

On Periodic Integer-Valued Moving Average Models

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Abstract : This paper deals with the study of some probabilistic and statistical properties of a Periodic Integer-Valued Moving Average Model (PINMA_S(q)). The closed forms of the mean, the second moment and the periodic autocovariance function are obtained. Furthermore, the time reversibility of the model is discussed in details. Moreover, the estimation of the underlying parameters are obtained by the Yule-Walker method, the Conditional Least Square method (CLS) and the Weighted Conditional Least Square method (WCLS). A simulation study is carried out to evaluate the performance of the estimation method. Moreover, an application on real data set is provided.

Keywords : periodic integer-valued moving average, periodically correlated process, time reversibility, count data

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