

Abstract Submitted
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The EBIT charge breeder at NSCL ALAIN LAPIERRE, STEFAN SCHWARZ, KRITSADA KITTIMANAPUN, GEORG BOLLEN, NSCL, OLIVER KESTER, NSCL/GSI — The National Superconducting Cyclotron Laboratory (NSCL) is finalizing ReA to reaccelerate rare-isotope beams to energies of $\sim 0.3\text{-}20$ MeV/u. ReA consists of an electron-beam ion source / trap (EBIS/T), a mass separator, a radio-frequency quadrupole (RFQ) pre-accelerator, and a superconducting radio-frequency linear accelerator (SRF-LINAC). By increasing the charge of ions injected into the RFQ and SRF-LINAC, this charge breeder is a key component to provide a compact and cost-efficient reaccelerator. The ReA EBIT has started producing highly charged ion beams. It is equipped with an electron gun yielding a few amperes and a magnet configuration made of Helmholtz coils and a solenoid, providing a maximum magnetic field strength of 6 T. The solenoid magnet configuration will guarantee high beam acceptance. The combination of a high-current gun and strong magnetic field will allow this EBIS/T to reach high electron current densities suitable to rapidly increase the charge of short-lived isotopes within tens of milliseconds. The status of the EBIT will be presented.

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