



Contribution ID: 44

Type: Poster

ALICE results on radial flow in small and large systems

In ultra-relativistic heavy-ion collisions at LHC energies, a strongly interacting Quark-Gluon-Plasma (sQGP) is produced. This sQGP behaves like a perfect liquid and its hydrodynamic expansion gives rise to radial flow in heavy-ion collisions. However, similar phenomena have recently also been observed in small collision systems (pp and p–A). Current research therefore tries to identify the underlying mechanisms which lead to collective behaviour and whether a unified description of the pp, p–A and A–A data can be established.

In this poster, an overview of new results from the ALICE Collaboration, which contribute to the understanding of radial flow, will be presented. The ALICE Collaboration has measured the centrality dependence of the transverse momentum (p_T) distributions of inclusive charged particles and identified pions, kaons, and protons in Pb–Pb collisions at the unprecedented collision energy of 5.02 TeV. The results will be compared to Pb–Pb data at lower energy, as well as to analogous measurements using p–Pb and pp data at 5.02 and 7 TeV, respectively. The system size dependence of radial flow will be discussed and comparisons with models will be shown.

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Session Classification: Poster session

Track Classification: Heavy Ions