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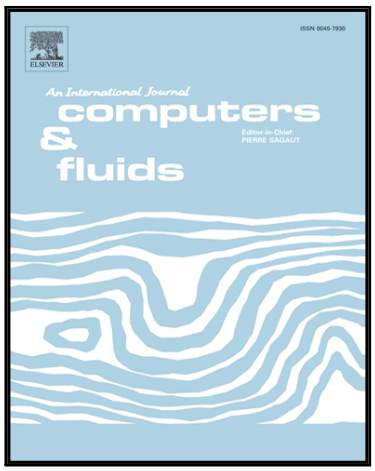

The tetrahedral finite cell method for fluids: Immersogeometric analysis of turbulent flow around complex geometries

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Highlights

- We present a method for immersogeometric analysis of flow around complex objects.
- The tetrahedral finite cell method resolves boundary geometry accurately.
- We enforce Dirichlet boundary conditions weakly with Nitsche's method.
- A variational multiscale formulation captures effects of subgrid turbulence.
- The methodology is found effective on a 3D benchmark and an industrial problem.

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