

Improved constraints on nPDFs using dijet production in pPb collisions at 8.16 TeV with the CMS Detector

Monday 23 September 2024 14:00 (20 minutes)

Measurements of dijet production in heavy ion collisions can be used to probe the nuclear matter. In proton-lead collisions, the normalized average dijet pseudorapidity distributions can be used as a sensitive tool for constraining the nuclear modifications of parton distribution functions (nPDF) at different Q^2 scales and Bjorken- x . In such studies, it is possible to investigate, with a good precision, the shadowing, anti-shadowing and EMC effects. In this talk, the updated dijet average pseudorapidity measurements in pPb collisions at 8.16 TeV in various dijet transverse momentum ranges will be presented with the data samples collected with the CMS detector at the LHC. The measured distributions are compared to perturbative quantum chromodynamics calculations with different sets of proton and nuclear PDFs.

Category

Experiment

Collaboration

CMS

Primary author: NIGMATKULOV, Grigory (University of Illinois Chicago)

Presenter: NIGMATKULOV, Grigory (University of Illinois Chicago)

Session Classification: Parallel 3: nPDF

Track Classification: 5. Nuclear PDFs, saturation, and early time dynamics