

A new perspective to hadronic excitations above T_c

Tuesday, 4 August 2020 16:00 (20 minutes)

Hadronic matter is known to change its behaviour during a crossover at finite temperature. One part of this crossover is the chiral transition, whose properties are well studied. The other part involves the fate of hadronic bound states and single quarks, the transition of which is less clear. We study two-flavor QCD for temperatures starting from 190 MeV and quark masses down to lighter-than-physical quarks using chirally symmetric domain-wall fermions. Adopting a novel approach to fit lattice data we get new results for screening masses, which allow for a more detailed comparison to perturbative calculations. The lattice data favors a cut instead of a single pole for the propagation of hadronic excitations above T_c . Key features of previous studies, including chiral spin and $SU(4)$ symmetry, are reproduced.

Primary author: ROHRHOFER (*), Christian (Osaka University)

Co-authors: AOKI, Y.; COSSU, G.; FUKAYA, H.; HASHIMOTO, S.; SUZUKI, K.

Presenter: ROHRHOFER (*), Christian (Osaka University)

Session Classification: QCD at nonzero Temperature and Density

Track Classification: QCD at nonzero Temperature and Density