

Application of an on-line Data Acquisition System for the Research Reactor Parameter Measurements

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Abstract

An on-line experimental system using a personal computer (PC) was developed at TRIGA reactors in Korea to measure various reactor parameters, from August 1990 to July 1992, as a part of IAEA Coordinated Research Project (CRP) on PC applications to research reactors. This system has been successfully applied to the commissioning test of 30 MW HANARO in 1995 and for its subsequent experiments for safe and efficient operation..

For the HANARO commissioning test, it was effectively used in criticality measurement, reactivity measurement, noise analyses, and trend analyses for various signals. For the routine operation, it has been used as an operator aid for safe startup, absorber rod worth measurement, reactor diagnosis, and trend recording of interested signals. It provides a convenient feature of data handling for the in-depth study on the actual phenomena, comparisons among analysis methods, development of new analysis methods, etc. This paper shows how a conventional PC based data acquisition system is effectively used for reactor physics experiments as well as an operator aid in reactor operations.