



April 15th 2014 – 16:00

CFEL Seminar room IV, 01.111 (Bldg. 99)

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Nonequilibrium properties of Mott-Hubbard insulators

In the talk I will discuss some aspects of nonequilibrium properties of Mott-Hubbard (MH) insulators. One challenge is the understanding of the response of an insulator to the constant-field driving. A model of 1D interacting fermions in the insulating regime shows that response is anomalous for the integrable case as opposed to generic models and the metallic regime. The recombination of photoinduced charges in MH insulators represents the case of the relaxation of far-from-equilibrium initial state. I will present the recent results of the theory based on the multi-magnon decay applied to the interpretation of ultrafast pump-probe spectroscopy on undoped cuprates and other MH insulators. Finally, I will consider the optical response of a pump-excited system out of equilibrium, with an example of doped insulator.

