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Effect of charged impurity correlation on

We study both monolayer and bilayer graphene transport properties taking into account the

arising from impurity correlation effects in the Coulomb disorder, with no need to assume the

presence of short-range scattering centers in addition to charged impurities. We find that also in bilayer graphene correlations among impurities induce a crossover of the scaling of the conductivity

conductivity depends nonlinearly on the impurity density \$n_i\$ and can even increase with \$n_i\$.

at higher carrier densities. We show that in the presence of correlation among charged impurities the

presence of correlations in the spatial distribution of charged impurities. In particular we find that the experimentally observed sublinear scaling of the graphene conductivity can be naturally explained as

transport in monolayer and bilayer graphene

Submission history

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