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Accurate, low-energy Compton polarimetry for Hall C at Jefferson Lab DONALD JONES, University of Virginia/Jefferson Lab, HALL C COMPTON POLARIMETRY TEAM — A new Compton polarimeter has recently been commissioned in Hall C at Jefferson Lab in Newport News, VA, to provide a non-invasive, continuous measurement of electron beam polarization. The new Compton polarimeter is currently measuring electron beam polarization for Qweak, an experiment with a strict error budget allowing a combined statistical and systematic error of only $\pm 1\%$ for beam polarization. Using well-established techniques we are able to determine electron beam polarization by measuring the scattering asymmetry of both the backscattered photons and the scattered electrons. Although the photon and electron detectors provide somewhat independent measurements they share the common systematic of the laser polarization. I discuss the optical setup for the photon target used in the Compton polarimeter and recent efforts in reducing systematic error in determination of laser polarization.

Donald Jones
University of Virginia/Jefferson Lab

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