

Thomas Schaefer – Colloquium seminar – February 17, 2022
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Title: The QCD critical point

Abstract: I summarize arguments that suggest that the phase diagram of QCD, the theory of quarks and gluons, has a critical endpoint which is analogous to the endpoint of the water-vapor transition. This endpoint separates a quark-gluon vapor from a hadronic liquid. I will argue that this point can be searched for in collisions of relativistic heavy ions. The main observables are fluctuation measurements, and the expected signatures are related to critical opalescence. I summarize the ongoing theoretical and experimental efforts devoted to observing signatures of critical fluctuations. I argue that along the way, we have gained new insights into an old theory, fluid dynamics.