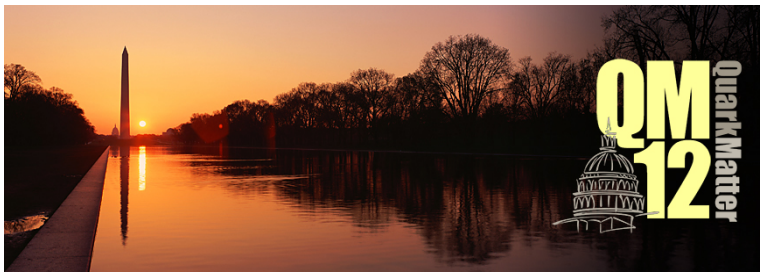

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Charge balancing and the fall off of the ridge

Tuesday 14 August 2012 18:05 (20 minutes)

The puzzle of the fall-off of the same-side ridge in relative pseudorapidity, found in unbiased two-particle correlations, is solved. We show that the event-by-event hydrodynamics followed by statistical hadronization with proper charge conservation provides the crucial non-flow component and leads to agreement with the data at soft transverse momenta (p_T < 2 GeV). The fall-off of the same-side ridge follows from the fact that a pair of particles with opposite charges is emitted from the same fluid element, whose collective velocity collimates the momenta of the pair. Basic experimental features of the two-dimensional correlation functions are then represented, including the dependence on the relative charge (like-sign and unlike-sign pairs) and centrality. Related quantities, such as the charge balance functions or the dependence of the harmonic flow coefficients on relative pseudorapidity, are also properly explained in our approach.

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