

## ***Interactive comment on “Do Wind Turbines Pose Roll Hazards to Light Aircraft?” by Jessica M. Tomaszewski et al.***

### **Anonymous Referee #3**

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This manuscript attempts addressing the issue about flight hazards for airplanes flying in the wake of utility-scale wind turbines. The investigation is carried out through LES simulations and the results are interesting, which might deserve to be disseminated. Please find below some comments.

Comments:

1. P1, L1-4: The first part of the abstract should be more focused and detailed on the motivation, procedure and results. This first four lines sound more appropriate for an introduction; indeed, similar information is reported in Sect. 1.
2. P1, L7: You could add that you deem stable and neutral conditions more critical than convective conditions due to the faster wake recovery. Therefore, you did not

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performed simulations under convective conditions.

3. P2, L9 : Why do you only consider roll and not, for instance, pitch moment? Maybe there are safety standards in general aviation that I am not aware of. In that case, please provide related references. I think that a non-symmetric velocity field induced by the wind turbine wake can also affect pitch and yaw of the airplane, which might be a risky situation leading to a premature wing stall. Please comment on this and, eventually, clarify.

4. P2, L11-12: “The rolling moment is the aerodynamic force applied”, a moment cannot be a force. Maybe rephrase it saying that the roll moment is the result of the lift distribution over the wing span.

5. Eq. 5 is inconsistent.  $\beta$  should be the wing span, not the aspect ratio. I hope this being only a typo and not jeopardizing your analysis. Please cross-check your data analysis as well.

6. P8, L5-7: “a 10-by-10 array of aircraft”, this description is not clear. I think It will be better to talk about aircraft paths rather than aircraft arrays. Please try to rephrase it.

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