

Séminaire du SPEC
Mercredi 25 octobre 2006, 11h00

Bt. 774 - Salle Claude ITZYKSON
Centre d'Etudes de Saclay, Orme des Merisiers
91191 Gif-sur-Yvette

Accueil café 15 minutes auparavant
QED in a pencil trace

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When one writes by a pencil, thin flakes of graphite are left on a surface. Some of them are only one angstrom thick and can be viewed as individual atomic planes cleaved away from the bulk. This strictly two dimensional material called graphene was presumed not to exist in the free state and remained undiscovered until the last year. In fact, there exists a whole class of such two-dimensional crystals. The most amazing things about graphene probably is that its electrons move with little scattering over huge (submicron) distances as if they were completely insensitive to the environment only a couple of angstroms away. Moreover, whereas electronic properties of other materials are commonly described by quasiparticles that obey the Schrödinger equation, electron transport in graphene is different : It is governed by the Dirac equation so that charge carriers in graphene mimic relativistic particles with zero rest mass. This 2D system is not only interesting in itself but also allows one to access - in a condensed matter experiment - the subtle and rich physics of quantum electrodynamics.

Invitant :

Organisateurs séminaires :

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