Contribution ID: **46** Type: **Oral**

Measurement of heavy-flavours as a function of charged-particle multiplicity with ALICE at the LHC

Thursday, 6 December 2018 17:40 (20 minutes)

Heavy flavours (charm and beauty) quarks are produced in the early stages of ultra-relativistic collisions via hard scatterings and are an important tool for studying different aspects of Quantum Chromodynamics (QCD) in hadronic collisions. Charged-particle multiplicity gives information on the global characteristics of the event and can be exploited to investigate the possible influence of the event hadronic activity on particle production. At LHC energies, the measurement of heavy-flavours as a function of charged-particle multiplicity gives insight into the mechanisms which influence their production in hadronic collisions at these energies and is a tool to test the possible role of multi-parton interactions. In ALICE, heavy-flavour production is measured at central rapidity in the hadronic and electronic decay channels as well as at forward rapidity in the muonic decay channel. Charged-particle multiplicity is measured at central and forward rapidity. We will present the results on heavy-flavour production as a function of charged-particle multiplicity in pp collisions at 7 TeV, 8 TeV and 13 TeV as well as in p-Pb collisions at 5.02 TeV and 8.16 TeV. The results will also be compared to quarkonia measurements as well as theoretical model calculations.

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Session Classification: Parallel 10