

Result and Status of the CANREB Radiofrequency Quadrupole Buncher

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Investigating nuclear reactions and nuclear structures requires intense rare isotope beams with sufficient intensity at wide range of energy. The goal of the CANadian Rare isotope facility with Electron Beam ion source currently being commissioned at TRIUMF is to deliver such a beam. CANREB includes a High Resolution Spectrometer (HRS) for beam purification, a RadioFrequency Quadrupole (RFQ) for ion bunching and an Electron Beam Ion Source (EBIS) for charge breeding. A Pulsed Drift Tube (PDT) between the RFQ and in the EBIS will match the energy of the beam to the post-accelerating ISAC RFQ acceptance. In particular, the bunching in the RFQ is designed to maximize the efficiency of the charge breeding in the EBIS. Commissioning of the RFQ started earlier this year with beam from the ARIEL test ion source. Ultimately the CANREB RFQ will accept continuous 60 keV rare ion beams from the ISAC and ARIEL target stations and deliver low emittance bunched beams to the EBIS through the PDT. Here we will give updates on the status of the CANREB RFQ and present the results of the first tests with beam as well as simulations done with the SIMION software.