



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

STATISTICS COLLOQUIUM

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GILAD LERMAN

School of Mathematics  
University of Minnesota

A Well-Tempered Landscape for Non-convex Robust Subspace  
Recovery

MONDAY, February 27, 2017, at 4:00 PM

Eckhart 133, 5734 S. University Avenue

*Refreshments before the seminar at 3:30PM in Jones 111*

ABSTRACT

We present a mathematical analysis of a gradient descent method for Robust Subspace Recovery. The optimization is cast as a minimization over the Grassmannian manifold, and gradient steps are taken along geodesics. We show that under a generic condition, the energy landscape is nice enough for the non-convex gradient method to exactly recover an underlying subspace. The condition is shown to hold with high probability for a certain model of data. This work is joint with Tyler Maunu and Teng Zhang. Other recent mathematical results related to robust subspace recovery are also discussed.