



**Research Experience :** UV-VIS absorption and fluorescence spectroscopy,  
Diffuse reflectance spectroscopy,  
Picosecond time-resolved luminescence spectroscopy,  
Picosecond transient absorption spectroscopy,  
Picosecond X-ray pulse generation using fs laser pulses,  
Single molecule microscopy,  
Wide field microscopy,  
Confocal scanning microscopy,  
Mass spectroscopy in gas phase,  
Merging collision of cluster ion beam with neutral cluster beam,  
He droplet production in gas phase,  
Infrared photodissociation spectroscopy in gas phase.

**Publication List :**

- 1) “Low-energy collisions of helium clusters with size-selected cobalt cluster ions”, Hideho Odaka, and Masahiko Ichihashi, *Eur. Phys. J. D*, **71**, 99 (2017).
- 2) “Production of cluster complexes by cluster–cluster collisions—incorporation of a size-selected cobalt dimer ion into a neutral argon cluster”, Hideho Odaka, and Masahiko Ichihashi, *RSC Adv.*, **5**, 78247–78252 (2015).
- 3) “A Picosecond Hard X-ray Study of the Fluorescence Dynamics of Anthracene Derivatives and 8-Hydroxyquinoline Complex Microcrystals”, Hideho Odaka, Toshifumi Miura, Koji Hatanaka, Sabine Wiebel and Hiroshi Fukumura, *J. Phys. Chem. C*, **113**, 11969–11974 (2009).
- 4) “Sub diffraction limited, remote scitation of surface enhanced Raman scattering”, James A. Hutchison, Silvia Centeno, Hideho Odaka, Hiroshi Fukumura, Johan Hofkens, Hiroshi Uji-i, *Nano Lett.* **9**, 995–1001 (2009).
- 5) “Luminescence characteristics of the LPE-grown undoped and In-doped ZnO thin films and bulk single crystals”, J. Pejchal, Y. Kagamitani, D. Ehretraut, H. Sato, H. Odaka, H. Hatanaka, M. Nikl, A. Yoshikawa, H. Fukumura, and T. Fukuda, *Phys. Status Solidi C* **4**, 942-945 (2007).
- 6) “Fabrication and luminescence properties of single-crystalline, homoepitaxial zinc oxide films doped with tri- and tetravalent cations prepared by liquid phase epitaxy”, Dirk Ehretraut, Hideto Sato, Yuji Kagamitani, Akira Yoshikawa, Tsuguo Fukuda, Jan Pejchal, Karel Polak, Martin Nikl, Hideho Odaka, Koji Hatanaka and Hiroshi Fukumura, *J. Mater. Chem.* **16**, 3369-3374 (2006).
- 7) “Dynamics of Re(2,2'-bipyridine)(CO)<sub>3</sub>Cl MLCT formation and decay after picosecond pulsed X-ray excitation and femtosecond UV excitation”, Liyan Zhao, Hideho Odaka, Hiroshi Ono, Shinji Kajimoto, Koji Hatanaka, Jonathan Hobbey, and Hiroshi Fukumura, *Photochem. Photobiol. Sci.* **4**(1), 113-117 (2005).

- 8) “Luminescence of undoped  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> single crystals excited by picosecond X-ray and sub-picosecond UV pulses”, Encarnacion Garcia Villora, Koji Hatanaka, Hideho Odaka, Takasi Sugawara, Toshifumi Miura, Hiroshi Fukumura, and Tsuguo Fukuda, *Solid State Commun.* **127**(5), 385-388 (2003).
- 9) “Various methods of X-ray pulse generation using a femtosecond laser and their potential for time-resolved X-ray analyses”, Koji Hatanaka, Toshifumi Miura, Hideho Odaka, Hiroshi Ono, and Hiroshi Fukumura, *Bunseki Kagaku* **52**(6), 373-381 (2003).

### Presentations in International Conferences:

- 1) “Development of apparatus for spectroscopy of size-selected cluster ions in He<sub>N</sub> – Enhancement of large He<sub>N</sub> intensity –”, Hideho Odaka, Masahiko Ichihashi, *Int. Symposium on Small Particles and Inorganic Clusters XVIII (ISSPIC-XVIII)*, held on 14<sup>th</sup>-19<sup>th</sup> Aug. 2016 at Jyväskylä, Finland.
- 2) “Instantaneous cooling of metal clusters by collision with rare gas clusters – Incorporation mechanism of a cobalt cluster ion into an argon cluster”, Hideho Odaka, Masahiko Ichihashi, *Int. Symposium on Small Particles and Inorganic Clusters XVII (ISSPIC-XVII)*, held on 7<sup>th</sup>-12<sup>th</sup> Sep. 2014 at Fukuoka, Japan.
- 3) “Merging collision of cobalt cluster ions and argon clusters - For spectroscopy of clusters in cold nano-matrix -”, Hideho Odaka, Masahiko Ichihashi, *Int. Symposium on Small Particles and Inorganic Clusters XVI (ISSPIC-XVI)*, held on 8<sup>th</sup>-13<sup>th</sup> Jul. 2012 at Leuven, Belgium.
- 4) “Picosecond time-resolved X-ray diffraction measurements of Si (111) single crystals excited by a low intensity femtosecond NIR laser”, Hideho Odaka, Koji Hatanaka and Hiroshi Fukumura, *Int. Workshop on Time-Resolved Spectrosc. (IWTS-2006)*, held on 18<sup>th</sup>-19<sup>th</sup> Aug. 2006 at RIKEN, Wako, Japan.
- 5) “Picosecond time-resolved X-ray diffraction measurements of metal complex crystals”, Hideho Odaka, Koji Hatanaka, Noriaki Ikeda, and Hiroshi Fukumura, *XXI<sup>st</sup> IUPAC Symposium Photochem.*, held on 2<sup>nd</sup>-7<sup>th</sup> Apr. 2006 at Kyoto Terrsa, Kyoto, Japan.
- 6) “X-ray diffraction measurements of a [Fe(bpy)<sub>3</sub>]Cl<sub>2</sub>·7H<sub>2</sub>O crystal by using picosecond X-ray pulses generated by femtosecond laser pulses”, Hideho Odaka, Koji Hatanaka, Noriaki Ikeda, and Hiroshi Fukumura, *The 12<sup>th</sup> Int. Conf. Unconventional Photoactive Systems (UPS-12)*, held on 2<sup>nd</sup>-6<sup>th</sup> Oct. 2005 at Sendai Excel Hotel Tokyuu, Sendai, Japan.
- 7) “Femtosecond laser-based X-ray source for X-ray diffraction studies”, Hideho Odaka, Hiroshi Ono, Koji Hatanaka, and Hiroshi Fukumura, *XXII<sup>nd</sup> Int. Conf. Photochem. (ICP)*, held on 24<sup>th</sup>-29<sup>th</sup> Jul. 2005 at Cairns Convention Centre, Cairns, Australia.
- 8) “Time-resolved spectroscopic study of fluorescent states in organic microcrystals excited by picosecond x-ray pulses”, Hideho Odaka, Koji Hatanaka, and Hiroshi Fukumura, *XXI<sup>st</sup> Int. Conf. Photochem. (ICP)*, held on 26<sup>th</sup>-31<sup>st</sup> Jul. 2003 at Nara-ken New Public Hall, Hara, Japan.