

Progress meeting

Vinit Dighe (WINDTRUE)

Progress meeting 1.

- Literature: [1, 3]
- Test cases: Ishigami, Airfoil lift and Aero Module, Gayton Hat.
- Familiarisation with UQ Lab and Sobol Indices

To be discussed:

- Familiarization to NURBS parametrization
- Torque paper on sensitivity analysis: Collaboration
- UQ Lab for Bayesian Inference
- Documentation of the UQ code

Progress meeting 2.

- Literature: [1, 3]
- Test case: Simple beam case using MCMC UQLab.

Progress meeting 3.

- Literature: [1, 2, 3]
- Test case: Simple beam case extended to multiple forward models and different MCMC algorithms.
- Familiarisation NURBS parametrization with Prashant.

To be discussed:

- Further extension to the code.
- Extension of the MCMC framework to a relevant test case.
- DANAERO data.

References

- [1] Juan Pablo Murcia Leon, Pierre-Elouan Réthoré, Anand Natarajan, and John Dalsgaard Sørensen. Uncertainty quantification in wind farm flow models. 2017.
- [2] Colin Rundel David Banks Christine Chai Merlise Clyde, Mine Cetinkaya-Rundel and Lizzy Huang. An introduction to bayesian thinking. 2019.
- [3] Ralph C Smith. *Uncertainty quantification: theory, implementation, and applications*, volume 12. Siam, 2013.