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Relaxation dynamics in Integrable Field Theories

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Out of equilibrium dynamics of integrable systems have been intensively studied in the past 20 years. However, a full characterisation of time evolution of an integrable field theory after a quantum quench is still missing. We investigate many processes occurring during relaxation towards a steady state and describe them in terms of analytical properties of form factors of operators in the post-quench theory. As an example, results for thermal Ising, Sinh-Gordon and Yang-Lee field theories are shown. We extend this approach to non-relativistic theories by mapping them via out-of-equilibrium non-relativistic limit.

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