

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

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The manuscript is about experiments to observe wind by a radar (MAARSY) installed at Andoya Island. This radar measure also PMSE which was used to investigate atmospheric dynamics at high altitudes, specifically around 83km. Parameters of gravity waves were extracted by observation of long and strong events of PMSE during a summer 2011 campaign. The winds were extracted by two techniques: a velocity azimuth display (VAD) analysis and volume velocity processing (VVP) algorithm. A good discussion about those methods are presented too. The manuscript presents a very good structure and the reader can have an idea of the experiment and results on the first reading. All sections present a good balance with information and references. In gen-

C1941

eral, the manuscript must be published but small modification could be done in order to improve it a little bit.

scientific questions and technical corrections

Line 1, pg 5801 – the dash after “up” could be removed.

Line 20, pg 5801 – “The vertical wind velocity w_0 is” could be replaced by The mean vertical wind velocity w_0 is. . .or remove the index “0”.

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

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?

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?

Fig. 2 – Figure 2 presents 4 charts, from “a” to “d”. The caption could present a simple commentary of each one. The text doesn’t 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.

Fig. 3 – Is there any reason to omit the RTI to 21 July? The text doesn’t make any comment about it. In addition, winds in Fig. 5 doesn’t present wind observed in 21 July.

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.

Fig. 7 – The caption could include information that all measurements, including 21 July,

C1942

are present on the 6 charts.

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?

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C1943