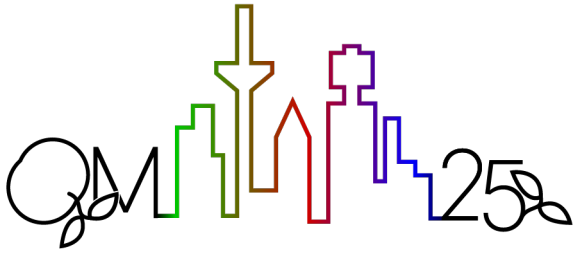

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To study the two-particle correlation functions $R_2(\Delta\eta, \Delta\varphi)$ and $P_2(\Delta\eta, \Delta\varphi)$ as a function of multiplicity and transverse spherocity in pp collisions at $\sqrt{s}$ =13 TeV

The study of the two-particle number correlation function, R_2, and the transverse momentum correlation function, P_2, has proven to be a crucial toolset to characterise the medium created during heavy-ion collisions. To complement the recent ALICE measurement in minimum-bias pp collisions, this contribution presents the study of multiplicity and transverse spherocity evolution of R_2 and P_2 correlation functions in terms of the relative pseudorapidity ($\Delta\eta$) and azimuthal angle ($\Delta\varphi$) of the pairs involved, in pp collisions at $\sqrt{s}$ =13 TeV. The measurements are carried out using the final-state charged particles with transverse momentum (p_{T}) and pseudorapidity (η) ranges $0.2 \leq p_{\mathrm{T}} \leq 2.0$ GeV/c and $|\eta| \leq 0.8$. Investigations of the different charge pairs correlation functions reveal significant changes in the near-side and away-side correlation peaks from the events with hard jet-like topologies to soft isotropic topologies. These results would improve our understanding of the jet contribution and related underlying event activities in small systems, while also establishing an essential baseline for heavy-ion collisions.

Category

Experiment

Collaboration (if applicable)

ALICE

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