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Measurement of heavy-flavour decay electrons in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with the ALICE ElectroMagnetic Calorimeter at the LHC

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The Quark-Gluon Plasma (QGP) is a high-density state of strongly-interacting matter in which partons are deconfined. This state of matter can be studied experimentally via heavy-ion collisions where the critical temperature and density for the phase transition to the QGP can be attained. Measurements of heavy-flavour (charm and beauty) production in these collisions are of particular interest. Heavy quarks are indeed produced in the early stages of the collision and experience therefore the whole evolution of the system. The ALICE collaboration has measured electrons from heavy-flavour hadron decays in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV at mid-rapidity. A strong suppression of the yield of heavy-flavour decay electrons at high p_T is observed in 0 – 10% most central collisions. Measurements of heavy-flavour production in p-Pb collisions are crucial to understand cold nuclear matter effects on the production in heavy-ion collisions. The production of electrons from heavy-flavour hadron decays has been measured with ALICE in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. Electrons have been identified with the Time Projection Chamber and the Electromagnetic Calorimeter (EMCal). In addition, the EMCal provided a trigger during the p-Pb run of the LHC. The trigger enhances the recorded sample of rare probes, such as high p_T photons and electrons. The trigger will allow us to extend the p_T reach for heavy-flavour decay electron measurements. We will show results from the heavy-flavour decay electron measurement using the EMCal.

On behalf of collaboration:

ALICE

Author: JAHNKE, Cristiane (Universidade de Sao Paulo (BR))

Presenter: JAHNKE, Cristiane (Universidade de Sao Paulo (BR))

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