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Localization effects in periodically driven many-body systems[1]

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In this talk, I will discuss the emergence of quasi, or sometimes strictly, conserved quantities in periodically driven many-body quantum systems. In the particular case of a many-body localized Hamiltonian, characterized by a full set of local integral of motions (LIOMs), I will show that the driven system itself admits a full set of strictly conserved LIOMs, if the driving frequency is high enough. Moreover, I will show that the ideas developed in the context of driven systems can be generalized to describe the emergence of pre-thermal behavior in a wide class of both closed and driven systems.

[1]joint work with D. Abanin, W. De Roeck, W. W. Ho