

Abstract Submitted  
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**Rigidity Calibration of the A1900 Fragment Separator**<sup>1</sup> T.N. GINTER, National Superconducting Cyclotron Laboratory (NSCL), F. FARINON, Facility for Rare Isotope Beams (FRIB), T. BAUMANN, NSCL, M. HAUSMANN, FRIB, E. KWAN, NSCL, M. PORTILLO, FRIB, J. STETSON, C.S. SUMITHRARACHCHI, S.J. WILLIAMS, NSCL — With increased use of beams stopped in gas from the A1900 fragment separator, an improved rigidity calibration is more crucial than ever to establish accurate control for stopping ions in materials. The variation with rigidity of the bending radius of a dipole introduces error into the rigidity calibration of a device containing the dipole if this variation is not taken into account when scaling the device. In the case of the A1900, assuming a constant bending radius for the dipoles means that the rigidity calibration can be off by as much as 1%. It is not trivial, however, to extract the relationship between the dipole bending radius and rigidity – knowledge of which is required to compensate for the calibration discrepancy. A scheme to determine the relationship between radius and rigidity for all four A1900 dipoles has been developed employing a measurement of the beam rigidity based on time-of-flight. This scheme is presented along with initial results demonstrating the improvement to the A1900 rigidity calibration that can be achieved.

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