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Two-particle angular correlations of identified particles in pp collisions at s√ = 13 TeV with ALICE

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The angular correlations between two particles in ΔyΔφ produced in high-energy collisions provide a wealth of information about the hadronization mechanisms and the evolution properties of the created system. This is achieved by a detailed study of the various physical phenomena that influence the structure and shape of the correlation functions. These phenomena, such as Bose-Einstein correlations, conservation laws, resonance decays, mini-jets, and others, generate correlation functions with characteristic properties, each with its own shape and dependence on pT and/or multiplicity.

Results of the angular correlation analysis in pp collisions at √s = 7 TeV showed anticorrelation for pairs of baryons with the same sign in the ΔηΔφ space in contrast to the theoretical predictions generated by the PYTHIA and EPOS models. To investigate this behavior and distinguish different physical contributions, it is useful to analyze the results at different multiplicities. In this work, the correlation function with different normalization method is used to study the combinations of the identified particles charges (i.e., π±, K± and p(¯p)) in pp collisions at √s = 13 TeV in four multiplicity classes.

Collaboration

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