

Abstract Submitted  
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**Radiofrequency quadrupole-based beam cooler and buncher for the CANREB project at TRIUMF**<sup>1</sup> BRAD BARQUEST, MATT PEARSON, FRIEDHELM AMES, TRIUMF, JENS DILLING, TRIUMF and University of British Columbia, GERALD GWINNER, University of Manitoba, RITUPARNA KANUNGO, Saint Mary's University, REINER KRUECKEN, TRIUMF and University of British Columbia — A new radiofrequency quadrupole-based ion beam cooler and buncher (BCB) and pulsed drift tube (PDT) have been designed as part of the CANREB project at TRIUMF. The BCB is designed to accept continuous 60 keV rare isotope beams from the ARIEL or ISAC production targets and efficiently deliver low-emittance, bunched beams of up to  $10^7$  ions per bunch to an electron beam ion source (EBIS) to charge-breed the bunch for post-acceleration. The PDT will adjust the energy of the bunched beam from 60 keV to 10-14 keV for injection into the EBIS. The injection energy is determined by the acceptance of the post-accelerating RFQ. The design of the BCB is nearing completion, and fabrication and assembly effort will proceed shortly. In addition, a PDT prototype is under development to test that the design concept satisfies the voltage and switching time requirements. Design features of the BCB and PDT will be discussed, and an update on BCB assembly and PDT testing progress will be presented.

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