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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Kerb and urban increment of highly time-resolved trace elements in PM_{10}, $PM_{2.5}$ and $PM_{1.0}$ winter aerosol in London during ClearfLo 2012" *by* S. Visser et al.

Anonymous Referee #3

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The manuscript reports on a study on the aerosol composition in three sites in the London area by DRUM impactor & SXRF analysis. The text is extremely long and full of details, however I have major and basics concerns so that I cannot recommend it for publication.

The manuscript can be divided roughly in two parts: 1) technologies and methods 2) results and discussion

1)Part 1: this is potentially the more interesting part of the paper and actually it could/should re-arranged in a separate technical note (or similar...it is now 10-page

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long)since most of the details now given are likely not necessary in regular article focused on the experimental results (I mean: the joint use of DRUM & SXRF has been already introduced in previous papers). On the other hand, this long discussion fails, in my opinion, in demonstrating the reliability of the adopted methodology and poses the discussion of the experimental results on a "icy ground" (the comparison vs. other techniques show a quite poor agreement). I have also to note that, despite of the length, two times the reader is forwarded to future papers which should complete the methodological section: this could be accepted in a letter but not in this case.

2) Neglecting the concerns at point 1), the section "results" is a extremely detailed list of "raw" data which are extremely valuable at local level but, in my view, not of general interest since they do dot improve our knowledge of atmospheric aerosols. A real Source Apportionment study is missing and the added-value of the very demanding DRUM+SXRF analysis remains only partially demonstrated (i.e. the possibility to catch transients and episodes with a high-resolution sampling has been introduced and discussed several times in previous papers on DRUM and other high-resolution samplers/impactors). I really don't find "the message" (or better the information) in this 18-page long text, which could and should be considered as a technical report in preparation of an article with a real and full source apportionment exercise.

In conclusion, I don't think the manuscript is suitable for publication in ACP.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 15895, 2014.