第203回触媒化学研究センター談話会

演　題：Investigating Unstable Species Using Resonant Four-wave Mixing Spectroscopy and Time-resolved Fourier-transform Spectroscopy

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日　時：２００６年５月１１日（木）
１５：１５―１６：３０

会　場：北海道大学創成科学研究棟
４階 セミナー室 ０４-２１４　号室

要　旨：

Degenerate four-wave mixing and two-color resonant four-wave mixing were employed to investigate highly predissociative levels of small gaseous molecules. Applications of these techniques to the A-X transition of CH_3S, the B-X transition of SO, and the A-X transition of HS will be discussed.

Two types of applications of time-resolved Fourier-transform spectroscopy using a step-scan spectrometer will also be discussed. (1) Infrared emission of highly internally excited species, produced via electronic to vibrational (E-V) energy transfer, provides evidence for mode-selective excitation in its ground electronic state upon irradiation of fluorobenzene at 248 nm. This method might be regarded as a simple way to probe the structure of the transition state. (2) Transient infrared absorption spectroscopy enables detection of reaction intermediates. Infrared absorption spectra of ClCS, CH_3SO_2, and $C_6H_5SO_2$ will be discussed; related reaction kinetics may be investigated with these newly observed absorption features.

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