

## Dihadron correlations in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with CMS

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Measurements of charged dihadron correlations from the CMS collaboration are presented for PbPb collisions at a center-of-mass energy of 2.76 TeV per nucleon pair over a broad range of pseudorapidity and the full range of azimuthal angle. With its large pseudorapidity coverage ( $|\eta| < 2.4$ ), the CMS tracker is ideally suited for detailed analyses of both short and long-range charged hadron correlations at the LHC. For the most central 0-5% collisions, a broadening of the away side ( $\Delta\phi > 1$ ) dihadron correlation is observed at all  $\Delta\eta$  when compared to pp collisions. A significant correlated yield is observed for pairs of particles with small  $\Delta\phi$  but large longitudinal separation  $\Delta\eta$ , commonly known as the “ridge”. The ridge persists up to at least  $|\Delta\eta| = 4$  and its effect is found to be stronger than what was previously observed at RHIC. The dependence of the ridge region shape and yield on transverse momentum and collision centrality has been measured. For particles of transverse momentum of 2–4 GeV/c, the ridge is found to be the most prominent when correlated to particles of 2–6 GeV/c, but disappears when correlated to 8–10 GeV/c particles. A Fourier analysis of the long-range two-particle correlations will be presented and discussed in the context of CMS measurements of higher order flow coefficients.

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