

Abstract Submitted  
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**Observation of an Even-odd Anisotropic Transport in High Landau Levels**<sup>1</sup> GUANGTONG LIU, CHANGLI YANG, QIN WANG, YUYING ZHU, YUAN PANG, JIE FAN, XIUNIAN JING, ZHONGQING JI, LI LU, Institute of Physics, Chinese Academy of Sciences, RUI-RUI DU, International Center for Quantum Materials, Peking University, Beijing 100871, China, LOREN PFEIFFER, KEN WEST, Department of Electrical Engineering, Princeton University, Princeton, New Jersey 08544, USA, INSITITUTE OF PHYSICS, CHINESE ACADEMY OF SCIENCES TEAM, INTERNATIONAL CENTER FOR QUANTUM MATERIALS, PEKING UNIVERSITY, BEIJING 100871, CHINA COLLABORATION, DEPARTMENT OF ELECTRICAL ENGINEERING, PRINCETON UNIVERSITY, PRINCETON, NEW JERSEY 08544, USA COLLABORATION — Magnetotransport experiments (including tilt fields) were performed on ultrahigh mobility L-shaped Hall-bar samples of GaAs/AlGaAs quantum wells. The low-temperature longitudinal resistance  $R_{xx}$  data demonstrate that a striking even-odd anisotropic transport exists only along the [110] direction at half filling in  $N \geq 2$  high Landau levels. Although the origin for the peculiar even-odd anisotropy remains unclear, we propose that the coupling strength between electrons within the same Landau level and between the neighboring two Landau levels should be considered in future studies. The tilt field data show that the in-plane field can suppress the formation of both bubble and stripe phases.

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