



THE UNIVERSITY OF
CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Testing Parametric Assumptions of Trends of Nonstationary
Time Series

WEDNESDAY, February 17, 2016, at 8:00 AM
Eckhart 117, 5734 S. University Avenue

ABSTRACT

In this paper, we are focusing on the mean trend of a nonstationary time series and testing whether the time series is of a specific parametric regression model (we consider the zero-mean test, and linear model). We take our hypothesis testing based on the central limit theorem, which then can integrate the squared error. The result and the power of the model are show in a following simulation study, which can give us suggestion on the best bandwidth choice. Then, we apply this method with the optimal bandwidth to the global land-surface average temperature from 1753 to 2014, where we tested its zero mean and linear pattern trend.

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