

- *It is only missing to my opinion, that the implementation of the method is valid but a more clear outlined will be appreciated, especially how the trailed vorticity is incorporated into the unsteady calculation of the shed vorticity.*
 - We have added some information to section 4 in the following paragraph:

4.1 Interaction between dynamic stall model and trailed vorticity model

The trailed vortex strength $\Delta\Gamma$ in the near wake model, see Equation (2), is given by the difference in bound circulation between the adjacent sections to a vortex trailing point. The near wake model needs to be iterated to convergence. The bound circulation is part of that iteration loop, including attached flow airfoil aerodynamics effects. Inside that loop, the quasi steady bound circulation is computed according to the quasi steady lift coefficient (Pirrung et al., 2016a). This accounts for stall in the bound circulation computation. The converged induced velocity due to the trailed vorticity is then used to compute the angle of attack, which is the input to the unsteady airfoil aerodynamics model. The unsteady airfoil aerodynamics model then computes the effective angle of attack and the influence of dynamic stall on the aerodynamic forces. The only deviation from the basic structure of the implementation from the structure outlined in Figure 3 of the article by Pirrung et al. (2016a) is that no far wake model is used, because the BEM modeling is not valid in stand still conditions and the near wake model computes the full induction due to the semi-infinite trailed vorticity behind the blades.

Specifically, the article will improve if the following questions could be addressed:

- *Page 3, in Lines 13-18 could you please explain how different is the inflow angle from the angle of attack? It is the trailed induction take it into account to calculate the far wake?. Does the trailed induction take into account to calculate the 2D unsteady attached and dynamic stall flow? Basically, could you explain here or in section 4 Unsteady airfoil aerodynamics model how is the interaction of the trailed vorticity model and the unsteady model, if any?*
 - The difference between inflow angle and angle of attack is the twist and torsional deformation at the blade section. For the clarification of the interaction between shed and trailed vorticity please see the added paragraph above.
- *Page 8, line 5. Which do you think is the reason to have worse agreement towards the stalled tip? The same in Page 18, lines 20-23.*
 - The airfoil polars become less accurate in deep stall, and the near wake model is at its core an attached flow lifting line model, so differences to measurements in deep stall are expected.
- *Missing an extended “ Further work” section with some of the new tasks that the authors have foreseen.*
 - The revised article will contain the following section:

6.1 Future work

For a different turbine and more flexible blade design, stand still vibrations at AOAs in attached flow can be possible. The impact of the trailed vorticity modeling on these vibrations could be addressed in future research.

The damping of vibrations in parked or idling conditions can also be highly dependent on the dynamic stall model parameters. The attached flow parameters used in HAWC2 are based on the analytical solution for the dynamic lift and drag of a flat plate, and the airfoil thickness could be taken into account here. Also the time constants for the flow separation are currently assumed to be independent of the airfoil, as well as identical in positive and negative stall. This assumption is certainly wrong for cambered airfoils and a better approach could be identified in the future.

Leading edge separation, which is not part of the current dynamic stall model implementation, could become very important at extreme yaw errors, where the AOA is around 180 degrees. Then, the trailing edge of the airfoil acts as a sharp leading edge and leading edge separation is much more likely than in the cases investigated in the present article.