

Circumventing the sign problem for LQCD-simulations

Friday, 1 July 2022 10:30 (20 minutes)

In this project, we plan to study the application of quantum computing techniques to the investigation of the thermodynamical properties of simple toy models, again inspired by QCD, in contexts in which the infamous “sign-problem” makes classical Monte Carlo simulation conceptually impossible. We will develop and test quantum algorithms able to completely solve the problem, and compare them with mixed quantum-classical algorithms, discussing the corresponding theoretical complexities and reliabilities on NISQ machines.

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