

LIMIT THEORY FOR THE PERIODOGRAM OF HIGH-FREQUENCY SAMPLED
STABLE CARMA PROCESSES

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We consider a continuous time autoregressive moving average (CARMA) process driven by a symmetric stable Lévy process sampled at a high frequency time-grid.

In the asymptotic framework of high frequency data within a long time interval, we study the limit behavior of normalized and self-normalized versions of the periodogram and show that they converge to functions of stable distributions.

Our results are similar to those for heavy-tailed ARMA models in discrete time.