Contribution ID: **11** Type: **Poster Presentation**

Quantum simulations of lattice gauge theories

We propose digital quantum simulation schemes of 2+1D U(1) link quantum electrodynamics and compare the results with classical tensor network simulations for benchmarking. To verify the accuracy of our quantum simulations, we employ tensor network methods as a classical benchmark, ensuring consistency in regimes where classical computations remain tractable. Our findings demonstrate the reliability of quantum simulations for U(1) gauge theories while highlighting the role of tensor networks in validating near-term quantum algorithms.

Author: JOSHI, Rohan

Presenter: JOSHI, Rohan

Session Classification: C - Poster Session