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Measurement of flow harmonics, nonlinear flow response and symmetric cumulants in large and small systems with ALICE

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Anisotropic flow is a key probe of the existence of the quark-gluon plasma. Small collision systems, such as proton-proton (pp) and proton-lead (p–Pb), are usually used to provide the reference data for collisions of heavy nuclei. However, inspection of high-multiplicity p–Pb and pp collisions revealed surprising features, usually attributed to collective effects in heavy-ion collisions.

In this poster, recent results on flow harmonics, nonlinear flow response and symmetric cumulants with the ALICE detector at the LHC will be presented. The observables characterize the properties of the strongly interacting matter. The properties include nonlinear response to initial geometry, event plane correlations and flow fluctuations. The observables are measured in both large systems (Pb–Pb, Xe–Xe) and small systems (p–Pb, pp) to show the asymptotic behavior of the flow-like effects from large to small systems.

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