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Interactive comment on "Atmospheric aging of small-scale wood combustion emissions (model MECHA 1.0) – is it possible to distinguish causal effects from non-causal associations?" *by* Ville Leinonen et al.

Anonymous Referee #2

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This paper attempts to describe a semi-empirical model to simulate the evolution of gas-phase and particle phase measurements of aging emissions from wood combustion in the ILMARI atmospheric simulation chamber. The authors attempt to describe the performance of their model by employing different techniques (e.g. adding noise to their data, smoothing in different ways, filtering the data in different ways).

I find several troublesome aspects of the manuscript. The language/grammar is not clear and is often confusing. It made it difficult to evaluate portions of the manuscript. Further, details regarding the modelling aspects were often introduced with little to no

explanation (or background) and in ambiguous terms. Rather than concrete examples of how the model was treating the data. The tables in the text were not clear nor adequately explained making it difficult to assess what data was included and the parameters varied. Honestly, it appeared as if the modelling output was directly placed into a table with no thought to whether or not the information presented was considered useful or not.

Overall, I find the text challenging to disentangle and is not suitable to be published in the current form. It requires significant grammatical polishing and a more extensive discussion regarding the details of the model so that it could be useful for others. I also find it difficult to assess its usefulness to the chamber community writ large.

Minor comments / questions can be found in the supplement.

Please also note the supplement to this comment:
https://www.geosci-model-dev-discuss.net/gmd-2020-13/gmd-2020-13-RC2-supplement.pdf

Interactive comment on Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2020-13, 2020.