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Development of WeMATar (Western Michigan Active Target) - An active target time projection chamber for fast rare isotope beam experiments

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Many experiments with fast energetic beams require an open geometry allowing, in some cases, the identification of heavy residues downstream in a magnetic spectrometer or detection of particles in ancillary detectors. An optimized and portable Active Target detector is essential to accommodate a broad experimental program and the coupling to a wide range of equipment the science requires. We present a cost effective solution to these challenges by developing the WeMATar –Western Michigan Active Target time projection chamber to be used to study reactions induced by fast rare isotope beams at the National Superconducting Cyclotron Laboratory (NSCL) and at the future Facility for Rare Isotope Beams (FRIB). The technical details of the project as well as its physics motivation will be discussed.

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