

Institute of Fluid Science

Computational Fluid Physics Laboratory

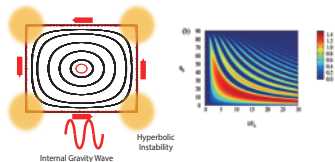
Professor Yuji Hattori & Associate Professor Makoto Hirota

Let's explore complex flow phenomena by  
numerical simulation and theoretical analysis!

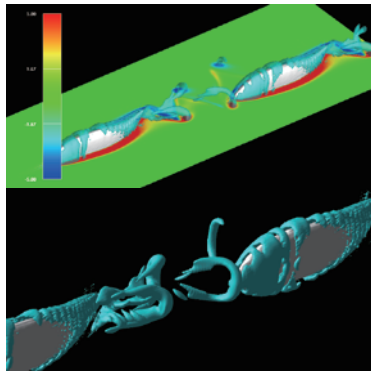
#### Research Topics

- Numerical Simulation of Complex Flow Phenomena
- Turbulence Modelling by Machine Learning
- Stability and Dynamics of Vortices
- Reduction of Aeroacoustic Noise

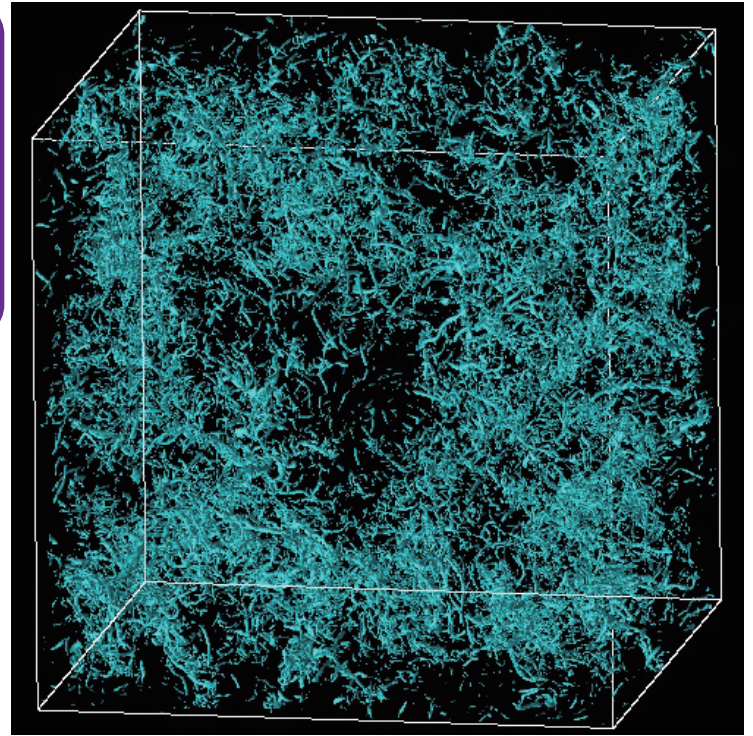
Hyperbolic Instability + Phase Shift by Internal Gravity Waves  
→ Strato-Hyperbolic Instability



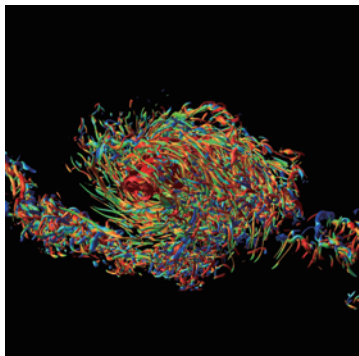
Theory of Strato-Hyperbolic Instability



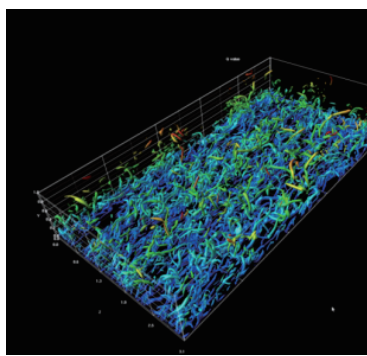
Hydrodynamics of Swimming Fish



Vortices in Isotropic Turbulence



Breakdown of Vortex Ring



Vortices in Turbulent Channel Flow

Please join us if you want to

- Study Fluid Dynamics
- Pursue Things Intellectually Interesting
- Get Ability to Accomplish Projects

If you would like to know more,  
please contact by e-mail

Rooms 407 & 409, 2nd Building  
& Room 408, 1st Building of IFS, Katahira Campus  
TEL 022-217-5256 e-mail: hattori@ifs.tohoku.ac.jp  
web page: <http://eagle.ifs.tohoku.ac.jp/>