

Avoiding the boson sign problem at finite chemical potential

Presenter: Michael G. Endres (University of Washington)

Michael G. Endres

Abstract: The usual path integral formulation for scalar particles at finite density involves a sign problem, making numerical simulation impractical. I present alternative methods free of this difficulty. I apply these approaches to ϕ^4 theory in 2+1 dimensions, presenting preliminary numerical results for physical quantities in the vicinity of the phase transition in the $T - \mu$ plane.