

Equation of state of a strongly-interacting QGP and charmonium suppression

Recently we have developed the equation of state for a strongly interacting quark-gluon plasma in the framework of strongly-coupled QED plasma by incorporating the non-perturbative effects in terms of nonzero string tension in the deconfined plasma phase, unlike the Coulomb interactions alone.

Our results on thermodynamic observables

{em viz.} pressure, energy density, speed of sound etc. nicely

fit with the lattice equation of state for gluon, massless and as

well {em massive} flavored plasma. Motivated by this agreement with

lattice results, we have employed our equation of state to estimate the

quarkonium suppression in an expanding, dissipative strongly interacting

QGP produced in relativistic heavy-ion collisions and our prediction

matches exactly with the recent PHENIX data on the centrality

dependence of J/ψ suppression in Au+Au collisions at BNL RHIC.

We have also predicted for the Υ

suppression in Pb+Pb collisions at LHC energy

which could be tested cleanly in the ALICE experiments at CERN LHC.

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