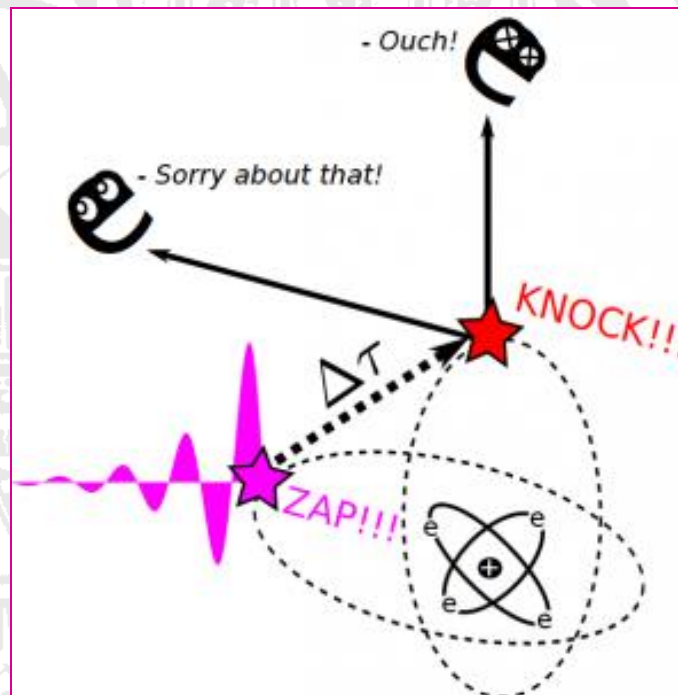


PHYSIKALISCHES KOLLOQUIUM

AM 4. MAI 2015 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



FROM EXTREME NONLINEAR OPTICS TO ULTRAFAST ATOMIC PHYSICS

PROF. DR. ANNE L'HUILLIER

*DEPARTMENT OF PHYSICS,
LUND UNIVERSITY, SWEDEN*

The interaction of atoms with intense laser radiation leads to the generation of high-order harmonics of the laser field. In the time domain, this corresponds to a train of pulses in the extreme ultraviolet range and with attosecond duration. This presentation will introduce the physics of high-order harmonic generation and attosecond pulses and describe recent developments concerning photon energy, pulse energy and repetition rate.

After the first decade where attosecond pulses were characterized, analyzed and used in – mostly – demonstration experiments, we begin to perform experiments where these pulses allow us to explore new physics. We will describe some of these applications, and in particular recent results concerning single and double photoionization dynamics.