



Contribution ID: 14

Type: Poster

## Software development for neutron computed tomography at Thai research reactor (TRR-1/M1)

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

C. Tippayakul, J. Channuie, S. Wonglee, R. Picha, S. Khaweerat

Thailand Institute of Nuclear Technology, Ongkharak, Nakorn Nayok, 26120 Thailand

Email: [jatechanc@tint.or.th](mailto:jatechanc@tint.or.th)

During the last couple of years, the manual control of data acquisition for neutron computed tomography at a 1.2-MW TRIGA Mark III reactor, Thai Research Reactor (TRR-1/M1), were difficultly operated. A simple system for data acquisition with control software for the newly renovated neutron tomography facility has been developed using LabVIEW. The hardware of the system consists of a programmable CCD camera combined with a static stepping motor. The software was in-house developed to replace the previous one which is no longer used due to its capacity limitations. The new software is capable of displaying live images and automatically recording the images on a computer. In order to obtain optimal image quality, the software drives the image capture processes by adjusting camera temperature, exposure time and number of projections as well as images integration in certain frame numbers. For the neutron tomography setup, the software takes particular snapshots automatically at a sample position in line with the stepping movement of the rotating sample holder. Subsequently, the snapshots were saved in picture and numerical formats for further image processing. The new controller software has successfully tested for automatic real time data acquisition providing the appropriate input for tomographic reconstruction. The success in development of controller software contributes to the productivity and safety of neutron imaging routine at TRR-1/M1.

**Primary author:** Mr CHANNUIE, Jatechan (Thailand Institute of Nuclear Technology)

**Presenter:** Mr CHANNUIE, Jatechan (Thailand Institute of Nuclear Technology)

**Session Classification:** Poster