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Cross Section Measurement of ^{2}H(n,np)n at 16 MeV in Symmetric Constant Relative Energy Configurations A. COUTURE, T.B. CLEGG, UNC-Chapel Hill and TUNL, C.R. HOWELL, S. TAJIMA, A. CROWELL, J. ESTERLINE, B. FALLIN, Duke and TUNL, L. CUMBERBATCH, B. CROWE, D. MARKOFF, NCCU and TUNL, R. PEDRONI, NC A&T and TUNL — We have made cross-section measurements of neutron-deuteron breakup at an incident neutron energy of 16 MeV. The scattered proton was detected in coincidence with one of the neutrons and their energies were determined via time-of-flight techniques. Target-beam luminosity is obtained from n-d elastic scattering performed concurrently with the main experiment by detecting the scattered deuteron. Our current measurements are of two special cases of the Symmetric Constant Relative Energy Configuration: the space-star and the coplanar star. Data are compared with theoretical predictions [1] through Monte Carlo calculations which smear point geometry predictions over the finite beam, target, and detectors. Preliminary results for the space star are in agreement with previous experimental measurements [2] and are at least 20% larger than theoretical predictions.

[1] H Witala and W Glöckle. J. Phys. G: Nucl. Part. Phys. 37 064003 (2010).
[2] C.R. Howell, Nucl. Phys. A 689, 298c (2001).

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