

Seminář odd. 26

Tenkých vrstev a nanostruktur

Fyzikální ústav AVČR, Cukrovarnická 10, Praha 6

datum: 14. 5. 2012 pondělí

čas: 15:00

místnost: knihovna, budova A, 1.p.

TÉMA

GROWTH OF SILICENE

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Silicene resembles graphene in many respects: It is practically a two-dimensional material, ordered in a honeycomb lattice and presents a Dirac cone band structure at the vicinity of the Fermi energy.

Electronically the main difference between carbon and silicon is stronger preference of sp^3 over sp^2 in silicon. This explains the buckling in silicene, and it leads to an expectation that silicene cannot exist as a stand-alone material, unlike graphene.

Recently we have shown that silicene can be grown on silver crystals. The big challenge for scientists now is to grow silicene on insulating substrates which will allow learning more about its electrical properties and understanding how it can be integrated to make electronic devices.

In my talk I will present the recent progress in silicene.

odborný garant: *Ing. Pavel Jelínek, Ph.D.*