

Abstract Submitted
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Precision Electron Beam Polarimetry in Hall C at Jefferson Lab

DAVID GASKELL, Jefferson Lab — The electron beam polarization in experimental Hall C at Jefferson Lab is measured using two devices. The Hall-C/Basel Møller polarimeter measures the beam polarization via electron-electron scattering and utilizes a novel target system in which a pure iron foil is driven to magnetic saturation (out of plane) using a superconducting solenoid. A Compton polarimeter measures the polarization via electron-photon scattering, where the photons are provided by a high-power, CW laser coupled to a low gain Fabry-Perot cavity. In this case, both the Compton-scattered electrons and backscattered photons provide measurements of the beam polarization. Results from both polarimeters, acquired during the Q-Weak experiment in Hall C, will be presented. In particular, the results of a test in which the Møller and Compton polarimeters made interleaving measurements at identical beam currents will be shown. In addition, plans for operation of both devices after completion of the Jefferson Lab 12 GeV Upgrade will also be discussed.

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