

Abstract Submitted  
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**Measurements of short-lived fission product yields using a rapid transit system** SEAN FINCH, CALVIN HOWELL, WERNER TORNOW, Duke University, JACK SILANO, MARK STOYER, ANTON TONCHEV, Lawrence Livermore National Laboratory, MATTHEW GOODEN, JERRY WILHELMY, Los Alamos National Laboratory — A joint TUNL-LLNL-LANL collaboration was formed to measure the absolute fission product yields from  $^{235}\text{U}$ ,  $^{238}\text{U}$ , and  $^{239}\text{Pu}$ . Our goal is to study the energy evolution of fission products by using mono-energetic neutrons from 0.5 to 14.8 MeV. In order to extend our successful fission product yield measurements to include products with shorter half-lives, a RApid Belt-driven Irradiated Target Transfer System, named RABITTS, was constructed. This system allows us to perform cyclic activation and quantify fission products with  $\gamma$ -ray spectroscopy using HPGe detectors. Both a 1 meter and 10 meter transfer system have been developed, with transit times of 0.4 and 1.0 seconds, respectively. Using these systems, we have measured sub-second half-lives. In addition to neutron-induced fission, we have used the 1 meter RABITTS to measure fission product yields from photofission. A detailed characterization of the system's performance will be shown, including preliminary fission product measurements, and the expected sensitivity.

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