

Interactive comment on “First Odin sub-mm retrievals in the tropical upper troposphere: humidity and cloud ice signals” by M. Ekström et al.

M. Ekström et al.

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As the referee points out, the paper would of course win a lot if our recommendations to ourselves were carried out. As of writing this, we have already started investigating the source of the calibration uncertainty. The current calibration scheme is state-of-the-art. We believe the uncertainty to be associated with gain fluctuations that are not captured by the calibration. This has not yet been corroborated, and a mean of mitigating this effect have therefor not been found.

However, we would like to once more stress that despite having a large random component, our results show a very low systematic errors. The uncertainty in single retrievals is too large for them to be trusted, but we can decrease this by averaging several retrievals. The averaged humidity fields should then give a accurate view of the upper

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tropospheric humidity.

Concerning the pointing uncertainty, we do not yet have access to the latest version of the attitude data for all level 1 files. Therefore this improvement has not been incorporated for the analysis in this paper.

The problem with validating our humidity data with in situ MOZAIC measurement is that we would need very relaxed coincidence criteria to find suitable measurements. The orbit of the Odin satellite has its ascending and descending nodes at 18:00 and 06:00 local time. The aircrafts carrying the MOZAIC instruments would then need to be in the tropic region at these hours, which they are but not frequently enough. MOZAIC repeatedly uses certain flight routes for their measurements, and these flights appear to have fixed departure times. As an unfortunate coincidence, these departure times make a bad match with Odin's 'time table'.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 8649, 2006.

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