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Type: **Parallel session talk**

## Measurements of collective behavior in pp, Xe+Xe, and Pb+Pb collisions with the ATLAS detector

*Monday 26 July 2021 17:00 (15 minutes)*

This talk presents ATLAS measurements of collective, flow phenomena in a variety of collision systems, including pp collisions at 13 TeV, Xe+Xe collisions at 5.44 TeV, and Pb+Pb collisions at 5.02 TeV. A new measurement of  $v_n$ -[pT] correlations in Xe+Xe and Pb+Pb collisions is presented for harmonics  $n=2, 3$ , and 4. The correlation between the event-wise average transverse momentum ([pT]) and the harmonic flow ( $v_n$ ) carries important information about the initial-state geometry of the Quark-Gluon Plasma. Additionally, the potential quadrupole deformation in Xe+Xe is predicted to produce an initial state with enhanced shape and size fluctuations, and result in non-trivial change in the correlation. A measurement of the sensitivity of two-particle correlations in pp collisions to the presence of jets is presented. By rejecting particles associated with low-pT jets, this data can distinguish the role that semi-hard processes play in the collective phenomena observed in pp collisions.

### Collaboration / Activity

ATLAS

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