

36th International Physics Congress
Istanbul - Kadir Has University

TURKISH PHYSICAL SOCIETY 36th

INTERNATIONAL PHYSICS CONGRESS

September 1-5, 2020

İSTANBUL / TURKEY

Book of Abstracts

Editors

Baki AKKUŞ, Gülfem SÜSOY DOĞAN

Characterization of Thermally Evaporated In2s3 Films For Thin Film Photovoltaic Applications

Berkcan ERENLER, Neslihan AKCAY, Yunus OZEN, Suleyman OZCELIK

Indium sulfide (In2S3), which is an n-type III-VI semiconductor compound, has recently attracted great attention due to its chemical stability, non-toxicity, high photoconductivity and high transparency in the visible spectral region as an alternative buffer layer to cadmium sulfide in thin film photovoltaic applications [1]. In this work, In2S3 thin films with the thickness of about 80 nm were deposited by thermal evaporation technique at a substrate temperature of 200 °C on glass substrate using In2S3 powder as a source material. Structural, morphological and optical properties of the films were investigated by XRD, AFM and UV-Vis Spectroscopy techniques. From the XRD results, it was seen that the grown films had tetragonal structure and the band gap value of the films were determined as 2.2 eV from the absorption spectra. Acknowledgement: This work was supported by Presidency of Turkey, Presidency of Strategy and Budget with 2016K121220 project number, TUBITAK with the grant № 118F009. The authors of this work are grateful to Center for Solar Energy Research and Applications (GÜNAM) for thin film production.

A Novel High-Speed Data Sampling System Design for Space Radiation Testing

Bugra KOCAMAN, Murat HARMANDALI, Kazim Doruk YELBASI, and Uluhan SEZER

Space radiation effects are very critical issues for the performance of satellite electronics. Ground-based radiation tests with Co-60 gamma radiation source, proton and heavy ion accelerators provide means to inspect these possible space radiation effects on electronic components. In order to properly inspect the instantaneous effects of radiation during irradiation, high-speed data sampling and real-time measurements are necessary. This study introduces a novel system design for space radiation testing which enables to see the possible effects of space radiation, namely Total Ionizing Dose (TID) and Single Event Effects (SEE). The system consists of control card, test interface card, four (4) test cards for devices/components under test (DUT), and high-speed data sampling unit.

CERTIFICATE

OF ATTENDANCE

Turkish Physical Society 36th International Physics Congress

BERKCAN ERENLER

We would like to thank you for your valuable contributions as a Participant with an Oral Presentation at the Turkish Physical Society 36th International Physics Congress held in Istanbul, TURKEY, September 1-5, 2020.

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