

Wind Energ. Sci. Discuss., referee comment RC2  
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## **Comment on wes-2022-35**

Vasilis A. Riziotis (Referee)

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Referee comment on "Atmospheric rotating rig testing of a swept blade tip and comparison with multi-fidelity aeroelastic simulations" by Thanasis Barlas et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2022-35-RC2>, 2022

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The paper presents a thorough comparison of field, load measurements of a swept blade tip, attached to a rotating test rig, against predictions by varying fidelity aeroelastic models. All simulations are using the same structural module but aerodynamic modules of different fidelity covering the whole span of the existing state-of-the-art aerodynamic models (BEM, hybrid BEM and vortex near wake, lifting line vortex wake, CFD).

The work presented in the paper is novel, interesting to the research community, well documented and in the reviewer opinion deserves publication in WES journal.

I have several small comments that the authors can find in the accompanying pdf. They are all aimed at further improving/polishing an already well written text.

My only major comment concerns section 2. The information presented in this section is very condensed:

- The brevity of the presentation does not allow design optimization objectives to become clear
- Some of the figures presented are not well explained in the text (for example figure 2)
- In many occasions modeling aspects (for example drag coefficient used for cylinders) are mixed up with design aspects (type of airfoils used and  $Re$  at which polars are produced).
- The reported increase in power achieved (19.58%) is too high and needs some further elaboration.

I would recommend the authors to revise section 2 in such a way that at least the optimization objectives become clearer. Another approach of course is that since section 2 is only complementary to the present work, it could be neglected or maybe limited to citations on previous developments. Given that the paper isn't too long I would be in favor of the first approach (for the sake of completeness of the reported work) however, I would not bother if the authors choose to follow the second.

Please also note the supplement to this comment:

<https://wes.copernicus.org/preprints/wes-2022-35/wes-2022-35-RC2-supplement.pdf>