

Active control of turbulent skin-friction

An experimental study

Ujjaini Kempaiah, K.

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Propositions

accompanying the dissertation

ACTIVE CONTROL OF TURBULENT SKIN-FRICTION

AN EXPERIMENTAL STUDY

by

Kushal UJJAINI KEMPAIAH

1. Feature detection algorithm provides richer details into the flow organisation and possesses potential for use in DNS datasets. (*this thesis*)
2. Unsteady plasma actuators cannot be used to surrogate the motion of the oscillating wall. (*this thesis*)
3. The inability of DNS to predict the physical complexity of control method implementation supports the relevance of low Reynolds number experiments. (*this thesis*)
4. To advance the field of skin-friction control, future research should shift towards employing near-wall actuation methods for effective control of the outer scale. (*this thesis*)
5. Contentment does not arise from the absence of challenges but comes from the ability to deal with them.
6. The solution to all problems will be solved only through innovation.
7. Incorporating environmental costs into budgets is the only way for sustainable development.
8. Effective project management is an indispensable requirement for successfully completing a PhD.
9. Emphasis should be placed on preparing humanity for the consequences of climate change, and not only on efforts to mitigate its causes.
10. Life cannot be planned, there is a crossroad at every step. The road you take is the life you make.

These propositions are regarded as opposable and defensible, and have been approved by the promotor Prof. dr. F. Scarano and copromotor Dr. ir. W. Baars.