



Contribution ID: 20

Type: Oral Presentation

Evaluation Procedures for Spatial Resolution and Contrast Standards for Neutron Tomography

Tuesday, 24 September 2013 16:05 (20 minutes)

Digital neutron imaging (radiography and tomography) is a powerful non-destructive analytical tool and has demonstrated its importance in industrial and research application worldwide. The standardization process, to certify digital neutron imaging as a standard practice in industry, entails standardized test phantoms to be evaluated. Through the evaluation of the phantoms the spatial resolution and contrast of a neutron digital imaging system can be determined in a controlled and standardized manner by accepting good practice in terms of scanning, data processing, data visualization and evaluation. Standard test phantoms are objects with physical features designed to test the capability of an imaging setup to reveal these features without any ambiguity. The good practice enables the acceptable assessment of different international digital neutron imaging facilities for spatial resolution and contrast abilities. The purpose of this contribution is to establish good practice for the experimental setup, acquiring of 2-D digital projections and the reconstruction process of the 3-D digital images of standard test phantoms for spatial resolution and contrast. Results obtained from applying this suggested good practice on contrast standard test phantom will be discussed.

**Submit a paper
for peer review
(SA Journal of Science)?
(Yes / No / Maybe)**

no

Primary author: Mr RADEBE, Mabuti Jacob Radebe (Necsa)

Co-author: Mr DE BEER, Frikkie (Necsa)

Presenter: Mr RADEBE, Mabuti Jacob Radebe (Necsa)

Session Classification: Oral Presentation

Track Classification: Oral