

## **Microphysics characteristics of frozen droplet aggregates from deep convective clouds**

This paper presents an analysis of ice particle images from an anvil cloud. Fractal dimensions and other parameters are calculated from the raw images by using the Hough transform technique. It is notable that the images are frozen-droplet aggregates as this has implications to improve fall-velocity estimations and radiative transfer calculations in anvil clouds. As this is the second iteration I have focussed on the results and discussion / conclusions, rather than the material prior.

I only have a few comments, which may improve clarity of the manuscript – so that others may repeat similar analyses

Your analysis assumes that the maximum number of contacting points of an element frozen droplet with other frozen droplets is 2. How valid is this assumption, since there is little justification in the manuscript. Looking at figure 1a, there maybe some examples where this is not true, but it is hard to tell. A comment on this point would help.

Stacking permutations: is described as  $2^{(n-2)}$ . Is this the case for droplets of different sizes, as in your case? Looking at figure 6 and 7 it appears that the droplet elements have *different* sizes, so I am not sure whether this stacking assumption still applies? I do not think it affects your results, but it confused me for a while as to what was actually done.

I have no other problem with the methods used. I am convinced by the method, and by number of calculations done. I also feel like the choice of parameters used to characterise the aggregates is good.

Do you have a feel for how commonly applicable the results are – because this is data from just one flight. It may be worth a comment if you do, or maybe a comment like “this analysis needs to be repeated for other datasets to assess how widely applicable they are”