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Two-particle number and transverse momentum correlations in Au-Au collisions at $\sqrt{s_{NN}}=62.4$ and 200 GeV¹ MICHAEL DAUGHER-ITY, The University of Texas at Austin, STAR COLLABORATION — A novel, minimally-biased two-particle correlation analysis of relativistic heavy-ion collisions is presented. Autocorrelations on relative pseudorapidity and azimuth are determined from analysis of STAR data for Au-Au collisions at $\sqrt{s_{NN}}=62.4$ and 200 GeV. The analysis method is extended from correlations on the number of pairs of particles to correlations on transverse momentum, and the results are compared and contrasted. Since this analysis does not require a high- p_t trigger, correlation structures associated with both (minimum-bias) jets and the bulk medium are observed. These structures are shown to evolve with centrality and energy in a way consistent with initial-state partonic scattering followed by strong interactions with the medium.

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