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High-quality quantum point contacts in GaN/AlGaN heterostructures H. T. CHOU, S. LUSCHER, Stanford University, D. GOLDHABER-GORDON, Stanford University, M.J. MANFRA, Bell Labs, R.J. MOLNAR, MIT — We have fabricated quantum point contacts on a high-mobility GaN/AlGaN heterostructure using the split-gate technique. The conductance of our devices shows well-quantized plateaus, which spin-split in high perpendicular magnetic field. The g factor is derived from the point contact subband splitting versus perpendicular magnetic field. In addition to the well-resolved plateaus, we also observe evidence of "0.7 structure" which has been mainly investigated in the GaAs system. The work at Stanford was sponsored by the Office of Naval Research Young Investigator Program under award no. N00014-01-1-0569, and by a Seed Grant from Stanford University's Center for Integrated Systems.

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