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## ISLA, an Isochronous Separator with Large Acceptance for Experiments with Reaccelerated Beams at FRIB

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The Isochronous Separator with Large Acceptance (ISLA) has been identified by the ReA12 Recoil Separator working group of the FRIB Users Organization as the single device that meets the needs of all the physics cases proposed by the community for studies with reaccelerated rare isotope beams from ReA at FRIB. ReA will reaccelerate stopped FRIB beams to energies ideal for transfer reactions, multiple Coulomb excitation, fusion, and deep inelastic scattering. ISLA will provide efficient rejection of unreacted beam; large acceptances in momentum ( $\pm 10\%$ ), angle (64 msr), and charge state ( $\pm 10\%$ ) distributions; and high M/Q resolving power ( $>400$ ) for reaction products. This purely magnetic system will accept magnetic rigidities up to 2.6 Tm, to match incoming rigidities expected from the fully upgraded ReA12, and will not be limited by electric rigidity. M/Q separation in time-of-flight and a long preceding drift will allow efficient detection at ISLA's compact focal plane, facilitating multi-physics measurements (e.g. implantation-decay coupled to  $\gamma$ -ray spectroscopy). Space at the target is sufficient for coupled operation with GRETA, and a beam swinger will allow incoming beam angles up to 50 degrees. Recent work will be presented on the magnetostatic design of ISLA's four large dipoles and the results of updated ion optical models.

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