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THE SCALAR DOES NOT DECAY AT FINITE TEMPERATURES.

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We investigate medium effects on mesonic screening lengths for QCD with 2-flavours of dynamical staggered quarks on lattices with cutoff a=1/6T. In our study, T ranges from 0.89 Tc to 1.92 Tc, spanning both the hadronic and the quark-gluon plasma phases. While chiral symmetry restoration in the vector channel appears to take place near Tc, it is seen in the scalar channel only above 1.33 Tc. Varying spatial lattice sizes, we find very little volume dependence in our results at 0.94 Tc, which is the expected critical end point temperature. This suggests that the scalar does not decay. We also comment on the nature of interactions around Tc and beyond.

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talk

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