

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

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Dear authors,

I got the opportunity to read a small piece of your work by accident and I found something that is not correct in your statements. In Section 2.3.1 (when discussing how to correct lidar turbulence) you state: "Values for these parameters can be estimated by using high-frequency sonic anemometer data, but cannot be obtained by the lidar itself".

If you read the report by Sathe et al. (2015a) you realize that you can predict the radial velocity spectra of a lidar for a given set of turbulence parameters (like the Mann model ones). This means that you can do the inverse operation, i.e. you can predict the turbulence parameters for a given lidar-based radial velocity spectra. And if you are

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able to predict these parameters, you can also predict the "ideal" sonic spectra and so estimate the ratio between the sonic and lidar-based variances.

Another point is that it is misleading to talk throughout the manuscript about "correcting lidar turbulence". This sounds like the lidar turbulence was wrong. It is not wrong, it is simply not the same turbulence you expect measuring with a sonic. Perhaps it should always be called lidar-turbulence.

Regards!

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