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Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3) Departament Badań Układów Złożonych (DUZ)

Wtorek: **04.05.2021**
11:30

Małgorzata Wróblewska

Simulation and experimental validation of beryllium poisoning in MTRs

Abstract:

The primary purpose of research reactors is to provide a neutron source for research, training, materials testing (MTRs) or radioisotopes production. As nearly all of the world's research reactors operate with thermal (slow) neutrons, they require a moderator to slow down the neutrons and enhance fission. The most common moderating material is water, however, some other materials are used, such as heavy water or beryllium. The last one is used as moderator material in the MARIA reactor in Poland. More commonly, beryllium is used as a reflector, to reduce neutron loss from the core, e.g. in Jules-Horowitz Reactor (JHR), being under construction in France. Neutron irradiated beryllium undergoes several reactions, affecting its properties and causing damage. One of these effects is related to neutronic properties and is called poisoning.

During this presentation, an innovative numerical and experimental approach to estimate and evaluate the concentration of such poisons will be presented.

Serdecznie zapraszamy
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