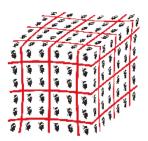
Lattice2010



Contribution ID: 13

Type: not specified

Transverse momentum distributions inside the nucleon from lattice QCD

Monday, 14 June 2010 17:20 (20 minutes)

Transverse momentum dependent parton distribution functions encode information about the intrinsic motion of quarks in the nucleon. We present first calculations on the lattice, based on MILC gauge configurations and propagators from LHPC. The resulting spin-dependent densities exhibit visible dipole deformations in the nucleon. For our exploratory calculations we employ a non-local operator with a non-perturbatively renormalized direct Wilson line. A more elaborate operator geometry is needed for quantitative comparisons to azimuthal asymmetries observable in experiments, such as the Sivers effect in semi-inclusive deeply inelastic scattering.

Please, insert your presentation type (talk, poster)

talk

Primary author: MUSCH, Bernhard (Jefferson Lab, USA)

Co-authors: Prof. SCHÄFER, Andreas (Universität Regensburg, Germany); Prof. NEGELE, John W. (Massachusetts Institute of Technology, USA); Dr HÄGLER, Philipp (Technische Universität München, Germany)

Presenter: MUSCH, Bernhard (Jefferson Lab, USA)

Session Classification: Parallel 02: Hadronic structure and interactions

Track Classification: Hadronic structure and interactions