Physik-Kolloquium

Dienstag, den 22.10.2019, 17.00 Uhr

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Opto-phononics: Controlling Light and Sound at the Nanoscale

Advances in material science and fabrication techniques enabled the fabrication of samples with nanometric dimensions where it is possible to confine photons and phonons (GHz-THz frequencies) in a single resonant cavity. In this colloquium, I will describe the behavior of a plethora of devices able to control the interactions between light, sound and charge at the nanoscale. I will introduce some strategies to generate, manipulate and detect ultra-high frequency acoustic phonons both in the time and spectral domains. The presented results open a new playground in the control of acoustic vibrations in solids and constitute a new platform to study topological effects, quantum phenomena, and thermal transport properties.

Semiconductor micropillar resonator where acoustic-phonons and visible-photons can be simultaneously confined.

Ort: Hörsaal für Theoretische Physik, Linnéstraße 5
Alle Teilnehmer sind ab 16.30 Uhr zu Kaffee vor dem Hörsaal eingeladen.