

Energy-like observables for the chiral phase transition of 2+1 flavor QCD

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The chiral symmetry restoration of QCD, with two light flavours in the chiral limit, is expected to be a phase transition belonging to the universality class of 3d O(N) models. The imprint of the criticality should be observed in the thermodynamic observables if we move close enough to the chiral limit. We discuss results of conserved charge fluctuations and Polyakov loop, which we propose to behave as energy-like observables with respect to the chiral phase transition, towards the chiral limit. Calculations have been performed on 2+1 flavour HISQ ensembles with pion masses starting from 160 MeV down to 55 MeV.

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