

Author response to comments by Associate Editor of “Local Correlation-based Transition Models for High-Reynolds-Number Wind Turbine Airfoils”

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24 January 2022

We thank Associate Editor for the comments. We hope that Associate Editor would be satisfied by our changes to the manuscript our responses.

First, We would like to point that the source of reference data between Fig. 10 and 11 are different. The current manuscript line 235-245 explains the source of the reference data for the Fig. 10, which is from experiment without the synthesis process. In the Fig. 10, the reference data for the DU00-W-212 airfoil were taken from DNW-HDG wind tunnel in Gottingen within AVATAR project, not from LTT wind tunnel in TU Delft as mentioned in the references as below [1, 2].

“The DU00-W-210 airfoil was tested in the DNW-HDG pressurized wind tunnel in order to investigate the flow at high Reynolds number range from 3 to 15 million which is the operating condition of the future large 10MW+ offshore wind turbine rotors.”

The lines 315-317 which are mentioned by Associated Editor is only about Fig. 11 were replaced as suggested in the revised manuscript as below.

“The reference data for the DU airfoils at $Re = 3 \times 10^6$ are taken from experiments in the LTT wind tunnel of TU Delft. The results for the $Re = 7 \times 10^6$ are the result of a synthesis process, in which measured data for at $Re = 3 \times 10^6$ are translated to the higher Reynolds number using the airfoil design code RFOIL [3].”

Bibliography

- [1] Ceyhan, O., Pires, O., and Munduate, X.: AVATAR HIGH REYNOLDS NUMBER TESTS ON AIRFOIL DU00-W-212, Tech. rep., <https://doi.org/10.5281/zenodo.439827>, URL <https://doi.org/10.5281/zenodo.439827>, 2017.
- [2] Ceyhan, O., Pires, O., Munduate, X., Sorensen, N., Reichstein, T., Schaffarczyk, A., Diakakis, K., G, P., Daniele, E., M, S., Lutz, T., and Prieto, R.: Summary of the Blind Test Campaign to predict the High Reynolds number performance of DU00-W-210 airfoil, in: AIAA Scitech, 2017.
- [3] Van Rooij, R.: Modification of the boundary layer calculation in RFOIL for improved airfoil stall prediction, 1996.