

Abstract for an Invited Paper
for the DNP07 Meeting of
The American Physical Society

Quark Gluon Plasma: Experiments With Strings Attached?

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Experiments have shown that the hot partonic matter formed in heavy ion collisions at RHIC has substantial collective flow and is highly opaque to energetic quarks and gluons. New measurements of strange quarks, energetic jets, and rare particles containing heavy quarks are beginning to shed light on properties of this novel plasma. Constraints on the viscosity per unit entropy, timescales for thermalization and build-up of collective motion, diffusion of heavy quarks, the response of the medium to deposited energy, and perhaps even the speed of sound in the plasma are now becoming experimentally accessible. The new data have inspired novel approaches to calculating the properties of quantum systems in the strong coupling limit.