

General comments:

This paper presents an interesting improvement of the FLORIS wind farm model with the implementation of a method to take into account an heterogeneous atmospheric inflow. The original wind farm model is well described and a considerable effort has been made on the description of the new implementation during the reviewing process. In general, the comments of the last reviewing process were well addressed: the procedure is now more detailed with figures helping to the understanding. The authors propose some elements to discuss the limitations of the model. The test case is well described and the analyse is exhaustive with interesting comments for each metric.

Here are some specific comments and technical corrections:

- In general in the introduction, the authors should be more specific while mentioning “variant conditions”. “Spatially variant conditions” is more adapted in order to avoid confusion with unsteady conditions.
 - L37: consider replacing “during these conditions” with “under these conditions”.
 - L48: consider adding “spatially” variant weather conditions.
- In Section 3.1
 - Consider adding x/y coordinate axes (or Easting/Northing) in Figures 2 and 3.
 - L236: consider adding a reference to L245 since, at this point of the article, the reader could wonder about how the model deals with different hub heights, especially for wind farms in complex terrain.
- In Section 3.3
 - L256: maybe changing “center of the flow field” into “center of the simulation domain” would make the location of the rotation center more clear ?
 - L286: The sentence is not clear “is that which causes”.
- In Section 4
 - There is only one subsection (4.1).
 - L397: Consider adding “with respect to the”
 - L398: Consider changing the end of the sentence “the addition[...] contributes to improvements or improving ?”
 - L441: “is observed”
- In Section 5
 - L476: “indicate”