

On ADF Goodness of Fit Tests for Stochastic Processes

Yury A. Kutoyants

Université du Maine, Le Mans, France kutoyants@univ-lemans.fr

We consider several problems of the construction of the goodness of fit tests by the observations of continuous time stochastic processes. We show that in the case of parametric basic hypothesis the usual statistics in the case of ergodic diffusion process, small noise diffusion process and inhomogeneous Poisson process can be transformed in the same limit Gaussian process. The similar limit process we have in the case of i.i.d. observations. We propose a linear transformation of the limit process to the Brownian bridge and to the Wiener process. This allow us to construct the asymptotically distribution free goodness of fit tests for the mentioned above stochastic processes.

Key Words: Goodness of fit tests, asymptotically distribution free, diffusion process, Poisson process.