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Quantum Simulations at Google

Wednesday, 12 September 2018 11:40 (25 minutes)

I will briefly introduce the current hardware at Google and their limitations. I will give examples on how to construct quantum circuits to simulate model Hamiltonians, such as the Fermi-Hubbard model and the Sachdev-Ye-Kitaev (SYK) model. Spatially local fermionic problems can become nonlocal after being mapped to qubit Hamiltonians. I will discuss how lattice gauge field theory can be used to construct mappings that conserve locality.

Presenter: JIANG, Zhang (Google, inc)

Session Classification: Session 2