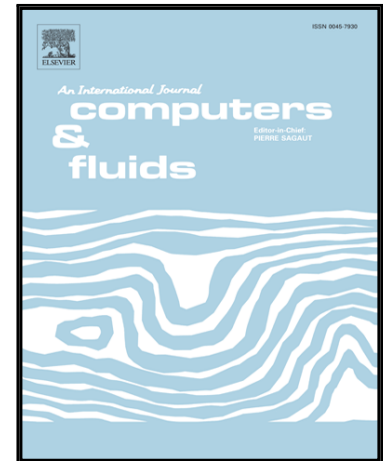


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Methods for Controlling the Local Spatial and Temporal Resolution of Vortex Particle Simulations of Bluff Body Aerodynamics Problems

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Highlights

- Novel methods for controlling the resolution of Vortex Particle simulations are proposed
- Spatially varying stencils and high order projection kernels allow a controlled particle map
- Time integration employs a substepping technique for variable time steps in the domain
- Zonation related to body geometry is used to define the local resolution parameters
- Circular cylinder for validation and bridge for application show accuracy and speed-ups

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