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Quantum Simulation of the Agassi Model in Trapped Ions

Contenu

A quantum simulation of the nuclear Agassi models proposed so as to be implemented within a trapped-ion quantum platform. Numerical simulations and analytical estimations illustrate the feasibility of this simple proposal with current technology, while our approach is fully scalable to a larger number of sites. The use of a quantum correlation function is studied as a signature of the quantum phase transition by quantum simulating the time dynamics, with no need of computing the ground state. The use of machine learning procedure to determine the quantum phase diagram of the model is also explored.

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