

Multiplicity dependence of identified hadron production in pp collisions at $\sqrt{s} = 7$ TeV in the ALICE at LHC

Wednesday, 17 February 2016 16:30 (20 minutes)

Recent measurements in proton-lead (p-Pb) and high-multiplicity proton-proton (pp) collisions show some collective features that are similar to those observed in Pb-Pb collisions. We report the production of charged light flavour, strange and multi-strange hadrons ($\pi, K, p, \Lambda, \Xi, \Omega$) at mid rapidity as a function of event multiplicity in pp collisions at $\sqrt{s} = 7$ TeV using the ALICE detectors. In the p_T -differential baryon to meson ratios ($p/\pi, \Lambda/K_s^0$), an enhancement of baryon production at intermediate p_T is observed in high-multiplicity pp collisions. This behavior is qualitatively similar to earlier measurements performed in p-Pb and Pb-Pb collisions as a function of event activity. The production rate of strange and multi-strange hadrons relative to pions exhibits a significant increase with multiplicity in the smaller colliding systems of pp and p-Pb, pointing to similar mechanisms at play in pp and p-Pb collisions. The results are also compared with QCD inspired model calculations.

Primary authors: NAYAK, Kishora (National Institute of Science Education and Research (IN)); FOR THE ALICE COLLABORATION

Presenter: NAYAK, Kishora (National Institute of Science Education and Research (IN))

Session Classification: Session 11