

Interactive comment on “The effects of blade structural model fidelity on wind turbine load analysis and computation time” by Ozan Gozcu and David Robert Verelst

Anonymous Referee #1

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Dear authors, thank you for your submission. In my opinion, this is a very well written paper, with however some substantial lack of novelty. The main conclusion, modern, long, slender, flexible blades should be modeled with non-linear models that account for large deformations, is not at all a surprise and several works cited in Section 1 already go in this direction, maybe without running a comprehensive comparison as you present here, but still providing enough support to justify the claim. I have then been reflecting about possible additions to this work. One that I'd find interesting to read is an assessment of the torsional deformations of these very long blades and how this may impact the power production. You might know that blade designers fear that modern blades might suffer from substantial offsets between the prescribed pitch

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angle, which is set at blade root, and the actual pitch that the sections located in the outer board see. This topic has industrial relevance and could be easily added to this work, enriching the paper. I am sure that you would see quite large differences in the torsional deformations at different number of sub-bodies... Otherwise, as said earlier, I find the paper written in a clear and concise way and I do not have any request of changes, except for the suggestion to break Section 3 - Results into at least two sub-sections 3.1, 3.2, ..., . You could for example split the analysis of rotor loads with the loads measured in the rest of the structure. I believe that this would improve readability. Best regards

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