

# Charged-particle multiplicity dependence of open heavy-flavour production in pp collisions with ALICE at the LHC

*Thursday 14 December 2017 11:20 (15 minutes)*

Heavy-flavour production in pp collisions at LHC energies is described by perturbative QCD calculations based on the factorization approach in which the cross-section is obtained as a convolution of a hard process, parton distribution functions and fragmentation functions. The investigation of heavy-flavour production as a function of event properties, like charged-particle multiplicity, can provide further insight into the global features of the collision. This measurement helps also to characterize the particle production mechanism, to assess the interplay between the hard and soft processes and to test models which include multiple parton interactions.

The ALICE experiment studied heavy-flavour production at different collision energies via the hadronic and semi-leptonic decay channels, at central and forward rapidity. Charged-particle multiplicity is also measured at central and forward rapidity, allowing to study the rapidity range of possible connections of soft and hard processes.

In this contribution, the measurements of open heavy-flavour production as a function of charged-particle multiplicity in pp collisions at ALICE will be discussed. The results will be compared to quarkonium measurements as well as theoretical model calculations.

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**Session Classification:** WG5: High Multiplicities