

Abstract Submitted
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Implicit Large-Eddy Simulation of Transition and Turbulence Decay FERNANDO GRINSTEIN, LANL — In ILES, energy-containing large scales are resolved, and physics capturing numerics are used to spatially filter-out unresolved scales and implicitly model subgrid scale effects. Analysis of transition and decay in the ILES context are the focus of the present work. Euler based ILES is based on using the LANL RAGE code [1] with triple-periodic boundary conditions on evenly spaced grids involving 64, 128, 256, and 512 cells in each direction; Navier-Stokes based isotropic turbulence data generated with the CFDNS code [2] provided initial conditions for ILES. Effects of grid resolution on the ILES unsteady turbulence measures are examined in detail.

[1] Grinstein et al., PoF, 23, 034106, 2011.

[2] Livescu et al., LANL LA-CC-09-100, 2009.

Fernando Grinstein
LANL

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