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CANCELLED:Gauge fixing in first order phase transition using quantum annealing

Thursday 1 September 2016 18:00 (30 minutes)

We consider a quantum annealing simulation optimized for lattice QCD, reflecting the nonlinear network topology of the Kuramoto model where all the oscillators are considered to have distinct intrinsic natural frequency and a coupling scheme in which the optimum weight of a link to neighboring sites depends on the number of shortest paths crossing it. The onset of synchronization relies on incoherent quantum tunneling in the mean field regime, manifesting that the spacing between lattice sites approaches to zero range. We theoretically analyze the performance of quantum annealing considering a Discrete Nonlinear Schrödinger (DNLS) equation that allows for a mean-field solution and, we demonstrate the first-order phase transition in synchronization manifold.

Summary

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Session Classification: Section A: Focus Subsection

Track Classification: Section A Focus Subsection: Emergent gauge fields and chiral fermions