



Contribution ID: 20 Contribution code: S1 Physics Innovation

Type: Poster Presentation

DEVELOPMENT OF AN EDUCATIONAL PC BASED SIMULATOR FOR TRR-1/M1

The human resource development is very important issue for Thailand Institute of Nuclear Technology (TINT). TINT has established education and training programmes on active learning about nuclear reactor and reactor experiments using the PC-based basic principle simulator. This simulator provides efficient hands-on learning of the reactor operation and reactor experiment related to reactor physics and basic reactor engineering of TRR-1/M1 research reactor. The simulator operates on personal computers and are provided for a broad audience of technical and non-technical professionals, graduated students and instructors as an introductory educational tool. This simulator can be used for developing domestic nuclear engineering courses and international nuclear school for ASEAN region. It can be used as a tool for reactor experiments including criticality, reactivity, reactor period, reactor operation and rod worth calculation. The simulation system was developed using the LabVIEW® (Laboratory Virtual Instruments Engineering Workbench) software, offering a graphical programming approach which is modern concept of virtual instruments (VI's). This visualization makes it simple to integrate with measurement hardware, develop data analysis algorithms, and design custom engineering user interfaces. The main objective of the TRR-1/M1 simulator system is to provides hands-on experiences for the reactor operation and basic reactor engineering of TRR-1/M1 research reactor to interested professionals. The TRR-1/M1 simulator system will provide insight and understanding of the designs parameters as well as a better understanding of the operational characteristics of the TRIGA reactor without the necessity of using the facility.

Keywords: simulator, LabVIEW, TRR-1/M1

Primary authors: TIYAPUN, KANOKRAT; WAREE, Kunthida; WETCHAGARUN, SAENSUK

Presenter: WAREE, Kunthida

Session Classification: Poster: S1 Physics innovation

Track Classification: Physics Innovation