KYBERNETIKA — VOLUME *36* (2000), NUMBER 3, PAGES 279-310

Gaussian Semiparametric Estimation in Seasonal/Cyclical Long Memory Time Series.

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Abstract: *Gaussian semiparametric* or *local Whittle* estimation of the memory parameter in standard long memory processes was proposed by [P.M. Robinson: Gaussian semiparametric estimation of long–range dependence. Ann. Statist. 23 (1995), 1630–1661.]. This technique shows several advantages over the popular log-periodogram regression introduced by [J. Geweke and S. Porter–Hudak: The estimation and application of long–memory time series models. J. Time Ser. Anal. 4 (1983), 221–238.]. In particular under milder assumptions than those needed in the log periodogram regression it is asymptotically more efficient. We analyse the asymptotic behaviour of the Gaussian semiparametric estimate of the memory parameter in *seasonal or cyclical long memory* processes allowing for asymmetric spectral divergences or zeros. Consistency and asymptotic normality are obtained.

Keywords:

AMS Subject Classification: 62M;