

C216962 : MAJOR NUCLEAR TECHNOLOGY

KEY WORD: NEUTRON SPECTRUM / FOILS ACTIVATION / THAI RESEARCH REACTOR

VARAVUTH KAJORNRIITH : NEUTRON SPECTRUM MEASUREMENTS IN THE THAI RESEARCH REACTOR-1/MODIFICATION 1 CORE. THESIS ADVISOR : ASSO. PROF. THATCHAI SUMITRA, Ph.D., THESIS CO-ADVISOR : SUNANTA PATRASHAKORN. 64 PP. ISBN 974-584-444-6

Three measurements of neutron spectrum of the THAI RESEARCH REACTOR-1/MODIFICATION 1 were investigated at the central thimble irradiation facility by using multiple foils activation technique. The saturated activity per target nuclide with 15 reactions from 9 activated foils were used as input data for the activity comparison. The iterative method was chosen for evaluating neutron spectrum using a computer program SAND II. The standard deviation of saturated activities of measurement to computer calculation were in the range of 4.51-4.81%. The average integral neutron flux were in the range of 5.697×10^{13} - 6.621×10^{13} n/cm².sec. Because of the limitation of the experiment due to changing core configuration, the average integral neutron flux were found to be different. However, the obtained neutron spectrum agrees very well with the reactor manufacturer's calculated spectrum.