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**TOF-Bρ 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-Bρ 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 $^{86}\text{Kr}$ 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/cm$^2$ and 94 mg/cm$^2$ 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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