

Abstract Submitted
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High Precision Mass Measurements of Radioactive Highly Charged Ions at TITAN / TRIUMF for Tests of Fundamental Symmetries and Nuclear Structure Studies STEPHAN ETTENAUER, TRIUMF / UBC, THOMAS BRUNNER, TRIUMF, MAXIME BRODEUR, AARON GALLANT, TRIUMF / UBC, ALAIN LAPIERRE, RYAN RINGLE, MELVIN GOOD, PAUL DELHEIJ, TRIUMF, GERALD GWINNER, University of Manitoba, DAVID LUNNEY, 5CSNSM-IN2P3-CNRS, Université Paris 11, JENS DILLING, TRIUMF / UBC — Nuclear structure studies as well as tests of fundamental symmetries with nuclear systems such as the verification of unitarity of the CKM matrix require precise knowledge of masses of radioactive nuclei. The most recent development to extend the present limit in precision is to use highly charged ions (HCI) for mass determination in Penning traps. After successful measurements of singly charged exotic nuclei TRIUMF's Ion Trap for Atomic and Nuclear Science (TITAN) is preparing mass measurements of radioactive nuclei by using HCI as the only facility in the world: Singly charged ions will be charge-bred in TITAN's Electron Beam Ion Trap (EBIT) before they are transferred into the measurement Penning trap. First successful tests on stable HCI produced by the EBIT will be presented as well as plans for measurements of radioactive HCI to be performed later this year.

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