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Fabrication of CH_2 and CD_2 Targets for Radioactive Ion Beam Experiments N.D. SMITH, J.A. HOWARD, R.L. KOZUB, B.A. SCHWER, Tennessee Technological University, M.S. JOHNSON, S.D. PAIN, J.S. THOMAS, Rutgers University, D.W. BARDAYAN, J.C. BLACKMON, C.D. NESARAJA, M.S. SMITH, Physics Division, Oak Ridge National Laboratory — CH_2 and CD_2 targets are used at the HRIBF at Oak Ridge National Laboratory for nuclear structure and astrophysics measurements with radioactive beams. The targets involved must be of uniform and specific thicknesses, chosen to optimize the yield and energy resolution of each experiment. A variety of film areas are needed to accommodate different experimental setups. We are therefore refining the target making process to achieve the greatest possible uniformity and precision. We are investigating the fabrication of target films from both polyethylene and polypropylene using organic solvents. Target quality is determined by measuring the energy loss of alpha particles as they pass through the target film. Using a position-sensitive silicon detector, both the positions and energies of the alpha particles are measured, enabling a thickness profile of the target to be created. Details of production and thickness measurements will be presented.

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