

2013 – 02

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Estimators in Geostatistical Regression Models**

By

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Augst 26, 2013

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Abstract

In this article, we consider geostatistical regression models in the one-dimensional space, where the errors are generated from a spatial process with an exponential covariance function, plus white noise. We establish consistency and derive the limiting distributions of the maximum likelihood (ML) estimators of the spatial covariance parameters under a general asymptotic framework, including both the fixed domain and the increasing domain frameworks, even when the number of regressors increases with the sample size or the regression model is mis-specified. We fully characterize the convergence rates of the ML estimators in terms of the growing rate of the domain and the degree of model mis-specification/complexity. The results show some interesting change-point behavior.