

Heavy-flavour hadron decay electron correlations in p-Pb and Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with the ALICE detector

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Heavy quarks (charm and beauty) are unique probes used to understand the properties of the QCD medium produced in ultra-relativistic heavy-ion collisions. Due to their large masses, they are created in the early stages of the collisions and experience the full evolution of Quark-Gluon Plasma (QGP). They interact with its constituents and lose energy as they travel through the medium. Heavy quarks can be studied by measuring electrons coming from the semi-leptonic decays of heavy-flavour hadrons.

Two-particle angular correlation measurements are a powerful tool to study jet quenching especially in p_T regions where direct jet identification is difficult. In such measurements, we observe a near-side peak around $\Delta\varphi \approx 0$, formed by particles associated to a high- p_T trigger particle, and an away-side peak around $\Delta\varphi \approx \pi$, formed by back-to-back dijets. By studying heavy-flavour angular correlations triggered by electrons from heavy-flavour hadron decays, we can access information about heavy-flavour jet quenching in the QGP. Near-side correlations can be studied to understand if the fragmentation and hadronization of heavy-quarks are modified by medium effects.

In this poster, we present the current status of the ALICE measurement of azimuthal angular correlations of high- p_T heavy-flavour decay electrons with charged particles in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV from the LHC Run 2. The measurements from Pb-Pb collisions will be compared to p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV.

List of tracks

Heavy-flavour (open and hidden)

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