

**A PLUG-IN BANDWIDTH SELECTOR FOR LOCAL POLYNOMIAL
REGRESSION ESTIMATOR WITH CORRELATED ERRORS**

by

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ABSTRACT

Consider the fixed regression model where the error random variables are coming from a strictly stationary stochastic process. In a situation like this, automated bandwidth selection methods for nonparametric regression break down. In this paper, we present a plug-in method for choosing the smoothing parameter for local least squares estimators of the regression function and its derivatives which take the presence of correlated errors into account. The theoretical performance for the local linear estimator of the regression function is obtained. These results can be extended to other settings, such as derivative estimation and multiple nonparametric regression. Estimators of regression functionals and the error correlation based on local least squares ideas are developed in this article. A simulation study illustrates the selection method proposed.