

Observation of an enhanced production of (multi)-strange hadrons in high multiplicity proton-proton collisions with ALICE

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In a paper recently published in *Nature Physics*, the ALICE collaboration reported the observation of an enhanced production of (multi-strange) hadrons in high multiplicity proton-proton collisions at LHC energies. Similar effects have long been known from heavy-ion collisions. Originally proposed as a direct signature of quark-gluon-plasma (QGP) creation, the observation of these effects in heavy-ion collisions is nowadays understood as a consequence of particle production from a fireball which can be well described by a hadron resonance gas in local thermal equilibrium. Surprisingly, production rates of strange particles, which are comparable to those in Pb-Pb collisions, have now been observed in high multiplicity proton-proton collisions. These findings thus constitute another striking similarity between heavy-ion collisions on one hand and high multiplicity proton-proton and proton-Pb collisions on the other. After a short historical review of the evolution of the understanding of Strangeness enhancement as a signature of QGP formation, the potential presence of a QGP in high multiplicity pp collisions will be critically discussed.