



Institutskolloquium

Am Dienstag, 27. November 2007 um 16:00 Uhr spricht

Prof. Dr. André D. Bandrauk
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über

“Attosecond Laser Science in Molecular Physics: The Next Frontier”

Abstract: The recent announcement of the generation of an isolated single attosecond cycle pulse, a “spin-off” of strong-field physics, (1), opens the way to a new regime in ultrafast physics. We will illustrate from numerical solutions of the TDSE (Time Dependent Schrodinger Equation) attosecond electron response in Enhanced Ionization, EI, of H_2^+ thus elucidating a recent experimental mystery in the Coulomb Explosion of this system (2), Carrier Envelope Phase, CEP, control of electron transfer in H_3^{++} , (3), where electron trajectories separated by a few hundreds of attoseconds interfere. Finally, we will discuss the usefulness of photoelectron interferometry with broadbands inherent with attosecond pulses (4).

- (1) G Sansone et al, Science, 314,443(2006)
- (2) A Staudte et al, Phys Rev Lett 98,073003(2007)
- (3) A D Bandrauk et al, Phys Rev Lett 98,013001(2007)
- (4) G L Yudin et al, Phys Rev Lett 96,063002(2006)

**Ort: Max-Born-Saal,
MBI, Max-Born-Str. 2a**

Prof. Dr. W. Sandner