

## ***Interactive comment on “Identification of Tower Wake Distortions Using Sonic Anemometer and Lidar Measurements” by Katherine McCaffrey et al.***

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This paper is a good assessment of the tower wake effect of the Boulder Atmospheric Observatory (BAO) tower near Boulder, CO. The results clearly show the flow modification due to the tower using both sonic anemometer and lidar measurements. Although the results are specific to the BAO facility, the methods used for directly opposed sonic measurements and lidar virtual towers contributes to more robust understanding of tower effects. The effect of the averaging period and role of wake contamination within the averaging period is also helpful. Overall the paper was clear and focused in the purpose and the results are well founded.

Did the authors see any diurnal variation in the wake effect? One area I feel may be

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interesting is the effect of stability on the wake extent of the TKE. Perhaps there may be further criteria that may widen or narrow the wake boundary and allow for more precise data removal. Also, was there any individual effect seen in the results with the shorter 250 m southeast boom? Figure 11 is averaged from all heights on the BAO, does the specific 250 m level agree in wake extent? Finally, line 458 is missing a space. Overall, a very nice concise paper.

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