



TECHNISCHE
UNIVERSITÄT
WIEN



INSTITUT FÜR PHOTONIK
Photonics Institute

Gußhausstraße 27-29, 1040 Wien / Tel: +43 1 58801 38701 / <http://www.tuwien.at/etit/phonik>

PHOTONIK SEMINAR

Vaclav Hanus

Wigner Research Centre for Physics, Budapest, Hungary

Ultrafast currents created upon interaction of few-cycle lasers with solids

When the intensity of the laser reaches a level where its electric field approaches that of atoms, various nonlinear phenomena can occur during its interaction with solid matter. One particular phenomenon that has garnered attention is the generation of ultrafast currents. These currents are so fast that they can follow the shape of the electric field of the laser. To manipulate the electric field easily, the experiments utilize carrier-envelope phase (CEP) modulation, enabling the alteration of the direction of these ultrafast currents in dielectrics and semiconductors. In this talk, I will showcase experiments along with a recent application of ultrafast currents to construction of a CEP scanning probe. Additionally, I will discuss the properties of a potential device based on these ultrafast currents.

Thursday, 1st June 2023, 14:00h

Seminarraum 387 (CBEG02) - Institut für Photonik
Gußhausstraße 27-29, 1040 Wien

HOST: Markus Zeiler
markus.zeiler@tuwien.ac.at