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Light-Flavour and Strangeness Production in Small Systems at the LHC with ALICE

Recent measurements of light-flavour particle production in small collision systems (pp and p-Pb) at LHC energies revealed features such as collective behaviour and strangeness enhancement, typically seen in nucleus-nucleus collisions. These effects seem to be correlated to charged-particle multiplicity, regardless of the collision system. For this reason, it is important to investigate small systems at both high and low multiplicity to extend our understanding of the particle production mechanisms. This contribution presents recent results on light-flavour

(multi-)strange hadron production in pp collisions at $\sqrt{s} = 0.9$ TeV and 13.6 TeV, collected during ALICE Run 3. These data allow for a more comprehensive study of strangeness production, investigating the system size dependence across a broad range of multiplicities and energies, including the lowest LHC collision energy.

(Multi-)strange-to-non-strange hadron yield ratios in pp collisions, measured up to multiplicity levels similar to those in peripheral Pb-Pb collisions, provide insights into strangeness enhancement and its dependence on the collision system size.

Category

Experiment

Collaboration (if applicable)

ALICE

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