Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

What kind of sQGP is the matter created at RHIC and LHC?[1]
JINFENG LIAO, BNL & Rice University & RBRC — One of the main discoveries at RHIC is the so-called "perfect fluid," and one of the most interesting things to see at LHC is whether and how such "perfect fluid" property will change at much higher collisional energies. I argue these will provide unique opportunity to answer theoretical question about the nature of sQGP. I will discuss two very different scenarios for the QGP in the temperature range from RHIC to LHC: (1) sQGP as a "see-saw"-QGP of its electric and magnetic components, which is inspired by the deep and generic Electric-Magnetic duality in field theories; (2) sQGP as a super-strong-QGP, which may have a holographic dual in one form or another due to the strong coupling. The two scenarios predict different medium properties (viscosity, and opacity to hard probes) with increasing temperature from RHIC to LHC, therefore making them distinguishable at the upcoming LHC top energy PbPb collisions. The first hints of a possible change in created matter's structure at LHC 2.76TeV collisions as well as expectations for 5.5TeV collisions will be discussed.

[1]Supported under DOE Contract No. DE-AC02-98CH10886.

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Date submitted: 14 Jul 2011 Electronic form version 1.4