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Measurements of azimuthal anisotropy for high p_T charged hadrons in Au+Au collisions at $\sqrt{s_{NN}} = 200\text{GeV}$ at RHIC-PHENIX

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The azimuthal anisotropy coefficient v_2 is a good tool to investigate properties of the QGP not only to study collective flow, but also the energy loss of hard scattered partons. For non-central collisions, the collision area has an elliptic shape. When the hard scattered partons created in the collision are emitted, they have different path-lengths interacting with QGP depending on the orientation with respect to the reaction plane, azimuth, which results in the difference of the yields of high transverse momentum (p_T) particles in in-plane and out-of-plane. Therefore, the energy loss mechanism can be investigated by measuring the v_2 at high p_T .

We have recently improved the precision of the v_2 measurement by reducing background tracks using the silicon vertex tracker installed in PHENIX. In this presentation, I discuss the collision centrality dependence and p_T dependence of charged hadron v_2 in Au+Au collisions at $\sqrt{s_{NN}}=200\text{GeV}$ from the data collected by PHENIX during the RHIC Year-2011 run.

Summary

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