

Interactive comment on “Analysis of Sulfate Aerosols over Austria: A Case Study” by Camelia Talianu and Petra Seibert

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Dear editor,

Here are some technical corrections from the authors. Comment 1 to Comment 10 are minor language corrections. For maps in the Figures 5, 6, 9, 10, 11, 12 and 15, the color of the continents was changed from etopo color style to gray style (continents) and white (oceans) to make the maps more clear (Comment 11). Also included are the changes due to moving the GIOVANNI maps to the Supplement. In the following "AuthCM" represents the author's changes to the manuscript. Page and line number refer to the page and line number in the version submitted for discussion.

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Technical corrections:**Comment 1.**

AuthCM:

Page 2, Line 21

Changed in text: "The study was based on" to
"The study is based on"

Page 2, Line 22 - Line 25

Rephrased text to

"to assess the relation between the excess with respect to monthly averaged values observed in the in situ measurements of SO₂, O₃, PM_{2.5} and PM₁₀ at the Austrian air quality background station Pillersdorf at the beginning of Apr 2014 with aerosols layers observed in lidar measurements at the closest EARLINET stations around Austria and with tropospheric sulfate aerosols as found in Copernicus Atmosphere Monitoring Service (CAMS) products (CAMS, 2018)"

Page 2, Line 27

Changed in text: "to estimate the sulfate aerosols potential sources." to
"to estimate the potential sources of sulfate aerosols"

Comment 2.

AuthCM:

Page 3, Line 10

Changed in text: "in the format HH:mm, H being the hour and m the minutes" to
"in the format HH:mm, HH being the hour and mm the minutes"

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Page 3, Line 13

Added: "In the plots, the stations are represented as: Pillersdorf (red circle), Leipzig (green circle), Munich (magenta triangle), Garmisch (blue rhombus), Bucharest (black square)."

Page 3, Line 17

Changed in text: "daily mean concentration and the maximum value per day of half-an hour averaged concentrations for" to

"daily mean concentration and the maximum half-hour mean value per day for"

Page 3, Line 19

"averaged" was changed with "mean"

Comment 3.

AuthCM:

Page 4, Line 30

Changed in text: "FLEXPART and FLEXTRA models were used in this paper for atmospheric transport modelling." to

"In this paper, the models FLEXPART and FLEXTRA were used for atmospheric transport modelling."

Comment 4.

AuthCM:

Page 5, Line 3 - Line 4

Changed in text: "parcels by mean winds, ignoring turbulence and convection, and do

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not represent" to
"parcels by mean winds, ignoring turbulence and convection, and do not provide"

Page 5, Line 6

Changed "x" with "×"

Comment 5.

AuthCM:

Page 8, Line 4

Changed in text: ""total aerosols" (sum of all species defined in CAMS data) (a), for sulfate (b) and for dust (c)." to

""total aerosols" (sum of all species defined in CAMS data), for sulfate and for dust."

Page 8, Line 8

Changed in text: "for Munich (a), Leipzig (b) and Bucharest (c)." to

"for Munich, Leipzig and Bucharest."

Page 8, Line 21

Changed in text: "Fig. 5 for 00:00 (a), 06:00 (b), 12:00 (c) and 18:00 (d)." to

"Fig. 5 for 00:00, 06:00, 12:00 and 18:00."

Comment 6.

AuthCM:

Page 9, Line 2 - Line 3

Changed in text: "for the layers L1 (a), L2 (b), L3 (c) and total column (d)" to

"for the layers L1, L2, L3 and total column"

Page 9, Line 34

Changed in text: "(not shown in this paper)" to "(not shown)"

Comment 7.

AuthCM:

Page 10, Line 11 - Line 17

Changed in text "transverse" to "traverse"

Page 10, Line 19

Changed in text "at Pillersdorf: Southern and" to "at Pillersdorf, namely Southern and"

Comment 8.

AuthCM:

Page 11, Line 7

Changed in text "Garmisch-Partenkirchen, Pillersdorf and Bucharest" to "Garmisch-Partenkirchen, Pillersdorf and Bucharest, and"

Page 11, Line 8

Changed in text: "the adsorption of the SO₂ on the dust mineral oxides compounds." to "the adsorption of the SO₂ on oxides contained in the mineral dust."

Comment 9.

AuthCM:

Page 22, Figure 7

Changed in caption: "log(range corrected signal)" to
"Logarithm of the range corrected signal"

Comment 10.

AuthCM:

Changed in text: "Apr" to "April" and "Mar" to "March"

Comment 11.

AuthCM:

Changed color of maps to gray (continents) and white (oceans) in the Figures 5, 6, 9,
10, 11, 12 and 15.

Technical corrections: content moved to Supplement

AuthCM:

Page 11, Line 10 - Line 13: moved to Supplement.

Changes in text, in the Supplement: "Monthly-averaged maps of column mass density
for sulfate are available from EarthData NASA GIOVANNI (NASA,2018) online data
system" to

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"Time averaged maps of sulfate column mass density, monthly, are available from EarthData NASA GIOVANNI online data system (NASA,2018)."

Page 12, Line 8 - Line 10: acknowledgement to GIOVANNI moved to Supplement.

Moved Fig. 16 to Supplement.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-1155>, 2018.

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