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Rapidity Dependence of Correlations in Nuclear Collisions in UrQMD PATRICK CARZON, GEORGE MOSCHELLI, Lawrence Tech Univ, SEAN GAVIN, BILL LLOPE, CHRIS ZIN, Wayne State University — The rapidity dependence of two-particle momentum correlations can be used to probe the viscosity of the liquid produced in heavy ion collisions at the Relativistic Heavy Ion Collider (RHIC). In addition, the differential rapidity structure of these correlations can be used to measure the isotropization time scale τ_π of this liquid [1]. While experimental measurements are constrained to a narrow rapidity window, simulated events allow for the investigation of these correlations in experimentally inaccessible regions. Simulating Au-Au events at $\sqrt{s} = 200$ GeV with UrQMD we look for features of momentum correlations that can help constrain theories. Moreover, while earlier theory and measurements focused on correlations of the transverse momentum, p_t , the interpretation of these measurements is ambiguous because p_t is not a conserved quantity. We further explore, correlations of the Cartesian components of transverse momenta, p_x and p_y which easier to understand because they are conserved [1,2]. [1] Sean Gavin, George Moschelli, Christopher Zin, Phys. Rev. C 94 (2016) no.2, 024921 [2] Scott Pratt, Soeren Schlichting, Sean Gavin, Phys. Rev. C84, 024909 (2011).

Patrick Carzon
Lawrence Tech Univ

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