Abstract Submitted
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Explorations of the nuclear matter phase diagram via azimuthal anisotropy scaling functions[1] ROY LACEY, Stony Brook University — Azimuthal anisotropy scaling functions give unprecedented insights into the expansion dynamics of the fireballs created in ion-ion collisions at RHIC and the LHC. They also provide unmatched constraints for charting the phase structure of the QCD phase diagram, as well as the thermodynamic and transport properties of the respective QCD phases. I will first discuss the rudiments of Azimuthal Anisotropy Scaling Functions (AASF). Then, I will show that ALL of the existing anisotropy data at RHIC and the LHC, spanning different systems [large and small], beam energies, collision centralities, transverse momentum, identified particles, etc., lead to such scaling functions and their associated scaling coefficients. These scaling coefficients provide new and unique constraints for the detailed characterization of both the phase structure of the QCD phase diagram and the transport properties of its respective phases.

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