

***Interactive comment on* “Technical note: Effects of Uncertainties and Number of Data points on Inference from Data – a Case Study on New Particle Formation” by Santtu Mikkonen et al.**

Anonymous Referee #2

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“Technical note: Effects of Uncertainties and Number of Data points on Inference from Data – a Case Study on New Particle Formation” by Mikkonen et al. tests seven methods of linear regression on synthesized data. The resulting estimates of slope are compared among the methods and among various settings on uncertainty, sample volume and pre-screening.

This is a very nice study. It provides a concise reminder of how consequential the choice of linear regression method is. The example raised in the manuscript is easy to follow. While the subject is far from new, the atmospheric science has not seen a study with so many regression methods tested, as far as I know. The conclusions apply to a

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broad range of scientific analysis, in atmospheric science and beyond. I recommend publication. I only have minor suggestions to improve the readability.

Make the title more specific by including linear regression or line fitting, in addition to, or in place of, inference.

Shorten the second sentence in Introduction and the first sentence in Conclusions.

Treat “data” as either plural or singular, but not both, in the second paragraph of Section 2.1.

Drop the “s” in “comes” in line 5, page 4.

Replace “on” with “in” in line 2, page 6.

Avoid placing the legend over the lines in Figure 3.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-1125>, 2018.

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