Is QGP the free quark/gluon gas ? – Lattice QCD Study of meson correlators neat the phase transition –

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Abstract

We report the study of hadron properties near the confinement/deconfinement transition temperature T_c obtained by quenched lattice QCD simulations. We analyze *temporal* and *spatial* meson correlators and the wave functions. Below T_c, we observe little change in the meson properties as compared with $T = 0$. Above T_c we observe new features: chiral symmetry restoration and signals of plasma formation, but also indication of persisting "mesonic" (metastable) states and different temporal and spatial "masses" in the mesonic channels. This suggests a complex picture of QGP in the region near the phase transition.
