

Energy and multiplicity dependence of strange and non-strange particle production in pp collisions at the LHC with ALICE

Thursday 13 July 2017 11:10 (20 minutes)

The study of energy and multiplicity dependence of hadron production in proton-proton (pp) collisions provides a powerful tool to understand similarities and differences between small and large colliding systems. In this talk we present new mid-rapidity measurements of the p_T distributions and yields of unidentified charged hadrons as well as of pions, kaons, protons, K_S^0 , Λ , Ξ and Ω in pp collisions at $\sqrt{s} = 5.02, 7$ and 13 TeV.

The comparison of results at $\sqrt{s} = 13$ TeV to earlier results at 7 TeV provides insights about the energy dependence of the strangeness enhancement. The multiplicity dependence is studied using various multiplicity estimators, in the forward and central rapidity regions, to understand possible selection biases. The production at high p_T of strange mesons and baryons, as well as of inclusive charged particles, is compared to other hard processes, such as D-meson and J/ψ production. Comparisons between data and expectations from commonly-used Monte Carlo event generators will be presented. The extension of some of these measurements to very high multiplicity events (comparable to multiplicity in peripheral Pb-Pb collisions) will be also discussed.

List of tracks

Small systems (pA)

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Session Classification: Parallel Small systems

Track Classification: Small systems (pA)