

Abstract Submitted
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Fission cross section measurements at LANSCE FREDRIK TOVESSON, Los Alamos National Laboratory, TONY HILL, Idaho National Laboratory — Neutron induced fission cross sections of actinides are measured at the Los Alamos Neutron Science Center (LANSCE) in support of the Advanced Fuel Cycle Initiative (AFCI) and the National Nuclear Security Administration (NNSA). Nuclear technologies are increasingly dependent on advanced simulations for design and licensing requirements, and nuclear cross section data are important input parameters for the simulation tools. Fast nuclear reactor and stockpile stewardship applications often share nuclear data needs and requirements, and the LANSCE neutron source is ideal for measuring many of these data. The fission cross section measurements are guided by sensitivity studies performed in support of the AFCI program, as well as requests from NNSA. Recent results for the Pu-239 and Pu-241 fission cross sections from 0.01 eV to 200 MeV will be presented, and the discrepancy with current evaluations of the Pu-241 fission cross section discussed. Ongoing activities to extend the fission program will be presented, such as the development of a Time Projection Chamber (TPC) to significantly improve the experimental accuracies in fission cross section measurements.

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