

Goodness of Fit Tests for Stochastic Processes with Parametric Basic Hypothesis

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Abstract

We consider the problem of the construction of asymptotically distribution and parameter free tests by the observations of (continuous time) diffusion and inhomogeneous Poisson processes. We suppose that under the basic hypothesis the trend coefficients (for diffusion) and intensity function (for Poisson) depend on finite-dimensional parameter. The tests are of the Cramer-von Mises type. The asymptotics correspond to large samples (ergodic diffusion, periodic Poisson) and to small noise (dynamical systems). For each model of observations we propose linear transformations which allow to make the corresponding statistics to be asymptotically distribution or parameter free.