

## **Entanglement Hamiltonian of interacting fermionic models**

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Recent numerical advances in the field of strongly correlated electron systems allow the calculation of the entanglement spectrum and entropies for interacting fermionic systems. An explicit determination of the Entanglement (modular) Hamiltonian has proven to be a considerably more difficult problem, and only few results are available. We introduce a technique to directly determine the entanglement Hamiltonian of interacting fermionic models by means of auxiliary field Quantum Monte Carlo simulations. We implement our method for the one-dimensional Hubbard chain partitioned into two segments, and for the Hubbard ladder, partitioned into two chains. In both cases we study the evolution of the entanglement Hamiltonian as a function of the physical temperature.

Ref: F. Parisen Toldin, F. F. Assaad, “Entanglement Hamiltonian of interacting fermionic models”, `arXiv:1804.03163`