The authors introduce a Simple Actuator Disc Low-order wind turbine model (SADLES) for Large-Eddy Simulation and implement its parameterization in the WRF model. This primarily addresses the downscaling simulation issue of wind farms within weather systems, striking a balance between the required accuracy for wind farm simulations and computational performance. Through validation in idealized scenarios and comparison cases, as well as application in the real-world Alpha Ventus offshore wind farm in Germany, the authors demonstrate the model's advantages in downscaling.

Comments:

1. There are two highly similar content sections in the manuscript that need careful inspection. One from lines 59-65/66-72, and another from lines 256-259/260-264.

2. The authors assume the use of the inferred evaluation method when the direct evaluation result exceeds 0.5, but this assumption lacks specific clarification. It's better if the authors consider including an analysis explaining why the direct evaluation method calculates the axial induction factor 'a' greater than 0.5.

3. From the perspective of the paper, there doesn't seem to be any difference between SADLES and WRF-SADLES. The authors should decide to use one term to refer to the model consistently.

4. In Figure 8a, there are two red stars, one indicating FINO1, and the other is undefined.

5. The authors should provide a more detailed explanation of the code implementation section.

6. In Figure 9 and Figure 10, the second subplot should be labeled as (b).

7. Appendix A: "Additonal WRF namelist options," the word "Additonal" should be adjusted to "Additional."