

## Marc Schlegel

### Major Research Projects:

**Project 1:** Precision calculations in perturbative QCD for twist-3 observables in polarized reactions at the Relativistic Heavy Ion Collider (RHIC), Jefferson Lab (JLab), an Electron-Ion Collider (EIC)

**Project 2:** Studies of unpolarized and polarized gluon TMDs at the Large Hadron Collider (LHC) and EIC

**Project 3:** Wigner functions / GTMDs and Orbital Angular Momentum

### Present/pending/recent research, instrumentation and other grants

#### **Current Support from Research Grant:**

- DOE: Topical Collaboration on “Coordinated Theoretical Approach to Transverse Momentum Dependent Hadron Structure in QCD”

#### **Pending Research Grants:**

- DOE: Project title “Nucleon Structure and Hadronization beyond the collinear leading twist Parton Model”, role: PI, 3 years, submitted to DOE in September 2018, \$350,000
- NSF: Project title “Nucleon Structure and Hadronization beyond the collinear leading twist Parton Model”, role: PI, 3 years, submitted to NSF end of November, \$350,000

### Research Personnel

**Grad student:** Albaltan, W. (Ph.D. student, NMSU, Physics)

### Principle Collaborators:

Burkardt, M. (NMSU), Gamberg, L. (Penn State Berks), Kang, Z. (UCLA), Lansberg, J.-P. (IPNO, Orsay, France), Metz, A. (Temple U., Philadelphia), Pisano, C. (Cagliari U. & INFN, Italy), Pitonyak, D. (Lebanon Valley College), Prokudin, A. (Penn State Berks), Vogelsang, W. (Tübingen, Germany)

### Major Research accomplishments (in 2018):

1 publication in *Physics Letters B (PLB)*; 1 publication in *Journal of High-Energy Physics (JHEP)*; 1 manuscript published as an eprint on arXiv.org, under review at *Journal of High-Energy Physics (JHEP)*

### Service:

Society of Physics Students co-advisor