

Review of "Evaluation of the impact of active wake control techniques on fatigue, ultimate loads and rotor design for a 10 MW wind turbine" by Alessandro Croce, Stefano Cacciola, Luca Sartori, and Paride De Fidelibus.

Compared to the previous version of the paper, the paper has improved, but the basic problem remains, which is:

- Since the scope of the paper is to investigate load aspects of WR and PCM wind farm control, the rotor design part of the analysis *assumes* that the front wind turbine is the most critical loaded wind turbine in a wind farm, which is also argued several places in the paper. In my opinion this premise is wrong - or at least not documented. There exists lots of evidence - both based on numerical simulations and detailed analyses of full-scale data - that fatigue loading of wind turbines inside a wind farm is significantly more severe than fatigue loading of solitary (or frontal wind turbines, if you like) wind turbines. Regarding ultimate loading, which is the design driving load scenario in the paper's section 5 analysis, I'm not aware of any systematic investigation documenting that ultimate loading of the frontal wind turbine is more severe than ultimate loading of a wind turbine inside the wind farm. If such documentation exists that can support your premise of considering 'the worst possible scenario', it must definitely be referenced, as it is needed to justify section 5 - the rotor design part.
- Following the rationale above, it is in turn not justified/documented that ultimate loading in general is more critical for a wind farm turbine than fatigue loading, which is a comprehensive study of its own. What has been demonstrated is, that for the two selected active wake control approaches, a frontal wind turbine is more severely loaded by extreme external events than by fatigue, when evaluated in terms of the IEC standard load cases. However, as all wind turbines are considered of the same type in the wind farm (which is indeed a reasonable assumption), a detailed rotor design study is too premature, unless documented that ultimate loading of a frontal wind turbine is design driving for all turbines in a wind farm.
- Another aspect - as I read the design study - is that the specified PCM control is included in all relevant DLCs for the entire lifetime of the turbine. This is somewhat conservative, as a particular frontal turbine will only be a frontal turbine, and thus operate under PCM control, for part of its lifetime.

In my opinion the consistency of the paper will be considerably improved by only including the first 4 sections and a conclusion. The first 4 sections constitute a load study - fatigue as well as ultimate - of a frontal turbine operating under WR and PCM wind farm control. A possible paper title could then e.g. be: "Evaluation of the impact of selected active wake control techniques on fatigue, ultimate loads and rotor design for front row 10 MW wind turbine".

Editorials:

P.1: All works suggested -> All works suggested

P.2: aggregate damage equivalent loads was -> aggregate damage equivalent loads were

P.4: depend on many factors, such as the farm layout, the wind distribution and rose, the turbulence intensities. -> depend on many factors, such as the farm layout, the wind distribution and rose as well as the turbulence intensities.

P.4: and/o feel the -> and/or feel the

P.6: through 1D geometrically exact -> through a 1D geometrically exact

P.7: a convergence solution is found -> a converged solution is found

P.15: The change of thrust, in facts, results -> The change of thrust, in fact, results