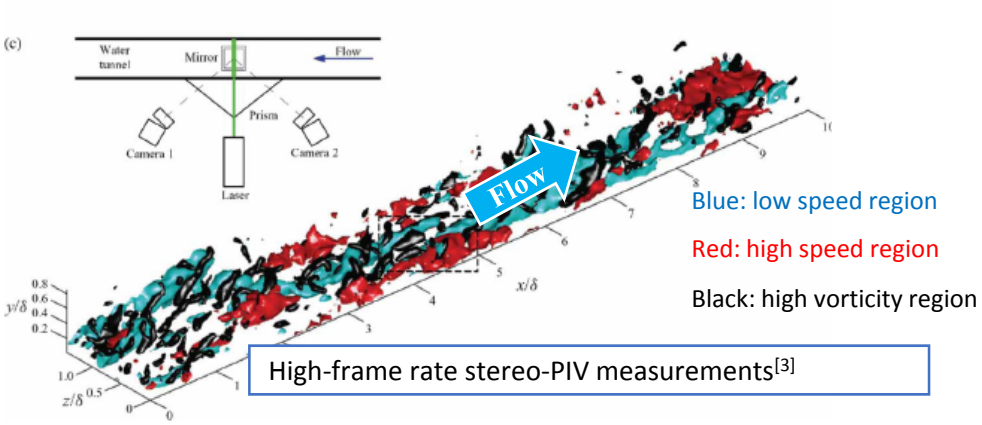
Large structure in turbulent boundary layer

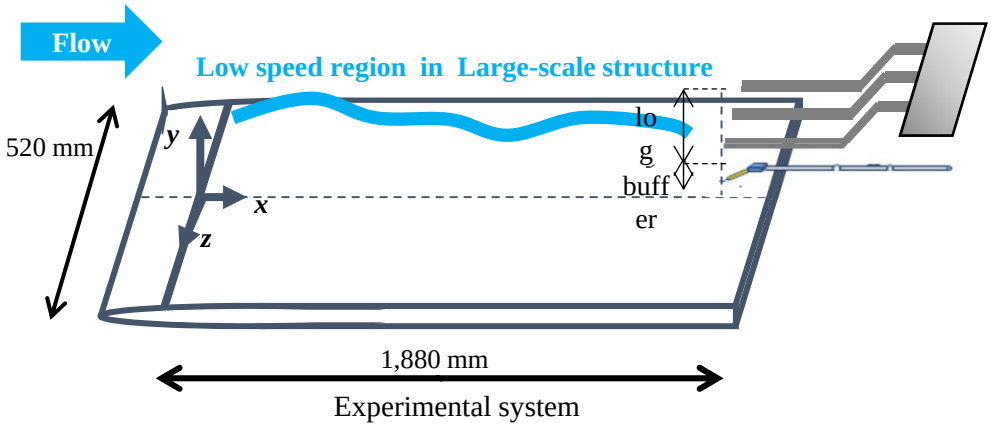
Abstract

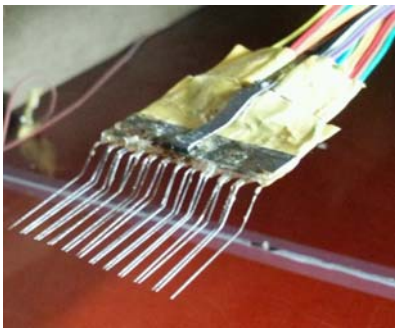
Drag force on a moving body in fluid depends largely on the states of turbulent boundary layer on its surface. These days, it is pointed out that there exists very large scale motions in turbulent boundary layer at high Reynolds number. In this study, we try to clarify properties of the very large scale motions in a wind tunnel through multi-channel hot wire anemometry.

Detection of large scale coherent structure by hot-wire measurements



ref. [3] *Dennis & Nickels, J. Fluid Mech, (2011), vol.673*





Multi channel hot wire probe