

ASHIHARA LAB.

[Ultrafast & Nano Optical Science]

Department of Fundamental Engineering

Ultrafast Optics

Department of Applied Physics

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

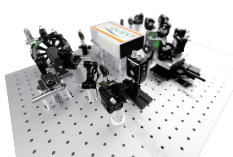
Advanced Spectroscopy & Quantum Control utilizing Optical Field

We tailor optical waveforms of pulsed lasers to study novel light-matter interactions, advanced spectroscopy, and quantum control of matter. Prospects include applications into ultra-sensitive molecular detection, spectroscopic imaging, chemical reaction control, and ultrafast optoelectronics.

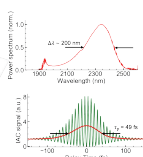
Infrared Femtosecond Lasers : Generation of Ultrashort Pulses



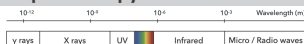
Development of femtosecond Cr:ZnS laser



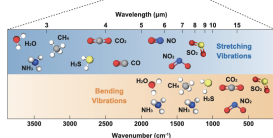
Characterization of six-cycle pulses with broad bandwidths



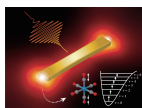
Spectroscopy & Reaction Control



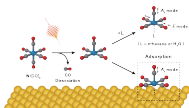
[Transition] Electronic Vibrational Rotational



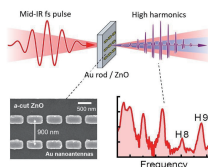
Sensitive detection of molecules and chemicals



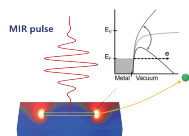
Chemical reaction control with chirped infrared pulses



Optical-Field-Driven Science



High harmonic generation for VUV/EUV attosecond source



Field-driven electron tunneling toward PHz electronics

