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Lattice simulation of two-color QCD with $N_f=2$ at non-zero baryon density

Tuesday 29 September 2015 16:30 (2 hours)

At the present time study of the QCD phase diagram in the (T,μ) plane from LQCD calculations is very difficult due to the sign problem. On the other hand, QC_2D has no sign problem, thus providing an opportunity to investigate properties of QGP from the first principles. In this talk we present the results of lattice simulation of QC_2D with two flavors of staggered fermions and non-zero quark chemical potential. Dependencies of the Polyakov loop, chiral condensate and baryon number density on μ_q were studied. We found, that raising of the baryon chemical potential leads to the chiral symmetry restoration. At small μ_q our results for the baryon density agree with ChPT predictions.

On behalf of collaboration:

[Other]

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