

Abstract Submitted  
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**Production of Neutron-Rich Isotopes from ThO<sub>2</sub> Targets**<sup>1</sup> E.H. SPEJEWSKI, A. KRONENBERG, H.K. CARTER, Oak Ridge Associated Universities, D.W. STRACENER, Oak Ridge National Laboratory — The Holifield Radioactive Ion Beam Facility at Oak Ridge National Laboratory provides radioactive-ion beams for research in nuclear and astrophysics. An essential function is to produce a variety of radioactive species to meet the intensity, energy, and purity requirements of specific experiments. The primary production method has been proton-induced fission of uranium. However, production rates in the mass 80-95 region are expected to be higher from proton-induced fission of thorium. [1] In particular, <sup>82</sup>Ge is expected to increase by an order or magnitude [2], and <sup>92</sup>Sr yields should increase. Our first series of online experiments using a dense ThO<sub>2</sub> powder target, nevertheless, produced yields roughly a factor of 10 less than for UC<sub>x</sub> targets. Porous targets of ThO<sub>2</sub> have been produced and extensive yield measurements performed. Results from the different ThO<sub>2</sub> targets are compared to each other and to yields from some UC<sub>x</sub> targets. In order to obtain some understanding of these results, holdup-time measurements have been made on some chemical elements. [1] T. Ohtsuki, et al., Phys Rev C40 (1989) 2144. [2] V. Rubchenya, private communication.

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