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Charge separation in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV at STAR

Monday 4 November 2019 17:40 (20 minutes)

In this poster, we will present measurements of event-by-event charge separation in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV using Sliding Dumbbell Method (SDM). The charge dependent three-particle correlator ($\gamma = \langle cos(\phi_a + \phi_b - 2.\Psi_{RP})\rangle$) which is the observable for Chiral Magnetic Effect (CME) [1] is investigated for each centrality interval which is further divided into ten bins depending on the charge separation based on SDM. An attempt is made to get CME enriched sample for each centrality. The background estimation is obtained by reshuffling the charges of particles and also by randomising the azimuthal angles of particles in an event. Physics implications will be discussed.

[1] S.A.Voloshin, Phys. Rev. C 70 (2004) 057901.

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