

MP 4: HV Berges: QFT Far From Equilibrium

Time: Tuesday 11:00–11:40

Location: H-HS VII

Invited Talk

MP 4.1 Tue 11:00 H-HS VII

Universal structures in quantum field theory far from equilibrium — •JÜRGEN BERGES — Universität Heidelberg

Prominent applications of quantum field theory far from equilibrium include the post-inflationary dynamics in the early universe, collisions of relativistic nuclei at giant laboratory facilities, or table-top experiments with ultracold quantum gases. Even though the typical energy

scales vastly differ, these systems are predicted to show very similar dynamical properties. Certain characteristic observables can even be quantitatively the same, defining non-equilibrium universality classes. These universal phenomena have recently been discovered experimentally in ultracold quantum gases far from equilibrium, and their theoretical understanding profits from the topological concept of persistent homology.