

Abstract Submitted  
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**Spectroscopy of Short-Lived Fission Fragment Isomers<sup>1</sup>** J.J. RESSLER, C.F. FRANCY, J.A. CAGGIANO, D.V. JORDAN, P. PEPLOWSKI, G.A. WARREN, Pacific Northwest National Laboratory, STARS+LIBERACE COLLABORATION — Fission is a well-known mechanism to populate excited states in neutron-rich isotopes. Fission is also an effective tool for studying isomeric decays, as they are often well-populated and relatively easy to detect. Isomeric states with half-lives in the  $\sim 5 - 100 \mu\text{s}$  range were examined using  $^6\text{Li}$ -induced fission on  $^{232}\text{Th}$ . A 45-MeV  $^6\text{Li}$  beam from the 88-Inch Cyclotron of LBNL was alternately blocked to provide beam on/off periods to populate and observe the isomeric decays. Fission fragments were tagged using a thin Si detector near the  $^{232}\text{Th}$  target, and coincident gamma rays were detected using six clover and one LEPS HPGe detectors of the LiBerACE array. Several isomers were identified in the  $A \sim 95$  and  $A \sim 140$  mass regions, as expected. Numerous isomers were also observed near  $A \sim 120$ , due to the significant contribution from symmetric fission. Characteristics of the induced fission, with observed isomer populations and decays, will be discussed.

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