

Recent results in the modelling of approximation errors in inverse problems

J. Kaipio, *University of Kuopio, Finland*

Abstract

The errors in the solution of inverse problems that are due to approximation and modelling errors depend on the solution itself. In the deterministic and frequentist paradigms there is little we can do about this. In the Bayesian paradigm we don't know the approximation error either, but we are able to compute its statistical properties. This information can be exploited in the computation of the estimates. We review the theory in the case of linear gaussian models and present the theory for linear nonstationary inverse problems. We show results in the case of estimating thermal coefficients of a nonhomogeneous object.