

1108-90-500

Paul E. Hand* (hand@rice.edu), CAAM Dept MS-134, Rice University, 6100 Main Street, Houston, TX 77004. *PhaseLift is stable to a fixed fraction of arbitrary errors.*

In this talk, we will consider the phase retrieval problem where a small fraction of the measurements have arbitrary errors. Such errors can arise in imaging problems through sensor failure, occlusion, and other causes. Without such gross errors, the semidefinite program known as PhaseLift is provably successful when the number of Gaussian measurements scales linearly with the ambient dimensionality. In this talk, we will discuss a variant of PhaseLift that is provably robust to a small but fixed fraction of arbitrary errors, even when the number of measurements is linear in the ambient dimensionality. We will also see empirical evidence for this scaling. (Received January 20, 2015)