

## Nonparametric density estimation in case of measurement errors: a survey

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In this talk we review methods for estimating nonparametrically a density function based on a random sample contaminated with measurement errors. Loosely speaking one can distinguish between consistent methods and approximately consistent methods. In the latter methods the focus is on estimating an approximation of the unknown target. As such one should study how far the approximate target function is from the true target.

We review kernel density estimation, low order approximations, ridge parameter approaches, maximum likelihood estimation, as well as orthogonal series methods, among others. A brief discussion on different aspects of the methods, and relationships between some of them is provided.

**Key Words:** density deconvolution, kernel methods, ridge parameter, maximum likelihood, measurement errors, nonparametric smoothing.