عنوان مقاله:

Numerical Simulation of Flow Past Oscillating Airfoil Using Oscillation of Flow Boundary Condition

محل انتشار:

تعداد صفحات اصل مقاله: 5

نویسنده:

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خلاصه مقاله:

The present study is devoted to an approximate modeling for numerical simulation of flows past oscillating airfoils. In this study, it is shown that the harmonic oscillating objects can be studied by simple numerical codes that are not able to solve moving grids. Instead of using moving grid for the simulation of flowfield around an oscillating airfoil, this unsteady flow is solved on a fixed grid having oscillated its free stream velocity vector on the boundaries. It is shown that, with a time shift, resulting airfoil forces have a good agreement with moving grid results. This time shift, which is not noted by others, is the time that takes for the flow to move from upstream boundary and pass the airfoil completely. Resulting - ellipse diameter using this approximate modeling, is only a little bigger than the experimental results. This modeling is applicable in simple codes that are not able to model moving grids.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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