

A Diamond Micro-strip Electron Detector for Compton Polarimetry

A.Narayan, D.Dutta, V.Tvaskis, J.W.Martin

A new Compton polarimeter has been constructed in Hall-C for a non-invasive and continuous monitoring of the electron beam polarization. The Compton scattered electrons are detected in four planes of diamond multi-strip detectors. The detector is read out using custom built electronic modules that digitizes the charge pulse from each micro-strip. The digital signal is then processed using Field Programmable Gate Array (FPGA) based general purpose logic modules. The Polarimeter was commissioned during the first run period of the Qweak experiment. We will show the preliminary results from the electron detector obtained during the first run period of Qweak.

Collaboration: Jefferson Lab Hall-C Compton Collaboration.