Contribution ID: **105**                                                Type: **Oral presentation**

# Quark number susceptibilities and equation of state in QCD at finite baryon chemical potential

*Tuesday 10 July 2018 17:00 (30 minutes)*

Numerical monte carlo study of lattice discretized QCD is the only non-perturbative tool available for calculation of the equation of state of strongly interacting matter from QCD at not-too-high temperatures. Unfortunately, these numerical tools are not directly applicable at finite baryon densities, as is required for, e.g., the beam energy scan studies.

Using the method of Taylor expansion in chemical potential, we estimate the equation of state of strongly interacting matter, namely the baryon number density and its contribution to the pressure, for 2-flavor QCD at not-too-high chemical potential. We also report the isothermal compressibility. We examine the technicalities associated with summing the series. We also study the quark number susceptibilities to gain insight into properties of strongly interacting matter at high temperatures.

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**Session Classification:**   Parallel Section B Heavy Ion