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Measurement of the inelastic pPb cross section at 5.02 TeV with the CMS experiment

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The measurement of the inelastic cross section for proton-lead (pPb) collisions at a centre-of-mass energy of 5.02 TeV using data from the CMS detector at the LHC will be presented. The analysis is based on an event counting method that takes into account corrections for pileup, acceptance, beam related and electromagnetic background as well as selection inefficiencies due to diffractive processes. Finally the accurate measurement of the beam density profiles by Van-der-Meer scans performed by CMS during the pPb run are used to obtain the integrated luminosity. The results will be compared to theory predictions to test the performance of specific models in the multi-TeV range - in particular also the Glauber model. The relefvance of nuclear shadowing or nucleon correlation effects can be estimated from such comparisons.

Primary author: PETRUSHANKO, Serguei (M.V. Lomonosov Moscow State University (RU))

Presenter: BAUS, Colin (KIT - Karlsruhe Institute of Technology (DE))

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