Entanglement from tensor networks on a trapped-ion QCCD quantum computer

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May 12, 2021

- Matrix product states (MPS)
- Simulating MPS with quantum computer
- Results

Matrix product states (MPS)

$$\sum c_{\sigma_1\sigma_2\cdots\sigma_n}\left|\sigma_1\sigma_2\cdots\sigma_n\right\rangle$$

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$$\sum c_{\sigma_1\sigma_2\cdots\sigma_n}|\sigma_1\sigma_2\cdots\sigma_n\rangle$$

$$\sum \mathrm{Tr}(V_{\sigma_1}V_{\sigma_2}\cdots V_{\sigma_n})|\sigma_1\sigma_2\cdots\sigma_n\rangle$$

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related to the entanglement in the system

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Exploding structure in the state

Simulation of MPS

Results