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Measurement of the 1S_0 Neutron-Neutron Scattering Length Using nd Breakup in Recoil Geometry at 19 MeV C.R. HOWELL, A.S. CROWELL, J. DENG, J.H. ESTERLINE, M.R. KISER, R.A. MACRI, S. TAJIMA, W. TORNOW, Duke Univ. and TUNL, B.J. CROWE III, North Carolina Central Univ., R.S. PEDRONI, North Carolina A&T State Univ., W. VON WITSCH, Univ. of Bonn, H. WITALA, Jagellonian Univ. — Recent determinations of the 1S_0 neutron-neutron (nn) scattering length(a_{nn}) suggest that the value obtained from neutron-deuteron (nd) breakup measurements might be geometry and energy dependent [1,2]. González Trotter *et al.* [1] reported a value of $a_{nn} = -18.7 \pm 0.6$ fm from their nn coincidence cross-section measurements at 13 MeV, while Huhn *et al.* [2] obtained $a_{nn} = -16.3 \pm 0.4$ fm at 25 MeV from their nn final-state interaction (FSI) cross-section measurements made at 25 MeV in proton recoil geometry. To gain some insight into the cause of the discrepancy between the two measurements, we have made cross-section measurements of the nn FSI in nd breakup at 19 MeV in both the nn coincidence geometry and the recoil proton geometry. Both measurements were made simultaneously with the same neutron beam, and the data are analyzed using the same theoretical calculations. In this talk the details of the recoil-geometry measurement will be presented along with preliminary results. [1] D.E. González Trotter *et al.*, Phys. Rev. Lett. **83**, 3788 (1999). [2] V. Huhn *et al.*, Phys. Rev. Lett. **85**, 1190 (2000).

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