Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Recoil Polarization in Deuteron Photodisintegration XIAODONG JIANG, Rutgers University, THE JEFFERSON LAB HALL A COLLABORATION — High energy deuteron photodisintegration exhibits simple behaviors, including constant-angle cross sections that follow the constituent counting rules, for $p_T > 1.3$ GeV/c, and angular distributions that exhibit a slight asymmetry about $\theta_{\rm c.m.} = 90^\circ$. Measured recoil polarizations are small above 1 GeV, much smaller than hadronic model predictions, but not vanishing as predicted by helicity conservation. The limited 90° polarization data are insufficient to come to firm conclusions concerning the validity of several quark model predictions that are generally in agreement with the cross section data. We have taken new recoil polarization data, a five-point angular distribution at $E_\gamma \approx 2$ GeV. We will show the calibration ep elastic scattering data agree with earlier results, the polarimeter performance agrees with expectation, and the $\vec{\gamma}d \to \vec{p}n$ data compared with model predictions. This work has been supported by the National Science Foundation, through grant PHY 03-54871 to Rutgers University.

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Date submitted: 23 May 2005 Electronic form version 1.4