

Interactive
Comment

Interactive comment on “Measurements of electric charge separated during the formation of rime by the accretion of supercooled droplets” by R. A. Lighezzolo et al.

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1. The main difference is that in all the previous works, mentioned by the Reviewer, the electric current acquired by the rimed target have been measured, while in the present study the charge carried by single particles ejected from the rimer has been measured. The results indicate that the electric current can not be detected in these experiments because there are only sporadic charged particles ejected from the target.

We agree with the Reviewer that Hallett-Mossop’s mechanism was working in those previous experiments.

2. The measuring section (Figure 1) was completely clean at the beginning of each
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run. We have 3 replicas of the measuring section; hence after each run it was replaced by a clean one. The cloud chamber and the precooling tower (Figure 1) were defrosted after 3-4 runs. We did not observe any systematic difference between the first and last experiments.

3. We detected approximately between 5 and 20 spurious events per run.
4. We did not measure this gradient, but we expect the temperature difference to be close to zero.
5. Some charged particles were ejected few seconds (< 20 s) after vapor supply was cut off (see Figure 3).

There were no droplets present after vapor supply was cut off.

6. With a charge of 20 fC, the output signal was determined to be 1 V.
7. The air speed was measured in auxiliary experiments and the anemometer probe was inserted into the measuring section about 5 cm below the target.

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