

Midrapidity charged particle directed flow in PbPb collisions at $\sqrt{s_{\text{NN}}} = 2.76$ TeV measured with ALICE at the LHC

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Azimuthal anisotropic flow is a key observable indicating collectivity among particles produced in non-central heavy ion collisions. Directed flow is characterized by the first harmonic coefficient in the Fourier decomposition of the particle azimuthal distribution with respect to the collision reaction plane. It develops at a very early stage of the collision and thus is sensitive to the properties and the equation of state of the hot and dense matter produced in ion-ion collisions.

We report on results for midrapidity ($|\eta| < 0.8$) charged particle directed flow measured in lead-lead collisions at 2.76 TeV collision energy recorded with the ALICE detector at the LHC. The orientation of the collision reaction plane is reconstructed with the help of the spectator neutrons detected by the pair of ALICE Zero Degree Calorimeter detectors. Directed flow results obtained with different measurement techniques are presented as a function of collision centrality, charged particle transverse momentum, and pseudo-rapidity.

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