



Robust generalized method of wavelet models for latent stochastic processes

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We present a new robust method for the estimation of the parameters of a times series model the sum of independent Gaussian processes (or latent Gaussian stochastic processes) based on the Generalized Method of Wavelets Moments (see Guerrier et al., 2013a). The proposed estimation method offers an alternative to alternative robust estimators based on a modified ikelihood or robust filtering, that is straightforward to implement and can handle very large datasets. This method is based on a new robust estimator of the Wavelet Variance (WV). The consistency and asymptotic properties of these estimators are shown and their finite sample performance is studied via some simulation studies as well as some applied examples.

Keywords: Allan variance; Kalman filer; signal processing; time series.