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Animation Understanding of Inclined Bluff Body Flows by Multi-vision PIV*

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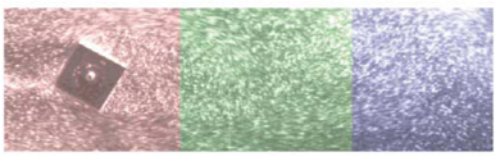
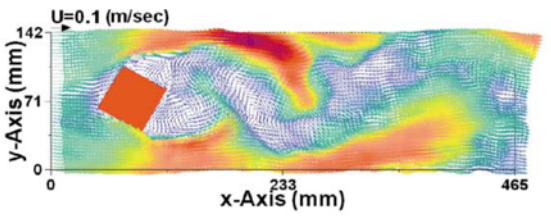
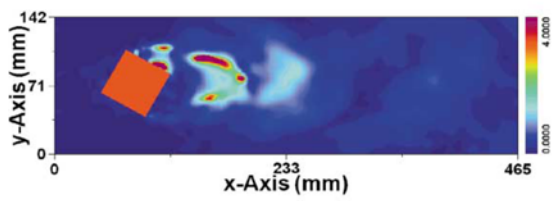


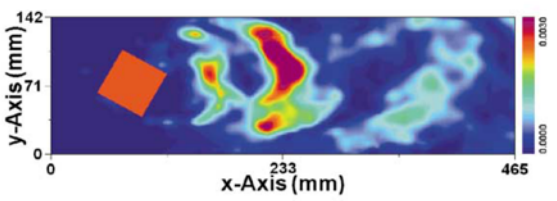
Original image



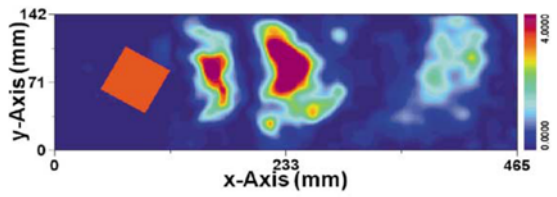
Velocity vectors



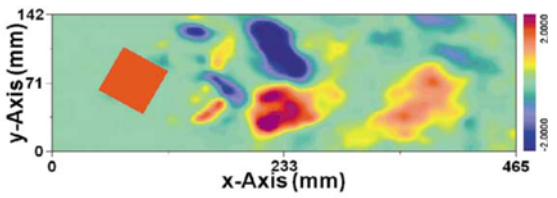
Turbulent intensity



Reynolds stress (- ρ (u')2)



Reynolds stress (- ρ $(v')^2$)



Reynolds stress (- ρ u'v')

Macroscopic understanding and time-resolved analysis of the wake characteristics of 2-D bluff body flows are shown by applying the multi-vision PIV to square cylinders (angle of attacks: 30°) and by the subsequent animation procedures developed originally by the author's group. The experimentation was carried out within a circulating water channel (representative height is 50 mm, Re=104). Three CCD cameras were used to picture the enlarged wake flow field.

* Young-Ho Lee, Chung-Do Nam, Jang-Woon Choi and Hyun Lee, Animation Understanding of 2-D Simple Bluff Body Flows by Multi-vision PIV, Proc. of 9th Int. Symp. on Flow Visualization Paper No. 187, Edinburgh 2000.