

## 1. Experiment Title

Interface Susceptibility and Control of Instability in Thermocapillary Convection

## 2. Principal Investigator

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## 3. Outline of Experiment

The project makes clear a problem of interfacial susceptibilities against the thermal and mechanical stresses on the interfacial flow driven by surface tension gradient. Objectives of this research project are to understand the role of such ambient effects in fluid dynamics point of view and to give new approach to many applications related to interfacial flow. Achieving these aims, systematic data will be accumulated by ground-based and space experiment.

By utilizing Fluid Physics Experiment Facility (FPEF) and Image Processing Unit (IPU), the thermocapillary convection occurred in a liquid bridge will be observed and measured precisely. Microgravity condition provide some advantages which are to be able to form large volume and aspect ratio liquid bridge and to eliminate buoyancy convection in both liquid and ambient gas phases. We expect to obtain the detail data and knowledge utilizing such ideal condition in space.

## 4. Experiment Facility

Fluid Physics Experiment Facility (FPEF)