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Effects of Domain Walls in Quantum Anomalous Hall Insulator/Superconductor Heterostructures JAMES JUN HE, CHUI-ZHEN CHEN, DONG-HUI XU, K. T. LAW, The Hong Kong University of Science and Technology — Half quantized conductance plateaus (HQCPs) of $\frac{e^2}{2h}$ have been observed recently in quantum anomalous Hall insulator(QAHI) /superconductor(SC) heterostructures. A theoretical work predicted that such half quantized plateaus could appear due to the Majorana chiral mode in the SC region when the normal QAHI regions support chiral electron modes and thus has quantized Hall conductance, $\sigma_{xy} = \frac{e^2}{h}$. However, experimentally the HQCP happens when the Hall conductance has a non-quantized value, $\sigma_{xy} \approx 0.8\frac{e^2}{h}$. In this presentation, we attribute this non-quantized σ_{xy} to additional channels on domain walls and support the claim that the HQCPs are due to Majorana chiral mode.

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