KINOSHITA LAB.

[Marine Resources and Energy Utilization and Food Production]

Kinoshita Laboratory
http://ketch.iis.u-tokyo.ac.jp/home/

Department of Systems Innovations

Marine Hydrodynamics

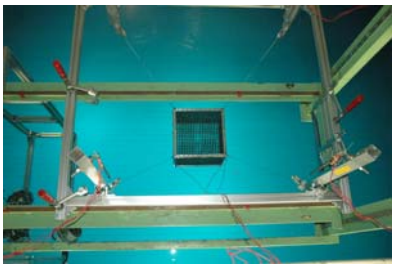
Freak Waves, Marine Energy utilization, Aquaculture engineering

Freak wave, Marine energy and Offshore aquaculture

Many ships still have had severe accidents by Freak Waves. Mechanism of Freak Wave and its prediction are one of the most important issues for scientists and engineers about the ocean. We are now opening the secret door. Renewable energy is also a hot issue from the point of view of global warming and national security. Food is another big issue. Offshore aquaculture should be one of the solutions. We will be able to obtain more protein from the ocean in near future.

- **Study on Freak Waves. Mechanism of Freak Wave and its prediction**
- **Marine Energy utilization, floating wind turbines, ocean current turbines and wave energy converters**
- **Comfortable ships with suspensions absorbing and utilizing wave energy**
- **Aquaculture engineering, such as automatic feeding fish cages and floating breakwater**
- **Highly accurate Dynamic Position-keeping System using maneuverability derivatives including wave drift effects**
- **Study on Marine Sports**

Ships with suspensions



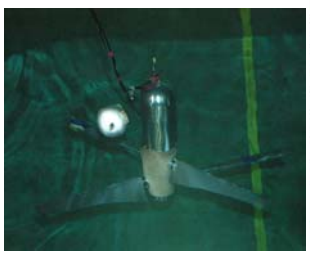
Aquaculture engineering

Floating breakwater

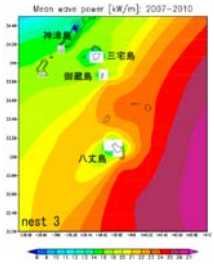
Floating wind turbines

Hydrofoil Sailing Catamaran TWIN DUCKS

Wave drift effects

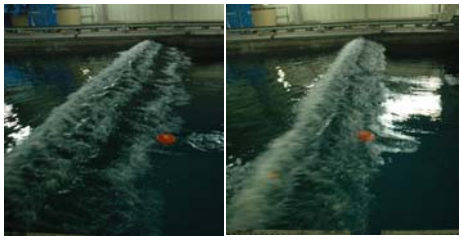


Ocean current turbines



Wave power on Izu Is.

Study on Marine Sports



Study on Freak Waves