



Chair of Attosecond and Strong Field Physics

<https://www.atto.uni-freiburg.de/de>

## Post-doc position

### Investigation of correlated electronic dynamics by nonlinear attosecond spectroscopy (NONLINEARATTO)

#### Relevant Tasks

- Data acquisition
- Data Analysis
- Simulation
- Construction of spectrometer
- Programming

#### What we offer?

- High impact physics project
- Access to state-of-the-art facilities
- State of the art equipment
- Salary level: 100% E13

#### Required skills

- PhD in Physics
- Solid background in atomic, molecular and optical physics.
- Leadership skills.
- Curiosity and creativity

In the framework of the project NONLINEARATTO, a Postdoc position is available in the field of attosecond science at the Albert-Ludwigs-University of Freiburg in Germany (<https://www.uni-freiburg.de/>).

The main goal of the project is the investigation of the role of electronic correlation in the dynamics of fundamental systems, such as helium and molecular hydrogen by nonlinear extreme ultraviolet spectroscopy. The experiments will be based on the pump-probe scheme, exploiting high-intensity extreme ultraviolet attosecond pulses generated by high-order harmonic generation. Information about the electronic dynamics will be gained by measuring in coincidence the photoelectron(s) and photoion(s) generated by the interaction of the attosecond pulses with the system. The experiments will be realized at the laser facility ELI-ALPS (Extreme Light Infrastructure Attosecond Light Pulse Source) in Hungary (<https://www.eli-alps.hu/>), which offer unique laser sources in terms of repetition rate, pulse duration and average power. Thanks to these sources nonlinear investigations on the attosecond timescale will be available for the first time.

The project will focus on three aspects:

- Simulation, design and construction of photoelectron/photoion coincidence spectrometer (Reaction Microscope).
- Design of the data acquisition system and
- Commissioning and experimental beamtimes at ELI-ALPS.

The candidate will coordinate the development of the spectrometer at the university of Freiburg. She/he will be in charge of the experiments performed at the laser facility ELI-ALPS.

The position is available from **01.12.2020** for a period of one year. An additional one-year contract could be offered at the end of the first period.

#### Interested, please contact

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