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Identified light flavor particle production in "jetty" and "isotropic" pp collisions at √s = 13 TeV with ALICE at the LHC

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Identified light flavour particles, such as the π, K, ϕ mesons and the p, Λ, Ξ baryons, constitute interesting probes to investigate the collective behaviour recently observed in small collision systems. The underlying mechanisms of light flavour production are currently not well understood, and the mechanisms are explained in the framework of different models. pQCD models based on hard scatterings, such as PYTHIA, describe light flavour production via string-breakings and rope hadronization. Other thermal and statistical models, mainly dominated by soft processes, predict a mechanism for the production of light flavour particles based on mass hierarchies in (grand) canonical ensembles.

This analysis is aimed to disentangle and isolate events that are dominated by soft processes ("isotropic") and hard processes ("jetty") by using the transverse spherocity observable. The light flavour production is then studied in both events with jet-like topologies and isotropic topologies, which are assumed to be dominated by hard and soft processes, respectively. This is done in an effort to pin-point the underlying mechanisms of the collective behaviour observed in small systems, such as radial flow and long-range angular correlations.

In this contribution we report about the measurement of transverse momentum spectra of strange and non-strange mesons and baryons in transverse spherocity selected events. The results are obtained by exploiting the data collected with ALICE in pp collisions at a center-of-mass energy, $\sqrt{s}$, of 13 TeV.

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