

APR17-2016-000560

Abstract for an Invited Paper
for the APR17 Meeting of
the American Physical Society

Isotope Harvesting Opportunities at FRIB¹

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The fragmentation of fast heavy ion beams now at the National Superconducting Cyclotron Laboratory (NSCL) and in the future at the Facility for Rare Isotope Beams (FRIB) under construction produce an unprecedentedly broad spectrum of radionuclides but only a small fraction are used in the on-line rare-isotope program. Projectile fragmentation facilities provide an electromagnetically purified beam of a single projectile fragment for nuclear physics experiments ranging from low energy astrophysics, through nuclear structure studies, to probing fundamental symmetries. By augmenting the NSCL and FRIB production facilities with complimentary collection and purification of discarded ions, called isotope harvesting with chemical purification, many other nuclides will become available for off-line experiments in parallel with the primary experiment. A growing user community has established a list of key target isotopes and is working with the FRIB design team to allow inclusion of necessary equipment in the future. An overview of the possibilities and the techniques will be presented in this talk.

¹Supported by Office of Science, US DOE and Michigan State University