Quantum capacitance measurement in high performance graphene field-effect devices ZHIHONG CHEN, IBM T.J. Watson, JOERG AP-PENZELLER, Electrical Engineering, Purdue University — We demonstrate first quantum capacitance measurements on single-layer graphene devices and elucidate on their relevance for the extraction of mobility for scaled graphene FETs. We also show experimentally that multi-layer graphene devices can be easily distinguished from single-layer graphene within our capacitance measurement approach, a previously unnoticed fact.

Zhihong Chen
IBM T.J. Watson

Date submitted: 21 Nov 2008