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Seminar über Ultrafast Science and Technology

Referent/in: Dr. Egmont Rohwer, IAP, University of Bern

Titel: Stark Spectroscopy with THz pulses

In a conventional Stark spectroscopy setup, the electric field is applied to a sample volume sandwiched between electrodes, by an Alternating Current (AC) source. Changes in the sample's absorption spectrum are monitored with light from a lamp source. By replacing the electric field source with a single cycle THz pulse and the light source with a femtosecond supercontinuum pulse, we can overcome many limitations of the conventional setup. We will show how and by two molecular examples show that the linear and quadratic Stark effects familiar to the conventional spectroscopists, can be reproduced in the THz-induced setup. Looking to the future, we will show how the new technique can extend Stark spectroscopy into the realm of transient molecular states with time resolution on the scale of molecular rotation and vibration. With improvements in the electric field strength, higher order electro-chromic effects beyond the low-frequency dielectric breakdown limit can be studied.

Zeit: Donnerstag, 16.05.2019, 11:15 Uhr

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