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European MiniPlate Irradiation Experiment (EMPIrE) Status Update

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ABSTRACT

Researchers from the HERACLES consortium of the European High Performance Research Reactor operators (BR2, FRM II, RHF, JHR), European R&D organizations (CEA, SCK-CEN, TUM, ILL) and commercial fuel fabricator (FRAMATOME-CERCA) are working on the development of the novel U-Mo fuel for conversion of the European reactors from HEU to LEU. Scientists at Idaho and Argonne National laboratories in the US, sponsored by the DOE-NNSA, collaborate with the HERACLES group on the development of this fuel. As part of this cooperation, the US and EU partners have recently designed, fabricated LEU U-Mo fuel for and completed irradiation of the European MiniPlate Experiment (EMPIrE) in the Advanced Test Reactor at INL. The main intent of the experiment is to provide necessary information for developing better understanding of the U-Mo fuel performance behavior during irradiation. Details of the experiment, results of the initial inspections of the miniplates and future post-irradiation examination plans will be discussed.