Contribution ID: **26** Type: **Talk**

# Susceptibilities of strongly interacting matter in a finite volume

*Tuesday 7 May 2019 09:40 (20 minutes)*

We investigate possible finite-volume effects on baryon number susceptibilities of strongly interacting matter. Assuming that a hadronic and a deconfined phase both contribute to the thermodynamic state of a finite system due to fluctuations, it is found that the resulting shapes of the net-baryon number distributions deviate significantly from the infinite volume limit for a given temperature T and baryochemical potential μ_B. In particular, the constraint on color-singletness for the finite quark-gluon phase contribution leads to a change of the temperature dependence of the susceptibilities in finite volumes. According to the model, the finite-volume effect depends qualitatively on
the value of μ_B.

**Author:** SPIELES, Christian (Frankfurt Institute for Advanced Studies (FIAS))

**Co-authors:** BLEICHER, Marcus (Institut für Theoretische Physik, Goethe-Universität Frankfurt); GREINER, Carsten (Institut für Theoretische Physik, Goethe-Universität Frankfurt)

**Presenter:** SPIELES, Christian (Frankfurt Institute for Advanced Studies (FIAS))

**Track Classification:** STARS