



The University of Chicago
Department of Statistics

Master's Seminar

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**Conceptions of Simultaneous Confidence Bands
in Nonparametric Time Series Regression**

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ABSTRACT

Based on a nonlinear stochastic regression model, we introduce the method to construct simultaneous confidence bands in order to test the certain parametric form of model. A simulation study is conducted to show the performance of the SCB in terms of its coverage probability of certain model. The results suggest SCB is useful in testing the form of parameters. The example of constructing SCB for the NASDAQ index data provides an application of confidence band in processing real data.