

I am pleased with many of the authors' replies to my concerns regarding the methods used in this paper, as well as their incorporation of suggestions regarding references, notation and language. Unfortunately, some of the justification present in the authors' response was not incorporated in the manuscript. I also have further concerns regarding remaining issues in the grammar and language throughout the work.

Specific comments revisited:

2. *Notations and E0 and Ees*: Thank you for updating the notation. The approach that you are following (Andronache) should be cited in the paper where you are defining the coalescence efficiency.

3. *Instantaneous charging assumption*: I appreciate the thorough response justifying this assumption, but would like to see it explicitly and clearly stated in the paper as a limitation and your justification. It would likewise be nice to see the authors' expectation of what impact this assumption may have on the results discussed in the work.

4. *DNS vs LES*: Please also state in the text that this is a two-dimensional LES. (I realize it is already stated in the abstract)

Additional general comments:

- Can you justify or comment on the use of such complex equations for the particle charge (e.g. Eq 14, versus Eq 13) and whether this additional complexity (a) adds considerable computational burden; (b) whether it is justified in terms of the difference in results produced.
- It would also be nice to see a brief discussion of any new insights that have arisen from this study in comparison to Khain04.
- In general there are also several grammar mistakes that remain in this manuscript. I will address a few examples below, but I hope that the authors will undergo thorough proofreading.
- Section 2.5 is likely unnecessary to include, as the reader could easily look at references for the compressible nonhydrostatic equations. I would recommend instead pointing to a citation for the implementation used in SCALE.

Other comments (based on the track-changes document line numbers)

- Abstract: Consider adding an introductory sentence at the start to introduce what electro-coalescence is or its impacts, something like line 520-521 in the discussion section.
- L17: "... particle-based microphysics method: **the** super-droplet method..."
- L20: "...dynamic process. **We** assume..."
- L39: "**rain** formation" (was not corrected from first review)
- L58-59: This sentence doesn't make sense, especially the added phrase.

- L74: What would it mean to “eliminate” the Greenfield Gap? Do you mean that there would no longer be fewer particles in this size range?
- L291-292: Can you comment on this range (0.1-10um) and its correspondence to the Greenfield Gap?
- L361-362 and L367-368 seem redundant
- L375 seems like an odd place for this statement. It would be better to put it in the data availability section and remove the url here.
- L450-451 is redundant with the figure caption.