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Coulomb Oscillations in Antidots in the Integer and Fractional Quantum Hall Regimes[1] A. KOU, C.M. MARCUS, Harvard University, L.N. PFEIFFER, K.W. WEST, Princeton University — We present measurements of Coulomb oscillations as a function of both top gate and magnetic field in gate-defined, micron-scale antidots in the integer and fractional quantum Hall regimes. We find resistance oscillations at filling factors $\nu = 2, \nu = 1, \nu = 2/3$, and $\nu = 1/3$. At $\nu = 1$, we find the tunneling charge to be e and the presence of one edge. At $\nu = 2$, we also find the tunneling charge to be e and the presence of two edges. A generalized picture of Coulomb oscillations in the fractional quantum Hall regime suggests the presence of one charged edge at both $\nu = 1/3$ and $\nu = 2/3$. We find the tunneling charge at $\nu = 1/3$ to be $e/3$ but unexpectedly find the tunneling charge at $\nu = 2/3$ to be $(2/3)e$.

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