

Stationarity and goodness-of-fit tests for locally stationary time series

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Consider the trajectory of a time series with time-varying coefficients. The aim of this talk is to test the adequacy of these parameters at a finite and fixed number of instants of the trajectory. For this purpose, a Wald test is constructed from point estimates of the parameters obtained by minimization of a kernel contrast. This can take the form of a localized near-maximum likelihood estimator for ARMA or GARCH processes, or a localized least squares estimator for a GLARCH process, but many other time-varying time series such as $AR(\infty)$, $ARCH(\infty)$, ARMA-GARCH, APARCH,..., could be considered. Above all, this allows the introduction of a new stationarity test for these processes, whose very good numerical performance has been demonstrated by numerical experiments.

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