Abstract Submitted
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Λ-hadron azimuthal correlations in Au+Au collisions at $\sqrt{s_{NN}}$ = 39 GeV at STAR MATTHEW CHU, UCLA, STAR COLLABORATION — Parity-odd domains are predicted to lead to charge separation of quarks along the orbital momentum of the system created in non-central relativistic heavy ion collisions [1]. A measurement consistent with several theoretical expectations has been reported by STAR [2]. The measurement, which is based on a three particle azimuthal correlator – a $P-$even observable, is sensitive to the charge separation effect. The published results analyzed the correlations between all charged particles. A replacement of the first particle with a neutral particle, Λ ($\bar{\Lambda}$), will provide an important systematic check. In RHIC run2010, high statistics of Au+Au collisions at 39 GeV have been taken by STAR, and that enables us to carry out the beam-energy scan of the correlation measurement. In this poster, we present the preliminary measurement of Λ-hadron azimuthal correlations as a function of centrality for Au+Au collisions at 39 GeV, and we will also discuss possible physics implications of the measurement.

[1] D. Kharzeev, Phys. Lett. B 633, 260 (2006).
[2] B. I. Abelev et al., Phys. Rev. C81 (2010) 54908.

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