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Interactive comment on "Design, Construction and Commissioning of the Braunschweig Icing Wind Tunnel" *by* Stephan E. Bansmer et al.

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The paper is of very great interest to the users and makers of icing test facilities and a good many others. The paper includes fresh information which is specifically about the exciting new facility but also contains much text about the generalities of icing. It is my firm opinion that this general material is dealt with much better elsewhere and should be edited out of the paper.

Abstract, slightly wordy. The main message is relegated to lines 8 & 9 and dealt with almost in passing. I suggest something along the lines of "The unique aspect of this facility is ...(the combination of an icing tunnel with a cloud chamber system for making ice particles which are more realistic than those usually used for mixed phase and ice

crystal icing experiments).

Introduction. Paragraph 1 & 2 OK. Paragraph 3 might be stronger if the influence of temperature & heat capacity (water & ice) are mentioned alongside latent heat.

Page 2, line 13 to page 4, line 31 needs a good shake up to omit the generalities and concentrate on the aspects of direct significant to the development of an icing tunnel, this particular one.

Design & Construction....(starts Page 5) Lines 6-10. The rational is incompletely described. No mention of air speed of opportunities taken of lost by opting for a smaller or larger section.

Page 8 Lines 10 to 13. The LWC range for lager droplet mode is given but it is not given for the smaller droplet mode.

Page 11 lines 15 to 20. It would be nice to say a bit about how well this construction method worked out in practice. Was it easy to control leaks? How easy was it to avoid steps in the wall?

Page 11 lines 21 to Page 12, line 2. I find this rather unclear. Specifically, the figure (12) appears to show ice thickness. It drops of at the ends of the aerofoil but this could be for a number of reasons not discussed in the text. We are left wondering about the conditions modeled and learn nothing of the predicted velocity fiend which I would surely prove the central point more effectively.

Page 12 lines 11. Here the heat exchanger is said to be off galvanised mild steel. On page 7, line 28, we are told that it is of a mix of steels, galvanised together and coated with an epoxy based film. So which is it? There is also a reference to sub sub sub section in some other document which I recon should not be in the text.

Ice Crystals & mixed phase... (starts page 13) Page 14, lines 17 to 26. To me this is a bit muddled. For me the problem is exemplified best by the description of the blobs in figures 16 as "crystals" rather than hydrometers or lumps. They are aggregates,

possibly of some single crystal particles but also, I would suggest, some degree of rime growth. Other references to "ice crystals" through the rest of the text need to be checked to ensure that the vocabulary does justice to the work.

Please also note the supplement to this comment:
https://www.atmos-meas-tech-discuss.net/amt-2017-356/amt-2017-356-RC1-supplement.pdf

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