

Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

Prototype AT-TPC: a new active target time projection chamber for low-energy reactions D. SUZUKI, D. BAZIN, W. MITTIG, M. FORD, W.G. LYNCH, A. FRITSCH, E. GALYAEV, National Superconducting Cyclotron Laboratory, J.J. KOLATA, J. BROWNE, B. BUCHER, X. FANG, A. HOWARD, A.L. ROBERTS, X.D. TANG, University of Notre Dame, F.D. BECCHETTI, M. FEBBRARO, M. OJARUEGA, University of Michigan, D. BEN ALI, Universite Paris Sud — An active target time projection chamber (AT-TPC) is being developed at the National Superconducting Cyclotron Laboratory. The detector will be coupled to the forthcoming ReA3 accelerator complex, providing a powerful tool for reaction studies with low-energy radioactive beams. The Prototype AT-TPC, a half scale version of the future AT-TPC, has recently been completed. The first in-beam experiment was performed at the University of Notre Dame in April. The elastic and inelastic alpha scattering on radioactive ^6He beams were measured at low energy to study the neutron transfer or resonant processes. The ^6He beam at 14 MeV was produced by the Twinsol device, and directed to the Prototype AT-TPC operated with He:CO₂ gas mixtures. The design and the performances of the detector, and the results from the Notre Dame experiment will be presented.

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Date submitted: 01 Jul 2011

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