

Editor's comments on the revised version of ms. acp-2018-356 by I. Stavroulas et al., entitled "Identification of sources and processes that control submicron organic aerosol content at an urban Mediterranean environment using high temporal resolution chemical composition measurements"

François Dulac, 16 Nov. 2018

I thank you for revision of your manuscript submitted to the ChArMEx special issue in ACP. I agree with both reviewers to acknowledge a great improvement in the manuscript. I invite you to follow their last recommendations for technical corrections and minor revisions. In the following, you will find a list of additional technical corrections. Line numbers refer to the version of the manuscript with visible corrections included in your Authors' response. Changes are in red.

- Abstract, line 30: round up to "22%".
- Introduction, line 86: not clear to me what you mean by "precursor emissions emerge altered".
- Instruments and Methods, line 126: add a comma after "Practically".
- Instruments and Methods, line 135: Budisulistiorini et al. (2014) is absent from the reference list; do you refer to doi:10.5194/amt-7-1929-2014?
- Instruments and Methods, line 181: "were used".
- Instruments and Methods, line 188: "were also calculated".
- Instruments and Methods, line 192: "to capture".
- Source Apportionment, line 207: "of factor profiles".
- Source Apportionment, line 225: I think you should explain what is α here, by reintroducing the sentence that has been erased from lines 235-236 ("The α value ranges between 0 and 1 and is a measure of" [...]).
- Source Apportionment, line 226: "Initial" or "Initially,".
- Choosing the optimal configuration, line 274: "On the other hand, constraining two factors during the warm period, namely".
- Choosing the optimal configuration, line 276: "previous".
- Choosing the optimal configuration, line 277: "during the warm periods".
- Chemical composition and characteristics, line 352: "while maxima".
- Chemical composition and characteristics, line 354: do you mean "(up to around 100"?
- Diurnal variability, line 403: "rush hours".
- Diurnal variability, line 423: "the organics variation also follows".
- Source apportionment of organic aerosol/Warm period, l.466: "solution stems from a two factor constrained run".
- Source apportionment of organic aerosol/Warm period, l.482: "can be attributed".
- Source apportionment of organic aerosol/Warm period, l.509: remove the comma before "(2005)".
- Source apportionment of organic aerosol/Warm period, l.517: "provide some".
- Source apportionment of organic aerosol/Warm period, l.551: "when concentrations".
- Source apportionment of organic aerosol/Warm period, l.559: "night-time".
- Source apportionment of organic aerosol/Warm period, lines 575-576: "and thus exhibits".
- Source apportionment of organic aerosol/Cold period, l.578: "solution stems from a three factor constrained run".

- Source apportionment of organic aerosol/Cold period, lines 607-608: “compared to BBOA in Bologna, Athens and Patras”; provide references.
- Source apportionment of organic aerosol/Cold period, l.621: by “extended area”, do you rather mean “region”?
- Source apportionment of organic aerosol/Cold period, l.622: “The identification of BBOA [...] as biomass burning tracers. Indeed, BBOA exhibits excellent correlation”.
- Source apportionment of organic aerosol/Cold period, l.625: “and as reported”.
- Source apportionment of organic aerosol/Cold period, l.630: do you mean “and exhibits” referring to BBOA, or “which exhibits” referring to BC_{wb}?
- Source apportionment of organic aerosol/Cold period, lines 636-637: decapitalize “northern and eastern Europe”.
- Source apportionment of organic aerosol/Cold period, l.643: remove “who “ and make a new sentence after “the basin”: “. They found”.
- Source apportionment of organic aerosol/Cold period, l.646: change “locality”; do you mean “ ”?
- Source apportionment of organic aerosol/Cold period, l.650: add a comma before “respectively”.
- Source apportionment of organic aerosol/Cold period, l.661: “product fraction seems” (or “products seem” but pay attention to the following “Its” and “part of it”).
- Source apportionment of organic aerosol/Cold period, l.661: do you mean oxidation of “combustion emissions” rather than “combustion sources”?
- Source apportionment of organic aerosol/Cold period, l.684: “SV-OOA”.
- Source apportionment of organic aerosol/Cold period, l.691: check “1-hr lag the morning traffic.”
- Source apportionment of organic aerosol/Cold period, l.692: do you mean oxidation of “combustion emissions” rather than “combustion source”?
- Summary and conclusions, l.720: “in addition to routine”.
- Summary and conclusions, l.743: “peak values” or “values peaking”.
- Summary and conclusions, l.755: “rush hours”.
- Summary and conclusions, l.773: “contribution to air quality degradation”?
- References, l.802: year at the end.
- References, lines 808-809: “Meteor. Atmos. Phys.”; remove issue number “(1-3)”.
- References, lines 813-814: “Environ. Sci. Technol.”; remove issue number “(15)”; final dot missing.
- References, l.841: “Meas. Tech.”.
- References, lines 885-886: “Atmos. Environ.”.
- References, lines 893-894: “emissions, Proc. Nat. Acad. Sci., 113, 10013”; add missing doi.
- References, lines 920 and 110: remove spare lines.
- References, lines 925-926: decapitalize a number of words in the article title; “Aerosol Sci. Technol.”.
- References, l.1022: “Anal. Chim. Acta”; remove issue number “(1-2)”.
- References, l.1026: “data values, Environmetrics”; remove issue number “(2)”.
- References, lines 1067-1069: decapitalize a number of words in the article title; “Environ. Sci. Technol., 47, 13313-13320”.

- References, l.1108: "Metorol., 124, 61-79" (no italic).
- References, lines 1112-1113: "Atmos. Environ." (dots).
- References, lines 1126-1128: "Fine particulate"; "Environ. Health, 8".
- Figure 6: put the left plot above and enlarge plots as in the previous version.
- Figure 7: put the left plot above and enlarge plots.
- Figure SF.21: if possible, use a different colour or lighter green for the land background in the map, to have more contrast with the green used for SV-OOA; enlarge the text boxes associated to each pie, and the numbers within the pies, or possibly turn the figure by 90° (landscape format) and enlarge.
