Review of "Adjoint-based Calibration of Inlet Boundary Condition for Atmospheric CFD Solvers"
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The manuscript employs gradient- and adjoint-based method for calibration of inlet velocity profiles for ABL simulation. To that end, cost function for the optimization problem is defined such that the simulated velocity and the target velocity at the observation point in the simulation domain show maximum agreement for the optimized inflow profile. As a test case, the authors verify their method by applying it to two cases.

Accurate prediction and estimation of inflow condition is of great interest for wind farm simulation as well as for ABL research in general. Like many other methods (e.g. precursor simulation with re-scaled velocity field), gradient-based optimization of inflow profile can also be one of the approaches. Also if this method works perfectly, it will have advantage over other methods in terms of accuracy, as it does not make any big assumption.

The authors have addressed several issues raised by this and other reviews. They have also organized the manuscript, and it has become comparatively easy to follow. However, the manuscript need further modification. Please see the comments below.

Specific comments:

1. The abstract does not sufficiently describe the contents and findings of this manuscript. It is a very general description of what a reader can expect.
2. Pg. 2, line 25: it still mainly → it is still mainly
3. Pg. 6, line 1: $q \rightarrow \overline{p}$
4. Eq. (21): The first term $(-\nabla\overline{U} \cdot U)$ may not be correct. Please reconfirm it. In literature I could only find $-\left(\nabla\overline{U}\right)^T \cdot U$ and one another form of the cross-convective term.
5. Figure 10: Can you please also add the evolution of gradient as a function of adjoint iteration?
6. Conclusions: You should conclude the results and findings from your manuscript. Your current conclusions are too general.