



High-Dimensional Low-Rank Matrix Recovery

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Low-rank structure commonly arises in many applications including genomics, signal processing, and portfolio allocation. It is also used in many statistical inference methodologies such as principal component analysis. In this talk, I will discuss some new results on a few related problems on the recovery of high-dimensional low-rank matrices, including recovery of a low-rank matrix with rank-one measurements, phase retrieval, and estimation of a spiked covariance matrix based on one-dimensional projections. Time permitting, structured matrix completion will also be discussed.

Keywords: Constrained nuclear norm minimization, low-rank matrix recovery, optimal rate of convergence, rank-one projection.