Contribution ID : 163

J/Ψ suppression: Medium modified heavy quark potential and equation of state

Content :

We have proposed an equation of state of strongly coupled quark-gluon plasma in the framework of strongly coupled electromagnetic plasma with appropriate modifications to take account of color and flavor degrees of freedom and QCD running coupling constant. To do so we have derived the expression for plasma paramter, Γ (defined as the ratio of average potential energy to average kinetic energy) incorporating the nonpertubative effects, present at and/or beyond T_c to explain the nonideal behavior of QGP. Our results on thermodynamic observables {\em viz.} pressure, energy density, speed of sound etc. nicely fit the results of lattice equation of state with gluon, massless and as well {\em massive} flavored plasma. Motivated by this excellent agreement with lattice equation of state we apply our model to estimate the J/ψ suppression in an expanding dissipative strongly interacting QGP produced in relativistic heavy-ion collisions and reproduce the experimental results on J/Ψ suppression.

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