SFB 608

Einladung zum Kolloquium

Ort: Universität zu Köln
II. Physikalisches Institut, Seminarraum 201

Zeit: 16.Mai 2007, 14:30 Uhr

Sprecher: I. Mazin
NRL Washington, US

Thema: Superconductivity in intercalated graphenes: Marrying MgB_2 and CaC_6

MgB_2 and CaC_6 are some of the most interesting new stars on the superconducting skies. The former, with T_c=39K is the most high-temperature conventional superconductor, and it is by far superior technologically to the cuprate-base high-T_c materials. The latter has T_c >13K, nearly an order of magnitude higher than that of old intercalated graphites. Theory says that despite both materials being, essentially, doped graphene, superconductivity comes from two different bands, one existing in MgB_2 but not in CaC_6 and the other in CaC_6 but not in MgB_2. In this talk I will explain what are this bands and why they are responsible for superconductivity in the respective compounds, and will discuss whether or not it is possible to invent a new material that would combine superconducting advantages of both.

Gez. D. Khomskii