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Type: **Parallel Talk**

## Measurements of heavy-flavour correlations and jets with ALICE at the LHC

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Heavy quarks (charm and beauty) are produced in hard parton scatterings in the early stages of hadronic collisions. Therefore, they are ideal probes to investigate the properties of the Quark-Gluon Plasma (QGP) produced in ultra-relativistic heavy-ion collisions. The study of angular correlations between heavy-flavour particles and charged particles allows us to characterize the heavy-quark fragmentation process and its possible modification in a hot and dense medium. The measurement of heavy-flavour jets gives more direct access to the initial parton kinematics and can provide further constraints for heavy-quark energy-loss models, in particular adding information on how the radiated energy is dissipated in the medium.

Studies in pp collisions are mandatory to characterize heavy-quark production and fragmentation in vacuum, constituting the necessary reference for interpreting heavy-ion collision results. Differences between results from pp and p-Pb collisions can reflect how the heavy-quark production and hadronization into jets is affected by cold nuclear matter effects.

This contribution will include the latest heavy-flavour correlation and jet measurements with the ALICE detector in pp, p-Pb and Pb-Pb collisions from the LHC Run-2 data. In particular, results on azimuthal correlations of D mesons with charged particles in p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be presented. Measurements of multiplicity and centrality dependent azimuthal correlations of heavy-flavour hadron decay electrons with charged particles in p-Pb and Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be shown. In addition, measurements of D-meson tagged and beauty tagged jet production in pp collisions at  $\sqrt{s} = 7$  TeV and p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be presented. The status of D-tagged jet measurements in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be discussed.

### Content type

Experiment

### Collaboration

ALICE

### Centralised submission by Collaboration

Presenter name already specified

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