

Abstract Submitted
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TOF- $B\rho$ Mass Measurements at the NSCL, MSU M. MATOŠ, A. ESTRADE, M. AMTHOR, D. BAZIN, A. BECERRIL, T. ELLIOT, D. GALAVIZ, A. GADE, G. LORUSSO, J. PEREIRA, M. PORTILLO, A. ROGERS, Michigan State University, D. SHAPIRA, ORNL, H. SCHATZ, MSU, E. SMITH, OSU, A. STOLZ, MSU, M. WALLACE, LANL — The radioactive beam facilities such as the NSCL offer ideal opportunities for time-of-flight mass measurements of very exotic ions. We have recently implemented a TOF- $B\rho$ technique at the NSCL and performed a mass measurement of neutron-rich nuclides in the Fe region. Masses of neutron rich nuclei are important for r- process calculations, and for calculations of processes occurring in the crust of accreting neutron stars. At the NSCL, a primary beam ^{86}Kr was accelerated in the K500 and K1200 coupled superconducting cyclotrons to the energy of 100MeV/u. A fast radioactive beam was then produced by fragmentation reactions in the 47 mg/cm² and 94 mg/cm² Be targets and separated in the A1900 fragment separator. For this experiment a 58 m long time-of-flight path was used starting at the extended focal plane of the A1900 and ending at the focal plane of the S800 spectrograph. Fast scintillation detectors provided a timing resolution of about $\sigma=30$ ps, the relative magnetic rigidity $B\rho$ was measured at the momentum dispersive plane of the S800 by position sensitive micro-channel plate (MCP) detectors. Details of the experimental technique will be discussed and preliminary results will be presented.

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