THE K-FACTOR GARMA PROCESS WITH INFINITE VARIANCE INNOVATIONS

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Abstract. In this article, we develop the theory of *k*-factors Gegenbauer Autoregressive Moving Average (GARMA) process with infinite variance innovations. We establish conditions for existence and invertibility of the model. We also discuss the parameter estimation by using two methods. The first one is the Conditional Sum of Squares (CSS) approach and the second is the Markov Chains Monte Carlo (MCMC) Whittle method. For comparison purpose, Monte Carlo simulations are used to evaluate the finite sample performance of these estimation techniques.

Keywords. Stable distributions, Gegenbauer polynomial, Long memory.