdf)

[RI Chowdhury](https://scholar.google.com/citations?user=JVlCYgMAAAAJ&hl=en&oi=sra), [MS Islam](https://scholar.google.com/citations?user=TxBRlv4AAAAJ&hl=en&oi=sra), [F Sabeth](https://scholar.google.com/citations?user=PnSp0poAAAAJ&hl=en&oi=sra), [G Mustafa](https://scholar.google.com/citations?user=FEERivsAAAAJ&hl=en&oi=sra), [SFU Farhad](https://scholar.google.com/citations?user=ntgFFMsAAAAJ&hl=en&oi=sra), DK Saha, FA Chowdhury…

Dhaka University Journal of Science, 2012•

**Abstract**

Cadmium selenide (CdSe) thin films have been deposited on glass/conducting glass substrates using low-cost electrodeposition method. X-ray diffraction (XRD) technique has been used to identify the phases present in the deposited films and observed that the deposited films are mainly consisting of CdSe phases. The photoelectrochemical (PEC) cell measurements indicate that the CdSe films are n-type in electrical conduction, and optical absorption measurements show that the bandgap for as-deposited film is estimated to be 2.1 eV. Upon heat treatment at 723 K for 30 min in air the band gap of CdSe film is decreased to 1.8 eV. The surface morphology of the deposited films has been characterized using scanning electron microscopy (SEM) and observed that very homogeneous and uniform CdSe film is grown onto FTO/glass substrate. The aim of this work is to use n-type CdSe window materials in CdTe based solar cell structures. The results will be presented in this paper in the light of observed data.