



## Spatial Generalized Functional Linear Model

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We extend the spatial generalized linear model (SGLM) to the case where the covariate is functional. After using a basis function (B-splines, Fourier) to model the functional covariate and the functional parameter, the model become in a standard SGLM where the covariates are the coefficients obtained after smoothing the data with the basis function. We propose a methodology for estimating the parameters and for predicting random effects (for modeling the spatial correlation) involved in the model. We show a simulation study and a real application with a meteorological data set.

**Keywords:** Basis functions, Functional variable, Random effects, Spatial generalized linear model.