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Observation of Hysteresis in Rhombohedral-Stacked Trilayer Graphene SHI CHE, YONGJIN LEE, YANMENG SHI, KEVIN MYHRO, TIMOTHY ESPIRITU, DAVID TRAN, JAIRO VELASCO, YAFIS BARLAS, CHUN NING (JEANIE) LAU, University of California, Riverside — Few-layer graphene is an attractive platform for exploration of physical processes confined to two dimensions. Diverging density of states in rhombohedral-stacked trilayer graphene (r-TLG) leads to strong electronic correlation. Recently an intrinsic insulating phase with 40 meV gap has been observed at charge neutrality point (CNP) in r-TLG, which is consistent with an layer antiferromagnetic state. By using dual-gated suspended r-TLG device, we observe hysteresis loops in conductance in the vicinity of CNP, which suggests the possible evidence of spontaneous spin polarization or presence of domains with different anomalous Hall conductivities.

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