INSTITUTUL DE MATEMATICĂ "SIMION STOILOW" AL ACADEMIEI ROMÂNE

Statistical inverse problems: a short review of methodology with applications

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Abstract: The latest developments in the methodology of statistical inverse problems are reviewed in this talk, and similarities but also differences with respect to the deterministic setting are emphasised. We mainly focus on convergence analysis for methods leading to order-optimal rates of convergence, and on some optimality results. Moreover, the theoretical results are illustrated for different applications by Monte Carlo simulations. Finally, we present new theoretical directions of research that emerge from practical challenges.