

Interactive comment on “Improving Lidar-Derived Turbulence Estimates for Wind Energy” by Jennifer F. Newman and Andrew Clifton

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Dear Alfredo,

Thank you for your comments on the manuscript. Regarding your statements on Section 2.3.1, I agree that you can also retrieve parameters for the Mann model from lidar measurements, although there is much more uncertainty in these retrieved parameters. As discussed in Sathe et al. (2015a), the Mann model is still only an approximation of the turbulence field and is only valid under neutral conditions and in flat terrain. Thus, there are still drawbacks to using the Mann model to improve lidar turbulence estimates, and the goal of this work is to improve lidar turbulence estimates under all stability conditions and terrain types. This section has been revised to clarify the limited use cases for the Mann model.

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Your point on the phrase “correcting lidar turbulence” is well-taken. It is true that what the lidar is measuring is not incorrect, it is just not the same value of turbulence that would be measured with a sonic anemometer. In the first paragraph of Section 2, it is now stated that “correcting” lidar turbulence refers to techniques that are used to bring lidar turbulence estimates closer to estimates from a cup or sonic anemometer.

Sincerely,

Jennifer Newman

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