THE UNIVERSITY OF CHICAGO

Department of Statistics
MASTER'S THESIS PRESENTATION

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Inference of Trends in Time Series

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ZOOM Meeting

ABSTRACT

The work by Wu and Zhao considers statistical inference of trends in mean non-stationary models. They proposed a test statistic for the existence of structural breaks in trends and a method of constructing simultaneous confidence bands with asymptotically correct nominal coverage probabilities under strong invariance principle. I discuss how the choice of bandwidth and block length will influence the coverage probabilities. A further discussion about the adjustment to the choice of bandwidth is also included. The construction of simultaneous confidence bands is applied to temperature data to verify the spatial effect of global warming. The SCB provides a verification criterion for any possible model of the temperature series.