

عنوان مقاله:

Grid Generation Analysis of the Airfoil NACA 0012 Flow

محل انتشار:

هفتمین همایش بین المللی مهندسی مکانیک، صنایع و هوافضا (سال: 1402)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Sina Abdollahzadeh - Msc., Department of Aerospace Engineering, Amirkabir University of Technology, Tehran, Iran

Mohammad Hossein Alizadeh Roknabadi - Phd., Department of Aerospace Engineering, Amirkabir University of Technology, Tehran, Iran

خلاصه مقاله:

For the numerical solution of the partial differential equations governing the fluid flow, a grid of field points is needed so that the equations can be approximated in the physical space and converted into finite volume or finite difference equations. There are two types of grids: structured grid and unstructured grid. In computational fluid dynamics, the methods of generating grids with structuration are divided into two categories: algebraic methods and differential equation methods. In algebraic methods, boundary points are used to generate points inside the field. In the methods of differential equations, the mapping the computational space to the internal space is obtained as a differential equation. These equations are solved in discrete computing space and in an iterative algorithm. Solving equations in computational space offers the possibility of using the central difference method to generalize equations. This process is repeated until a convergence is satisfied. Improve your grid step by step in this method. The aim of this paper is to produce a structured grid using Lagrange and hyperbolic sine algebra methods and elliptic differential equations (with and without control) around two geometries of airfoil. The type of computational field is C-Type and the boundary conditions are periodic and Dirichlet.

کلمات کلیدی:

.Grid, Structured, Unstructured, Airfoil

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1976765>

