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Production of strange and multi-strange particles with ALICE experiment at LHC

A transition of nuclear matter to a state of deconfined quarks and gluons
(the Quark Gluon Plasma) occurs at sufficiently high-energy densities and temperatures. This is achieved in the laboratory by reaching these conditions with collisions of heavy nuclei in which an enhancement in the production of strange hadrons with respect to the small collision systems is observed.
Since the valence strange quarks are not present prior to the collision, the production of strange particles such as single-strange mesons or single-strange and multi-strange baryons and their antiparticles provides a unique opportunity to investigate QCD, the theory of strongly interacting matter. This contribution presents transverse-momentum distributions and production rates of strange particles measured in Run 1 and Run 2 data-taking periods.
The results presented were obtained in collisions at energies ranging from $\sqrt{s}$ = 0.9 TeV (first ALICE pp measurements) up to $\sqrt{s}$NN = 5.02 TeV in Pb-Pb systems and $\sqrt{s}$ = 13 TeV in pp systems. Normalized spectra and integrated yields are compared to predictions of different tunes of QCD Monte Carlo simulations, statistical-thermal models and results from previous experiments.

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