

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Interplay of Coulomb interactions and rippling of monolayer graphene: RG approach OSKAR VAFEK, NHMFL and FSU, VLADIMIR JURICIC, IGOR HERBUT, Simon Fraser University — The effects of electron-electron Coulomb interactions and rippling disorder of a mono-layer graphene are studied at half-filling using renormalization group. It is found that the system flows to an infra-red stable line of fixed points which is accessible perturbatively and along which the zero temperature minimal metallic conductivity is non-universal and enhanced relative to the clean non-interacting fixed point. An estimate of the typical random vector potential representing ripples in graphene brings the theoretical value of the minimal conductivity into the vicinity of $4e^2/h$.

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Date submitted: 26 Nov 2007

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