Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

**Development of techniques for off-line correction of non-linear signals from thin large area resistive-strip silicon detectors** J.M. JAMES, J. LIVESAY, Colorado School of Mines, S.D. PAIN, J.A. CIZEWSKI, M.A. SIKORA, K.L. JONES, J.S. THOMAS, Rutgers University, D.W. BARDAYAN, J.C. BLACKMON, M.S. SMITH, ORNL, B.H. MOAZEN, University of Tennessee, C.D. NESAJERA, University of Tennessee/ORNL, M.S. JOHNSON, ORAU, R.L. KOZUB, TTU — The measurement of (d,p) reactions on heavy (Z≈50) fission fragments, which yield information of interest to nuclear structure and astrophysics, are now possible using high quality radioactive beams, such as those at the HRIBF at ORNL. These reactions are necessarily performed in inverse kinematics which, along with the relatively low beam intensities, require the detection of proton ejectiles with large solid-angular coverage, a large dynamic range (between 1 and >10 MeV), and good resolution in energy and position. Particle identification is necessary at angles forward of 90°. To meet these requirements, the Oak Ridge Rutgers University Barrel Array (ORRUBA) is currently under development, consisting of two rings of large-area resistive-strip silicon detector telescopes. Tests on the prototype 140$\mu$m thick $\Delta$E detectors, using necessarily short shaping times, exhibit non-linearities in the signals due to the varying rise-times associated with the high capacitance and the large position-dependent resistance. Data are being obtained and analyzed, and techniques for performing off-line corrections of these position dependent non-linear signals are being developed.

Jaucody James
Colorado School of Mines

Date submitted: 01 Jul 2005 Electronic form version 1.4