University of BRISTOL

[2020-09-25 Fri]

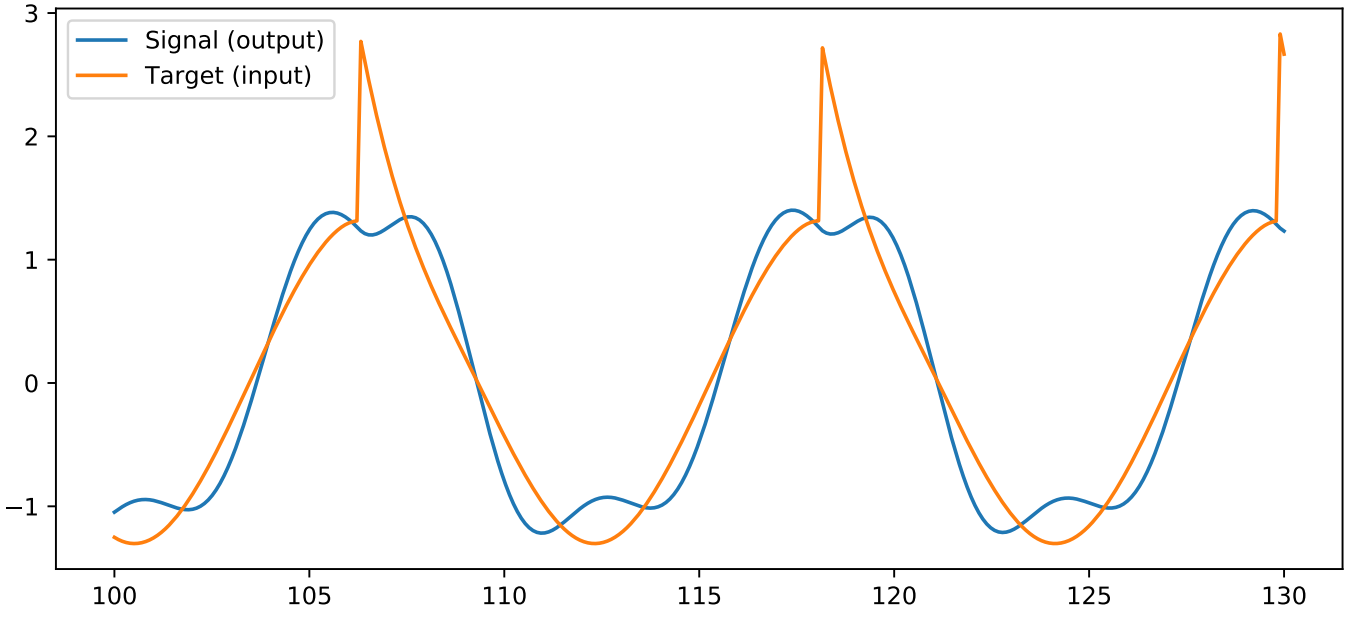
Simulations and manuscripts

Mark Blyth

Week's activities

- Lead-TAing setup
- Digital teaching course
- NODYCON paper
- Splines experiments

Last time. . .



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- Spline model somehow ceases to be valid
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  - Can't understand why either would happen
  - Code errors aren't helpful

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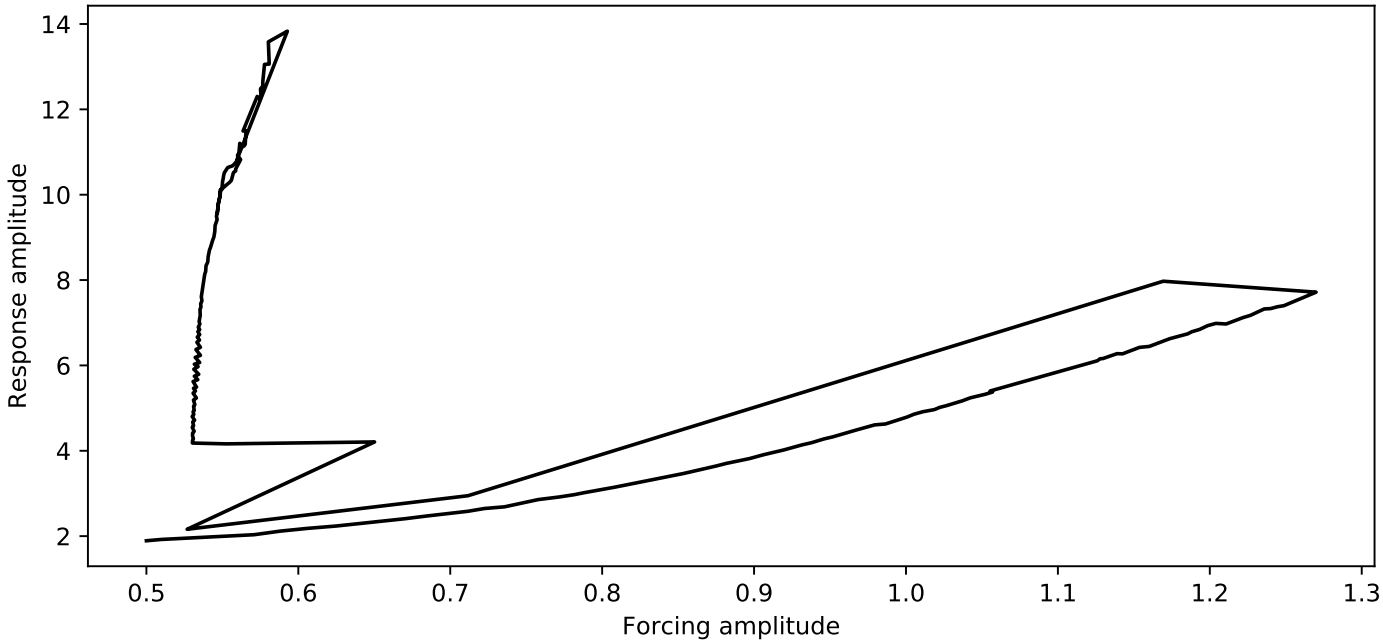
  - Choice of exterior knots becomes difficult
  - More chance to cover entire data range with knots, to avoid invalid spline models
  - Some success

Evenly spaced knots, small finite-differences



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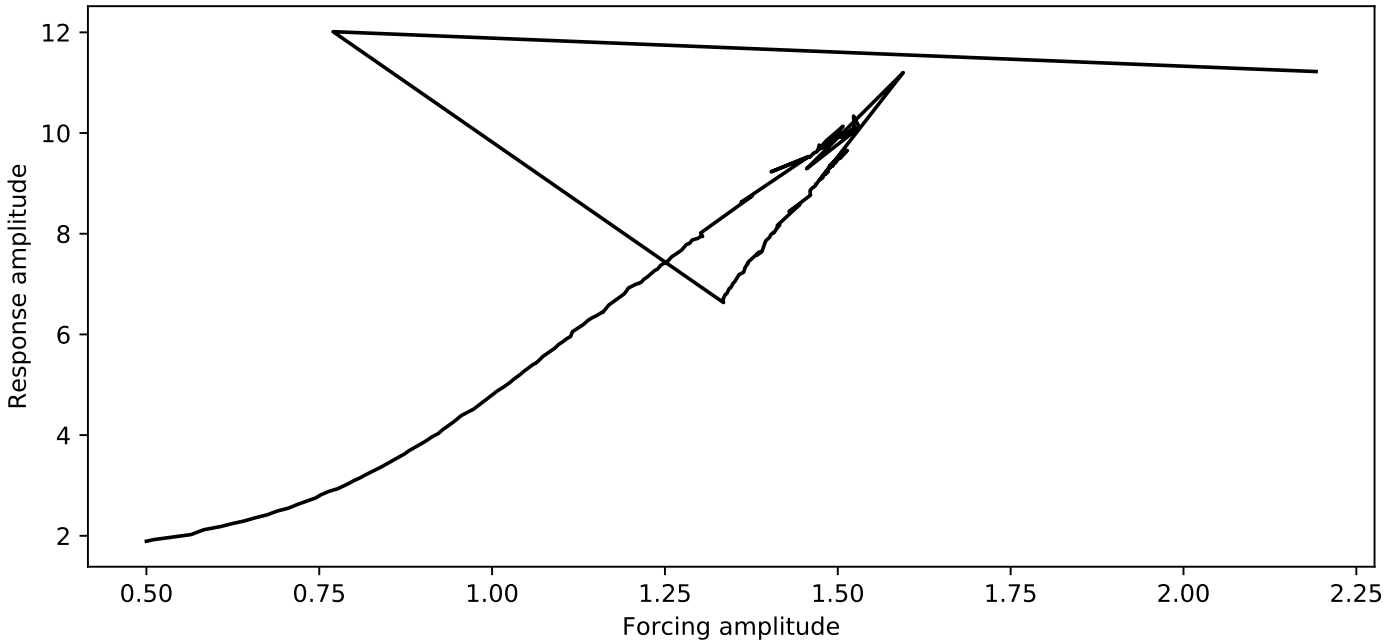
Evenly spaced knots, larger finite-differences



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- No intuition about when and why things break
- Finicky hyperparameters make the method impractical even if it did work

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  - Might make finite differences more robust?
  - Also easier to understand, more explainable: no mysterious choice of exterior knots; more intuition about how discretisation changes the model

Next steps

- Choose paper and make slides for lab group meeting
- Try interpolating splines discretisation
  - Start with simplest-possible (ie. non-Bayesian) approach, see what happens
- Edit continuation paper
- Write up extended conference paper

Also, annual leave October 19th - 23rd