

Review: Integer programming for optimal yaw control of wind farms; Revision 1

The authors have addressed the vast majority of comments raised, and in particular have put considerable effort into ensuring their results are clear and consistent. There are some minor corrections suggested, as listed below.

Minor Comments

1. Acronyms: Please capitalise definitions of SQP (line 79) & LIDAR (line 184).
2. Line 6: Suggest replacing “like” with “including” or “such as”
3. Abstract / Section 1.1: “yaw control” can mean the turbine-level control of yawing turbines to face the incoming wind, so the farm-wide version should be referred to as “wake steering” or “farm-level yaw control”.
4. Line 86: This paragraph is very long, suggest breaking it e.g. at “This idea”
5. Line 101: The start of this sentence is unclear, suggest re-wording to e.g. “In this approach, called the serial-refine method (see Fleming et al. (2022)), each...”
6. Line 188: There is a missing word or typo in the text “in the but the”
7. Line 270: The phrase “without guaranteeing it” in respect to the wind threshold is confusing to the reader. If the (trapezoidal) shape demonstrated here is a suitable template for the scenarios in this paper and is believed to be useable for a range of wind conditions with negligible instances of deficit exceeding the threshold due to e.g. turbulence, then this should be stated. Otherwise it is not clear why a threshold is mentioned if not to be strictly applied.
8. Line 290: It may be more readable to write out “Covering Approach” in full here.
9. Line 296/297: It seems that the empty section configuration has been counted, would it ever be used?
10. Line 342: The number of non-empty configurations also includes the configuration with all turbines; also, this formula does not seem to have been used in the line 357 calculations?
11. Table 2 Caption: Remove duplicate word “yaw ~~offset~~ offsets”
12. Footnote on page 16: I think a mean % change would suffice rather than the individual numbers.
13. Line 445/446: Switching tenses within sentence “we introduce other conditions (and used”
14. Line 449: It is not clear what setting turbine parameters “time-dependent” means, please add a bit more description.
15. Line 474: Please remove capitalisation: “of WinFaST: the “
16. Line 520: The sentence seems to repeat itself.
17. Lines 541-543: This could be worded more diplomatically. E.g. by acknowledging that while serial-refine has been faster than CA+IP in the examples in the paper (assuming this is always the case), the CA+IP approach may have advantages in larger wind farms or broad ranges of wind conditions.
18. Line 551: Suggest taking the final sentence out of brackets and re-wording e.g. “For reference, the baseline tower and pitch activity values are...”
19. Line 580: “**on** the order of”
20. Table 6 / Line 580: Would normally use “yr” or “yrs” to represent years rather than “y”.
21. Lines 597-600: Sentence is very long, suggest splitting.
22. Line 624: Suggest re-word e.g. “which makes use of repeating patterns to cover the wind farm”

23. Line 636: Suggest re-word “e.g., **able** to use FLORIS”
24. Lines 637 & 639: Unclear on what the “associated farms” are?