

Abstract Submitted
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Measurement of the ${}^2\text{H}(\text{n},\text{np})\text{n}$ Cross Section in the SCRE Configuration¹ A. COUTURE, T. CLEGG, UNC-Chapel Hill, B. CROWE, D. MARKOFF, L. CUMBERBATCH, NCCU, C. HOWELL, A. CROWELL, J. ESTERLINE, B. FALLIN, Duke, R. PEDRONI, NCA&T — To try to understand differences between earlier measurements and theoretical predictions, we are currently measuring the ${}^2\text{H}(\text{n},\text{np})\text{n}$ cross section at both 19 and 16 MeV in the Symmetric Constant Relative Energy (SCRE) configuration [1]. In the neutron-deuteron (nd) breakup reaction, the SCRE configuration occurs when, in the center of mass frame, the three outgoing nucleons all have the same energy and their final momenta all lie in the same plane separated by 120 degrees. We are measuring two special cases of this configuration; one where the plane contains the incident beam, another where the plane is perpendicular to the incident beam. The neutron beam is produced by the ${}^2\text{H}(\text{d},\text{n}){}^3\text{He}$ reaction. The breakup reaction target consists of a CD_2 foil located in a scattering chamber with two charged particle detection arms, each containing an E- Δ E telescope. We are detecting the proton and one of the neutrons in coincidence. Experimental details and the status of our experimental measurements will be described. [1] W. Glockle, et al., Physics Reports **274** (1996) 107.

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