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# Entanglement entropy from non-equilibrium lattice simulations

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The entanglement entropy is a quantity encoding important features of strongly interacting quantum many-body systems and gauge theories, but its analytical study is still limited to systems with high level of symmetry. This motivates the search for efficient techniques to investigate this quantity numerically, by means of Monte Carlo calculations on the lattice.
In this talk, we present a lattice determination of the entropic c-function by means of a novel algorithm based on Jarzynskis equality: an exact theorem from non-equilibrium statistical mechanics. After presenting benchmark results for the Ising model in two dimensions, where our algorithm successfully reproduces the analytical predictions from conformal field theory, we discuss its generalization to three dimensions and comment on potential future applications to gauge theories.

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