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Measurement of electrons from heavy- flavour hadron decays in proton-proton collisions with ALICE at the LHC

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Due to their large masses, 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 and witness the full evolution of the QGP. 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 the perturbative regime. In addition, pp collisions provide the required reference for measurements in nuclear collisions such as the measurement of the nuclear modification factor (R_{AA}) of electrons from heavy-flavour hadron decays.

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

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