

Parameter Estimation for Stochastic Navier-Stokes Equations

Igor Cialenco, Illinois Institute of Technology

Abstract

We consider a parameter estimation problem to determine the viscosity coefficient Stochastic 2D Navier-Stokes system driven by an additive white noise. We derive several different classes of estimators based on the first N Fourier modes of a sample path observed continuously on a finite time interval. We study the consistency and asymptotic normality of these estimators as number of Fourier coefficients increases. The analysis treats strong, pathwise solutions for both the periodic and bounded domain cases. The talk is based on recent joint work with Nathan Glatt-Holtz.