

Interactive comment on “Field evaluation of low-cost particulate matter sensors in high and low concentration environments” by Tongshu Zheng et al.

Anonymous Referee #1

Received and published: 8 May 2018

The paper presents a thorough evaluation of the performance of the PMS3003s PM2.5 mass sensor. It is well-written and reaches conclusions that will be useful to take in to consideration when implementing aerosol mass measurements in the field as part of air quality studies. The paper should be published after the minor concerns below are addressed.

Section 2.1: Although the dimensions of the electrical box housing the instruments is provided, it would be useful to also provide the dimensions and weight of the instruments themselves.

Page 8, line 20: change to “. . . AGREED quite well”.

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Page 8, line 26: change to “. . . WAS THE RH correction factor. . .”

Page 8, line 32: change to “. . . THE RH correction factor. . .”

Page 9, line 1: change to “. . . were compensated FOR by. . .”

Page 9, line 5: Why were the RH adjustments only made for R2 values greater than 0.4? Please add an explanation to the text.

Page 9, line 8: change to “. . . PARTICLE chemical composition and . . .”

Page 9, lines 9 – 10: change to “. . . AEROSOL mass at some locations INCREASED continuously. . .”

Page 11, line 11: R2 is not a measured parameter. Please change the sentence.

Page 12, Lines 14 – 16: For the statement that “correlations among the five uncalibrated PMS3003 units were high. . .”, please provide the timescale.

Page 13: lines 32 – 33: change to “. . . through -3) from the Duke University site to the US EPA. . .”

Page 15, line 14: Figure 6 is referenced in the text before Figure 5b.

Page 16, line 11: Figure 8 is referenced in the text before Figure 7e-g.

Page 16, line 30: Omit “achieved”.

Page 17, line 24: change to “. . . RH values MEASURED in. . .”

Page 18, lines 5 – 10: Is it possible to clean the sensors and see if that changes the instrument performance?

Page 18, line 25: What is meant by “. . . reaching the troughs of true ambient PM2.5 concentrations”?

Page 19, line 14: change to “. . . PARTICLE chemical, . . .”

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