

Thermal transition in QCD with $N_f=2+1$ flavours of Wilson quark

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The thermal transition in QCD has been studied in detail using the staggered-quark formulation. Here we report on progress using $N_f=2+1$ flavours of Wilson fermions, employing anisotropic, fixed-scale lattice simulations. Observables are compared for two values of the pion mass, focusing on chiral properties: the chiral condensate and its susceptibility, quark number susceptibilities, and the onset of parity doubling in the light and strange baryonic sector. For the pseudo-critical temperature obtained from the chiral condensate, we combine our results with those from twisted-mass fermions and extrapolate to the physical point - without a continuum extrapolation -, yielding $T_{pc}=159(6)$ MeV.

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