Abstract Submitted
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Characterization of Zr-V-Fe Non-Evaporable Getter Strips for use in a Miniature Penning Trap[1] ROBERT BAKER, Austin Peay State University, GEORG BOLLEN, DAVID LINCOLN, NSCL, Michigan State University, MATT REDSHAW, NSCL, Central Michigan University, RYAN RINGLE, STEFAN SCHWARZ, ADRIAN VALVERDE, NSCL, Michigan State University, LEBIT TEAM — The Low Energy Beam and Ion Trap (LEBIT) group at the National Superconducting Cyclotron Laboratory (NSCL) performs high-precision mass measurements using a Penning trap. The current method involves measuring reference ions of known mass in order to calibrate the magnetic field. Because the reference measurements require us to stop the measurement of a rare isotope, we will optimize the use of beam time by installing a magnetometer to directly measure the magnetic field while conducting a rare isotope measurement. A miniature Penning trap (MiniTrap) will be mounted adjacent to the measurement trap to serve as a magnetometer. To reach the desired precision, the MiniTrap must be operated in very low pressures. We investigate using the SAES St707 (Zr-V-Fe) non-evaporable getter to pump out the MiniTrap to achieve an ultra-high vacuum. Excess hydrogen will be ionized into H_2^+ and serve as the reference mass. We report a pumping speed for the activated getter material, partial pressures for the background gases after different pumping intervals, and discuss further work with the MiniTrap.

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