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Near-side jet peak broadening in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV

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Two-particle angular correlation measurements are sensitive probes of the interactions of the medium formed in heavy-ion collisions and the particles propagating through it. Such measurements are done by determining the distribution of the relative pseudorapidity ($\Delta\eta$) and azimuthal angle ($\Delta\varphi$) of particles with respect to a higher p_T trigger particle ($1 < p_{T,\text{trig}} < 8$ GeV/ c). The near-side peak is fitted, accounting for $\Delta\eta$ -independent long-range correlations, and the centrality evolution of the width (variance) of the fitted distribution is investigated. In Pb-Pb collisions a significant broadening of the near-side peak in the $\Delta\eta$ direction is observed from peripheral to central collisions, while in the $\Delta\varphi$ direction the peak is almost independent of centrality. For the 10% most central events, a departure from the Gaussian shape is also observed at low transverse momentum ($1 < p_{T,\text{assoc}} < 2$ GeV/ c , $1 < p_{T,\text{trig}} < 3$ GeV/ c). In this contribution the results obtained by the ALICE experiment in Pb-Pb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV will be shown, and they will be interpreted in terms of radial and elliptic flow by comparing them to AMPT model simulations.

Summary

Presentation type

Oral

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