Response to the editor

Title: "Enhancing Accuracy of Indoor Air Quality Sensors via Automated Machine Learning Calibration"

General Response: We would like to thank the editor and reviewers for the positive feedbacks and constructive comments. Below, we've provided a point-by-point response to all comments to clarify revisions and improvements in the manuscript.

Comment 1. Figures 3 and 4 have similar structure (two-color scatter plots) but look different. Specifically, the second one has some 'gray border lines' outside the figures and uses different colors. It also looks a bit lower resolution. If the authors could update Figure 4 to match the style of Figure 3 it would be an improvement.

Response:

We thank the editor for the comment. We assume that the editor means Figure 4 and Figure 5 in the manuscript. We have adjusted the figures as suggested. Now they have the same color and resolution. They have identical styles now.
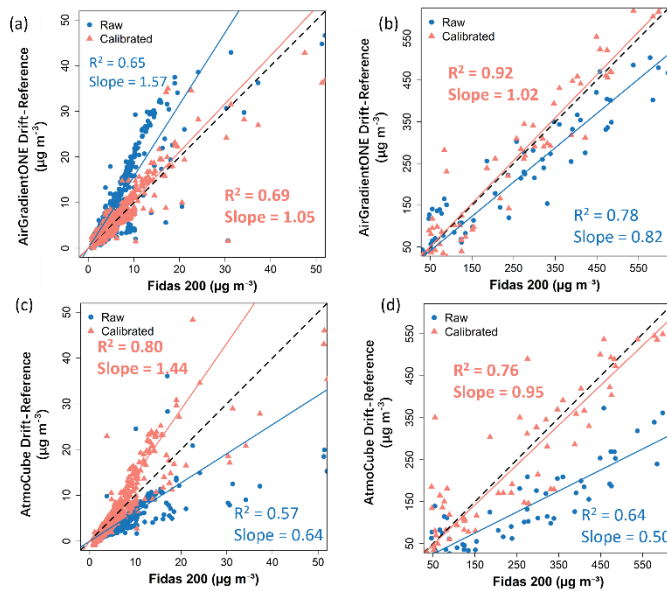

Figure 4: Raw and calibrated $PM_{2.5}$ of drift-reference sensors compared with the Fidas 200 measurements, (a) AirGradient ONE sensors within below-50 regime; (b) AirGradient ONE sensors within above-50 regime; (c) AtmoCube sensors within below-50 regime; (d) AtmoCube sensors within above-50 regime.

Figure 5: Raw and calibrated $PM_{2.5}$ of field sensors compared with the Fidas 200 measurements, (a) AirGradient ONE sensors within below-50 regime; (b) AirGradient ONE sensors within above-50 regime; (c) AtmoCube sensors within below-50 regime; (d) AtmoCube sensors within above-50 regime.
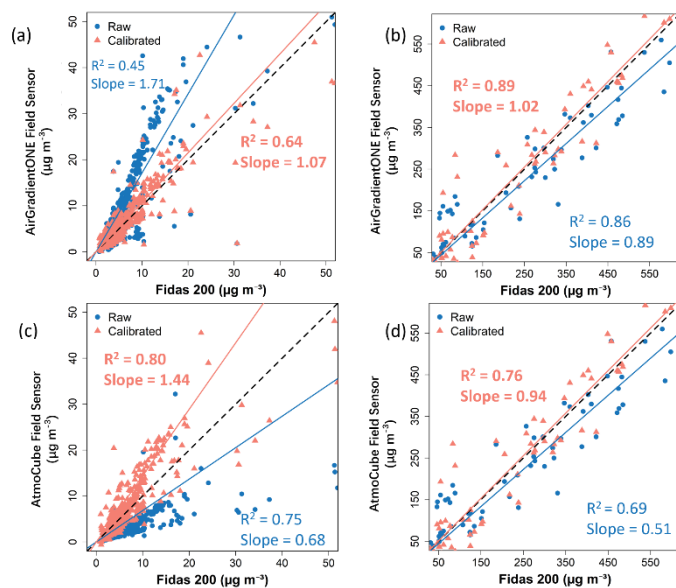
Comment 2. Similarly to both original reviewers, I find Figure 2 hard to read. I suspect the authors wanted to show how well the different sensors of the same kind correlate with each other, but I find it hard to do this on the given plot (for example, try comparing the values of sensors #3 and #13 for a given timestamp). I think that both 3D plots can be replaced with 2D figures that have time as a the X axis, concentrations as the Y axis, one line per sensor type showing the mean concentration per timestamp, and a shaded area with the concentration standard deviation across sensors for each timestamp. This figure would show both the mean concentration and a sense of how the observations vary between different sensors of the same kind. Instead of standard deviation, it could be possible to use 25-75% interquartile distance or even min/max values, whatever is deemed to better represent the underlying data.

Response:

We thank the editor for this comment. We have revised the figures accordingly. Each figure now shows a single line representing the mean $PM_{2.5}$ concentration for the sensor model, with a shaded band indicating the minimum to maximum range across sensors of the same model. A second panel below presents the corresponding standard deviation over time. The shaded bands are narrow because differences among sensors within the same model are very small, indicating strong within model agreement. We believe this presentation most clearly conveys the close consistency across sensors while retaining information on variability.