



Dynamics of machinery and saving energy

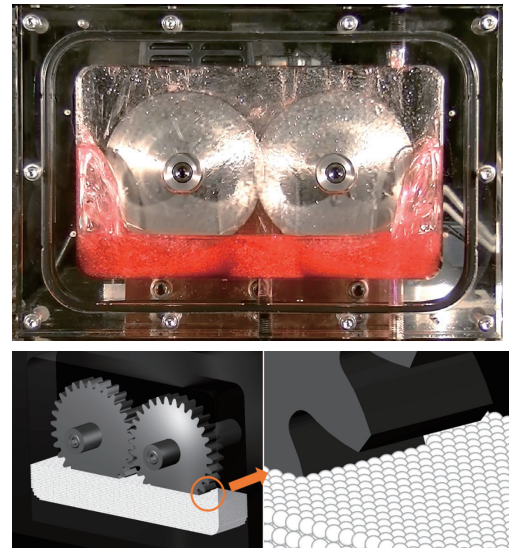
Innovative Mechano-Device Research Core, FIRST lab.

<http://www.ds.pi.titech.ac.jp>

- Vibration measurement of a planetary gear system
- Visualization of air flow behavior at around gear mesh
- Practical sound source localization without using an anechoic chamber

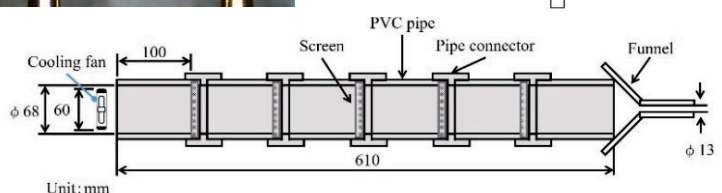
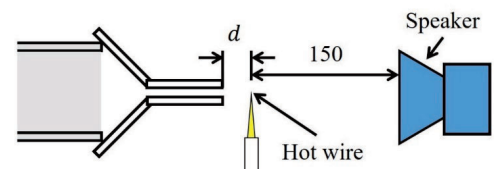
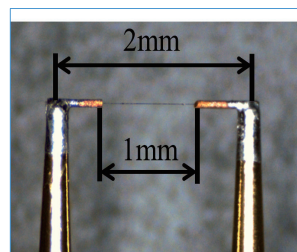
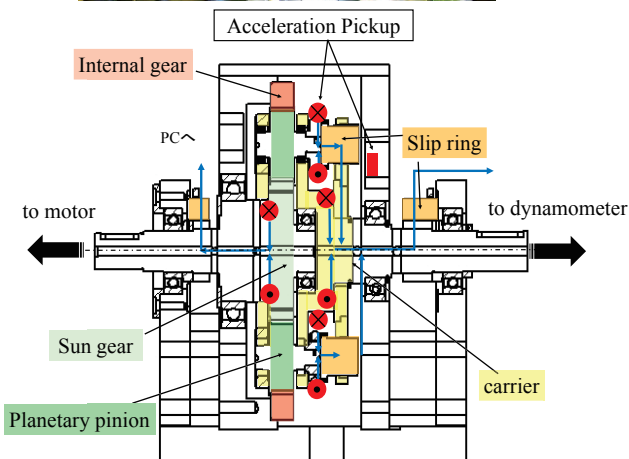
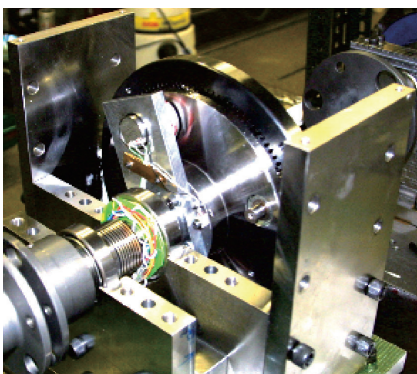
We are conducting research on vibration measurement and diagnosis of power transmission systems, and power loss reduction related to lubrication.

We are also doing research about measurement of noise generated from mechanical devices.



Churning torque loss of an oil bath gear system

- Measuring torque loss and visualization of oil movement
- Estimation of churning torque loss with particle method analysis



Acoustic measurement with hot-wire airflow meter

- A windscreens is required for measurements under high wind speeds with a microphone
- for the purpose of acoustic measurement in a duct

Vibration measurement of a planetary gear system

- measuring both rotation and revolution of planetary pinions
- effect of alignment error on vibration