1056-60-507   **S. S. Sritharan*** (`sssritha@nps.edu`), Graduate School of Engineering and Applied Sc, Naval PostgradOAuate School, Monterey, CA 93943. *Stochastic Analysis, Control and Nonlinear Filtering of Fluid Dynamic Models.*

We will present some recent results on nonlinear filtering and control of Navier-Stokes equations as well as some vortex dynamics models subjected to Gaussian and Levy type noise. Some of the main results are uniqueness proof of FKK and Zakai equations for filtering, convergence of particle filtering methods and solvability of Hamilton-Jacobi-Bellman equation for feedback control. (Received September 10, 2009)