Combined method for solving an inverse boundary value problem of aerohydrodynamics for an axisymmetric body

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Abstract

A method was designed for determining the shape of an axisymmetric body from a given velocity distribution in its meridional cross section. The method is based on an iterative process involving the solution to an inverse problem in the plane case and the solution to a direct problem for the body. The iterative process has been implemented in a software program. Numerical computations are presented that illustrate the efficiency of the method. © 2008 Pleiades Publishing, Ltd.

Keywords

Axisymmetric body, Ideal incompressible fluid, Inverse boundary value problem in aerohydrodynamics, Iterative process, Panel method