



Contribution ID: 267

Type: **not specified**

Drell-Yan Production of W/Z at the LHC with Protons and Heavy Nuclei

Tuesday, 4 August 2015 17:40 (20 minutes)

Drell-Yan W/Z electroweak boson production at the LHC is an essential standard candle which is used for calibration of beam luminosity and detector properties. In addition to proton-proton collisions, the LHC has measured heavy nuclei lead-lead and proton-lead W/Z production. Comparison of these data sets can provide discriminating information of the nuclear modifications present in the Parton Distribution Functions (PDFs).

We present an analysis of W/Z production in lead-lead and proton-lead collisions at the LHC using the nCTEQ15 nuclear Parton Distribution Functions (nPDFs) including the uncertainty bands. The cross-sections are calculated at NLO with the FEWZ program at 2.76 and 5.02 TeV. We identify observables where the nuclear modifications are larger than the predicted uncertainty, and we compare these calculations to recent CMS measurements.

Oral or Poster Presentation

Oral

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