## Physics at LHC 2012



Contribution ID: 5

Type: Parallel Talk

## Spin dependant parton distributions from DIS and SIDIS data from LHC and their effects on determining fragmentation functions

The results of our new QCD analysis of helicity parton distributions of the nucleon up to NLO order will be presented. Doing a QCD fit on newest inclusive and semi-inclusive polarized deep inelastic scattering data from very recent experiments at LHC, DESY and SLAC, we are able to extract polarized structure function of nucleons by choosing new polarized parton distributions (PDFs) at input scale  $Q_0^2$ . Particulary, we have calculated parton distributions in SU(2) and SU(3) symmetry breaking scenario and the results are in good agreement with the experimental data and the most precise theoretical models obtained by DSSV09 and LSS10. We also study the effects of PPDFs on extracting fragmentation functions (FFs) using SIDIS data and compare the results with other very precise models.

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