

APR08-2008-000849

Abstract for an Invited Paper  
for the APR08 Meeting of  
the American Physical Society

**Experimental study of properties of quark gluon plasma via heavy quarks and EM probes.**

YASUYUKI AKIBA, RIKEN

Experimental results have established that very dense partonic matter is formed in Au+Au collisions at RHIC. At such high density, it is believed that quarks and gluons are no longer confined in hadrons, but become constituents of a quark-gluon plasma (QGP). Heavy quark bound state (J/Psi), heavy quarks (charm and bottom), and EM probes (photons and dileptons) are best probes of the properties of the dense matter formed at RHIC. The suppression of J/Psi can probe the strength of the color screening in the matter. Observation of large energy loss and flow of heavy quarks suggests that the viscosity to the entropy ratio of the matter is close to its quantum lower bound. Production of photons and dileptons provide information deep inside of the matter. I will review recent experimental results of these measurements.