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Quasi-locality in quantum lattice systems. Preliminary report.

In the past dozen years, Lieb-Robinson bounds have been used to exploit the quasi-locality properties of quantum lattice systems with short-range interactions to derive interesting new results about the ground states, low-lying excitations, adiabatic dynamics, linear response, and stability properties of such systems. We discuss recent extensions of these properties and some new applications. (Received September 24, 2017)