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# Linear inverse problems by convex optimization

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## Résumé

Joint work with Y. Bekri and A. Nemirovski

We discuss a numerical framework for solving uncertain statistical linear inverse problems. As opposed to the "standard" setting of such problems, we suppose that sensing matrix, a priori set of signals, or observation noise may be uncertain. In a series of problem settings, under various assumptions on the nature of problem uncertainty, we discuss the properties of a special recovery routine-polyhedral estimate (a particular class of nonlinear estimates introduced in Juditsky, A., & Nemirovski, A. (2020)). We show that under quite general assumption about signals and uncertainties, nearly minimax optimal (up to a moderate sub-optimality factor) estimates can be constructed by means of efficient convex optimization routines.

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