

Contribution ID : 116

A novel study of CP violation in the quark-gluon plasma at RHIC using the PHENIX detector

Content :

A new method is presented for the quantitative measurement of charge separation about the reaction plane. A correlation function is obtained whose shape is concave when there is a net separation of positive and negative charges. Correlations not specifically associated with a charge separation, do not influence the shape or magnitude of the correlation function. Detailed simulations are used to demonstrate the effectiveness of the method for the quantitative measurement of charge separation. Such measurements are a pre-requisite to the investigation of topological charge effects in the QGP leading to local CP violation. Results are presented for the application of the method to the PHENIX data from 200 GeV Au+Au collisions at RHIC.

Collaboration :

PHENIX

Primary authors : Dr. AJITANAND, Nuggehalli (SUNY Stony Brook)

Co-authors :

Presenter : Dr. AJITANAND, Nuggehalli (SUNY Stony Brook)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--