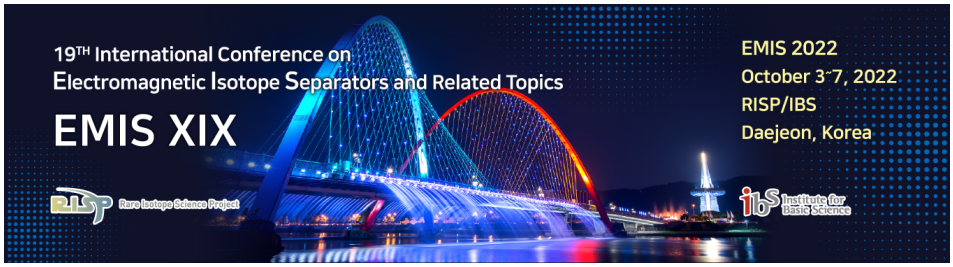

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Current status of a fast neutron TOF facility at RAON

Monday, 3 October 2022 21:58 (8 minutes)

A fast neutron facility, called NDPS (Nuclear Data Production System), is being constructed for nuclear science and applications at RAON (Rare Isotope Accelerator complex for ON-line experiments) in Korea. The NDPS has been designed to provide both white and mono-energetic neutrons, using 98 MeV deuteron and 20 –83 MeV proton beams with a thick graphite and thin lithium targets, respectively. The energy of neutron is determined by employing the time-of-flight (TOF) technique, along with a pulsed deuteron (or proton) beam with a repetition rate of less than 200 kHz. Fast neutrons are produced in the target room and are guided to the TOF room through a 4 m long neutron collimator consisting of iron and 5 % borated polyethylene. The neutron beam is monitored using a parallel plate avalanche counter and a micro-meh gaseous detector installed in the TOF room, so as to measure the energy and the position of neutrons. The present status of NDPS will be reported, together with the future plan.

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