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SEMIPARAMETRIC SPATIO-TEMPORAL COVARIANCE MODELS WITH THE ARMA TEMPORAL MARGIN

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Abstract. Starting from a purely spatial variogram, this paper derives a class of semiparametric spatio-temporal covariance models that are stationary in time but not necessarily stationary in space. In particular, we obtain spatio-temporal covariance models with the continuous-time autoregressive and moving average (ARMA) temporal margin and long-range dependent spatial margin.

Key words and phrases: Autoregressive and moving average, covariance, intrinsically stationary, long-range dependence, stationary, variogram.