

Exact dynamics with free fermions in disguise

A large class of free fermionic spin chain models have been found recently, that are not soluble by a Jordan-Wigner transformation, but by some more complex construction introduced in the original work of Fendley, that rather resembles the methods to solve integrable systems. In the present work we relied on these techniques to calculate the correlation functions of some local operators in Fendley's "free fermions in disguise" model and also established a scheme to measure them on a quantum computer. Thus, it is another example of a classically simulable quantum system, that may also be used for benchmarking these hardware in the future. In my talk, I will explain how to solve the dynamics of Fendley's original model, at least partially.

Authors: POZSGAY, Balázs (Eötvös Loránd University); MESTYÁN, Márton (Eötvös Loránd University); VONA, Istvan (ELTE University, Wigner RCP)

Presenter: VONA, Istvan (ELTE University, Wigner RCP)

Session Classification: Participants Talks