TECHNISCHE
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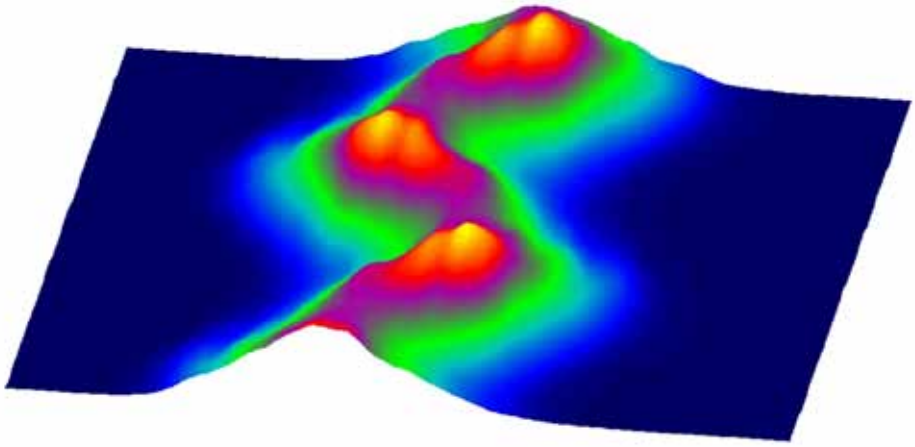
Vienna University of Technology

ADLIS SYMPOSIUM
10 years of ADvanced LIght Sources

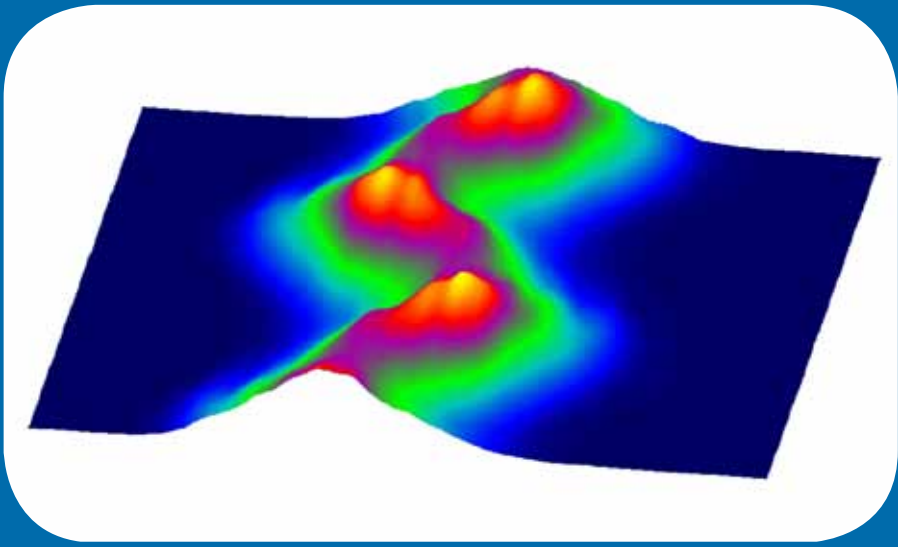


October 28-29, 2010
Vienna, Austria

During its ten year duration (2000-2010) the Special Research Program (Spezialforschungsbereich, SFB) "Advanced Light Sources (ADLIS)" has significantly contributed to the development of novel "table top" sources of coherent electromagnetic radiation, covering a wide spectral range from the THz domain to some 100 PHz reaching well into the XUV and soft X-ray regime.

Novel techniques have permitted the complete characterization of few-cycle (sub-picosecond) THz as well as few-cycle (sub-10-fs) optical pulses and thereby full control over their electric field. These novel tools brought ADLIS to the forefront in probing and controlling semiconductor, molecular, and atomic dynamics.

The emerging field of attosecond science originated to a significant part in the pioneering research within ADLIS. These advances laid the foundation for novel time-dependent spectroscopies.



This picture illustrates the streaking of ejected electrons from Helium with attosecond half-cycle laser pulses.

PARTICIPATING INSTITUTIONS

Vienna University of Technology

- Photonics Institute
- Institute for Theoretical Physics
- Institute for Solid State Electronics
- Center for Micro- and Nanostructures

University of Vienna

- Institute for Physical Chemistry
- Institute for Theoretical Chemistry and Structural Biology

University of Bielefeld

- Physics Department

Ludwig-Maximilians University of Munich

- Physics Department

Julius-Maximilians University of Würzburg

- Physics Department

Sponsored by:

FWF Der Wissenschaftsfonds.

PROGRAM

All lectures are held at the Festsaal, VUT, Karlsplatz 13

Thursday, 28 October

18:00 *Public lecture: Paul Corkum*

National Research Council, Ottawa, CA
Catching Electrons with Light?

20:00 Dinner

Friday, 29 October

08:45 *Welcome*
Opening remarks by Peter Skalicky, President of VUT

09:00 *Ferenc Krausz, MPQ Garching*
Attoworld: controlling and tracing electron motion in real time

09:40 *Joachim Burgdörfer, VUT, Institute for Theoretical Physics*
Employing ultrafast pulses: Quantum physics in the time domain

10:10 – 10:30 coffee break

10:30 *X.-C. Zhang, Rensselaer Poly technic Institute, Troy, USA*
Pulsed THz wave generation and detection in gases

11:10 *Karl Unterrainer, VUT, Photonics Institute*
Phase-resolved THz spectroscopy of semiconductor quantum structures

12:00-13:30 lunch

13:30 *Andrius Baltuska, VUT, Photonics Institute*
Cycle-sculpted strong field optics

14:00 *Bern Kohler, Montana State University, USA*
Deactivation pathways of excited electronic states in DNA explored by femto-second spectroscopy

14:40 *Christian Spielmann, Institute for Optics and Quantum Electronics, Friedrich-Schiller-University Jena*
Time-resolved X-ray spectroscopy using high-harmonic radiation

15:10-15:30 coffee break

15:30 *R.J. Dwayne Miller, CFEL/ DESY, University Hamburg*
"Making the Molecular Movie" – first frames

16:10 *Harald F. Kauffmann, Institute for Physical Chemistry, University of Vienna*
2-dimensional coherent electronic spectroscopy