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## Charge dependent azimuthal correlations of K-Pi pairs at STAR

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Three-particle correlations have been used to probe for local parity violation (LPV) in the quark-gluon plasma (QGP) formed during Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV at RHIC [1]. Further expanding on this analysis, we present our results on looking at these correlations through pairing kaons and pions produced during the collision events (while fixing the third particle to be another pion). The idea behind looking at kaon-pion (K-Pi) correlations is that the two-body correlations between these distinct particles are weaker than those between pions with themselves. It may be that the tendency of two pions to be emitted at small angles to one another can be an important ingredient in a strong interaction background [2]. Hence, looking at K-Pi correlations may reduce potential effects from such backgrounds and possibly other parity-even effects that may contribute to the three-particle correlator.

We present charge dependent azimuthal correlations between pions and kaons identified by using the Time-Of-Flight detector as a function of centrality,  $\delta\eta$  and  $\delta\phi_T$  between pairs in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV. Modifications depending on elliptic flow are also applied to the correlators as an additional measure to possibly reduce P-even background effects on the three-particle correlators.

[1] B. I. Abelev et al., Phys. Rev. C81 (2010) 54908.

[2] S. Schlichting and S. Pratt, arXiv:1005.5341v3 [nucl-th] (2010).

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