

Please find below a point by point response to reviews. Hopefully you will be satisfied with them.

### Report #1

The authors have addressed all the issues raised in my previous review and I believe the paper is suitable for publication.

Thanks for your positive feedback.

#### Minor comments:

Copyright statement is missing.

Authors believe that this will be handled at the editorial stage. For now, we simply removed it as suggested on the manuscript tracking tool.

Do you mean "equivolumetric" (instead of 'equivolumic')? " I guess both are valid.

Yes, and authors believe that both are valid.

### Report #2

Thank you very much for the authors clearly responding and/or revising my previous comments. Currently I have no more corrections related to the manuscript.

Thanks for your positive comment !

However, I still suggest the authors to add one paragraph of discussion about how the proposed method can be used in the radar rainfall estimation and the possible challenges. In addition, Yang et al. (2020) proposed a data-based adjusted method for wind effects on radar rainfall estimations. It will be useful for the community if the authors can discuss their findings with it.

Yang, Q., Dai, Q., Han, D., Zhu, Z., & Zhang, S., 2020, Uncertainty analysis of radar rainfall estimates induced by atmospheric conditions using long short-term memory networks, *Journal of Hydrology*, 590: 125482

The last paragraph of the conclusion was actually strongly updated following the previous comment to discuss more this issue. Nevertheless, an additional comment highlighting the intrinsic stochastic nature of small scale wind fluctuation simulation and its consequences on radar measurement was add in this new version.

With regards to the paper mentioned, it is indeed relevant and is now cited in the introduction along with already cited papers relying on model outputs to account for wind drift.