

Abstract Submitted  
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**Role of disorder in superconducting Chern insulator**<sup>1</sup> YINGYI HUANG, Sun Yat-sen Univ Univ of Maryland-College Park, JAY SAU, Univ of Maryland-College Park — Motivated by a recent experiment in which a half-integer quantized conductance plateau ( $0.5e^2/h$ ) has been observed on a superconducting quantum anomalous Hall insulator film, we carry out a simulation of a two-dimensional disordered Chern insulator coupled with superconductor. In particular we calculate the magnetic field dependence of the longitudinal and Hall conductance in the Hall bar geometry of a disordered Chern insulator both with a superconductor and without. Our specific focus is on the behavior of this conductance near the transition between topological phase ( $\nu=0$ ) and trivial phase ( $\nu=1$ ), where we expect to reproduce the conductance plateau.

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