

IAEA Training Workshop: Advanced Use of Neutron Imaging for Research and Applications: AUNIRA



Contribution ID: 1

Type: Poster

Spatial resolution study of a neutron imaging system using the slanted edge method

Wednesday, 30 August 2017 17:30 (1h 30m)

L. Boukerdja, O. Dendene, A. Ali

Nuclear Research Center of Birine, Algeria

Email: boukerdjal@yahoo.fr

Neutron imaging is a very powerful technique for nondestructive testing; it allows obtaining image of the internal structure of objects in 2D or 3D mode.

During the last years, attempts have been made to implement and to develop a neutron tomography system at the Nuclear Research Center of Birine. At this end a new Peltier-Cooled CCD (16 bit) has been installed instead the old CCD camera (8 bit) and a turntable has been designed.

The aim of this work is to calculate the spatial resolution of a CCD camera and a scintillator based neutron imaging system by the measurement of the MTF which is obtained by a slanted edged image. On the other hand, we will give some results obtained through the characterization of the image detector such as the variation of the gray level as a function of exposure time and the effect of the cooling of the CCD camera on the noise signal.

Primary author: BOUKERDJA, Layachi (Centre de Recherche Nucléaire de Birine (CRNB), Algeria)

Presenter: BOUKERDJA, Layachi (Centre de Recherche Nucléaire de Birine (CRNB), Algeria)

Session Classification: Poster