

Interactive comment on “An investigation of unsteady 3D effects on trailing edge flaps” by Eva Jost et al.

Anonymous Referee #2

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This paper presents some CFD results aiming to investigate the effect of trailing edge flaps on the aerodynamics of wind turbines. The paper is at the level of what is expected for a conference presentation but it lacks in originality, and depth to be considered as a journal publication.

To begin with, the paper is not presenting something new in terms of predictive aerodynamic methods, and it is not even applying existing methods in an innovative way.

In addition, the depth of the presented analysis of the effect of trailing edge flaps on the 3D unsteady aerodynamics of a wind turbine is at least superficial. The authors compare 2D and 3D results for the flapped wind turbine section but this comparison is not enough to provide a detailed understanding of how much the trailed vorticity and the additional edge effects of the finite span flap can be quantified in a way that

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engineers can use for practical calculations. After all the CFD computations the reader expects some model/table/equation that will be transferable to other cases. Otherwise this work will have to be repeated for any other wind turbine and for any other flap location apart from the selected one here.

More interestingly, the paper is not considering the simple fact that once a flap is deployed, it will begin to affect the sectional pitching moments, it will lead to different displacement and perhaps torsion of the section and this will result in a different behavior than what is shown in the paper. For the large flexible blades of wind turbines, including the effect of aeroelasticity is important and this effect is neglected in this paper.

In conclusion, I feel that the authors are on the right track but they have to investigate thing deeper, collect a volume of work that covers several cases and try to summarise the effects of the flap in a consolidated way in a model. Their work and method are good but they are simply not there yet to be able to provide the depth of analysis required by an archival journal publication.

[Interactive comment on Wind Energ. Sci. Discuss.](#), doi:10.5194/wes-2016-48, 2016.

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