

Abstract Submitted  
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**Effects of Domain Walls in Quantum Anomalous Hall Insulator/Superconductor Heterostructures**<sup>1</sup> CHUI-ZHEN CHEN, JAMES JUN HE, DONG-HUI XU, K. T. LAW, Department of Physics, Hong Kong University of Science and Technology — In a recent experiment, half-quantized longitudinal conductance plateaus (HQCPs) of height  $\frac{e^2}{2h}$  have been observed in quantum anomalous Hall (QAH) insulator/superconductor heterostructure transport measurements. It was predicted that these HQCPs are signatures of chiral Majorana edge states. The HQCPs are supposed to appear in the regimes where the Hall conductance  $\sigma_{xy}$  is quantized. However, experimentally, a pair of the HQCPs appear when the Hall conductance  $\sigma_{xy}$  is only 80% of the quantized value when dissipative channels appear in the bulk. The dissipative channels in the bulk are expected to induce Andreev reflections and ruin the HQCPs. In this work, we explain how domain walls can cause  $\sigma_{xy}$  to deviate from its quantized value and at the same time maintain the quantization of HQCPs. Our work supports the claim that the experimentally observed HQCPs are indeed caused by chiral Majorana modes in the QAH insulator/superconductor heterostructure.

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