

SEMPARIS – Séminaires en région parisienne

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Theory of quantum matter

Jeudi 9 Décembre 2021, 14 :00

LP THE, INSP Jussieu towers 22-23 room 3-17 and online (zoom)

Domaines : math-ph

Titre : *Probing for Many-Body Localization in 2d disordered constrained systems*

Orateur : **Fabien Alet** (LPT Toulouse)

Résumé : *Many-body localization (MBL) is a unique physical phenomenon driven by interactions and disorder for which a quantum system can evade thermalization. While the existence of a many-body localized phase in one-dimensional systems, is now (relatively well) established, its fate in higher dimension is an open question. In this talk, after a rapid overview of MBL, I will present a numerical study of the possibility of a MBL transition in disordered quantum dimer models on two-dimensional lattices. I will critically review our numerical results using state-of-the-art exact diagonalization and time evolution methods, probing both eigenstates and dynamical properties. We conclude for the existence of a localization transition, on the available time and length scales.*

Work done in collaboration with H. Thévéniaut. G. Meyer, Z. Lan and F. Pietracaprina.

<https://us06web.zoom.us/j/84812022145?pwd=MXZEd2F0YWxrb3RaVFZ1YjRuaGUxUT09>
