

Experimental program of nuclear data for accelerator-driven nuclear transmutation system using FFAG accelerator –First subprogram: spallation neutron measurement

Thursday, 26 November 2020 17:00 (1h 50m)

For accurate prediction of neutronic characteristics for accelerator-driven system (ADS) and a source term of spallation neutrons for reactor physics experiments for the ADS at Kyoto University Critical Assembly (KUCA), we have launched an experimental program to measure nuclear data on ADS using the Fixed Field Alternating Gradient (FFAG) accelerator at Kyoto University (Period: October 2019 –March 2023). This program is composed of two subprograms, focusing on two nuclear reaction mechanisms, (1) spallation reactions and (2) high-energy fission, for incident proton energies from several tens of MeV to 100 MeV. In the first subprogram, we will measure neutron energy spectra of double-differential cross-sections (DDXs) and thick-target neutron-yields (TTNYs) for several targets (i.e. Pb, Bi, Fe, etc.); in the second subprogram, fission fragment mass number induced from heavy targets (i.e. Pb, Bi) will be measured. In this poster session, the present status of the first subprogram will be presented.

Primary author: Dr NAKANO , Keita (JAEA)

Co-authors: Dr IWAMOTO , Hiroki (JAEA); Dr MEIGO, Shin-ichiro (J-PARC Center, Japan Atomic Energy Agency (JAEA), Japan); Dr NISHIO, Katsuhisa (JAEA); Dr ISHI, Yoshihiro (Kyoto University); Dr HIROSE , Kentaro (JAEA); Dr IWAMOTO, Yosuke (JAEA); Dr KURIYAMA, Yasutoshi (Kyoto University); Dr MAEKAWA, Fujio (JAEA); Dr MAKII, Hiroyuki (JAEA); Dr OKABE, Kota (JAEA); Dr RICCARDO, Orlandi (JAEA / JAEA); Dr OIZUMI, Akito (JAEA); Dr SATO, Daiki (JAEA); Dr SUZAKI, Fumi (JAEA); Dr TSUKADA, Kazuaki (JAEA); Dr UESUGI, Tomonori (Kyoto University); Dr YASHIMA, Hiroshi (Kyoto University)

Presenter: Dr NAKANO , Keita (JAEA)

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