

## Small Area Prediction for Discrete Data Under Spatial Nonstationary Model

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There is a growing need for current and reliable count data at small area level. The empirical predictor under a generalized linear mixed model (GLMM) is often used for small area estimation (SAE) of such data. However, GLMM assumes that the fixed effect parameters are spatially invariant and does not account for the presence of spatial nonstationarity in the data. We adopt the geographically weighted regression concept to extend the area level version of GLMM to account for spatial nonstationary and to then use it in SAE. Our empirical results show that the proposed method provides efficient estimates for small areas when spatial nonstationarity is present in the data.

**Keywords:** Count Data; Small Areas; Spatial Non-stationary; Mean Squared Error.