

STATS531 Week4 Participation

Author: Chongdan Pan(pandapcd)

I've three participation records at Piazza this week.

1. [Any basic structural model application?](#)

question @103

17 views

Any basic structural model application?

The slides say that basic structural model was developed for econometric analysis, can we have some concrete examples about how is used? Such as we're set the S&P 500 index as level, etc.

chapter10

edit good question 0

Updated Just now by Chongdan Pan

2. [Question related to the conclusion from chapter 9](#)

question @102

stop following 19 views

Question related to the second conclusion on Page 20

We conclude that above-trend economic growth CAUSES above-trend mortality as the second point, but I wonder where it comes from, since our test shows that high life expectancy is related to high unemployment rate, which should be below-trend economic growth.

chapter9

edit good question 0

Updated 4 days ago by Chongdan Pan

3. [Answer for time domain vs frequency domain](#)

note @101

stop following 24 views

Time domain vs frequency domain

It can be helpful to think of time and frequency domain analysis as two different ways to see the same thing. The data and their Fourier transform contain exactly the same information, so in principle nothing can be gained or lost by transforming the data into a collection of sines and cosines. Sometimes things are easier to see in the frequency domain, and sometimes in the time domain. This suggests looking at both. Can you think of situations where it is appropriate to focus only on the frequency domain, or only on the time domain?

chapter7

Updated 6 days ago by Edward Ionides

followup discussions for lingering questions and comments

☒ Resolved ☐ Unresolved

Vasilina Filonova (vfilonov)

6 days ago

I would quickly suggest the following:

1. Use frequency domain if a question requires study of seasonality. In more general case, there can be several time scales (periods) that should be distinguished from noise. Example, climate or biological time series that have obvious seasonal periods that cannot be neglected.

2. Use time domain analysis when a question is focused on trends for time series that have no significant seasonality. Here low frequencies are of the highest interest and other higher frequency modes can be considered as noise.

In addition, some math problems are easily solved in frequency domain rather than in time domain, e.g. wave equations. So, this can be a part of the decision to use FT.

helpful 0

Reply to this followup discussion

☒ Resolved ☐ Unresolved

Chongdan Pan

4 days ago

When we want to record some noise or music, we typically focus on the frequency domain, because different note is generated by vibration at different frequency. Therefore, if we catch the high frequency, then we catch the music's composition.

helpful 0

Reply to this followup discussion