

Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

3-Dimensional Hadronic Structure from Transverse-Spin Observables in High-Energy Collisions JOSHUA MILLER, Lebanon Valley College, JUSTIN CAMMAROTA, Lebanon Valley College/College of William and Mary, LEONARD GAMBERG, Penn State Berks, ZHONGBO KANG, UCLA, DANIEL PITONYAK, Lebanon Valley College, ALEXEI PROKUDIN, Penn State Berks/Jefferson Lab, NOBUO SATO, Jefferson Lab/Old Dominion University — Quarks and gluons interacting inside of a hadron remains a complex system that needs to be analyzed. To probe inside of hadrons, they have to be collided at high energies, and to access their 3-dimensional (3D) structure, a particle with its spin transverse to its momentum must be involved. Such collisions can occur in semi-inclusive deep inelastic scattering (SIDIS), semi-inclusive e^+e^- annihilation (SIA) and proton-proton collisions. Since the same fragmentation functions (FFs) and parton distribution functions (PDFs) enter these reactions, a global analysis can be performed that fits these functions. In this poster, I will present results from such a fit, where a replica/Monte Carlo method was used, give some computational details, and discuss the insight we can gain about quark-gluon correlations in hadrons and their 3D structure.

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Date submitted: 18 Jul 2019

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