Flow at large Reynolds

Component
École Nationale Supérieure d'Électrotechnique d'Électronique

In brief

Code ELP: N6EM03A

Presentation

Objectives

To assimilate the formalism of the potential flows with the aim of introducing bases for the Reynolds large flow modeling and in particular for aerodynamics. An introduction to the dynamics of vorticity is also proposed.

Description

-Superposition of potential flows.

-Efforts exerted by a potential flow on an obstacle (formulas of Blasius). D'Alembert's paradox, Joukowsky's theorem.

-Condition of Kutta.

-Method of the conformal transformation to obtain the lift of a wing profile (example of the transformation of Zhukovsky).

-Basic notion of swirling dynamics.

This teaching will be divided n into 5 Courses and 6 TDs.

Non-contractual information.
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