

IRCSEM

## INOUE LAB.

## [Novel glass prepared by gas levitation furnace]

International Research Center for Sustainable Energy and Materials

Amorphous Materials Design

Department of Materials Engineering

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

## 「Material Design of Amorphous States」

We study the materials from an amorphous state to a liquid state. Atomic and electronic structures of the amorphous and liquid states have not been well understood. We study the method in order to understand these materials, and apply it to a variety of materials. Moreover we will produce novel materials and their applications.

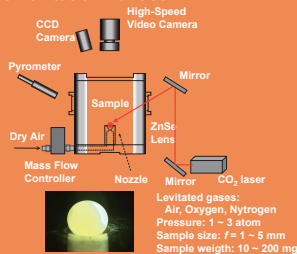
## ◇ Glasses prepared by gas levitation furnace and their structure

- High Refractive Index & Low Dispersion Glass
- High Elastic Modulus Glass
- High Strength Glass

## Structure Analyses of glasses

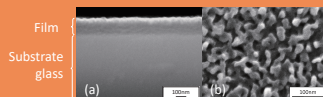
- X-ray Diffraction with Synchrotron Radiation
- Solid-State NMR Spectroscopy
- Atomistic Structural & modeling

## Gas Levitation Furnace



## ◇ Functional Glass by New Surface Treatment

- Super hydrophilic & Low reflectance



SEM image after treatment (a) Cross-section (b) Surface

## ◇ Chirality with Glass-Ceramic

- Emission from Chiral Inorganic Crystals

