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Type: **Talk**

Quantum simulation of $SU(3)$ lattice gauge theory in the electric basis

Monday 3 November 2025 14:50 (20 minutes)

I will present an overview and status update of the UIUC high energy and quantum information group's Hamiltonian simulations of $SU(3)$ lattice gauge theory. We have developed and implemented qubit-based simulations of $SU(3)$ gauge theory in the electric basis, in 1, 2, and 3 spatial dimensions. I will describe the overall physics strategy, optimization techniques we've designed to control circuit depths, and present simulation results for ground state preparation and observables.

Parallel Session (for talks only)

Quantum computing and quantum information

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