

On a periodic and seasonal statistical model for non-negative integer-valued time series

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In the talk, I will present a new class of models for non-negative integer-valued time series with a periodic and seasonal autoregressive structure. Some properties of the model are discussed and the conditional quasi-maximum likelihood method is used to parameters estimation. The consistency and asymptotic normality of the estimators are also discussed. The performance of the estimators is investigated for finite sample sizes and the empirical results indicate that the method gives accurate estimates. The usefulness of the proposed model is illustrated through the analysis of a time series concerning daily number of antibiotic dispensing medication for the treatment of respiratory diseases.

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