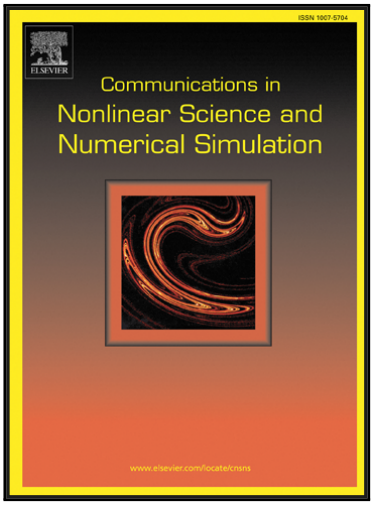

A Cell-elimination method for solving steady and unsteady Navier-Stokes equations

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HIGHLIGHTS

- A highly efficient approach (it is called Cell-Elimination Method (CEM)) for solving steady and unsteady incompressible flows (with\without cavitation) is introduced to reduce the numerical computational cost for the first time.
- CEM is applied to the combination of well-known Jameson's cell-centered finite volume numerical method and the progressive power-law preconditioning approach.
- Despite the simplicity of CEM's concept, results show acceptable accuracy and a remarkable computational cost reduction.