not necessarily perform worse than MM or non-parametric MLE, even in larger samples. In empirically relevant parameter settings MLE based on flexible distributional assumptions turns out to be generally superior to non-parametric MLE.

E528: **Bayesian detection of additive outliers in INAR(1) models**

Presenter: **Maria Eduarda Silva**, Universidade do Porto, Portugal

Co-authors: Isabel Pereira

Outliers are commonly encountered in time series data analysis. When the models under study are linear ARIMA models, additive outliers, innovational outliers and other exogenous interventions like level changes and temporary changes may be represented under a unique dynamic model and there is now a voluminous amount of literature dealing with the detection and estimation of exogenous interventions in ARIMA processes and in particular with AO and IO outliers. Here, a Bayesian approach to the problem of detecting additive outliers in Poisson Integer-valued AutoRegressive models is considered. MCMC methods are used to estimate the probability of outlier occurrence at each time point. The proposed methodology is illustrated using simulated and real examples.

E436: **Detection of outliers in integer-valued AR models**

Presenter: **Isabel Silva**, FEUP and CIDMA, Portugal

Co-authors: Maria Eduarda Silva

During the last decades there has been an increasing interest in integer-valued time series models and a considerable volume of work is now available in specialized monographs. Among the most successful integer-valued time series models proposed in the literature are the first-order integer-valued autoregressive (INAR(1)) process. Although this model attempts to resemble the structure and properties of the usual linear AR models, it allows the choice of marginal distributions among a wide class of discrete distributions. Their statistical and probabilistic properties have been obtained in the literature. A problem of interest in time series modeling is to detect outliers, which can be viewed as discrepant observations, in order to assess for data quality and to study the robustness of the statistical inference in the presence of inconsistent observations. In this paper, we consider INAR models contaminated with additive and innovative outliers. We use a method based on wavelets, which are a family of basis functions used to localize a given function in both space and scaling, in order to address the problem of identifying the time point of the outlier.

E584: **Bayesian Inference in SETINAR(2;p,q) model**

Presenter: **Raquel Nicolette**, Universidade de Aveiro, Portugal

Co-authors: Isabel Pereira, Manuel Scotto

We considerer the class of self-exciting threshold integer-valued autoregressive models (SETINAR) driven by independent Poisson-distributed random variables. This paper considers the parameters estimation problem for the self-exciting threshold integer-valued autoregressive models with two regimes, denoted by SETINAR(2;p,q), where p and q are the orders of the integer-valued processes involved. The Markov chain Monte Carlo (MCMC) algorithm is used and its inference capabilities are analysed through a simulation study.