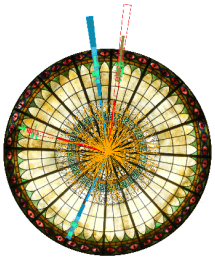
DIS 2015
XXIII International Workshop on Deep-Inelastic Scattering and Related Subjects

Dallas, Texas
April 27 – May 1, 2015



Contribution ID: **45** Type: **not specified**

Impact of heavy-flavour production cross sections measured by the LHCb experiment on parton distribution functions at low x.

Thursday 30 April 2015 08:30 (25 minutes)

The impact of recent measurements of heavy-flavour production in deep inelastic electron-proton scattering and in proton-proton collisions on parton distribution functions is studied in a QCD analysis in the fixed-flavour number scheme at next-to-leading order.
Differential cross sections of charm- and beauty-hadron production measured by LHCb are used together with inclusive and heavy-flavour production cross sections in deep inelastic scattering at HERA. The heavy-flavour data of the LHCb experiment impose additional constraints on the gluon and the sea-quark distributions at low partonic fractions x of the proton momentum, down to $x \sim 5 \times 10^{-6}$. This kinematic range is currently not covered by other experimental data in perturbative QCD fits.

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Session Classification: WG1+WG5 Joint Session