Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Production Of Neutron-Rich Isotopes For Radioactive Ion Beam Development ABIGAIL GADDIS, ANDREAS KRONENBERG, EUGENE SPEJEWSKI, H.K. CARTER, Oak Ridge Associated Universities, DAN STRACENER, Oak Ridge National Laboratory — The Holifield Radioactive Beam Facility at Oak Ridge National Laboratory provides accelerated radioactive ion beams (RIBs) for nuclear structure and astrophysics experiments. Its ability to provide a variety of beams with sufficient intensity and purity for those experiments is necessary. Therefore, a continuing research effort exists to develop new beams and beams with higher intensity and purity. As a part of that effort, the goal of this project is to compare release yield data from the proton-induced fission of different actinide targets acquired experimentally using an on-line test facility. This facility includes a mass separator and uses the same target and ion source configuration as in the production of RIBs. Release data from targets such as uranium carbide are compared quantitatively by yields, chemical element by chemical element and isotope by isotope. After data analysis, a model function can be fitted to the data so that the results can be extrapolated to isotopes farther from stability. This model function takes into account differences in chemical behaviors and hold-up times. Comparisons from on-line tests with different actinide targets as well as the release data will be presented.

Abigail Gaddis

Date submitted: 28 Jun 2005 Electronic form version 1.4