Interactive comment on "Integrated wind farm layout and control optimization" *by* Mads M. Pedersen and Gunner C. Larsen

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Yes, it seems that the combination of RPM and pitch is still interesting to still consider in axial-induction based wake control (perhaps mostly for closely spaced wind farms), as was discussed in earlier work "Optimal open loop wind farm control" by Vitulli.

I would still like to add some critical notes to your reply:

- Deshmukh and Alison used an early version of the FLORIS Multizone wake model with a FLORIDyn extension (aimed at modeling wake steering) for optimizing axial induction based control. This version of FLORIS/FLORIDyn Multizone has been shown to be inaccurate for optimizing axial-induction based control. Extensions to the FLORIS Multizone model are made in Annoni et al (DOI: 10.1002/we.1891) to match LES re-

sults with axial-induction based control, in which case the predicted benefit of axial induction based control disappears (at least if we use pitch control separately).

- In your reply you state that Fuga is "not able to capture all aspects of wake flow and WT interaction", while in the paper, the model is advertised as a "full-blown CDF (sic.) simulation of the complex WPP flow field with its complicated WT wake interactions". There seems to be a mismatch in formulation. I think it would also be good to refer to the state-of-the-art in this field of research, where wake controls optimizations are in fact done with LES code (for example https://doi.org/10.3390/en11010177).

Interactive comment on Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2020-31, 2020.