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Production of Muons from Heavy-Flavour Hadron Decays in Pb–Pb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV with ALICE at the LHC

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The LHC heavy-ion physics program aims at investigating the properties of strongly-interacting matter in extreme conditions of temperature and energy density where the Quark-Gluon Plasma (QGP) is formed. Heavy quarks (charm and beauty) are among the important probes for the investigation of the properties of the QGP as they are created on a very short time scale in initial hard scattering processes and experience the whole evolution of the system, while losing energy in the interaction with the medium constituents.

The nuclear modification factor R_{AA} , defined as the ratio of the particle yield measured in Pb-Pb collisions to the cross section in pp collisions scaled with the average nuclear overlap function, and/or the central-to-peripheral nuclear modification factor R_{CP} , are relevant observables to quantify the energy loss effects.

New ALICE results concerning the production of muons from heavy-flavour hadron decays at forward rapidity in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will be presented. The measurement of the production cross section and nuclear modification factors will be discussed. The progress on the studies as a function of transverse momentum and centrality will be shown. Data will be compared with previous measurements in Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV.

Summary

Presentation type

Oral

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