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Measurement of the nuclear modification factor of electrons from heavy-flavour hadron decays in Pb-Pb collisions with ALICE

Heavy quarks (charm and beauty) are produced primarily in the initial hard partonic interactions in heavy-ion collisions.
Since they propagate through and interact with the hot and dense QCD matter,
measurements of the heavy-flavour production provide relevant information on the early stage of the collisions and parton-medium interaction.
A strong suppression of heavy-flavour hadron production has been observed in the most central heavy-ion collisions with respect to binary-scaled pp collisions, and it is thought to be due to energy loss of heavy flavours in the dense matter.

This poster presents measurements of electrons from heavy-flavour decays at central rapidity in Pb-Pb collisions.
The dominant source at low p_{T} is composed of electrons from charm-hadron decays, while at high p_{T} electrons from beauty-hadron decays represents a large contribution.
Thus, the measurement is sensitive to energy loss of charm and beauty in the dense matter.
The p_{T} dependence of the nuclear modification factor of electrons from heavy-flavour hadron decays in Pb–Pb collisions at $\sqrt{s_{\mathrm{NN}}}$ = 2.76 TeV is shown up to 18 GeV/c in the most central collisions.
The centrality dependence of the nuclear modification factor will also be shown.
The measurements at $\sqrt{s_{\mathrm{NN}}}$ = 5.02 TeV and the prospectives for separating electrons from beauty-hadron decays will be presented.

Preferred Track

Open Heavy Flavors

Collaboration

ALICE

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