

STAR measurements on charge-dependent correlations at 27 GeV and implications on search for the Chiral Magnetic Effect at lower collision energies

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Abstract

The observability of the Chiral Magnetic Effect in heavy-ion collisions has been argued to strongly depend on collision energy because of the variations in the lifetime of magnetic field, the domain size of chiral charge and also on the possibility of formation of a medium with deconfinement and chiral symmetry restoration. While isobar analysis at top RHIC energy is ongoing, in this poster we present an analysis of high statistics data of Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV taken by STAR in 2018. In this poster, we will present results on different harmonics of charged dependent two- (V_n) and three-particle angular correlations ($\gamma_{1,m,n}$) using the newly installed event plane detector (EPD) which has better resolution compared to previously used BBC. These new measurements with improved precision will be compared to Beam Energy Scan I data and provide important insights on the search for CME at lower collision energies.