数学与系统科学研究院
计算数学所学术报告

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报告题目：

Non-Convex Robust Low-Rank Matrix Recovery

邀请人： 刘亚锋 副研究员

报告时间：2019 年 7 月 30 日（周二）

下午 16:00-17:00

报告地点： 科技综合楼三层

311 报告厅

Abstract：

In this talk we present a non-smooth non-convex formulation of the problem of recovering a low-rank matrix from a number of random linear measurements that are corrupted by outliers taking arbitrary values. Our formulation explicitly enforces the low-rank property of the solution by using a factored representation of the matrix variable and employ an ℓ_1-loss function to robustify the solution against outliers. Under the Gaussian measurement model, we show that even when a constant fraction (which can be up to almost half) of the information-theoretically optimal number of measurements are arbitrarily corrupted, the resulting optimization problem is weakly sharp and weakly convex. Consequently, we show that when initialized close to the set of global minima of the problem, a subgradient method with geometrically diminishing step sizes will converge linearly to the ground-truth matrix.

Joint work with Xiao Li, Zhihui Zhu, and Rene Vidal.

欢迎大家参加！