

A MINIMUM ACTION METHOD FOR RANDOM PERTURBATIONS OF NAVIER-STOKES EQUATIONS

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In this work, we develop a parallel minimum action method for random perturbations of Navier-Stokes equations. The main algorithm is based on the hp finite element discretization of the Freidlin-Wentzell action functional and the nonlinear conjugate gradient solver for the associated optimization problem. The parallel strategy is a hybrid one based on both MPI and OpenMP. Numerical results will be presented to verify the algorithms.