

EXPERIMENTAL STUDIES OF THE REA3 TRIPLE-HARMONIC BUNCHER

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Abstract

The National Superconducting Cyclotron Laboratory (NSCL) at Michigan State University (MSU) is implementing a system called the ReA3 to reaccelerate rare isotope beams from projectile fragmentation to energies of about 3 MeV/u. The 80.5 MHz triple-harmonic buncher before the ReA3 Radio Frequency Quadrupole (RFQ) linac has recently been implemented and measurements made. Tests using beams from the Electron Cyclotron Resonance (ECR) ion source test stand are being performed. The beam properties after the buncher are fully characterized using various diagnostic tools (e.g. fast Faraday cup, energy analyzer, emittance scanner). As a result, the tuning procedures for the buncher operations are developed. We will present the detailed results of the beam based buncher studies and compare them with simulations.

**CONTRIBUTION NOT
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