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Atmospheric Measurement Techniques Discussions

Interactive comment on "Performance of a mobile car platform for mean wind and turbulence measurements" *by* D. Belušić et al.

J. Bange (Referee)

jens.bange@uni-tuebingen.de

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1) General comments:

The manuscript describes the results from testing an instrumented car for measurements in the lowest part of the atmospheric boundary layer. Track-averaged data as well as variances and co-variance and finally Fourier spectra are analysed and compared to tower data. The sources for systematic measurement errors are identified, analysed and compared to each other regarding their magnitude and significance.

This is a very straight forward, matter-of-fact and critical analysis of testing a new measurement system and truly worth being published in the AMT journal. And it is a pleasure to read this manuscript.

Of course it would be great to have an aerodynamic study of the air flow around the car, i.e. a CFD simulation of the flow disturbance causes by the car. But this could be a topic for an additional study and manuscript.

Any meteorological analysis using the tested measurement system is missing, but this was not the intention of the manuscript (and is only a secondary requirement of the AMT journal). So I suggest to accept the manuscript for publication after minor corrections:

2) Specific comments:

First paragraph of section 2.2, equation (1). Can you estimate the systematic error added to the wind vector in the coordinate system of the car caused by installation errors? For instance the influence of 1 degree misalignment between the GPS-INS and the sonic systems?

3) Technical corrections:

The diagrams 4 to 9 are much too small. It is not possible to identify the individual curves, symbols etc.

Reference S. Martin et al., 2011: It is M^2AV not M_2AV (see for comparison van den Kroonenberg et al., 2008.)

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 949, 2014.