

Abstract Submitted  
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**Self-similarity in Floquet topological insulators at low frequencies**<sup>1</sup> MARTIN RODRIGUEZ-VEGA, BABAK SERADJEH, Indiana Univ - Bloomington — We study theoretically the low-frequency regime of Floquet topological insulators. Specifically, we consider a periodically-driven one-dimensional Su-Schrieffer-Heeger (SSH) model, for which we calculate, analytically and numerically, the quasi-energy spectrum. We study the behavior of the quasi-energy gap as a function of drive frequency and other parameters and find self-similar spectral patterns. We also study the topological phase transitions, finding that they are present for arbitrarily small frequencies. We obtain the topological invariants as a function of the system's parameters, and compare with the explicit calculation of localized edge states for systems with open boundary conditions. Finally, we discuss the relevance of our results for the understanding of the long-time adiabatic limit in Floquet systems.

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Martin Rodriguez-Vega  
Indiana Univ - Bloomington

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