ELECTRICAL MEASUREMENTS OF POLYANILINE AND CdS HETEROJUNCTION

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ABSTRACT

In the present paper the thin film of CdS and Polyaniline has been developed by vacuum evaporation technique. The prepared thin films then deposited onto glass as well as metallic substrates. The glass substrate was cleaned in aquaregia, washed in distilled water and isopropyl alcohol (IPA). These prepared samples were then subjected for the electrical measurements by employing Keithley electrometer. In PANI/ CdS junction the conduction of charge across the junction is typically a mixture of electron from n-CdS side a polaron and bipolaron from p-Pani side. The n-CdS and p-Pani heterojunction also holds the promises of being studied and converted in to an active device. The low value of fill factor and conversion efficiency can be attributed to the polycrystallinity of the CdS thin film and vacuum deposited Pani thin film, as they do not make an extremely sharp perfect heterojunction. Also the substrate has a strong influence on the surface morphology of the films.

KEYWORDS: Vacuum Evaporation, Heterojunction, CdS, PANI