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# The QCD equation of state at finite density from analytical continuation

*Friday 2 September 2016 19:10 (20 minutes)*

An efficient way to study the QCD phase diagram at small finite density is to extrapolate thermodynamical observables from imaginary chemical potential. In this talk we present results on several observables for the equation of state to order (muB/T)ˆ6. The observables are calculated along the isentropic trajectories in the (T, muB ) plane corresponding to the RHIC Beam Energy Scan collision energies. The simulations are performed at the physical mass for the light and strange quarks. muS was tuned in a way to enforce strangeness neutrality to match the experimental conditions; the results are continuum extrapolated using lattices of up to Nt = 16 temporal resolution.

## Summary

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