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Title: "Measurement Report: Ten-year trend of PM_{2.5} major components and source tracers from 2008 to 2017 in an urban site of Hong Kong, China"

Journal: Atmospheric Chemistry and Physics

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Comments to the author:

The authors have reasonably addressed the comments of the two anonymous referees and they have modified their manuscript accordingly. However, many alterations and corrections are needed for both the Main text and Supplement before the manuscript can be published in ACP:

Authors' Response:

We thank the editor for the careful reading and suggestions. We have taken the suggestions and made the revisions accordingly in the revised manuscript and the supporting document. Note we did not provide a point-by-point response, as all the suggested revisions have been made without any exceptions.

Detailed comments from the editor

Main text:

Line 16: Replace "displayed significant" by "displayed a significant".

Line 37: GBA was already defined in line 34; it should not be defined again; therefore, replace "Area (GBA)" by "Area".

Line 40: Replace "in term" by "in terms".

Line 94: Abbreviations and acronyms should be defined (written full-out) when first used; therefore, replace "LOESS (STL)" by "locally estimated scatter plot smoothing (LOESS)"; note that STL is defined in line 155.

Line 125: OC and EC were already defined in line 50; they should not be defined again; therefore, replace "Organic carbon (OC) and elemental carbon (EC)" by either "Organic carbon and elemental carbon" or "OC and EC".

Line 130: Replace "al.,2008" by "al., 2008".

Line 148: HKEPD was already defined in line 72; it should not be defined again; therefore, replace "Hong Kong Environmental Department (HKEPD)" by either "Hong Kong Environmental Department" or "HKEPD".

Lines 150 and 151: Abbreviations and acronyms, here "HKUST ENVF", should be defined (written full-out) when first used.

Line 154: Replace "in supplementary" by "in the supplementary".

Line 155: Replace "with LOESS" by "with the LOESS".

Line 157: STL was already defined in line 155; it should not be defined again; therefore, replace "decomposition (STL)" by "decomposition".

Line 162: LOESS was already defined in line 94; it should not be defined again; therefore, replace "locally weighted regression (LOESS)" by "LOESS".

Line 169: Replace "of interquartile" by "of the interquartile".

Line 174: Replace "from STL" by "from the STL".

Line 177: Replace "of changing" by "of the changing".

Line 182: It should be indicated what the symbols φ and θ denote.

Line 187: Replace "indictors" by "indicators".

Line 189: Replace "in supporting" by "in the supporting".

Line 192: There is an inconsistency between "Wilcox, 2017" here and "Wilcox, 2018" in the Reference list.

Line 193: Replace "run Mann-Kendall" by "run a Mann-Kendall".

Line 200: Replace "of CAGR" by "of the CAGR".

Line 201: Replace "of supporting" by "of the supporting".

Line 211: Replace "summertime and bring" by "summertime bring".

Line 218: Replace "variations, therefore" by "variations and are therefore".

Line 224: Replace "in summer" by "in the summer".

Line 225: Replace ", however" by "; however".

Line 227: Replace "of 10-year" by "of the 10-year".

Line 232: Replace "computed to be" by "computed as".

Line 242: Replace "than <4%" by "than 4%".

Line 248: Replace "examined annual" by "examined the annual".

Line 255: Replace "degree of freedom" by "degrees of freedom".

Line 256: OLS was already defined in line 177; it should not be defined again; therefore, replace "squares (OLS)" by "squares".

Line 268: Replace "of STL-GLS-ARMA" by "of the STL-GLS-ARMA".

Line 279: Replace "by GLS-ARMA" by "by the GLS-ARMA".

Line 280: Replace "flatten variation" by "flattened variation".

Line 282: Replace "between two" by "between the two".

Line 289: Replace "confine trend" by "confine the trend".

Page 11, last but one line: Replace "in the bracket denote" by "in parentheses denote".

Lines 317 and 333: Replace "select components" by "selected components".

Line 323: Replace "align with" by "alignment with".

Line 324: Replace "displays comparable" by "displays a comparable".

Line 342: Replace "namely, sulfate" by "namely sulfate".

Line 343: Replace "of PM2.5" by "of the PM2.5".

Line 354: There is an inconsistency between "Zheng, 2018" here and "Zheng et al., 2018" in the Reference list.

Line 354: Replace "in Supplementary" by "in the Supplementary".

Line 389: Replace "for higher" by "for a higher".

Line 394: Replace "project, thus" by "project and are therefore".

Line 400: Replace "hese significant" by "These significant".

Line 408: Replace "in Shing" by "in the Shing".

Line 417: Replace "in the top plot" by "in the plot".

Line 422: Replace "show that" by "shows that".

Line 456: There is an inconsistency between "Yang et al., 2017" here and "Yang and Zhu, 2017" in the Reference list.

Line 466: Replace "in 205" by "in 2015".

Line 478: Replace "tropical Pacific" by "the tropical Pacific".

Line 480: Replace "of Walker" by "of the Walker".

Line 495: Replace "in 2008-2017" by "in the 2008-2017".

Line 508: Replace " δ 's" by " δ^1 's" with the "1" in subscript.

Line 513: Replace "was observed" by "were observed".

Line 524: Replace "select source" by "selected source".

Line 525: Replace "were obtained" by "was obtained".

Line 548: Replace "sources for" by "source for".

Line 551: Replace "China as the" by "China are the".
Line 559: Replace "aerosol constitutes" by "aerosol constituents".
Line 569: The abbreviation "HKSAR" should be replaced by what it stands for.
Line 571: Replace "thank Hong" by "thank the Hong".
Lines 578-584: "Chen, Z. et al., 2019" should come after "Chen, W. et al., 2021".
Lines 684-687: "World Health Organization" should come after "Wilcox".

Supplement:

Lines 8 and 46: Replace "The meteorological" by "Meteorological".
Line 20: Replace "The changes in percentage share of emissions by sources and the variations" by "Ten-year changes in percentage share of emissions by sources and variations".
Lines 22, 40, 125, and 254: Replace "The changes" by "Changes".
Lines 23 and 127: Replace "Loess Method and the Generalized" by "Loess Method (STL) and Generalized".
Lines 34 and 238: Replace "The overall" by "Overall".
Lines 36 and 245: Replace "all the pairwise" by "all pairwise".
Lines 37 and 247: Replace "ENSO" by "El Niño-Southern Oscillation (ENSO)".
Lines 44 and 263: Replace "the PRD" by "the Pearl River Delta (PRD)".
Line 47: Replace "are summarized" by "is summarized".
Line 49: Replace "in summer" by "in the summer".
Lines 51, 56 and 58: Replace "in Shing" by "in the Shing".
Line 64: Replace "then calculated" by "then we calculated".
Line 65: Replace "in normal distribution (e.g. the" by "in the normal distribution (e.g., the".
Line 66: Replace "verse theoretical" by "versus the theoretical".
Line 67: Replace "in Q-Q" by "in the Q-Q".
Figure S3: The units in the ordinates should be indicated; furthermore, it is unclear what the # at the end of the legend in the ordinate denotes.
Lines 75 and 82: Replace "while that of the remaining is" by "while those of the remaining substances are in".
Figure S5: It is unclear what the # at the end of the legend of the ordinate in Figure S5(b) denotes.
Figure S6: It should be indicated in which units the concentrations were.
Line 103: The "2" of "SO₂" should be in subscript.
Line 107: Replace "begun" by "began".
Line 112: Replace "shows that" by "show that".
Line 113: Replace "TW" by "Tsuen Wan (TW)".
Line 115: Replace "GBA" by "Greater Bay Area".
Line 120: Replace "The ten-year changes in percentage share of emissions by sources (columns) and the variations" by "Ten-year changes in percentage share of emissions by sources (columns) and variations".
Line 122: Replace "Hong Kong and Guangdong" by "Hong Kong (HK) and Guangdong (GD), HK EI indicates Public Electricity Generation in Hong Kong".
Figure S9: It should be specified what the small boxes and numbers between the bars denote.
Line 138: Replace "with initially" by "with an initially".
Line 139: I presume that the "s" of "ns" should be in subscript.
Line 139: Replace "Jan is" by "January is".
Line 141: Replace "in inner" by "in the inner".
Line 153: Replace "robustness weights" by "robustness weight" and replace "respected to" by "respect to".

Line 161: Replace "square with ARMA" by "squares with the ARMA".

Line 162: Replace "of time" by "of the time" and replace "it assumes" by "it is assumed".

Line 165: Replace "Prior from directly running the model, autocorrelation issue on time series by Auto" by "Prior to directly running the model, the autocorrelation issue on the time series by the Auto".

Line 166: Replace "Figure" by "Figures".

Line 177: Replace "select by minimum AIC/AICc were" by "selected by minimum AIC/AICc was".

Line 179: Replace "were not" by "was not".

Line 192: Replace "while the rest is" by "while for the other species it is".

Line 194: Replace "denote for the significance of slope differ" by "denotes that the significance of the slope differs".

Line 197: Replace "by STL method, OLS instead of GLS-ARMA" by "by the STL method, OLS instead of the GLS-ARMA".

Line 199: Replace "from OLS" by "from the OLS".

Line 202: Replace "incorrected in" by "incorrect in".

Line 203: Replace "Concentration estimated" by "Concentrations estimated".

Line 206: Replace "were dominated" by "was dominated".

Line 208: Replace "were generally" by "was generally".

Figure S12: The units in the ordinates should be indicated.

Table S3: The units of the Concentrations should be specified.

Line 224: Replace "with STL-GLS-ARMA" by "with the STL-GLS-ARMA".

Line 227: Replace "of species" by "of the species".

Line 228: Replace "observed in" by "observed in the".

Line 229: Replace "flatten in later year" by "flattened in later years".

Line 231: Replace "started from" by "starting from".

Line 236: Replace "in bracket" by "in parentheses".

Line 240: Replace "summarize the" by "summarizes the".

Line 249: Replace "MLR" by "multiple linear regression (MLR)".

Line 260: Replace "RH" by "relative humidity (RH)".

Page 25, line 3 from bottom: Replace "labeled species" by "the labeled species" and replace "unit of the rest" by "the unit of the other".

Page 25, last line: Replace "of other" by "of the other".

Page 26, middle column: Replace "60 mins" by "60 min".

Page 27, last column: Replace "e.g." by "e.g.,".