

The estimation of parameter curves for locally stationary processes

Rainer Dahlhaus, Universität Heidelberg

The problem of nonparametric inference for locally stationary processes is discussed. An example is an autoregressive process with time-varying coefficients and a time-varying innovation-variance. The parameters are now curves which have to be estimated - either parametrically or nonparametrically.

First we discuss estimates where stationary methods are applied locally on a segment. We then give a special approximation of the likelihood function for locally stationary processes which leads to a local likelihood at a fixed time. This likelihood turns out to be a general tool for parametric and nonparametric estimation. We discuss the properties of several estimates based on this likelihood.