

Abstract Submitted
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Two-particle short-range correlations relative to the reaction plane in Au+Au collisions at 200 GeV at RHIC/ STAR HAOCHEN YAN, UCLA, STAR COLLABORATION — High-energy heavy-ion collisions can create a hot and dense nuclear medium in which local domains could obtain a chirality imbalance. The chirality imbalance, together with a strong magnetic field, can induce an electric charge separation along the magnetic field direction, owing to the chiral magnetic effect (CME) [1]. The γ correlator measures the two-particle azimuthal correlations relative to the reaction plane, and provides a probe to the electric charge separation due to the CME. However, the γ correlator contains short-range correlations caused by other physics mechanisms, such as quantum effects, Coulomb interaction and resonance decays. In this poster, we decompose the γ correlator into two parts, along and across the reaction plane, respectively, and separate the contributions of particle pairs with small relative pseudorapidity (short range). The results will be presented for 200 GeV Au+Au collisions, and the physics implications on the short-range background will be discussed.1]D. Kharzeev, Phys. Lett. B 633 (2006) 260

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