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Search for long range angular correlations in high-multiplicity p+p collisions at $\sqrt{s} = 200$ GeV from PHENIX

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Long range angular correlations have been found in $d + Au$ and ${}^3He + Au$ collisions at RHIC energies, and in $p + p$ and $p + A$ collisions at LHC energies. To have a better understanding of whether quark-gluon plasma could be formed and collective behavior could arise in small systems motivates this study to see if such correlations also exist
in $p+p$ collisions at RHIC energies. With the implementation of a high-multiplicity trigger using the forward silicon detector(FVTX), the PHENIX collaboration has taken several hundred million high multiplicity events for $p + p$ collisions at $\sqrt{s} = 200$ GeV. The correlation results will be shown as a function of transverse momentum and charged particle multiplicity.

This poster presents first results on two-particle angular correlations for charged particles emitted in $p + p$ collisions at center-of-mass energy of 200 GeV.

On behalf of collaboration:

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