

Abstract Submitted
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Status of the Jefferson Lab BONUS Experiment, an Effective Free Neutron Target VLADAS TVASKIS, Hampton University / Jefferson Lab, BONUS COLLABORATION — To understand the structure of the nucleon is one of the fundamental goals of nuclear and high-energy physics. Deep-inelastic lepton scattering off proton and nuclear targets has produced a large amount of accurate data on the proton structure function. However, due to the unavailability of free neutrons, the neutron structure function must be extracted from measurements on nuclear targets. The precision of such extractions is limited because of the theoretical uncertainties introduced by the nuclear models needed to deduce information from the bound nucleons in the nuclei. To alleviate this problem the *Barely Of-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 results will be discussed, focusing on the performance of the RTPC in CLAS.

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