

D meson production cross sections in pp collisions at $\sqrt{s} = 7$ TeV, measured with the ALICE detector

Heavy quark production provides a powerful tool to test pQCD calculations in hadron collisions in the new energy regime of the LHC. Moreover the D meson pt-differential cross section in pp collisions provides the reference for the study of nuclear matter effects on charm quarks in PbPb collisions, via the nuclear modification factor.

The ALICE experiment collected data in pp collisions at \sqrt{s} of 7 TeV and 2.76 TeV at the LHC. We present preliminary results on the pt-differential cross sections of D0, D*+, and D+ mesons, reconstructed using their hadronic decay channels. We show that already with a subsample of the 2010 data, thanks to excellent tracking system and particle identification capabilities of the ALICE experiment, the charmed hadron measurements in the mid-rapidity region can be extended down to $p_T \sim 2$ GeV/c, with good prospects to reach $p_T \sim 1$ GeV/c or below using the full sample. The current status of the Ds and Λ_c analysis, as well as the investigation of the charm content in jets, are discussed as well.

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