



Contribution ID: 87

Type: Oral Presentation

## Identification of compounds in materials using tomography imaging, a possibility at the SANRAD facility

*Friday, 15 July 2011 08:15 (15 minutes)*

The South African Neutron Radiography (SANRAD) facility hosts a neutron/x-ray tomography system which is extensively being utilized in non-destructive examination experiments where it is necessary to characterize and determine the properties (e.g. size, porosity, permeability and morphology) of samples. Sometimes, quantitative information is needed about the type elemental composition of the sample or the constituencies of the sample, in a non-destructive manner. Different compounds within the sample interact differently with a neutron/x-ray source, hence it is possible not only to reveal the internal structure of the material but also to identify the compound within the material. This talk demonstrates first research results obtained at the SANRAD facility for the calibration and quantifying of compounds, or minerals, within geological samples by means of transmission radiography and tomography.

**Level (Hons, MSc, &nbsp; PhD, other)?**

Phd

**Consider for a student &nbsp; award (Yes / No)?**

No

**Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?**

No

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**Session Classification:** Applied

**Track Classification:** Track F - Applied and Industrial Physics