

## ***Interactive comment on “Using Doppler lidar systems to detect atmospheric turbulence in Iceland” by S. Yang et al.***

**S. Yang et al.**

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Dear editor, dear referees,

First of all, I would like to thank the editor and the two anonymous reviewers for your careful review and constructive comments of our manuscript. We really appreciate the detailed suggestions you gave, which definitely helped us to improve this manuscript. Personally, this is my first manuscript and all your reviews were instrumental in improving the manuscript. As the author group, we have tried to compile the comments as fully as possible. We have revised the manuscript and some of the major changes are: 1. The introduction of a new variable  $R^2$  as an indicator of atmospheric homogeneity (Sect. 2.3). 2. The removal of the comparison of different filtering methods.

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Old Fig. 5 is removed, which compared before- and after- calculation filtering method. 3. The subsection Sect. 3.1 has been altered from filtering noise to data screening. Now, a sensitivity test is presented (new Fig. 4) on different CNR threshold. A comparison is made between CNR and CI thresholds. 4. The addition of a new subsection about error analysis (Sect. 3.2), using the method from Smalikho and Banakh (2017).

More detailed information can be found in the revised manuscript. The responses to each comment are found in the supplement.

With kind regards, Yang Shu On behalf of all authors

Please also note the supplement to this comment:

<https://www.atmos-meas-tech-discuss.net/amt-2019-3/amt-2019-3-AC2-supplement.pdf>

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