

Abstract Submitted  
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**Fragment Angular Distributions in Neutron-Induced Fission of  $^{235}\text{U}$  and  $^{239}\text{Pu}$  using a Time Projection Chamber** VERENA KLEINRATH, Idaho State University, NIFFTE COLLABORATION COLLABORATION<sup>1</sup> — Fission fragment angular distributions can lend insights into fission barrier shapes and level densities at the scission point, both important for fission theory development. Fragment emission anisotropies are also valuable for precision cross section ratio measurements, if the distributions are different for the two isotopes used in the ratio. Available angular data is sparse for  $^{235}\text{U}$  and even more so for  $^{239}\text{Pu}$ , especially at neutron energies above 5 MeV. The Neutron Induced Fission Fragment Tracking Experiment (NIFFTE) time projection chamber, which enables precise tracking of charged particles, can be used to study angular distributions and emission anisotropies of fission fragments in neutron-induced fission. Analysis of in-beam data collected at the Los Alamos Neutron Science Center with a  $^{239}\text{Pu}/^{235}\text{U}$  target will provide angular distributions as a function of incident neutron energy for these isotopes. Preliminary angular distributions for  $^{235}\text{U}$  and  $^{239}\text{Pu}$  using the NIFFTE time projection chamber will be presented.

<sup>1</sup>Neutron Induced Fission Fragment Tracking Experiment

Verena Kleinrath  
Idaho State University

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