



Contribution ID: 31

Type: **Poster Presentation**

Heavy ion beam induced sputtering of thin film TCOs at MeV energies.

Thursday, 11 July 2019 15:00 (2 hours)

Heavy ions in Ion Beam Analysis techniques (IBA) such as MeV SIMS are sometimes limited in their application due to lack of experimental fundamental ion-atom interaction data. We report on an investigation carried out to measure heavy ion beam sputtering yields due to irradiation and irradiation effects on physical properties of Transparent Conducting Oxides (TCOs) at MeV energies. Measurements were carried out using the Heavy Ion Elastic Recoil Detection Analysis (ERDA) and Rutherford Backscattering (RBS) techniques to determine electronic sputtering yields in Indium Tin Oxide and Zinc Oxide films due to Si and Cu beams of MeV energies. Results of measurements are discussed in the context of possible applications in MeV SIMS analysis.

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

Yes

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

MASc

Primary author: Mr MAFA, Grant Tshepo (Tshwane University of Technology, Department of Physics, P Bag X680, Pretoria 001, South Africa & iThemba LABS TAMS, National Research Foundation, P. Bag 11, WITS 2050, Johannesburg, South Africa)

Co-authors: Prof. MSIMANGA, Mandla (Tshwane University of Technology, Department of Physics, P Bag X680, Pretoria 001, South Africa); Dr SECHOGELA, Thulaganyo Phillip (iThemba LABS TAMS, National Research Foundation, P. Bag 11, WITS 2050, Johannesburg, South Africa)

Presenter: Mr MAFA, Grant Tshepo (Tshwane University of Technology, Department of Physics, P Bag X680, Pretoria 001, South Africa & iThemba LABS TAMS, National Research Foundation, P. Bag 11, WITS 2050, Johannesburg, South Africa)

Session Classification: Poster Session 2

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