Contribution ID : **18**   Type : **not specified**

Inhomogeneous chiral condensates within the Functional Renormalisation Group

среда, 11 ноября 2020 г. 11:30 (30)

We investigate the stability of inhomogeneous chiral-symmetry breaking phases at non-vanishing chemical potential and temperature by applying the Functional Renormalization Group (FRG) to the two-flavor quark-meson model (QMM) in the chiral limit. The stability of inhomogeneous phases under quantum and thermal fluctuations beyond the mean-field approximation is an open question in the phase-diagram of low-energy effective models of QCD. We derived FRG flow equations for the QMM in local potential approximation with a specific one-dimensional inhomogeneous chiral condensate, the so called chiral density wave. These flow equations include fermionic and bosonic quantum fluctuations. In this talk we present, numerical results in a renormalization group consistent mean-field approximation, where we have solved the fermionic part of the afore-mentioned flow equations in a first step towards a complete numerical solution of the full flow equations.

Primary author(s) :   Mr STEIL, Martin Jakob (Technische Universität Darmstadt);   Dr BUBALLA, Michael (Technische Universität Darmstadt);   Dr SCHAEFER, Bernd-Jochen (Justus-Liebig-Universität Gießen)

Presenter(s) :   Mr STEIL, Martin Jakob (Technische Universität Darmstadt)

Session Classification :   Session 5: Inhomogeneous phases in strongly interacting matter

Track Classification :   Inhomogeneous phases in strongly interacting matter