

Wind Energ. Sci. Discuss., referee comment RC1
<https://doi.org/10.5194/wes-2022-1-RC1>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on wes-2022-1

Anonymous Referee #1

Referee comment on "Impacts of wind field characteristics and non-steady deterministic wind events on time-varying main-bearing loads" by Edward Hart et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2022-1-RC1>, 2022

Thank you for the nice publication, there are some minor spelling issues.

Additionally, there some minor flaws.

- all figures are missing light grids
- p.1 l.11: wind turbines with 3MW offshore are past the state of art. Such a small size is currently erected onshore
- p.4 l.100: the paper would be more comprehensible, if some wind turbine characteristics would be stated (ex. rotor diameter, rated torque, rated wind speed)
- p.5 l.124: loads are modeled according to IEC 61400-1 but is only mentioned far later or in the appendix. BTW. why not use the current IEC 61400?
- p.6 figure 1: Thrust curve consists out of 3 segments before rated conditions, explanation missing
- p.8 l.201: a rigid shaft is quite a simplification. The reasonable justification is missing
- p.10 l.265: you mention that you are using a reference load. Would that not mean that the output loads in the figure 4 are non-dimensional
- p.11 figure: 4: axis-labels are missing; please indicate the direction of the rotor weight, as 0° points towards a right.
- p.15 figure 7: Not traceable. Labels cannot be read. Maybe split the graphic into two. It is not clear which is centered, and which is overhang
- p.15 l.348: explanation of how loop area is determined would be nice. As for my understanding: It is the area enclosed as shown in figure 4
- p.19 figure:12: ideal thrust curve should be indicated differently, otherwise it is like the end of the gust
- p.20 l.405: perspective of centered support missing?
- p.20 figure: 13: You show the control variable for corresponding wind speed. Please add the corresponding star in control variable to improve clarity
- p.21 l.420 cubical increase, is not clear as rotor diameter missing
- p.21 conclusion: Your conclusion contains discussions and new references. A conclusion should only base on the work shown earlier. A split between discussion and conclusion might be better

