

Title: Minimax state estimation and system identification methods for dynamical systems: from Navier-Stokes equations to optical flow reconstruction

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Abstract: I will introduce formal minimax estimation framework for linear operator equations in a Hilbert space, and demonstrate its applications to:

- state estimation of turbulent Navier-Stokes equations,
- optical flow reconstruction for medical video stabilization,
- nonlinear system identification for ordinary differential equations.

I will also mention connections to RKHS-based methods and classical Lyapunov stability.