Abstract Submitted
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Two-particle correlation distributions on transverse momentum in relativistic heavy-ion collisions[1] ROBERT RAY, University of Texas at Austin, STAR COLLABORATION — Two-particle correlation projections onto two-dimensional transverse momentum coordinates allow access to relativistic heavy-ion collision dynamics beyond that accessible in previous, complementary studies of two-particle angular correlations. We report charged-particle correlations from minimum-bias Au+Au collisions at $\sqrt{s_{NN}}$=200 GeV taken by the STAR experiment at RHIC. These new correlations are constructed using all charged particles within the STAR acceptance. Correlations are presented for like-sign and unlike-sign charge-pair combinations and for specific azimuthal angle projections. The major correlation features include a saddle shape and a peak extending from p_t = 0.5 to 4.0 GeV/c. The measurements are compared to HIJING and EPOS predictions. The features of the correlations are also described by a blast-wave model and a two-component fragmentation model, representing two distinct frameworks for understanding relativistic heavy-ion collisions [Ray and Jentsch, Phys. Rev. C **99**, 024911 (2019)]. Implications of these new measurements and analysis with respect to equilibration, the origin of transverse-momentum fluctuations, longitudinal and transverse parton fragmentation, and interactions within the dense, partonic medium are discussed.

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