

Abstract Submitted
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ISLA, an Isochronous Separator with Large Acceptance for Experiments with Reaccelerated Beams at FRIB A M AMTHOR, Bucknell Univ, D BAZIN, W MITTIG, A RINGHAUSEN, NSCL, Michigan State University, REA12 RECOIL SEPARATOR WORKING GROUP COLLABORATION — 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 of momentum ($\pm 10\%$), angle (64 msr), and charge state ($\pm 10\%$) distributions; and high M/Q resolving power (>400) for reaction products. The purely magnetic system will accept magnetic rigidities up to 2.6 Tm, to match the fully upgraded ReA12 incoming beam rigidities, 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 the compact focal plane, facilitating multi-physics measurements (e.g. implantation with beta-delayed gamma 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 has focused on the magnetostatic design of ISLA's four large dipoles.

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