

Seminar

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Sign problem and diagrammatic representation of scalar vs. real QCD

We discuss representations of lattice field theories in terms of diagrams of dual variables (occupation numbers). Our main motivation is the nonzero density sign problem which can be solved through this approach in various systems. As a start we will dualize two-dimensional sigma models (which are asymptotically free and generate a dynamical mass, as does QCD) and present some numerical results on the phase diagram. In the second part we will present a dualization of QCD with scalar quarks, where the sign problem is solved, too. Finally a comparison to real QCD will be made.

Thursday, 01.03.2018, 14:15 Uhr

Place: D6-135