

# A Small Eddy Correction Method for the Navier-Stokes Equations

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For a proposed small eddy correction method for the unsteady Navier-Stokes equations, which is a kind of generalization to the standard Galerkin method, we analysis its boundedness and convergence properties. Analysis shows that it is a bounded procedure and can greatly improve the convergence rate comparing with the standard Galerkin method and is a possible choice for deriving a reliable long term approximation to the Navier-Stokes equations. At last, a numerical test is presented to support it.