

Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Energy and Angular Correlations of Fission Products¹ WILLIAM PETERS, ORNL UTK, M. S. SMITH, S. D. PAIN, M. FEBBRARO, A. GALINDO-URIBARRI, ORNL, K. L. JONES, K. SMITH, R. GRZYWACZ, UTK, E. TEMANSON, Univ. Wisconsin - LaCrosse, J. A. CIZEWSKI, Rutgers — Despite the discovery of fission nearly 80 years ago and its importance to nuclear energy, national security, and astrophysics; there are very few measurements that correlate multiple fission products. A proof-of-principle experiment is underway at Oak Ridge National Lab to measure the energy and angle correlation between prompt fission neutrons, gamma rays, and fragments in time-coincidence. The angular and energy spectrum of the prompt neutrons and/or gamma rays with respect to fragment mass, could reveal new details concerning the energy balance between these products and will be essential for benchmarking advanced fission models. An array of neutron and gamma-ray detectors is positioned opposite dual time-of-flight detectors and a total-energy detector to determine one fragment mass. Preliminary results from a spontaneous ^{252}Cf source will be presented, along with plans for future improvements.

¹Research sponsored in part by the Laboratory Directed Research and Development Program of Oak Ridge National Laboratory, managed by UT-Battelle, LLC, for the U.S. Department of Energy.

William Peters
ORNL
UTK

Date submitted: 07 Jul 2016

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