Contribution ID: **66** Type: **Invited talk**

(Non equilibrium) thermodynamics of classical Integrable models in their thermodynamic limit

Monday 2 September 2024 11:20 (40 minutes)

Motivated by recent experimental developments in atomic physics, a large theoretical effort has been devoted to the analysis of the dynamics of quantum isolated systems after a sudden quench. In this talk I will describe the evolution of a family of classical many-body integrable (Neumann) models after instantaneous quenches of the same kind. The asymptotic dynamics of these models can be fully elucidated, and the stationary properties (in the thermodynamic limit) compared to the ones obtained exactly using a Generalised Gibbs Ensemble. The latter can not only be built but also used to evaluate analytically all relevant observables, a quite remarkable fact for an interacting integrable system with a non-trivial phase diagram.

References

Generalised Gibbs Ensemble for spherically constrained harmonic models
Damien Barbier, Leticia F. Cugliandolo, Gustavo S. Lozano, Nicolás Nessi
arXiv:2204.03081 SciPost Physics 13, 048 (2022)

Quenched dynamics of classical isolated systems: the spherical spin model with two-body random interactions or the Neumann integrable model
Leticia F. Cugliandolo, Gustavo S. Lozano, Nicolás Nessi, Marco Picco and Alessandro Tartaglia
arXiv:1712.07688 J. Stat. Mech. P063206 (2018)

Short bio (50 words) or link to website

www.lpthe.jussieu.fr/~leticia

Relevant publications (optional)

Career stage

Professor

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Track Classification: FINESS