IITB-Monash Research Academy

Indian Institute of Technology Bombay | MONASH University

An Indian-Australian research partnership

Active turbulent shear flow control - the physics of actuators and their interaction with turbulent wall-bounded shear flows

Project number: IMURA0048

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The problem

This PhD research project is concerned with: (1) the development of state-of-the-art laser diagnostics to enable the full velocity field measurement of turbulent shear flows; (2) the application of the measurement techniques to acquire the necessary data to investigate the physics of zero-net-mass-flux (ZNMF) jets in cross-flow and (3) to investigate the physical interaction of ZNMF jets with adverse pressure gradient turbulent wall-bounded shear flows and (4) to consider the application of these devices as dynamic flow control actuators of wall-bounded turbulent shear flows.