Contribution ID: **1**   Type: **Talk**

Equation of state of QCD from analytical continuation

Wednesday 13 July 2016 15:15 (30 minutes)

We determine the 2+1 flavour equation of state of QCD at finite chemical potential to order $(\mu_B/T)^6$ from lattice simulations. The simulations are performed at
the physical mass for the light and strange quarks on several lattice spacings;
the results are continuum extrapolated. The coefficients of the expansion in
(μ_B/T) are determined through the analytic continuation from imaginary chemical potentials of the baryonic density. Strangeness neutrality and charge conservation are imposed, to match the experimental conditions at heavy ion colliders. The pressure and interaction measure are calculated along the isentropic trajectories in the (T, μ_B)
plane corresponding to the RHIC Beam Energy Scan collision energies.

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Session Classification: Parallel Track 1