Wind Energ. Sci. Discuss.,
https://doi.org/10.5194/wes-2020-108-SC1, 2021

Open Access WIND ENERGY SCIENCE DISCUSSIONS

Interactive comment on "Surrogate based aeroelastic design optimization of tip extensions on a modern 10MW wind turbine" *by* Thanasis Barlas et al.

Malo Rosemeier

malo.rosemeier@iwes.fraunhofer.de

Received and published: 4 January 2021

The manuscript describes a methodology how to optimize a parametrized blade tip extension planform with respect to maximizing Levelized Cost of Energy (LCoE), i.e., minimizing flap-wise blade root bending moment while maximizing the annual energy production. Moreover, a high and a low fidelity simulation are compared. The work concludes some interesting shape tendencies of the optimum blade tip extension planform.

In their literature review, the authors claim that they were the first to investigate the blade tip extension with focus on performance and loads by means of a "real opera-

tional case with a view toward a business case" [page 1, line 20ff]. At least, Rosemeier et al. (2020), however, used a full set of "real" IEC design load cases to assess the feasibility of a blade extension. Moreover, their study focused on a clear and relevant business case, i.e., the supplement of a blade tip extension to a lifetime extension scenarios.

I suggest to define more clearly the novelty of your research to appropriately contrast to the existing literature.

Interactive comment on Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2020-108, 2020.