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Sommario/riassunto	The area of low-dimensional quantum systems on discrete spaces is a rapidly growing research field lying at the interface between quantum theoretical developments, like discrete and q-difference equations, and tight binding superlattice models in solid-state physics. Systems on discrete spaces are promising candidates for applications in several areas. Indeed, the dynamic localization of electrons on the 1D lattice under the influence of an external electric field serves to describe time-

dependent transport in quantum wires, linear optical absorption spectra, and the generation of higher harmo
