Abstract Submitted
for the OSF20 Meeting of
The American Physical Society

Transverse Momentum Fluctuations in Longitudinal Asymmetric System.[1] AHMED KHUBRANI, Wayne State University; jazan university, SEAN GAVIN, Wayne State University, GEORGE MOSCHELLI, Lawrence Technological university, ZOULFEKAR MAZLOUM, Wayne State University — Correlation measurements in nuclear collisions provide new information on the interplay of dissipation and fluctuations in the quark gluon plasma. Viscous diffusion and thermal noise can broaden the rapidity dependence of two-particle transverse momentum correlations. In this presentation we develop a new method for computing these correlations using the second order Israel-Stewart hydrodynamic with stochastic noise. We further expand this method invoking third order diffusion equations to enforce causality and generalization to asymmetric system. We compare new calculations to recent measurements by the ALICE collaboration at the LHC and the STAR collaboration at RHIC.

[1]Transverse Momentum Fluctuations in Longitudinally System

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Date submitted: 04 Oct 2020 Electronic form version 1.4