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Type: 2a) Jets and high-pT hadrons (TALK)

## Event-plane dependent away-side jet-like correlation shape in 200 GeV Au+Au collisions from STAR

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A strongly coupled quark-gluon plasma (QGP) is created in relativistic heavy-ion collisions. Jets are a good probe of the energy loss properties of the QGP experienced by hard partons traversing the medium. Experimentally we take high transverse momentum  $(p_T)$  trigger particles as proxies of jets. The jet-like yield of high- $p_T$  particles found in correlations with respect to highly energetic back-to-back partons is significantly suppressed. In-medium path length that the recoil (away-side) parton traverses is expected to depend on its emission azimuthal angle with respect to the event plane (EP) in non-central Au+Au collisions. The purpose of this analysis is to investigate the EP dependence of jet energy loss.

Measurements of jet-like correlations are complicated by the large underlying anisotropic flow background. In this analysis, we require a large recoil  $(P_x)$  within a specific pseudo-rapidity  $(\eta)$  range from a high- $p_T$  trigger particle to enhance in-acceptance population of away-side jet-like correlations. We subtract the flow background by taking the difference of the two-particle correlation in the close-region and far-region with respect to the  $\eta$  region of  $P_x$ . The close and far-region are symmetric about mid-rapidity. We analyze the correlation shape as a function of the trigger particle azimuthal angle relative to the EP reconstructed from the beam-beam counters (BBCs) which are displaced by several units in  $\eta$  from the mid-rapidity region. The large  $\eta$  gap can effectively eliminate the correlation between trigger particles and EP.

We correct for the relatively large resolution effect from the BBC EP determination via an unfolding procedure. EP dependent away-side jet-like correlation shapes and their implications for jet-medium interactions will be discussed.

## Summary

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