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**Di-Hadron Azimuthal Correlations Relative to the Reaction Plane** AOQI FENG, Purdue University/IOPP, STAR COLLABORATION — Modification of di-hadron azimuthal correlations at large transverse momenta are a powerful tool to study the properties of the QCD matter created at the Relativistic Heavy-Ion Collider. The away-side correlation is observed to be strongly suppressed at intermediate to high  $p_t$  and enhanced at low  $p_t$ , indicating strong interactions between high energy partons and the created bulk medium (jet quenching). It was further observed that the away-side di-hadron azimuthal correlation is less suppressed when the high  $p_t$  trigger particle is oriented in the reaction plane than perpendicular to the reaction plane, qualitatively consistent with the pathlength dependence of jet quenching. In this analysis, we compare the correlations between in- and out-of-plane at low associated  $p_t$ . We also study the evolution of the correlation with respect to the orientation of the trigger particle relative to the reaction plane. we report on the status of an analysis of di-hadron azimuthal correlations relative to the reaction plane with increased statistics from RHIC. These studies will provide new inputs to our understanding of the jet-quenching phenomenon and the role of the geometry.

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