Wind Energ. Sci. Discuss., referee comment RC2
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Comment on wes-2022-79

Anonymous Referee #2

Referee comment on "A Surrogate Based Optimization Framework to analyse Stall Induced Vibrations" by Chandramouli Santhanam et al., Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2022-79-RC2, 2022

This paper presents an interesting research applying surrogate models to study the stall-induced vibrations of the IEA 10-MW wind turbine blades. Although limited scientific novelty can be found in the paper, the engineering observations are still useful. There are a few major concerns that affect the quality of the paper and should be addressed by the authors.

- The major problem is that HAWC2 is applied to analyze a parked rotor. Note that the verification article the authors cited applies to operating wind turbines with rotating blades. To the reviewer, the validity of the results is subjected to questions. Since surrogate models are applied, why not using CFD or a lifting line model?
- Table 1 shows a number of considered variables. Please clarify why they are selected here and whether there are other more important parameters.
- Some of the statements are not justified. For example, “The reference temperature for the normal damping values is considered as 15 °C, and a decrease of 50% in the structural damping is assumed at −10 °” Are there any grounds that can be used to support this statement?
- The language is acceptable, but a check should be done to avoid a mixed use of American/British spelling in the manuscript.