CANCELLED

Computational Mathematics Seminar Series

A Data-Driven Solver for Steady State Fokker-Planck Differential Equations

Jiayu Zhai, University of Massachusetts Amherst

Visiting Assistant Professor

Digital Media Center 1034
March 17, 2020 - 03:30 pm

Abstract:

In applications of physics, biology, meteorology and chemistry, researchers are interested in the stationary distribution of a randomly perturbed dynamical system. The distribution density follows the Fokker-Planck PDE which is not easy to solve by classic numerical methods, especially for those dynamical systems of high dimensions. In this work, we introduce a data driven solver for the stationary Fokker-Planck equation, and improve it by its block versions. Analysis of the convergence of the method will also be provided.

Speaker's Bio:

Dr. Jiayu Zhai received Ph.D. from Louisiana State University and one part of his Ph.D. thesis research is computations of rare events in stochastic dynamical systems under the supervision of Professor Xiaoliang Wan. Dr. Zhai is currently working as a Visiting Assistant Professor in the Department of Mathematics and Statistics at University of Massachusetts Amherst. His research interests are stochastic analysis and numerical methods.

This lecture has refreshments @ 03:00 pm

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