عنوان مقاله:

Vortex Interaction and Roll-Up in Unsteady Flow past Tandem Airfoils

محل انتشار:

تعداد صفحات اصل مقاله: 14

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خلاصه مقاله:

A discrete vortex model coupled with a vortex dissipation and vortex core criteria is used to study the unsteady flow past two airfoils in configuration. The unsteady wakes of the airfoils are modeled by discrete vortices and time-stepping is used to predict the individual wake shapes. The coupled flow is solved using a combined zero-normal flow boundary condition and Kelvin condition which result in $(۲N + ۲)X(۲N + ۲)$ equations. Results are presented showing the effect of airfoil-airfoil and airfoil-wake interaction on the aerodynamic characteristics of the configuration. The effect of relative velocity, rate of pitching and phase-lag are studied on airfoil performance and wake shape is predicted.

کلمات کلیدی:

Airfoil, dynamics, Vortex interaction, Unsteady, Aero, Numerical singularity

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