

Question

①

start 14 4 0
stop 15 2 14

5a) minimized total least squares
global minimum not guaranteed. OK

Lyudmila Mihaylova

theoretical analysis / practical results

1) What type of uncertainties can you deal with?
scalability?

more uncertain possible + sensor fusion

eq. (3.6) scalability?

2) add recommendation { # data and order that can be handled

add more precise discussion of scalability in RD

3) 5.2.5 how many experiments?

add statistical analysis for more experiment

scalability $RLS \div O(N)$

Stephane Chretien

(2)

* valuable contributions to community
very good work

- (*) Taylor expansion of order 2 \Rightarrow
accuracy as a function of the order of
the system
a priori bound to assess to quality of the
expansion.

{ Stewart
Vander

{ Wenberger

implicit function theorems
numerical analysis literature
to control bound before making
Taylor series expansion.

- (2) better methods than RLS?

has elimin. LS method \Rightarrow but input
should be known.

- (3) Robustness? heavy tailed noise, outliers

RLS filter out outlier?

\hookrightarrow could monitor jump in estimate

Median of means \rightarrow to robustify work. ~~that~~

④ deep learning helpful?

Guillaume Mercier

(3)

① Summary + motivation

└ industrial examples?

survivors in
nuclear
environment.

"weighing boxes in post office" mention this

② build model + use it

\hat{z}
now variation search charact. per time

(+)

③ solutions for EIV problems?

④ $y = Kx \rightarrow TLS$

other approach. minimum variables \leftarrow possible

comp. with your method

⑤ LTI assumption valid?

⑥ eq. (3.1) more general process noise
present, how to adapt ~~system~~ algorithm
to account for process noise?

⑦ p 12 $[x_a(0) \ x_a(1) \ \dots \ x_a(n)]$

$\begin{matrix} 1 & 2 & n \neq 0 \end{matrix}$
impact noise? in s.d. impact
vars

$$y = G\tilde{u} + \underbrace{Oa n(\sigma)}_{\text{vector}}$$

\uparrow \uparrow
 scalar vector

(P13) persistently enacting of order L

\uparrow Hanbel.

repair should be persist enacting

(14)

(P17) i.i.d. + normally why needed?

section 4.1, 4.2



needed for CRB bound.

Start order Taylor series
moments till which order ~~are~~ ^{red} needed?

but not needed for eq. (4.10) - (4.11)

Higher order moments

calculated
bias higher order
moments p 18
how to calculate

① σ_E^2 how obtained?

Simulation levels

(4)

- give K in appendix
- A, B, C of simulation
give

see Fig-4.1. unstructured \rightarrow comparing two
structured different things

- 4.2.2. A, B, C link with K chosen
explain why

Chpt 5 similar to what is given Chpt 4?

Section 5.1 \Rightarrow what is added w.r.t. section 4.2
5th order \leftarrow 2nd order

bias-variance trade-off

p 41-42

solution to overfitting?

can it be used here to test a good order?

cross-validation \uparrow applicable

doable?
split data in 2 sets
possible here?

Rel 1

P 54. 7th order model prediction error model.

Section 2. ML method
why \uparrow is it called.

* PA & not specified

likelihood chosen?

Gaussian \rightarrow NLS

Gaussian ML

30 sec - to estimate 4 parameters
in ML method

how many samples?

{ in each iteration sensor response is calculated.
+ prediction matrix each time dynamic
system are \uparrow response

Nikolaos Deligiannis

(5)
discuss with Ivan

1) LS, RLS \Rightarrow closed form solutions of optimisation based algorithms?

2) \hat{y} big data scenario? how to solve?
 \hat{m}

3) KTK not invertible?

\wedge what

\downarrow regularisation!
 \wedge apply

4) Complexity experiment missing?

flops needed? not mentioned

5) Kalman filter? deep learning can be written as a

6) recommendation version

\Rightarrow $\mu_{pox} \rightarrow w_e \mu_{pox}$
 $\exists \quad \exists$

Philippe Dreesen

⑥

① sensor in steady state = linear gain

saturating sensor \rightarrow how to deal with this?

can you skip the saturated values?
missing data?
Risk

② DT models
physical devices

exact? **no** even if f_s is small.
aliasing a problem?

③ sub-sampling $f_s < 2f_B$
compressed sensing

missing data?

saturation
outliers

can method handle this?


Handled matrices with missing elements

completion techniques how much approx?

Manholes of full rank.

Roger Vonnich

⑦

- ① Chpt 5 slow sampling
after 500 samples correct
after 125ms correct meas.
weight is increased
- 

- ② optical fibre link with optical detector.
Digital signal

Lyndmulla

S25 Monte Carlo
more details
about siml.
scalability

understanding of the topic / own
answer: questions majority OK
minor corrections

literature review should be improved
analysis, language, references.

Stephane

demonstrates certain amount of knowledge.
some additional material needed in thesis
section background how to calculate ML

Guillaume

from SI contributions that dig

LS approach.

stat. anal. interesting

not as positive as the others / could
have obtained more results.

quite some mistakes in documents

2nd order \rightarrow 5th order discuss why this -

Nikos

low ranky } matrix questions not addressed
sparsely }

position better v.r.b. background.