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Nonnegative Multivariate AR(1) Processes

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Abstract: Conditions for nonnegativity of a p-dimensional AR(1) process $X_t = UX_{t-1} +_t$ are investigated in the paper. If all the elements of the matrix U are nonnegative, a new method for estimating U is proposed. It is proved that the estimators are strongly consistent. Small-sample properties of the estimators are illustrated in a simulation study.

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