



Contribution ID: 79

Type: Oral

Investigation of collectivity in small collision systems with ALICE

Wednesday, 26 June 2019 15:20 (20 minutes)

Measurements of anisotropic flow in heavy-ion collisions are an important tool to investigate the nature of the created collectively expanding medium called the Quark-Gluon Plasma (QGP). Recently, striking similarities have been observed in numerous measurements in high multiplicity proton-proton and proton-lead collisions, where no such medium was expected.

In this talk, we will present the latest ALICE measurements of flow coefficients, and their magnitude correlations using Symmetric Cumulants for charged particles in pp collisions at $\sqrt{s} = 13$ TeV, p-Pb at $\sqrt{s_{NN}} = 5.02$ TeV, Xe-Xe at $\sqrt{s_{NN}} = 5.44$ TeV and Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV, collected during the Run 2 LHC data taking period. In addition, the flow coefficients of identified particles in p-Pb collisions will be presented. Non-flow effects, which are azimuthal correlations not originating from a common symmetry plane, are suppressed with a pseudorapidity separation and a subtraction method. Both methods are particularly important for studies of collectivity in small systems. The results from a broad spectrum of colliding systems and wide range of multiplicity are compared to various theoretical models, providing a deep insight into initial conditions and the nature of collective phenomena in different collision systems.

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Session Classification: Parallel: Collectivity in small systems 1

Track Classification: Collectivity in small systems