



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,
 PhD, other)?**

Phd

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

No

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

No

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Session Classification: Applied

Track Classification: Track F - Applied and Industrial Physics