

Abstract Submitted  
for the APR06 Meeting of  
The American Physical Society

**Neutron Structure Functions at Large  $x$ : Status of the BONUS Experiment** IOANA NICULESCU, James Madison University, BONUS COLLABORATION — While an impressive amount of high quality nucleon structure function data exists, there nonetheless remain unmeasured areas. Most notably, the lack of a neutron target has made direct comparisons between proton and neutron structure functions nearly impossible both in the resonance region and at large  $x$ . The “Barely off Shell Nucleon Structure (BONUS) Collaboration” has constructed a novel radial time projection chamber (RTPC) that uses a gas electron multiplier readout to detect slow, backward- going spectator protons resulting from electron-deuteron interactions. Spectator protons in the RTPC are detected in coincidence with electrons in the CEBAF Large Acceptance Spectrometer (CLAS) in Hall B at Jefferson Lab, thereby ensuring an inclusive electron-neutron scattering event. Two months of data (roughly 900 million triggers) were collected in late 2005 at beam energies from 1.1 to 5.3 GeV. Preliminary neutron elastic and resonance results will be discussed, focusing on the performance of the RTPC in CLAS.

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Date submitted: 13 Jan 2006

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