NEXT lite
next generation light synthesis and interaction

NEXT LITE-SEMINAR

Attosecond photo-ionization spectroscopy: using attosecond light pulses to clock electron emission

Prof. Pascal Salières

CEA, CNRS, Université Paris-Saclay

Date and Time: **Friday, February 2nd 2018, 10:00**

Location: **TU Wien, Institute of Solid State Electronics**
1040, Floragasse 7, 1st Floor, Seminar Room 362

Host: J. Burgdörfer

Abstract

The recent generation of attosecond light pulses (1 attosecond = 10^{-18} s) has opened the possibility to track the fastest dynamics in matter, in particular the electron dynamics that naturally occur on such a short timescale. Attosecond spectroscopy is thus able to shed new light on fundamental electronic processes involved in a variety of physical, chemical and biological reactions. A recent example is photo-electron emission for which tiny delays between photon absorption and electron emission are becoming measurable in rare gas atoms, molecules or solids. When ionization occurs in the vicinity of a resonance, the dynamics is strongly perturbed and cannot be simply characterized by a group delay. It is now possible to reconstruct the full ionization dynamics, e.g., through a Fano resonance, evidencing how photoelectron wavepackets are born and morph into asymmetric Fano profiles. During this seminar, I will review the recent studies performed at CEA-Saclay in attosecond photoionization spectroscopy, with a special emphasis on the above example.

Contact: *pascal.salieres@cea.fr*

FWF Der Wissenschaftsfonds.

TU WIEN