

Ultrafast measurements of ultrafast dynamics of chiral molecules

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We have recently built a new lab dedicated to measurements of ultrafast chiral dynamics in the gas phase, based on a high repetition rate Yb fiber laser system.

I will give an overview of the developments and first results obtained, including:

- Real-time monitoring of enantiomeric excesses through photoelectron elliptical dichroism.
- Influence of the instantaneous optical chirality in the photoionization of chiral molecules.
- Development of high-order harmonic generation beamline, aimed at using circularly polarized XUV pulses to probe molecular chirality, leading to the generation of 4×10^{14} photons per seconds at 19 eV (1.3 mW), with a 166 kHz repetition rate.