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On Some Discrete- Valued Time Series Models based on Mixtures and Thinning

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Abstract— **Time series have received considerable attention as a tool for the treatment of practical situations in several fields of statistics. However, most of the time series based statistical methodologies have been designed for data of a continuous nature (continuous-valued time series), while little attention has been given to time series models for data of a discrete nature (discrete-valued time series). This paper is concerned with discrete-valued time series. The two main classes of models that have been considered in the literature, are discussed. These are models based on mixtures and models based on thinning operators. Moreover, a Discrete Autoregressive model of first order with a generalized Waring marginal distribution is proposed, based on negative hypergeometric thinning.**

Keywords— **INAR model; Generalized Waring Distribution; Binomial thinning; negative hypergeometric thinning;**