

FINAL STATE EFFECTS ON CHIRAL MAGNETIC EFFECTS IN RELATIVISTIC HEAVY-ION COLLISIONS

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Relativistic heavy-ion collisions generate not only hot quark-gluon plasma (QGP) but also an extremely large magnetic field due to the fast motion of the colliding ions. Under such a large magnetic field, a novel quantum phenomenon, chiral magnetic effect (CME), can possibly happen, which can result in charge separations along the direction of the magnetic field. However, can the CME survive from final state interactions of heavy-ion collisions? Within the framework of a multi-phase transport model, we demonstrate that the initial charge separation induced by the CME can be significantly reduced by the evolution of heavy-ion collisions. The final state effects on several other related topics, e.g. chiral magnetic wave and chiral electric separation effect, will be also presented.