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A new LO extraction of gluon polarisation from COMPASS DIS data

Tuesday, 29 April 2014 11:30 (30 minutes)

A new COMPASS LO evaluation of the gluon polarization in the nucleon is presented.
The events in DIS region were re-analyzed and gluon polarization was
extracted using the so called all-pT method. In this new method
gluon polarization and leading process asymmetry are extracted simultaneously
from the same data set using Neural Network approach. The gluon polarization
was extracted in three intervals of gluon momentum fraction x_g,
while leading process asymmetry in twelve intervals of Bjorken scaling variable x.
A reduction of both systematic and statistical uncertainties by more than
50% is achieved comparing to the published result PLB 718 (2013) 922.
The results of the current and published analyses are well in agreement.
Comparing to the world data of direct gluon polarization extraction in
LO analyses the lowest combined statistical and systematic uncertainty is achieved.

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