

On Adaptive Estimation in Periodic Purely Log Memory

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Abstract

Nonstationary periodically correlated processes find their interesting application in many yields such as economic, as well as hydrology and environmental studies. Much attention has been given to periodic autoregressive moving average processes. Most of the existing periodic literature is concerned with identification, estimation and testing problems. In this work, we will establish the property of the local asymptotic normality of a fractional autoregressive process of order 0 (purely long memory model) whose memory coefficient is periodic in time. We will give the local quadratic decomposition of log likelihood ratio. The local asymptotic normality property is established for periodic purely long memory model. This result allows for solving in an asymptotically optimal way the construction of locally asymptotically minimax and adaptive estimation problem.

Keywords

Local asymptotic normality; periodic long memory model; central sequence; an adaptive estimator.

Bio

BELAIDE Karima is Doctor in science at Abderahman Mira University of Bejaia Algeria. In the department of Mathematics Informatics. I am interested in two main areas in statistics, namely the fractional autoregressive models with periodic coefficients : Probabilistic properties, local asymptotic normality and building adaptive estimators And inverse problems of a stochastic perspective : Exponential inequalities in linear calibration problem. Functional Nonparametric Regression for Mixing Process. Solving a Stochastic Inverse Problems using an iterative method.