

## Numerical Simulation of the Flow around Wing-In-Ground Effect (WIG) Craft

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**Abstract :** The use of WIG craft is representing an ambitious technology that will support in reducing time, effort, and money of the conventional marine transportation in the future. This paper investigates the aerodynamic characteristic of compound wing-in-ground effect (WIG) craft model. Drag coefficient, lift coefficient and Lift and drag ratio were studied numerically with respect to the ground clearance and the wing angle of attack. The modifications of the wing has been done in order to investigate the most suitable wing configuration that can increase the wing lift-to-drag ratio at low ground clearance. A numerical investigation was carried out in this research work using finite volume Reynolds-Averaged Navier-Stokes Equations (RANSE) code ANSYS CFX, Validation was carried out by using experiments. The experimental and the numerical results concluded that the lift to drag ratio decreased with the increasing of the ground clearance.

**Keywords :** drag Coefficient, ground clearance, navier-stokes, WIG

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