

## Characterization of the Near-Wake of an Ahmed Body Profile

**Authors :** Stéphanie Pellerin, Bérengère Podvin, Luc Pastur

**Abstract :** In aerovehicles context, the flow around an Ahmed body profile is simulated using the velocity-vorticity formulation of the Navier-Stokes equations, associated to a penalization method for solids and Large Eddy Simulation for turbulence. The study focuses both on the ground influence on the flow and on the dissymetry of the wake, observed for a ground clearance greater than 10% of the body height  $H$ . Unsteady and mean flows are presented and analyzed. POD study completes the analysis and gives information on the most energetic structures of the flow.

**Keywords :** Ahmed body, bi-stability, LES, near wake

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