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# Robustness of symmetry-protected topological states against time-periodic perturbations

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## Abstract

The existence of gapless boundary states is a key attribute of any topological band insulator. Conventional band theory predicts that these states are robust against static perturbations that preserve the relevant symmetries. In this talk I will discuss how the symmetry-protection may extend also to states subject to time-periodic boundary perturbations – in Floquet topological insulators as well as in ordinary time-independent topological insulators. Notably, boundary states in a time-independent topological insulator are found to exhibit an enhanced robustness against time-periodic perturbations, beyond that for static perturbations. Implications for experiments and applications to future quantum devices will be discussed.

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