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**Hold-up Time Measurements for Various Actinide Targets**

EMILY PRETTYMAN, DePaul University/Oak Ridge Associated Universities, H.K. CARTER, ANDREAS KRONENBERG, EUGENE SPEJEWSKI, Oak Ridge Associated Universities, DANIEL STRACENER, Oak Ridge National Laboratory — At Oak Ridge National Laboratory the Holifield Radioactive Ion Beam Facility produces radioactive ion beams (RIBs) by proton-induced fission on an actinide target. The RIB yields depend on the chemical and physical properties of the target used. The rates at which chemical elements are released from the target ion source, called hold-up times, can give information about the movement of chemical elements within the target material. This information may be useful in designing optimal targets to maximize production of specific isotopes. Hold-up times are measured using the UNISOR isotope separator, connected to the tandem accelerator. The proton beam is turned on until the element of interest reaches equilibrium between production and release. It is then turned off and the decrease of the release is observed. The current analysis was done by fitting the data with two exponential decay functions and the trend is hold-up times decrease as target temperature increases. Another attempt to fit the data would be to use equations that take into account diffusion and effusion with the goal of determining the ratios of the processes to see which dominates. The results will be presented.

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