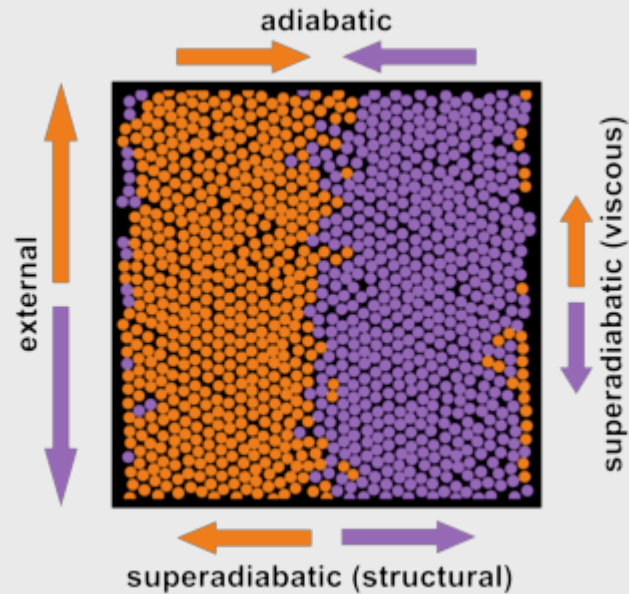


Velocity Gradient Power Functional Theory for Brownian Dynamics



Title: Velocity Gradient Power Functional Theory for Brownian Dynamics.

When: Wednesday, November 27, (2017), 12:00.

Place: Department of Theoretical Condensed Matter Physics, Faculty of Science, Module 5, Seminar Room (5th Floor).

Speaker: Daniel de las Heras, Theoretische Physik II, University of Bayreuth, Germany.

Power functional theory is an exact generalization of equilibrium density functional theory to nonequilibrium Brownian dynamics. We present an explicit and simple approximation for the superadiabatic excess (over ideal gas) power functional based on the local velocity gradient. The resulting superadiabatic forces, obtained via functional differentiation, are beyond dynamical density functional theory and explain a broad range of phenomena such as viscous forces, lane formation in colloidal systems, and shear migration.