

WES-2025-17: Wind turbine wake detection and characterisation utilising blade loads and SCADA data: a generalised approach

Response to Editor

Dear Cristina,

Thank you for handling the review process for this paper. We are grateful to the reviewers for providing excellent suggestions and feedback which will help improve this manuscript.

The suggestions that majorly impact the structure of the manuscript are:

- a) RC2, General comment 2: the reviewer advised to sharpen the literature review from the initial Background section, removing sections not directly relevant to the study. As a result, specific subsections (containing relevant state-of-the-art relevant to the research gap definition), are now used in Introduction, and the rest of the Background section is removed.
- b) RC2, General comment 7 / RC1, Specific comment “Results a)”: both reviewers have suggested to add a quantitative analysis for wake detection and characterisation. We have done so, and the revised manuscript includes additional metrics and figures that allow for precise comparison of the models’ accuracy across different wind conditions. Due to this fundamental change in approach and not relying mostly on qualitative/visual analysis, the Results section has been significantly reshaped.
- c) RC2, Comment 6: the reviewer advised to revise the Results section and move the appropriate discussions to the Discussion section. Consequently, the new Results section is more concise, and Discussion now contains an extended commentary of framework performance.

Other suggestions mostly include requests for additional clarifications, plots and mistake corrections. We look forward to submitting a revised version of the manuscript. If anything in our responses requires further clarification, we’ll be happy to provide it.

Piotr Fojcik (on behalf of all co-authors)