

Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Efficiency of Flow Control Actuators AVRAHAM SEIFERT, Tel Aviv University — Bluff body flow control is an important and extensively studied branch of flow control. Bluff bodies can be found everywhere and mitigating its massively separated flow and associated penalties are extremely important from efficiency, vibration and noise considerations. Two distinct classes exist: one which involves separation control, i.e., where the flow can be reattached, and the other; control of massively separated flows, where the near wake is to be controlled. This paper reviews the state-of-the-art in actuators technology with the aim of providing a common ground for comparison and wise technology choices. Real-world aspects as well as fundamental challenges are identified and discussed. Actuators are sometimes considered, in a somewhat simplistic manner, as nominally 2D where high aspect ratio openings are assumed to lead to 2D excitation. This is clearly not the case and 3D effects always eventually prevail. The presentation will also discuss approaches not only to acknowledge and attempt to understand but also utilize 3D effects for effective and efficient flow control.

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Date submitted: 03 Aug 2013

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