Author's Response to Interactive comment from Anonymous Reviewer #1

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This paper represents a valid contribution for assessing the LiDAR DBS measurement technique, which is one of the most popular procedure used for LiDAR-generated vertical profiles of the wind velocity. This analysis might be improved by also considering the LiDAR weighting function, which is typically adopted to retrieve the wind velocity over a range gate.

We thank the reviewer for their time in reviewing this contribution and for noting the widespread use of the DBS method. In light of the reviewer's comment, we have implemented an appropriate lidar weighting function and added a lengthy discussion of the lidar weighting method in Section 2.2. Most of the results in Section 3 now incorporate the lidar error measurements with the weighting function. It is interesting to note that the lidar error actually increases due to the weighting function.