Contribution submission to the conference Würzburg 2018

The measurement of W-charge asymmetry at 13 TeV with the CMS detector — •Vladyslav Danilov, Mariarosaria D'Alfonso, Elisabetta Gallo, Volodymyr Myronenko, and Katarzyna Wichmann — DESY, Hamburg, Germany

In pp collisions at the LHC, rates of $u\bar{d}$ annihilation dominate over $d\bar{u}$. Consequently, W^+-boson production prevails over W^-, which results in an effect called W-charge asymmetry ($A(\eta)$).
The analysis is based on the data sample corresponding to integrated luminosity of 2.31 ± 0.06 fb^{-1} recorded by the CMS detector over the year 2015. The events with W bosons decaying via lepton channel were selected. Signal extraction was performed using template fits to missing E_T distributions. The differential cross sections were used to calculate the $A(\eta)$.
The presented measurement provides good sensitivity to u/d ratio and the sea quark densities in a proton.

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