

DISSERTATION

ESTIMATION FOR LÉVY-DRIVEN CARMA PROCESSES

Submitted by

Yu Yang

Department of Statistics

In partial fulfillment of the requirements

for the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Fall 2007

COLORADO STATE UNIVERSITY

February 18, 2009

WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY YU YANG ENTITLED ESTIMATION FOR LÉVY-DRIVEN CARMA PROCESSES BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

Committee on Graduate Work

Peter J. Brockwell (Adviser)

Richard A. Davis (Co-adviser)

F. Jay Breidt (Committee Member)

Louis L. Scharf (Committee Member)

F. Jay Breidt (Department Head)

ABSTRACT OF DISSERTATION

ESTIMATION FOR LÉVY-DRIVEN CARMA PROCESSES

The abstract goes here.

Yu Yang
Department of Statistics
Colorado State University
Fort Collins, Colorado 80523
Fall 2007

ACKNOWLEDGEMENTS

A lot of people should be acknowledged for revising this thesis template and providing it to other students. Those I am aware of are the original creators mentioned in the sty file, William Coar and Megan Higgs. I have just changed a few places according to the sample pages provided by graduate school and put all those files together.

WARNING: This is not guaranteed to be approved by grad school. So use it on your own risk.

In Unix or command line dos, the correct way to run this thing is

1. latex thesis.tex
2. bib thesis.tex
3. latex twice thesis.tex
4. dvi2pdf thesis.tex

A better approach is to use software like TeXnicCenter (free) to edit and compile your Latex. For the thesis template, for example, all you have to do is load the thesis.tex file and compile it - the software does the five step process listed above automatically. Lyx is another popular Latex processor.

DEDICATION

The dedication goes here.

CONTENTS

1	Introduction	1
1.1	Section 1	1
1.2	Section 2	1

LIST OF FIGURES

1.1 A sample path of a Brownian motion. 2

LIST OF TABLES

1.1 Estimation results for CTAR(1) (non-linear, known threshold). 1

Chapter 1

INTRODUCTION

1.1 Section 1

This is section 1. A table is shown below

Table 1.1: Estimation results for CTAR(1) (non-linear, known threshold).

h	$T=100$		$T=500$	
	Sample mean of estimators	Estimated variance of estimators	Sample mean of estimators	Estimated variance of estimators
0.001 $a_1^{(1)}$	6.0450	0.41207	5.9965	0.07185
$a_1^{(2)}$	1.5240	0.04824	1.4986	0.00891

1.2 Section 2

This is section 2. If you want to cite a paper like this Štatland (1965), look at the command I use in the thesis tex file. For other useful citation commands, google it. A good free software called JabRef, used to organize the references bib file is recommended by Derek Sonderegger. Another useful tidbit is to get bibtex references from within Google Scholar. Once you set bibtex in the preferences, you can get complete bibtex entries for any reference you find via Google Scholar.

A plot is shown here

This plot uses eps (postscript). More people are using pdf files for the figures these days. The nice thing about this is that you can skip a step in the compiling and go right to pdf. The code for a plot is below.

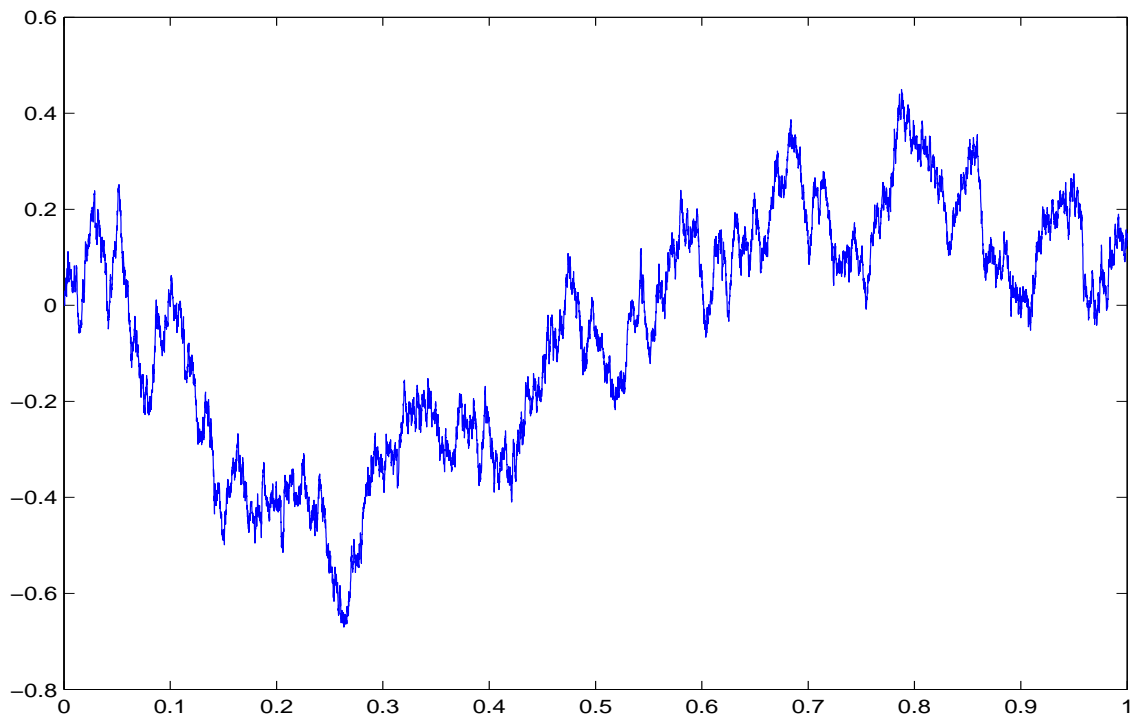


Figure 1.1: A sample path of a Brownian motion.

```
\begin{figure}[ht]
\includegraphics[width=4.25cm]{brownian.pdf}
\caption{A sample path of a Brownian motion.}
\end{figure}
```

This is especially useful within a package like TexnicCenter because you can latex to pdf without the extra ps step.

Bibliography

Štatland, E. S. (1965). On local properties of processes with independent increments.
Theory of Prob. and Applications, 10:317–322.