Contribution ID: **332** Type: **Poster Presentation**

Synthesis and evaluation of CZTS/CZTSSe nano-powders for optoelectronic applications

The research focused on the solution-based synthesis of a kesterite structure CZTS/CZTSSe. Copper zinc tin sulphide (CZTS)/CZTSe nano-powders were synthesized by means of solution-based method using copper chloride, zinc acetate, tin (II) chloride and Thiourea/Selenium as precursors. In this work nano-powders were synthesized in distilled water at different annealing temperatures in order to study the resulting effect on the elemental and phase compositions as well as the morphology of the CZTS nano crystals. The annealing temperatures were selected from 100 0C to 350 0C due to suitability for the synthesis of CZTS nano-powders in solution. The structure and crystallite size were identified by the X-ray diffraction. The morphology and particle size were also investigated. Optical analysis, enabled the evaluation of the behavior under light conditions, suggesting a potential the suitability of these materials for optoelectronic applications.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

Primary author: OLALERU, Akin (University of venda, South Africa)

Co-authors: KIRUI, Joseph (UNIVERSITY OF VENDA); Mr ADEWOYIN, Kehinde (Yaba College of Technology, Lagos); MALUTA, Nnditshedzeni Eric (University of Venda); Dr ADEKOYA, Olasoji (Yaba College of Technology, Lagos)

Presenter: OLALERU, Akin (University of venda, South Africa)

Session Classification: Poster Session

Track Classification: Track A - Physics of Condensed Matter and Materials