

Colloquium Cukrovarnická

**Ve čtvrtek dne 3. listopadu 2011 ve 15:00 hod.
ve Fyzikálním ústavu Cukrovarnická v seminární
místnosti (budova A, 1. patro)**

Correlated electrons in nonequilibrium



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How is a new stationary state reached in an isolated quantum-mechanical many-body system after it has been forced out of equilibrium? What are the properties of this new state, in particular, is it the thermal state expected from statistical mechanics? For correlated electrons in condensed matter, which are not independent of each other because of the Coulomb interaction, such questions can be investigated with time-resolved femtosecond spectroscopy, where shortly after a first laser pulse the response to a second pulse is measured. Theoretical approaches that describe the real-time dynamics of correlated systems are discussed, in particular nonequilibrium dynamical mean-field theory for Hubbard-type models. We discuss the formation of stationary states and the relaxation towards thermal states, which is also of interest in view of experiments with cold atomic gases in optical traps.