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Type: **Talk**

Strangeness Production in Small Collision Systems at ALICE

Friday 5 August 2022 09:30 (30 minutes)

An enhanced production of strange over non-strange hadrons (strangeness enhancement) was one of the first experimental signatures of the formation of quark-gluon plasma (QGP). The ALICE experiment at the LHC observed such an enhancement in strangeness production in heavy ion collisions at $\sqrt{s_{NN}} = 2.76$ TeV, contributing to the evidence that a QGP had been formed at LHC energies.

Unexpectedly, an enhanced strangeness production was also measured in high multiplicity pp and p-Pb collisions, where some theoretical models do not predict QGP formation. By comparing strangeness enhancement as a function of multiplicity, the ALICE experiment observed smooth transitions going from pp to p-Pb and Pb-Pb collisions.

This contribution, shows new results on the production yield, transverse momentum spectra and nuclear modification factor of (multi) strange hadrons produced in p-Pb collisions at $\sqrt{s_{NN}} = 8.16$ TeV. New results on multi-differential analyses of strange production in pp collisions that helps in the understanding of strangeness production in small collision systems will also be shown. Finally, we compare the measurements to the available state-of-the-art phenomenological models implemented in Monte Carlo generators.

Preferred track

Collectivity & Multiple Scattering

Subfield

Heavy-ion experiment

Attending in-person?

Yes

On behalf of collaboration?

ALICE Collaboration

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