数学与系统科学研究院

计算数学所学术报告

报告人：**Assistant Prof. Shu Lu**

（ *University of North Carolina* ）

报告题目：

Confidence regions and intervals for stochastic variational inequalities

邀请人： 戴彧虹 研究员

报告时间：**2014 年 7 月 18 日（周五）**

下午 16:00-17:00

报告地点： 数学院南楼七层702

会议室

Abstract：

Variational inequalities model a general class of equilibrium problems, and also arise as first-order conditions of nonlinear programs. This talk considers a stochastic variational inequality (SVI) defined over a polyhedron, with the function defining the variational inequality being an expectation function. A basic approach for solving the SVI is the sample average approximation (SAA) method, which replaces the expectation function by a sample average function, and uses a solution of the SAA problem as an estimate of the true solution. It is well known that under appropriate conditions the SAA solutions provide asymptotically consistent point estimators for the true solution to an SVI.

We consider the normal map formulation of the SVI and the SAA problems, and provide methods to compute confidence regions and confidence intervals for the true solution, given an SAA solution. Standard techniques are not applicable here due to the nonsmooth structure of variational inequalities. This talk discusses methods to overcome those difficulties.

Introduction：

Dr. Shu Lu received her B.S. and M.S. from Tsinghua University, and her Ph.D. in Industrial and Systems Engineering from the University of Wisconsin-Madison. She is currently Assistant Professor at the Department of Statistics and Operations Research, University of North Carolina at Chapel Hill. Her research interests are in the area of mathematical optimization, especially variational inequalities and variational analysis.

欢迎大家参加！