

Meson Spectral Functions at Finite Temperature and Isospin Density with Functional Renormalization Group

Summary

The pion superfluid and the corresponding Goldstone and soft modes are investigated in two-flavor quark-meson model with functional renormalization group. By solving the flow equations for the effective potential and the meson two-point functions at finite temperature and isospin density, the critical temperature for the superfluid increases sizeably in comparison with solving the flow equation for the potential only. The spectral function for the soft mode shows clearly a transition from meson gas to quark gas with increasing temperature and a crossover from BEC to BCS pairing of quarks with increasing isospin density.

Primary author: Ms WANG, Ziyue (Tsinghua University)

Co-author: Prof. ZHUANG, Pengfei (Tsinghua University)

Presenter: Ms WANG, Ziyue (Tsinghua University)