

Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

Unveiling properties of the QGP with Multi-Particle Correlations from the PHENIX Experiment NUGGEHALLI AJITANAND, SUNY Stony Brook, PHENIX COLLABORATION — There is ample evidence to suggest that in heavy ion collisions at RHIC a strongly interacting state of matter resembling a near-perfect liquid (termed sQGP) is formed. It is conjectured that jet interactions can excite Mach-cone-like features in such a medium. In this study we present results of multi-particle correlations from the PHENIX experiment which are capable of discerning the presence of such exotic in-medium effects. In particular, details of three-particle correlation studies and the estimates of the sound speed that they provide, will be presented. Finally, the special case of these correlations when one of the particles is constrained by the reaction plane, will be discussed.

Nuggehalli Ajitanand
SUNY Stony Brook

Date submitted: 30 Jun 2008

Electronic form version 1.4