Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Landau level gaps in high mobility black phosphorus devices SON TRAN, JIAWEI YANG, JASON WU, Univ of California - Riverside, HONG-WOO BAEK, DMITRY SMIRNOV, National High Magnetic Field Lab, TAKASHI TANIGUCHI, KENJI WATANABE, National Institute for Materials Science, RUOYU CHEN, CHUN NING LAU, Univ of California - Riverside — Black phosphorus (BP) has recently attracted wide interest as a high mobility two-dimensional semiconductor. Here we report encapsulated few-layer BP field effect transistors achieving high field effect mobility at cryogenic temperatures and observation of the integer quantum Hall effect in high magnetic field. We examine the devices' anisotropic transport properties and the Landau level gaps by varying temperature and magnetic field. Latest results will be discussed and compared with theoretical models.

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Date submitted: 10 Nov 2016 Electronic form version 1.4