

Attosecond Symposium at ELI ALPS

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Anne L'Huillier

Professor of Atomic Physics,
Lund University
Nobel Laureate, Physics 2023



Title: The Route to Attosecond Pulses

14 June (Friday) 2024 at 9:30 (CEST)

ELI ALPS Research Institute, Szeged, Hungary

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Abstract

When an intense laser interacts with a gas of atoms, high-order harmonics are generated. In the time domain, this radiation forms a train of extremely short light pulses, of the order of 100 attoseconds. Attosecond pulses allow the study of the dynamics of electrons in atoms and molecules, using pump-probe techniques. This presentation will highlight some of the key steps of the field of attosecond science.

Abstract

Anne L'Huillier is a Swedish/French researcher in attosecond science. She was born in Paris in 1958, and defended her PhD at University Pierre et Marie Curie in 1986. She was a postdoctoral researcher at Chalmers Institute of Technology, Gothenburg (1986), University of Southern California (1988), and a visiting scientist at the Lawrence Livermore National Laboratory (1993). She was permanently employed as a researcher at the Commissariat à l'Energie Atomique, in Saclay, France from 1986 until 1995. In 1995, she transferred to Lund University, Sweden, and became a full professor in 1997.

Her research, which includes both theory and experiment, deals with the interaction between atoms and intense laser light, and in particular

the generation of high-order harmonics of the laser light, which, in the time domain, consists of trains of attosecond pulses. Currently, her research group works on attosecond source development and optimization as well as on applications, for example, the measurement of photoionization dynamics in atomic systems.

She has received several awards for her research, e.g. the 2011 L'Oréal-Unesco award for women in science and the 2021 Max Born Prize from Optica. In 2022, she shared the Wolf Prize in Physics and the BBVA Award for Basic Sciences with P. Corkum and F. Krausz. In 2023, she shared the Nobel Prize in Physics with P. Agostini and F. Krausz.

Programme of the Attosecond Symposium

	Chair: Katalin Varjú Science Director, ELI ALPS
9:30-10:30	Anne L'Huillier Professor, Division of Atomic Physics, Lund University Title: The Route to Attosecond Pulses
10:30-10:50	Balázs Major Group Leader, HR Attosources, ELI ALPS Title: Recent Experiments and Developments at the 100-kHz High Harmonic Beamlines of ELI ALPS
10:50-11:10	Zsolt Divéki Group Leader, SYLOS Attosources, ELI ALPS Title: High Harmonic Generation from the EUV to Soft X-rays
11:10-11:30	Subhendu Kahaly Division Head, Secondary Sources, ELI ALPS Title: Selected Trends and Applications of High Harmonic EUV Sources