Contribution ID: **246** Type: **not specified**

Measurement of open heavy-flavour production in pp and p-Pb collisions with ALICE at the LHC

Sunday, 3 September 2017 15:15 (25 minutes)

Heavy quarks (charm and beauty) are sensitive probes to study the properties of the hot Quark-Gluon Plasma (QGP) produced in high-energy heavy-ion collisions. Due to their large masses, they are produced in the initial state of the collision predominantly by gluon fusion processes, so that they explore the entire evolution of the produced system of strongly interacting matter. The Large Hadron Collider at CERN allows us to study heavy-ion collisions at an unprecedented energy. ALICE, A Large Ion Collider Experiment, is the experiment dedicated to the investigation of heavy-ion collisions. The measurements of heavy-flavour production in pp collisions are important to test predictions from perturbative QCD and provide an essential baseline for the studies in heavy-ion collisions. Differential studies of their production as a function of the multiplicity of charged particles produced in the collision can give insight into multi-parton interaction phenomena, and into the interplay between hard and soft processes. The study of heavy-flavour production in p-Pb collisions is also required to disentangle the influence on particle production of cold nuclear matter effects from those related to the formation of a QGP in Pb-Pb collisions. In this talk, we will present recent open heavy-flavour results from pp collisions at √s= 5.02, 7, 8 and 13 TeV and p-Pb collisions at √sNN = 5.02 TeV, collected with the ALICE detector during the LHC Run-1 and Run-2. The results include the production cross section, nuclear modification factor and multiplicity dependence studies of D mesons and electrons from heavy-flavour hadron decays at mid-rapidity and of muons from heavy-flavour hadron decays at forward rapidity. Charm production was measured down to pT = 0 in pp and p- Pb collisions. Recent measurements of the production cross section of heavy charmed baryons such as Λc (in pp and p-Pb) and Xic (in pp), the first heavy-ion measurements of charmed baryon at the LHC, will also be discussed. The results will be compared with the theoretical model predictions.

Presenter: BALA, Renu (University of Jammu)

Session Classification: Hot and dense matter physics (QGP and heavy ion collision)

Track Classification: 1) Hot and dense matter physics (QGP and heavy ion collision)