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A new perspective to hadronic excitations above Tc

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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 Tc. Key features of previous studies, including chiral spin and SU(4) symmetry, are reproduced.

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