

Théorie conforme des champs et systèmes quantiques à plusieurs corps
21 août – 9 septembre 2022

Conformal field theory and quantum many-body physics
August 21 – September 9, 2022

Vincenzo Alba
(University of Pisa)

Entanglement dynamics in dissipative quantum many-body systems

Distinguishing genuine quantum correlation (entanglement) from spurious statistical one in out-of-equilibrium open quantum many-body systems is in general a challenging task. In this talk I will review some recent efforts to describe the entanglement dynamics in the presence of Markovian dissipation. In particular, I will focus on free-fermion and free-bosons subjected to global linear dissipation as well as to localized one. I will show that, at least for free systems, it is possible to incorporate the effects of dissipation in a hydrodynamic description for the entanglement spreading (quasiparticle picture).