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Compton polarimeter during the Qweak experiment¹ AMREN-DRA NARAYAN, Mississippi State University, HALL C COMPTON POLARIME-TRY TEAM — Compton Polarimeter was successfully used during the Q_{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 PbWO₄ 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 detector's systematic uncertainty along with the preliminary polarization results.

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