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Electronic properties of single and multi-layer Graphene

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Graphene, a two dimensional carbon crystal with a honeycomb lattice, was discovered only two years ago. It has generated a lot of excitement in the condensed matter community because of its unusual properties: anomalous integer quantum Hall effect, universal d.c. conductivity, absence of weak localization, unusual behavior in high magnetic fields, among others. In this talk I am going to discuss the various non-Fermi liquid properties of single layer, bilayer, and multi-layer graphene. These results indicate that graphene belongs to a new class of materials with unique properties that can be used as basis for a carbon based electronics.