

Title: ``Hadron Tomography''

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Abstract:

I will explain what generalized parton distributions are and how they can be used to understand how partons are distributed inside the nucleon. 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). A similar distortion for transversely polarized quarks in an unpolarized target gives rise to the Boer-Mulders effect, which can be observed in Drell-Yan experiments at J-PARC or RHIC or in SIDIS experiments.