chemisch physikalische gesellschaft

Gegründet im Jahre 1869 von H. Hlasiwetz, J. Loschmidt, J. Petzval und J. Stefan

EINLADUNG

zum Vortrag von

Dr. Ioachim Pupeza

Laboratory for Attosecond Physics (LAP), Max Planck Institute of Quantum Optics (MPQ), Garching, Deutschland

Electric-field-resolved spectroscopy of molecular vibrations

am
Dienstag, 30. Oktober 2018, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmanngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmanngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract

Traditionally, infrared molecular spectroscopy has been performed with frequency-domain measurement techniques. Recent experiments have exploited the outstanding temporal coherence of state-of-the-art femtosecond lasers to overcome long-standing sensitivity and dynamic range limitations of these traditional techniques, with time-domain measurements of the electric field associated with the light-matter interaction. This talk addresses new developments of coherent infrared technology, affording (i) Watt-scale-average-power coverage of the entire molecular fingerprint region, with a spectral brightness exceeding even that of synchrotrons, (ii) background-free, high-sensitivity and high-dynamic range time-domain detection of molecular vibrations via electro-optical sampling with (iii) attosecond temporal accuracy. These advances herald a new regime for time-, frequency- and space-resolved molecular vibrational metrology.