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Recent results on QCD thermodynamics from Lattice

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Fluctuations of conserved charges like baryon number and strangeness are important observables to understand the nature and interactions between the degrees of freedom in different phases of QCD. The higher order fluctuations are particularly important to get information on the location of possible QCD critical end-point and to understand the interplay between fluctuations and non-trivial topological properties in QCD. In this talk I will highlight the recent theoretical and algorithmic developments made in lattice gauge theory in calculating the higher moments of conserved charges. I will also discuss how the lattice data on fluctuations and correlations of different conserved charges could be used for determining the QCD equation of state at finite density, to constraint the possible location of critical end-point in the QCD phase diagram and understand the nature and interactions among quasi-particles across the chiral crossover transition in QCD.

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