DIS 2014 - XXII. International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 164

Type: Oral presentation

The nCTEQ PDFs: LHC data and nuclear uncertainties

Wednesday 30 April 2014 17:20 (25 minutes)

A global analysis of the proton PDF requires a combination of DIS, DY, and jet data. The flavor differentiation depends heavily on the DIS data, all of which is measured on nuclear targets in neutrino scattering; hence the nuclear PDFs (nPDFs) come into play. Additionally, the LHC heavy ion runs with lead beams provide information in an entirely new kinematic regime; here, the W/Z production process is particularly enlightening. We study the compatibility of these data sets in a global nPDF analysis and extract the nuclear correction factors, and discuss the observed tensions between the nuclear correction factors in various data sets. We also quantify the nPDF uncertainty using a set of error PDF functions and show comparisons with recent nPDF determinations.

Author: Dr KUSINA, Aleksander (Southern Methodist University)

Co-authors: Mr CLARK, Benjamin (SMU); KEPPEL, Cynthia (Jefferson Lab); Prof. OLNESS, Fred (Southern Methodist University); SCHIENBEIN, Ingo (Universite Joseph Fourier); Dr YU, Ji-Young (SMU); MORFIN, Jorge G. (Fermilab); OWENS, Joseph (Florida State University); KOVARIK, Karol; Dr JEZO, Tomas (Liverpool)

Presenter: Dr KUSINA, Aleksander (Southern Methodist University)

Session Classification: WG1: Structure Functions and Parton Densities

Track Classification: WG1: Structure Functions and Parton Densities