

Innsbruck Physics Colloquium

**Time-resolved coherent spectroscopy
of dilute samples**

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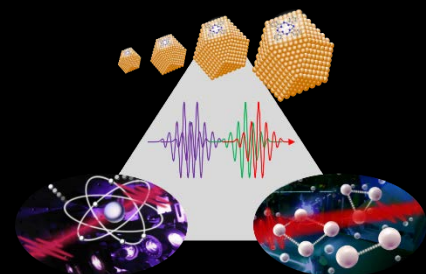


In the infrared to visible spectral range, coherent nonlinear spectroscopy is an important concept for the real-time study of ultrafast dynamics in complex quantum systems, and has been a driving force for the understanding of biological light harvesting and opto-electronics. The technique exploits the wave properties of matter detecting interference phenomena, in this way obtaining fine details of the probes. However, corresponding experiments on dilute atomic or molecular systems on the one hand, and on XUV or X-ray wavelength on the other hand, have been hindered by severe experimental challenges. The talk will review, how we recently we have overcome these challenges, demonstrating unprecedented sensitivity for dilute samples and sub-cycle phase stability even at XUV and soft X-ray wavelength, entering the attosecond domain for corresponding interferometric experiments. Results include collective effects in dilute atomic systems as well as cluster-isolated organic systems.

Colloquium, Tuesday, 13.12.2022

17:15 h, lecture hall C

Technikerstr. 25



DK-ALM Pre-Talk: 16:30 h, new: lecture hall C

Karli Yusuf

Red-detuned Excitation of a Quantum Emitter

Snacks will be provided in between the pre-talk and the colloquium.

