

Puzzling Over the Mysteries of the Few Nucleon Force

Abstract: For decades scientists have engaged in studies of few nucleon systems through scattering and reaction measurements at very low bombarding energies, often with spin polarized proton and deuteron beams and occasionally also with spin polarized targets. Many such experiments have been undertaken over the past 30 years at my home laboratory in North Carolina. These have occasionally revealed surprises that challenged theoretical explanations of the behavior of such systems when so few nucleons and such low angular momenta are involved. In my talk I will attempt to provide a brief overview of selected types of measurements made, the experimental systems used, and challenges for theory that were exposed.

Thomas B. Clegg
Department of Physics & Astronomy
University of North Carolina
Chapel Hill, NC 27599-3255
and
Triangle Universities Nuclear Laboratory
Durham, North Carolina 27708

email: clegg@physics.unc.edu