

Measurement of the Nuclear Modification Factor of Electrons from Heavy Flavour Decays at Mid-Rapidity in Pb-Pb Collisions at $\sqrt{s_{NN}}=2.76$ TeV with ALICE

In high-energy nucleus-nucleus collisions, heavy flavour quarks, i. e. charm and bottom, are produced on a very short time scale in the initial hard scattering processes and thus they experience the whole history of the collision. Therefore, they are valuable probes to address the features of the interaction of hard partons with the hot and dense state of matter, that is expected to be formed in the collision. In particular, they allow us to study parton energy loss and its quark mass dependence.

Heavy flavour production can be measured in several channels by the ALICE experiment at the LHC. We present the transverse momentum spectrum of electrons from heavy flavour decays at mid-rapidity in Pb-Pb collisions at $\sqrt{s_{NN}}=2.76$ TeV, as obtained by subtracting from the inclusive electron sample a data-tuned cocktail of the non-heavy-flavour background contributions. By comparison with a pp reference scaled to the same centre-of-mass energy, we determine the nuclear modification factor of the pt distribution of electrons from heavy flavour decays.

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Track Classification: Heavy flavor and quarkonia production