

Abstract Submitted
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Barely Off-Shell Nucleon Structure¹ NATHAN BAILLIE, The College of William and Mary, CLAS COLLABORATION — The Barely Off-Shell Nucleon Structure (BoNuS) experiment measured electron scattering from neutrons bound in deuterium nuclei at Jefferson Lab's Hall B with the intent of obtaining the ratio F_2^n / F_2^p at high Bjorken x . The F_2^n structure function is difficult to obtain due to nature's lack of a free neutron target. Previous experiments have measured inclusive quasi-elastic scattering in atomic nuclei, corrected for scattering from the protons in the nucleus, and relied upon models for the neutron binding and motion to obtain F_2^n . In BoNuS we restrict our analysis to neutron scattering events tagged by a backward-going low-energy recoil proton. This selects loosely bound neutrons that are nearly on their mass-shell and have few final-state interactions with the recoil proton. The recoil protons were detected in a Radial Time Projection Chamber (RTPC) using gas electron multipliers (GEMs) in a cylindrical geometry around the target. We will present the first preliminary results for F_2^n in the resonance and deep-inelastic regions.

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