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Lattice renormalization of quantum simulations

Thursday, 19 August 2021 13:00 (15 minutes)

In this talk, I will give a brief overview of simulating quantum field theories on a quantum computer in the Hamiltonian formalism. Especially, I will discuss the renormalization of such quantum simulations: in order to perform calculations on finite computers, one must discretize the quantum field theories, and perform renormalization which accounts for and removes discretization errors to extract the physical results. I will propose using classical computations to determine the renormalization of quantum simulations and thereby reducing the demand on quantum resources.

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