

## ***The Shifted Boundary Method for CFD***

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### **ABSTRACT**

Recently Main and Scovazzi [1,2] introduced the *Shifted Boundary Method* (SBM) a new, stable, accurate, and simple embedded boundary method that completely eliminates the need to perform cell cutting (as in traditional cutFEM methods, for example). This strategy avoids the well-known *small-cut cell problem*. Boundary conditions are imposed on a surrogate discrete boundary, lying on the interior of the true boundary interface and appropriate field extension operators are then constructed, with the purpose of preserving accuracy when imposing the boundary conditions. We demonstrate the SBM on large-scale incompressible flow problems at various Reynolds numbers, free-surface problems, multiphase flow problems, and shallow water flow problems [3,4].

### **REFERENCES**

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