

Strangeness in Quark Matter 2019



Contribution ID: 29

Type: Poster

Azimuthal correlations of D mesons with charged particles in pp collisions at $\sqrt{s} = 13$ TeV with the ALICE experiment at the LHC

Tuesday 11 June 2019 18:45 (2 hours)

The ALICE experiment at the Large Hadron Collider (LHC) is dedicated to study the properties of the Quark-Gluon Plasma (QGP), a de-confined partonic state of strongly-interacting matter formed in relativistic heavy-ion collisions. Heavy quarks (charm and beauty), produced by parton-parton hard scatterings in the early stages of such collisions, are considered to be effective probes to study the QGP, as they are expected to experience the full evolution of the system formed in the collision.

The azimuthal correlations between heavy-flavour particles and charged particles give insight on the modification of charm-jet properties in nucleus-nucleus collisions and the mechanisms through which heavy quarks in-medium energy-loss takes place. Studies in pp collisions, besides constituting the necessary baseline for nucleus-nucleus measurements, are important for testing expectations from pQCD-inspired Monte Carlo generators. This contribution will include the study, with the ALICE apparatus, of azimuthal correlations of D mesons with charged particles in pp collisions at $\sqrt{s} = 13$ TeV, the highest available energy at the LHC. A comparison with pp collisions results at $\sqrt{s} = 7$ TeV will allow studying the energy dependence of the correlation function.

Collaboration name

ALICE

Track

Heavy Flavour

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Session Classification: Poster session with "aperitivo"