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Atmospheric Measurement Techniques Discussions

Interactive comment on "A fast SWIR imager for observations of transient features in OH airglow" *by* P. Hannawald et al.

P. Hannawald et al.

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The authors would like to thank anonymous referee #2 for the comments (18 February 2016). We also thank the referee for the note concerning the transformation algorithm. In respond to the comment, we changed most of the minor points exactly as suggested by the referee. A few points were formulated in a slightly different way. A detailed list containing all comments can be found below and the exact changes within the manuscript can be found in the attached marked-up manuscript version.

- Minor changes on p2 l.21 and l.23 were applied.
- p3 l.8: The vertical resolution of radars and lidars is clearified according to the referee's comment. Original: " Radars and lidars for example measure changes

in temperature and wind with a comparatively high vertical resolution...", Changed to: "Radars and especially lidars for example measure changes in temperature and wind with a comparatively high vertical resolution...")

- p4 l.1, l.6 (also changed in description of Fig. 7), l.15, l.16 and l.23 are corrected. The wording of p5 l.3 is changed, the comment of l.5 is added, and l.12 "furthermore" removed. The prepositions at l.14 are corrected and l.19 is now formulated clearer according to the comment. p6 l.4 both corrected. l.12 and l.16 corrected.
- p7 l.1-12 Thank you for your comment. When we started to develop the transformation algorithm it seemed more reasonable to start at the sensor instead of the airglow layer, but we will think about that point for future developments.
- p7 l.18, l.24, p8 l.12 and p9 l.24 are corrected.
- p10 l.19-20 we could not find a line jump in the source, but it obviously appeared in the manuscript. We think that this has to be checked in the final step of the review process.
- p12 l.8: changed the mentioned line in a different way then suggested(Original: "If looking at the wave in position space instead (Fig. 9 (a)), the wavelength can be determined to 7.0 km $\pm$ 2.0 km (with support of the guiding lines), ..." Changed to: "If considering the transverse sections of wave (I) instead (Fig. 9 (a)), the wavelength can be determined to 7.0 km $\pm$ 2.0 km (with support of the guiding lines), ..."). Measuring the wave from the projected images is possible, but should then better refer to Fig. 8.
- p12 l.15, p13 l.3 and l.18 are changed according to the comments.
- l.19-21 are obsolete with the rephrasing in respond to anonymous referee #1 who wished a clearification of this paragraph. The calculation of the Brunt-Väisälä-period was decided not to be important in this context any more.

- p14 l.10, l.17 corrected.
- p14 l.20 We forgot to add the information about investigating other nights with even higher correlation coefficients up to 0.99 in the text. Thank you very much for mentioning that.
- l.22 and l.26 corrected. Fig. 3 axis now has the correct unit (km/pixel) and Fig 4c. now includes the complete FOV.

Please also note the supplement to this comment:
http://www.atmos-meas-tech-discuss.net/amt-2015-382/amt-2015-382-AC2-supplement.pdf

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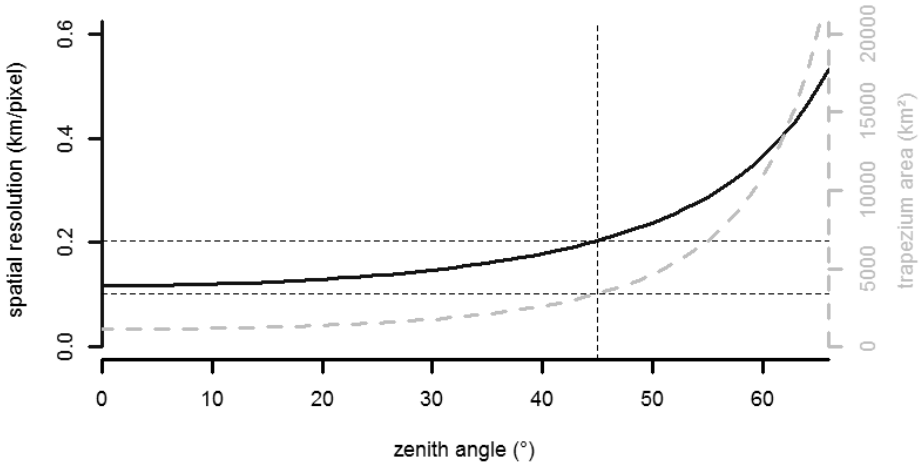

Fig. 1.

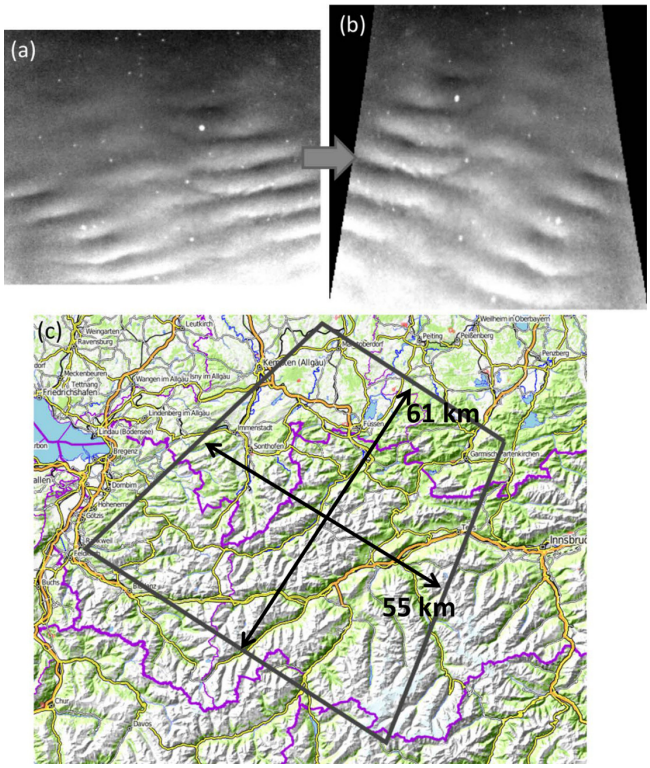

Fig. 2.