

Strangeness in Quark Matter 2019



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Electrons from heavy-flavour hadron decays in proton-proton collisions with ALICE at the LHC

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Heavy quarks are produced in the early stages of relativistic heavy-ion collisions via initial hard scatterings. Therefore, they are considered as effective probes of the hot and dense Quark-Gluon Plasma (QGP) formed in such collisions since they witness its full evolution. In pp collisions, the measurement of charm and beauty hadron production cross sections can be used to test our understanding of the Quantum ChromoDynamics (QCD) in perturbative regime. In addition, pp collisions provide the required reference for the corresponding measurements in nuclear collisions like the measurement of the nuclear modification factor (R_{AA}) of electrons from heavy-flavour and beauty-hadron decays.

In this contribution, the p_T -differential production cross section of electrons from heavy-flavour hadron decays in pp collisions at $\sqrt{s} = 2.76, 5.02, 7$ and 13 TeV and beauty-hadron decays in pp collisions at $\sqrt{s} = 7$ TeV measured by ALICE at mid rapidity are reported. The analysis procedures employed for measuring the spectra of electrons from the heavy-flavour and beauty-hadron decays will be discussed. Comparisons of these results with the FONLL (Fixed-Order and Next-to-Leading Logarithms) model calculations will be shown.

Collaboration name

ALICE collaboration

Track

Heavy Flavour

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