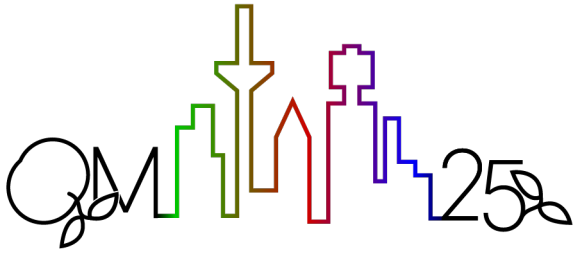

Contribution ID: **628** Type: **Poster**

Large density QCD phase boundary from strangeness fluctuations

Net-strangeness fluctuations are tightly related to the chemical composition of strongly interacting systems, and allow the study of the chiral/deconfinement transition of QCD. Thanks to their excellent signal-to-noise ratio, these observables enable a precise charting of the QCD phase diagram in the high-density region.
We present mixed baryon-strangeness fluctuations at $\mu_B = 0$ up to order 10 from high-statistics simulations with our 4HEX staggered action on a 16x8 lattice. With these we reconstruct the second strangeness susceptibility with a N4LO expansion. This allows us to investigate the phase boundary of QCD at large density: we are able to reach unprecedentedly high (real) baryon chemical potentials of $\mu_B = 600$ MeV.

Category

Theory

Collaboration (if applicable)

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Session Classification: Poster session 1

Track Classification: QCD phase diagram & critical point