Atmos. Meas. Tech. Discuss., 6, C2389–C2392, 2013
www.atmos-meas-tech-discuss.net/6/C2389/2013/

Atmospheric Measurement Techniques Discussions

Interactive comment on "Investigation of gravity waves using horizontally resolved radial velocity measurements" *by* G. Stober et al.

G. Stober et al.

stober@iap-kborn.de

Received and published: 4 September 2013

Atmos. Meas. Tech. Discuss., 6, C1941–C1943, 2013

Received and published: 7 August 2013

General Reply: The authors thank the referee for his time helping to improve this manuscript. According to reviewer suggestions we modified the paper and are grateful for the provided comments. The replies to the comments given by the reviewer follow. All changes in the manuscript due to the reviewer comments are amphasised by bold letters.

Comment: Line 1, pg 5801 – the dash after "up" could be removed.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

Reply: Done.

Comment: Line 20, pg 5801 – “The vertical wind velocity w0 is” could be replaced by The mean vertical wind velocity w0 is: : :or remove the index “0”.

Reply: Done.

Comment: Line 19, pg 5804 – completely coincident instead of completely coincide.

Reply: Done.

Comment: Line 5, pg. 5805 – About Fig. 7 – You say that the scattering for 5_ can be caused by the GW. What do you expect of this behavior if no GW is present in your data?

Reply: In the absence of such small scale distortions the scatter plots should look almost identical like for the 25° off-zenith angles.

Comment: Line 1, pg. 5807 – The equation (5) is different of (4) only for the terms . They are related to small GW. What does the index “meas” mean?

Reply: The subscript is now explained in the text to outline the difference between eq. (4) and (5). The term ‘’meas” stands for the radial velocity measurements. The VVP analysis how it was implemented here does not account for such small scale waves.

Comment: Fig. 2 – Figure 2 presents 4 charts, from “a” to “d”. The caption could present a simple commentary of each one. The text doesn0t comment it also. I guess Table 1 shows particularity of each experiment. For example: meso006b25 is presented on Fig. 2 b and so on. In order to avoid the reader spend time think about it, the authors could inform it in advance.

Reply: This is now explained in the text. We put a link between the experiment particularities and the Figure 2.

Comment: Fig. 3 – Is there any reason to omit the RTI to 21 July? The text doesn0t

AMTD
6, C2389–C2392, 2013

make any comment about it. In addition, winds in Fig. 5 doesn't present wind observed in 21 July.

Reply: On 21 July 2011 the multi-beam experiment was interrupted for a few hours to conduct some other measurements. We now mention this in the text.

Comment: Fig. 4 – It should be better if the unit of x and y were present like this: : :x (km) instead of x / km. In general, all units on figure caption should be presented between brackets. In addition, what is the day of this figure? According to the text, maybe it is not so important because this is an example that shows the variability of PMSE but the day of this measurement could be said to the reader.

Reply: We would like to keep the x-y labels as they are, but will consider for future publications to put the units in brackets. The dates of the observations are now added in the caption of Figure 4, 11.

Comment: Fig. 7 – The caption could include information that all measurements, including 21 July, are present on the 6 charts.

Reply: This information is now added in the caption.

Comment: Fig. 11 – Is there any relation between Fig. 4 and Fig. 11? Both has the same time. So, is it for 20 or 22 July?

Reply: The date of measurement is now added to the caption. The data for both Figures was recorded on the same day and time, but there is no link drawn between the SNR and the wind field analysis. As guessed by the reviewer Figure 4 is mainly shown to point out how variable the 3D structure of a PMSE can be.

Please also note the supplement to this comment:
http://www.atmos-meas-tech-discuss.net/6/C2389/2013/amtd-6-C2389-2013-supplement.pdf

AMTD
6, C2389–C2392, 2013

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 5795, 2013.