

Interactive comment on “Mixing height determination by ceilometer” by N. Eresmaa et al.

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1. The division between convective and stable radiosonde profiles was made subjectively based on the temperature and bulk Richardson number profiles. If the potential temperature lapse rate in the lowest 200 m thick layer and the bulk Richardson number in the lowest 100 m thick layer were negative the sounding was considered convective, otherwise stable

2. The layer to determine the Brunt-Väisälä frequency was chosen to represent the background stratification into which the PBL is embedded. To determine this layer, the mixing height was first determined by the Richardson number method.

The uncertainty in the friction velocity values is not explicitly determined.

3. The error margins in equations 6 and 7 as well as in the regression formulae of Table 2 (inserted into the manuscript) correspond to 95 % confidence level of the regression

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coefficients. The same error margins are now reproduced in Figs. 6 and 8.

Section 3.1, first paragraph after eq. 6: (corrected sentence) The correlation r between the MH-estimates of these two methods is very significant ($r=0.9$; correlations t-score by Student's t-test $t=15.2$, confidence level $p>99.9\%$).

Section 3.2.1, first paragraph after eq. 7: ($r=0.8$; $t=7.9$; $p>99.9\%$)

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 12697, 2005.

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