Abstract Submitted
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Finite-Temperature Fidelity Susceptibility for One-Dimensional Quantum Systems[1] JESKO SIRKER, TU Kaiserslautern — We calculate the fidelity susceptibility χ_f for the Luttinger model and show that there is a universal contribution linear in temperature T (or inverse length $1/L$) by using conformal field theory. Furthermore, we develop an algorithm - based on a lattice path integral approach - to calculate the fidelity $F(T)$ in the thermodynamic limit for one-dimensional quantum systems. We check the Luttinger model predictions by calculating $\chi_f(T)$ analytically for free spinless fermions and numerically for the XXZ chain. Finally, we study χ_f at the two phase transitions in this model.

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Jesko Sirker
TU Kaiserslautern

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