

Séminaire : Problèmes spectraux en physique mathématique

Les séminaires ont lieu à l'**Institut Henri Poincaré**, 11 rue Pierre et Marie Curie, Paris.

Programme du lundi 19 juin 2017, en **salle 314** (3e étage)

— 11h15 - 12h15 : **André Martinez** (Bologne)

Resonances and molecular dynamics near an energy level crossing.

We study the location and the width of the resonances of a semiclassical 2×2 system of interacting 1d Schrödinger operators, near an energy level where the two potentials cross. One of the potentials is supposed to be bonding, and the other one anti-bonding. Then, we describe the asymptotic behaviour (both semiclassical and at large times) of the survival amplitude of the corresponding bound state.

This talk is based on joint works with Ph. Briet, S. Fujiié and T. Watanabe.

— 14h - 15h : **Günter Stolz** (U. of Alabama, Birmingham)

Many-body localization of the droplet spectrum in the random XXZ spin chain.

We report on joint work with A. Elgart and A. Klein in which we provide the first rigorous results on many-body localization for the XXZ quantum spin chain in random field. In the Ising phase of the model, we prove a strong form of exponential clustering (i.e. exponential decay of correlations of local observables) for eigenstates in the droplet spectrum, both for the large disorder regime as well as for a strong Ising phase at fixed disorder. We will also discuss other MBL properties which hold in these regimes, such as a zero-velocity Lieb-Robinson bound on many-body transport, as well as a uniform area law for the entanglement of eigenstates.

— 15h15 - 16h15 : **Nicolas Raymond** (Rennes)

Semiclassical Robin Laplacians : Miscellaneous of linear and nonlinear results.

In this talk, I will describe recent results related to the semiclassical Robin Laplacians : Weyl asymptotics, tunneling effect and electro-magnetic Sobolev embeddings.

Pour tout renseignement, contacter les organisateurs

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