

Workshop on Active Targets and Time Projection Chambers for High-intensity and Heavy-ion beams in Nuclear Physics

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Next generation experiments with the Active Target Time Projection Chamber

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Active Targets have gained popularity with the advent of state-of-the-art radioactive beam facilities capable of providing the most exotic nuclear species. Several facilities are deploying novel Active Targets as part of their broad and competitive experimental program. At the National Superconducting Cyclotron Laboratory (NSCL) our collaboration has successfully commissioned the Active Target Time Projection Chamber (AT-TPC) with 4He and 46Ar beams delivered by the ReA3 accelerator, to perform elastic scattering reactions on alpha particles and protons, respectively. The performance of the detector, analysis of data and results obtained in these experiments will be discussed during this talk. In addition, future experiments with fast and slow beams will be presented, as well as a novel type of micro pattern gas detectors based on stacks of thick Gas Electron Multipliers (MTHGEM) that our collaboration is developing for next generation experiments.

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