

Seminar über Ultrafast Science and Technology

Referent: PD Dr. Lukas Gallmann, Institute of Applied Physics, University of Bern, and ETH Zurich

Titel: Exploring the long-wavelength limit of the electric dipole approximation

The electric dipole approximation is heavily used throughout strong-field and attosecond science. This approximation assumes that the object exposed to the laser field is much smaller than the wavelength of this radiation. While its breakdown towards short wavelengths follows directly from this definition, it has a lesser-known limit towards long laser wavelengths that manifests itself in the onset of magnetic field effects. Using a few-cycle mid-infrared optical parametric chirped-pulse amplifier developed in-house, we were able to experimentally demonstrate this long-wavelength limit in above-threshold ionization at non-relativistic intensities. In my presentation I will review the laser technology that allowed us to reach this sparsely explored regime of light-matter interaction and I will present our recent results on strong-field ionization in the non-dipole limit.

Zeit: Donnerstag, 15.10.2015, 11:15 Uhr

Ort: **Hörsaal B116**, Gebäude exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz