Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

HERMES Measurements of the Nucleon Transverse Spin Structure[1] FRANCESCA GIORDANO, University of Illinois at Urbana-Chapmaign, HERMES COLLABORATION — Azimuthal modulations appearing in the Semi-Inclusive Deep-Inelastic Scattering (SIDIS) cross section for hadrons are sensitive to the transverse degrees of freedom of quarks within the nucleon. Such modulations can be related to combinations of Transverse Momentum Dependent (TMD) parton distribution functions and fragmentation functions, which describe correlations between the quark or the nucleon spin with the quark transverse momentum (spin-orbit correlations), and could provide insights into the yet unmeasured quark orbital angular momentum. At HERMES, TMDs are probed for various hadron types through the analysis of specific azimuthal modulations of the SIDIS cross section. An overview of recent results obtained using transversely polarized target protons as well as using unpolarized beam and targets will be presented.

[1]On behalf of the HERMES collaboration

Francesca Giordano
University of Illinois at Urbana-Chapmaign

Date submitted: 01 Jul 2011 Electronic form version 1.4