

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Yin Zhang**

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报告题目:

**A New Approach to Solving the
K-Means Clustering Problem**

邀请人: 刘歆 副研究员

报告时间: **2015 年 6 月 18 日 (周四)**

上午 10:00~11:00

报告地点: **科技综合楼三层**

301 小报告厅

Abstract:

Clustering is to classify data into groups according to a predefined distance or similarity measure. It has wide applications in data mining, pattern recognition, image processing and other machine learning areas. The most important clustering model is arguably the classic K-means model which is a discrete optimization problem (and NP-hard in the worst case). In this work, for the squared Euclidean distance we introduce an equivalent continuous nonconvex optimization model and devise an ADMM-type algorithm for it. Preliminary numerical results indicate that in comparison to the classic Lloyd algorithm which has been the method of choice for decades, our algorithm offers not only higher clustering accuracy, but also significant speedups due to improved scalability. (this is a joint work with Feiyu Chen, Liwei Xu, and Taiping Zhang at CQU)

欢迎大家参加！