

Abstract Submitted  
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**Transverse neutron spin structure using BigBite and Super BigBite spectrometers in Jefferson Lab's Hall A** ANDREW PUCKETT, University of Connecticut, SUPER BIGBITE SPECTROMETER COLLABORATION — New insight into nucleon structure has come from the study of Semi-Inclusive Deep Inelastic Scattering (SIDIS). Detection of leading hadrons associated with the fragmentation of the struck quark in lepton-nucleon DIS at moderate transverse momenta provides access to the transverse momentum dependent parton distributions of the nucleon (TMDs). The transverse target single-spin asymmetries (SSAs) in SIDIS are of particular interest due to their sensitivity to the chiral odd transversity distribution and the “naive T-odd” Sivers distribution. The Super BigBite Spectrometer (SBS), currently under construction for use in Jefferson Lab's Hall A following the 12 GeV upgrade of CEBAF, is capable of detecting forward-angle hadrons with a large solid-angle coverage at high luminosity, and is well-suited for the study of SIDIS reactions. Recently approved experiment E12-09-018 will use the SBS equipped with half of the RICH detector from the HERMES experiment for hadron detection, the existing BigBite spectrometer in Hall A for electron detection, and an upgraded polarized  $^3\text{He}$  target to measure the transverse target SSAs in electron-neutron DIS with unprecedented precision. This talk will present the experiment goals, kinematics, apparatus, and projected results.

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