

Page curve entanglement dynamics of a gas of freely expanding non-interacting fermions

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概 要

We consider a gas of non-interacting fermions that is released from a box into the vacuum and look at the entanglement between the escaped particles with those in the box. This provides a simple analytically tractable model that reproduces many features of the Page curve characterizing the evolution of entanglement entropy during evaporation of a black hole. Apart from the entropy we consider several other physical observables and show that the framework of generalized hydrodynamics provides a rather surprisingly accurate description of the quantum dynamics. We also report numerical results for interacting spin chains.

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