Contribution ID: **32** Type: **not specified**

Finite density QCD thermodynamics from lattice simulations

Thursday 2 October 2025 11:40 (30 minutes)

The thermodynamics of QCD is expected to exhibit a very rich structure as temperature and baryon density are varied, with possibly a first order transition at high density and a critical point. Heavy ion collision experiments have been hunting signs of critical behavior for more than a decade, but no clear signal has been found yet. On the theory side, lattice simulations are the major tool for investigating the equilibrium properties of QCD, but at finite density they are made difficult by the fermion sign problem. I will present recent results on the phase structure of the theory based on state-of-the-art calculations of different equilibrium observables.

Author: PAROTTO, Paolo (Istituto Nazionale di Fisica Nucleare)

Presenter: PAROTTO, Paolo (Istituto Nazionale di Fisica Nucleare)

Session Classification: Long + short contributions