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Development of the TexAT Detector at Texas A&M University

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With the upgrade to the facilities nearing completion, the Cyclotron Institute at Texas A&M University is poised to provide a range of new high quality re-accelerated radioactive ion beams to compliment the existing rare isotope beam capabilities based on the in-flight separator MARS. To take full advantage of the opportunities available for low-energy nuclear structure and astrophysics, a general purpose active target detector, TexAT, is currently under development. The TexAT detector will be a high efficiency TPC, combining a MicroMegas plane with nearly 3pi solid angle coverage by CsI-backed silicon detectors, and will be optimized for high resolution scattering, nucleon transfer, and decay spectroscopy experiments. This talk will discuss the current status of the project, including results from detailed Monte Carlo simulations of the key reactions envisioned for study using the TexAT detector.

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