



Contribution ID: 46

Type: **Talk**

Measurement of electrons from heavy-flavour decays in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with ALICE

Thursday 25 July 2013 15:00 (20 minutes)

Measurement of electrons from heavy-flavour decays in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with ALICE

Deepa Thomas (Utrecht University) for the ALICE Collaboration

The measurement of heavy-flavour (charm and beauty) production in ultra-relativistic heavy-ion collisions is an important probe to study the properties of the high temperature and density medium created in such collisions. Heavy quarks are useful to study the mechanism of parton energy loss, which is expected to be sensitive to the colour charge and mass of the parton. One approach to study heavy-flavour production is the measurement of electrons from semi-leptonic decays of heavy-flavour hadrons.

With the ALICE detector at the LHC, electrons are identified using several detectors in the central rapidity region, namely the Time Of Flight detector, the Time Projection Chamber, the Electromagnetic Calorimeter, and the Transition Radiation Detector. In this contribution we present the nuclear modification factor (RAA) which is the ratio of the yield in Pb-Pb collisions to the yield in binary scaled pp collisions, azimuthal anisotropy and elliptic flow (v_2) which is the second Fourier coefficient of particle azimuthal distribution of heavy-flavour decay electrons as a function of transverse momentum. These two observables are sensitive to the interactions of c and b quarks with the medium. Further insight into the interaction of heavy quarks with the dense medium can be obtained by measuring azimuthal angular correlations of heavy-flavour decay electrons and charged hadrons in Pb-Pb collisions. We will also discuss results from this analysis.

Author: THOMAS, Deepa (University of Utrecht (NL))

Presenter: THOMAS, Deepa (University of Utrecht (NL))

Session Classification: Heavy Flavour 2