



ODSEK za KOMPLEKSNE snovi
Seminar

of the Department of complex matter F7

Friday, 1.6.2018 at 13:30,

Seminar room for physics, JSI main building

Polarized pump-probe measurements in organic superconductors near Mott boundary

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A series of κ -type organic superconductors offers an ideal electronic system to investigate crucial electronic properties such as pseudogap and fluctuating superconductivity, for understanding mechanism of unconventional superconductivity since chemical substitution in insulating/conducting molecules can lead to change of effective electron correlation, contributed by its flexible nature. Recently, behavior of the superconducting electronic state near the Mott boundary has attracted much attention since the Nernst effect measurements, which can detect finite superconducting quantum vortices even above T_c , reported the huge onset temperature divergently up to $\sim 5 T_c$ with reaching the boundary. However, the consensus about the fluctuating state has yet to be reached due to the inconsistencies from the other experimental methods. Thus, spectroscopic methods, which can characterize the superconducting gap formation, have been required. In the presentation, I would like to talk about the results of the polarized pump-probe spectroscopic measurements, which are sensitive to the gap formation near E_F , for κ -type organics, in which the electron correlation is finely tunable around the Mott boundary by a ratio of deuterated conducting molecules.

The lecture will be held in English.
Cordially invited to attend.

