

Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

On Line Yield Measurements of UC Targets¹ H.K. CARTER, E.H. SPEJEWSKI, A. KRONENBERG, Oak Ridge Associated Universities, D.W. STRACENER, Oak Ridge National Laboratory, W. TALBERT, H.-H. HSU, Tech-Source, Inc, J. NOLEN, J. GREENE, T. BURTSEVA, Argonne National Laboratory — Actinide targets, especially UC, are being used in current radioactive beam facilities to provide neutron rich beams. For future facilities, especially high power, two-step, neutron-generator configurations, requirements such as thermal conductivity and release of a wide variety of beams must be satisfied simultaneously. A set of three different UC targets varying in particle size have been prepared by ANL and the release properties measured at the HRIBF at ORNL. Using the UNISOR on line test facility which utilizes low intensity protons we have measured, for over 20 elements and 4 to 8 isotopes per element, the yields (atoms / sec) for each of these targets. We find that the yields for the different target materials are within a factor of 10 of each other however this difference is important both in the selection of target material and understanding the reasons for the different yields. The results of yield measurements will be presented with a discussion of our understanding of the processes.

¹This research was supported under USDOE contract numbers DE-AC05-06OR23100 and W-31-109-ENG-38.

H. K. Carter
Oak Ridge Associated Universities

Date submitted: 06 Jul 2006

Electronic form version 1.4