Contribution ID: **7** Type: **not specified**

Talk Fabien Alet: Many-body localisation and thermalization: introduction and new results for weak interactions

Tuesday 1 October 2024 11:30 (1 hour)

Many-body localisation and thermalization: introduction and new results for weak interactions

Many-body localization is the paradigm for how interacting quantum systems can resist thermalization in the presence of strong disorder.
In the first part of the talk, I will give a quick recap on the main ideas of many-body localization, highlighting the challenges and open questions in the field.
I will then present new results in the limit of weakly interacting systems, where our numerical simulations indicate that below a certain disorder threshold, weak interactions necessarily lead to ergodic instabilities.
Work done in collaboration with Jeanne Colbois and Nicolas Laflorencie, arXiv:2403.09608, Phys. Rev. Lett (2024, in press)