



ICFO Colloquium ANNE L'HUILLIER 'From Extreme Nonlinear Optics to Ultrafast Atomic Physics'

ANNE L'HUILLIER

April 01, 2016

Friday, April 1, 12:00, ICFO Auditorium

ANNE L'HUILLIER

Professor in Atomic Physics, Lund University

Anne L'Huillier is professor in Atomic Physics at Lund University since 1997. After a PhD at the University Pierre et Marie Curie in 1986, she was researcher at the Commissariat à l'Énergie Atomique, Saclay, France until 1995 when she moved to Sweden. She pioneered the field of high-order harmonic generation in gases and its application to attosecond pulse generation. She is presently leading a research group in attosecond science, pushing performances of attosecond xuv sources and developing applications.

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.

The short pulse duration and broad bandwidth of attosecond pulses allow us to measure the phase and amplitude of an electronic wave packet using interferometric techniques. This gives us access to the temporal dynamics of the process that led to this wave-packet. We will describe some of these applications, and in particular recent results concerning photoionization dynamics.

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