Quiz 4

Number of participants: 81

1

By checking "I confirm", I do confirm that I am present in the Lecture Zoom meeting at the moment and am doing this quiz individually and without sharing my answers with anyone.

✓ I confirm		100%	80 votes

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Slide

Quick Instructions

- **Remain muted** in Zoom during the whole quiz time
- If you have **a question, type it in the Zoom chat**
- The time is limited, please **follow the timer** displayed in Zoom
- Each question of the quiz has **exactly one correct answer**
- You must **press the "Submit" button** after answering every question
- $GRADE = \min(10, \text{number of correct answers})$

3

In "ULM", by "Linear" we mean that the models are ...

linear in the time series values	46%	36 votes
linear in most parameters	21%	16 votes
✓ both of the above	28%	22 votes
"L" is not "Linear"	5%	4 votes

4

"ANY stationary TS can be represented as an infinite order MA process"

✓ that's TRUE, it's Wold's theorem	42%	32 votes
that's TRUE, it's what Box & Jenkins said	16%	12 votes
NO, stationarity is not enough	22%	17 votes
NO, infinite order processes don't exist	21%	16 votes

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"Data from stationary TS usually can be modeled as some not very complicated ARMA"

that's TRUE, it's Wold's theorem	18%	14 votes
✓ usually, that's TRUE, according to Box & Jenkins	79%	63 votes
NO, stationarity is not enough	4%	3 votes
NO, because non-linearity in data is too strong	0%	0 votes

6

To choose ARMA specification for particular data means ...

Partition the data into fitting and validation samples	11%	9 votes
Analyze ACF and guess the true orders of ARMA(p,q)	35%	28 votes
✓ Pick appropriate range for the orders according to ACF and common sense	49%	39 votes
Agree that the process is linear and we have to use ARMA	5%	4 votes

7

"For some stationary data sample, there's always ONE model that fits the data the best"

YES, our aim is to find it via diagnostics	19%	15 votes
YES, specification choice will reveal it	8%	6 votes
✓ NO, often diagnostics will end up with either many, one or no appropriate models at all	38%	30 votes
NO, because best fit doesn't guarantee good predictions	35%	27 votes

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Some TS process is i.i.d. with zero mean and unit variance. Then it is...

Strictly stationary	9%	7 votes
Weakly stationary	6%	5 votes
Strict white noise	41%	33 votes
Weak white noise	25%	20 votes
✓ All of the above	19%	15 votes

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The process X(t) = X(t-1) + e(t), where e(t) is WWN, ...

is weakly stationary	14%	11 votes
is strictly stationary	4%	3 votes
✓ has unit root	71%	55 votes
none of the above	10%	8 votes

10

The process X(t)=e(t) + A*e(t-1), where e(t) is WWN, is stationary ...

✓ for all A	39%	30 votes
for |A|<1	49%	37 votes
for |A|>1	9%	7 votes
for A>0	3%	2 votes

11

The process X(t)=e(t) + A*X(t-1), where e(t) is WWN, is stationary ...

for all A	11%	8 votes
✓ for |A|<1	59%	44 votes
for |A|>1	19%	14 votes
for A>0	11%	8 votes

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What is autocovariance of order 3 for X(t)=e(t)+0.5e(t-1), where e(t) is WWN(1)?

✓ 0	46%	33 votes
0.5	26%	19 votes
0.125	22%	16 votes
-1	6%	4 votes

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For AR(p) processes, the autocovariance of order j>p ...

is zero	35%	25 votes
is not zero	17%	12 votes
doesn't exist	21%	15 votes
✓ not enough data	28%	20 votes