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Lattice QCD in strong magnetic background

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In this work we study the properties of $N_f = 2 + 1$ QCD in the presence of a constant background magnetic field, up to unexplored large values of eB , by means of lattice Monte Carlo simulations. We investigate the string tension and its asymmetry via the study of the static quark-antiquark potential and of the color flux tube. Moreover, we present preliminary results regarding the QCD phase diagram in this regime.

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