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A log-linear model for non-stationary time series of counts

We propose a new model for nonstationary integer-valued time series which is particularly suitable for data with a strong trend. In contrast to popular Poisson-INGARCH models, but in line with classical GARCH models, we propose to pick the conditional distributions from nearly scale invariant families where the mean absolute value and the standard deviation are of the same order of magnitude. As an important prerequisite for applications in statistics, we prove absolute regularity of the count process with exponentially decaying coefficients.

This talk is based on joint work with Anne Leucht (Universität Bamberg).