

Review of “Use of Large-Eddy simulations to design an adaptive sampling strategy to assess cumulus cloud heterogeneities by Remotely Piloted Aircrafts” by Maury et al. (amt-2021-20)

The revised version of the manuscript addresses most of my concerns with great care, and I have only very minor and technical comments left. I can now fully support the manuscripts publication in *Atmospheric Measurement Techniques*. I do not need to see the manuscript again.

Please note that line numbers refer to the tracked changes version of the manuscript.

Minor Revisions

L. 14: It might be necessary to state that the study is targeted toward “shallow” cumulus clouds.

Ll. 22 – 24: It might better fit the scope of the study if the last sentence of the abstract ends with “[...] on scales small enough to quantify the variability of important parameters such as the LWC.”

L. 84: Why did the authors remove the year of the BOMEX campaign?

Ll. 105 – 105: Did the authors use the radiative tendency prescribed in Siebesma et al. (2003), or used a model to determine the longwave cooling rates?

Ll. 236 – 238: While I agree with the statement, how do the authors distinguish between cloud core and cloud edge in Fig. 6?

Ll. 319 – 322: The units for the dissipation rate seem to be incorrect. I assume that a minus is missing in the exponent (10^{-3} instead of 10^3). The stated value is unrealistically high!

Technical Corrections

L. 8: Use the plural for Remotely Piloted Aircrafts here: “Remotely Piloted Aircrafts (RPAs)”

L. 26: “oceans” instead of “ocean regions”

L. 67: “maritime” instead of “marine”

L. 88: “LESS” instead of “Large-Eddy simulations”

L. 93: “LESS” instead of “LES”

L. 95: Remove the period between “m” and “ASL”

L. 116: Add “data” after “high-resolution”

L. 120: The accent aigu is used inconsistently in naming Meso-NH.

L. 269: Add a blank between “and” and “15 %”

L. 274: No comma before “provide”

Ll. 319 ff.: Please rephrase the beginning of this sentence, e.g., “Using equation (5) of Baker et al (1984) allows [...]”

References

Baker, M. B., Breidenthal, R. E., Choularton, T. W., & Latham, J. (1984). The effects of turbulent mixing in clouds. *Journal of Atmospheric Sciences*, 41(2), 299-304.

Siebesma, A. P., Bretherton, C. S., Brown, A., Chlond, A., Cuxart, J., Duynkerke, P. G., ... & Stevens, D. E. (2003). A large eddy simulation intercomparison study of shallow cumulus convection. *Journal of the Atmospheric Sciences*, 60(10), 1201-1219.