RECENT ADVANCES IN DISCRETIZATION TECHNIQUES FOR COUPLED PROBLEMS IN INCOMPRESSIBLE FLUID DYNAMICS

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Coupled problems appear in many important industrial applications, such as fluid-structure interactions, magnetohydrodynamics, multiphase flows, etc. The study of real life-applications involves the interplay of various complex physical processes, necessitating the development of state-of-the-art numerical methods that are accurate and robust, but also computationally efficient for large-scale simulations.

In this mini-symposium, we aim to provide a platform for researchers developing novel techniques for coupled problems in incompressible fluid dynamics with an emphasis on either theory or practice. Numerical methods of interest include robust, efficient, structure-preserving, and high-order methods using various spatial discretization techniques (e.g. finite element, finite volume, spectral element).