

Abstract Submitted
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A Multi-Fidelity Approach To Compute The Sensitivity Of A Large Eddy Simulation WALTER ARIAS RAMIREZ, NIKHIL OBEROI, LARSSON JOHAN, University of Maryland, UMD — The objective of this work is to compute the sensitivity of a quantity of interest (QoI) from a large eddy simulation (LES) to variations in the problem parameters. We used the linearized RANS equations to compute the changing in the QoI based on the variation in one problem parameter. For modeling closure, we provide an inferred eddy viscosity using two different strategies. The main test case is the flow over an airfoil, with the QoI taken as the lift and/or drag. The parameter space is taken as the angle-of-attack and the Reynolds number. Here, the accuracy of the frozen eddy viscosity assumption for different parameters is assessed.

Walter Arias Ramirez
University of Maryland, UMD

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