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Title: **Transport and many-body localization in bosonic insulators disordered magnets**

In disordered XY magnets as well as in dirty bosonic superfluids disorder can drive a quantum phase transition between a long range ordered and a disordered phase. Interestingly, at the same time as long range order is lost, low energy excitations become Anderson localized. The phase transition is thus accompanied by phenomena of "many-body localization" and its precursors, which I will discuss in this talk.
Such physics is supposed to be relevant in disordered cold atom systems, as well as in strongly disordered superconducting films with preformed Cooper pairs that persist in the insulating phase. Experimentally, the latter exhibits a puzzling behavior at low temperatures: it shows a simply activated resistance, which moreover is of purely electronic nature, both of which are hard to understand in conventional disordered system. However, a possible explanation arises from the analysis of the spectral properties of dirty bosons across the phase transition. The latter suggests the presence of a finite "many body mobility edge" for transportin such insulators, and a possibly perfectly insulating phase in stronger disorder, if a phonon bath is absent.