Contribution ID: **166** Type: **POSTER**

Tin, Manganese doped chromium iron oxides of composition alpha-Sn_0.2Cr_1.8-xFe_xO_3 and alpha-Mn_0.2Cr_1.8-xFe_xO_3

We have investigated single phase formation in a series of (Sn, Mn)0.2Cr1.8-xFexO3 produced by low temperature synthesis based on hydrothermal process in a reflux system and in a stirred pressure reactor. The evolution of the properties is investigated by X-ray diffraction (XRD) and by magnetic measurements. Evidence of successful Sn or Mn incorporation into the corundum structure is obtained. 57Fe Mössbauer spectra show the materials to be paramagnetic for Fe concentration x ≤ 0.5 and in ordered magnetic state at higher concentration. Rietveld structure refinement of the XRD spectra is employed in the analysis.

Please specify whether you would prefer an oral or poster contribution.

poster

Primary author: KALENGAY, Mbela (School of Physics, University of KwaZulu-Natal, Durban 4000, South Africa)

Co-authors: MSOMI, J. Z. (Department of Physics, University of Free State, P/Bag X13, Phuthaditjhaba 9866, South Africa); MOYO, T (School of Physics, University of KwaZulu-Natal, Durban 4000, South Africa)

Presenter: KALENGAY, Mbela (School of Physics, University of KwaZulu-Natal, Durban 4000, South Africa)

Track Classification: Magnetism and Magnetic materials - Bulk and thin layers