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**PID Determination and Charge State Contamination** JOSEPH WIESKE, Michigan State University, ADAM ANTHONY, YASSID AYYAD, JON BARNEY, DANIEL BAZIN, SAUL BECCEIRO, KYLE BROWN, National Superconducting Cyclotron Laboratory, ZBIGNIEW CHAJECKI, Western Michigan University, JIE CHEN, KAITLIN COOK, JUSTIN ESTEE, THOMAS GINTER, ELAIN KWAN, WILLIAM LYNCH, WOLFGANG MITTIG, CHENYANG NIU, ANDREW PYPE, CHANDANA SUMITHRARACHCHI, SEAN SWEANY, CHI-EN TEH, CHUN YUEN TSANG, M.B. TSANG, RENSHENG WANG, NATHAN WATWOOD, SARAH WEGERT, National Superconducting Cyclotron Laboratory
— Studying properties and decays of heavy isotopes is a goal of rare isotope beam physics that comes with challenges. Even if separation of isotopes is achieved using particle identification (PID) systems, the isotopic species remain to be determined, and charge state contamination must be quantified. The National Superconducting Cyclotron Laboratory (NSCL) recently conducted an experiment to measure the fission properties of nuclei in the neutron deficient Pb region. A radioactive cocktail beam was tuned in the A1900 fragment separator to allow for separation of isotopes. The beam was identified using the ΔE-ToF method. In order to quantify charge state contamination, a total kinetic energy measurement of the beam was made using Si PIN detectors. In addition, a high purity Germanium crystal (HPGe) measured the decay of long lived isomers for beam tagging to provide another measure of charge state contamination. This talk will discuss the methods of isomer-tagging and measurement of charge state contamination.

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