The Neutron Structure Function from BoNuS

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For the CLAS Collaboration

The BoNuS experiment at Jefferson Lab's Hall B measured the structure of the quasi-free neutron via electron scattering off a deuteron target. The scattered electrons were detected by the CLAS detector, which was augmented by a novel radial time projection chamber featuring gas electron multipliers to detect the slowly recoiling spectator protons. Selecting very low momentum recoiling spectator protons at very backward scattering angles ensured that the reaction was as close as possible to scattering on a free neutron, with minimal corrections due to off-shell and final state effects. Data were collected successfully in the fall of 2005 in the nucleon-resonance and deep-inelastic regions. The determination of the neutron to proton structure function ratio F_2^n / F_2^p in the range of Bjorken x from 0.2 to 0.8 will be shown and an outlook for measurements at twice the beam energy and an extended kinematic range will be given.