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# Reconfiguration of electronic states in PT-symmetric quasi-one-dimensional lattices

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## Abstract

We demonstrate mesoscopic transport through electronic states in quasi-1D lattices maintaining the combination of parity and time-reversal symmetries by controlling energy gain and loss. We investigate the phase diagram of the non-Hermitian systems where transitions take place between unbroken and broken PT-symmetric phases via exceptional points. Electron transport in the lattice is measured only in the unbroken–but not broken–phase in the energy band. The broken phase allows for spontaneous symmetry broken states where the cross-stitch lattice is separated into two identical single lattices corresponding to conditionally degenerate eigenstates. These degeneracies show a lift-up in complex energy plane, caused by the non-Hermiticity with PT-symmetry.

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