

## Constraints on the QCD Phase Diagram from Lattice QCD

Lattice QCD provides a unique, non-perturbative framework to map out the QCD phase diagram from first principles. This talk will outline what can—and cannot—currently be determined about the QCD phase diagram using lattice simulations. I will review how precise results for the equation of state and the transition temperature are obtained at vanishing baryon density. The challenges of extending these calculations to finite baryon density, where the sign problem limits straightforward simulations, will be discussed along with methods to constrain the location of a possible critical end point.

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