UNIVERSITY OF SYDNEY

SCHOOL OF MATHEMATICS AND STATISTICS

Statistics Seminar

Friday, 7 April 2006.

Eastern Avenue Lecture Theater , 2 pm.

Adaptive estimation for inverse problems with noisy operators.

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Abstract

Consider an inverse problem with random noise where we want to estimate a function f. Moreover, suppose that the operator A that we need to invert is not completely known : we know its eigenfunctions, and observe its singular values but with some noise. To construct our estimator $\theta^\star$, we minimise a modification of an unbiased risk estimator. We obtain some non asymptotic exact oracle inequality. Considering smooth functions in some standard classes of functions, we prove that $\theta^\star$ is asymptotically minimax among a given class of estimators.

Enquiries about the Statistics Seminar should be directed to
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