

**Velasco, Carlos; Robinson, Peter M.**

**Whittle pseudo-maximum likelihood estimation for nonstationary time series.** (English)

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Summary: Whittle pseudo-maximum likelihood estimates of parameters for stationary time series have been found to be consistent and asymptotically normal in the presence of long-range dependence. Generalizing the definition of the memory parameter  $d$ , we extend these results to include possibly nonstationary ( $.5 \leq d < 1$ ) or antipersistent ( $-.5 < d < 0$ ) observations. Using adequate data tapers, we can apply this estimation technique to any degree of nonstationarity  $d \geq .5$  without a priori knowledge of the memory of the series. We analyze the performance of the estimates on simulated and real data.

**MSC:**

**62M10** Time series, auto-correlation, regression, etc. in statistics (GARCH)

**62F12** Asymptotic properties of parametric estimators

Cited in **59** Documents

**Keywords:**

frequency domain estimation; long-range dependence; nonstationary fractional models; nonstationary long memory time series; tapering

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