



Contribution ID: 212

Type: Oral

Open heavy-flavour measurements in Pb-Pb collisions with ALICE at the LHC

Tuesday, 1 September 2015 14:45 (15 minutes)

The Quark Gluon Plasma (QGP) is a state of matter, which is thought to have been present before the hadron epoch in the early universe. This regime of strongly-interacting matter where quarks are deconfined can be recreated at the Large Hadron Collider (LHC) in heavy-ion collisions. Among the LHC experiments, ALICE is especially designed for the study of the signatures of the QGP. Heavy-flavour hadrons are powerful probes since heavy quarks (charm and beauty) are predominantly created in the early stage of the collision and carry along rich information by their interaction with the medium. The mentioned interaction can be characterised by observables like the nuclear modification factor, which is the ratio of the yield in nucleus-nucleus collisions and the cross section in pp collisions scaled with the average nuclear overlap function. Measurements of azimuthal anisotropy can provide, in addition to information about partonic energy loss, insight into the possible participation of heavy quarks in the collective motion of the medium. The measurements are performed at mid-rapidity using hadronic and semi-electronic decays, and at forward rapidity using semi-muonic decays. In this presentation results from measurements of open heavy-flavour production in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV in comparison with model calculations will be shown. (Sedat Altınpinar for the ALICE Collaboration)

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Session Classification: Heavy Ion Collisions and QCD Phases