

5th International workshop on heavy quark production in heavy-ion collisions



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Heavy flavour correlation measurements in pp and Pb-Pb collisions with ALICE

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In high energy heavy-ion collisions heavy-flavour quarks are primarily produced in the early stage of the collision, through initial hard scatterings. This makes them an important probe of the high energy density QCD matter that is formed in the collision, since they should then experience the full evolution of the system. Heavy quarks can be studied through the measurements of open heavy-flavour hadrons and single leptons from heavy-flavour decays. Azimuthal angular correlations of single electrons and charged hadrons can be utilized to estimate the relative contribution of charm and beauty hadrons to the measured heavy-flavour single electron yield. In addition, an understanding on the production and fragmentation of heavy quarks can be examined through azimuthal angular correlations of heavy-flavour hadrons.

In this talk preliminary results on the relative contribution of electrons from beauty decays to the heavy-flavour single electron yield will be shown, along with the charm and beauty production cross section in pp collisions at $\sqrt{s} = 2.76$ TeV. These measurements will be compared to FONLL calculations. We also show results from the correlation analysis of D mesons and hadrons performed using pp collisions at $\sqrt{s} = 7$ TeV. Finally we discuss the status of heavy-flavour electron and charged hadron correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV.

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