

LES-LIKE SIMULATIONS IN AEROSPACE ENGINEERING: FROM VALIDATION TO PHYSICAL ANALYSIS

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Abstract

Unsteady simulations of turbulent flows via large-eddy simulation and related techniques (DES, VLES, ...) are now of common use in the field of aerospace engineering. Many purposes have been addressed during the last decade: aerodynamics, aero-optics, but also aero-optics.

A huge amount of work has been devoted to the development of ad hoc closures sur unresolved scales of motion, and specific requirements led to a renewal of researches dealing with numerical methods and boundary conditions.

Since huge data bases are now more and more often generated and these simulations are used for practical engineering purposes in leading research groups, new research topics dealing with validation, simulation reliability and advanced post-processing have been recently raised.

The talk will present a survey of the most striking recent advances in France.