Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Quantum Hall effect and Landau level crossing in trilayer graphene THITI TAYCHATANAPAT, Department of Physics, Harvard University, KENJI WATANABE, TAKASHI TANIGUCHI, National Institute for Materials Science, Japan, PABLO JARILLO-HERRERO, Department of Physics, MIT — We report the experimental observation of quantum Hall effect in Bernal stacked trilayer graphene (TLG) on hexagonal boron nitride substrate. The mobility of our TLG reaches 110,000 $cm^2/V{\cdot}s$ allowing us to observe the Shubnikov-de Haas oscillation at a magnetic field as low as 300 mT and broken- symmetry states at high magnetic field. In addition, the unique band structure of Bernal stacked TLG which consists of monolayer-like and bilayer-like subbands at low energy allows us to observe the Landau level crossing between these two subbands. The positions of these crossings in magnetic field and filling factors enable us to estimate relevant Slonczewski-Weiss-McClure parameters.

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Date submitted: 14 Dec 2010 Electronic form version 1.4