

APR10-2010-020186

Abstract for an Invited Paper
for the APR10 Meeting of
the American Physical Society

Transverse momentum and orbital angular momentum of light quarks in the nucleon

KAWTAR HAFIDI, Argonne National Laboratory

Most of our knowledge of the nucleon inner structure is encoded in parton distribution functions (PDFs). However, the information contained in PDFs is limited to the parton longitudinal momentum. A more complete picture of the nucleon emerges from two other distributions. The transverse momentum dependent parton distributions (TMDs), which not only depend on the longitudinal momentum but also on the transverse momentum of partons inside the nucleon and the generalized parton distributions (GPDs), which can yield to the spatial imaging of the nucleon. Both functions provide novel and intriguing information on hadronic structure. In this talk, the progress of TMDs and GPDs measurements and their impact on our knowledge of the nucleon structure will be reviewed.