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Lattice simulations of G2-QCD at finite density II

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G2-QCD is a QCD-like theory with fermionic baryons and fundamental quarks. Unlike QCD it does not suffer from a fermion sign problem at finite baryon density and therefore allows to investigate effects of fermionic baryons on the G2-QCD phase diagram with standard Monte-Carlo methods.

In the talk we present recent results on the phase diagram at zero and non-zero temperature with an emphasis on Chiral- and Diquark-Condensation.

We discuss various transitions in the quark number density related to the observed mass hierarchy in the spectrum and show evidence for a first order nuclear matter transition.

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