

Abstract Submitted
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The non-neutral ion trap at Brigham Young University BRYAN PETERSON, CHAD WILLIAMS, WILLIAM HALL, GRANT HART, Brigham Young University — We have constructed a non-neutral ion trap with the eventual goal of measuring the rate of decay of singly-ionized ${}^7\text{Be}$. Since ${}^7\text{Be}$ decays exclusively by electron capture a Malmberg-Penning trap provides an ideal environment for this measurement due to the near absence of free electrons. We will use the FTICR (Fourier Transform Ion Cyclotron Resonance) mass spectrometry technique to measure the ratio of ${}^7\text{Be}$ to ${}^7\text{Li}$ to determine the decay rate. We are using an enriched boron carbide target (77.7% ${}^{10}\text{B}$, 2.3% ${}^{11}\text{B}$, 20% ${}^{12}\text{C}$) to provide the ions for the test plasma. This allows us to test the FTICR technique through the presence of three different ions at very different concentrations. We will discuss the current status of the experiment.

Bryan Peterson
Brigham Young University

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