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INSTITUT SAINS MATEMATIK

UNIVERSITI MALAYA

SIRI KOLOKIUM

Tajuk: Discrete-valued ARMA Processes*

Penceramah: Atanu Biswas (Indian Statistical Institute, Kolkata, India)

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Abstract

This paper presents a unified framework of stationary ARMA processes for discrete-valued time series based on the Pegram's mixing operator, since it allows the construction of Box and Jenkins' type stationary ARMA processes with arbitrary discrete marginal distributions. This flexibility permits us to yield an ARMA model for time series of binomial observations as a special case, which was unavailable with the extended thinning operator because the binomial is not infinitely divisible. We conduct a thorough investigation on statistical inference for the proposed models, including parameter estimation and model selection, neither of which has been well studied in the literature. In particular, we re-derived Hurvich and Tsai's (1989) bias-corrected Akaike Information Criterion (AIC) for the order selection of discrete-valued AR models. Numerical examples are used to examine and illustrate the proposed methods and models.

SEMUA DIJEMPUT HADIR

* Joint work with Peter X.K. Song (University of Waterloo, Canada) and R. Keith Freeland (University of Waterloo, Canada)