



Computational Aerodynamic Modeling of Aerospace Vehicles

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Message from the Guest Editors

This Special Issue covers recent computational efforts on simulation of aerospace vehicles including aircraft, rotorcraft, propeller driven vehicle, unmanned vehicle, projectile, and air drop configuration. The complex flow physics of these configurations pose significant challenges in CFD modeling. Some of these challenges include prediction of vortical flows and shock wave, rapid maneuvering aircraft with fast moving control surface, and interaction between propeller and wing, fluid and structure, boundary layer and shock wave.

Additional topic of interest is the use of CFD tool in aircraft design and flight mechanics. The problem is the computational cost involved, particularly if this is viewed as a brute-force calculation of vehicle's aerodynamics through its flight envelope. To make progress in routinely using of CFD in aircraft design, methods based on sampling, model updating and system identification should be considered.

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