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.

◊ Control of the chemical durability of nuclear waste glasses

◊ Glasses prepared by gas levitation furnace and their physical properties

<table>
<thead>
<tr>
<th>Gas levitation furnace</th>
<th>Magnetism of transition metal oxide containing glass</th>
<th>Luminescence of rare earth ion containing glass</th>
<th>Refractive index of oxyfluoride glass</th>
</tr>
</thead>
</table>

- Levitated gases: Air, Oxygen, Nitrogen
- Pressure: 1 ~ 3 atm
- Sample size: 1 ~ 5 mm
- Sample weight: 10 ~ 200 mg

Refractive index and Abbe number of new gallate oxyfluoride glasses

New oxyfluoride glasses with high \( n_d \) and \( v_d \)