



Contribution ID: 92

Type: Poster

Production of electrons from beauty-hadron decays in Pb-Pb collisions at 5.02 TeV with ALICE

Tuesday, 15 May 2018 19:10 (30 minutes)

Heavy-flavour quarks (charm and beauty) are an important tool used to probe the Quark Gluon Plasma (QGP), the colour-deconfined medium created in ultrarelativistic heavy-ion collisions. They are created in the first stages of the collision, mainly via hard parton scattering, and they experience the whole evolution of the medium. The study of the energy loss of heavy-flavour quarks is of particular interest to understand the mass dependence of energy loss in the QGP.

We will show the status of the measurement of electrons from beauty hadron decays in Pb-Pb collisions at 5.02 TeV using the ALICE detector. Electrons with low transverse momentum ($1 < p_T < 6$ GeV/c) are identified using the Time Projection Chamber (TPC) and Time-Of-Flight detectors, while high-momentum electrons ($6 < p_T < 20$ GeV/c) are identified using the TPC and the Electromagnetic Calorimeter. Beauty decay electrons are extracted by performing fits to the impact parameter distribution using templates of different electron sources obtained from Monte Carlo simulations. At low p_T , templates of impact parameter distribution for electrons from gamma, Dalitz, charm and beauty decays are used to obtain the relative fraction of each source. At high p_T , the invariant mass of electron-positron pairs is used to identify electrons from gamma conversions and Dalitz decays, and only the templates for charm and beauty decay electrons are used in the impact parameter fit.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

Primary authors: DE CONTI, Camila (Universidade de Sao Paulo (BR)); GAUGER, Erin Frances (University of Texas at Austin (US))

Presenters: DE CONTI, Camila (Universidade de Sao Paulo (BR)); GAUGER, Erin Frances (University of Texas at Austin (US))

Session Classification: Poster Session

Track Classification: Open heavy flavour