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Azimuthal correlations of D^0 mesons with charged particles in pp collisions at $\sqrt{s} = 13$ TeV with the ALICE experiment at the LHC

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The ALICE experiment at the Large Hadron Collider (LHC) is dedicated to study the properties of the Quark-Gluon Plasma (QGP), a de-confined state of strongly-interacting partons formed in relativistic heavy-ion collisions. Heavy quarks, produced by parton-parton hard scatterings in the early stages of such collisions, stand out as unique probe to study the QGP, as they are expected to experience the whole 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 lose energy inside the medium. Studies in pp collisions are necessary as a reference for nucleus-nucleus collisions and also important for testing expectations from pQCD-inspired Monte Carlo generators. In this contribution, we will present the first study of azimuthal correlations of D^0 mesons with charged particles in pp collisions at $\sqrt{s} = 13$ TeV, so far the highest available energy at the LHC, performed with the ALICE apparatus. A comparison with pp collisions results at $\sqrt{s} = 7$ TeV will help to evaluate the energy dependence of the correlation function. Data will also be compared with expectations from POWHEG and PYTHIA event generators.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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