

ESTIMATION OF FARIMA PARAMETERS IN THE CASE OF NEGATIVE MEMORY AND STABLE NOISE

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In this paper, we extend a method of estimation of parameters of the fractional autoregressive integrated moving average (FARIMA) process with stable noise to the case of negative memory parameter d . We construct an estimator that is a modification of that of Kokoszka and Taqqu and prove its consistency for $-1/2 < d < 0$. We show that the estimator is accurate and possesses a low variance for FARIMA time series with both light- and heavy-tailed noises. It is illustrated by means of Monte Carlo simulations. Finally, we compare the introduced method of estimation of d with classical methods like the R/S, modified R/S and variance. The results show that the proposed estimator is vastly superior to them.