

Abstract Submitted  
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**Fission product mass yields from fast neutron-induced fission of  $^{237}\text{Np}$**  DEVIN CONNOLLY, Los Alamos National Laboratory, KRISTINA MONTOYA, Los Alamos National Laboratory, Colorado School of Mines, DANA L. DUKE, Los Alamos National Laboratory, UWE GREIFE, Colorado School of Mines, WALTER LOVELAND, Oregon State University, SHEA MOSBY, CHRISTOPHER PROKOP, KYLE SCHMITT, JACK WINKELBAUER, Los Alamos National Laboratory —  $^{237}\text{Np}$  is produced in significant quantities in the nuclear fuel cycle. Its presence in spent reactor fuel coupled with its  $\sim 2 \times 10^6$  year half life make a complete and precise understanding of its nature critical to reactor design, particularly that of fast reactors. Although the fission cross section of  $^{237}\text{Np}$  has been measured for a wide range of incident neutron energies, little total kinetic energy (TKE) data exists for  $^{237}\text{Np}(n, f)$ , and there are no TKE nor mass yield data for incident neutron energies above  $E_n = 5.55\text{MeV}$ . Measurements of the TKE of correlated fission fragments from  $^{237}\text{Np}(n, f)$  at incident neutron energies from  $E_n = 0.5 - 40\text{MeV}$  have been performed at the Los Alamos Neutron Science Center Weapons Neutron Research facility using using a twin Frisch-gridded ionization chamber and a thin-backed  $^{237}\text{Np}$  target. Fission mass yields have been extracted from the data using the double energy method. In this talk, experimental methods, analysis techniques and preliminary results will be discussed.

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