

Quantum simulation of thermal field theories

Friday, 19 July 2024 09:38 (17 minutes)

In this talk, we present our recent studies on thermal field theories using quantum algorithms. We first delve into the presentations of quantum fields via qubits on general digital quantum computers alongside the quantum algorithms employed to evaluate thermal properties of generic quantum field theories. Then, we show our numerical results of thermal field theories in 1+1 dimensions using quantum simulators. Both fermion and scalar fields will be discussed. These studies aim to understand thermal fixed points for our forthcoming work on studying thermalization in quantum field theories in real time quantum simulation.

Alternate track

I read the instructions above

Yes

Primary authors: WU, Bin; Mr CUNTÍN BROULLÓN, Iván (University of Santiago de Compostela); QIAN, Wenyang (University of Santiago de Compostela)

Presenter: Mr CUNTÍN BROULLÓN, Iván (University of Santiago de Compostela)

Session Classification: Heavy Ions

Track Classification: 07. Heavy Ions