

# Exact quantum state preparation II

*Wednesday 18 June 2025 09:00 (1 hour)*

This course is an introduction to some approaches for exactly preparing multi-qubit states on a quantum computer. In Lecture 1, we begin with a brief review of quantum circuits; we then consider the GHZ state, and its preparation in constant depth. In Lecture 2, we introduce matrix product states and sequential state preparation; we consider the example of AKLT states, and their preparation in constant depth. In Lecture 3, we consider the preparation of Dicke states and Bethe states.

**Author:** NEPOMECHIE, Rafael (University of Miami)

**Presenter:** NEPOMECHIE, Rafael (University of Miami)