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Reaction plane dependence of inclusive photon-hadron $\Delta\phi$-$\Delta\eta$ correlation in Au+Au $\sqrt{s_{NN}}$=200 GeV collisions at RHIC-PHENIX
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— Quark Gluon Plasma (QGP) is the phase composed of de-confined quarks and gluons of which interaction is described by QCD, and is formed by relativistic heavy ion collision. In QGP medium, back-to-back jet arises as a consequence of hard parton-parton scattering. In the process of the propagation of back-to-back partons, the effects of the parton-medium interactions should depend on the path length the parton travel through the matter, which is determined by the initial scattering point and the direction of the momentum vector. Furthermore, away side wide azimuthal angle correlation (possible Mach cone) and near side wide eta correlation (ridge) have been seen with respect to the trigger particle. In order to understand these phenomena, 2-dimensional analysis of $\Delta\phi$-$\Delta\eta$ is useful especially with centrality and reaction plane dependence. In this presentation, we show the current analysis status of inclusive photon-hadron $\Delta\phi$-$\Delta\eta$ correlation as a function of the centrality and the trigger photon angle from reaction plane.

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