Collective optomechanics with optically trapped atoms and silica nanoparticles

Uros Delic

Vienna University of Technology, Austria
uros.delic@tuwien.ac.at

In recent years, arrays of optical tweezers have extended optical trapping to arbitrary patterns of atoms or silica nanoparticles. In these systems, optical forces induce an interaction mechanism, known as the light-induced dipole-dipole (LIDD) or “optical binding” forces. In this lecture, I will present the recent efforts in exploring collective motion in a few-body system of atoms or silica nanoparticles.