

Exploring Carbon Flatland

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I will discuss the physics of graphene, with an emphasis on electronic properties and on theoretical issues. No prior knowledge of the graphene literature will be assumed. Some of the topics that will be addressed will be: i) transport theory including the minimum conductivity and weak localization ii) the ac conductivity including intraband and interband contributions iii) the possibility of broken chiral symmetry states in graphene based systems and iv) the quantum Hall effect in graphene.