

Response to the comments about the submitted paper

Modelling wind farm effects in HARMONIE-AROME (cycle 43.2.2) – part 2: Wind turbine database and application to Europe

We would like to thank the reviewers for their careful reading and suggestions.

The reviewers' comments are in *italics* while our answers are not. Additions to the original manuscript are indicated in [blue](#).

Answers to Reviewer 1

Comment R1.1 1. L44: *Please revise the order to “Danish Meteorological Institute (DMI).”*

→ **R1.1** Changed accordingly: “[...] in a setup similar to the operational NWP forecasts at the Danish Meteorological Institute (DMI)”

Comment R1.2 2. Figure 1 caption: *The expression “Fischereit et al. (modified)” in the caption should also be revised appropriately.*

→ **R1.2** The text has been modified to “Modified Fischereit et al. (2022c) refers to the dataset presented in that publication with modifications (cf. Table 1).”

Answers to Reviewer 2

Comment R2.1 1.) L. 100: *Here it should be “wind turbine locations” instead of “wind turbine location”.*

→ **R2.1** Changed accordingly.

Comment R2.2 2.) L. 149: *I am not familiar with that notation. What is the significance of the $\sim$ above the 5%. Or was it supposed to go before the 5 to signify an approximate threshold of 5%?*

→ **R2.2** Indeed, the “ $\sim$ ” should have been placed in front of the 5%. We decided to remove it completely as we already write “[less than 5%](#)”

Comment R2.3 3.) L. 507: *Here a “stable” is missing before conditions.*

→ **R2.3** Added.

Comment R2.4 4.) L. 509: *Here, it should be “lower region/half of the rotor” instead of lower rotor. .*

→ **R2.4** Changed accordingly: “ γ is calculated over 3 layers: 10 m – 50 m, 80 m – 100 m, and 140 m – 200 m to characterize the stability of the lower atmosphere, across the lower half of the rotor and the upper half of the rotor, respectively”