

Abstract Submitted
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$e^{-2}\text{H}$ Parity Violating Deep Inelastic Scattering (PVDIS) at CE-BAF 6 GeV KAI PAN, Massachusetts Institute of Technology, JEFFERSON LAB HALL A PARITY COLLABORATION — The parity violating (PV) asymmetry A_d in $e^{-2}\text{H}$ deep inelastic scattering (DIS) was measured in Hall A at Jefferson Lab at $Q^2 = 1.11$ and 1.90 $(\text{GeV}/c)^2$ at $x \approx 0.3$ to a statistical precision of 3% and 4%, respectively. The combination of the two measurements will provide the first significant constraint on higher-twist (HT) effects in PVDIS. With HT effects thus measured, this experiment will constrain the poorly known effective weak coupling constant combination $(2C_{2u} - C_{2d})$. The measurement will also allow the extraction of couplings C_{3q} from high energy $\mu - C$ DIS data. Precision measurements of all these phenomenological couplings are essential to comprehensively search for possible physics beyond the Standard Model. The experiment DAQ system will be introduced. Current data analysis progress and preliminary results will be presented.

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