

Quantum Simulation of Lattice Gauge Theory

Zhen-Sheng Yuan

**Division of Quantum Physics and Quantum Information, University of Science & Technology of China,
China**

Email: yuanzs@ustc.edu.cn

Exploring the fundamental structure and basic laws of the universe constitutes an essential drive to physicists. We study strongly correlated synthetic quantum material with microscopic techniques for solving formidable tasks to the state-of-the-art supercomputers. Such tasks include quantum phase transition of strongly correlated quantum systems, the topological structure of multipartite entangled state and lattice gauge theories.