数学与系统科学研究院

计算数学所博士后定期学术报告

报告人： 于腾腾 博士

（ *ICMSEC, AMSS* ）

报告题目：

Inexact proximal stochastic gradient method for nonconvex nonsmooth composite optimization

报告时间：2022 年 11 月 23 日（周三）

下午 **16:00-17:00**

报告地点：科技综合楼

301 教室

Abstract：

Nonconvex nonsmooth composite optimization problems arise extensively in many different areas such as machine learning, imaging restoration, and variable selection. We propose an inexact proximal stochastic gradient method (i-SVRG) for optimizing nonsmooth nonconvex problems, whose objective function is a summation of an average of a large number of smooth nonconvex functions and a nonsmooth function. The main feature of this i-SVRG method is that it uses inexact gradients in the outer loop and allows inexact solutions of the proximal subproblems in the inner loop. A diagonal Barzilai-Borwein stepsize, which can capture the second-order information, is adopted to solve the proximal subproblem. We prove that i-SVRG converges to the neighbourhood of a stationary point sublinearly. In addition, we propose a variant of i-SVRG and analyze its linear convergence property under the proximal Polyak-Lojasiewicz condition.

欢迎大家参加！