



Contribution ID : 574

Type : **Oral presentation**

Impact of ATLAS data on parton density functions

Friday, 4 July 2014 12:05 (15)

Various measurements provided by the ATLAS collaboration have significant impact on parton density functions. Inclusive production of W and Z bosons have been analysed using an NNLO QCD fit and found to constraint the strange-quark density at medium and low Bjorken-x. The inclusive jet production at different centre-of-mass energies, dijet and trijet production measured by ATLAS are used in an NLO QCD fit and show impact for the gluon and quark densities. Off-resonance Drell Yan production may be used to constrain anti-quark density at high x. The measurements have higher impact when they are used in a common fit, taking into account correlations of the systematic uncertainties and will help to constrain parton density function uncertainties.

Summary

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Session Classification : Strong Interactions and Hadron Physics

Track Classification : Strong Interactions and Hadron Physics