



Contribution ID: 158

Type: **Talk**

## **【442】 Core-valence attosecond transient absorption spectroscopy of polyatomic molecules**

*Thursday 2 September 2021 14:45 (15 minutes)*

Tracing ultrafast processes induced by interaction of light with matter is often very challenging. In molecular systems, the initially created electronic coherence becomes damped by nuclear rearrangement on a femtosecond timescale which makes observations of electron dynamics in molecules particularly difficult. We demonstrate that the attosecond transient absorption spectroscopy (ATAS) can be a very useful technique to trace such ultrafast processes. We report the application of ATAS to probe the oscillations of the positive charge created after ionization of the propiolic acid molecule. By taking advantage of element-specific core-to-valence transitions, we show that the resolution of ATAS makes it possible to trace the dynamics of electron density with atomic resolution.

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**Session Classification:** Atomic Physics and Quantum Optics

**Track Classification:** Atomic Physics and Quantum Optics