Laboratoire de Physique Théorique et Hautes Energies

Unité Mixte de Recherche (UMR 7589) de Sorbonne Université et du CNRS

SEMINAIRE du LPTHE

Vendredi 2 Fevrier 2018, 11:00

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LPTHE

Non-ergodicity in many body systems and disordered random graphs ; application to the phase diagram of Josephson junction chain

At very high disorder a generic closed quantum systems becomes completely localized. I argue that this (may body) localization is preempted by a wide regime of non-ergodic behavior that displays a number of unusual properties. A good system to study these effects are Josephson junction arrays in a somewhat unusual regime. The toy model of disordered many body systems that capture the physics of many body systems is provided by random regular graphs. I will sketch a simplified analytical theory of the non-ergodic phase in this models, compare the results with the direct numerical simulations and summarize the conclusions relevant for physical many body systems.

Bibliothèque du LPTHE, tour 13/14, 4ème étage

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