

Abstract Submitted
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Nuclear Physics with CLAS12 and the High Threshold Cherenkov Counter JEFFREY MAZUREK, University of Connecticut — New construction is underway at Thomas Jefferson National Lab for the 12 GeV upgrade to the Continuous Electron Beam Accelerator Facility (CEBAF) and the CEBAF Large Acceptance Spectrometer detector upgrade (CLAS12) at Hall B. This upgrade allows a broad experimental program with the new CLAS12 detector to map the nucleon's 3-dimensional spin and flavor content through the measurement of deeply exclusive and semi-inclusive processes. During an experiment, CLAS12 will record data when its High Threshold Cherenkov Counter (HTCC) identifies a scattered electron through the generation of Cherenkov Light. Cherenkov Light indicates an event and is created when a charged particle moves faster than the speed of light in a medium. The HTCC uses a system of 48 ellipsoidal mirrors assembled into one circular, 8-ft diameter mirror to capture this light. While both pions and electrons can generate Cherenkov Light, only that from an electron identifies an event. Therefore, the HTCC must distinguish the light of a scattered electron from the light by pion contamination. This paper offers an overview of Jefferson National Lab's new CLAS12 detector and a detailed presentation of the HTCC.

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