KALMAN-TYPE RECURSIONS FOR TIME-VARYING ARMA MODELS AND THEIR IMPLICATION FOR LEAST SQUARES PROCEDURE

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Abstract: This paper is devoted to ARMA models with time-dependent coefficients, including well-known periodic ARMA models. We provide state-space representations and Kalman-type recursions to derive a Wold–Cramér decomposition for the least squares residuals. This decomposition turns out to be very convenient for further developments related to parameter least squares estimation. Some examples are proposed to illustrate the main purpose of these state-space forms.

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