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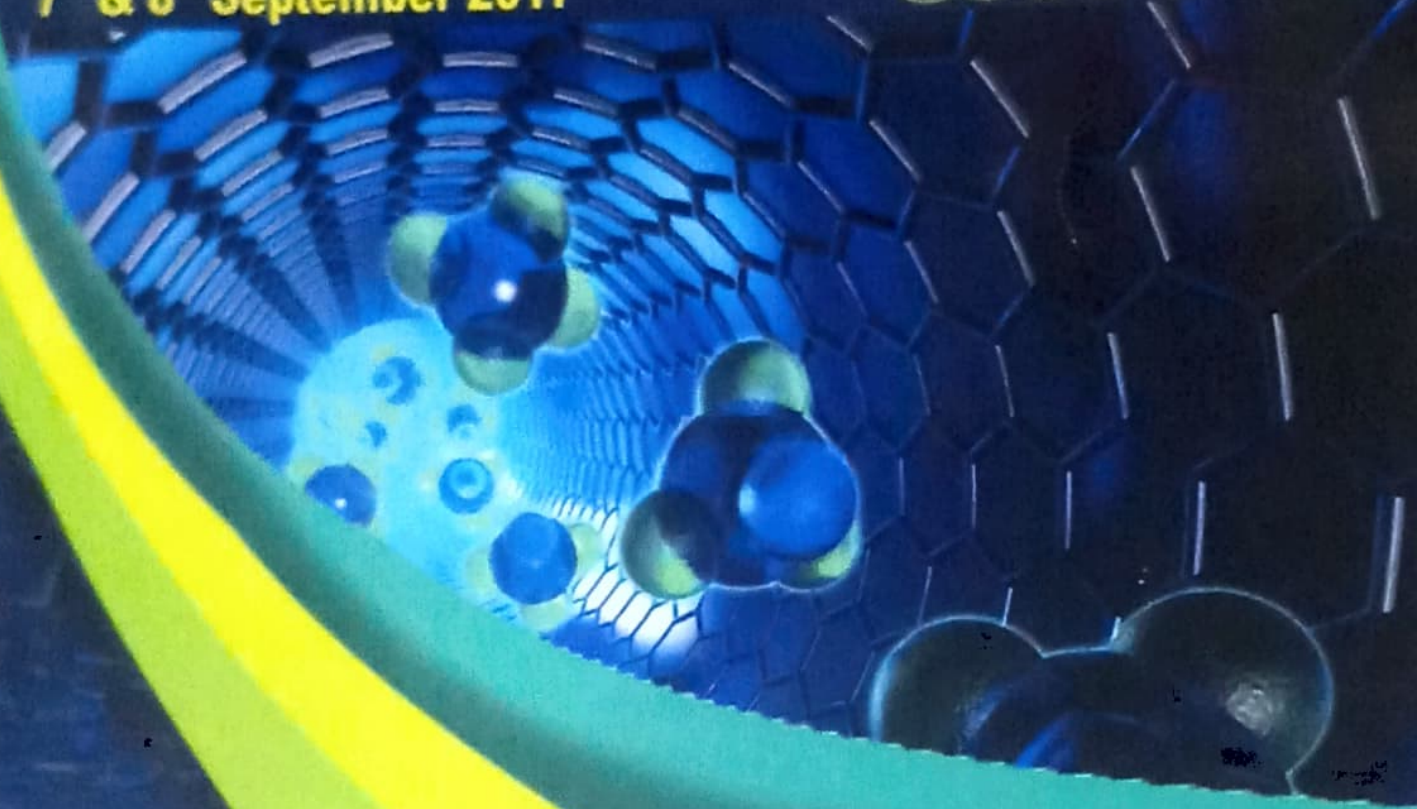

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CHARACTERIZATION OF ANTIMONY SELENIDE THIN FILM (LOW COST TECHNIQUE)

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Recent research has emphasized on the preparation of metal chalcogenide thin films (widely used for opto- electronic materials) such as metal sulphide, metal selenide and metal telluride by using various deposition techniques. Antimony Selinide (Sb_2Se_3) is an attractive material due to its switching, photovoltaic, thermoelectric, optical and electrical properties. Cost-effective solar cells can be prepared from the semiconducting Sb_2Se_3 thin films. The aim of this paper is to synthesize Sb_2Se_3 film by using electro deposition technique- Low cost technique. The optimized parameters like concentration, deposition current, deposition time and pH were investigated to prepare antimony selenide thin film. The structural and optical properties were studied using XRD and photoluminescence techniques.

Key words. Electrodeposition XRD and optical.

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GAMMA IRRADIATION EFFECT ON STRUCTURAL AND OPTICAL PROPERTIES OF PANI-ZnO COMPOSITE THIN FILMS

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Gamma irradiation effect on fabricated Pani-ZnO nanocomposite thin films have been synthesized by spin coating technique. Thin films of Pani-ZnO were exposed to ^{60}Co gamma radiation source at difference dose rate, ranging from 0.3 to 1.4 Gy at room temperature. The structural and optical properties of the sample were investigated using Xray diffraction (XRD), UV visible spectroscopy (UV), Photoluminescence (PL) and Fourier transform infrared (FTIR) spectroscopy. The XRD spectrum shows that the crystalline nature of sample present in before and after irradiation. The optical absorption property has been determined by UV visible spectroscope which indicates the energy gap increases due to increases of γ- radiation. The PL measurements indicated there is a change in intensity of the emission peaks with irradiation. Fourier transform spectroscopy shows that the presence of vibrational components of Pani is slightly change due to presence of ZnO and increasing dose rate.