

Wind Energ. Sci. Discuss., referee comment RC2  
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## **Comment on wes-2021-58**

Emmanuel Branlard (Referee)

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Referee comment on "Efficient Bayesian calibration of aerodynamic wind turbine models using surrogate modeling" by Benjamin Sanderse et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2021-58-RC2>, 2021

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The authors present a framework to perform model calibration and apply it to two proof of concepts of increasing complexity, highly relevant to the field of wind energy. The others stress at several occasions that these are proofs of concept, and that some steps are "manual" and could need extra care for more advanced applications. I think the level of "discussion"/"moderation", theory, and setup description is well balanced and flows well. I welcome the use of these simple, but relevant, applications.

The work is thorough and well written, so I only have limited comments.

Some of the recurring theme in my comments are:

- It would seem relevant to add the evaluation from the polynomial model to the plots on top of the results from the calibrated and uncalibrated Aero-Module.
- When describing the "ingredients" of the model, it could be nice to precise which parts are obtained using library calls to UQLab (mentioning the function name of this library could also be interesting to some readers), and which part were implemented in this study.

I enclose some specific comments in the pdf attached to this review, I hope that addressing these in the text could help other readers.

I congratulate the authors for this very interesting work. I'll be looking forward to review a revised version of this paper.

Emmanuel

Please also note the supplement to this comment:

<https://wes.copernicus.org/preprints/wes-2021-58/wes-2021-58-RC2-supplement.pdf>