

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

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The ALICE (A Large Ion Collider Experiment) detector at the LHC is designed to study the properties of Quark-Gluon Plasma (QGP), a deconfined state of quarks and gluons produced in the ultrarelativistic heavy ions collisions. Heavy-quarks, charm and beauty, are considered as effective probes for the investigation of the QGP properties. Due to their large masses they are produced almost exclusively during the hard-scattering phase and therefore experience the full evolution of the collision, interacting and losing energy in the hot and dense medium produced.

The study of angular correlations between D mesons and charged particles in different collision systems provides information about the possible medium-induced modification of charm quark fragmentation into jets. The same study in the pp collision system, beside constituting the natural reference to understand the results in p-Pb and Pb-Pb collisions systems, allows investigating charm quark production mechanisms, fragmentation and hadronization.

In this poster, the measurement of azimuthal correlations between D^0 meson and charged particles in pp collisions at $\sqrt{s} = 13$ TeV will be presented. The comparison with results obtained at $\sqrt{s} = 7$ TeV allows investigating the dependence of the result from the energy of the collision. The data will also be compared with simulations results obtained with different event generators.

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