

Abstract Submitted  
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**GPDs and single-spin asymmetries** MATTHIAS BURKARDT, New Mexico State University — Generalized parton distributions (GPDs) contain a wealth of information about hadron structure. I will focus on the connection between GPDs and impact parameter dependent parton distributions. For transversely polarized targets, the distribution of partons as a function of the impact parameter shows a significant deviation from axial symmetry. Together with attractive final state interactions this provides a very intuitive explanation for the observed single-spin asymmetry (Sivers effect) in semi-inclusive deep-inelastic scattering experiments (HERMES). Chirally odd GPDs describe the quark transversity distribution for an unpolarized target. The same mechanism that gives rise to the Sivers effect may also give rise to the Boer-Mulders effect, except that sign and magnitude are now governed by chirally odd GPDs. The same linear combination of chirally odd GPDs that governs the quark transversity distribution for an unpolarized target can also be used to determine the correlation between quark angular momentum and transversity.

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