

The QCD equation of state at finite density from analytical continuation

Tuesday 7 February 2017 14:40 (20 minutes)

We want to study thermodynamical observables at finite density. Since direct lattice simulations at finite μ_B are hindered by the sign problem an efficient way to study the QCD phase diagram at small finite density is to extrapolate observables from imaginary chemical potential. In this talk we present results on several observables for the equation of state. The observables are calculated along the isentropic trajectories in the (T, μ_B) plane corresponding to the RHIC Beam Energy Scan collision energies. The simulations are performed at the physical mass for the light and strange quarks. μ_S was tuned in a way to enforce strangeness neutrality to match the experimental conditions; the results are continuum extrapolated and systematic effects are taken into account for the error estimate.

Preferred Track

QCD at High Temperature

Collaboration

Not applicable

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Session Classification: Parallel Session 3.1: QCD at High Temperature

Track Classification: QCD at High Temperature