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Titel: Adiabatic theorems and linear response in the thermodynamic limit

Abstract: I will present a new adiabatic theorem for systems of interacting fermions on a lattice that holds in the thermodynamic limit and discuss its implications for a rigorous justification of linear response theory and Kubo's formula at zero temperature. In particular, the theoretical understanding of the quantum Hall effect rests on the validity of Kubo's formula for such systems.
This is based on joint works with Joscha Henheik (arXiv:2002.08669, arXiv:2012.15238, arXiv:2012.15239)