

Abstract Submitted
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PHENIX Measurement of Particle Yields at High pT with Respect to Reaction Plane in Au+Au collisions at $\sqrt{s} = 200$ GeV DAVID WINTER, Columbia University — One of the most intriguing puzzles in RHIC physics is the origin of the azimuthal anisotropy of particle yields at high pT (> 5 GeV/c). Traditional flow and parton energy loss pictures have failed to describe the magnitude of this anisotropy. Measurement of the azimuthal asymmetry v_2 at high pT will shed light on the contributions from flow, recombination, and energy loss, as well as the transition from soft to hard production mechanisms. The PHENIX Run4 dataset provides a powerful opportunity for exploring the angular anisotropy of identified particle yields at high pT. Complementing traditional v_2 measurements, we present π^0 and η yields as a function of angle with reaction plane, up to pT of at least 10 GeV/c. The centrality dependence of the angular anisotropy allows us to probe the density and path-length dependence of the energy loss of hard-scattered partons. We will discuss various mechanisms for particle production in this high pT region.

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