

数学与系统科学研究院

计算数学所学术报告

报告人: **Dr. Junchi Li**

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报告题目:

**On the rate of convergence for online
principal component estimation and
tensor decomposition**

邀请人: 刘歆 副研究员

报告时间: 2017 年 8 月 30 日 (周三)

下午 14:00-15:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

Principal component analysis (PCA) and tensor component analysis has been a prominent tool for high-dimensional data analysis. Online algorithms that estimate the component by processing streaming data are of tremendous practical and theoretical interests. In this talk, we cast these methods into stochastic nonconvex optimization problems, and we analyze the online algorithms as a stochastic approximation iteration. We will sketch the proof (for the first time) a nearly optimal convergence rate result for both online PCA algorithm and online tensor decomposition. We show that the finite-sample error closely matches the corresponding results of minimax information lower bound.

欢迎大家参加！