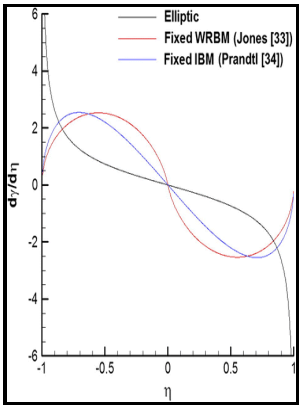
Approximate method for computing inviscid vortex wake roll-up. Part I: Theory and application

National Aerospace Laboratory - An approximate method for computing inviscid vortex wake roll



Description: -
-
Students, Foreign -- Great Britain
Vortex sheets
Unsteady flow
Panel method (Fluid dynamics)approximate method for computing inviscid vortex wake roll-up. Part I: Theory and application
-approximate method for computing inviscid vortex wake roll-up. Part I: Theory and application
Notes: Bibliographical references: p.36-37.
This edition was published in 1985

Filesize: 5.14 MB

Tags: #Computational #methods #for #wake #modeling #and #blade #airload #determination #in #hover #and #forward #flight

Hoeijmakers, H. W. M. [WorldCat Identities]

A number of variants of the method came up soon, among which the cell-vertex discretizations of Chakrabarty, 1987, 1990; Hall, 1985; Ni, 1982; Rossow, 1987 are worth mentioning.

Vortex methods and their application to trailing wake vortex simulations

Within the HOFW method, the interference losses for each component are taken into account through two mechanisms. Supersonic as well as hypersonic flow fields are also associated with missiles, rocket nozzles, launch vehicles and so on. In particular, the trajectory of the tip vortex is determined, by considering only the effect due to hydrofoil thickness, as descibed in.

Vortex methods and their application to trailing wake vortex simulations

The pressure recovery is given by an algebraic expression over a specified portion of the cavity near its trailing edge. The influence of the crossflow term was studied first for the case of partially cavitating 3-D hydrofoils and it was found that the global dependence of the solution on the crossflow term was small. If linearity is assumed between the propeller thrust and torque over small changes, the interaction between the propeller and wing systems can be seen in the difference between the percent change in thrust and percent change in power.

Vortex methods and their application to trailing wake vortex simulations

The effects of viscosity on hydrofoil cavitation, June 1993. The inflow relative to the propeller is Figure 1: The propeller and cavity geometry, coordinate systems, and nonuniform inflow. An example of this type of calculation is provided in Fig.

An approximate method for computing inviscid vortex wake roll

The invariant R — is constant along incoming characteristics and is calculated using free-stream conditions, whereas the invariant R +, which is constant along the outgoing characteristics, is calculated by extrapolation from the interior of the field.

Higher

Vortex methods are competitive for simulating incompressible unsteady flows, because they have negligible dispersion error and good energy conservation.

Hoeijmakers, H. W. M. [WorldCat Identities]

Bow-shock ahead of the leading edge can be seen in the figure.

Related Books

- Hooliganism and vandalism.
- Cooperative research and development agreements (CRADAs) - transferring federal technologies to the
- Reports of the Lillooet Archaeological Project - No. 1. Introduction and setting
- Delikon
- Communication and interpersonal relations - text and cases