

Abstract Submitted  
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**Bluff Body Flow Control Using Plasma Actuators**<sup>1</sup> FLINT THOMAS, ALEXEY KOZLOV, THOMAS CORKE, University of Notre Dame — In this study, the use of single dielectric barrier discharge plasma actuators for the control of bluff body flow separation is investigated. In particular, surface mounted plasma actuators are used to reduce both drag and unsteady vortex shedding from circular cylinders in cross-flow. It is demonstrated that the plasma-induced surface blowing gives rise to a local Coanda effect that promotes the maintenance of flow attachment. Large reductions in vortex shedding and drag are demonstrated for Reynolds numbers  $\sim 10^4 \dots 10^5$ . Both steady and unsteady plasma-induced surface blowing is explored. Results are presented from experiments involving both two and four surface mounted actuators.

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