

Research Reactor School Experiments on Reactor Physics and Neutron Applications for Asia-Pacific Region 2018

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Controlling a nuclear reactor for power and research purposes is quite similar with driving a car. If a car is fuelled by liquid petrol or natural gases, a nuclear reactor on the other hand is fuelled using solid uranium-235. This is known as fuel element or fuel assembly. If a car engine is controlled by accelerator pedal and break, a nuclear reactor is operated by the control rods. Analogous, pressing the accelerator in a car is similar to extracting the control rod away from a nuclear fuel assembly. In both cases, pressing the accelerator pedal and extracting the control rods will increase usage of fuel. Furthermore, the driver and operator should have gone through the proper training and examination. Finally they obtained driving or operator license from respective regulatory body.

Last November, TRIGA PUSPATI reactor again hosting Research Reactor School Experiments on Reactor Physics and Neutron Applications for Asia-Pacific Region for one week. A week before, similar school has been conducted and attended by the same participant in Badan Tenaga Nuklir Nasional (BATAN), Indonesia. This was the second cycle after completion of the first one in Bangkok and Dalat in 2017. The school has been participated by more than 10 people from member state around Asia- Pacific region. The main objective is to promote the safety aspect of nuclear research reactor operation and application to the member state.

There are more than 12 experiments have been conducted by the participants. In addition, the participant also attended the tuition where they can interact with the tutor directly. Furthermore, the participant had an opportunity to attend class for the TRIGA simulator and neutronic calculation of the nuclear reactor core. Attending the pre-test and



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post-test made the class more fun since the effective of the school and also understanding of the student can be assessed. Many participants satisfied that they gain more knowledge during the school and will recommend to their colleague when get back home after the school. Most of them hope that this school will sustain and even getting more support not only from member state but also from International Atomic Energy Agency (IAEA). It is important because the school is recognized by the IAEA and at the initiation stage, the experiment modules and lecturers have been assessed by the IAEA experts.



Reactor operator was explaining about ReDIC, a digital control console used for operating TRIGA PUSPATI reactor to the participant from Iraq, Iran, Philippine, Vietnam and Indonesia.



The instructor showed the flow of coolant at the reactor pool top.



The participant learnt about Neutron Activation Analysis (NAA) at the reactor physics laboratory. It is the most useful technique used in research reactor for various applications.