

Fission Gas Measurement from Annular, LEU-foil Based Target

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ABSTRACT

The quantity of fission-product gas released from opening a high-density, LEU-foil target has not been previously characterized. We developed the hardware and a technique that has allowed us to open up an irradiated target and to collect and condense such fission-product gas. The data collection metrology, which uses a helium sweep gas as a carrier and an activated charcoal filled condenser cooled to liquid nitrogen temperatures, has been calibrated using tracer runs known quantities of Xe-133. A series of experiments is currently in progress to evaluate the fission-product gas release during disassembly of four different fission recoil barriers. Data collected to date has shown evidence of Xe-133 release of a magnitude that is a small fraction of 1%.