Compton polarimeter during the Qweak experiment\textsuperscript{1} AMREN-DRA NARAYAN, Mississippi State University, HALL C COMPTON POLARIMETRY TEAM — Compton Polarimeter was successfully used during the Q\textsubscript{weak} experiment from Nov 2010 to May 2012 in Hall C, Jefferson Lab. In this newly installed Compton polarimeter the electron beam collides with green laser stored in a low gain Fabry-Perot Cavity; the scattered electrons are detected in 4 planes of a novel diamond micro strip detector while the back scattered photons are detected in four crystals of PbWO\textsubscript{4} detector. The analyzing power is computed using a Geant4 Monte Carlo simulation to match the real detector energy resolution and non-linearity in the response of the detector are folded in. The Compton polarimeter has achieved the design goals of 1% statistical uncertainty per hour and we expect to achieve 1% systematic uncertainty. We have done specific tests to understand various properties of the electron and photon detectors. We will share our study of the contributions to the electron and photon detector’s systematic uncertainty along with the preliminary polarization results.

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