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CANREB EBIS Commissioning at TRIUMF

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The Canadian Rare isotope facility with Electron Beam ion source (CANREB) is an essential part of the Advanced Rare Isotope Laboratory (ARIEL) presently under construction. CANREB was recently commissioned at TRIUMF and can accept stable or rare isotope beams from a variety of ion sources, delivering high purity beams of highly charged ions (HCI) to experiments. The injected beams are bunched using an RFQ cooler/buncher, and energy adjusted using a pulsed drift tube for injection into the Electron Beam Ion Source (EBIS) charge state breeder. The EBIS is designed for a maximum electron beam current of 500 mA and a maximum magnetic field strength of 6 Tesla. Ions with energies up to 14 keV can be injected and HCI with $3 < m/q < 7$ can be charge bred and extracted. The HCI are m/q -selected using a Nier-type spectrometer, before being transported to the linac for post-acceleration. Results from CANREB beam commissioning with focus on the EBIS will be presented.

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Funding Information

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