Pseudorapidity and transverse momentum dependence of flow harmonics in pPb and PbPb collisions

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Abstract

Measurements of azimuthal angular correlations are presented for high-multiplicity pPb collisions at root s(NN) = 5.02 TeV and peripheral PbPb collisions at root s(NN) = 2.76 TeV. The data used in this work were collected with the Compact Muon Solenoid (CMS) detector at the European Organization for Nuclear Research (CERN) Large Hadron Collider (LHC). Fourier coefficients as functions of transverse momentum and pseudorapidity are studied using the scalar product method; four-, six-, and eight-particle cumulants; and the Lee-Yang zero technique. The influence of event plane decorrelation is evaluated using the scalar product method and found to account for most of the observed pseudorapidity dependence.

Keywords

KeyWords Plus: SIDE ANGULAR-CORRELATIONS; PLUS AU COLLISIONS; QUARK-GLUON PLASMA; LONG-RANGE; 4-PARTICLE CORRELATIONS; NUCLEUS COLLISIONS; ANISOTROPIC FLOW; AU+AU COLLISIONS; TRIANGULAR FLOW; PROTON

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