Research Activity

Publication

1) T. Funaki, M. Ohnawa, Y. Suzuki, S. Yokoyama, Wxistence and uniqueness of solutions to stochastic Rayleigh-Plesset equations, J. Math. Anal. Appl. 425 (2015) 20—32.

2) Y. Suzuki, M. Ohnawa, GENERIC formalism and discrete variational derivative method for the two-dimensional vorticity equation, J. Comput. Appl. Math. 296 (2016) 690—708.

Talk

Research results :

The vorticity equation for two-dimensional incompressible viscous flows is formulated within a bracket formalism employing the skew-symmetric Poisson bracket and a symmetric negative semi-definite dissipative bracket. The discrete variational derivative method is then applied to the formulation to obtain a numerical method which preserves the kinetic energy and enstrophy in computations for inviscid flows and dissipates them appropriately in computations for viscous flows.