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Studies of charge-dependent azimuthal correlations in search for the chiral magnetic effect in pPb and PbPb collisions at CMS

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Studies of charge-dependent azimuthal correlations for same- and opposite-sign particle pairs are presented in PbPb collisions at 5 TeV and pPb colisions at 5 and 8.16 TeV, with the CMS experiment at the LHC. The azimuthal correlations are evaluated with respect to the second- and also higher-order event planes, as a function of particle pseudorapidity and transverse momentum, and event multiplicity. By employing an event-shape engineering technique, the dependence of correlations on azimuthal anisotropy flow is investigated. New results presented provide new insights to the origin of observed charge-dependent azimuthal 1correlations, and have important implications to the search for the chiral magnetic effect in heavy ion collisions.

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