Determining the hydrodynamic forces on a planing hull in steady motion(PDF)

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关键词: pressure distribution induced resistance and lift boundary layer spray

分类号: O357

DOI: -

文献标识码: A

摘要: A combination of methods was developed that can determine hydrodynamic forces on a planing hull in steady motion. Firstly, a potential-based boundary-element method was used to calculate the hydrodynamic pressure, induced resistance and lift. Then the frictional resistance component was determined by the viscous boundary layer theory. Finally, a particular empirical technique was applied to determine the region of upwash geometry and determine spray resistance. Case studies involving four models of Series 62 planing craft were run. These showed that the suggested method is efficient and capable, with results that are in good agreement with experimental measurements over a wide range of volumetric Froude numbers.

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备注/Memo: -

更新日期/Last Update: 2010-07-13