

Alexander Meister, Rostock:

Nonparametric estimation under Gaussian measurement error with conditionally heteroscedastic variances

Abstract: We consider the problem of estimating a density based on replicated observations which are contaminated by centered Gaussian noise where the conditional noise variance may depend on the unobserved random variable with the target density. Standard Fourier techniques for deconvolution seem inappropriate in the underlying setting. We introduce nonparametric estimators of both the target density and the variance function based on higher-order Kronecker moments and show that these procedures attain optimal minimax convergence rates. Extension to the corresponding errors-in-variable regression model is provided. This talk is based on a joint work with Aurore Delaigle (University of Melbourne).