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Collective dynamics of heavy ion collisions in ATLAS

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This talk gives an overview of the latest measurements of collective behavior in a variety of collision systems with the ATLAS detector at the LHC, including pp collisions at 13 TeV, Xe+Xe collisions at 5.44 TeV, and Pb+Pb collisions at 5.02 TeV. These include measurements of vn-[pT] correlations in Xe+Xe and Pb+Pb, which carry important information about the initial-state geometry of the Quark-Gluon Plasma and can potentially shed light on any quadrupole deformation in the Xe nucleus; measurements of flow decorrelations differential in rapidity, which probe the longitudinal structure of the colliding system; and measurements of the sensitivity of collective behavior in pp collisions to the presence of jets, which seek to distinguish the role that semi-hard processes play in the origin of these phenomena in small systems. These measurements furthermore provide stringent tests of the theoretical understanding of the initial state in heavy ion collisions.

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