#### SEMINÁŘ OTF ÚJF, ŘEŽ

# VÍT JAKUBSKÝ

### (ÚJF AV ČR, Řež

### Perfect tunneling in carbon nanostructures and the free-particle dynamics

#### Abstrakt

We will review the basic theoretical description of graphene and carbon nanotubes, the tight-binding model and its low-energy limit in particular. It is well known that the low-energy quasi-particles in graphene and in the metallic nanotubes can penetrate through the potential barriers without reflection, which is interpreted as a manifestation of Klein tunneling in this condensed matter system. We provide an alternative simple explanation of this phenomenon in terms of the free-particle dynamics.

## Seminář se koná v pátek 22. 10. 2010 v 10:30 hod. v zasedací místnosti ÚJF Řež

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