

Interactive comment on “Measuring the 3-D wind vector with a weight-shift microlight aircraft” by S. Metzger et al.

S. Metzger et al.

wolfgang.junkermann@kit.edu

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We thank John Kalogiros for his valuable comments on this manuscript and the detailed feedback. In below text we hope to answer your questions and clarify the approach of our study. The comments by the reviewer are indicated with an asterix (*) and are cited in italics, followed by our reply.

General Comments

* The subject of this manuscript is the calibration of a five-hole turbulence probe on WSMA aircraft, which is a relatively original subject, well within the scope of AMTD, with good research applications. As the authors conclude the main issue is wing upwash correction due to the specific conditions in WSMA: trike rotational freedom (mainly roll

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angle difference from wing) and aeroelastic wing. The paper is probably too long and difficult to follow due to many redundant technical details, which could probably omitted or simply mentioned in short. For the same reason the Appendices could be omitted because they reproduce other papers (Lenschow, 1986; Williams and Marcotte, 2000).

The manuscript is intended to make wind measurement from weight-shift microlight aircraft (WSMA) reproducible for potential users. A suitable combination of measurement elements and transformation equations is introduced. The comprehensive presentation is desirable for two reasons. Firstly the computation of the wind vector can differ considerably in detail (e.g., Tjernström & Friehe, 1991, van den Kroonenberg et al., 2008, Williams & Marcotte, 2000). Secondly the presented uncertainty propagation allows a transparent evaluation throughout the various steps of the wind computation. The Appendices were used in order to provide sufficient detail but not overload the main article. Here the reader is provided with details of, and modifications to nine references, aggregated in consistent notation with the main paper. We propose to remove Appendix B2 ‘Uncertainty measures’ from the manuscript.

For the specific comments of this review and the replies to these comments see the pdf. supplement

Please also note the supplement to this comment:

<http://www.atmos-meas-tech-discuss.net/4/C689/2011/amtd-4-C689-2011-supplement.pdf>

Interactive comment on Atmos. Meas. Tech. Discuss., 4, 1303, 2011.