

WES-2025-283, Second Review: Reply to Referee 1

Note: no comment were received from Referee 2 after our reply to his first review.

Referee 1: “Regarding my earlier suggestion to extend the analysis to thicker airfoils, I understand that this would require a substantial additional effort. Nevertheless, it would still be valuable to include a brief discussion on this aspect, for instance in the Conclusions, to highlight its potential implications and relevance for future work.”

Reply: We agree. We have added the following paragraph concerning this aspect in the section Conclusions:

“We stress that the normal force model is, so far, obtained using the analogy with curved potential flow past a flat plate put at some pitch angle, as developed in Appendix E. The model was however tested with good success on a NACA0015 airfoil: an airfoil that is not very thin and thus already challenges that model. Given that the ALM results obtained for that airfoil are quite good, it is likely that they would still be good when simulating a thicker airfoil, such as a NACA0018; and maybe still acceptable when simulating a NACA0021. One could also further improve the normal force model by taking into account the combined effects of flow curvature and airfoil thickness. Obtaining the exact solution of curved potential flow past a thick airfoil put at some pitch angle would constitute a good step in that direction.