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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  $(T, \mu)$  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  $\mu_q$  were studied. We found, that raising of the baryon chemical potential leads to the chiral symmetry restoration. At small  $\mu_q$  our results for the baryon density agree with ChPT predictions.

### On behalf of collaboration:

[Other]

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