

I appreciate the effort of the authors put into improving the manuscript and the figures! The new title much better describes the content of the paper. In addition, the authors provide detailed answers to my questions. These are, however, only partly reflected in the revised manuscript and I still have some remaining remarks, which should be addressed before publication of the manuscript (line numbers refer to the new manuscript):

Thank you very much for improving the figures. Is there a reason, why Fig. 3 and 6 show 17.2 to 17.6 only, while Fig. 7 and 8 show 17.0 to 17.8 and Fig. 9 16.2 to 17.4? If not please unify.

Fig. 1, lower row: The black dashed line partly overlaps with the titles, either move the line downward or extend the y axis to 16km, and maybe start and end the dashed lines (horizontally) at the edges of the rectangles to avoid overlapping. In addition, the P3 airplane symbol partly overlaps with the tick label. I am really sorry for being picky here, but ACP is a high-quality journal and figures looking as if quickly stacked together do not give the reader the impression of a high-quality work.

Section 3.2: Concerning my remark related to the Liu et al. (2026) companion paper and the neural network training. I understand that Liu et al. take a different approach and appreciate the additional information added to the manuscript (and the now available preprint helped to clarify differences). However, if the methods presented here are a new approach I, in particular, miss a bit more motivation and information in the manuscript about the new method presented here and a justification that the applied training methods and hyper parameter settings for the non-PD and PD cases are valid here (see my original comments on that).

L. 190 (l. 180 in preprint): if possible, please add a short version of your explanation about horizontal ice crystal orientation and the reference from your answer to the comment also to the manuscript.

The same applies to the answer to my comment on l. 212 in the preprint. It is completely valid to state that an improved solution exists (and very briefly explain it) but that it was too computationally expensive to applied and there was a good reason for the choice of the simpler assumption.

Fig. 5: I agree that the version with the hatched mixed-phase region in panel (a) does not help much in differentiating the different regions. Instead of hatching the mixed-phase region, I rather suggested to show the IWC as previously in panel (a), the hydrometeor types as before in a panel (c) and add a panel (b), where you only display the LWC. This might help to better distinguish the different classes. In addition, the colorbars/labels still overlap.

Fig. 10, 11, 12: Please add x axis labels, even though it is just pixel number. But this information is currently not given and helps the reader to interpret the plots.

Technical corrections:

l. 174: a comma is missing between “unrimed aggregates” and “graupel”

Fig. 9: Please include the regression line and R value into the figure caption.

Fig. 10 caption: “see” -> “See”

l. 392: “yet” -> “Yet”

l. 396: “figure shown by Fig.”

l. 459: “While” -> “while”