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Interactive comment on "Qualitative yaw stability analysis of free-yawing downwind turbines" *by* Gesine Wanke et al.

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Thank you for your effort and the helpful feedback on our work. 1. A 2DOF model is chosen, in the attempt to keep the model as simple and fast as possible. The advantage would be, that such model could in principle be used to make basic design choices very fast. The tower side-side is chosen as the second degree of freedom, as it couples directly to the yaw motion via the shaft length and the rotor mass. However, as seen from the results this is not sufficient, as the flapwise blade motion also has a large influence. 2. (& PDF-comment) A clearer naming of the different BEM-methods will be introduced for more clarification. The description cannot be removed, since the paper of Madsen 2018 has not been submitted yet and it was pointed out in the previous reviewer comment, that it is not citable. 3. (PDF-comment) The rotor in Figure 1 and

2 should not be counterclockwise rotating. Velocity triangles need to be corrected in order to resemble the computations. 4. (PDF-comment) Estimation of the equilibrium position from 0-mean yaw moment. It is true, that loads due to acceleration could lead to a different yaw equilibrium from the averaged equilibrium from the BEM-code. However, the HAWC2 simulation is with extremely slow increase in wind speed to avoid such effect. In the HAWC2 simulations no yaw oscillations have been observed to prove such significant loads due to accelerations.

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