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D. R. Brillinger

Statistics 153 – Paper - S2015

The course grade will come from the larger of the Paper grade and

.5*Paper+.3*Midterm+.15*Homework+.05*Proposal

This Paper is meant to provide some fun for you. Think broadly about which data set you will work with. These days statisticians get to work on basically anything and contemporary computing packages and devices make it easy and often surprising.

The Data. The data are meant to be from a time series. Think of something you are interested in, be it: biology, physical science, social science, finance, sports, engineering, daily life, government, ... All of these subjects lead to time series data and in many cases the data are available quite directly via internet search engines, eg. Google.
Try to obtain at least 250 successive, equi-spaced observations. It is recommended that the series be approximately stationary.

Using the **statistical package R** complete the following analyses.
1. Graph the data.
2. Detrend as necessary.
3. Carry out a time-side analysis and a frequency-side analysis or a hybrid..
4. Check the assumptions.
5. Draw conclusions.
Remember to include statistical uncertainties going along with the estimates.

The Paper
a) Have title and sections: Introduction, the Data, …, Conclusions, References
b) Describe the data and source.
d) Start with "The scientific question motivating my work is … ."
dd) For each of the analyses discuss the results. Do not simply cut-and-paste computer output. Highlight your final models.
e) End with "The answer to my question is …"
f) Include pertinent figures and programs.
g) Have the write up at most ? pages long, typed, point size 12, double-spaced, margins 1". Figures are to be included in those ? pages. (No reading past page 10.)
h) Include code after page ? if you wish.
i) Please slide a hard copy of your Paper under my office door, 417 Evans, anytime before 12:00 Monday ?.