Séminaire de physique statistique

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Mercredi 12/02/2020, 16:00-17:00

Orme des Merisiers Salle Claude Itzykson, Bât. 774

Low-rank Sachdev-Ye-Kitaev models

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The Sachdev-Ye-Kitaev model (SYK) is a simple solvable model of holography. It has inspired much theoretical work on quantum chaos, black holes, and strongly correlated materials. However, its low-energy state is inherently unstable, and thus hard to realize. In this talk, I will introduce a family of low-rank SYK models. I will argue that they are more amenable to realizations – in fact, special members of the family have been proposed. I will present a systematic solution and classification of the family. I will show that their low-energy states interpolate between maximal scramblers and (marginal) Fermi-liquids. I will discuss ongoing and perspective applications.