

ASHIHARA LAB.

[Ultrafast&Nano Optical Science]

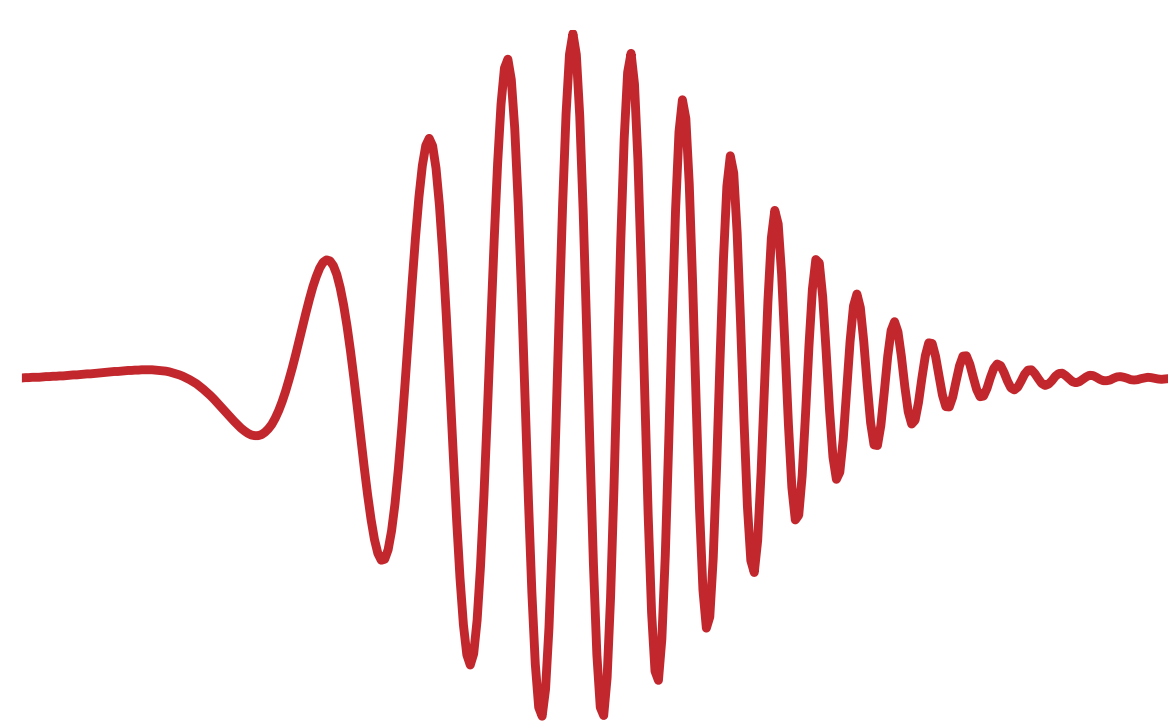
Department of Fundamental Engineering

Ultrafast Optics

Department of Applied Physics

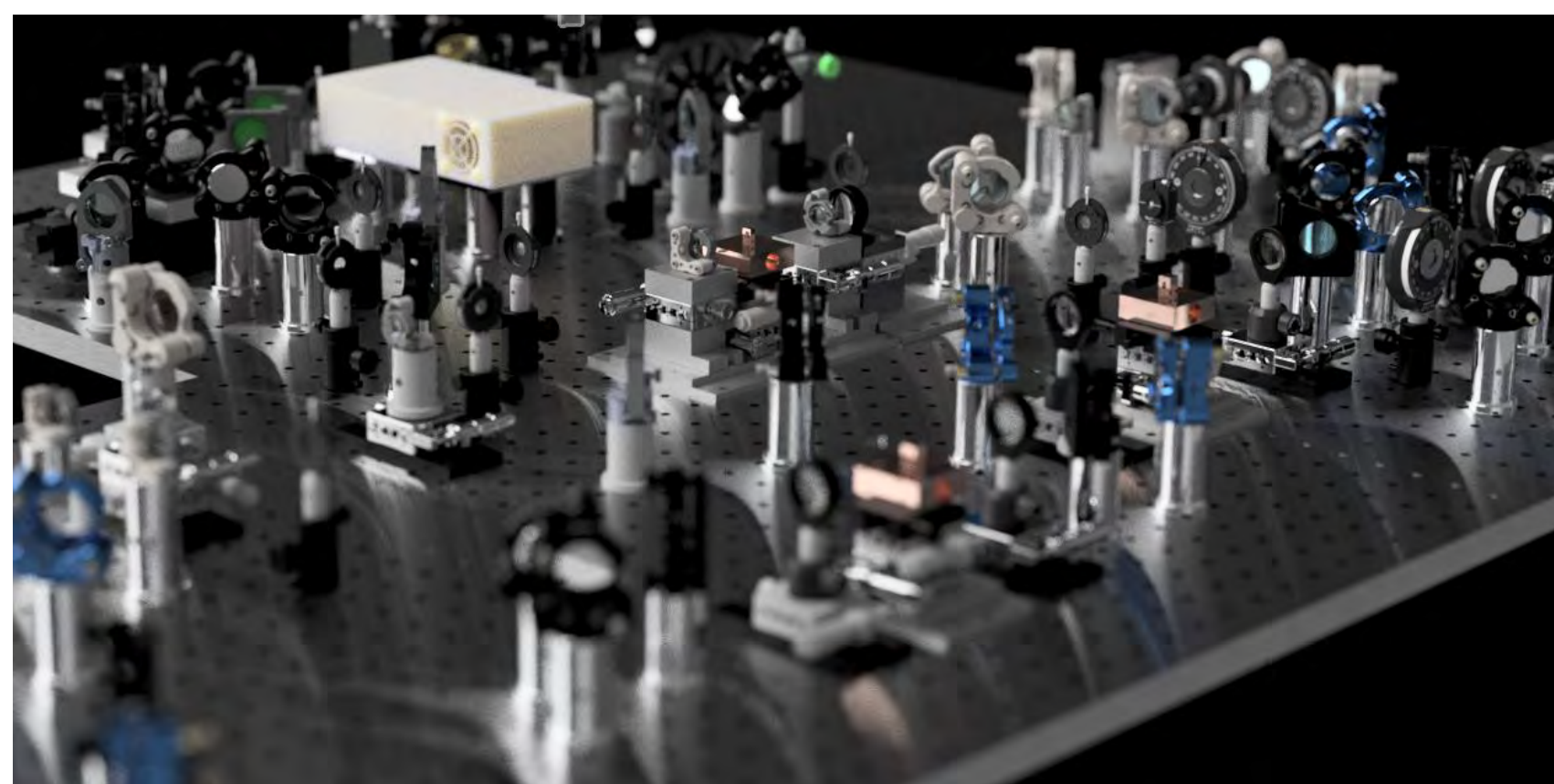
<http://www.ashihara.iis.u-tokyo.ac.jp>

Advanced Spectroscopy & Quantum Control utilizing Optical Field

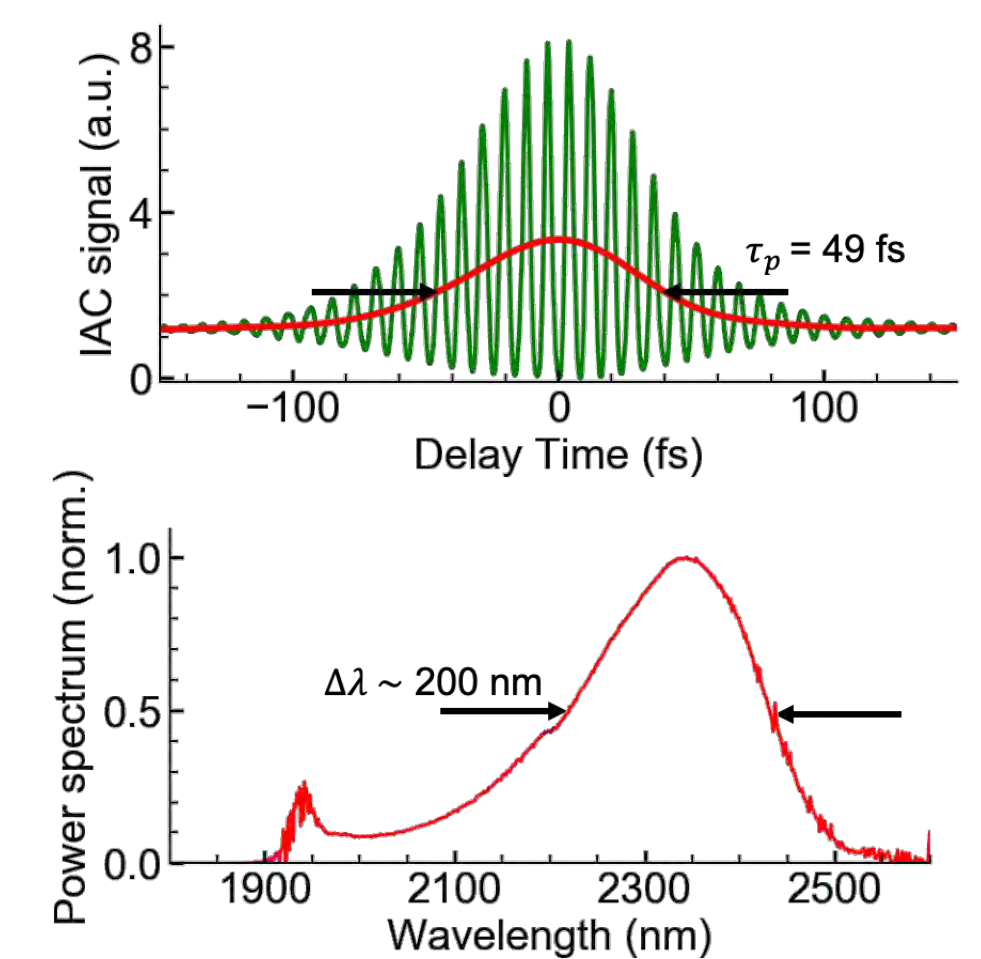


We utilize the degrees of freedom of the optical electric field to study novel light-matter interactions, advanced spectroscopy and quantum control of matter. Future prospects include the applications into ultra-sensitive molecular analysis, nano-spectroscopic imaging, chemical reaction control, and ultrafast opto-electronics.

Infrared Femtosecond Lasers : Generation of Ultrashort Pulses

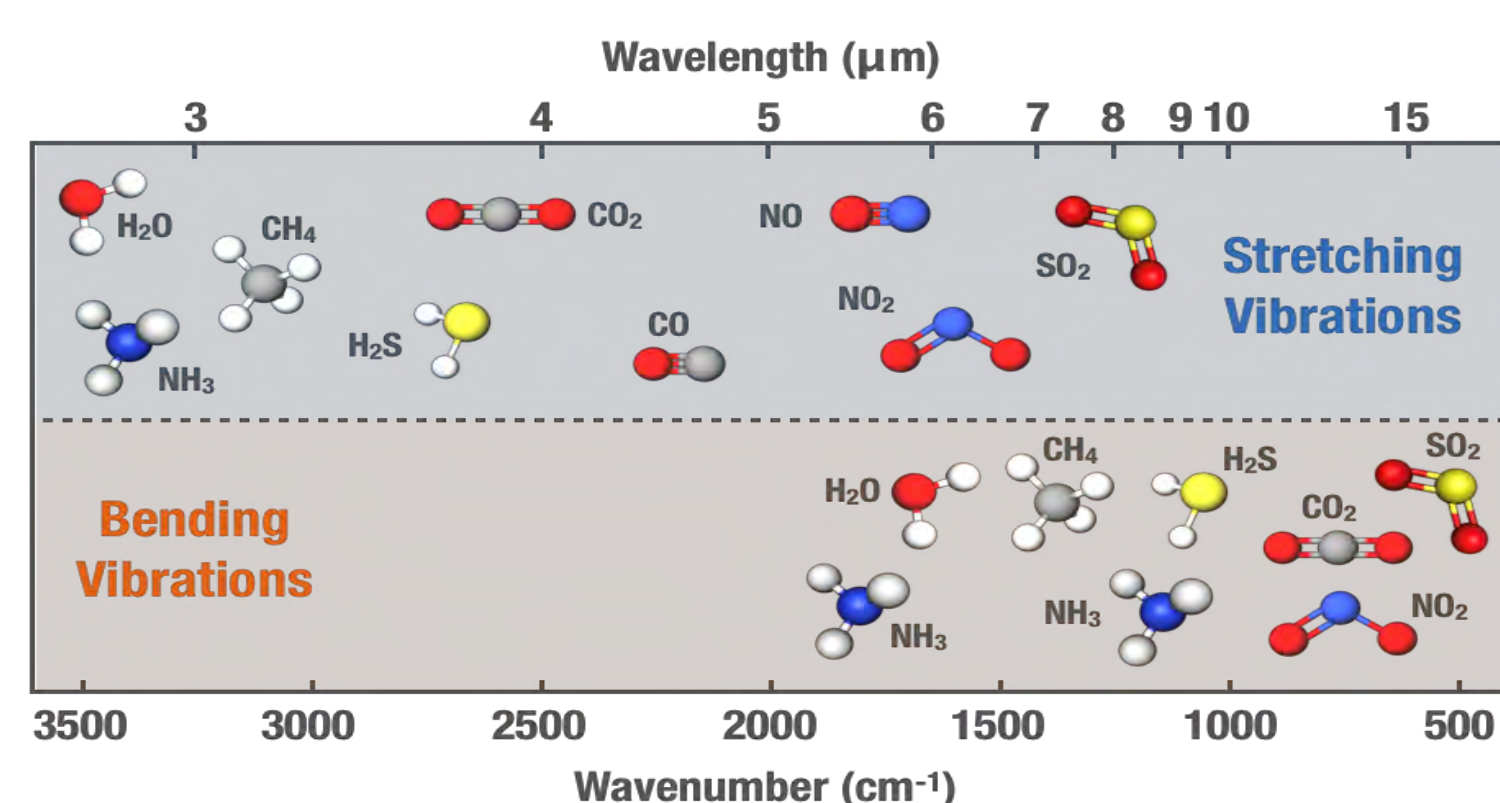


Development of femtosecond Cr:ZnS laser



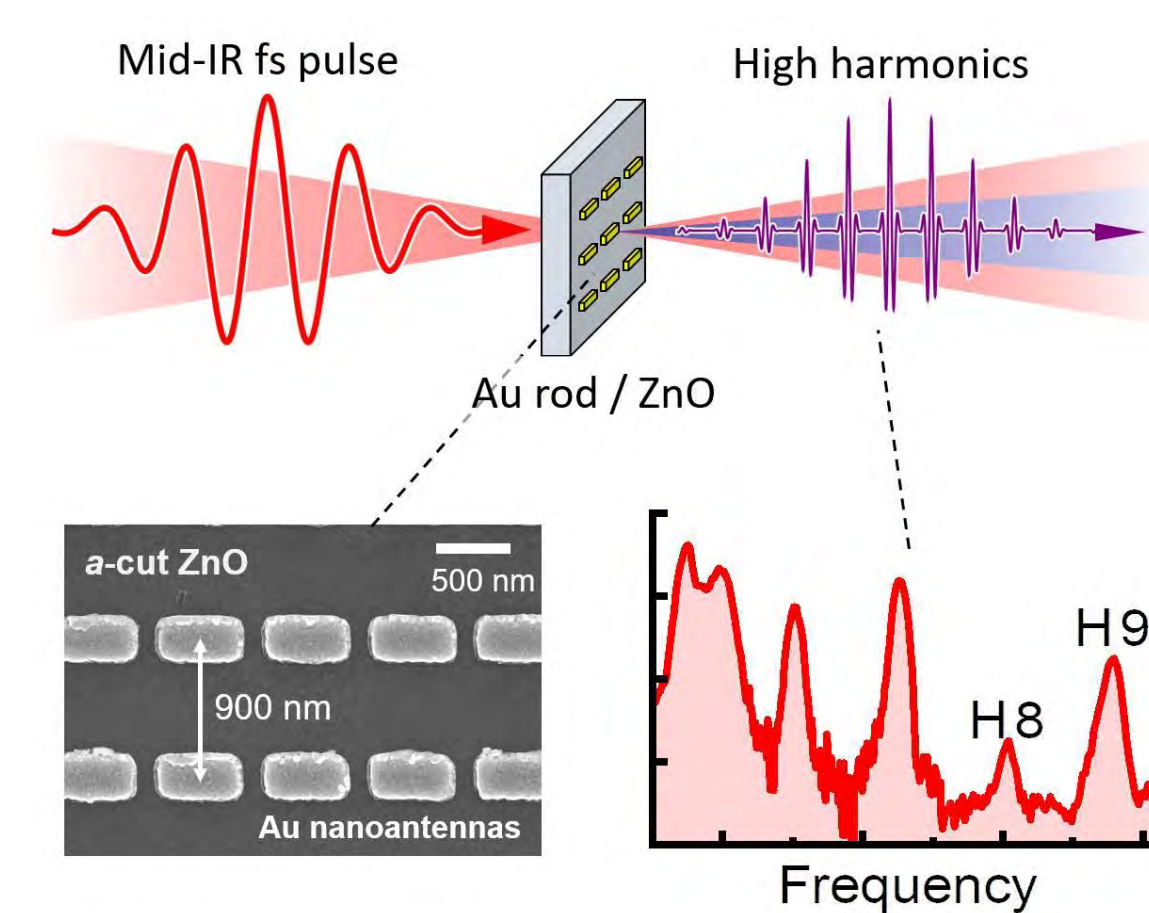
Characterization of six-cycle pulses with broad bandwidths

Spectroscopy & Reaction Control

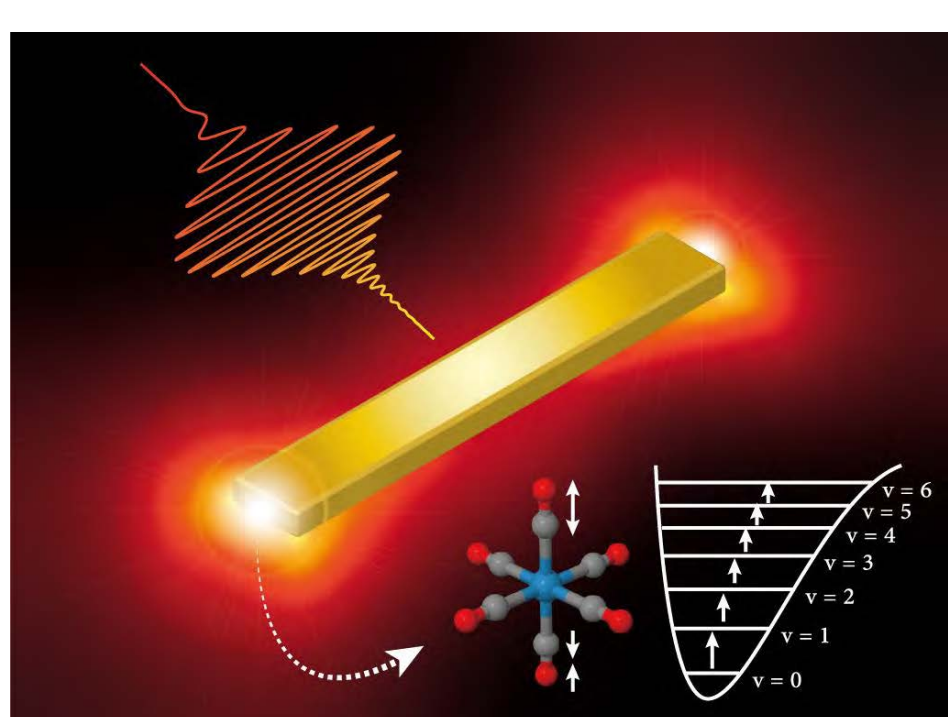


Sensitive detection of molecules and chemicals

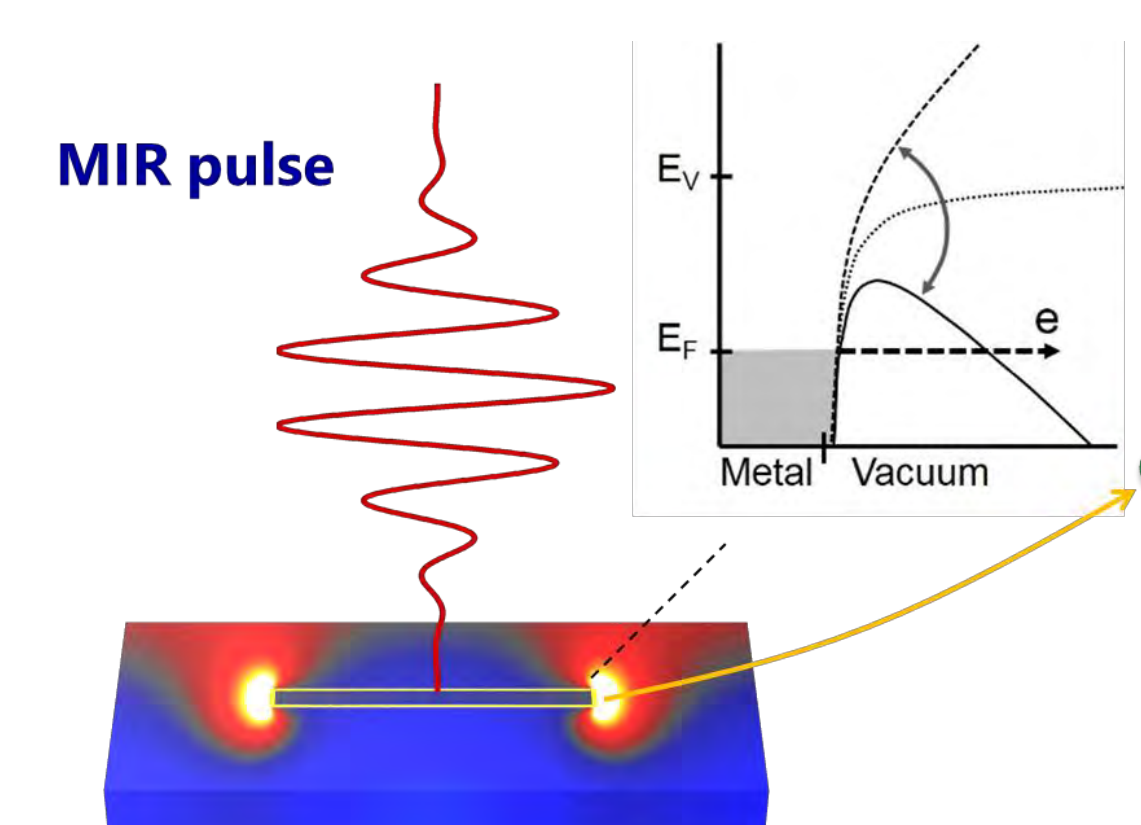
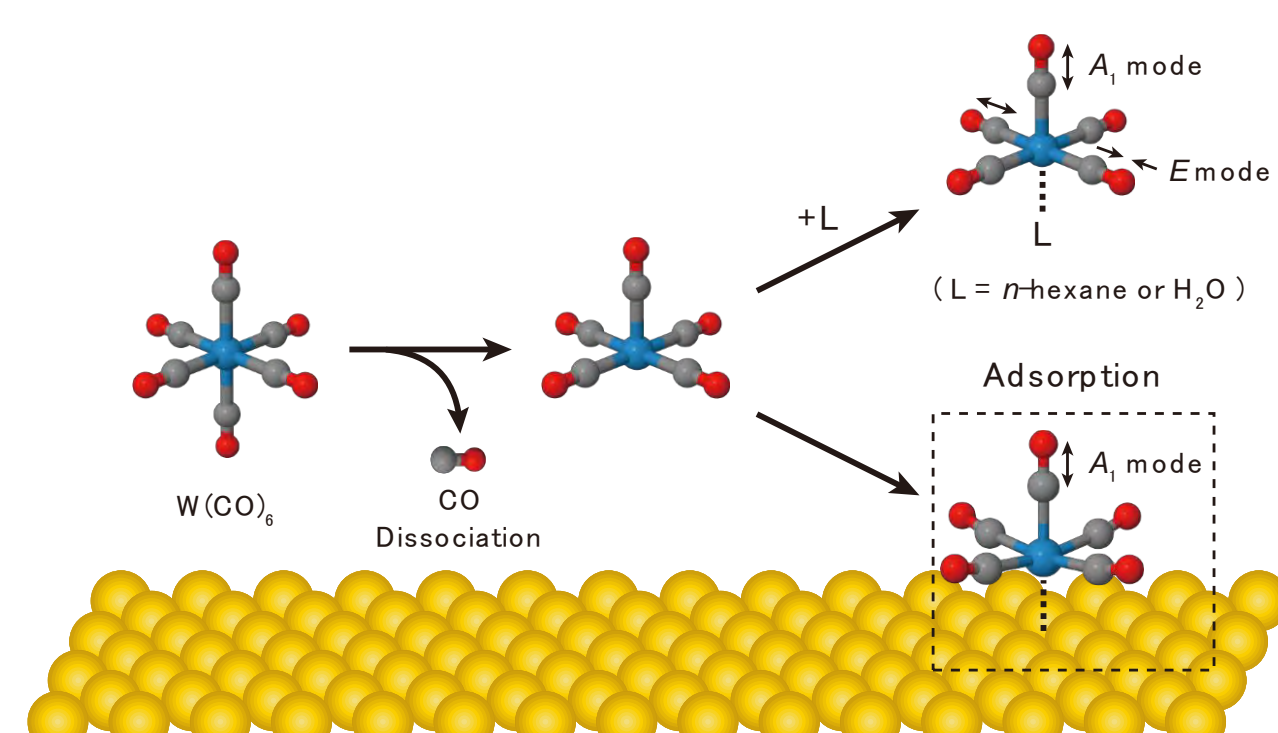
Optical-Field-Driven Science



High harmonic generation for VUV/EUV attosecond source



Chemical reaction control with chirped infrared pulses.



Field-driven electron tunneling toward PHz electronics