

Abstract Submitted
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Impact of coulomb impurities on transport properties of graphene nanoribbons CHRISTIAN SMITH, MASAHIRO ISHIGAMI, Department of Physics, University of Central Florida — Coulomb impurities create charge puddles in graphene sheets, which dominate transport properties. We measured transport properties of graphene nanoribbons while varying charged impurity density in ultra high vacuum to directly probe the effect of the dimensional confinement. We will discuss our results in light of recent predictions [1] that dimensional crossover will occur as the ribbon width becomes on the order of the impurity-induced puddles.

[1] S. Adam et al., Phys. Rev. Lett. 101, 046404 (2008)

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