# Statistical Inferences of Linear Forms for Noisy Matrix Completion

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**Abstract:** We introduce a flexible framework for making inferences about general linear forms of a large matrix based on noisy observations of a subset of its entries. In particular, under mild regularity conditions, we develop a universal procedure to construct asymptotically normal estimators of its linear forms through double-sample debiasing and low-rank projection whenever an entry-wise consistent estimator of the matrix is available. These estimators allow us to subsequently construct confidence intervals for and test hypotheses about the linear forms. Our proposal was motivated by a careful perturbation analysis of the empirical singular spaces under the noisy matrix completion model which might be of independent interest.