

# Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



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## Collective effects in pp collisions with the balance function of the identified particles

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Experiments at RHIC and the LHC have lately reported intriguing results that indicate the presence of collectivity in small collision systems. The first hints originated from two-particle azimuthal correlations studies. The charge dependent part of such correlations is studied using the balance function in the relative pseudorapidity ( $\Delta\eta$ ) and azimuthal angle ( $\Delta\phi$ ) of the particle pair. This measurement has been used as an effective tool to investigate the properties of the system created in high-energy heavy-ion collisions such as the hadronization time, the freeze-out conditions and to characterise its collective motion. In addition, the study of the balance function for different particle species in A-A collisions provides valuable insight to the chemical evolution of the QGP.

In this poster, we report the measurement of the balance function of identified particles in pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV recorded by ALICE. This analysis, performed as a function of multiplicity, is an important piece in understanding if the underlying physics phenomena of particle production are of a common origin across collision systems.

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