

## ***Interactive comment on “Dissipation rate of turbulent kinetic energy in stably stratified sheared flows” by Sergej Zilitinkevich et al.***

**Sergej Zilitinkevich et al.**

sergej.zilitinkevich@fmi.fi

Received and published: 2 January 2019

Dear Reviewer,

Thank you for careful reviewing and and friendly comments. We fully agree that readers must have clear info of DNS and observational data used in our paper. Luckily, a new paper presenting detailed info about our DNS is already in press (Mortikov et al., in press). Thanks to your comment, we are including the proper reference to the manuscript.

We recall that our paper focuses on new knowledge of dissipation rate in stably stratified turbulence. In this context, we do not write much about DNS and observational data as such. We do that *on purpose*. Otherwise some readers would overlook fac-

C1

tual essence of our paper and comprehend it as just an empirical validation of known results. We bear in mind the interests of the majority of readers forced to look through plenty of publications.

Moreover, we think that introduction of detailed description of DNS and atmospheric data into the manuscript would, first, duplicate the info that can be easily found in already published papers (referenced in our manuscript and available to readers just by click) and, second, diverge reader's attention from the basic subject matter. Instead of repeating the already published info, we give references. The accuracy of the data and possible errors are considered in corresponding papers.

The following text has been added on page 4, line 10:

To assure accuracy of numerical simulations, we employed two DNS codes: INM-RAS, and IAP-RAS. Despite being two different codes developed separately having different spatial and temporal schemes, resolutions and statistical averaging our DNS have shown quite consistent results which can be considered as a cross-validation. For the detailed description of the numerical models used see Mortikov (2016), Mortikov et al. (in press) and Druzhinin et al. (2016).

The reference has been added on page 9, line 9:

Mortikov E.V., Glazunov A.V., Lykosov V.N.: Numerical study of plane Couette flow: turbulence statistics and the structure of pressure-strain correlations, Russian Journal of Numerical Analysis and Mathematical Modelling, 34, 2, 2019 (in press).

Please find attached the revised manuscript.

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2018-978/acp-2018-978-AC2-supplement.pdf>

2018.

C3