

Special Program in Applied Mathematics and Applied Mechanics

Finite difference Schemes on stagger grids for Navier-Stokes Equation

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In this talk, we will introduce the finite difference schemes, MAC and generalized MAC, for simulating the time dependent Navier-Stokes equations. In particular, these schemes are based on stagger grids so that the discretization of differential operators are spatially compatible to one another. Therefore, these schemes admit exact Hodge decomposition and the pressure boundary condition can be fulfilled naturally, no artificial condition is needed.

