

10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Contribution ID: 157

Type: Poster

D⁰-tagged jets in heavy-ion collisions with ALICE at the LHC

Tuesday, June 2, 2020 7:30 AM (1h 20m)

Charm quarks are ideal probes of the Quark-Gluon Plasma (QGP). Due to their large mass they are produced in the early stages of ultra-relativistic heavy-ion collisions in hard-scattering processes.

D⁰-tagged jets are valuable tools to investigate the charm interaction with the QGP. Furthermore, charmed jets can provide information to study the mass-dependent energy loss by analysing the modification of their yield in Pb–Pb collisions with respect to pp collisions as a function of the jet transverse momentum.

D⁰ mesons are reconstructed through their hadronic decay channels $D^0 \rightarrow K\pi$. The large combinatorial background is rejected by applying topological selections exploiting the relatively large lifetime of D⁰ mesons and the excellent particle-identification capabilities of the ALICE detector. The signal is extracted using an invariant mass analysis. Charged-track jets are reconstructed with anti- k_T algorithm. The ALICE detectors allow us to measure D⁰-tagged jets down to low p_T , where the probes are more sensitive to the effects of the hot medium. In this contribution, ALICE measurements of the production and fragmentation of D⁰-tagged charged jets in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will be presented.

Collaboration (if applicable)

ALICE

Track

Heavy Flavor and Quarkonia

Contribution type

Poster

Primary author: OLIVEIRA DA SILVA, Antonio Carlos (University of Tennessee - Knoxville)

Presenter: OLIVEIRA DA SILVA, Antonio Carlos (University of Tennessee - Knoxville)

Session Classification: Poster session

Track Classification: Heavy Flavor and Quarkonia